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**The EU economy:
2004 review**

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Abbreviations and symbols used

Member States

BE	Belgium
CZ	Czech Republic
DK	Denmark
DE	Germany
EE	Estonia
EL	Greece
ES	Spain
FR	France
IE	Ireland
IT	Italy
CY	Cyprus
LV	Latvia
LT	Lithuania
LU	Luxembourg
HU	Hungary
MT	Malta
NL	The Netherlands
AT	Austria
PL	Poland
PT	Portugal
SI	Slovenia
SK	Slovakia
FI	Finland
SE	Sweden
UK	United Kingdom

EUR-12	European Union Member States having adopted the single currency (BE, DE, EL, ES, FR, IE, IT, LU, NL, AT, PT, FI)
EU-25	European Union, 25 Member States
EU-15	European Union, 15 Member States before 1 May 2004 (EUR-12 plus DK, SE and UK)
AC-10	European Union, 10 Member States that joined the EU on 1 May 2004 (CZ, EE, CY, LV, LT, HU, MT, PL, SI, SK)

Currencies

EUR	euro
ECU	European currency unit
DKK	Danish krone
GBP	Pound sterling
SEK	Swedish krona
CAD	Canadian dollar
CHF	Swiss franc
JPY	Japanese yen
SUR	Russian rouble
USD	US dollar

Other abbreviations

SCPs	Stability and convergence programmes
PEPs	Pre-accession economic programmes
NMS	New Member States
SGP	Stability and Growth Pact

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Summary and main conclusions ⁽¹⁾

⁽¹⁾ Communication from the Commission to the Council and the European Parliament 'The EU economy: 2004 review', COM(2004) 723, adopted on 26 October 2004.

1. Introduction

The enlargement of the Union on 1 May 2004 marks a historic achievement. While the process of economic integration in the new Member States began during the pre-accession phase, it has been reinforced by their entry into the EU. It will imply challenges, but above all opportunities, both for the old EU-15 and for the new EU-25.

Enlargement and the mid-term review of the Lisbon strategy put the spotlight on key economic issues of the Lisbon agenda

At the spring 2004 European Council, a high-level group chaired by Wim Kok was asked to carry out an independent review to contribute to the forthcoming mid-term review of the Lisbon strategy. This will first and foremost be an opportunity to draw lessons from the experience gained so far, and to reinforce the policy strategy and the instruments to achieve the strategic ambition for this decade agreed by the European Council in Lisbon in March 2000. The upcoming mid-term review has also been a defining factor in the conception of the 2004 edition of the EU economic review. The review starts with a chapter on recent macroeconomic and policy developments in the euro area and then goes on to analyse four specific topics that have been chosen because of their central importance to the Lisbon agenda: convergence, employment, productivity and the environment. The final chapter discusses topical issues in economic surveillance.

2. Economic developments: belated recovery raises questions of resilience

Following three years of weak growth, the euro-area economy is now recovering

In 2004, economic prospects brightened against the background of a favourable international economic environment. Growth was mainly driven by strong exports, while domestic demand in the euro area gained pace slowly but steadily. However, the contribution to growth of private consumption and investment, which are the two main components of domestic demand, remained too unsteady to speak of a truly secure recovery. There is little evidence to support the argument that the weak domestic demand in recent years can be attributed to macroeconomic policies. The monetary conditions remained accommodative, with historically low short- and long-term interest rates, and fiscal policy was marked by the cushioning impact of the automatic stabilisers. The policy-mix thereby provided a sound macroeconomic environment conducive to a resumption of domestic demand.

Belated and sluggish recovery puts the spotlight on the area's economic resilience

The rebound of the EU economy has been relatively belated and sluggish compared with other major economies. This has prompted questions about the euro area's economic resilience and more specifically about whether the euro area is more sensitive than other regions to adverse economic shocks, or whether its economic structures are less favourable to economic resurgence. Analysis shows that, although adverse economic events have impacted on economic confidence indicators, their effects on industrial production were short-lived and not particularly deep. Rather, it would appear that structural rigidities have been a more significant factor in the late and sluggish cyclical adjustment in the euro area. Simulations suggest that structural rigidities impact mainly on investment activity. Thus, the speed of the return to potential output will be determined by how much these rigidities continue to weigh on investment once the cyclical impact of a lack of demand on the one hand, and financial constraints that held back investment growth on the other, is worn out. Wage rigidities and imperfect competition, in particular in the service economy, are among the main reasons for sticky prices in the

euro area. Relative prices do not adjust quickly in the euro area, implying the need for costlier quantity adjustments in the form of scaling down production and hence employment. It may also be that the lack of resolve in addressing budgetary consolidation, structural reforms and pension reforms has increased uncertainty and thereby adversely affected consumer confidence and spending. Forceful resolution of these outstanding policy issues could potentially support consumption during the upswing.

3. The economic underpinnings of the Lisbon strategy

A closer look at the economics of convergence, labour market performance, productivity, and the environment

At the Lisbon European Council in March 2000, the Heads of State or Government stated their ambition of making Europe ‘the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion’. As a contribution to preparing the upcoming mid-term review of the Lisbon strategy, ‘The EU economy: 2004 review’ focuses on the strategy’s economic underpinnings in four areas. Firstly, with regard to cohesion, an analysis is made of the prospects for catch-up growth and convergence in the new Member States. Secondly, the economics of labour market performance are reviewed in detail. The analysis in last year’s review of productivity developments is extended, with particular reference to the role played by information and communication technologies (ICT) and product market reform. A fourth chapter looks at the nexus between the environment and economic growth, and the final chapter reviews selected topics in economic surveillance.

Enlargement has brought the cohesion issue to the fore

3.1. Catch-up growth and convergence in the new Member States

Since the new Member States have income levels significantly below the EU average, it seems pertinent here to identify the main policy levers to foster a sustained process of catching-up. However, the EU’s past experience suggests that income convergence is not necessarily a rapid, continuous or automatic process. Furthermore, in the early stages of catching-up, growth tends to strengthen first in urban rather than rural areas, so that regional income inequalities may initially increase as the national growth rate accelerates.

Growth in new Member States driven by investment and productivity growth

The new Member States started the long catching-up process well before their accession, in the transition phase of the early 1990s — albeit at only a moderate pace in most cases. This process of economic convergence has so far been entirely driven by investment and total factor productivity (TFP). The challenge will be to broaden this process by drawing in underutilised labour resources, thus increasing the fairly low employment rates in most of the new Member States, and by progressively mobilising higher domestic savings to complement foreign direct investment, which has played a major role so far.

Comprehensive policy approach required to foster catching-up

An important question is how policy can help foster stronger and more broadly based growth. Trade liberalisation has already contributed significantly to growth since the early 1990s. A key priority will be to further entrench macroeconomic stability, with public deficits still too high in most cases and inflation remaining somewhat high and variable in some Member States. Institutional reform is also important in sustaining convergence, and now that the prospect of EU accession can no longer act as an external anchor, helping to catalyse political support for change, the challenge is now to keep up the momentum and support for further domestic reforms.

EU cohesion policy can have a substantial impact if several conditions are met

Structural Funds also have a role to play in fostering convergence effectively, but to do so three conditions must be met: stronger spatial concentration on the regions and Member States most in need, improved thematic concentration, and a more effective use of funds in pursuit of the Lisbon objectives. The contribution of EU cohesion policy to real convergence will depend primarily on the commitment of policy-makers to coherent national and regional policies, ensuring that the environment in which Structural Funds are utilised is characterised by macroeconomic stability, continuing structural reforms, and good governance.

Lisbon employment target looks challenging and is probably out of reach

3.2. The labour market in the EU: an economic analysis of recent performance and prospects

Halfway through the first decade of the Lisbon strategy, it is difficult to see how the employment targets can still be achieved by 2010, partly because of the economic slowdown, but more importantly because progress on structural reforms has been slow and insufficient. On the positive side, however, there is evidence that much of the improvement in labour market performance over the 1990s was structural, and that significant progress has continued in some areas, such as improving female employment.

The strategy is clear but much remains to be done

Furthermore, the main determinants of labour market performance and the kind of measures Member States need to take in order to pursue the Lisbon goal of more and better jobs are well known, and fully reflected in the comprehensive approach of the European employment strategy. These include, for instance, reforms to allow for wage differentiation in line with productivity developments and local labour market conditions, tax and benefit reforms in conjunction with well-targeted active labour market policies, labour market regulations that are conducive to job creation, and policies to improve education and training especially for low-skilled and older workers. Detailed reform strategies must be country-specific, looking at the mix of labour market and social protection institutions. However, a comparison of country-specific priorities as identified in the EU employment recommendations and the broad economic policy guidelines with progress made in the last few years points to areas for urgent action at the Member State level.

While higher employment may temporarily dampen productivity growth, this effect is estimated to be small

Some have voiced doubt about whether the Lisbon goals to raise employment and productivity at the same time are compatible. However, analysis suggests that only a small share of the observed deceleration in labour productivity growth since the mid-1990s can be attributed to rising employment. Indeed, there are few reasons to think that a higher employment rate has any negative implications for longer-term productivity growth, which is what really matters for the competitiveness and dynamism of the EU economy.

Productivity growth fundamental to realising the Lisbon strategic goal

3.3. Productivity, the impact of new technologies and product market reforms

The EU economy must not only achieve a higher labour input, but also enhance productivity growth. Macro- as well as sector-specific analysis suggests that a large part of the productivity slowdown since 1995 is structural, reflecting the combined effect of low productivity growth in a large proportion of mid-tech EU industries, the relatively small size of the EU's ICT production industry and problems of TFP growth in ICT-using sectors. Also, the higher returns which can be earned outside Europe with globalisation and increased international capital mobility may exert pressure on capital productivity. These developments could be part of the explanation as to why capital-labour substitution and hence labour productivity growth have declined.

Knowledge production and absorption are mutually supportive elements of any successful long-run productivity strategy

TFP is mainly determined by the efficiency with which advances in the competences of workers are harnessed to the organisation and the technological level of capital equipment. The knowledge-based economy is not yet fully entrenched in the EU. A considerable gap exists between the EU and the United States in terms of both the amount of resources allocated to research and the efficiency of research. The United States' superior innovation system has substantially shifted the US economy towards new, high-productivity growth industries, most notably the ICT-producing manufacturing sectors and the ICT-using service sectors. As a result, it is in a much more robust position following the acceleration in globalisation-induced, competitive and technological pressures since the mid-1980s. Reforms which would allow new, innovative firms to become established and grow are particularly needed. This underlines the importance of increased investments in human capital to help further improvements of knowledge production and diffusion. Investment in education, training and lifelong learning is essential to the Union's international competitiveness in knowledge-intensive, innovation sectors, and to sustainable growth and employment. It is equally important to improve the 'leverage' of additional R & D investments into productivity growth and to pursue with determination the target of increasing expenditures on R & D to 3 % of GDP. This will mean getting the framework conditions right and further improving the interface between research and industry.

Product market reforms play a central role in the Lisbon strategy as they improve the framework conditions in which business operates

Another dimension of the endeavour to raise productivity growth is product market reforms. The way in which product markets are regulated has a significant impact on the degree of competition in the market and the scope and size of the market, and hence on the size and structure of economic activity. The direct effects of the decrease in costs of doing business and the removal of barriers to new markets on productivity tend to be small. Empirical studies suggest that a large part of the impact on productivity is through indirect effects, namely a reduction in mark-ups and a reallocation of scarce resources (allocative efficiency); an improvement in the utilisation of the production factors by firms (productive efficiency); and an incentive for firms to innovate and to move to the modern technology frontier (dynamic efficiency). In particular, product market reforms that ease entry, reduce tariff rates, diminish regulatory barriers to trade, remove price controls and reduce public involvement in production reduce the average level of economic rents in the economy. In high-tech sectors where productivity gains are most important, it is the new firms that make the most significant contribution to productivity growth. Competition seems to deliver its full effects on dynamic efficiency with long lags and the literature underlines the fact that innovation has differential effects on productivity growth depending on the distance to the technological frontier.

Further reforms should mainly aim at promoting entry of new companies and pursuing internal integration

The EU has already engaged upon thoroughgoing reforms, in particular with the creation of the internal market. The EU is open to international competition and its network industries are liberalised to a degree that equals, if not exceeds, the United States. However, it seems to be lagging behind when it comes to measures that promote the entry and exit of firms. There is still scope to increase the degree of internal trade integration in the EU. The costs of complying with regulations also appear to be higher than in the United States, which suggests that much remains to be done in the EU on this account.

3.4. Environmental protection: drag on growth or growth-enhancing structural adjustment?

A certain reduction in the pollution intensity of growth in Europe has been achieved over recent decades without crowding-out industries

While environmental sustainability is an integral part of the Lisbon strategy, protection of the environment and economic growth are often seen as competing aims. The controversy is focused on water, soil and air pollution and global commons such as the climate and the ozone layer. While these are all more or less renewable natural resources, their scarcity (or overuse) has risen dramatically over the last few decades. The absence of enforceable property rights has not helped counter this tendency. Environmental policy aims to put these resources under a common-property regime with enforceable rules. The main policy instruments are various forms of restriction on activity, which is hazardous or damaging to the environment.

Environmental policies must be cost-effective, gradual and predictable in their design if they are to stimulate welfare-enhancing structural adjustments

Demand for environmental protection has risen along with economic growth, and public action and market forces have triggered a reduction in the pollution intensity of economic activity in the EU. This has also been helped by the dynamic growth and growing share of the service sector. There is no evidence to support assertions that this decoupling of pollution levels from levels of economic activity has been achieved by exporting pollution through large-scale delocalisation, although the increased spending on environmental protection has made production of regulated industries in some cases more expensive. On the other hand, the long-term strengthening of credible environmental standards and ambitions is contributing to the establishment of new markets for environmental technologies and to the emergence of specialised industries and potential for jobs.

In order to stimulate a welfare-enhancing adjustment of economic structures environmental policies must be cost-effective in their design

Environmental policies cause an adjustment of economic structures, mainly by adapting the property-rights regimes for natural resources to take account of their increased scarcity and new scientific insights. In this way, the price of using environmental resources and of exposing the public to health risks should be brought closer into line with the social costs. This leads to a better working of the market, and thus to a more efficient allocation of resources and associated welfare gains. Therefore, welfare-enhancing environmental policies must be cost-effective, and they should take into account the frictions involved in the adjustment, the dynamic character of adjustment needs, and the uncertainties of cost and benefit estimations in the absence of well-functioning markets.

3.5. Ongoing issues in economic surveillance

Economic surveillance requires identification of topics that will become important in the future

Amongst the issues which are currently coming to the fore, this year's review addresses the draft Treaty establishing a Constitution for Europe, which strengthens economic governance in the EU in a number of respects. A second issue is education, which is expected to have a changing but significant impact on economic growth in the coming decades, as the educational profile of the workforce evolves. Finally, structural indicators and statistics in the EU are critical for the effectiveness and transparency of economic surveillance.

Chapter 1

Macroeconomic developments
in the euro area

Summary

Following three years of weak growth, the euro-area economy is now recovering. After turning the corner in the summer of 2003, the economy strengthened during the first half of 2004, growing close to potential. Growth of a similar magnitude is expected to continue during the remainder of this year and into 2005. While exports have led the way, an increase in domestic demand will be crucial to sustain and increase the momentum of the recovery.

There is little evidence to support the argument that the weak domestic demand in recent years can be attributed to macroeconomic policies. The monetary conditions remained accommodative as was reflected in the historically low short- and long-term interest rates and fiscal policy was marked by the cushioning impact of the automatic stabilisers. Thereby the policy-mix provided a sound macroeconomic environment conducive to a resumption of domestic demand.

Belated and sluggish recovery puts the spotlight on the area's economic resilience. From a global perspective, the rebound of the EU economy took place belatedly and sluggishly. In comparison with other industrial countries, it takes more time in the euro area before potential GDP is reached. This has prompted queries into the euro area's economic resilience and more specifically into whether the euro area is more sensitive to adverse economic shocks or whether its economic structures are less favourable to economic resurgence.

Activity is little affected by adverse economic news. In this context, the question arises as to whether events that hit the news headlines, such as the euro's appreciation and mounting oil prices, may have dipped economic activity in the euro area. The analysis conducted on this point shows that, though they have impacted on economic confidence indicators, their effect on industrial production was short-lived and not particularly deep. This finding is in line with comparable events

since the start of EMU. Economic shocks have been harmful if they unveiled underlying economic imbalances. In this context, the strong growth in world trade in the late 1990s seems to have spurred the euro area's reliance on external demand. This dependency has not been worked out during the growth slowdown and implies a risk for the economic rebound, particularly in view of high oil prices, which may reduce the strength of world trade and therewith the demand for euro-area exports.

But structural rigidities may be at the origin of sluggish adjustment. Rather, it would appear that the existence of structural rigidities can help to explain the late and sluggish cyclical adjustment in the euro area. Model simulations suggest that structural rigidities mainly impact on investment activity. This implies that the pace of the return to potential output will be crucially determined by how much rigidities weigh on investment once the cyclical impact of a lack of demand and financial constraints that held back investment growth is worn out. Wage rigidities and imperfect competition, in particular in the service economy, feature high when it comes to understanding sticky prices in the euro area. Relative prices do not adjust quickly in the euro area, implying the need for more costly quantity adjustments in the form of scaling down production and employment. It can also not be excluded that the lack of resolve in addressing budgetary consolidation, structural reforms and pension reforms have raised uncertainty and thereby adversely affected consumer confidence and spending. Forceful resolution of these outstanding policy issues is liable to support consumption during the upswing. While rigidities help to cushion the effects of economic shocks, they do so at the expense of slowing the recovery. For example, while employment has been resilient in the slowdown, to the extent that it was due to labour hoarding, the corollary is that job creation may turn out more muted in the current upswing.

Countries with the strongest growth in the euro area benefited from strong domestic demand whereas growth in the laggards was mainly driven by external demand. Those countries which performed well in previous upturns have not grown strongly in the current upswing. Performance in the latest upswing appears to be more dependent upon performance during the previous trough, with some countries — notably the Netherlands and Portugal — still experiencing restricted growth as a consequence of previous overheating. Inflation differences are broadly in line with growth differences. Low-inflation countries benefited from an improvement in

price competitiveness. They recorded a stimulus from external demand but remained at the lower end of the growth spectrum. The effect of inflation on real interest rates seems to have overcompensated the improvement in price competitiveness. In high-growth countries higher inflation reduced real interest rates, thereby boosting domestic demand and amplifying the differences. The limited role for the first relative to the second effect in reducing growth and inflation differences during the last year reflects structural rigidities that reduce the information content of relative prices as well as the adjustment of demand and output to price signals.

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1. Introduction

Following three years of weak economic growth, the euro-area economy is now recovering. After turning the corner in the summer of 2003, the economy strengthened during the first half of 2004. Growth of a similar magnitude is expected to continue during the remainder of this year and into 2005. In 2004, economic perspectives brightened against the background of a favourable international economic environment while domestic demand in the euro area gained pace slowly but steadily. The contribution to growth of private consumption and investment, which are the two main components of domestic demand, however, remained too unsteady to speak of an already secured recovery of domestic demand. An improvement on both counts would be necessary to keep higher growth on a sustainable footing.

In comparison with other industrial countries, the economic recovery in the euro area was sluggish and late starting. This chapter elaborates on possible reasons for the lack of dynamism with the focus being on two main avenues. First, the euro-area economy is often considered to lack resilience in the face of adverse economic shocks, in the sense that unforeseen events have a severe impact on economic activity, pushing the pace of economic growth below potential output growth and delaying economic recovery. The second avenue looks at the role of structural rigidities. Rigidities could delay the rebound, leaving growth below potential for a longer time than in flexible economic areas.

Both strands of explanations relate to the concept of economic resilience, which has two different connotations. It can be understood as the shortfall in growth caused by adverse economic shocks. A second application of resilience denotes the speed of recovery from past shocks. Apparently, the role of structural rigidities differs strongly in both perspectives. Rigidities could delay and cushion the impact of temporary adverse shocks. But if shocks require structural adjustment, they reduce the pace of recovery.

Section 2 presents a brief review of economic developments in the current year, main developments in macroeconomic policy and presents the evidence on why the rebound in the euro area has been perceived as being sluggish and overdue. The exposure of the euro area to adverse economic shocks is analysed in Section 3. Section 4 deals with the forces that shape recovery. It starts by showing the impact of rigidities on economic recovery by means of macroeconomic simulations and then deals with explanations for four structural puzzles that became apparent during the last slowdown. Section 5 elaborates on intra-area differences among Member States, trying to identify country-specific factors and the effectiveness of adjustment mechanisms behind differences in the pace of recovery.

2. Recent economic developments

2.1. Growth pick-up since autumn 2003

Summer 2003 witnessed a turnaround in economic activity in the euro area. After no growth in the first half of 2003, real GDP growth picked up in the second half of the year and firmed in the first half of 2004. The acceleration in the annual rate of growth from 0.6 % in 2003 to 2.1 % in 2004, however, overestimates the underlying dynamics because of statistical and calendar effects ⁽¹⁾. While the period of the growth slowdown has been overcome, entry into a high-growth setting is still pending.

Although actual GDP developments since summer 2003 have surprisingly been to the upside, expectations remain prudent as regards the area's capability to initiate a strong recovery and a quick return to potential GDP. The notion of a particular sluggish recovery in the euro area rests on the observation that growth has proven so far to be stronger in other economic entities than in the euro area. In addition to the comparison of proper GDP growth rates in the euro area and elsewhere, this view finds some support from the development of output gaps in different countries over the next years as projected by international organisations. Despite the uncertainty surrounding the calculation of output gaps, this concept is seen as superior to the comparison of actual growth rates because differences in rates of potential output growth are explicitly corrected for. Estimates suggest that these differences are quite substantial between, for instance, the United States and the euro area. Taking Commission

⁽¹⁾ About 0.3 percentage points of the acceleration is due to a base effect, which arrives mechanically from the acceleration of growth in the course of 2003. A further estimated 0.3 percentage points is added by a calendar effect because there were more working days in 2004 than in 2003 (leap year, more holidays on weekends).

Graph 1: GDP growth in the euro area



NB: Commission autumn 2004 forecast for years 2004–06.
Source: Commission services.

calculations, potential output growth in the United States has been close to 3 % on average for 2001–05 compared with around 2 % for the euro area.

According to the European Commission autumn 2004 forecast, the euro-area output gap is – 1.2 % of potential GDP in 2004 and will gradually close to a negative 1.0 % in 2006. Projections from the IMF and OECD also point to a rate of GDP growth in the euro area over the next year that hardly exceeds potential GDP growth, meaning that the output gap would only marginally close in 2005. While the Commission forecast is more recent than the OECD projections, which were published in early summer this year, the latter ones are used for the cross-country comparison in Table 1. The reason is simply that the OECD calculates output gaps for more countries than the Commission does, which allows a larger panel for international comparisons. The use of different methods in both institutions mainly affects the level of the output gap, yielding a very similar profile over time.

In comparison with its peers, the euro area is projected to witness the latest and slowest recovery. The OECD predicted the euro-area output gap to start closing only in 2005. Table 1 shows that it will have a considerably larger negative output gap than any of the other countries in that year. The speed with which the output gap is predicted to change from 2004 to 2005 in the euro area is also rather modest compared with the speed with which

the output gap in, for example, Japan, Norway and the United States is calculated to close in the first year after the trough. It is, however, about the same pace as in Canada, Switzerland and the United Kingdom.

Graph 3 suggests that the current projections of a slow closing of the output gap are in line with the experience in the past. In the 1980s and 1990s, the output gap was closed only in year 5 after the trough. This was true for the euro-area aggregate as well as for the United Kingdom. Of the two rebounds witnessed in the United States, one was faster, namely the 1982–85 recovery ⁽¹⁾. According to Commission estimates, the US output gap will close even faster between 2002/03 and 2005 than in the early 1980s.

In complement to the analysis of how the output gap is expected to close, namely over the longer term of four to six years, it is informative to compare the speed of the recovery in its early stage, for instance in the first two years after its trough in the output gap. Experience in industrialised countries since the mid-1980s suggests that the speed of recovery, for instance measured by the

⁽¹⁾ The slightly longer duration of a negative output gap in the United States in 1991–97 seen in Graph 3 is not evident in OECD figures, which indicate a closing of the gap one year earlier.

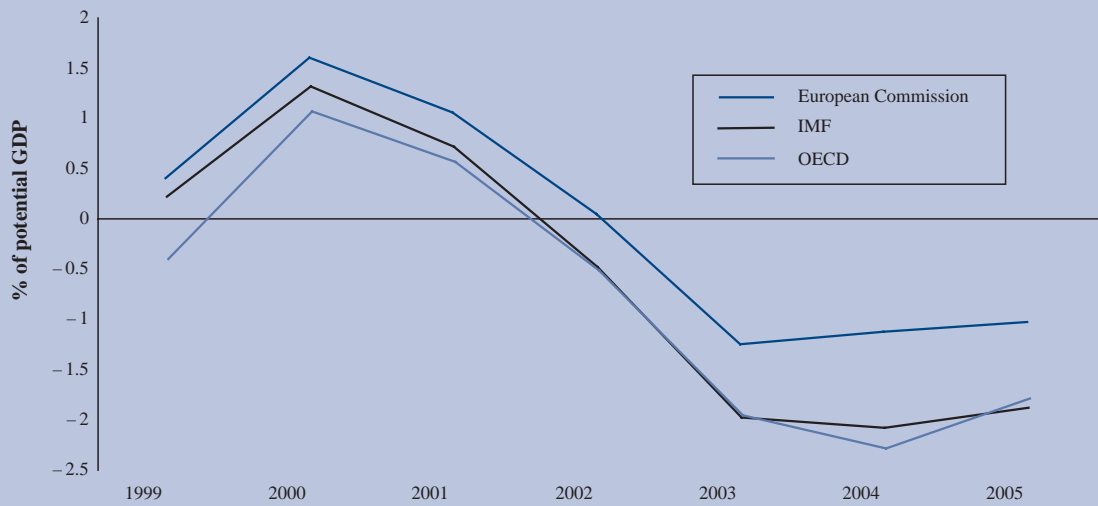
Table 1

Cyclical developments in industrial countries

	Previous output gap peak (2000 unless indicated)	Recent trough of the output gap		Expected output gap in 2005	Comments
		Magnitude	Time		
Australia	2.2 (1999)	0.6	2004	0.3	Gap never negative
Canada	2.3	– 0.3	2004	0.0	
Denmark	2.2	– 1.4	2004	– 0.9	
Iceland	4.1	0.1	2002	1.1	Gap never negative
Japan	– 1.0	– 3.5	2002	1.5	Gap closed in 2004
New Zealand	1.3 (2002)	0.5	2001	0.0	Gap never negative
Norway	2.8 (1998)	– 1.5	2003	0.7	
Sweden	2.3	– 1.3	2003	0.1	
Switzerland	1.8	– 2.1	2003	– 0.8	
United Kingdom	1.3	– 0.7	2003	0.2	
United States	2.4 (1999)	– 2.0	2002 and 2003	0.2	
Euro area	1.1	– 2.3	2004	– 1.8	

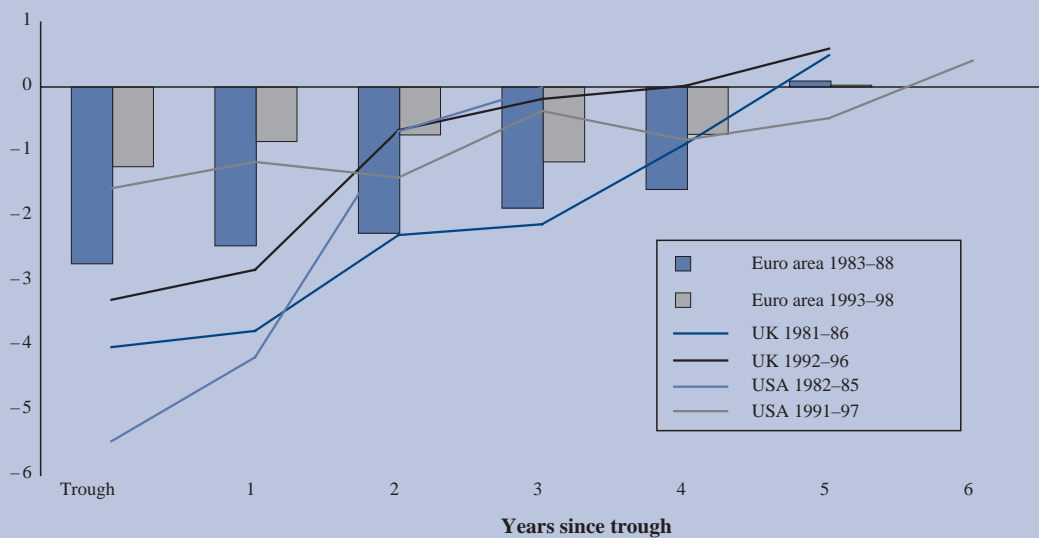
Source: OECD.

Graph 2: Output gap estimates, euro area



NB: OECD data are the spring forecast, based on potential GDP.
Sources: IMF, OECD, Commission services.

Graph 3: Closing of output gaps in major economic areas in the 1980s and 1990s



Source: Commission services.

change of the output gap in the first two years after the trough, is generally loosely related to the magnitude of the trough. Looking at the early phases of the rebound after the recession of the early 1990s and the Mexico crisis of 1995/96, it appears that the output gap closed faster in non-euro-area OECD countries than in euro-area Member States even if the difference in the depth of the output gap is controlled for. However, only few observations are available and differences between both groups of countries are not statistically significant.

In comparison with the historical precedents, it seems that the rapid speed of the current recovery in the United States is the unusual event rather than the slower speed in the euro area. To some extent, the considerable easing of monetary and fiscal policy in the United States is a factor behind its quick economic recovery. Countries with close trade, financial and exchange rate ties such as the United Kingdom or Canada may have benefited from this, therefore experiencing a faster rebound now than in the past ⁽¹⁾. On the other hand, the strongly counter-cyclical macroeconomic policy in the United States might have prevented full adjustment to the economic imbalances that have built up during the previous boom period. US savings have been lagging behind investments in the United States for more than a decade now with the consequence of a large current account deficit.

2.2. The anatomy of the early rebound

Unsteady development of demand components

The drivers of growth were variable in the early phase of the rebound and in particular the contribution of domestic demand was too unsteady to speak of a secured recovery. Net exports were the main contributor to growth in the first quarter of the rebound. Investment and inventories fulfilled this role in the subsequent quarter and private consumption contributed strongly in the third quarter of the rebound. While the sequence of demand forces is as expected, the speed of their alternation is not, causing some difficulties in assessing the robustness of the rebound. The quick spillover of the external impulse to domestic demand is a reassuring sign, because it reduces the recovery's reliance on external demand. A strengthening of private consumption had long been anticipated.

⁽¹⁾ Countries that aim at stabilising their exchange rate towards the US dollar not only benefit from an indirect depreciation relative to for instance the euro, but also from the downward pressure on interest rates initiated by the low US interest rate.

A worrying development, however, is that each factor's contribution was relatively small and is therefore unlikely to trigger strong knock-on effects on the other demand components.

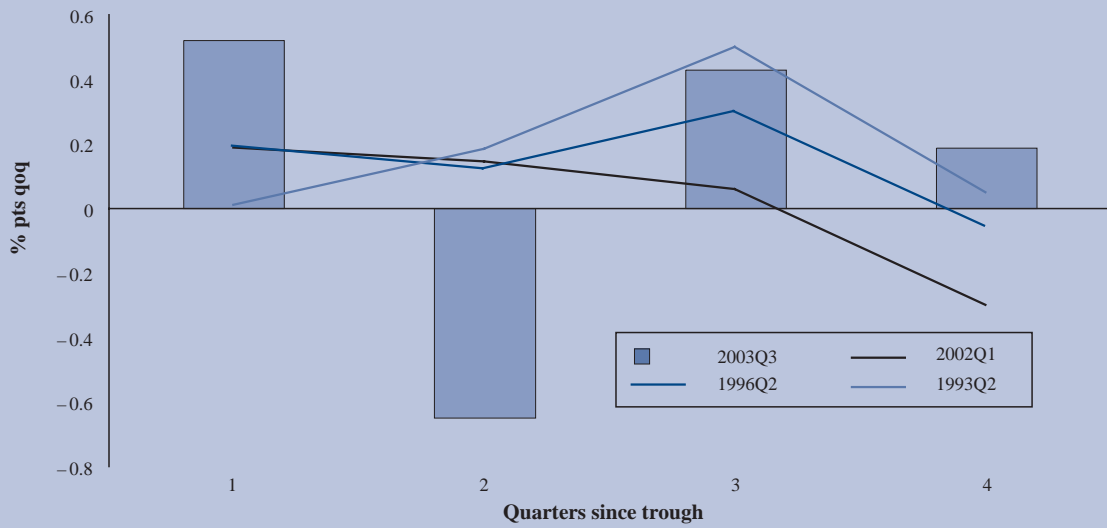
Graph 4 reveals an atypical V-shape in the contribution of net exports to growth in the current rebound. The contribution of net exports was smoother and positive throughout the early phase in previous rebounds with the notable exception of the aborted recovery of 2002. Since the rebound in 2003 took place against a brightening of the global economic outlook, with continuously high or accelerating economic growth in most industrial countries, including Japan, the negative contribution from external demand in the final quarter of 2003 is surprising. It may have been caused by changes in price competitiveness due to the appreciation of the euro witnessed at that time.

A relatively strong contribution from domestic demand to growth in the euro area is the mirror image of the early weakening of the contribution from external demand (see Graph 5). The weakening of domestic demand after a first initial peak is a pattern that seems to be common in recoveries in the euro area. The most reasonable explanation points to the impact of pent-up demand as a temporary driving force at the early stage of recovery. A further strengthening of domestic demand, which would be crucial for both the vigour and sustainability of the recovery, is not yet visible in GDP data.

Employment and prices still reflect signs of economic weakness

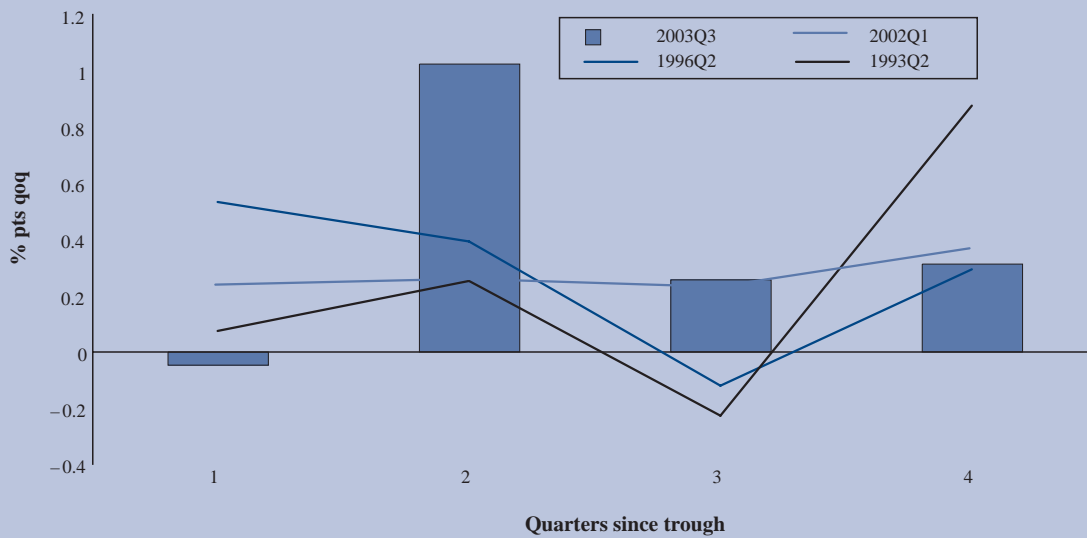
Employment growth came to a standstill from the second half of 2002 onwards as a lagged consequence of the prolonged economic slowdown in 2001–03. Though the previous vigour in job creation was lost, the overall development is in sharp contrast with past experience. For example, although the magnitude of the output gap was similar in 1993 and 2004, employment growth in the early 1990s was markedly negative in the year before, at and after the trough of the output gap (see Graph 6). The rate of unemployment also increased more modestly in the recent slowdown, i.e. from 8 % in 2001 to 8.9 % in 2004 compared with an increase from 7.8 to 10.8 % 10 years before. Section 4.2 takes a closer look at the factors behind the resilience in labour market performance during the slowdown and the potential implications of past resilience for the pace of recovery.

Graph 4: Contribution of external demand to growth in the early phase of cyclical rebounds, euro area



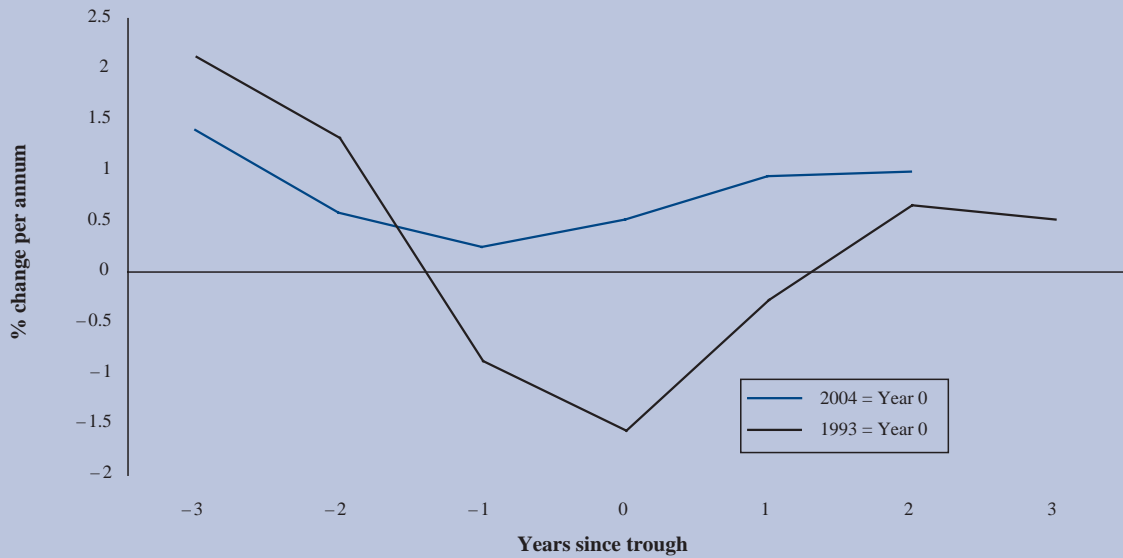
Source: Commission services.

Graph 5: Contribution of domestic demand to growth in the early phase of cyclical rebounds, euro area



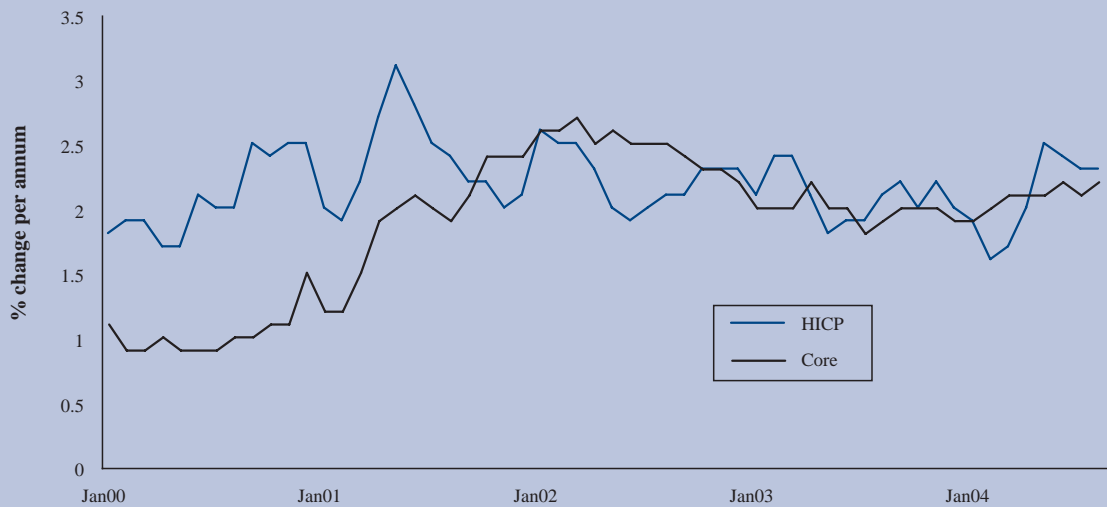
Source: Commission services.

Graph 6: Employment growth before and after the trough of economic activity, euro area



NB: The year with the largest negative output gap is year 0 in the graph. Commission autumn 2004 forecast for 2004–06.
 Source: Commission services.

Graph 7: Consumer price inflation in the euro area



NB: Core inflation is HICP excluding energy and unprocessed food.
 Source: Commission services.

Inflation remained close to, but above, the 2 % margin. This is higher than many expected given the pronounced period of weak growth and the downward pressure exerted by the appreciation of the euro. Increasing oil prices strongly determined the pattern of headline inflation in the course of the year, though they caused little concern as regards potential second-round effects, probably because the impact of the previous oil price hike in 2000 remained limited to energy prices and petered out smoothly. Furthermore, increases in regulated prices and indirect taxes in some countries shifted the rate of consumer price inflation upwards. Wage growth seems to have eased in 2004 and especially against the background that the expected cyclical pick-up in labour productivity should not weigh on inflation prospects in the short term. Inflation is expected to come down to below 2 % in the course of 2005 only.

In a strict sense, price stability as defined by the ECB as an annual rate of consumer price inflation in the euro area of below 2 % did therefore not prevail. In the absence of strong apparent upside risks to the inflation outlook throughout the slow growth period, the central question is why the apparent downward pressures had no stronger impact. The weakening of demand and the decline in import price inflation due to the euro appreciation were expected to push consumer price inflation below 2 %. This did not materialise, questioning the role of lower inflation in helping cyclical adjustment. The analysis of price stickiness in Section 4.5 sheds some further light on this issue.

Macroeconomic policy stance remained accommodative

No tangible adjustment of key macroeconomic policy parameters took place between summer 2003 and summer 2004. This is most visible for monetary policy since the ECB's last interest rate cut dates from 6 June 2003, when policy rates were reduced by 0.5 percentage points, yielding a rate of 2.0 % of the minimum bid rate in the main refinancing operation. The change in the cyclically-adjusted primary balance, which is considered the best available tool to measure the stance of fiscal policy, was marginal in both 2003 and 2004 for the euro-area aggregate. Although the direction changed from 2003 to 2004, it nevertheless indicates a neutral policy stance.

Steadiness in key policy parameters does not indicate policy inactivity. Discussions on fiscal policy were vivid. This was in particular so in autumn 2003 when

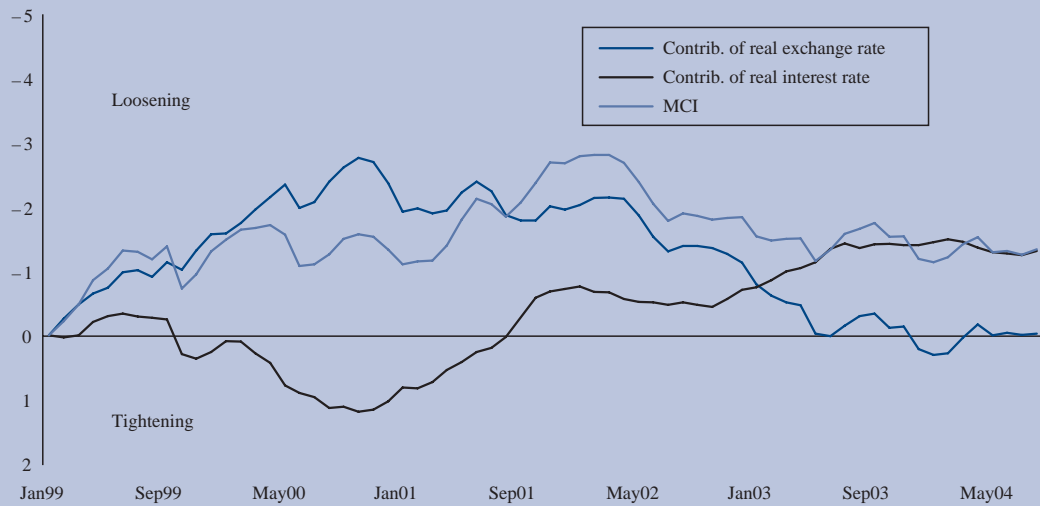
tensions rose regarding the application of the EU fiscal framework as the Council decided not to adopt a Commission recommendation to France and Germany on new measures to reduce the budget deficit and remedy the situation of an excessive deficit⁽¹⁾. The ECB was faced with demands to cut interest rates in early 2004 when the euro exchange rate climbed to close to USD 1.30/EUR and many foreign exchange market observers feared a continuous firming. Policy easing did not take place.

The monetary stance is assessed as supportive to economic activity in 2004. Monetary indicators like M3 growth suggest the availability of sufficient liquidity in the financial system and nominal interest rates are on a low level, in absolute terms and relative to the Taylor rate (see Graph 9). Real short-term and long-term interest rates remained close to their historic lows. With the real interest rate remaining relatively stable for more than a year now, movements of monetary conditions as measured by the MCI were only caused by changes of the euro exchange rate. Since the euro exchange rate has only a small weight in the MCI, reflecting the relative importance of real interest rates and real effective exchange rates for economic activity, the euro appreciation caused only a minor tightening of the MCI, which has become in consequence more favourable to domestic relative to external demand.

While the ECB kept policy rates on hold for more than a year, forward-looking financial market prices reflected signs of speculation on possible changes in the monetary stance on several occasions. One incident was the expectation of a further interest rate cut in early 2004 motivated by the feared negative consequences the appreciation of the euro could have on the economic recovery and possible negative effects on economic growth caused by geopolitical uncertainties. The first speculation that the ECB might tighten the monetary stance emerged when rising oil prices lifted consumer price inflation in early summer and economic indicators signalled higher than expected growth in the euro area. Expectations among financial market participants of an increase in euro-area interest rates were muted in summer. The rise in oil prices was interpreted as being more disinflationary than inflationary, given its taxing effects on growth.

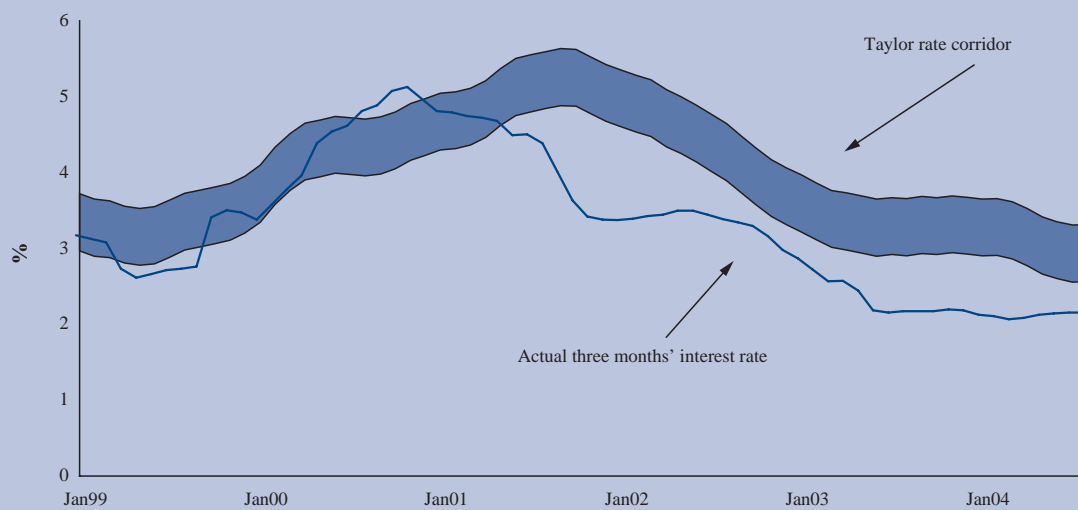
⁽¹⁾ For a detailed account of the discussion, see European Commission (2004).

Graph 8: Monetary conditions index, euro area



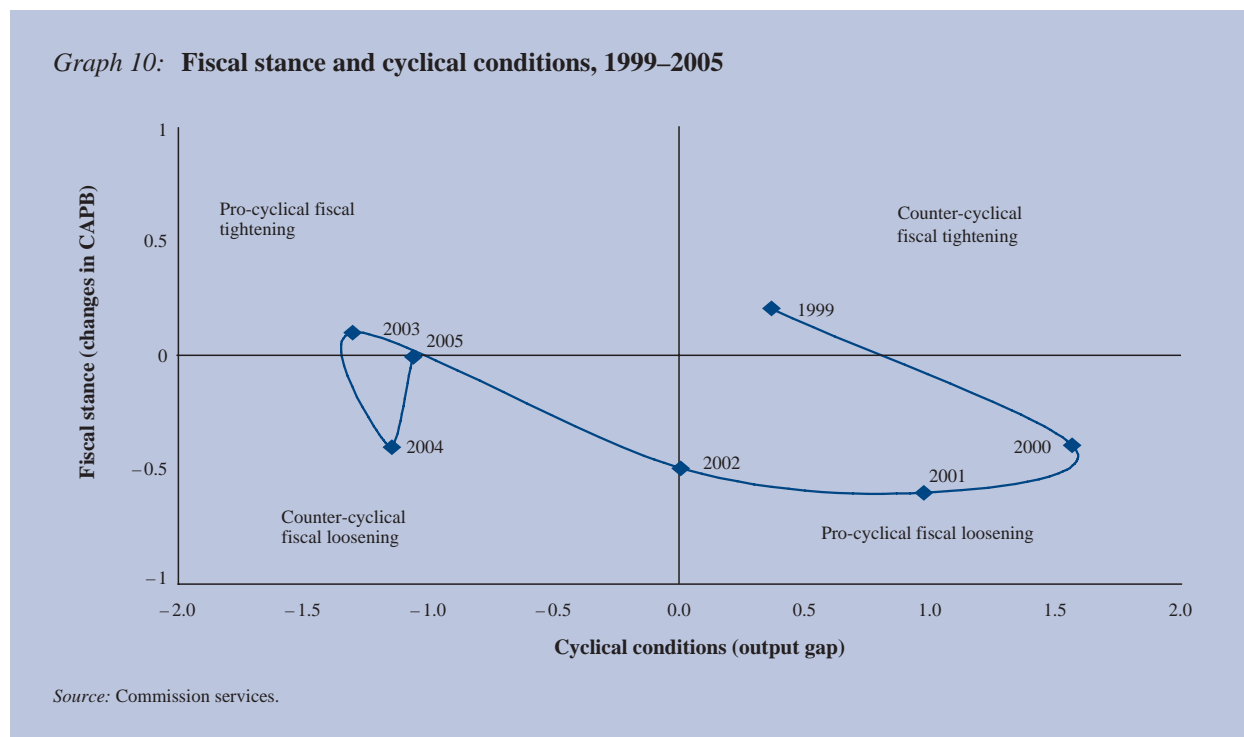
Source: Commission services.

Graph 9: Taylor rate, euro area



Source: Commission services.

Graph 10: Fiscal stance and cyclical conditions, 1999–2005



The major story behind market perceptions of future interest rate decisions relates to the question of when and how quickly central banks have to withdraw their accommodative stance. The concept of a neutral interest rate, which should prevail in neutral cyclical conditions, while theoretically appealing, is difficult to implement in practice. Calculations on the basis of the Taylor rule are often used as a proxy, indicating that euro-area interest rates were low relative to the Taylor rule. Muted interest rate expectations at a time when the US central bank started tightening its monetary policy stance could be interpreted as market participants' assessment that the gap between actual and neutral interest rates in the euro area would not represent a risk to price stability at the current stage of the economic recovery. In contrast, the gap was considered to be much wider in the United States, requiring the US central bank to remove some policy stimulus at an early stage.

Looking at the developments of the fiscal stance in the euro area, Graph 10 plots the change in the cyclically-adjusted primary balance (CAPB) against the output gap. The Security and Growth Pact (SGP) favours a neu-

tral budgetary stance for countries which have achieved a medium-term position of 'close-to-balance or in surplus', which would be visible in a movement along the horizontal axis. Countries that have not yet achieved the medium-term target of the SGP should aim for a positive change in the CAPB, indicating a restrictive fiscal stance. Small changes in the CAPB such as those seen in 2003, 2004 and projected for 2005 are considered as indicating a broadly neutral fiscal stance ⁽¹⁾.

Table 2 summarises some of the euro area's key macro-economic policy parameters, illustrating that long-term interest rates have remained on a low level. The widening budget deficit caused public debt to exceed 71 % of GDP, which is far above the 60 % Maastricht criterion and too high in view of the fiscal burden of ageing populations. Stepping up the pace of budgetary consolidation would be adequate if economic activity recovers as expected.

⁽¹⁾ See Section 5.3 for a comparison of Member States' fiscal stances and their relationship with the output gap.

Table 2

Key macroeconomic policy parameters, euro area

	2003	2004	2005	2006
Short-term interest rate (3 months)	2.3	2.1	n.a.	n.a.
Long-term interest rate (10 years)	4.1	4.26	n.a.	n.a.
Real effective exchange rate (GDP deflator, 1999 = 100)	104.0	106.8	n.a.	n.a.
Budget deficit, % of GDP	-2.7	-2.9	-2.5	-2.5
Cyclically-adjusted deficit, % of GDP	-2.2	-2.5	-2.1	-2.2
Cyclically-adjusted primary deficit, % of GDP	1.3	0.9	1.2	1.1
Public debt, % of GDP	70.7	71.1	71.1	70.9

NB: 2004 figures denote the first semester for interest and exchange rates, REER versus 34 industrial countries, 2004 to 2006 budgetary data based on Commission autumn 2004 forecast.

Source: Commission services.

Box 1: The reason for slow cyclical recoveries — A look at the recent academic literature

The academic literature is generally relatively silent on the question of why economic recoveries materialise at different speeds. In the past, this kind of discussion focused on differences in the macroeconomic policy stance. Some recent contributions have highlighted the importance of supply-side issues.

Hausmann et al. (2004) analyse the determinants of growth accelerations, which they define as an increase in per capita GDP growth of at least two percentage points. They also require the post-acceleration growth rate to be at least 3.5 % per year sustained over the next eight years. Based on these criteria, they identified around 80 episodes since the 1950s. While most of the observations stem from former developing countries and the number of episodes declines from the 1970s onwards, EU countries also witnessed growth accelerations in the past two decades (United Kingdom 1982, Spain 1984, Ireland 1985, Portugal 1985, and Finland 1992). The comparison of macroeconomic trends in these episodes suggests that increases in investment, trade and real exchange rate depreciations seem to be correlated with growth accelerations. The detailed empirical analysis of these episodes, however, revealed that most of them were not related to expected

exogenous determinants. So the authors find financial liberalisation and positive external shocks to have a temporary impact. The estimation also suggests that despite the finding that the variable capturing economic reform is rarely significant, economic reform has a statistically meaningful impact, at least on the probability of experiencing a sustained acceleration in growth.

Applying the concepts from growth theory on the analysis of the business cycle, Prescott (2002) attributes the most important role for explaining differences in economic prosperity to productivity. Crucial policy determinants are trade integration, an efficient financial system and competition among firms. As regards labour utilisation, he considers the tax structure to have an important distorting impact, which could account for the difference in labour supply in the United States and continental Europe. Bergoing et al. (2004) present evidence in a cross-country setting that regulation is negatively related to the economy's ability to recover from shocks. They argue that economic recovery requires the reallocation of resources, in other words, from declining to growing industries, and regulation makes this adjustment process costly.

(Continued on the next page)

Box 1 (continued)

Some evidence on the impact of market rigidities on economic performance has been derived from incorporating rigidities into macroeconomic models and comparing the performance with a more flexible model environment. For example, using the IMF-GEM model, Bayoumi et al. (2004) show that differences in parameters that capture the impact of competition can account for half of the difference in per capita GDP between the United States and the euro area. Reforms that raise the level of competition in the euro area to the US level would lead, in the model, to an increase of GDP by more than 12 % in the euro area. They would also improve price flexibility and therewith allow for a more active role for monetary policy in stabilising output. Following a similar approach, Drew et al. (2004) compare model outcomes if rigidities on different markets are introduced. Structural rigidities on product and labour markets reduce the impact of negative demand shocks. However, output and unemployment need longer to return to their equilibrium levels in the simulations shown, by about two to three years.

Galí et al. (2003) approach the slack in an economy by constructing an inefficiency gap, which is the inverted sum of the aggregate price mark-up and the aggregate wage mark-up in an economy. This indicator is highly

pro-cyclical in the euro area, driven by counter-cyclical behaviour of the wage mark-up, defined as the difference between the real wage and the disutility of work. This could be interpreted as a desired adjustment among firms and workers in an environment with flexible prices and wages. However, the authors' alternative and preferred interpretation is that the change in the mark-up is driven by wage rigidities.

Some economists in investment banks conjectured that the slack in the euro-area economy could be smaller than estimated because the rate of potential growth could have become lower over time. J. P. Morgan (2004) argues that some of the peculiarities observed in the recent slowdown, namely the slow pass-through of the euro appreciation to prices, the limited decline in capacity utilisation and the small increase in unemployment, would be less odd if the rate potential growth and therewith the (negative) output gap were smaller than thought. A reason could be that economic performance in the 1990s was spurred by some favourable supply shocks, that is, low energy and commodity prices, trade and financial liberalisation, productivity in ICT. According to Goldman Sachs (2004), these shocks influence the cycle in which they occur, but not necessarily the next one.

3. The impact of adverse economic shocks

This and the subsequent section cast some light on the possible reasons for the sluggish recovery in the euro area with the focus on two, not mutually exclusive, strands of explanations. The first set of explanations is built on the perception of the euro area being particularly vulnerable to adverse economic shocks. The pronounced weakness in economic growth could be due to the impact of the shocks that hit the economy in 2001–03. This section asks whether the euro area is particularly sensitive to adverse economic shocks, and if so, why. In this context, the effects of adverse economic news on households' and investors' confidence are often quoted as being of particular importance. A second line of reasoning focuses on the existence of structural rigidities in the euro-area economy that could delay recovery and inhibit the return to potential output growth. This second approach is taken up in Section 4.

The occurrence of adverse economic shocks is widely mentioned as a reason for the brisk interruption of the strong pace of economic growth that prevailed in the late 1990s up to 2000. The shocks that were highlighted in previous issues of the review concerned (i) the oil price hike in 2000, (ii) the bursting of the ICT investment bubble and (iii) the slump in world trade. They all have in common that they acted on a global scale, in other words, dented growth not only in the euro area but also in many other economic areas. The observation that growth picked up later in the euro area than elsewhere suggests that the euro area was particularly vulnerable to these shocks.

However, this perspective could give a biased view on the resilience of the euro area. The reason is that it highlights the shocks that had a severe impact but leaves out all shocks from which the impact did not materialise. For instance, three special incidents in the current year were widely thought to present a risk to economic recovery. These are the appreciation of the euro exchange rate, the hike in commodity and espe-

cially oil prices and the terrorist attack in Madrid. Though they impacted on economic confidence indicators, their effect on the recovery has been muted.

3.1. The impact of adverse economic news on confidence and economic activity: the early years of EMU

This section looks at the adverse economic shocks in the form of an event study, i.e. it identifies in a first step unexpected events that were considered to be potentially harmful for economic activity and subsequently tries to establish their relationship with economic confidence and short-term hard economic indicators. The intention is to get insights into the kind of shocks the euro area had been exposed to and the severity of their impact. Moreover, the research design permits the establishment of some preliminary evidence of the importance of confidence effects, i.e. the significance of economic shocks via their impact on economic confidence in addition to any materially justified impact.

A later step relates the results of the event study to those economic shocks that used to be considered of particular relevance for explaining the euro area's dismal growth performance in 2001–03. Somewhat pre-empting the conclusions, adverse economic events have been frequent in the euro area. However, their effect via deterioration in economic confidence is transitory unless they unveil some underlying economic imbalances.

Since 1998, the euro area has been hit every year on average by two adverse economic events, which are defined here as unexpected events that are presumed to be potentially harmful to economic activity. Admittedly, any method of identifying the occurrence and timing of these events encompasses a discretionary element and a degree of arbitrariness. The preferred strategy in this exercise consisted in matching all

major changes in the Commission's industrial confidence indicator to a chronology of market events ⁽¹⁾.

It turned out that each fall in the industrial confidence indicator of two or more points was accompanied by a major news event. Table 3 provides a list of events and Graph 11 marks the timing of changes in the industrial confidence indicator. There were, however, a number of events that would a priori be judged as potentially severe, and that found no reflection in the change of the industrial confidence indicator. Notably the military conflict in Serbia in spring 1999, the increase in the oil price above USD 30 in February 2000 and the floods in some euro-area Member States in summer 2002 were not followed by a drop in industrial confidence.

Over the period 1998 to 2003, the euro area was exposed to 12 adverse economic events, measured as a decline in the industrial confidence of at least two points. The average of two shocks per year also continued in 2004, with both the terrorist strike in Madrid on 11 March and the increase in oil prices qualifying as economically meaningful events. The financial crises in South-East Asia and Russia in 1998 as well as 11 September 2001 initiated the most marked drop in industrial confidence. With hindsight, they can be considered the most severe economic shocks in the panel ⁽²⁾. It is, however, remarkable that industrial confidence had already deteriorated before 11 September 2001, which is consistent with the consensus among economists that the terrorist strike was not the cause of economic slowdown.

⁽¹⁾ An alternative strategy used consisted in deriving the timing of events from an autoregression of production expectations in industry. An event was defined as any observation when the residual of this estimate was unusually low. Both methods yield a high degree of, but no perfect, overlap. Moreover, while the alternative approach is more sophisticated from a quantitative point of view, some of the observations are difficult to reconcile with 'economic news'. As a consistency test, the same exercise was repeated for the Reuter's PMI, yielding comparable results.

⁽²⁾ Note that a fall in the Commission's industrial confidence indicator of similar magnitude has only been recorded once since the start of the series in 1985. This was in October 1992, following the ERM crisis (black Wednesday) that led Italy and the United Kingdom to leave the ERM.

Table 3

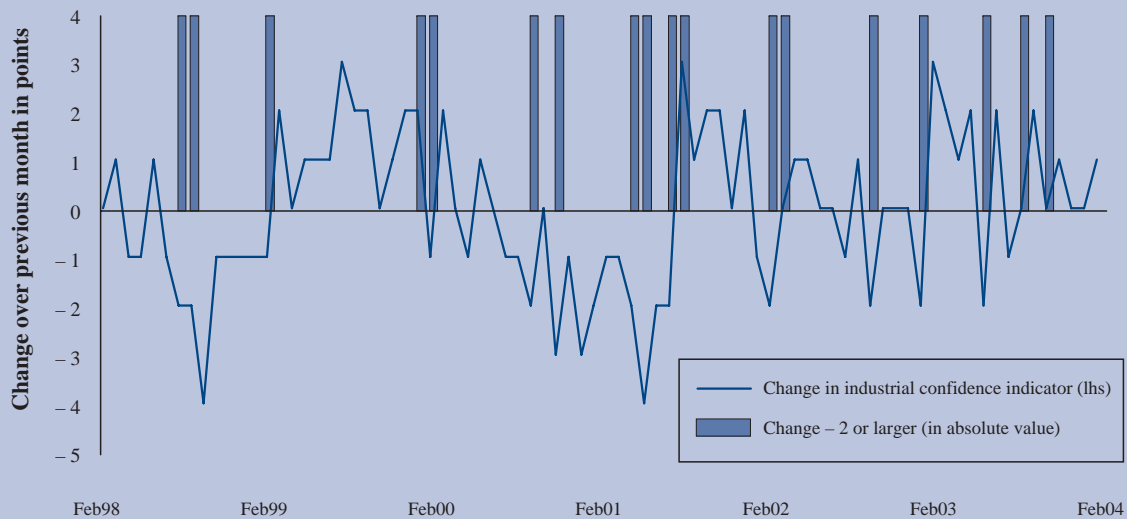
Adverse economic shocks

	Time	Change in industrial confidence	Negative growth in industrial production, mom
Russia, LTMC	August–October 1998	– 2/– 2/– 4	October–December
NATO air strikes on Serbia	March 1999	0	
Oil price exceeded USD 30	March 2000	2	
Stock market collapse	April 2000	– 3	June
Downward revision of already slow GDP growth in the United States	December 2000	– 2	January
Turkish financial crisis, foot-and-mouth disease	February 2001	– 3	March–April
Indication that the global economy was in recession	April/May 2001	– 2/– 2	
Enron scandal	August 2001	– 2	September–December
Terrorist strikes in the United States	September–October 2001	– 4/– 2	
Afghanistan conflict, GDP release confirms Germany to be in recession	November 2001	– 2	
Enron collapse, financial crisis in Argentina	December 2001	3	
World com scandal	July 2002	– 2	July
Floods in Germany, Spain, France, Austria	August 2002	3	
Iraq conflict	March 2003	– 2	March and May
Strong increase in US bond rates	July 2003	– 2	August–September
Euro exceeded 1.20	December 2003	– 2	January
Terrorist strike in Madrid	March 2004	0	
Oil price exceeded USD 40	May 2004	0	

Shocks are related to 16 of 26 observations for negative monthly investment growth.

Sources: Commission services, BBC, Macro-Dev.

Graph 11: Changes in industrial confidence



Source: Commission services.

Interestingly, the direction of changes in industrial confidence used to be clustered, but this pattern has dissipated in the recent past. For instance, increases were prevalent in 1999 and declines in 1998 and from autumn 2000 to autumn 2001. A deviation from this pattern is visible for the time since summer 2002, when periods of pluses and minuses changed in small intervals. All the negative changes that were equal to or exceeded two points in this time can be traced back to worrying economic news. This could suggest that either economic shocks have become more frequent or that agents have become more sensitive to adverse economic news, i.e. responding more strongly in their assessment in surveys.

The right column in Table 3 indicates that industrial production growth became negative whenever industrial confidence fell by two or more points either in the same or the subsequent month. Of the 26 observations of negative monthly industrial growth that were recorded between 1998 and 2004, 16 occurred at or shortly after an economic shock. This result is not a major surprise since the confidence indicator is calculated from answers to, amongst others, questions regarding actual and expected industrial production. Nevertheless, it should be noted that econometric estimates suggest that these

economic events have some predictive power for industrial production.

Although significant, the impact of these adverse economic events on industrial production seems to be rather short-lived. This can be shown by including them into an empirical estimate of monthly industrial production growth. Dummy variables signifying the timing and severity of bad economic news turn out significant in auto-regressions of industrial production, but only with a lag of one and two months. Higher-order lags of the shock variable are not significant and the estimated coefficients of lagged investment growth imply that shocks fade out quite quickly. According to the empirical estimates, industrial production falls for two months when a shock that causes a decline in industrial confidence by two or more points occurs. Afterwards, growth in industrial production oscillates around zero, and, although industrial production will remain on a lower level, Graph 12 suggests that the impact of the shock is practically invisible in growth rates after six months.

In terms of magnitude, a decline in industrial confidence by two points reduces industrial production by 0.4 to 0.8 percentage points over two months, depending on

the specification of the empirical estimate. Accounting for a share of industrial production of 20 % in GDP, this would translate into an annual income loss of less than 0.05 %. Unless activity in other economic sectors is also affected by the shock, this would be too small to expect a significant deterioration in aggregate demand.

The timing of deteriorations in consumer confidence is only weakly correlated to downward changes in industrial confidence. The same method of relating large monthly changes in the consumer confidence indicator to external events does not reveal a consistent pattern. Only three of five observations occurred in times when the change in industrial confidence indicated an adverse economic event. It is, however, remarkable that the decline in consumer confidence is often spread over two or even more months. The duration of the deterioration in consumer confidence as well as its occurrence after some of the major economic shocks suggests that consumer confidence depends more on the state of the general economic situation than on events that could trigger any deterioration in the economic outlook. Each observation of a severe deterioration in consumer confidence coincided with weak growth in private consumption in the national accounts.

3.2. Shocks and economic imbalances

There is a discrepancy between the adverse economic events referred to above and the economic shocks that are held responsible for the dismal economic performance in the euro area. Moreover, the short-term impact of adverse economic events on industrial production, in combination with the imperfect correlation between the subsequent impact on consumer confidence and households' spending suggests shocks to be relatively short-lived. The impact of the oil price hike of 2000, the bursting of the ICT bubble and the slump in world trade are, however, perceived to have had a lasting impact on economic activity ⁽¹⁾, with all three shocks having a long-lasting impact on demand. Even if the economic disturbances can be related to adverse economic events ⁽²⁾, the duration of their impact seems to be a major difference between both concepts.

⁽¹⁾ For an attempt to identify the economic shocks of 2000 by means of VAR analysis, see Peersman (2003). He finds that the shocks were more pronounced in the United States than the euro area but cautions that the results are sensitive to the empirical strategy.

It is very likely that the period of strong growth in the euro area was not cut off by the occurrence of economic shocks per se, but by underlying economic imbalances that surfaced at the time of, or because of, these shocks.

With hindsight, all three economic disturbances that had been identified as having triggered the economic slowdown in the euro area can be considered a correction of past imbalances. Technical progress in the ICT sector, globalisation of markets and low commodity prices in times of buoyant growth might have led to distorted market signals and an undue expansion of production structures in specific sectors.

The case is probably most obvious for investment. Declining capital costs, in particular through interest rate convergence in some Member States in the run-up to EMU, and buoyant stock prices had eased financing conditions for investment. Capital raised on stock markets increased from just 1 % of GDP in 1997 to almost 5 % in 2000. Non-financial corporations accumulated liabilities and holdings of financial assets from 1995 to 2000 (see Graph 13).

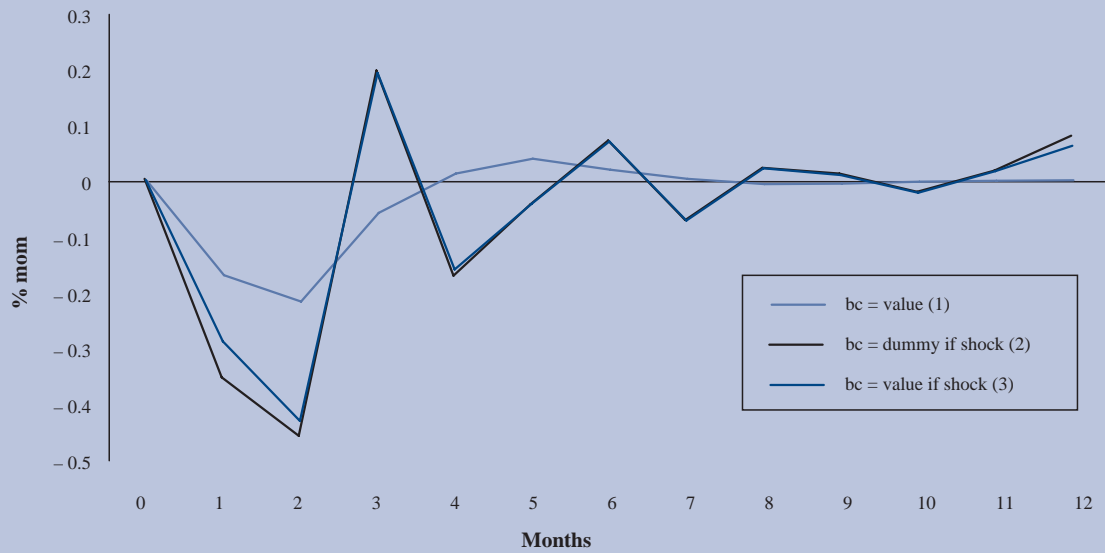
This trend of rising financial activity, however, stopped after 2000. A high level of corporate debt has been identified as a reason for slow investment growth in the downturn. Financial institutions seem to have become prudent in their lending policy, being, on the one hand, eager to clean their balance sheets of bad loans, while, on the other, trying to keep market shares in an environment of intense competition due to increasing financial integration ⁽³⁾. See Section 4.3 for more details.

While it is difficult to identify an exceptional increase in overall physical investment in the late 1990s, which could indicate overinvestment in the euro area, investment in some items had been buoyant. In particular, spending in ICT had been upbeat and roaring stock market prices have helped to expand activity in this sector. Although not all ICT goods produced and imported were

⁽²⁾ For example, the stock market collapse in 2000, when Nasdaq share prices fell by 20 % from March to April, heralded the end of the ICT bubble. Investment growth became negative shortly thereafter, namely in the third quarter in the United States and in the fourth quarter in the euro area, marking the beginning of a period of weak investment in both economic entities. The severity of this disturbance was probably unknown until the release of US national accounts data in late autumn 2000. Similarly, the decline in industrial confidence in December 2000 might not just have been triggered by evidence of weakening economic activity in the United States; it also portended the fall in world trade growth that materialised in 2001.

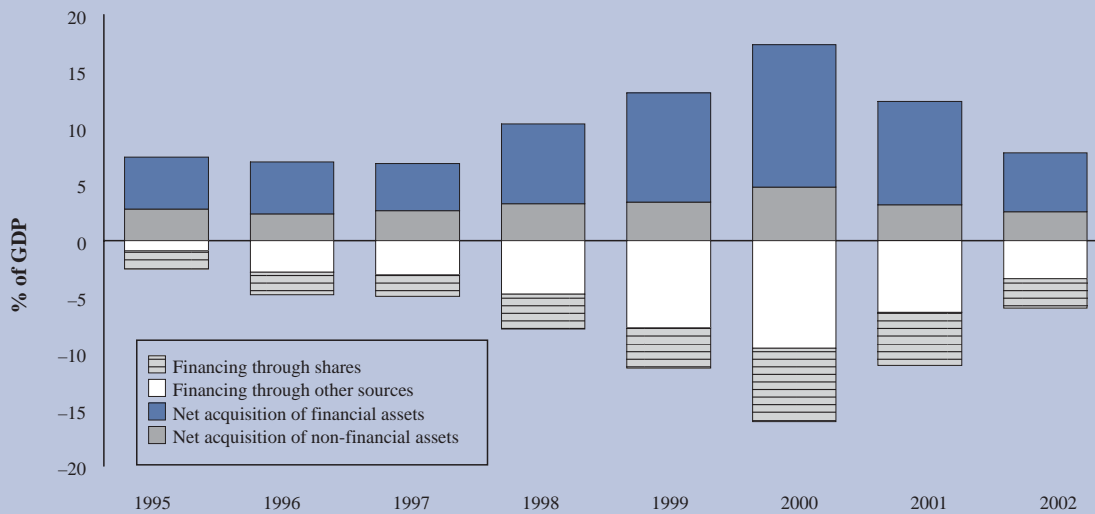
⁽³⁾ These factors were analysed in the chapter on the euro-area economy in last year's review.

Graph 12: The impact of shocks on industrial production, growth rate



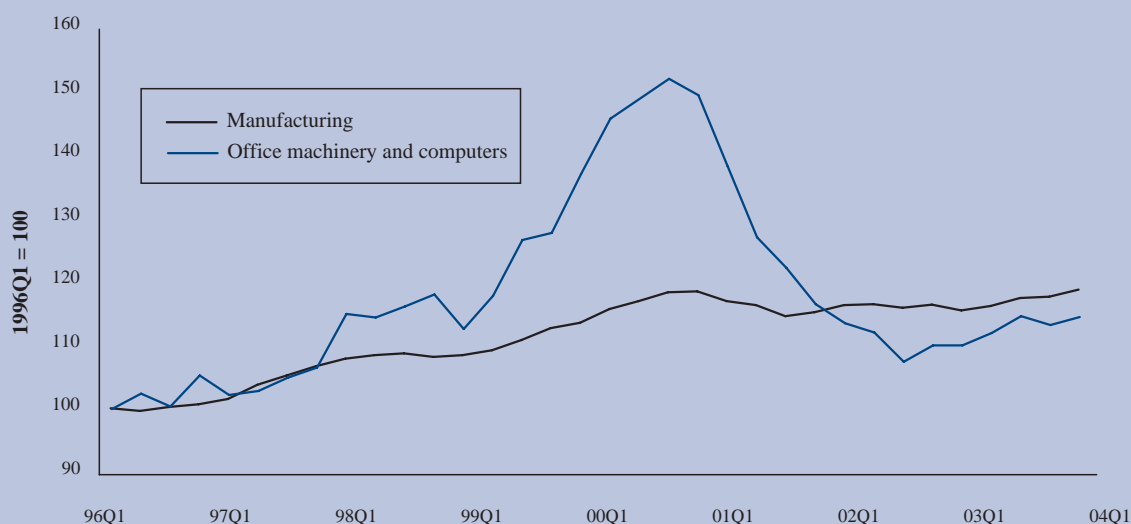
NB: (1) Includes all values of the change in industrial confidence, irrespective of sign and magnitude. (2) Includes a dummy equal to 1 whenever the industrial confidence declined by two or more points. (3) Is similar to (2) but also reflects the severity of the decline in the industrial confidence indicator.
Source: Commission services.

Graph 13: Financing and investment of non-financial corporations, euro area



Sources: ECB, Commission services.

Graph 14: Industrial production, euro area (1996Q1 = 100)



Source: Commission services.

also invested, Graph 14 shows that production in ICT hardware showed a typical boom–bust pattern. Since production in ICT goods powerfully outpaced that in manufacturing in particular in 1999 and 2000, partly to modernise ICT in view of the year 2000 problem, it is reasonable to assume that overly high capacity had been built up in this sector.

Adverse economic events in 2004 such as the appreciation of the euro exchange rate, the hike in commodity and especially oil prices and the terrorist attack in Madrid do not necessarily unveil economic imbalances in the euro area.

This assertion is probably doubtful for the euro appreciation, which brought the strong dependence of growth in the euro area on external demand to the fore. In 2003/04, the effect of the appreciation on economic activity in the euro area was cushioned by the simultaneous acceleration in global trade growth⁽¹⁾. However, the continuous reliance of growth in the euro area on external demand suggests that this structural weakness has not been worked out of the economy during the growth slow-down. In the euro-area manufacturing sector, the share of sales on non-domestic markets relative to those on

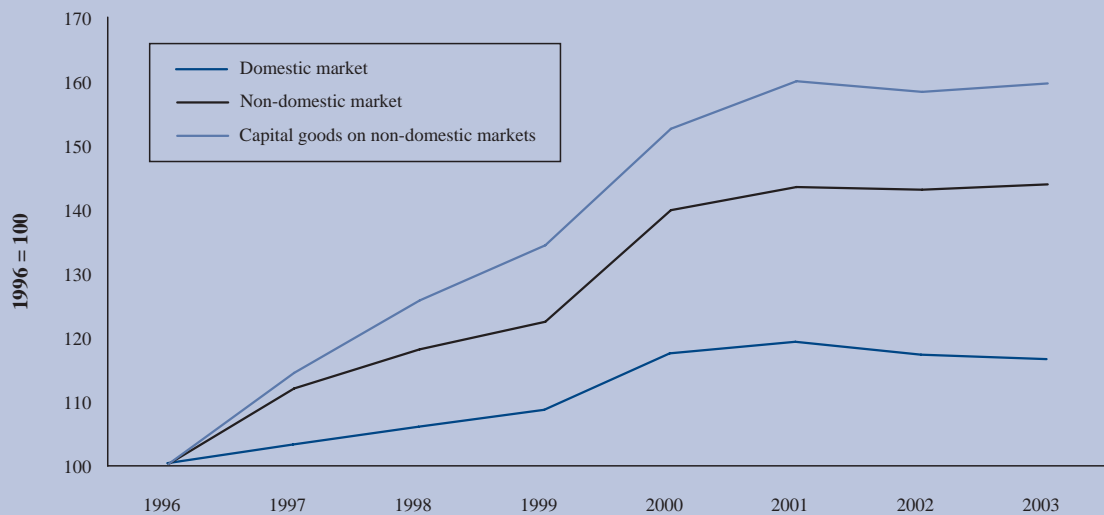
domestic markets had increased rapidly (see Graph 15). Cross-border sales of capital goods rose even more strongly, suggesting that production structures had become increasingly focused on global markets. If previous investment decisions were based on the expectation of sustained high growth in external demand, these expectations have been disappointed since 2001.

Oil price shocks are usually considered to have caused the stagflations in the mid-1970s and early 1980s. Although some researchers have meanwhile contested this consensus view and stress the role of monetary policy in response to this shock as the actual trigger for recession⁽²⁾, oil price hikes continue to raise a lot of public concern. Simulations using macroeconomic models consistently show oil price shocks to have a

⁽¹⁾ A further reason as to why the euro appreciation only mildly affected growth in the euro area is very likely that it corrected the previous undervaluation of the euro. This view finds support in the observation that the most frequently mentioned reasons for the preceding euro weakness were positive shocks to productivity and risk premiums in the United States. These factors can justify a temporary, but not a permanent, appreciation of the US dollar against the euro. Model analysis predicts that the exchange rate should return to its previous level over time. See, for instance, Tille et al. (2001) and IMF (2004b).

⁽²⁾ See Barsky and Kilian (2001, 2004) and Bernanke et al. (1997).

Graph 15: Turnover in manufacturing, euro area (1996 = 100)



NB: Turnover on non-domestic markets includes cross-border intra-area turnover.
Source: Commission services.

significant impact on economic activity, with their severity being largely dependent on the duration of the oil price hike (see Table 4). For example, simulations with the Commission's Quest model show that the impact of a transitory increase in the oil price is quite short-lived, affecting GDP in the first year. The effect is already unwinding by year 2 and essentially no longer noticeable in year 3. When the oil price increases permanently, Quest simulations show the negative effect to be marked in the second year (see Table 4).

Table 4

The impact of a permanent increase in oil prices (USD 44 per barrel)

	2004	2005	2006
GDP growth	-0.33	-0.44	-0.16
Consumer price inflation	0.21	0.36	0.05

Source: Commission services.

The mechanisms through which an abrupt oil price increase impacts on economic activity and the position-

ing of the euro-area economy were described in some detail in 'The EU economy: 2000 review' and the European Commission's 'Quarterly report on the euro area 2/2004'. The latter concluded that higher oil prices represent a small but significant downward risk to economic activity.

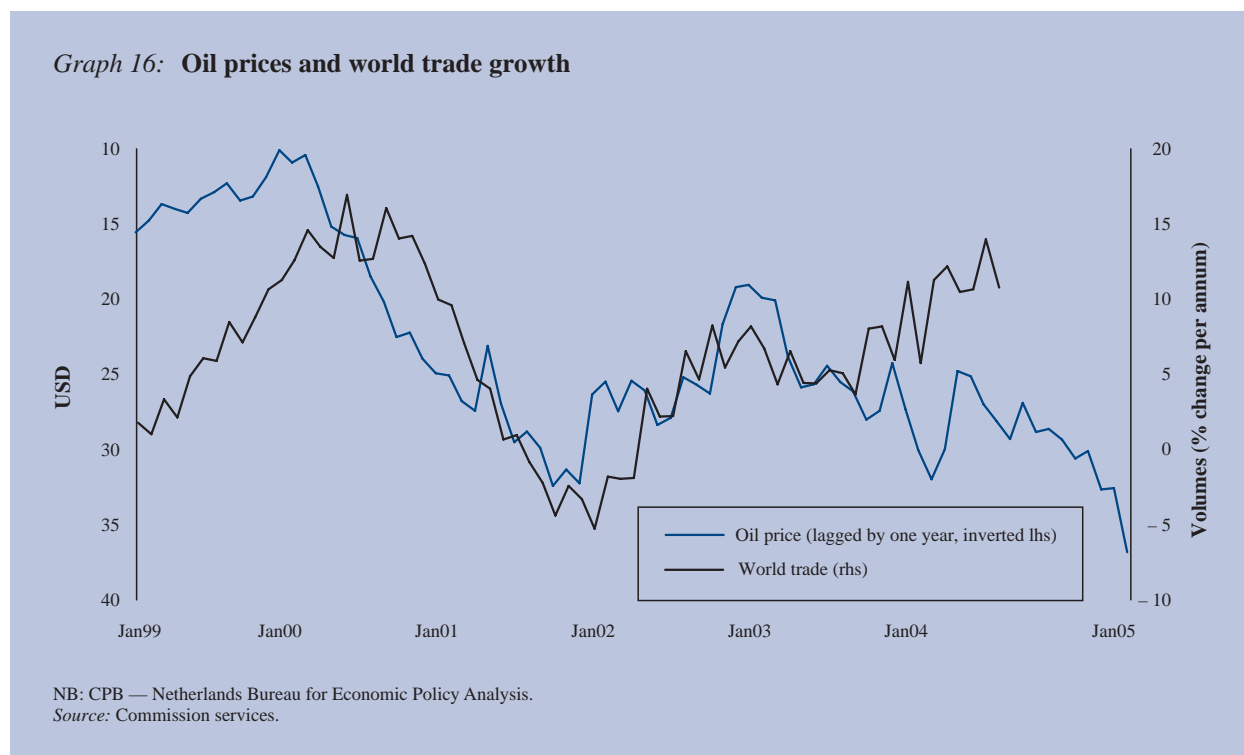
- The still relatively weak cyclical position of the euro area could make business and consumer confidence vulnerable to further increases in oil prices.
- The oil price hike could fuel inflation, particularly if wage earners demand compensation for their loss in purchasing power. Whereas oil price increases led to higher wage growth in the 1970s and early 1980s, second-round effects could not be observed after the year 2000 oil price hike.
- A significant risk is related to the response of emerging markets and world trade to the hike in oil prices because previous oil shocks have regularly been followed by a slowdown in world trade. Growth in world trade may be more sensitive to higher oil prices than in the past due to the growing importance of emerging markets such as China.

Graph 16 relates the development of the oil prices with growth in world trade, showing that both have moved in tandem since 1999 when oil prices are lagged by about one year. If temporarily lower oil prices were a major driving factor of the acceleration in growth witnessed in emerging markets in the recent past, the oil price hike could uncover economic imbalances prevalent in these countries. Given that growth in the euro area remains vulnerable to changes in external demand, oil price-induced disruptions abroad could spill over into the economic outlook for the euro area.

3.3. Conclusions

This section demonstrated that economic events that make headlines do not necessarily amount to severe adverse shocks.

- The euro area has frequently been hit by adverse economic events, which could trigger a slowdown in economic activity. On average, two of these events occurred per year.
- Most of the events identified had an impact on industrial confidence and, with a delay, on industrial activity. The evidence presented suggests the effect of confidence effects on industrial production to be short-lived and not particularly deep.
- Those shocks that are held responsible for slowing growth after 2000 heralded deeper underlying economic disturbances. The euro area's dependency on external demand has not been worked out during the slowdown and represents an important risk for the cyclical rebound.



4. Factors shaping the return to potential growth

The hypothesis that structural factors might be an obstacle to accomplishing a faster return to potential output is strongly linked to the observation that economic recovery set in earlier and more robustly in the United States and some other Anglo-Saxon economies than in the euro area. These countries are perceived to suffer less from structural rigidities and their higher degree of economic flexibility has helped them to overcome the global growth slowdown faster than the euro area. Relative prices do not adjust quickly in the euro area, implying the need for more costly quantity adjustments in the form of scaling down production and employment.

This section reviews factors that can crucially inhibit the pace of the return to potential output. It starts with the results of macroeconomic simulations that demonstrate the role of structural rigidities in the adjustment to economic shocks (Section 4.1) ⁽¹⁾. Then, it elaborates on special developments that were observed during the 2001–03 growth slowdown and that may indicate the effect of structural rigidities. A central question is whether they indicate a slowdown in potential output growth. Such a consequence has become a possibility because a persistent period of sluggish cyclical growth may lead to withdrawal from the labour market, loss of skills of the unemployed and low investment. This means that less economic slack would have been built up than output gap calculations suggest.

As identified in previous issues of the EU economy review, a number of factors were unusual in the growth slowdown in 2001–03.

- Labour markets weathered the slowdown quite well, with employment growth remaining positive and

⁽¹⁾ The analysis presented in ‘The EU economy: 2002 review’ showed how economic structures can impact on the rate of growth in the medium to long term.

unemployment rising only modestly. An important question is whether the resilience of employment to the slowdown translates into less supportive employment growth during the upswing (Section 4.2).

- Considering the low level of interest rates, investment activity was shallow. Before the growth slowdown, it was widely assumed that vivid technical progress could spur an investment boom. Now, there are few indications that these expectations are being lived up to (Section 4.3).
- Consumption was weaker than suggested by the trend in disposable income. At the current juncture, it is unclear whether the households’ saving rate should be expected to continue its increase or whether a reversal to the lower level seen before the growth slowdown will occur. This will crucially determine the contribution of private consumption to economic growth (Section 4.4).
- Consumer price inflation fell only marginally in response to the shortfall in domestic demand. Price stickiness is considered to have prevented a larger decline in inflation, thereby depressing households’ purchasing power and preventing a more aggressive easing of monetary policy (Section 4.5).

4.1. The impact of rigidities on economic recovery: results from model simulations

Structural rigidities are theorised to dampen cyclical fluctuations. Shocks have a smaller but more durable impact while recovery is slower. Unveiling the actual impact of structural rigidities on the timing and strength of cyclical rebound is a thorny exercise because actual cyclical movements hardly follow the textbook model.

Moreover, international comparisons like the one performed in Section 2.2 are sensitive to the control of the influence of other variables such as the severity of economic shocks or the stance of macroeconomic policies.

This section draws on the insights from macroeconomic simulations. The procedure is quite straightforward. A macroeconomic model of the euro area was exposed to selected shocks and the impact of the shocks was compared with an alternative set-up of a more flexible economy. Differences in adjustment patterns should be telling regarding the impact of rigidities on cyclical behaviour.

The simulations draw advantage from the fact that several mechanisms in the Commission's Quest model allow for an explicit analysis of sluggish adjustment to shocks. For instance, the model's investment function contains parameters for adjustment costs that reduce the sensitivity of changes in capital and therewith of output to determinants in capital costs. A parameter of price adjustment reflects sticky adjustment of output prices to input prices and changes in capacity utilisation. Taxes and bargaining power on labour markets reduce the efficiency of the labour market and some households are liquidity-constrained, i.e. have no possibility to smooth consumption over time ⁽¹⁾.

For the following experiment, the original Quest model is exposed to a representative supply as well as to a demand shock. The resulting path of GDP is then compared with a model, which was exposed to the same shocks, but where the adjustment costs parameters in the investment function are only half that of the original model. A second departure is that the parameter capturing the wage bargaining of workers is assumed to be equal to the one for the United States.

For the case of a supply shock, the most significant difference between a rigid and a flexible economy is visible in the long term. Graph 17 shows the impact of a permanent improvement in total factor productivity of one percentage point, which can be read as an autonomous increase in the pace of technical progress. In the baseline, GDP increases strongly in year 1 and converges afterwards slowly to the new long-term equilibrium. In the flexible variant of the model, the long-term GDP

level is about 0.4 % higher, which also implies a quicker adjustment in the first year ⁽²⁾.

The impact of a temporary decline in the interest rate as a representative demand shock is considerably stronger in the flexible economy than in the baseline economy in year 1, as well as throughout the return to the equilibrium level. Even after five years, a small difference is still noticeable. In Graph 18, it is assumed that the ECB would cut the interest rate relative to the Taylor rule by 100 basis points for one year, after which interest rates are set higher again to combat inflation in accordance with the Taylor rule. Since the reversal of the reduction in interest rates is already known in the model at the time when it occurs, the policy generates a temporary increase in GDP only, i.e. agents try to benefit from the lower costs of capital first of all in year 1.

A key driver in the interest rate simulation appears to be the adjustment costs in the investment function, which make investment more responsive to changes in capital costs in the flexible model. It is, however, unclear at this stage whether the finding of structural rigidities impacting via adjustment costs of investment can be directly translated into actual behaviour.

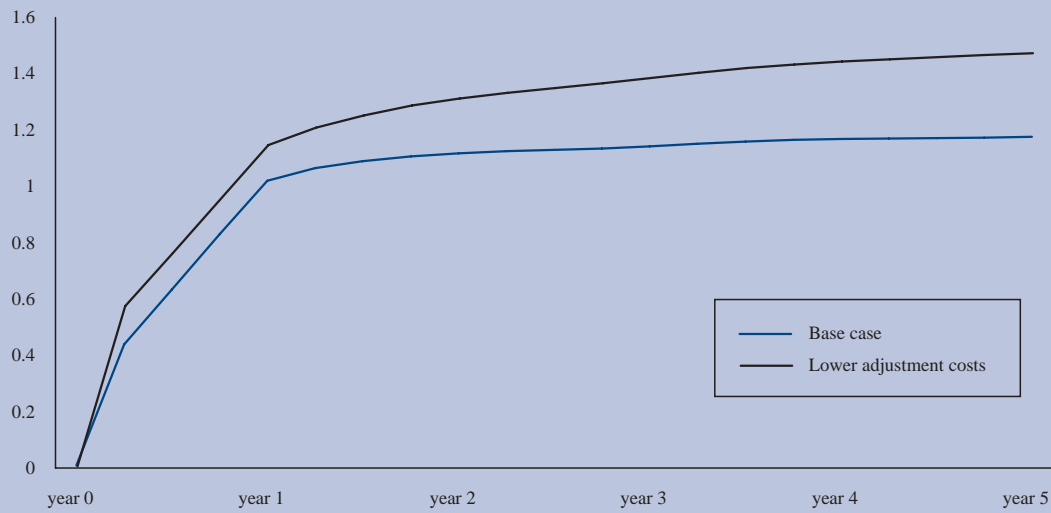
A drawback of the Quest model is that it is partly calibrated and the coefficients reflecting nominal and real rigidities are based on a collection of other empirical studies. A new model, recently estimated by Commission staff, contains both more explicit micro foundations and a direct estimation of the adjustment costs through which the real and nominal frictions are modelled ⁽³⁾. In this model, rigidities are derived from adjustment costs for capital and investment, wages, prices and employment. The experiment consists in analysing the model's impulse responses with the responses of a model in which these adjustment costs are reduced by 20 % across the board.

⁽¹⁾ For a more detailed explanation of the Quest II model, see Röger and in't Veld (1997).

⁽²⁾ The observation that most of the adjustment takes place in the first year is due to the fact that the shock is assumed to be known to all agents, who adjust their spending and investment behaviour accordingly and in a forward-looking manner.

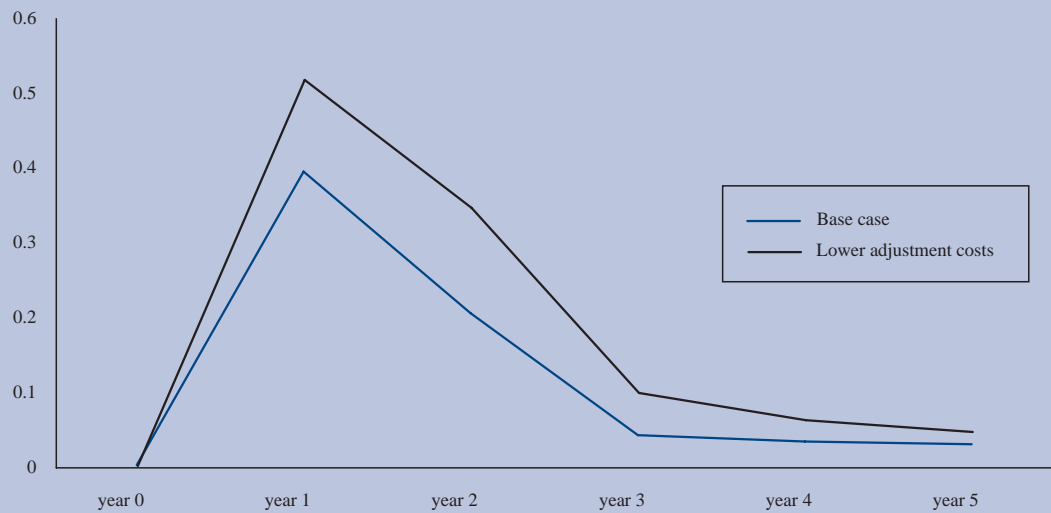
⁽³⁾ The model is a new Keynesian dynamic stochastic general equilibrium (DSGE) model for the euro area. It is estimated using Bayesian estimation methods on quarterly data from 1980 to 2003. The model belongs to the class of new models building upon the new Keynesian paradigm, which combines elements from the RBC literature with more traditional Keynesian ideas. This allows combining optimal behaviour with rigidities in a way which avoids the Lucas critique. For a description of the model, see Ratto et al. (2004).

Graph 17: TFP shock in the Quest model, euro area



Source: Commission services.

Graph 18: Monetary policy shock in the Quest model: reduction in interest rate by one percentage point over one year



Source: Commission services.

To see the effect of a more flexible economic environment, both the baseline and the flexible scenario were exposed to all the structural shocks identified in the model. It turned out that the impact was stronger in all cases for the flexibility scenario than for the baseline. However, the difference was often only very small between the standard case and the case for lower adjustment costs with the notable exception of investment, where differences turned out to be significant. These first results with the new model point to rigidities affecting cyclical activity first of all via their effect on investment. In order to allow comparability with the Quest model, Graph 19 displays the impact of a TFP shock on real output (GDP) and some other key variables (investment, consumption, capital, employment, inflation) over the first five years after the shock.

Both model simulations show that structural rigidities have an impact on the adjustment to shocks. The largest impact of rigidities is via investment and on long-term growth. The difference between the flexible and rigid scenario was, however, not very pronounced. Thus, the observed difference in the adjustment to shocks arising from a quite strong variation in adjustment costs in the rigid and the flexible scenarios suggests that structural rigidities are unlikely to be the only explanation of why the latest rebound of the euro-area economy was less dynamic than in other industrial economies.

4.2. The recovery's employment content

A possible consequence of resilient employment growth in the downturn is a more muted response of employment growth to the upswing. This could imply that households' disposable income will increase relatively little and private consumption will expand at a modest pace, giving relatively little impetus to the upswing.

- The hypothesis of only modest future job creation finds support in the observation that the current rate of unemployment is only slightly higher than the estimate of structural unemployment⁽¹⁾. This suggests that there is little cyclical slack in the labour market, which would undo during recovery.

⁽¹⁾ The Commission estimates that the non-accelerating wage rate of unemployment (NAWRU) is about 0.5 percentage points lower than actual unemployment in 2004 and 2005. The NAWRU is a concept similar to the NAIRU but focuses on the impact on wage growth rather than on inflation.

- Further support for this hypothesis is based on the observation that the muted labour market response in the early phase of the downswing was partially due to firms' labour hoarding. If firms are endowed with more labour than usual at the beginning of the rebound, they would need to create fewer jobs if demand strengthens.
- The early phase of the US recovery has been characterised by jobless growth. While this is partly related to the usual delay with which the labour market responds to changes in economic activity, it has also been argued that it could be due to the structural change that is taking place. Unemployed workers cannot count on finding a job in the industry in which they were previously employed, but must find a job in different firms or industries. This could be more difficult and takes more time⁽²⁾. The same reasoning could apply to the euro area.

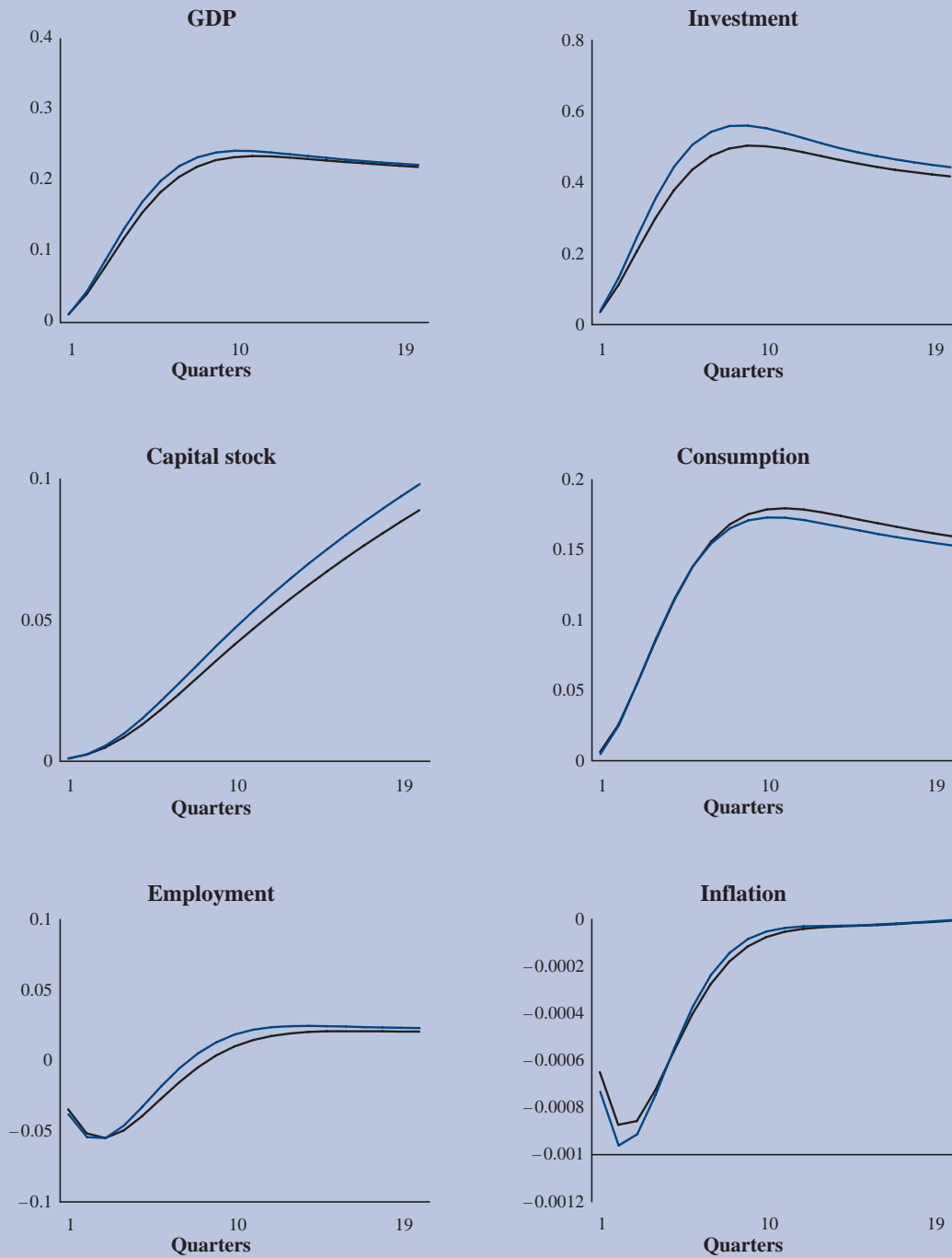
Labour supply forces. Reassuringly, aggregate labour supply should not be a serious obstacle to a future upsurge in employment growth in the euro area. The current levels of unemployment, participation and working time suggest there is still sufficient margin for an expansion of employment.

- About 1.5 million people have become unemployed between 2001 and 2004. If they were re-employed within one year, employment growth would rise by 1 %.
- Graph 20 shows that the development of employment and unemployment decoupled in the recent slowdown after having moved in tandem throughout the 1990s. This indicates that the trend of rising labour force participation is unbroken in the euro area⁽³⁾.
- Working time has declined in the euro area. The share of part-time work increased from 12 % in 1992 to 17 % at the end of 2003. Average working time has declined by about 0.5 % on average since 1995. In the

⁽²⁾ For an elaboration of the reasoning and empirical evidence, see Groshen and Potter (2003).

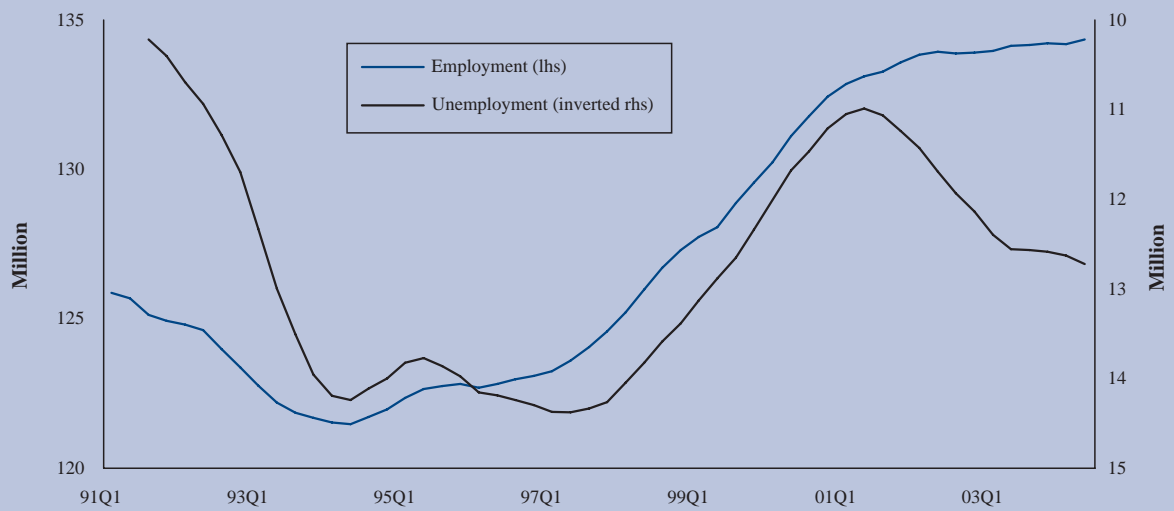
⁽³⁾ Considering that only 62.4 % of the population aged between 15 and 64 were employed in the euro area in 2003, whereas the employment rate was above 70 % in some EU Member States (Denmark, the Netherlands, Sweden and the United Kingdom), there is further leeway for higher participation. See Chapter 3 for more detailed analysis.

Graph 19: TFP shock in a new Keynesian DSGE model of the euro area



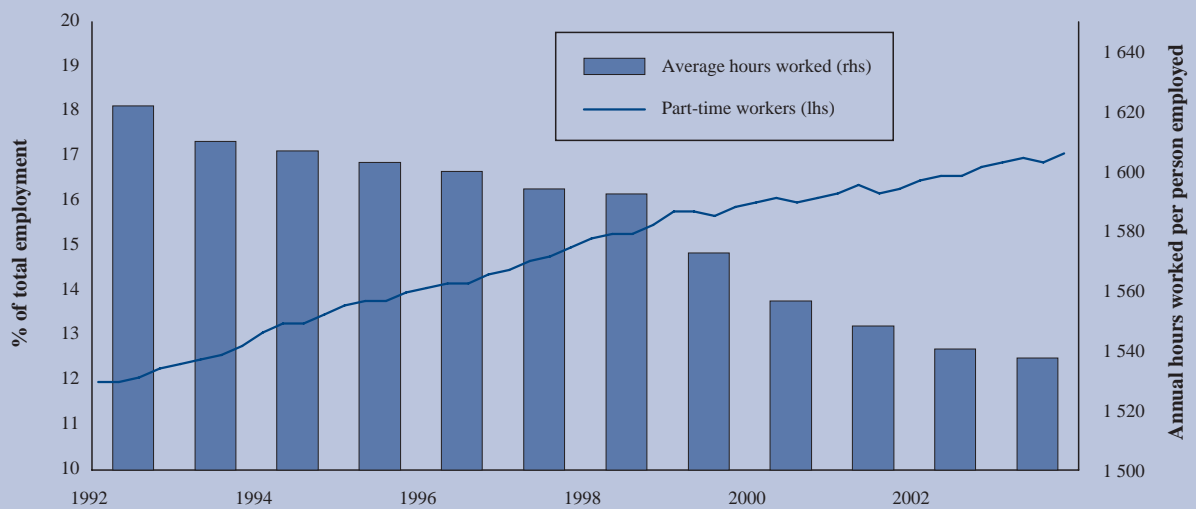
NB: DSGE model stands for dynamic stochastic general equilibrium model. Black line: standard euro-area model; blue line: the variant with lower adjustment costs. For a model description, see Ratto et al. (2004). Percentage difference from baseline.
 Source: Commission services.

Graph 20: Persons employed and unemployed, euro area



Source: Commission services.

Graph 21: Working time, euro area



Sources: Commission services, Groningen Growth and Development Centre.

case of labour market tightness, the trend of declining working time might reverse.

Labour demand forces. Labour demand tends to follow economic activity with a lag and the average lag is longer in the euro area than in the United States or the United Kingdom ⁽¹⁾. Thus firms are quicker in more flexible economies to adjust their workforce to changes in demand. Assessing the relative importance of cyclical and structural determinants of labour demand is complicated by the possibility of a structural break in employment–income relationships in the mid-1990s. Since then, employment growth has been stronger than expected given the observed growth in GDP ⁽²⁾. The estimates in Chapter 3 suggest that part of the increase in the employment content of growth is of a structural nature. Rising labour market participation of women, wage moderation and possibly labour market reforms enacted in some Member States are important drivers of structural improvements. They imply that comparisons over cycles as shown in Graph 6 can be misleading. For instance, the first half of the 1990s was characterised by strong labour capital substitution, which caused a strong decline in employment and was itself caused by a pick-up in real wage growth. A reversal of this substitution was observed in the second half of the 1990s, spurred *inter alia* by moderate wage growth.

An important cyclical factor is the existence of labour hoarding in the slowdown, which suggests that hiring could be smaller in the upswing. Estimating the level of slack of labour in firms can be done by comparing the number of persons employed with the number of hours worked because one would assume that, if demand falls and labour hoarding exists, the persons employed work fewer hours. However, hours worked fell in the euro area and they did so most pronouncedly in the period of strong demand 1999–2000. At that time, many part-time jobs were created, supposedly in services, yielding a decline in average work hours per person. Graph 22 demonstrates that hours worked fell continuously in industry, where the trend towards part-time work is less prominent. From 2001 to mid-2003, the decline in hours worked was particularly pronounced. From mid-2003 onwards, hours worked increased while employment in

industry continued to fall. This is in line with the assertion that firms cut back the existing slack before creating new jobs.

Employment growth continued during the growth slowdown in a few service sectors, cushioning the job losses in industry. Job creation took place in two principal sectors, i.e. financial intermediation and the so-called ‘other services’ ⁽³⁾. Employment in industry has been shrinking in all quarters since 2002 and in trade, transport and communication services for almost a year. In the service economy, more specifically, net job losses occurred in water and air transport services and computer activities, where the latter had witnessed strong employment growth in the previous boom. These observations somewhat qualify the notion of widespread labour hoarding. Graph 23 suggests that employment growth in industry and services follows a similar cyclical pattern and therefore depends on similar determinants over the business cycle. The main difference is in the level of the rate of growth.

According to some economists, the reallocation of labour across industries and sectors is a main benefit of a recession because it shifts labour to more productive uses. A drawback is that structural change might cause a delay in the rebound of employment growth because it takes more time and effort for unemployed workers to find a job in a different industry than become re-employed in the one where they had been employed.

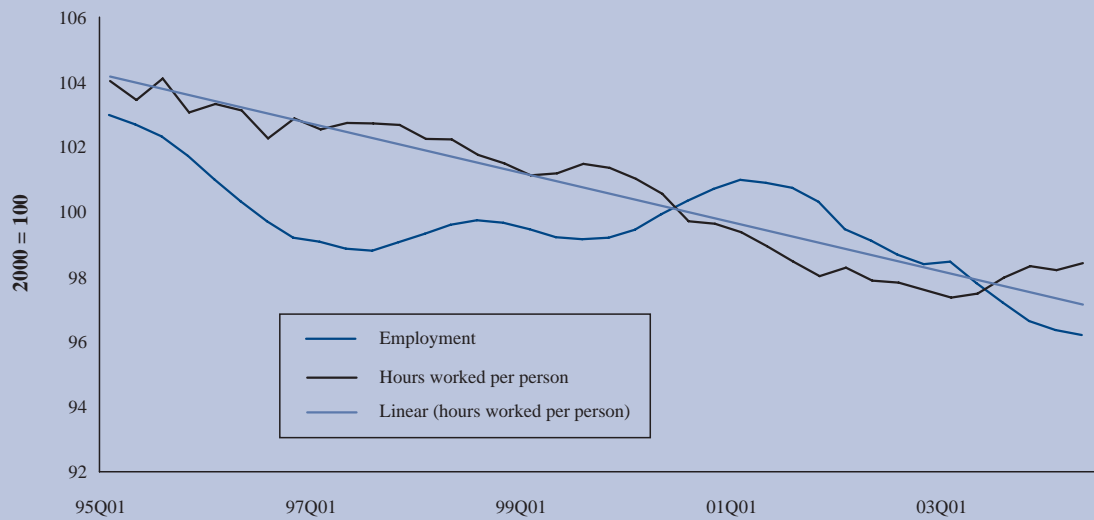
In order to shed some light on the question of to what extent job losses were cyclical or of a structural nature, Graph 24 relates employment growth in the previous boom period with employment growth in the subsequent slowdown in different industries. It neatly illustrates that job creation was prominent in the service economy whereas jobs got lost, even during the previous boom period, in some industrial sectors. Sectors where employment growth or shrinkage was the same in both boom and slowdown seem to have witnessed structural employment growth or deceleration, respectively (structural decline and structural growth quadrants in Graph 24). Employment losses might be of a more cyclical nature in those industries where employment grew in

⁽¹⁾ The coefficient of correlation between the growth rates of industrial production and industrial employment is higher for the United States and the euro area in the periods 1996–2000 and 2001–04. When lags are taken into account, it reaches the maximum after two to three months in the United States compared with six to nine months in the euro area.

⁽²⁾ This is the mirror image of the decline in labour productivity growth.

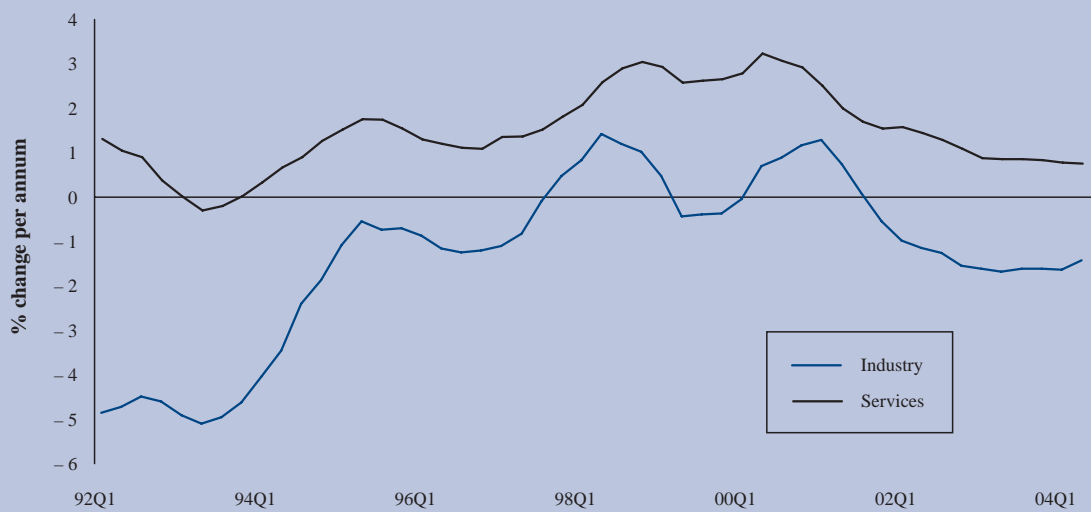
⁽³⁾ The statistical category of ‘financial intermediation’ includes real estate, renting and business activities. ‘Other services’ includes public administration and defence, compulsory social security; education; health and social work; other community, social and personal service activities; private households with employed persons; extra-territorial organisations and bodies.

Graph 22: Persons and hours worked in industry, euro area



NB: Data for 2004 are Eurostat estimates.
Source: Commission services.

Graph 23: Employment growth in industry and services, euro area



Source: Commission services.

Graph 24: Job adjustment by industries during boom and slowdown



NB: Due to data availability, job growth in services during the boom covers only the period 2000–01.
Source: Commission services.

the previous boom but declined during the slowdown (cyclical decline quadrant in Graph 24) ⁽¹⁾.

Restructuring within the manufacturing sector seems to take place from the production of consumer goods to the production of capital goods. The sector that produces consumer durables saw the most pronounced decline in employment in the previous boom as well as in the slowdown. On the other side, employment increased in the boom and moderately declined afterwards in the capital goods-producing industry. A similar sectoral change is visible in production figures. Industrial production of consumer durables in the euro area declined by 10 % between 2001 and 2004, but was almost steady for capital goods production. Surprisingly, a similar change in the weight of sectors is not visible in export figures. Extra-euro-area exports of consumer goods were no more strongly affected by the slowdown in world import demand than exports of other goods ⁽²⁾. An explanation

⁽¹⁾ Empirical evidence on the link between labour market regulation and performance has been scant. However, Caballero et al. (2004) present new evidence that employment protection regulation hampers the reallocation of jobs.

⁽²⁾ A breakdown into durables and non-durables is not available for trade figures.

for this finding could be that the decline of the share of consumer goods in production is due to the weakness of households' demand in the euro area rather than driven by a reallocation of global production.

4.3. Labour productivity growth, investment and potential output growth

Hardly any development raised more concerns about the euro area's underlying growth potential than the observed decline in labour productivity growth. Growth in average real GDP per person was less than 0.5 % in the period 2001–03, which is about one percentage point less than during the 1990s on average. It is well known that labour productivity growth is typically pro-cyclical, i.e. increasing in a boom and declining in a bust because of the lag with which employment tends to respond to changes in output. Nevertheless, the extent of the slowdown in labour productivity growth came as an unwelcome surprise. Some argued that it could indicate a slowdown in the rate of potential output growth ⁽³⁾. Since labour productivity growth is the key determinant of

⁽³⁾ See, for instance, Gern (2004).

potential output growth in the medium to long term, this section addresses the arguments over whether the most recent slowdown in productivity could be of a temporary or longer-term nature. More detailed analysis of this issue can be found in Chapters 3 and 4 of this review and Chapter 2 of last year's edition.

The slowdown in actual labour productivity growth has already had an impact on calculations of potential output growth. The Commission's estimate, the method for which is quite sensitive to recent developments, indicates that potential output growth in 2004 has been around 2 %, which is a good deal below the widespread rule of thumb that sees potential growth closer to 2.5 %. Graph 26 shows the Commission estimates of potential output growth in 2000, when the method was first introduced, in 2002, which was done with a refined approach, and in 2004. The sensitivity of the method to actual developments, however, implies that potential output growth estimates could return to higher rates under the condition of a pick-up in labour productivity growth ⁽¹⁾.

In addition to actual productivity developments, which can only give limited insights into whether the slowdown is permanent or a cyclical phenomenon, a number of arguments can be put forward as to why the slowdown in productivity growth could be of a structural nature.

- Labour productivity growth has been on a downward trajectory since the 1970s. It continued to head downwards in the euro area also in the 1990s ⁽²⁾.
- Expectations that the reversal of the productivity trend in the United States could also occur in the euro area have somewhat lost their justification after recent estimates on the basis of improved data showing that the gap in hourly productivity between the euro area and the United States is much smaller than previously thought. Thus, the forces that would drive the catch-up process to the US level are weaker than believed a few years ago.
- There is now less reason than previously to assume that the productivity growth acceleration due to ICT

witnessed in the United States would equally materialise in the euro area. A large part of these productivity gains accrued in the production of ICT, which has a larger share in production in the United States than in the euro area.

Some observations suggest that cyclical factors are responsible for part of the productivity slowdown witnessed since 2000. Their impact may fade or even revert once demand growth gains momentum.

The first observation is regarding the impact of resilient labour market performance on productivity growth. The above discussed how labour hoarding by firms artificially reduces productivity growth on a temporary basis. Moreover, economic growth has become more employment-intensive since the mid-1990s due to job creation in sectors with low or difficult-to-measure productivity. Analysis in the 2003 review, updated in the current issue's Chapters 4 and 5, suggests that employment creation could explain about 20 % of the reduction in labour productivity growth measured during the 1990s.

A second observation is related to the decline in investment witnessed over the past years. Graph 27 demonstrates the degree of co-movement between investment and two measures of productivity growth over the 1990s. The graph suggests that the generally close relationship between investment and productivity growth did not hold in the late 1990s when investment activity boomed but productivity growth hardly accelerated. Possible reasons are the countervailing influence of strong employment growth in this period or investment taking place in less productive parts of the economy.

In particular, the latter hypothesis fits with the assessment that investment since the late 1990s has followed a boom–bust pattern. Declining interest rates and buoyant stock market valuations, in combination with a wave of optimism stemming from potential gains from the diffusion of ICT, advancing economic and financial integration and not least the emergence of macroeconomic stability are thought to have been particularly conducive to investment ⁽³⁾. The consequence of strong investment

⁽¹⁾ The IMF revised downwards its estimate of potential output growth in the euro area by 0.5 percentage points to 2 % in summer 2004, see IMF (2004a). CEPS (2003) reports that long-term growth expectations in the consensus forecast fell by about 0.5 to 2.2 % from 2000 to 2003.

⁽²⁾ Empirical estimates of productivity growth that control for different input variables tend to find the time trend to be a significant determinant that enters the estimates with a negative sign.

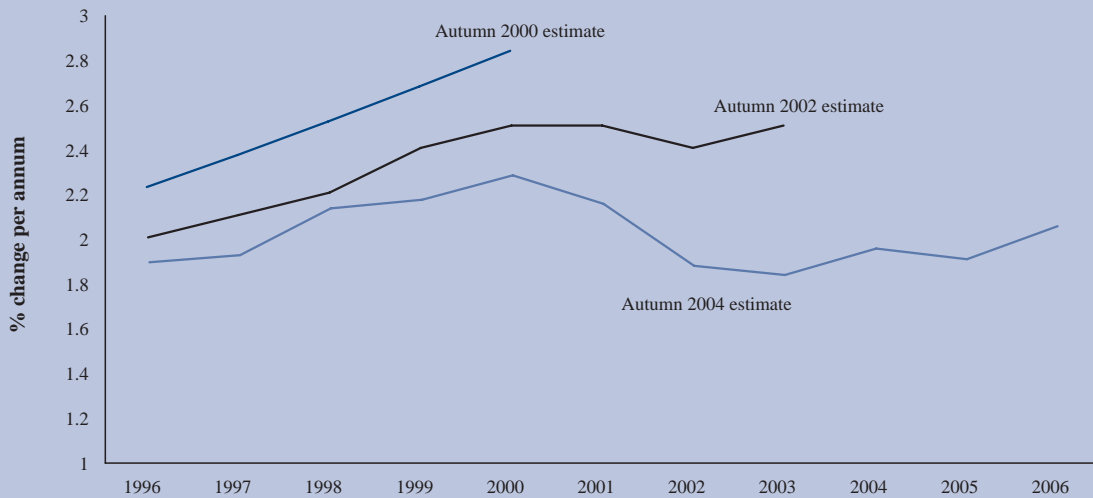
⁽³⁾ Total investment growth as recorded in the national accounts seems not to properly reflect the strength of investment activity, which was most concentrated in ICT and high-tech industries. Moreover, continuous disinvestment in the German construction sector as well as a considerable share of investment taking place in the form of both FDI and corporate restructuring via the acquisition of financial assets lead national accounts data for the euro area to underestimate the strength of investment activity.

Graph 25: Labour productivity growth (GDP per person employed, euro area)

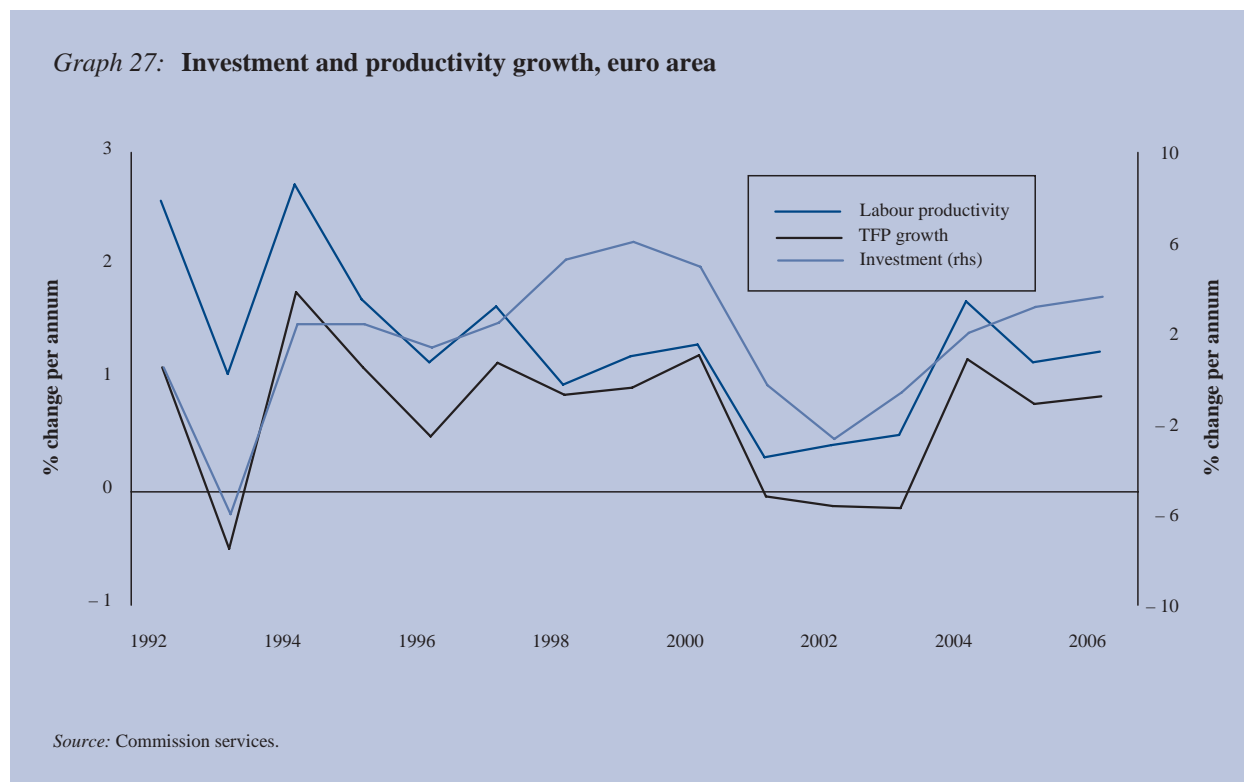


Source: Commission services.

Graph 26: Estimates of the rate of potential growth, euro area



Source: Commission services.



was a sizeable build-up of corporate debt that did not prove sustainable when economic growth waned. Graph 13 (Section 3.2) gives an overview of main developments, which were discussed in more detail in 'The EU economy: 2003 review'. It turned out that corporations trimmed down investment in order to restore balance sheets. Issuance activity to obtain financing from markets came to a virtual standstill for non-financial corporations. Banks became particularly prudent in their lending policies, relying to some extent on a tightening of non-price terms. This made it difficult for especially small, young enterprises and firms acting in a risky environment to obtain financing. Industry reports suggest that many of the firms founded in the late 1990s and active in high-tech or ICT did not survive the slowdown, implying that the expectation of profits from exploiting technological advances had been exaggerated during the previous boom. The number of bankruptcies rose in a number of euro-area countries.

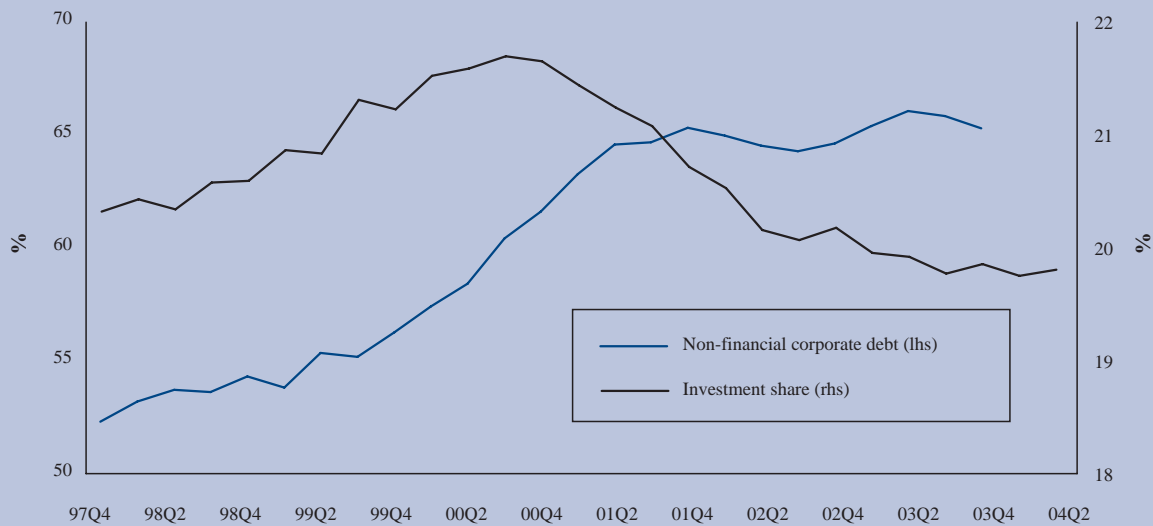
Technical progress is a further factor impacting on investment and productivity. As stated, many firms founded in the late 1990s that tried to exploit technical advances in high-tech and ICT seem not to have with-

stood the growth slowdown. Moreover, benefits from ICT use appear now to be smaller than assumed earlier. But it should not be forgotten that incentives for research and innovation may vary with the cyclical situation. The incentive to innovate is largest when economic activity is buoyant because this allows the entrepreneur to accrue the maximum benefit from his initial monopoly margins before imitation reduces his profits ⁽¹⁾.

Investment goods continue to become cheaper than other goods, suggesting that technical progress has not slowed down. Although the economic significance of technical progress is difficult to gauge, some indicators such as data on patenting activity, R & D expenditures and venture capital financing are available. Graph 29 shows an indicator derived from price developments directly linked to investment activity. It rests on the assumption that any improvement in investment-specific technical change should — under the assumptions of a competitive market — reduce the prices of the investment goods

⁽¹⁾ For a more elaborated view on how the cycle may interact with innovative activity, see Wälde (2004) or Francois and Lloyd-Ellis (2003) and the references quoted therein.

Graph 28: Corporate debt and investment, euro area, % of GDP



Source: Commission services.

concerned relative to other prices in the economy ⁽¹⁾. So, the relative price of investment goods can be a proxy for the pace of technical progress embedded in investment goods. Against this background, Graph 29 shows the price of three categories of investment good, expressed in relation to consumer price developments. Investment in equipment has become cheaper over time, relative to consumer prices and investment in construction or other products and the price advantage even increased during the slowdown.

The factors that affected investment growth during the growth slowdown were either of a temporary nature or can be expected to reappear once economic activity picks up momentum. Graph 30 summarises the cyclical development of the major determinants of investment as they were expressed by industrialists in the Commission's biannual investment survey. Demand and financial conditions were seen as very supportive to investment in the boom period of the late 1990s. This

⁽¹⁾ This variable usually turns out to be significant in empirical estimates of investment. See the chapter on investment in 'The EU economy: 2001 review'. For an application of the concept, see also Fisher (2003).

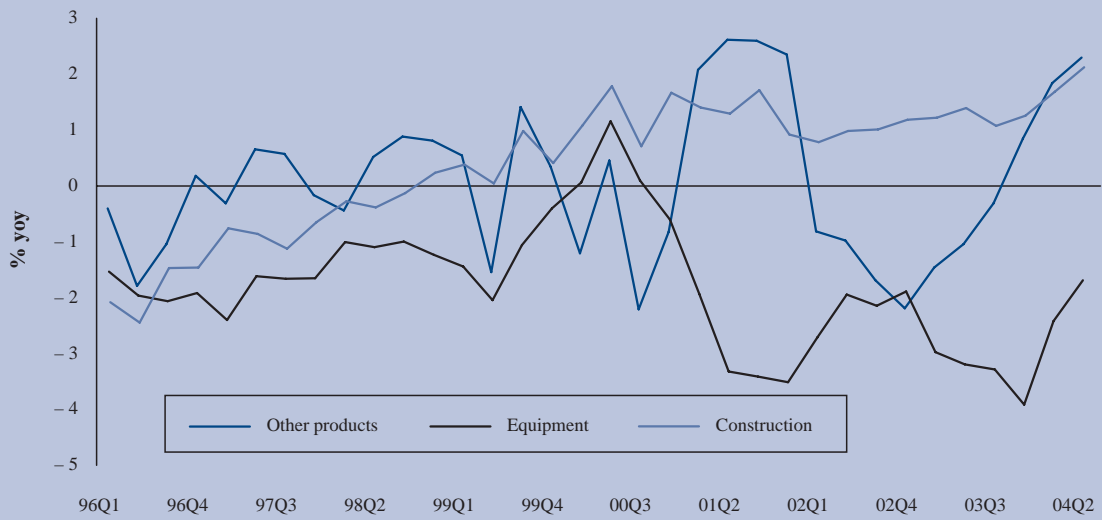
assessment weakened considerably afterwards and returned in 2004 to its average 1991–2004. Also the conduciveness of technical factors weakened after 2000 and subsequently reapproached its long-term average.

4.4. Determinants of households' saving behaviour

4.4.1. Documenting the weakness of private consumption and the rise in the saving rate

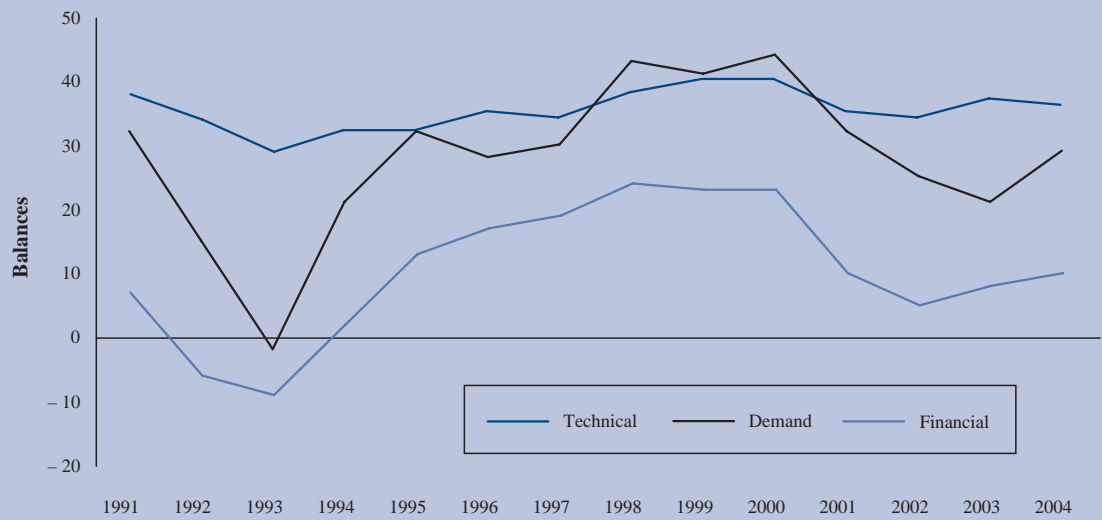
Since the beginning of the latest downturn, consumer expenditure in the euro area has been very subdued. Between the second quarter of 2001 and the fourth quarter of 2003, private consumption practically stalled, growing by a mere 0.2 % (quarter-on-quarter) on average. Although over the long run, consumption and real disposable income are closely correlated in the euro area, significant divergences have recently taken place. Between 1992 and 2000, for instance, the annual average growth rate of household consumption was 1.9 % compared with a growth rate of 1.2 % for disposable income. By contrast, over the last three years, the growth rate of consumer expenditure has been constantly below that of

Graph 29: Relative price of investment goods, euro area



NB: Difference in annual percentage growth over consumer goods.
Source: Commission services.

Graph 30: Factors driving industrial investment, survey data, euro area



NB: Factors do not add up to 100 because multiple replies are possible. Other factors are not shown in the graph.
Source: Commission services.

real disposable income. On average, between 2001 and 2003, consumption grew by 3.3 %, while disposable income rose by 3.6 % ⁽¹⁾.

In contrast with the weakness of capital spending, which was a common feature of many industrialised economies during the downturn, the weakness of household spending was more specific to the euro area. Subdued consumer spending over the last three years was also mirrored by an increase in household saving rates across most euro-area Member States. This, again, contrasts with developments in some of the euro area's main trading partners.

According to the standard (life-cycle) approach, households save because of a desire to provide for a smooth consumption profile over time in the presence of cyclical income fluctuations and various types of uncertainties concerning lifetime resources. Thus, the rise in the household saving rate, at a time of subdued economic activity, is difficult to reconcile with recent business cycle facts. Consumption smoothing over the life cycle

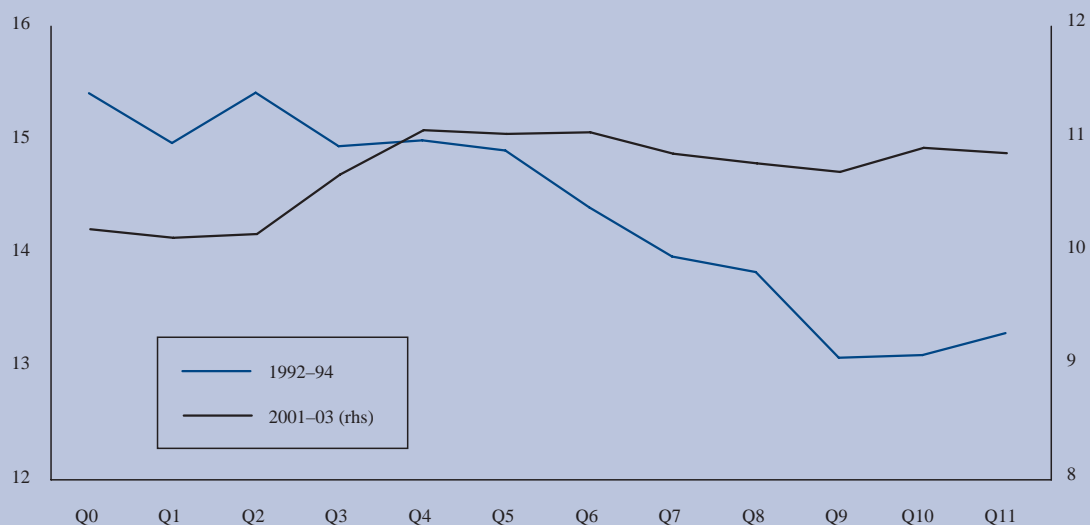
would imply a decline in household savings during a slowdown. In the recession of the early 1990s, for instance, households partly offset adverse developments in disposable income by curbing their saving rate (Graph 31).

There is no completely satisfactory explanation for the weakness of consumer spending in the euro area over the last three years or why household saving rates recorded a similar 'adverse' pattern. This section briefly elaborates on a number of possible factors behind recent household consumption and saving behaviour, including the lingering effects of past large equity losses, house price developments, high perceived inflation, downward revision of expected future income streams and, finally, uncertainty about policy and structural reforms.

As regards potential implications of subdued consumption growth in the past for the future pace of consumption, it can be hypothesised that sluggish consumption could continue if the increase in the saving ratio was caused by structural factors that can be expected to persist. On the other hand, if the factors causing subdued consumption are of a cyclical nature or may be influenced by policies, a reversal of past trends could be hoped for.

⁽¹⁾ Gross disposable income and consumption in current prices in the euro area, excluding Ireland, Luxembourg and Portugal for which data were not available.

Graph 31: Household saving rate in cyclical downturns, euro area (in % of disposable income)



NB: Q0 corresponds to the peak preceding the beginning of the downturn (92Q1 for the 1992-93 recession and 2000Q4 for the 2001-03 downturn).
Sources: Fagan et al. (2001), Commission services.

4.4.2. The impact of wealth and financial factors

In standard consumption equations, household consumption and saving decisions are affected by other factors apart from disposable income, such as wealth, interest rates and inflation (the last is often used as a proxy for the uncertainty concerning the real depreciation of non-indexed financial assets). Equations using such variables generally provide a good fit for consumption and savings developments. A consumption function of this type was estimated by Commission services⁽¹⁾ using euro-area quarterly time-series. According to the estimated equation, the weakening of consumption over the 2001–03 period is mainly due to developments in disposable income and the bursting of the equity bubble. In addition, the rise in inflation weighed on private spending in 2001–02, while the short-term interest rate provided moderate support for consumption in 2002 and 2003. Overall, the estimated equation attributes an important role to stock market wealth effects in the current cycle. Private spending would have been significantly less buoyant in the late 1990s and more resilient in the ensuing downturn in the absence of the observed movement of stock market prices. Furthermore, given the long lags involved, negative stock market wealth effects were still weighing on consumption during the second half of 2003, despite a pick-up in stock prices.

However, while the estimated consumption function tracks actual developments in consumption over the 1990s relatively well, including the 1992–93 recession, it clearly performs less well after the turn of the decade. As shown in Graph 32, household spending has remained below that predicted by the equation since 2001. Overall, the estimated consumption function suggests that the level of private consumption is currently somewhat weaker — by about 0.7 % — than what would be expected given prevailing macroeconomic conditions.

Due to the lack of appropriate quarterly data, non-stock market wealth effects were not included in the estimated equation. As the contraction of total financial wealth over the past few years has been less marked than the contraction of stock market wealth and, at the same time, residential property prices have been picking up, the equation may thus overestimate the negative impact of wealth on consumption. A major implication is that recent consumption developments may have been even

more subdued relative to prevailing macroeconomic conditions than suggested by the consumption function.

However, the interrelation between house price movements and consumption is not straightforward. On the one hand, wealth effects may encourage consumption especially if the capital gains from the appreciation of house prices can be extracted via mortgage capital withdrawal. This possibility, however, is much less commonly used in the euro area than in the United States and the United Kingdom. On the other hand, higher house prices may induce households to save more in order to accumulate funds to cover the higher down payments required for future house purchases or for capital repayment. See Box 2 for an overview of the impact of housing prices on private consumption.

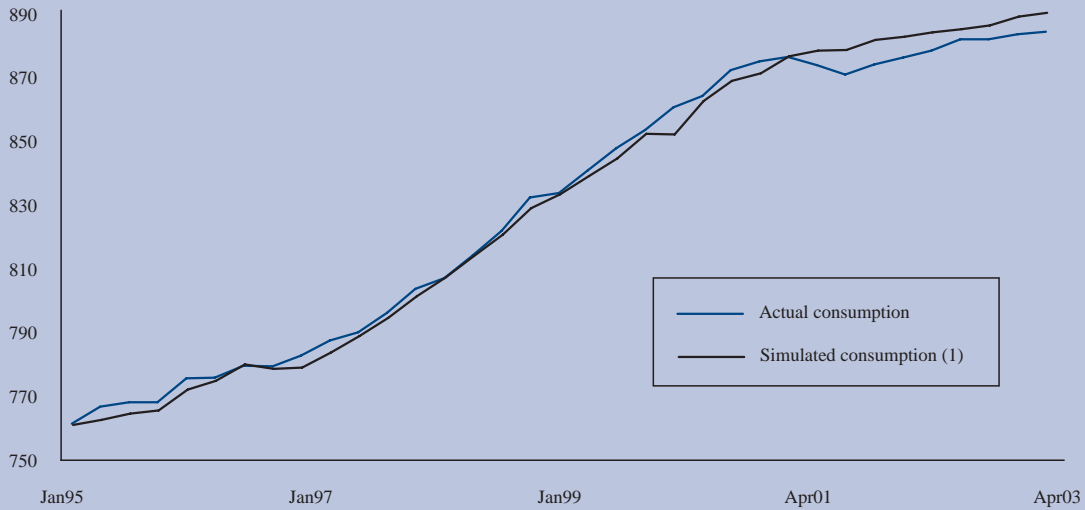
Perception of current and past inflation. Consumers' perceptions of the current level of inflation⁽²⁾ may also have exerted a drag on household spending. In theory, inflation perceptions should not affect consumer behaviour as, on average, they must equal actual inflation. In fact, the rate of inflation as measured by the HICP and inflation perceptions as measured in the European consumer surveys were broadly in line for most of the 1990s up to the year 2001 when the euro was physically introduced (Graph 33). Since then, there has been a structural break between perceived and actual inflation with the consumers systematically overestimating actual inflation developments. The rise in perceived inflation may have led households to underestimate their purchasing power and, in turn, to curtail their consumption.

The importance of inflation perceptions as a source of consumption weakness in the euro area in recent years should not be overestimated, however. Note for instance that, while in 2002 the rising gap between actual inflation and its perception by households may have acted as a drag on consumer spending, the gap narrowed significantly during 2003 without triggering a noticeable release of pent-up demand. Also, it is noteworthy that consumption weakness and the increase in the household saving rate took place in 2001, in other words, before the apparent consumers' marked overestimation of actual inflation. The divergence between actual and perceived inflation may offer some explanation of the euro-area

⁽¹⁾ See 'Quarterly report on the euro area I-2004' for details.

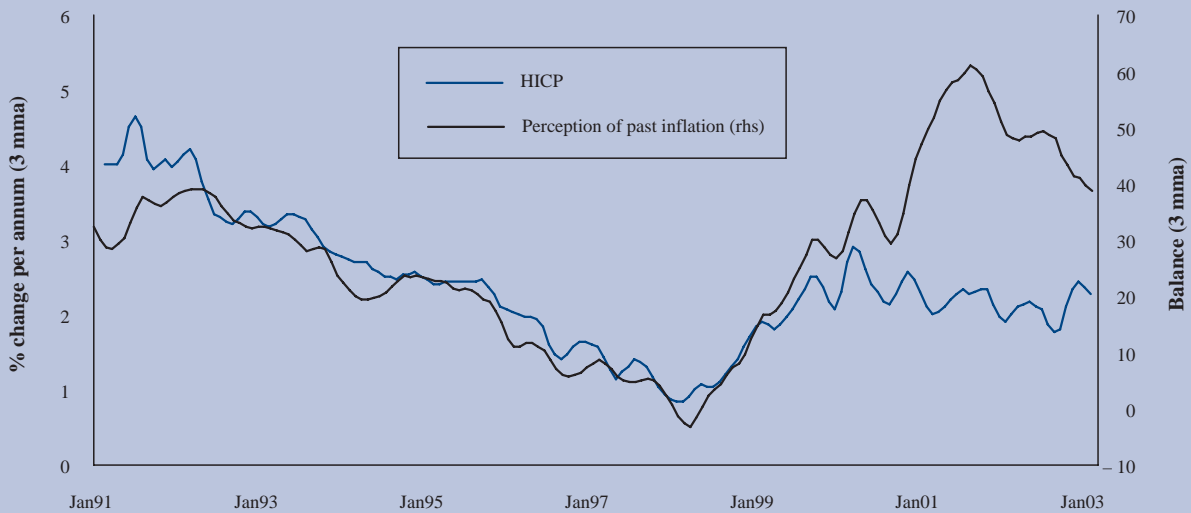
⁽²⁾ Note the difference between inflation perceptions and inflation expectations used in Graphs 33 and 43. Both variables are drawn from the Commission's consumer surveys, with the first variable relating to households' assessment of past price trends and the second to future price trends.

Graph 32: Household actual and simulated consumption, euro area (in billion of 1995 euro)



NB: (1) As simulated with the consumption function over 1995–2003.
 Source: Commission services.

Graph 33: Headline inflation and perceptions of past inflation, euro area (annual % rate of change, 3 mma)



NB: Consumers' inflation perceptions are balanced responses on 'price trends observed over the last 12 months' reported by the EC survey on consumer confidence.
 Source: Commission services.

consumption/saving puzzle. However, it may also be the case that the gap actually captures other non-observable factors such as a reassessment of long-term growth perspectives or heightened uncertainty.

4.4.3. Downward revision of long-term growth prospects

A second line of reasoning attributes the weakening of consumption growth in the euro area to a downward revision in households' expectations of future income growth ⁽¹⁾. These expectations could stem from a number of factors, among which the impact of ageing on future labour input is the most obvious. The trend decline of labour productivity growth, as well as weaker than expected actual GDP growth during the 2001–03 period, could also matter. In the same context, Commission estimates of potential output growth were downscaled by about 0.5 percentage points between 2002 and 2004 (see Graph 26 above), supporting the notion that previously-more-upbeat growth prospects were corrected.

The impact of diminishing expectations of future income growth on current spending could be substantial. The permanent income hypothesis predicts an immediate adjustment of spending patterns ⁽²⁾. If households expect a decline in the discounted value of future labour income, savings should increase and consumption should accordingly drop. A reduction of expected future income growth from 2.5 % to 2.0 %, in line with the downward revision of potential output growth, would for instance yield a decline in the present value of future income by a quarter of a percentage point, assuming a discount rate of 4 %, and even more if the discount rate is smaller. Consumption may be assumed to shrink by about the same amount ⁽³⁾.

There are, however, problems with the application of the permanent income hypothesis. First, since permanent income is the unobserved outcome of consumers' rational expectations, it cannot be tested directly. Despite being a theoretically sound concept, in other words, being consistent with the paradigm of the opti-

mising individual, its predictions are difficult to reconcile with some empirical observations. So, consumption growth should be counter-cyclical and not pro-cyclical. Specifically, consumption should be invariant to foreseen changes in income ⁽⁴⁾. However, the majority of the households have little wealth and need to finance consumption from current income. Second, whereas a sudden downward revision in potential growth could explain the structural break in the consumption function (Graph 32), it is difficult to justify why expectations should have adjusted abruptly. Most of the factors that could motivate a downward adjustment, namely ageing, labour productivity trend, actual growth, emerged gradually. The impact of ageing and the trend decline in labour productivity on future income was already known in the late 1990s, when consumption growth was high. Finally, it seems unlikely that the average consumer adjusted consumption to a change in future income years before economists started speculating that long-term growth prospects could have waned.

Graph 34 shows that the correlation between the downward revision of potential output growth and private consumption growth across euro-area Member States is positive but weak. Those countries where the potential output growth estimate was only mildly downscaled witnessed the highest consumption growth. However, this result is partly due to the indirect impact of actual consumption growth on the potential output estimate, because consumption is the most important component in GDP and actual GDP has an impact on the calculation of potential GDP. As a cross-check of this hypothesis, there is no evident relationship between the downward revision of GDP on the one hand and the deceleration of consumption growth or the increase in the saving ratio 2001–04 on the other hand.

If the hypothesis that the expected decline in income growth causes the recent weakness in private consumption is true, there should be some relationship between current consumption indicators and variables impacting on future growth. Countries where the labour force is shrinking substantially and where growth will therefore decelerate more than in other countries could, for example, witness particularly subdued consumption growth. This line of reasoning is sometimes heard when it comes to explaining the

⁽¹⁾ See CEPS (2003) and IMF (2004a and b).

⁽²⁾ See Attanasio (1999) or Romer (2001) for overviews of the theory and empirical evidence supporting the permanent income hypothesis.

⁽³⁾ Dreger and Reimers (2003) estimate that the elasticity of consumption with respect to income is close to 1 in the euro area. This is considered to be compatible with the permanent income hypothesis. A similar elasticity was found in the Commission estimates published in the 'Quarterly report on the euro area', I/2004. In theory, the magnitude of the elasticity depends on the properties of the utility function.

⁽⁴⁾ Tests were conducted as to whether consumption Granger causes income. This is what theory (permanent income hypothesis) suggest. Results were in line with theory for Germany and the euro area but inconsistent with theory for France.

Table 5

Correlation between future labour force growth and indicators of private consumption across euro-area Member States

		Consumption growth	Deceleration of consumption growth	Increase in gross saving ratio
		Per capita, average 2001–04	Average 2001–04 over average 1996–2000	2004 over 2000, nine Member States
Average growth in	2005–25	0.03	0.31	0.15
labour force	2005–50	0.03	0.14	0.36
Deceleration compared	2005–25	– 0.32	0.68	– 0.43
with 2000–05	2005–50	– 0.25	0.65	– 0.45

Source: Commission services.

weakness of consumption in Germany. Investigating this hypothesis by looking at cross-country variation in labour force growth and consumption growth yields mixed evidence. Coefficients of correlations do not exhibit the expected sign and their magnitude varies depending on the indicators used. Correlations are strongest between the change in the future growth of the labour force and the change of consumption as well as with the change in the saving ratio. This would be consistent with the permanent income hypothesis if one assumed that agents had previously counted on a continuation of current labour force trends and this expectation was revised when more realistic population projections became public during the debates on pension reforms.

4.4.4. Precautionary savings and public policy

Last but not least, private consumption could have been discouraged by consumers' assessment of the state of the economy. Households may have increased their precautionary savings because of heightened uncertainty during the growth slowdown. The expectation of rising unemployment seems to have dented consumer confidence as suggested by the strong correlation between consumers' assessment of unemployment prospects, which is an important component of the Commission's consumer confidence indicator, and actual changes in the rate of unemployment (see Graph 35). Elevated geopolitical uncertainty after the terrorist strikes of 11 September might have also contributed, although the structural break found in the empirical estimates presented above took place before autumn 2001. Households may also have increased savings in response to the uncertainty arising from the impact of structural reforms on future income ⁽¹⁾. An important factor could also have been that the deterioration of government balances led to

so-called Ricardian effects. Such effects rely on households' expectations that higher public deficits today mean higher future taxes and should accordingly be met through higher present savings.

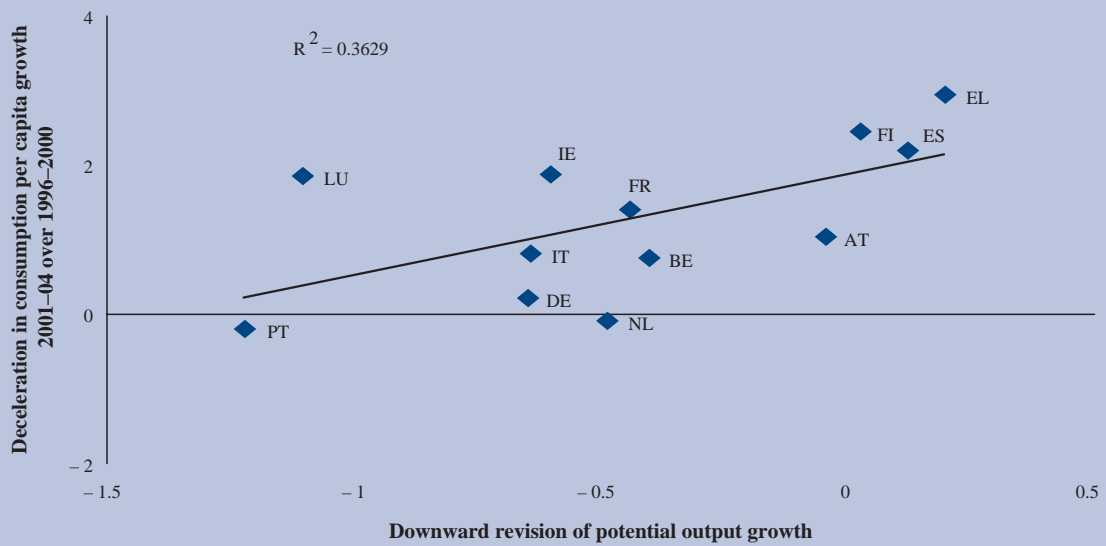
Discriminating between the different hypotheses empirically is again hampered by data considerations. Finding adequate proxies for precautionary savings and factors capturing uncertainty is difficult. The Graphs 36 and 37 present an attempt to distil the reasons for sluggish consumption from cross-country variations in various variables. However, the use of cross-country data means that only a limited number of observations is available, 12 for consumption aggregates, 9 for the gross saving ratio and 5 for the net saving ratio. In principle, the ideal variable to be explained is the residual of a consumption function, which depends on the availability of such an estimate for each Member State.

As regards the impact of fears of unemployment on saving behaviour, Graph 36 shows a very weak relationship between the increase in expected unemployment between 2000 and 2004, as expressed in the Commission consumer surveys, and the change in the household saving ratio over the same period across Member States. The implied trend line would be close to horizontal, suggesting no relationship, if the Netherlands were taken away from the sample ⁽²⁾. The suggested link is also

⁽¹⁾ BIS (2004) conjectures that uncertainties related to 'proposals to urgently confront structural deficiencies in labour markets, pensions, healthcare and tax administration may have ... played a role here'.

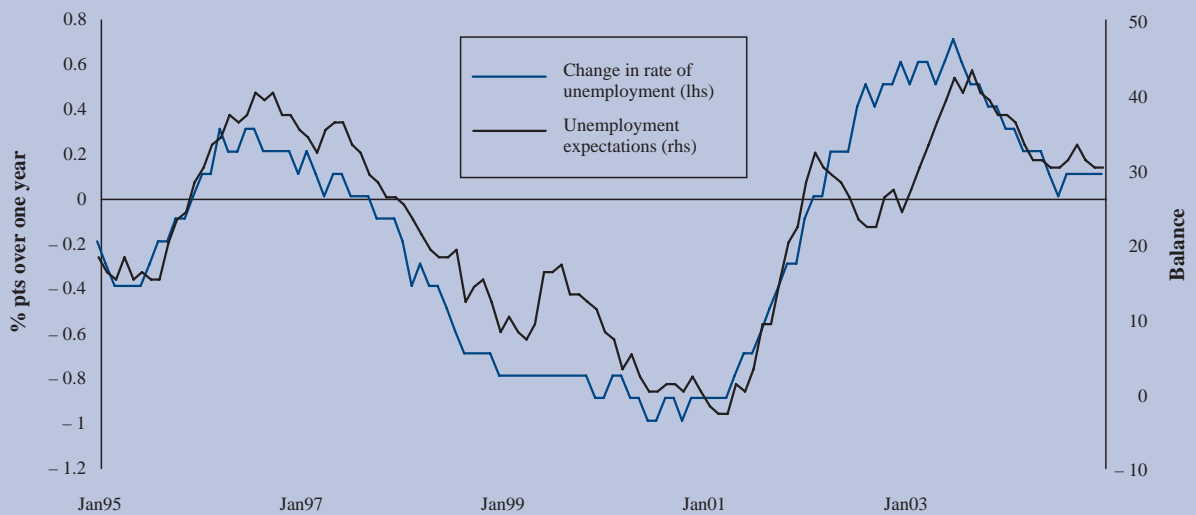
⁽²⁾ This also holds if the estimate controls the increase in the household saving ratio over the 1990s. The variable capturing the expected and actual change in unemployment, respectively, is significant if the Netherlands is included in the sample but insignificant without the Netherlands.

Graph 34: Consumption growth and downward revision of potential output growth



Source: Commission services.

Graph 35: Expected and actual unemployment, euro area



Source: Commission services.

much weaker if based on the actual change in unemployment instead of the expected trend in unemployment in the consumer surveys.

Ideally, a microeconomic approach would be needed to reveal any impact of the uncertainty related to structural reforms and their impact on consumption via the uncertainty about future income. Households exposed to the effects of structural reforms would be expected to show different spending behaviour to those not or less affected. Experiments at the aggregate level similar to the cross-country comparison above using various indicators of poverty and inequality do not suggest any systematic relationship with the changes in the saving behaviour. Estimates did not produce any evidence that households increased their saving ratio by more when they lived in Member States where income inequality or poverty rates were higher or where governments spent more on public transfers, respectively, than those where inequality, poverty and public transfers were lower ⁽¹⁾.

The most controversial debate in this area focuses on the impact of public finances on private consumption behaviour. Some Member States were hesitant in pursuing budgetary consolidation during the growth slowdown with the same vigour as in the late 1990s. Last year's

review highlighted three pieces of evidence supporting that fiscal stimuli seem to have resulted in less private consumption. First, there is a close correlation between the budget deficit GDP ratio and the household saving ratio over time. Second, there is a puzzling negative correlation between quarterly private and public consumption growth since summer 2001. Third, tax cuts enacted in several Member States have not yielded the expected increase in private consumption.

The correlation between the variation of the household saving ratio 2001–04 and the cyclically-adjusted primary balance (CAPB), which is the usual measure of the fiscal injection, across Member States, does not provide clear evidence. Countries where the fiscal stimulus was largest, in other words, those with a larger deterioration in the CAPB, experienced the largest increase in the gross saving rate. However, the coefficient is not signif-

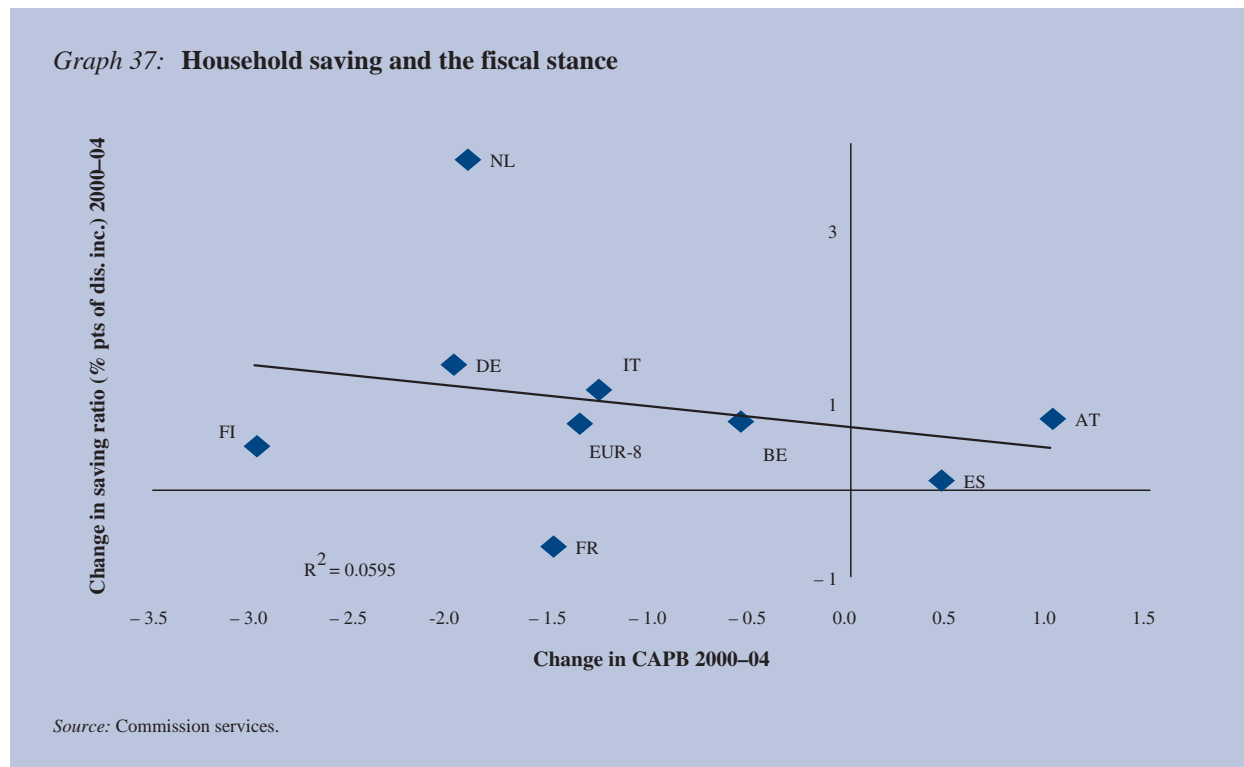
⁽¹⁾ The same results hold if the social indicators are expressed as changes over time. The information on the change over time suffers from the fact that the most recent observation on the structural indicators of income inequality, at risk of poverty and persistent risk of poverty are from 2001. To calculate the change over time, the 2001 information was compared with the average for 1995–2000. Another drawback is that the estimates could only be conducted for nine Member States, for which information on the household saving ratio is available.

Graph 36: Change in unemployment and saving ratio, euro-area Member States



Source: Commission services.

Graph 37: Household saving and the fiscal stance



icantly different from zero. Overall, these cross-country exercises did not provide clear results. This supports the point that more sophisticated methods that can both appropriately control for the different intervening effects and are able to discriminate between the effects of the different variables in a common setting are required before policy-relevant insights can be expected.

4.5. Factors behind price stickiness

In the theoretical vision of a totally flexible economy, relative prices would adjust immediately to changing economic circumstances and economic agents would instantaneously modify economic plans so that economic quantities such as production or employment would adjust smoothly to the new equilibrium. A short-fall of demand would lead to lower prices. An easing of price and cost pressure fosters external competitiveness, increases real wealth and allows central banks to cut interest rates. All this would ensure a smooth rebound in economic activity.

Even abstracting from the vision of a totally flexible economy, inflation in the euro area declined less than it

was expected to do during the recent growth slowdown. This inhibited the working of the factors just mentioned and might therefore have induced the economic recovery to start belatedly and sluggishly. This section provides some evidence on the reasons for stickiness of prices in the euro area.

4.5.1. Measuring price stickiness

Last year's review already presented some evidence on price inertia, showing that the euro-area rate of inflation has a high degree of correlation with its past values, which means that it tends to change slowly over time. Moreover, the degree of persistence was measured to be highest in service inflation. Since much of the persistence of core inflation stems from the service sector, the lower degree of competition in the service economy, the relative importance of labour costs and less exposure to external shocks were considered to be determinants of actual price stickiness in the euro area.

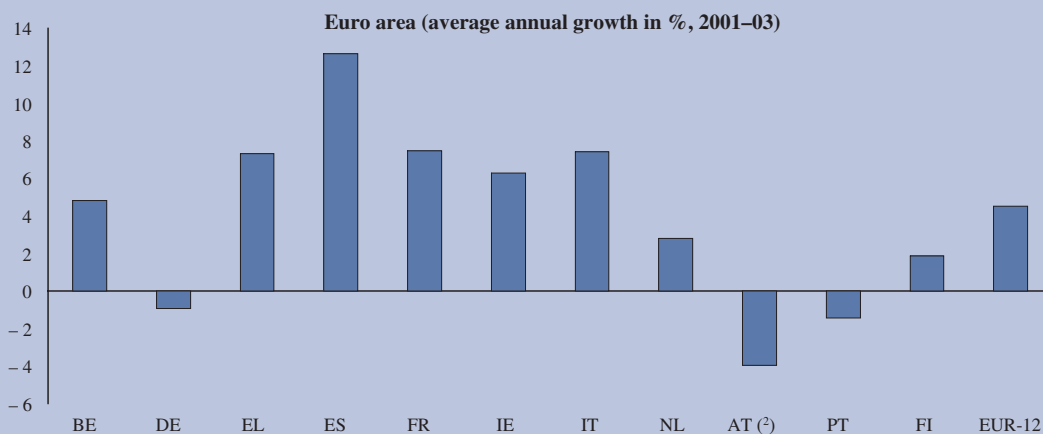
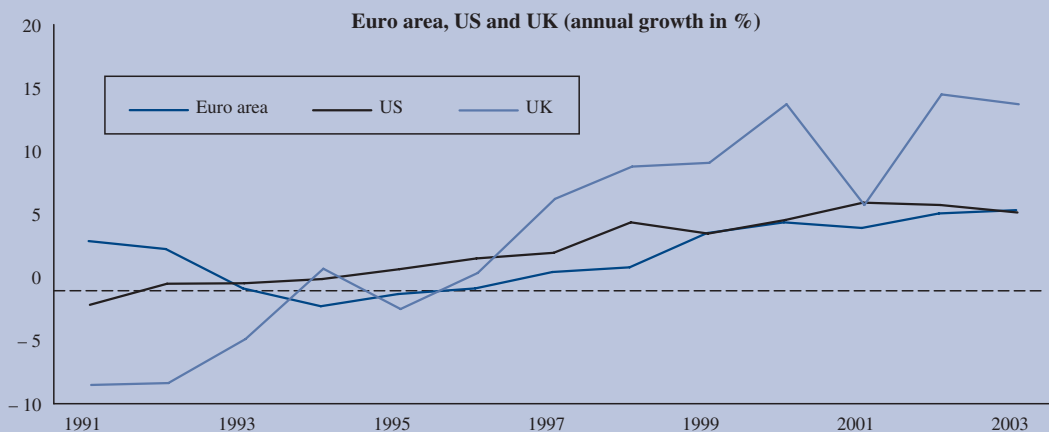
Another informative measure of persistence is the time it takes for inflation to respond to a turning point in GDP growth. The picture of a high degree of cyclical invariance of inflation in the euro area is reinforced by plotting

Box 2: The housing market and private consumption

Recent developments in house prices. Since the late 1990s, residential prices have increased significantly faster than consumer prices in the euro area as well as in the United States and the United Kingdom (see top graph in the chart below). Price rises were largely unaltered by the slowdown in economic activity after 2000, a development which stands in sharp contrast with the drop in real residential prices registered during the first half of the 1990s.

Recent trends within the euro area offer a contrasting picture (see bottom graph in the chart below). A majority of euro-area Member States have experienced a robust rise in real residential prices since 2000. However, several countries have registered either sluggish growth (the Netherlands and Finland) or an outright fall in real prices (Austria, Portugal and Germany).

Recent development in real residential property prices ⁽¹⁾



⁽¹⁾ Consumption deflator.

⁽²⁾ 2001-02 for Austria.

Sources: ECB, BIS, Commission services.

(Continued on the next page)

Box 2 (continued)

The possible impacts of housing markets on private consumption. There are several possible channels through which developments in housing markets may spill over into private consumption.

Firstly, changes in house prices affect household spending via changes in wealth and relative prices. Economic theory does not provide clear guidance as to the potential impact of a rise in house prices on private consumption. For landlords, a rise in house prices will have a positive impact on consumption via the wealth effect. Things are, however, somewhat different for owner-occupiers for whom the positive wealth effect will be partly offset by an increase in the imputed cost of the housing service associated with their home. Higher house prices will also have a negative incidence on the consumption spending of prospective new buyers who will need to save more to be able to afford their house purchase. Finally, to the extent that they permeate into rents, higher house prices will also weigh on tenants' private spending.

A second channel is linked to the existence of credit market imperfections and asymmetric information. In so far as houses are used as collateral, increases in house prices will raise the value of the collateral, thus allowing households to obtain additional credit and lift their consumption. The existence of such a channel is closely tied to the structural characteristics of the mortgage market and, in particular, the possibility of housing equity withdrawal.

Thirdly, housing markets also constitute a transmission channel of monetary policy that may have a direct incidence on private consumption. Changes in monetary policy affect mortgage rates and thereby the disposable income of indebted households if the mortgage rates of existing mortgage contracts are tied somehow to market mortgage rates.

Cross-country estimations of the size of the housing wealth effect. Although the issue of the size of the housing wealth effect has attracted significant attention in some countries such as the United States and the United Kingdom, empirical research on the euro area is still relatively sparse and cross-country comparisons remain relatively difficult. Nevertheless, several recent studies have endeavoured to quantify housing wealth effects in a multi-country setting. Methodologically, this recent research can be grouped along two types of approaches.

- Some studies rely on cross-sectional panel regressions to provide an average picture of the housing wealth

effect in advanced economies. For instance, Case et al. (2001) estimate a simple consumption function relating private spending to income, equity wealth and housing wealth on a panel of 14 OECD countries and find elasticities of consumption relative to housing wealth in the range of 0.11–0.17. Ludwig and Sløk (2004) estimate a more sophisticated consumption function on a sample of 15 OECD countries. Using an error correction model (where consumption is determined by a few selected variables in the long run but can temporarily deviate from its long-term path), the authors find a substantially smaller impact of housing prices with a range of long-term elasticities of 0.01–0.04. This suggests that, although the housing wealth effect is generally positive in the OECD, the uncertainty regarding its size remains high.

- A number of studies have tried to assess the importance of housing wealth effects by estimating similar consumption functions across several countries, thereby allowing more meaningful cross-country comparisons. The next table provides a snapshot of the importance of housing wealth effects according to five such studies.

Overall, several features stand out from the recent empirical research.

- Whereas housing wealth effects are generally identified in Anglo-Saxon countries, evidence for euro-area Member States is mixed. Positive housing wealth effects can be found in some smaller Member States such as the Netherlands, Finland and Ireland. In contrast, it is likely that housing wealth has, at best, only a limited impact on consumption in the larger Member States, with France possibly being an exception. This explains the fact that a housing wealth effect is generally difficult to identify in the euro area as a whole.
- There is still substantial uncertainty as to the size of the housing wealth effect as reflected by large ranges of elasticities in most countries. Cross-country comparisons should therefore be made with caution. The estimation of the housing wealth effect is complicated by endogeneity issues (strong co-movements in house prices and consumption do not necessarily indicate a strong causal link from house prices to consumption) and serious data limitations. In particular, housing wealth data are available in only a few countries and cross-country comparisons of wealth and house price data are still hampered by insufficient statistical harmonisation.

(Continued on the next page)

Box 2 (continued)

Estimated size of the housing wealth effect on private consumption
Selected recent cross-country studies

	E & S ⁽¹⁾ Elast./house prices	B & P ⁽²⁾ Elast./house prices	H & M ⁽³⁾ Elast./house prices	Catte et al. ⁽⁴⁾ MPC out of housing wealth	B & G ⁽⁵⁾ MPC out of housing wealth
BE	0.0	0.13			
DE	0.0		-0.12	0.0	
ES	0.0			0.02	
FR	0.05			0.0	0.05
IE	0.06		0.43		
IT	0.0		0.0	0.01	-0.06
NL	0.07	0.06	0.13	0.08	
FI	0.09	0.07	0.15		
UK	0.07	0.16	0.21	0.07	0.04
US	0.16			0.05	0.03

⁽¹⁾ Eschenbach and Schuknecht (2002) — Based on a simple growth equation.

⁽²⁾ Barata and Pacheco (2003) — The elasticities of consumption relative to house prices are derived from the long-run equation of an error correction model.

⁽³⁾ Henley and Morley (2001) — The elasticities of consumption relative to house prices are derived from a model of consumption growth with progressive adjustment to permanent income shocks.

⁽⁴⁾ Catte et al. (2004) — The marginal propensities to consume out of housing wealth are derived from the long-run equation of an error correction model.

⁽⁵⁾ Boone and Girouard (2002) — The marginal propensities to consume out of housing wealth are those of the long-run equation of an error correction model.

- The analysis of the impact of housing on private spending may be complicated by the possible existence of complex short-term dynamic effects. All studies based on error correction formulations of the consumption function establish a long-term relation between housing wealth and private spending. However, in some countries there is also some evidence that housing wealth may play a strong role in the short-term developments of consumption, with possible overshooting effects (see, for instance, Catte et al. (2004)).

Finally, it is worth noting that little empirical research is yet available on the possible sources of country differences in the strength of the housing wealth effect. A major exception is Catte et al. (2004) who find a strong correlation between the importance of housing equity withdrawal and the estimated marginal propensity to consume out of housing wealth. This indicates that households' ability to extract cash from increases in house prices is probably a key factor in explaining the strength of housing wealth effects. Nevertheless, several other parameters may also be pivotal in this respect and would require further empirical research, including the rate of owner occupation and the size of housing transaction costs.

Explaining differences in the resilience of private consumption. The empirical research presented above suggests that developments in the housing market provide

some help in explaining recent differences in the resilience of private consumption between the euro area and other OECD countries. In the past few years, household spending has probably been supported by a significant housing wealth effect in the United States and the United Kingdom, whereas gains in consumption attributable to housing wealth have, at best, had only a modest impact in the euro area as a whole.

Nevertheless, given the uncertainty still surrounding estimates of the housing wealth effect, the importance of this factor remains difficult to assess. For illustrative purposes, the top graph in the next chart displays the differences in per capita consumption growth between the euro area, on the one hand, and the United Kingdom and the United States over 2001–03, on the other. The chart also shows a range of estimates of the possible contribution of house prices to consumption in the United Kingdom and the United States for the same period. The contributions of house prices to consumption are calculated by simply applying elasticities of 0.05 and 0.15 to developments in real prices in the two countries (the range of elasticities broadly covers the estimates presented in the previous table). The exercise suggests that, even with conservative estimates of the involved elasticities, housing prices have made a significant contribution to consumption growth in the United States and the United Kingdom in the past few years.

(Continued on the next page)

Box 2 (continued)

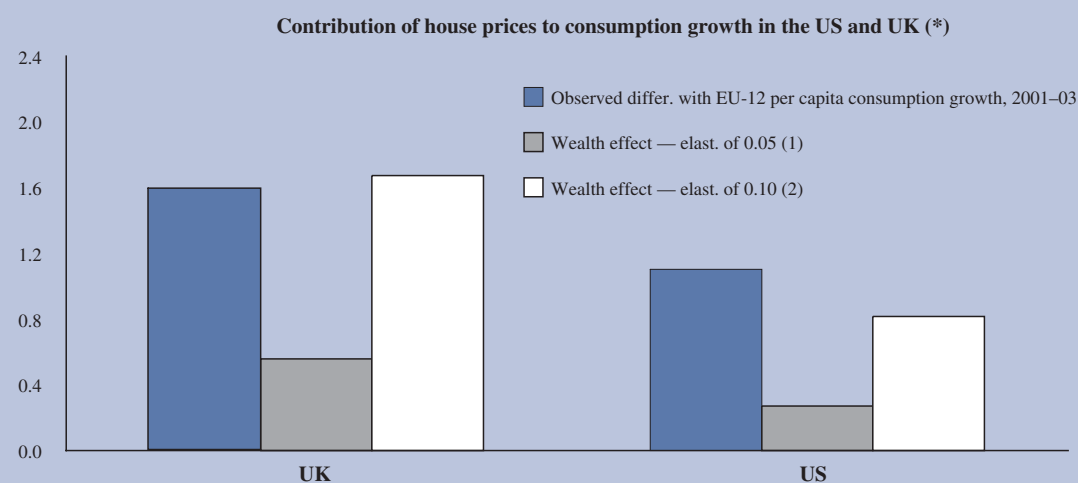
However, it is necessary to assume a very large difference in housing price elasticities between the euro area, on the one hand, and the United Kingdom and the United States, on the other, for the housing wealth effect to become the main explanation of the comparatively poor performance of consumption in the euro area since 2000.

In contrast, housing prices provide only relatively limited help in explaining differences in consumption growth within the euro area in the latest downturn. As shown in the bottom graph in the chart below, the correlation between differences in the growth of residential prices and differences in the performance of consumption is relatively low for the 2001–03 period. Furthermore, the observed correlation does not always reveal a causal link via the wealth effect. Given the small size of the wealth effect in Spain, the association of fast growth in residential prices and a relatively good consumption performance probably reflects the existence of common factors that have boosted both residential prices and consumption rather than a positive impact of residential prices on household spending. A similar point can be made for the association of weak growth in consumption and residential prices in Germany. Nevertheless, empirical research would tend to support the idea that housing prices have

contributed positively to the resilience of private consumption in countries such as Finland and Ireland.

Overall, although recent empirical research on the link between housing markets and consumption has largely focused on the wealth effect in the broad sense (i.e. the first and second channels described above), the role of housing markets in the transmission of monetary policy (the third channel) should not be overlooked. Housing markets will amplify the impact of changes in monetary policy if the mortgage rates of existing debt are closely linked to base rates because mortgage contracts either are predominantly based on variable interest rates (as in the United Kingdom) or can be refinanced at a low cost (as in the United States). The share of variable rate contracts is low and refinancing is generally costly in the euro area. Cuts in base interest rates during the latest downturn have therefore probably had a bigger positive impact on consumption in the United Kingdom and the United States than in the euro area. It is also striking to note that mortgage rates are primarily variable in the three euro-area Member States that posted the stronger per capita consumption growth over 2001–03 (Finland, Spain and Ireland).

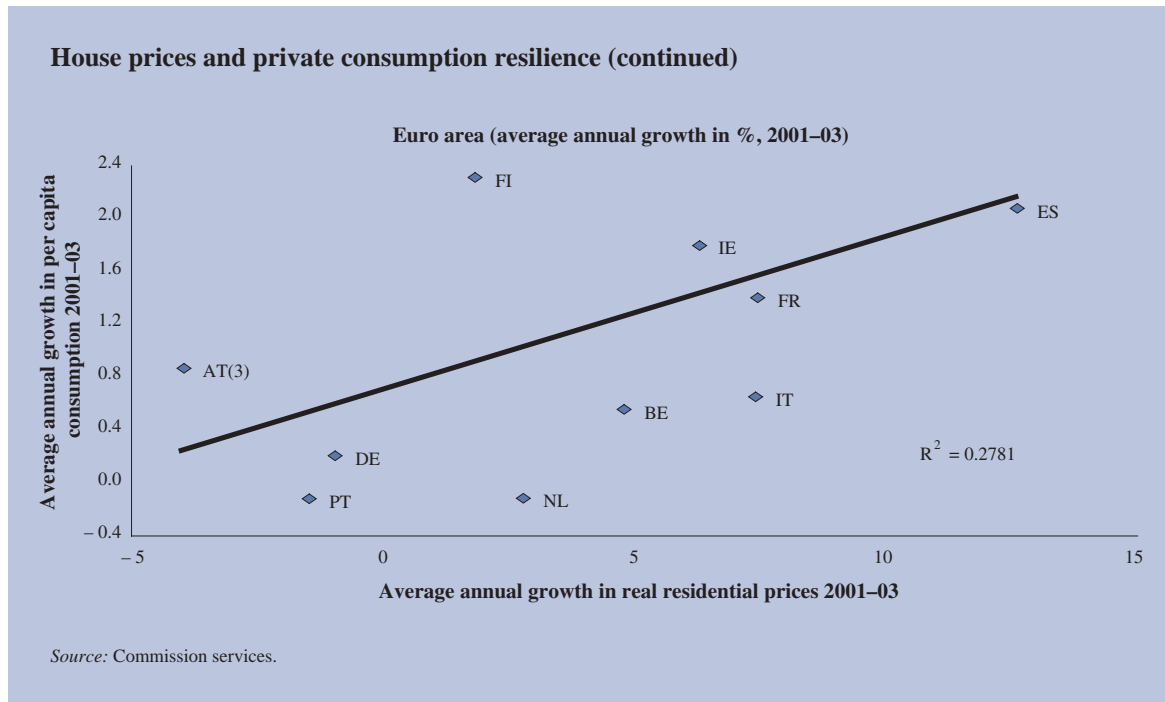
House prices and private consumption resilience



(*) Range of likely contribution to annual average growth in per cent in 2001–03.
 NB: (1) Impact of rise in real house prices assuming an elasticity of 0.05. (2) Impact of rise in real house prices assuming an elasticity of 0.15.
 (3) Growth in residential prices calculated over 2001–02.
 Source: Commission services.

(Continued on the next page)

Box 2 (continued)



directly the dynamics of the output gap against core inflation in Graph 38. It shows that from the first quarter of 2003 core inflation in the euro area did not change much despite a sharp and continuous widening of the negative output gap. Evidently, GDP needs to grow at a rate below potential for some time before a negative output gap opens. For the euro area this took place in the fourth quarter of 2002, after six quarters of below potential growth. Moreover, inflation started falling while the output gap, albeit narrowing, was still positive. This suggests that it is not only the level, but also the change in the gap, that matters for the cyclical responsiveness of inflation, in other words, speed limit effects might be important ⁽¹⁾.

The macroeconomic literature highlighted a number of factors explaining the sluggish adjustment of nominal prices ⁽²⁾. Price and wage rigidities imply that it usually

takes time for price and wage levels to fully adjust to given macroeconomic shocks. They can arise from:

- institutional factors such as wage and price contracts of fixed durations, existence of staggered contracts, wage indexation, the nature of wage bargaining, which can all cause persistence in nominal wage developments (Section 4.5.2);
- the presence of so-called menu costs, which signify the costs of price adjustment, transaction and delivery costs. They are thought to be relatively more important the lower the rate of inflation and the lower the degree of competition (Section 4.5.3);
- backward-looking elements in the inflation expectation formation used by economic agents (Section 4.5.3) ⁽³⁾.

⁽¹⁾ See Lown and Rich (1997), who provide evidence that this is the case in the United States.

⁽²⁾ The theoretical controversy does not contest the existence of price stickiness but centres on the question whether it is compatible with models of microeconomic behaviour.

⁽³⁾ As regards the forward-looking elements of inflation expectations, inflation persistence may arise due to a lack of credibility of monetary policy.

4.5.2. Wage rigidities

In order to evaluate the degree of nominal inertia in wages, Chapter 4 of ‘The EU economy: 2003 review’ presented econometric estimates of Phillips curve type wage equations for euro-area Member States. The model used explained changes in wage inflation by the unemployment gap, which could be subject to various shocks, in particular shocks to labour productivity, terms of trade and the wage share. Using the estimated Phillips curve coefficients, it was found that for the euro area as a whole only about 65 % of the wage adjustment to a disinflationary shock takes place within the first year, suggesting the existence of substantial inertia in nominal wages.

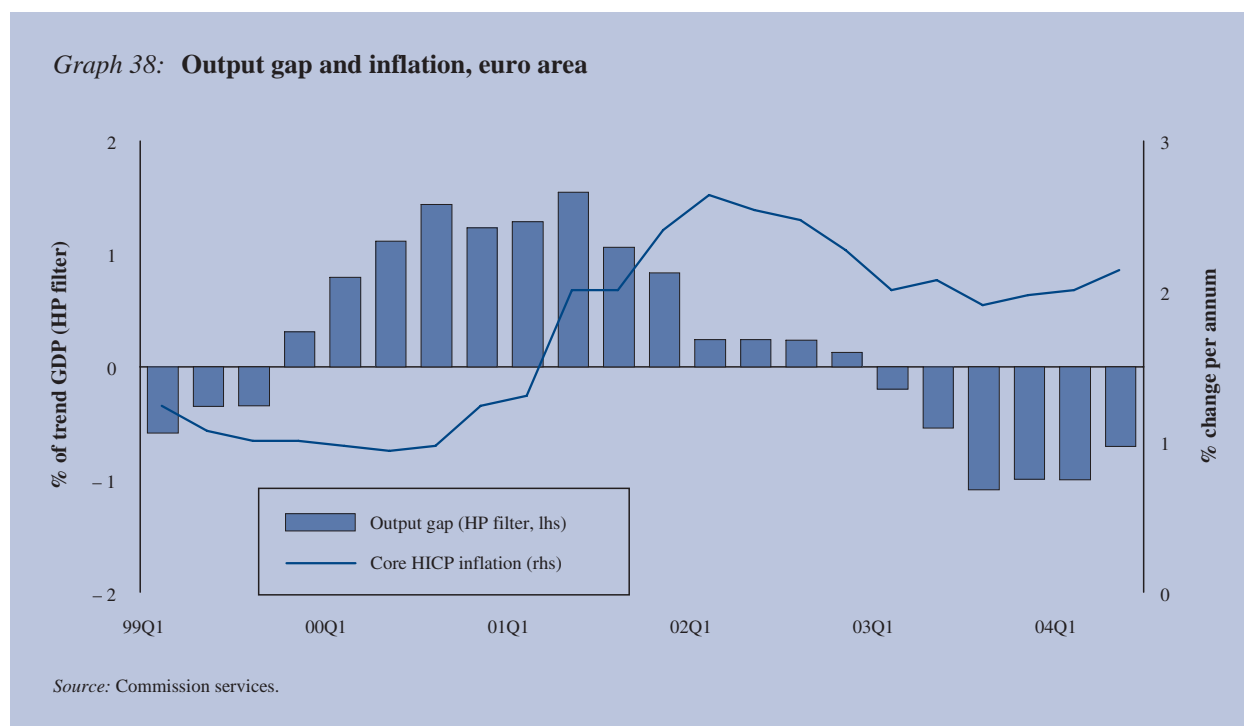
A striking feature of the empirical estimates is that the degree of nominal wage rigidity found for the euro area as a whole does not appear to differ greatly from that of the United States. This finding underscores the difficulty to empirically identify institutional labour market characteristics as major determinants of nominal wage inertia.

Moreover, it is worth noting that establishing empirically a prominent role for wage indexation regarding consumer price inflation dynamics is not straightforward. A number of structural changes, such as a higher

policy priority given to nominal stability and a heightened degree of competition in product markets, may have weakened the link between wage and price dynamics, implying that cost pressures due to temporary price shocks (such as oil price increases) would less easily feed into consumer price inflation, despite the presence of wage indexation. Yet, despite a possibly weaker link between wage and price dynamics, the presence of wage indexation mechanisms may have important macroeconomic consequences for economies participating in a monetary union. In particular, to the extent that they contribute to wage rigidity, wage indexation mechanisms would form an obstacle to a speedier adjustment of labour markets to asymmetric shocks.

In order to shed some further light on the importance of wage rigidities for price persistence, Graph 39 compares the degree of persistence, as measured by the coefficient of auto-correlation of the annual rate of change of value added deflators and hourly labour costs ⁽¹⁾. It shows that

⁽¹⁾ The first lag was used for the calculation. Hourly labour costs can be decomposed into wages and salaries on the one hand and other labour costs. These are employers’ social security contributions and taxes net of subsidies related to employment. Both components have similar properties as regards stickiness, very likely because other labour costs are partly indexed on wages and salaries.



Box 3: Inflation persistence in industrialised countries — Some recent empirical findings

Some of the key findings of several recent studies that investigate empirically the issue of inflation persistence in industrialised countries are summarised in this box.

Stock and Watson (1999), in a comprehensive study documenting the business cycle properties of 71 macroeconomic time-series in the United States, find that price inflation is pro-cyclical and it lags the business cycle. The usual lag is of two to three quarters. Agresti and Mojon (2003), using data from 1970 onwards, find that CPI inflation in the euro area lags GDP by three to four quarters — a slightly slower response than reported by Stock and Watson (1999) for the United States.

A somewhat counterintuitive result that some empirical studies have reported lately is that the level of inflation persistence in the euro area might not be significantly different from that in the United States. One of the most recent such studies is Levin and Piger (2003), who investigate the persistence of inflation in 12 countries, including the United States and the euro-area countries France, Germany, Italy, and the Netherlands. They analyse inflation persistence through autoregressions on headline consumer price inflation, core consumer price inflation, the GDP deflator and the personal consumption expenditure deflator. They find that for the United States all price measures exhibit a high degree of persistence, except headline consumer price inflation. For the four euro-area countries covered they find roughly comparable levels of inflation persistence, although there appears to be somewhat more persistence over the four price measures in the Netherlands and Italy than in France and Germany. The IMF (2003) finds only moderately higher, if at all, inflation persistence in the euro area compared with the United States. Relying on univariate methods as well as estimation of Phillips curves and VARs, this study finds little evidence of structural sources playing a more important role in persistence in the euro area. Differences vis-à-vis the United States are attributed to differences in the formation of expectations. Galí et al. (2000) is an earlier study which, based on estimations of the so-called new Keynesian Phillips curve, also concludes that there is a substantial degree of stickiness in the euro area which is not significantly out of line with the estimates obtained for the United States using the same model.

Another study pointing in a similar direction is Coenen and Wieland (2002). Using a three-country macroeco-

nomical model of the euro area, Japan and the United States, containing Phillips curves which differ in nominal rigidities in wages across the countries, they find higher nominal persistence in the United States than in the euro area. However, this finding is attributed to credibility effects from the FED's accommodative attitude towards the oil price shocks in the 1970s and the subsequent period of higher inflation, and thus is not thought to reflect higher nominal rigidity than in the euro area.

Some of the above studies have also found evidence of a decline in inflation persistence over time. For example, the IMF (2003) reports that the persistence of inflation is found to be significantly lower since the mid-1990s. The main cause for this change, it is argued, relates not only to a more stable inflation anchor but also closer alignment of actual inflation to the perceived target. Levin and Piger (2003) find empirical evidence of a significant change taking place in the late 1980s or early 1990s. For the four current euro-area members (France, Germany, the Netherlands and Italy) and two additional EU Member States (Sweden and the United Kingdom), the finding is seen in relation to the Maastricht criteria and the prospective countries for EMU membership. However, it seems at this stage that the results are not yet robust to the different methods, specifications and time periods chosen to examine inflation persistence. For instance, Batini (2003) and O'Reilly and Whelan (2004) report results indicating stable inflation persistence over the last three decades.

The above discussion thus confirms the long-held tenet that the level of inflation persistence might be closely related to the behaviour of inflation expectations. On this issue, some authors have lately argued that differences in inflation persistence may also reflect how fast inflation expectations respond to changes in the output gap (e.g. Erceg and Levin (2002), Kozicki and Tinsley (2002), Paloviita (2002, 2004) and IMF (2003)). A main finding is that the expected inflation reacts somewhat faster to changes in the output gap in the United States. Thus, in the most recent downturn the proposition would be that not only the output gap turned negative earlier and more sharply in the United States, but in addition there was a more rapid decline in inflation expectations as the economy weakened, which likely played a role in the faster cyclical response of inflation in the United States.

persistence is high for all indicators but higher for prices than for labour costs ⁽¹⁾. Accordingly, labour costs are unlikely to be the only reason for aggregate price persistence. The graph also shows that price and labour cost persistence is lower in industry than for the economy as a whole, meaning a potentially important role of structures in the service economy for explaining price and wage stickiness.

When the growth in hourly labour costs is plotted against the output gap as in Graph 40, which replicates Graph 38 but with the change in the hourly labour costs index instead of core inflation, labour costs developments lag the cycle by a considerable time ⁽²⁾. They continued accelerating until 2002 and started falling only from spring 2002 onwards, about two years after the peak in the output gap. The acceleration, however, was modest as nominal labour costs growth did not exceed 4 %. It was also to some extent driven by the simultaneous reduction in working hours. This is indicated by the more muted growth of nominal compensation per employee in the national accounts. It grew in a narrow range between 2 ¼ and 2 ¾ % throughout the slowdown.

4.5.3. Menu costs, competition and price variability

A number of macroeconomic models justify the existence of price rigidities by the existence of menu costs. The expression originally relates to the costs of changing the price of menus in restaurants, but has become used to signify all costs embedded in changing the price. They can be physical costs but also those stemming from strategic decisions of enterprises ⁽³⁾. For instance, when establishing long-term customer relationships, the impact of price changes on customers' search costs or on competitors' actions may reduce firms' incentives to pass through higher input prices into output prices. Apparently, the degree of competition on product markets determines the importance of these considerations. The higher the degree of compe-

tion, the less scope there is for strategic decision-making that reduces price flexibility.

Economic research furthermore established some theories on the cyclical behaviour of prices, conjecturing why prices tend to increase less than costs in booms and vice versa. Shifts in the composition of demand towards goods and services where the elasticity of demand is lower, less competition as a result of less market entry or firms' stronger incentives to collude rather than to fight for market shares by cutting prices when economic activity is low are just three factors that might cause prices to fall less than warranted in a downturn ⁽⁴⁾. An additional theory, which is possibly relevant for the experience in the euro area, builds on the pressure of weakening demand on financially constrained firms. They might be reluctant to cut prices despite a weakening of demand in order to generate sufficient profits in the short term to remain able to meet their obligations from their liabilities. As euro-area corporations on average have faced relatively higher debt in the last years, their price-setting behaviour could have followed this pattern ⁽⁵⁾.

Since little is known about the magnitude of menu costs in the euro area, Graph 41 presents an indicator that can be regarded as a proxy at the aggregate level. It measures the variability of relative prices, derived from the monthly changes of the components of the HICP where the changes were weighted with the share of the goods in the HICP goods basket ⁽⁶⁾. The higher the number of the indicator the more flexible are prices and, accordingly, the lower should be the costs of adjusting prices. The indicator was calculated with 90 non-subcomponents of the HICP and a second time with 12 groups of components in order to ensure comparability between the euro-area and the UK indicator. Since the resulting series is very volatile, the graph shows annual averages. It turns out that the indicator of relative price variability was higher until 2001 in the United Kingdom, which is widely per-

⁽¹⁾ A more theoretically consistent comparison would be the one of unit labour costs with prices. However, the cyclical variation of labour productivity distorts the measure, reducing further the degree of stickiness of labour costs.

⁽²⁾ The relationship with nominal wage growth is more informative than that with unit labour costs because the latter's behaviour cyclically is strongly determined by the pro-cyclicality of labour productivity. Therefore, it reflects more developments in GDP growth than developments in wages.

⁽³⁾ In their empirical analysis of menu costs, Zbaracki et al. (2004) distinguish between managerial costs (costs of gathering information, decision-making) and customer costs (communication to customers, negotiations with customers).

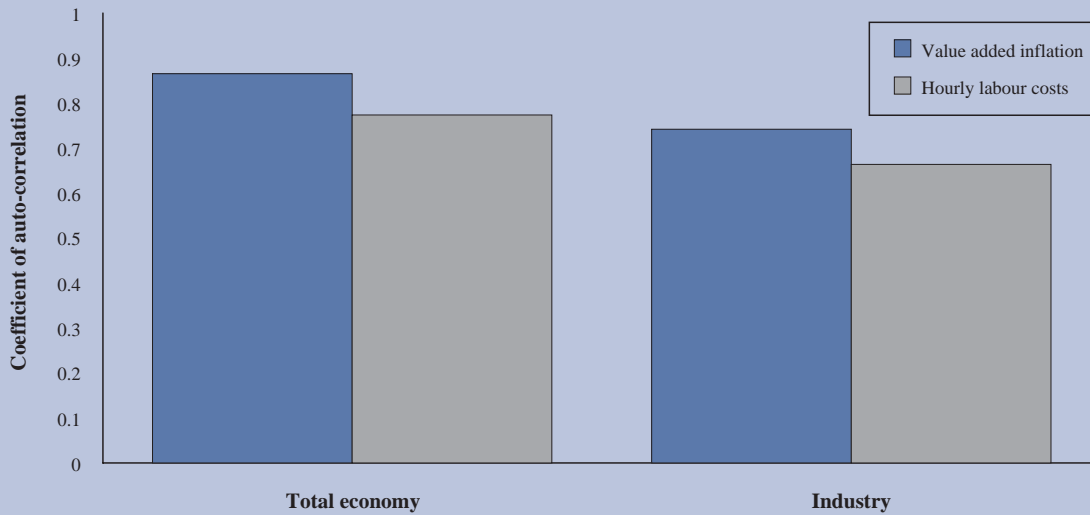
⁽⁴⁾ See Rotemberg and Woodford (1999).

⁽⁵⁾ Chevalier and Scharfstein (1996) present evidence that supports this theory based on the observation that financially restricted supermarket chains in the United States behaved in this way during regional and national recessions.

⁽⁶⁾ Technically, the indicator is $RPV = \sqrt{\sum_i s_i^* (p_i - p)^2}$ where

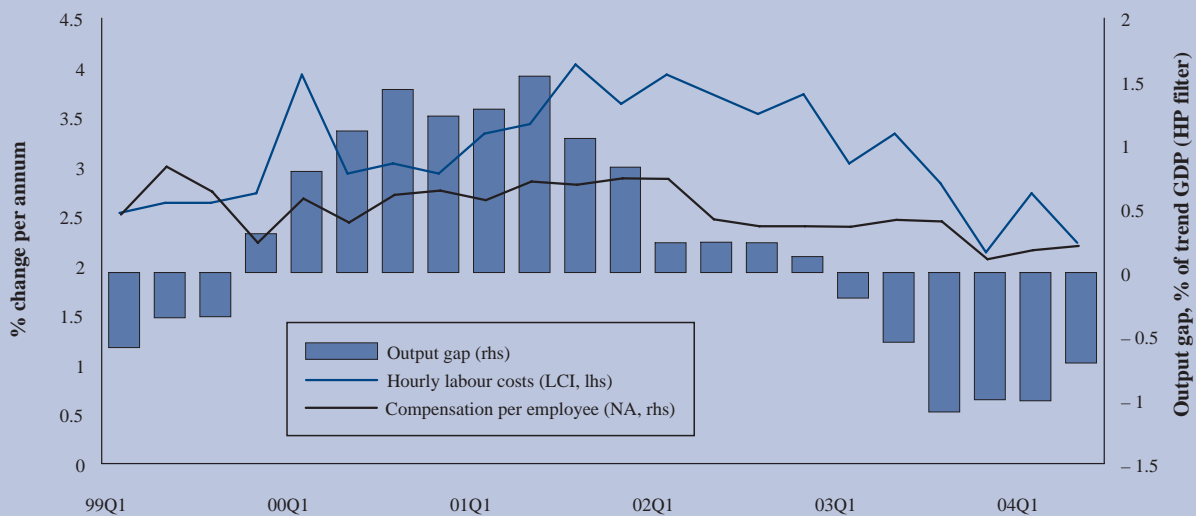
s_i is the share of goods in the basket, p_i is the monthly rate of change of goods and p is the rate of change of the HICP.

Graph 39: Price and labour cost persistence, first-order auto-correlation of euro-area aggregates, 1998Q1–2001Q1



NB: Excluding construction for industry and excluding public administration for total economy labour costs, calculated from year-on-year growth rates.
Source: Commission services.

Graph 40: Nominal GDP growth, wages and labour costs, euro area, % annual growth



Source: Commission services need to update output gap.

ceived as having a more flexible economy, than in the euro area.

The indicator of relative price variability (RPV) was initially developed to measure inflation uncertainty. The economic literature appears divided over whether it is positively or negatively related with the rate of inflation ⁽¹⁾. In the sample 1995 to 2004, there is no apparent correlation of the RPV with headline consumer price inflation in either the United Kingdom or the euro area. This also holds if energy goods are eliminated from both the panel and the consumer price index. Thus, the increase in price variability observed in Graph 41 is unlikely to be driven by inflation. It can, however, be shown that the increase in the euro-area aggregate in 2002 and 2003 is essentially driven by strong variability of relative prices in January. Items where prices changed strongly in January relative to the rest of the year are health, insurance, waste collection, passenger transport, restaurants, and cultural services, but also water, gas and electricity. Overall, it is likely that the increase in the RPV reflects increasing changes in administrative prices rather than a general improvement in price flexibility in the euro area.

Applying the RPV concept to hourly labour costs does not generate a discernible trend in labour cost variability in Graph 42. If at all, relative wage variability (RWV) declined in 2002 and 2003. This does not necessarily point to an increase in the importance of wage rigidities, but could be due to some correlation of the wage variability indicator with wage growth. Note that the indicator was constructed with quarterly growth of hourly labour costs in 11 euro-area Member States and four sectors (industry, construction, trade services, and financial intermediation) ⁽²⁾. A more detailed breakdown of sectors is likely to be more informative, but has not yet been possible with the macroeconomic data available.

4.5.4. Inflation expectations

In theory, inflation expectations play a key role in the relationship between the output gap and inflation ⁽³⁾. All

else equal, sticky expected inflation would intensify the rigidity of wages and prices, reducing the responsiveness of actual inflation to any given change of the output gap.

The tentative evidence available for the euro area indicates that this is not a likely candidate for explaining price stickiness. Graph 43 shows that short-term price expectations derived from the EC consumer surveys tend to match actual inflation developments ⁽⁴⁾. They changed more forcefully than actual inflation in some episodes, for instance in 1993 after renewed currency speculation in the ERM, in 1999/2000 when oil prices increased and in 2002 when the full magnitude of economic weakness materialised. Using the coefficient of auto-correlation as a measure of stickiness, stickiness of price expectations in the consumer surveys is marginally smaller than stickiness of actual consumer price inflation. This finding, however, does not allow any conclusions to be drawn about the direction of causality. Inflation expectations might be sticky because actual inflation is sticky but could also be a reason for price stickiness.

4.6. Conclusions

The recent slowdown featured a number of factors, which were unexpected and made it unique in comparison with previous periods of slow growth. These factors can be expected to shape the dynamism of economic activity over the next years. Both the direction and magnitude of their impact depend on whether they signify the working of structural or cyclical factors.

- Macroeconomic simulations with two different models showed that structural rigidities have an impact on the adjustment to shocks. The difference between the flexible and rigid scenario was, however, too small to suggest that structural rigidities can explain all of the sluggishness in the rebound of the euro-area economy. They matter in particular for the rate of long-term growth.

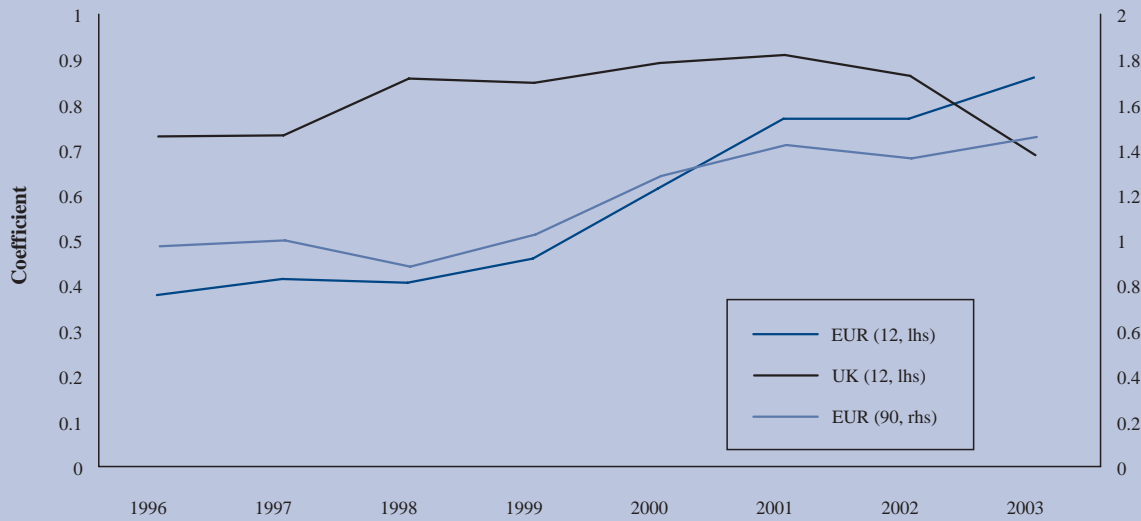
⁽¹⁾ Banerjee et al. (2002) find a positive relationship for the United States and the United Kingdom while Nautz and Schaffer (2004) find that it is not linked with expected inflation in Germany but to a measure of unexpected inflation only.

⁽²⁾ Sectoral wage growth in each country was expressed relative to total wage growth in the euro area and weighted with the share of the country's sector in euro-area employment. The data series for the labour cost index starts in 1996 only, with observations in the first two years being quite volatile.

⁽³⁾ This was forcefully illustrated by the work of Friedman and Phelps in the 1960s, Lucas and Sargent in the 1970s and more recently by theories underpinning the so-called new Keynesian Phillips curve.

⁽⁴⁾ For the period since 1991, the coefficient of correlation between both series is 0.76 for contemporary observations. It rises to 0.79 if one assumes expected inflation to lead actual price developments by six months. It is even slightly higher at 0.81 if actual HICP inflation is replaced by core inflation and if a 13-month lead is assumed.

Graph 41: Relative price variability, euro area and United Kingdom



Source: Commission services.

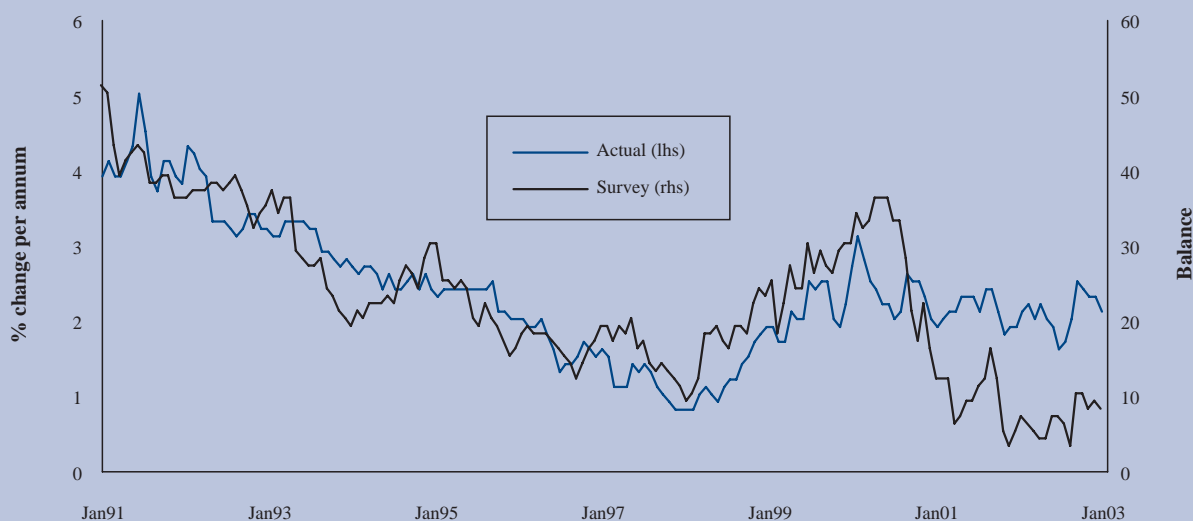
Graph 42: Relative variability of hourly labour costs, four sectors in 11 euro-area Member States



NB: The adjusted series eliminates any bias due to missing observations in some countries and sectors.
Source: Commission services.

- Resilient employment performance was due to a combination of cyclical and structural factors, i.e. labour hoarding, sectoral change and the usual lag with which employment responds to changes in GDP. More favourable labour market structures were based on conditions favourable to labour force participation and sectoral change. The assertion that constant employment during the period of the slowdown would mean weak employment growth in the next upswing is not inevitable.
- The prominence of cyclical factors such as a lack of demand and financial constraints in explaining investment bodes well for future investment growth once demand fully recovers and corporate over-indebtedness has been fully worked out. Model simulations, however, suggest that structural rigidities mainly hold back investment activity.
- It is still uncertain whether the weakness of private consumption encountered in the previous slowdown is of a cyclical or structural nature. It can also not be excluded that public policies, in particular in the area of budgetary policy, structural reforms and pension reforms have adversely impacted on consumer confidence and spending.
- The lower the costs of adjustment the more responsive economic activity will be to changed economic conditions: in a totally flexible economy, relative prices would adjust instantaneously. When it comes to understanding sticky prices in the euro area, wage rigidities and imperfect competition, in particular in the service economy, feature high. They cushion the effects of adverse economic shocks, but at the expense of slowing the recovery.

Graph 43: Actual and expected consumer price inflation, euro area



Source: Commission services.

5. Economic differences

The discussion above focuses primarily upon the euro area as a whole. But within an economy as large as that over the euro zone it is to be expected that performance will differ between different areas. This section takes a closer look at the performance of individual Member States in recent years and considers in particular whether the intra-area differences during the latest pick-up, in comparison with both the strength of the upswing in the late 1990s and the weakness of growth in 2001–03, can shed any further light on the causes of the overall slow response of the euro zone to the global upturn. The intention is to extract from cross-country variations to what extent structural differences such as export reliance or structural rigidities on the one hand, and the working of intra-area adjustment mechanisms on the other hand, impact on their cyclical position.

5.1. Measuring differences in timing and strength of the last upturn

A number of measures can be used to assess the timing and strength of the pick-up of growth in the euro-area economies. The most precise means of measuring the timing is through examining quarter-on-quarter growth in GDP. Table 6 illustrates that the euro-area recovery was firmly centred on the third quarter of 2003, with the majority of countries switching from negative to positive quarterly growth during this period. A notable exception was Spain, where growth remained positive in each quarter of the latest global downturn. Greece and Ireland experienced more volatility, albeit essentially positive growth. The pick-up in Finland was slightly ahead of the euro-zone average, whilst, in contrast, the upswing in the Netherlands lagged by a quarter, without remaining robust in 2004, and Portugal did not see a significant pick-up until the first quarter of 2004.

Graph 44 shows the acceleration of growth in euro-area members during the current pick-up, in other words, between the second quarter of 2003 and the second quarter of 2004. All Member States shown recorded an

Table 6

GDP growth — quarter on previous quarter

	2003				2004	
	Q1	Q2	Q3	Q4	Q1	Q2
BE	0.1	0.0	0.6	0.7	0.7	0.7
DE	-0.4	-0.2	0.3	0.3	0.4	0.5
EL	3.5	-0.5	1.9	-0.3	2.9	-0.6
ES	0.9	0.6	0.6	0.7	0.7	0.5
FR	0.2	-0.4	0.7	0.5	0.8	0.7
IE	-0.1	2.2	-2.4	5.4	0.9	-0.3
IT	-0.2	-0.1	0.4	0.0	0.5	0.3
NL	-0.5	-0.7	0.1	0.5	0.8	-0.1
AT	0.5	-0.2	0.2	0.3	0.4	0.9
PT	0.4	0.0	-0.4	-0.1	0.9	1.2
FI	-0.1	0.8	0.6	0.3	1.1	0.7
EUR-12	0.0	-0.2	0.5	0.4	0.7	0.5

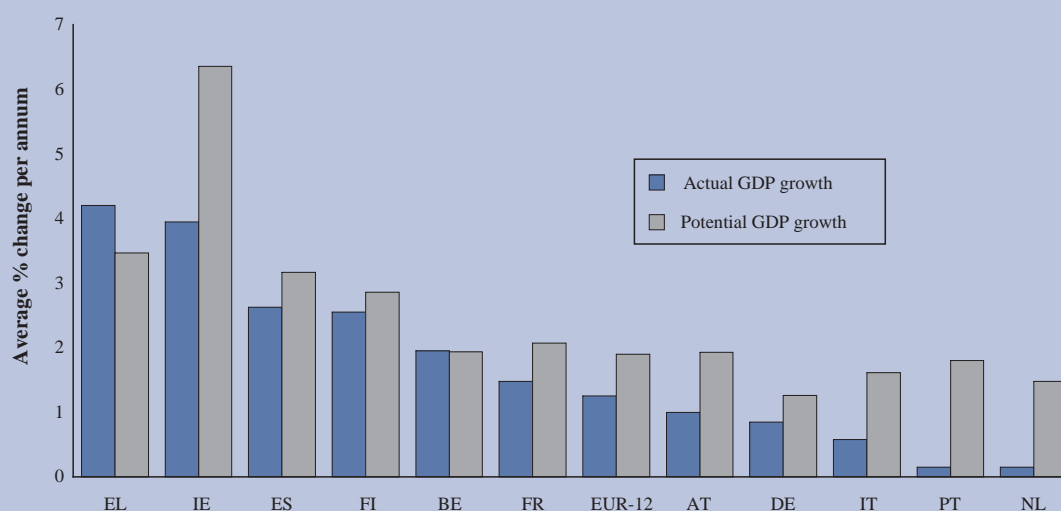
Source: Commission services.

upturn, and it is noticeable that it was not the small countries that in general fared better than the euro-area average. Whereas the smaller countries grew stronger than the larger ones in the upswing 1996–2000, the Netherlands, Austria and Portugal performed worse than the euro-area average in the early phase of the current rebound.

Quarterly GDP is particularly helpful in pinpointing the timing of the upturn; a drawback is that stronger growth in, for example, Greece and Ireland, in part reflects stronger potential growth in those countries rather than say Germany and Austria. The comparison of actual GDP growth with the Commission's estimate of potential GDP growth does not reveal any systematic pattern across Member States, suggesting that both cyclical and structural forces have been at play.

An obvious question is whether those countries expected to have the strongest pick-up in growth in 2004 and 2005 were also those which had the strongest growth in the

Graph 44: The upturn in quarterly GDP growth: average growth, 2003Q3–04Q2



Source: Commission services.

late 1990s and the shallowest downturn between 2000 and 2003. Graph 45 shows percentage point changes in the output gap in euro-area economies in those three periods, ranked according to performance during the downturn.

The graph points to three groups of countries.

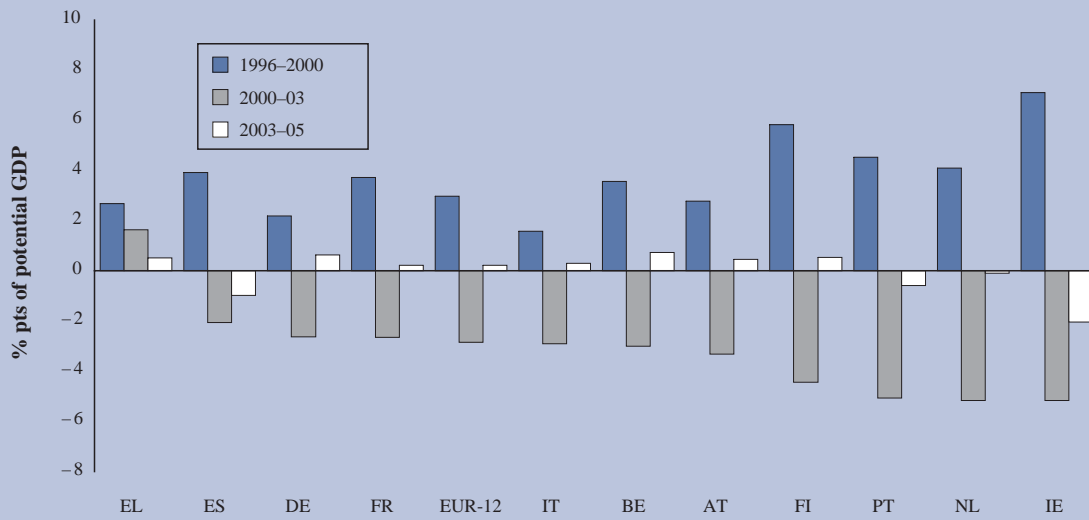
- Firstly, Greece is the only country to have achieved above potential growth in the first two periods shown, with this trend expected to continue in 2004 and 2005.
- A second group including Germany, Spain, Italy, France, Austria and Belgium saw only a moderate cyclical upswing prior to 2001 and a moderate downswing in the following period.
- A third group includes those countries which enjoyed the strongest growth on this measure in the late 1990s upswing, namely Finland, Portugal, the Netherlands and Ireland (as well as Luxembourg, not shown), but which also suffered the strongest cyclical slowdown from 2001 to 2003.

The correlation of the changes in output gaps between both periods across Member States is -0.67 and therefore quite strong. It confirms the assertion that countries with strong growth in the late 1990s suffered more acutely from the slowdown than those with weaker growth.

It is also apparent that the final period for 2004 and 2005 appears to some extent a continuation of the preceding three years, with notably Portugal, the Netherlands and Ireland all forecast to see a further negative impact on their output gaps. In contrast, those countries expected to see above potential output in 2004 and 2005 all experienced milder cyclical downturns between 2001 and 2003. It therefore follows that those countries where output was strongest in relation to potential output in the second half of the 1990s are not the same countries in which we expect to observe above potential growth in the latest upswing ⁽¹⁾.

⁽¹⁾ Comparing cross-country differences in quarterly growth in the current upswing and the aborted recovery in 2002 provides a further opportunity to consider if there is a correlation between the countries that pick up most rapidly in upswings. It is indeed the case that those countries which grew most strongly in this first abortive recovery were strongly correlated with those that grew strongly in the emerging recovery from the third quarter of 2003 to the second quarter of 2004.

Graph 45: Changes in output gaps



Source: Commission services.

Graph 46: The contribution of external and domestic demand to the cyclical rebound, 2003Q3-04Q2



Source: Commission services.

5.2. Can country-specific factors explain growth differences?

5.2.1. Openness and production structure

Small open economies in the euro area performed well in the economic boom period 1996–2000. As world trade growth faltered from 2001, those countries most exposed to world trade saw the lowest growth in absolute terms and relative to potential growth. That is, open countries see a more sluggish cyclical rebound than more closed economies, which is somewhat at odds with the image that most analysts have in mind.

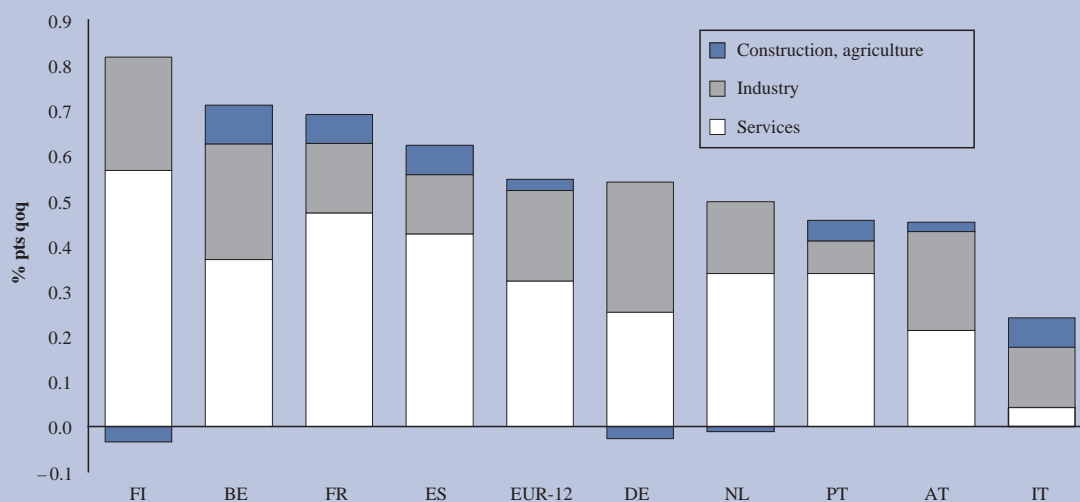
Data looking at contributions to growth also support the notion that trade performance can explain less of the difference in growth in the latest pick-up than was the case in the 1995–2000 upswing. If we consider GDP growth since mid-2003, there is little correlation with the contribution to growth from net exports. Member States with the highest growth had the highest contribution from domestic demand while external demand contributed strongly to growth in those countries with subdued growth. This contrasts with a strong positive

correlation between external demand and growth for both the previous upswing and the strength of the aborted recovery in 2002.

Graph 47 shows that those euro-area members with the strongest rebound in GDP growth also experienced the largest increases in value added in services during the upswing. Countries where the main driver of growth was industrial activity recorded lower growth in value added. Within the service economy, it has been in particular activity in financial intermediation, real estate, renting and business activities that has contributed strongly to differences in growth performances among Member States.

The analysis of differences among Member States reveals a different perspective of the rebound than the euro-area aggregate. Domestic demand and the service economy are the main factors driving growth differences. But domestic demand is weak in the euro-area aggregate where growth depends prominently on external demand. Apparently, the difference is due to the structure and weight of Germany and Italy in the euro-area aggregate. Both countries recorded a slow rebound driven by external demand.

Graph 47: Contribution from sectors to value added average, 2003Q3–04Q2



Source: Commission services.

5.3.2. Structural rigidities

Factors such as trade exposure and output structure may affect the extent to which different economies are initially affected by a given shock, but factors such as employment market regulations and competitive pressures in product markets will affect the ability of the economy to adjust effectively to the shock. Thus, differences in structural rigidities may cause differences in the magnitude of cyclical variations.

Table 7 shows the correlation between three widely used measures of employment and product market flexibility and performance of euro-area Member States in the three time periods considered. The compilation of such indicators requires value judgments, particularly regarding the weighting of different factors and one should be cautious not to place too much weight on individual results. Nevertheless, it is striking that the three indicators all tell a similar story.

Table 7

Correlations between changes in output gaps and indicators of structural rigidities ⁽¹⁾

	Government efficiency (IMD ⁽²⁾)	Employment protection legislation (OECD ⁽³⁾)	Product market regulation (Nicoletti et al.)
1999–2000	0.31	0.60	0.58
2001–03	– 0.23	– 0.58	– 0.67
2004–05	– 0.26	– 0.48	– 0.77

⁽¹⁾ A higher value on an indicator is considered more favourable.

⁽²⁾ Ranking of quality of business legislation (includes openness, competition regulation, labour regulation, capital market regulation). Based on country rankings (IMD has two separate rankings for countries with populations greater and smaller than 20 million).

⁽³⁾ Overall indicators of employment protection legislation (version 2). Late 1990s indicators used for first two periods, 2003 indicator for third period.

Sources: Commission services, IMD World Competitiveness Yearbook 2003, OECD (2004), Nicoletti et al. (1999).

The indicators suggest that those countries with more flexible product and labour markets were more likely to register above trend growth during the late 1990s upswing. But the correlation is strongly reversed in the downturn with the more flexible economies more likely to register below potential growth. Indicators of structural rigidities continue to be inversely correlated with changes in the output gap in the emerging recovery, in other words, those countries with more flexible structures, according to the indicators above, are not those that are projected to experience a quick rebound in 2004–05. Given the previous observation that the United States and other economies judged to suffer much less from structural rigidities have seen more robust upturns, it is surprising that there is as yet no sign of the more flexible euro-area economies being better able to capitalise on the latest upturn.

5.3. The working of adjustment mechanisms

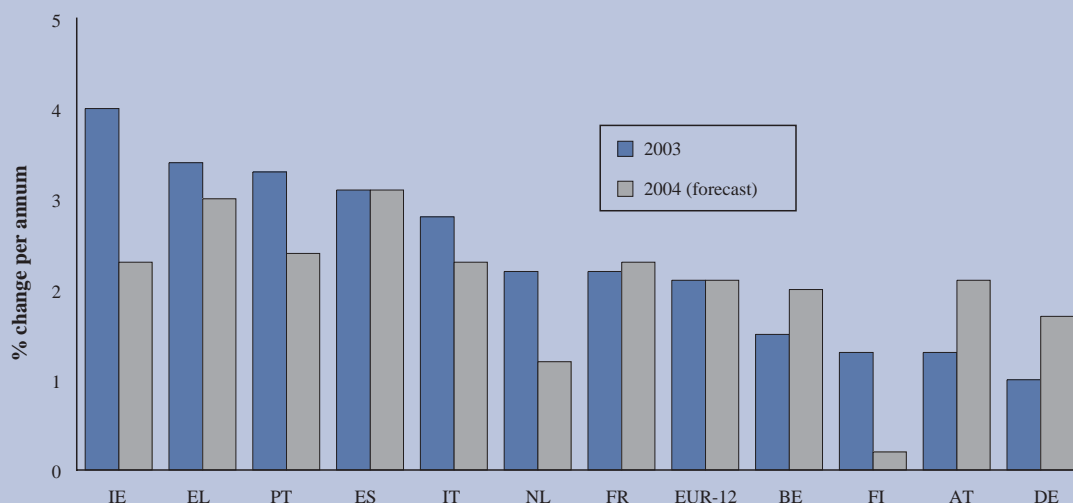
5.3.1. Inflation differences

Within a monetary union with a single monetary policy, inflation differences between Member States can act as

an important adjustment channel to differences in cyclical positions, to asymmetric impacts and adjustment to shocks. Graph 48 shows HICP inflation in euro-area members for 2003 and the Commission forecast for 2004. HICP inflation in 2003 ranged from 4.0 % in Ireland to 1 % in Germany, with these countries expected to see the strongest acceleration and deceleration in price rises respectively in 2004. Core inflation (excluding energy and processed food) was strongly correlated with HICP inflation and ranged from 4.3 % in Ireland to 0.9 % in Germany in 2003.

The ranking of Member States' inflation performance is broadly in line with their growth performance with Germany and Austria at the lower end and Ireland and Greece at the higher end of the scale. The position of relative growth and inflation performance, however, differs in Belgium, Italy, Portugal and — in 2003 — in the Netherlands. There are two immediate consequences of inflation differentials for Member States, which have the potential to alter internal and external balance at the national level, namely heterogeneity in intra-euro-area price and cost competitiveness on the one hand and in real interest rates on the other hand. The effectiveness of

Graph 48: HICP inflation, 2003, 2004 (forecast)



Source: Commission services.

both channels is supposed to be related to country characteristics: the competitiveness channel is more important in small open economies and the real interest rate channel can be more prominent in larger economies where prices are more strongly influenced by domestic forces than in small open economies.

Since a Member State no longer has the option of using the nominal exchange rate to help in the adjustment to country-specific shocks, adjustment must come through changes in relative prices and wages compared with those of the rest of the monetary union, that is, through changes in intra-area price and cost competitiveness. This effect is often referred to as the real exchange rate channel. Specifically, persistent above average inflation rates would contribute to a deterioration in intra-area price and cost competitiveness, hence depressing demand and providing relief to inflationary pressures.

When looking at the evolution of intra-area price competitiveness on the basis of developments in relative unit labour costs since 1998, four groups of countries can be distinguished ⁽¹⁾. A first group is made up of Germany and Austria, which registered considerable gains in cost competitiveness over the first five years of EMU. A sec-

ond group is composed of Belgium and Luxembourg, France and Finland, where relative cost competitiveness developed close to the euro-area average. A third group contains Greece, Ireland, Italy and Spain, where nominal unit labour costs grew significantly faster than in the euro area as a whole. Finally, a fourth group includes Portugal and the Netherlands, two countries where nominal unit labour costs have grown at a markedly higher pace than in the euro area as a whole.

The effect of the real exchange rate may only become significant with a lag of three or four years. Graph 49 shows that those Member States that registered larger competitiveness losses are also those where the cyclical positions deteriorated the most, indicating that this channel, working in a lagged counter-cyclical fashion, is helping to resolve inflation differentials due to cyclical divergences. In contrast, some of the Member States that recorded close-to-average changes or gains in cost competitiveness also had more modest deteriorations in their

⁽¹⁾ The preference for REER deflated by unit labour costs of the total economy results from the assumption that wage growth relative to productivity is likely to be a key channel of adjustment. Different cost and price competitiveness indicators tend to move broadly together.

(relative) output gaps, suggesting that the real exchange rate channel, again working in a stabilising counter-cyclical fashion, is also helping the recovery in some of the growth-lagging economies. The large positive contribution from external demand to growth in Germany and Austria can be seen as a consequence of the working of intra-area adjustment through the real exchange rate channel.

Since nominal interest rates are set for the euro area as a whole, higher than average inflation rates in this economy would imply lower than average real interest rates. This would feed excess demand and create further inflationary pressures. That is, at a time when domestic demand would need to be brought into line with potential, national real interest rates would be providing an additional boost in the opposite direction. Real interest rates would thus tend to exhibit a potentially destabilising pro-cyclical behaviour.

The first-round effects of this channel would depend on the interest sensitivity of demand and the demand sensitivity of inflation. As stressed by Ford and Gerson (2001), it would also depend on the perception of economic agents regarding changes in inflation. For example, if changes in inflation were perceived to be temporary, then there might be little effect of higher inflation on *ex ante* real interest rates. In addition, with a pro-cyclical behaviour of real interest rates, there is also a potential for asset prices to exacerbate inflationary pressures. Higher demand growth than potential combined with lower real interest rates could lead to higher asset prices, particularly housing prices. In turn, higher asset prices could induce positive wealth effects, resulting in more prolonged periods of overheating.

Looking at the period of high growth (1998–2000), Graph 50 shows that those countries that in the upturn had below average real interest rates, also experienced the largest relative output gaps⁽¹⁾. As regards the situation at the beginning of the upswing, the highest real interest rates were found in Germany, Greece, France,

Austria and Belgium. In two of them, namely Germany and Austria, domestic demand contributed negatively to growth over the year of the rebound. The lowest rates were found in Ireland, which alone had negative long-term and short-term real interest rates. Portugal, Italy and Spain had also negative short-term real interest rates. With the exception of Italy, domestic demand has been buoyant in these Member States since summer 2003.

An additional concern sometimes mentioned in this context is the possibility of a ‘hard-landing’. For example, a country that has gone through a period of overheating and is entering the downward phase of the cycle might have to face a tightening of area-wide monetary conditions in response to contemporaneous stronger growth in the less cyclically advanced countries. The implication is that for some countries the downturn would be more pronounced than if monetary policy had been less accommodating earlier on. This mechanism might have contributed to subdued growth in the Netherlands and Portugal, which were cyclically advanced countries in the last upswing and witnessed a belated and weak rebound in 2003–04.

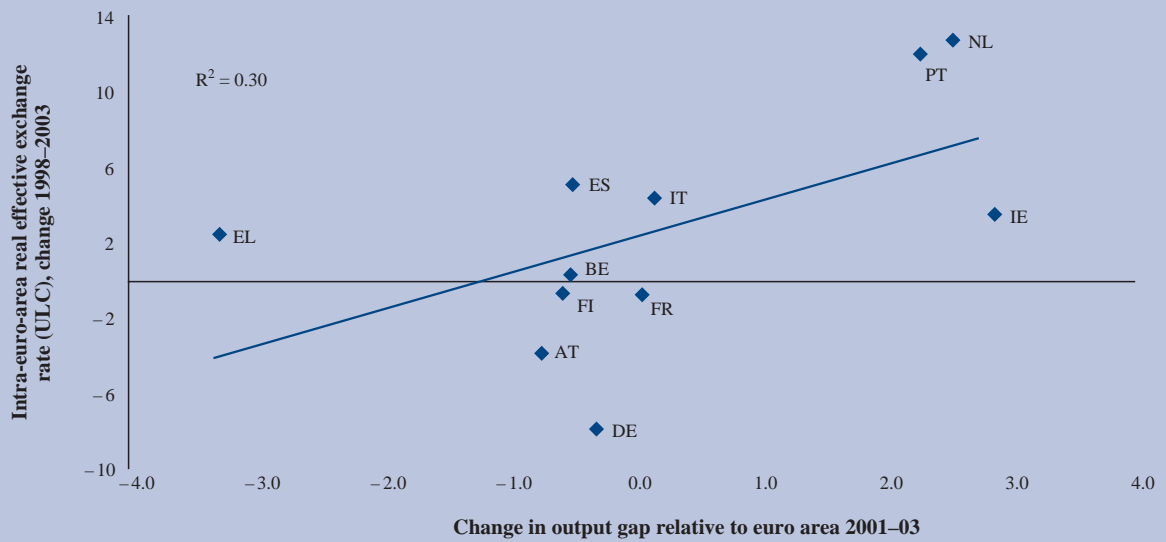
5.3.2. The role of economic policy

Rigid economic structures may have inhibited the effectiveness of the competitiveness rate channel in balancing growth and inflation differences within the euro area. This channel is more powerful the more responsive both costs and prices are to changes in demand and the more responsive economic activity is to changes in prices. By simulating an empirical model of the euro area, Angeloni and Ehrmann (2004) show that stickiness in inflation and output propagates economic differences across Member States.

Competition and a high share of imports and exports are conducive to the effectiveness of variations in price competitiveness as adjustment mechanisms. Furthermore, the more open and integrated an economy is, the more important are international and euro-area price developments for domestic inflation and thus the less pronounced is the difference in the real interest rate. That is, the smaller is also the probability that country-specific price developments become entrenched in inflation expectations and the less powerful is the real interest rate channel that causes deviating growth performances. Policy measures that increase market flexibility therefore not only improve the Member States’ capability to adjust to economic shocks, they contribute also to the smooth functioning of EMU.

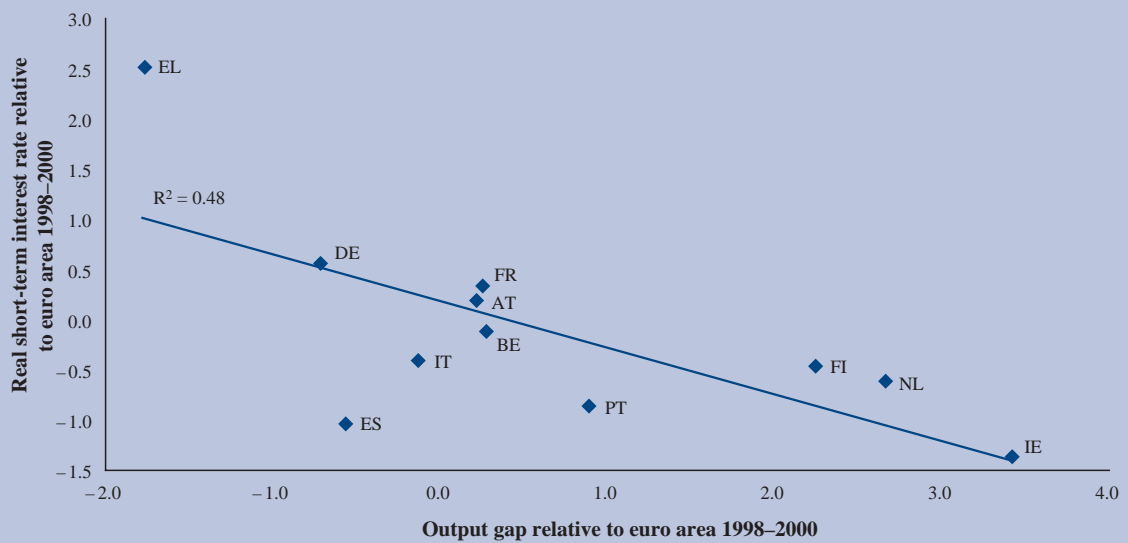
⁽¹⁾ Conceptually, real interest rates are derived by adjusting nominal interest rates for expected inflation. As the expected inflation is not observable it has to be estimated. Several approaches to this estimation are possible. In the following, for simplicity and due to data availability, real interest rates are obtained by adjusting the appropriate nominal interest rates by core HICP inflation (HICP excluding energy and unprocessed food). Other than its simplicity a further rationale for using such a proxy of inflation expectations is that, as noted in Section 4.5, inflation is typically a persistent process. It can then be argued that domestic inflation expectations would tend to follow developments in measured inflation relatively closely.

Graph 49: Real effective exchange rate and output gap



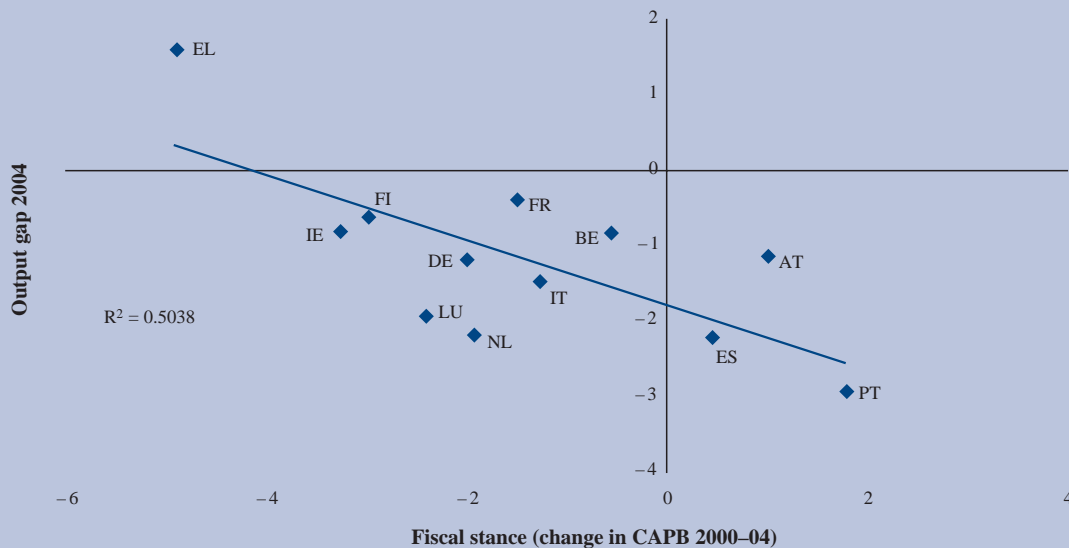
Source: Commission services.

Graph 50: Real interest rates and output gaps



Source: Commission services.

Graph 51: Changes in government cyclically-adjusted net lending ⁽¹⁾ and output gaps



⁽¹⁾ Based on potential output.
Source: Commission services.

A further means of adjustment is through changes in fiscal policy, with Member States making discretionary changes to government revenue and spending plans in response to changing fiscal conditions. Budget deficits to GDP ratio deteriorated in all except two euro-area Member States between 2000 and 2004 in absolute terms and in all except four countries in cyclically-adjusted terms. The exceptions are Spain and Austria in absolute terms and these two countries plus Belgium and Portugal in cyclically-adjusted terms. Since changes in interest rates also affect budgetary figures, the widest measure of the fiscal stance is the cyclically-adjusted deficit excluding interest payments. This measure is also called the cyclically-adjusted primary balance and indicates the discretionary policy effort.

Graph 51 shows a negative relationship between the change in the cyclically-adjusted primary balance in the period 2000–04 and the output gap in 2004, meaning that those countries with a more expansionary fiscal stance in 2000–04 had a smaller output gap in 2004. It is highly significant also for the deterioration in the output gap between 2000 and 2004 and even if the size of the output gap in 2000 is controlled for. Apparently, Greece as the

only country with a positive output gap and with the most expansionary fiscal stance in the euro area has a strong impact on the result. However, eliminating Greece and Luxembourg from the panel still confirms the insight that more expansionary fiscal policy reduces the output gap. In dependence on the panel used, the coefficient is between 0.5 and 0.6, indicating that expansionary fiscal policy yields a sizeable impact without, however, avoiding a non-negligible deterioration of public finances.

5.4. Conclusions

It appears difficult to draw together a simple story regarding the reasons behind different performance in euro-area economies in the latest upswing. This is in part due to the relative infancy of the latest upswing — there is just a full year's data since growth picked up in the euro area and many of the calculations presented above are reliant upon forecasts. Nevertheless, a number of tentative conclusions emerge.

- Those countries which performed well in previous upturns have not grown strongly in the current upswing. In the cases of Ireland and Finland such a

- conclusion is dependent upon assuming a significant increase in potential output in recent years; both countries have seen actual GDP grow more strongly since the latest upswing began.
- Performance in the latest upswing appears to be more dependent upon performance during the previous trough, with some countries — notably the Netherlands and Portugal — still experiencing restricted growth as a consequence of previous overheating.
 - Countries with the strongest growth in the euro area benefited from strong domestic demand and revived activity in the service economy whereas growth in the laggards was mainly driven by external demand and industrial activity.
 - Inflation differences are broadly in line with growth differences. Adjustment via the real exchange rate channel seems to have had only limited impact. Low inflation countries recorded a stimulus from external demand but remained at the lower end of the growth spectrum. The real interest rate channel might have boosted domestic demand in high-growth/inflation countries, amplifying the differences.
 - The large role for the real interest rate channel relative to the exchange rate for growth and inflation differences during the last year reflects structural rigidities that reduce the information content of relative prices as well as the adjustment of both demand and output to price signals.

6. References

- Agresti, A. M. and B. Mojon (2003), 'Some stylised facts on the euro-area business cycle', *ECB working paper*, No 95.
- Angeloni, I. and M. Ehrmann (2004), 'Euro-area inflation differentials', *ECB working paper*, No 388.
- Attanasio, O. P. (1999), 'Consumption', in Taylor, J. B. and M. Woodford (eds), *Handbook of macroeconomics*, Elsevier, Vol. 1b, pp. 741–812.
- Banerjee, A., P. Mizzen and B. Russel (2002), 'The long-run relationship among relative price variability, inflation and the mark-up', *European University Institute discussion paper*, No ECO/2002/01.
- Bank for International Settlements (BIS) (2004), '74th Annual Report', Basle.
- Barata, J.M. and L. Pacheco (2003), 'Asset prices and the monetary transmission mechanism: Are there wealth effects on consumption?', article presented at the Second Workshop on European Integration and Banking Efficiency, organised by CIEF, ISEG, Lisbon, 30 and 31 October 2003.
- Barsky, R. and L. Kilian (2001), 'Do we really know that oil caused the great stagflation? A monetary alternative', *NBER working paper*, No 8389.
- Barsky, R. and L. Kilian (2004), 'Oil and the macroeconomy since the 1970s', *CEPR discussion paper*, No 4496.
- Batini, N. (2003), 'Euro-area inflation persistence', *ECB working paper*, No 201.
- Bayoumi, T., D. Laxton and P. Pesenti (2004), 'Benefits and spillovers of greater competition in Europe: A macroeconomic assessment', *US Federal Reserve Board international finance discussion paper*, No 803.
- Bergoeing, R., N. Loayza and A. Repetto (2004), 'Slow recoveries', *NBER working paper*, No 10584.
- Bernanke, B., M. Gertler and M. Watson (1997), 'Systematic monetary policy and the effects of oil price shocks', *Brooking papers on economic activity*, Vol. 1:1997, pp. 91–157.
- Boone, L. and N. Girouard (2002), 'The stock market, housing market and consumer behaviour', *OECD economic studies*, No 35, 2002/2, pp. 175–200.
- Caballero, R. C. et al. (2004), 'Effective labour regulation and microeconomic flexibility', *Cowles Foundation Yale University discussion paper*, No 1480.
- Case, K., R. Shiller and J. Quigley (2001), 'Comparing wealth effects: the stock market versus the housing market', *NBER working paper*, No 8086.
- Catte, P., N. Girouard, R. Price and C. André (2004), 'Housing markets, wealth and the business cycle', *OECD Economics Department working paper*, No 394, June.
- CEPS (2003), 'Adjusting to leaner times', fifth annual report of the CEPS macroeconomic policy group, Centre for European Policy Studies, Brussels.
- Chevalier, J. A. and D. S. Scharfstein (1996), 'Capital-market imperfections and countercyclical markups: Theory and evidence', *American economic review*, Vol. 86, pp. 703–725.
- Coenen, G. and V. Wieland (2002), 'Inflation dynamics and international linkages: A model of the United States, the euro area and Japan', *ECB working paper*, No 18.
- Dreger, C. and H. G. Reimers (2003), 'Consumption and income in the euro area — Empirical evidence based on panel integration models' and paper presented at the

- 14th EC2 conference, 'Endogeneity, instruments and identification in econometrics', London, 12–13 December 2003, <http://cemmap.ifs.org.uk/ec2/dreger.pdf>.
- Drew, A., M. Kennedy and T. Sløk (2004), 'Differences in resilience between the euro area and US economies', *OECD Economics Department working paper*, No 382.
- Erceg, C. J. and A. T. Levin (2001), 'Imperfect credibility and inflation persistence', *US Board of Governors of the Federal Reserve System finance and discussion paper*, No 2001-45.
- Eschenbach F. and L. Schuknecht (2002), 'Asset prices and fiscal balances', *ECB working paper*, No 141.
- European Commission (2004), 'Public finances in EMU 2004', *European Economy*, No 3/2004.
- Fagan, G. et al. (2001), 'An area-wide model (AWM) for the euro area', *ECB working paper*, No 42.
- Fisher, J. D. (2003), 'Technology shocks and the business cycle', US Federal Reserve Bank of Chicago FED letter, No 187, March 2003.
- Ford, R. and P. Gerson (2001) 'Cyclically advanced euro-area economies: Consequences and policy options', selected issues paper on the United Kingdom and the Netherlands, *IMF country report*, No 01/95, Washington, DC.
- Francois, P. and H. Lloyd-Ellis (2003) 'Animal spirits through creative destruction', *American economic review*, Vol. 93, pp. 530–550.
- Galí, J., M. Gertler and J. D. López-Salido (2000), 'European inflation dynamics', *European economic review*, 45(7), pp. 1237–1270.
- Galí, J., M. Gertler and J. D. López-Salido (2003), 'The euro area inefficiency gap', *Banco de España documento de trabajo*, No 302.
- Gern, K.-J. (2004), 'Moderate upswing in Euroland', *Institut für Weltwirtschaft Kiel discussion paper*, No 410.
- Goldman Sachs (2004), 'Global supply shocks: Is luck running out?', *Global economics weekly*, No 4/25, 23 June 2004.
- Groshen, E. L. and S. Potter (2003), 'Has structural change contributed to a jobless recovery?', *Federal Reserve Bank of New York current issues in economics and finance*, Vol. 9, No 8, pp. 1–7.
- Hausmann, R., L. Pritchett and D. Rodrick (2004), 'Growth accelerations', *NBER working paper*, No 10566.
- Henley, A. and B. Morley (2001), 'European house price volatility and the macroeconomy: the implications for European monetary union', Aberystwyth, University of South Wales, School of Management and Business.
- IMF (2003) 'Monetary and exchange rate policies of the euro area — Selected issues', *IMF country report*, No 03/298.
- IMF (2004a), 'Euro-area policies', *IMF country report*, No 04/234.
- IMF (2004b), 'Euro-area policies: selected issues', *IMF country report*, No 04/235.
- J. P. Morgan Chase Bank (2004), 'Euro-area inflation and supply-side performance', *Global data watch*, 30 April 2004, pp. 11–12.
- Kozicki, S. and P. A. Tinsley (2002), 'Alternative sources of the lag dynamics of inflation', US Federal Reserve Bank of Kansas City working paper 02-12.
- Levin, A. T. and J. M. Piger (2003), 'Is inflation persistence intrinsic in industrial countries?', revised version of working paper 2002-023E, Federal Reserve Bank of Saint Louis.
- Lown, C. S. and R. Rich (1997), 'Is there an inflation puzzle?', *Federal Reserve Bank of New York economic policy review*, December, pp. 51–69.
- Ludwig, A. and T. M. Sløk (2004), 'The relationship between stock prices, house prices and consumption in OECD countries', *Topics in macroeconomics*, Vol. 4, Issue 1, Article 4.
- Nautz, D. and J. Schaffer (2004), 'Inflation and relative price variability in a low inflation country: Empirical evidence for Germany', forthcoming in *German economic review*, http://much-magic.wiwi.uni-frankfurt.de/professoren/nautz/downloads/papers/nautz_GER.pdf.

- Nicoletti, G., S. Scarpetta and O. Boylaud (1999), 'Summary indicators of product market regulation with an extension to employment protection legislation', *OECD Economics Department working paper*, No 226.
- O'Reilly, G. and K. Whelan (2004), 'Has euro-area inflation persistence changed over time?', *ECB working paper*, No 335.
- OECD (2004) 'Euro area', OECD economic surveys 2004.
- Paloviita, M. (2002), 'Inflation dynamics in the euro area and the role of expectations', *Bank of Finland discussion paper*, No 20.
- Paloviita, M. (2004), 'Inflation dynamics in the euro area and the role of expectations: Further results', *Bank of Finland discussion paper*, No 21.
- Peersman, G. (2003), 'What caused the early millennium slowdown? Evidence based on vector autoregressions', *CEPR discussion paper*, No 4087.
- Prescott, E. C. (2002), 'Prosperity and depression — 2002 Richard T. Ely lecture', *American economic review*, Vol. 92, pp. XX.
- Ratto, M., W. Röger, J. in't Veld and R. Girardi (2004), 'An estimated new Keynesian dynamic stochastic general equilibrium model of the euro area', European Commission Economic and Financial Affairs DG, *Economic paper*, forthcoming.
- Röger, W. and J. in't Veld (1997), 'Quest II — A multi-country business cycle growth model', European Commission Economic and Financial Affairs DG, *Economic paper*, No 123.
- Romer, D. (2001), 'Advanced macroeconomics', second edition, McGraw-Hill, Irwin.
- Rotemberg, J. J. and M. Woodford (1999), 'The cyclical behaviour of prices and costs', in Taylor, J. B. and M. Woodford (eds), *Handbook of macroeconomics*, Elsevier, Vol. 1b, pp. 1051–1135.
- Stock, J. H. and M. W. Watson (1999), 'Business cycle fluctuations in US macroeconomic time-series', in J. B. Taylor and M. Woodford (eds), *Handbook of macroeconomics*, 1A, Chapter 1, pp. 3–64.
- Tille, C., N. Stoffels and O. Gorbachev (2001), 'To what extent does productivity drive the dollar?', Federal Reserve Bank of New York current issues in economics and finance, Vol. 7, No 8.
- Wälde, K. (2004), 'Endogenous growth cycles', forthcoming in *International economic review*.
- World Economic Forum (2003), 'Global competitiveness report 2003-04', Oxford University Press.
- Zbaracki, M. J. et al. (2004), 'Managerial and customer costs of price adjustment: direct evidence from industrial markets', *Review of economics and statistics*, Vol. 86, pp. 514–533.

Chapter 2

Catching-up, growth and convergence
of the new Member States

Summary

This chapter attempts to **identify the main policy levers — including EU cohesion policy — which could sustain a process of catching-up in the new Member States** in order to achieve the EU Treaty objective of economic and social cohesion. The 10 economies that acceded to the EU on 1 May 2004 all have income levels below the EU average — some significantly lower — and there are even greater income disparities at the sub-national level, with purchasing power less than half the EU-25 average in many regions of the new Member States.

Policy development must be set in the context of the **EU's past experience**, which has shown, firstly, that income convergence is not necessarily a rapid, continuous or automatic process. Secondly, convergence has been faster at the regional than at the country level — partly reflecting the fact that disparities have been higher within than between Member States. Thirdly, regional specialisation and concentration have not changed significantly. Lastly, in the early stages of catching-up, growth tends to strengthen first in agglomerations: thus regional income inequalities within countries may initially increase as the national growth rate accelerates.

Looking at **the situation to date in the new Member States**, data on sources of growth between 1996 and 2005 show that economic convergence has been driven by investment and total factor productivity (TFP), while underutilisation of labour has acted as a brake. A scenario for 2006 to 2010, based on a broad continuation of recent experience, shows that the contributions of capital and TFP may be expected to moderate somewhat in the future, while labour is likely to make a positive, though limited, contribution to growth. However, these projected growth rates are below 5 %, except for the Baltic countries, representing only limited progress in catching up to the EU average.

Existing trends reveal a number of major policy challenges. One important concern is that **employment rates**

are fairly low in most of the new Member States — particularly among older cohorts of the population. It will therefore be especially important to review tax-benefit systems in order to **provide incentives to create and take up jobs, and to extend working lives**. Labour markets remain relatively inflexible owing to insufficient wage differentiation, the impact of tax-benefit systems, and low regional labour mobility.

Investment has been an important source of growth in the new Member States. Investment-to-GDP ratios are higher than in EU-15, although production is still less capital-intensive. Given the early liberalisation of capital movements, foreign direct investment has been a major source of current account financing, closing the gap between domestic savings and investment. The heavily foreign-owned banking sector has been the main channel of financial intermediation. An important challenge for the future is to **progressively mobilise higher domestic savings** through channels such as pension funds and stock markets in order to promote faster, more broad-based growth.

Innovation and knowledge being important triggers for technical progress, it is worth noting that educational attainment levels in the new Member States do not differ much from those in EU-15. Trade and foreign direct investment have been important for the cross-border transfer of knowledge in management and technology, but innovation has not yet been a central determinant of productivity growth in the new Member States. Activity and employment in R & D and innovation tend to be much lower than in EU-15, which can best be explained by a different pattern of specialisation. **The case for higher expenditure on R & D activities needs to be evaluated critically**, given this specialisation, to ensure that it does not divert resources from other uses with higher economic returns.

The new Member States have made great advances in **trade liberalisation** since the early 1990s, and they have

impressively increased trade with the EU, in particular under the Europe agreements. This expansion of trade has no doubt contributed significantly to their growth performance over the past decade. Membership brings some further trade liberalisation in sensitive sectors (agriculture, services) and reduction in non-tariff barriers — as well as a possible further reduction in transport costs as a result of lower waiting times at borders and improvements in infrastructure. Less exchange rate volatility in the case of ERM II participation and the adoption of the euro could reduce costs even further and trigger additional trade and growth.

The new Member States have also made good progress in establishing a **stable macroeconomic framework**, though those aiming for rapid progress towards euro-area membership will **need to entrench this further**, as inflation remains somewhat high and variable in some cases. ERM II can provide a framework within which to enhance policy credibility, though the alternative of keeping greater exchange rate flexibility offers more latitude for variations in inflation associated with the challenges of transformation and catching-up — thus helping to avoid a loss of external competitiveness. The majority of the new Member States still have budgetary deficits that are much higher than the 3 % benchmark for euro-area membership, although public debt levels are mostly below 60 % of GDP; however, fiscal consolidation remains a considerable challenge in the light of the need to build up and modernise infrastructure, reorient public spending, and cushion the costs of ongoing restructuring. To safeguard external and financial stability, attention needs to be paid to the interaction of monetary, prudential and fiscal policy regimes and the ways in which these may influence risk behaviour in the private sector. In particular, as the private sector enters a phase of strong expansion, **the design of fiscal policy can play an important supporting role** in ensuring that imbalances are limited and that financial market confidence is maintained.

Studies increasingly stress the **quality of institutions** as an important factor in convergence. Here, despite impressive progress in recent years, the new Member

States still have considerable gaps to make up — particularly with regard to efficiency in public administration and the judiciary. Preparation for EU accession provided an external anchor for progress in this area, helping to catalyse political support for change. With the ‘carrot’ of EU membership no longer available, there is **a need for reflection on how mechanisms at the EU level might play a stronger role in providing further support for this process**.

EU **cohesion policy** is the final subject considered in this chapter. Despite limited financial resources, this policy could have a substantial impact on catching-up — but only if a number of conditions are met: **stronger spatial concentration, improved thematic concentration, and implementation approaches that better safeguard cohesion goals**. Spatial concentration means focusing Structural Funds on those regions and Member States most in need — while ensuring that this selection process works with, rather than against, market forces. Thematic concentration means choosing, in each case, an effective investment mix — based on a sound analysis of existing infrastructure endowment, human resource requirements, and limits on aid to the productive sector. Effective implementation requires that the management of Structural Funds be further simplified, and that the new Member States complete the building of necessary administrative capacity. In short, the contribution of EU cohesion policy to real convergence will depend above all on the commitment of policy-makers in Member States to coherent national and regional policies — ensuring that the environment in which the Structural Funds are utilised is characterised by macroeconomic stability, continuing structural reforms, and good governance.

In view of the still limited knowledge of economists about the relative importance and detailed interaction of each of the main policy levers, **policy can best foster stronger and more broad-based growth through a comprehensive approach** addressing all the strongest drivers of economic growth — trade, macroeconomic stability and institutional quality — as well as making efficient use of EU cohesion policy.

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1. Introduction

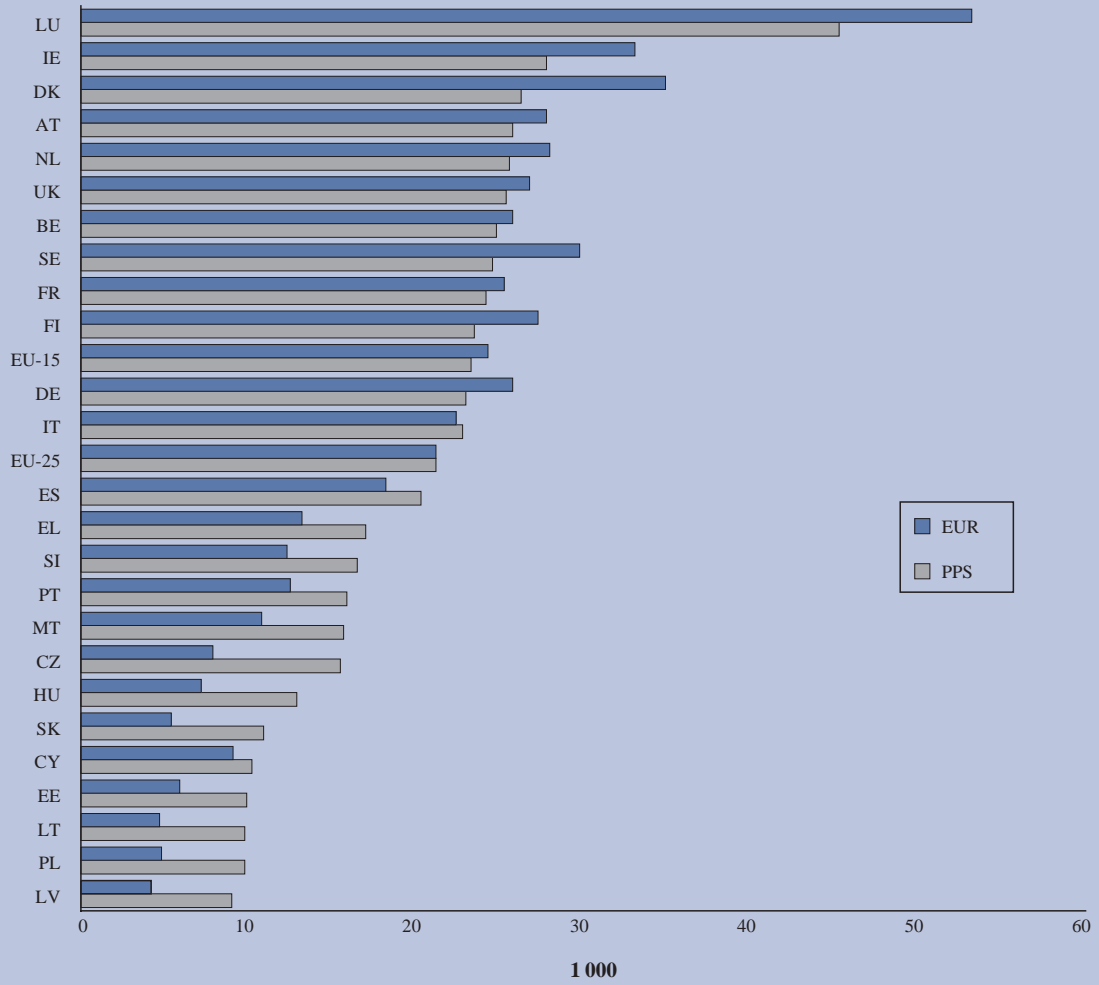
Income levels in a majority of the 10 new Member States, which acceded to the EU on 1 May 2004, are significantly below the average of the former EU-15. Average GDP per capita in the enlarged EU is almost 10 % lower than previously, and inequalities are substantially wider. This makes the objective of achieving greater economic cohesion and convergence even more pressing than before. Graph 1, displaying the level of GDP per head in euro and in purchasing power standards (PPS) in the 25 Member States in 2004, shows the considerable disparities between old and new Member States, but also among the new Member States⁽¹⁾. The ranking of Cyprus, Slovenia and Malta is close to that of the ‘old’ cohesion countries (Spain, Greece and Portugal). The Czech Republic and Hungary have a notably higher GDP per head than Slovakia, Poland and the three Baltic countries. Disparities at sub-national, regional level are even larger. GDP per head in PPS in many regions of the

new Member States is less than half of the EU-25 average and the poorest ones have even less than a third of the EU-25 average.

Given that economic and social cohesion is one of the objectives specified in the EU Treaty, this chapter attempts to identify the main policy levers for a sustained process of catching-up in the new Member States, based on past experience of real convergence in the EU as well as on evidence from the broader economic literature. Relevant developments in both EU-15 and EU-25 are described in Section 2. Section 3 reviews potential determinants of catching-up, and analyses the empirical evidence in the EU as well as the policy challenges for the 10 new Member States. Apart from the standard determinants of growth — labour, capital and technical progress — other driving forces of growth such as trade and geography, macroeconomic stability and institutional quality are reviewed. Section 4 discusses the potential contribution of EU cohesion policy, the goal of which is to enhance growth and employment in lagging Member States and regions.

⁽¹⁾ Due to higher costs of living, income expressed in euro is higher than that expressed in PPS in most Member States above the EU-25 average; the opposite holds for those below the average.

Graph 1: GDP per head in EU Member States, 2003



Source: Commission services.

2. Catching-up in the EU: Where do we stand and what do we know?

This section provides an overview of recent trends in catching-up and convergence among countries in the EU, at both national and regional levels. It focuses particularly on the EU cohesion countries — which include Spain, Portugal and Greece, as well as the 10 new Member States ⁽¹⁾. In addition, some relevant lessons are drawn from wider experience in the EU. The analysis is based on a qualitative assessment of key trends, as well as on econometric evidence; and the experience of the new Member States during the past decade is also specifically reviewed.

2.1. The lessons from the past

Experience suggests that convergence and catching-up are not automatic outcomes of accession to the EU. Graph 2 provides evidence for the former four cohesion countries. It displays their level of GDP per head, measured in terms of purchasing power standards during the period 1960–2003 ⁽²⁾.

Ireland, now often cited as a success story, is a particularly interesting case. In 1960, it had a level of GDP per head of about 67 % of the EU-15 average. Whereas notably during the 1960s and early 1970s the other three economies experienced rapid expansion, the Irish relative position in terms of GDP per head more or less stagnated until the mid-1980s when the Irish economy truly

took off. Since then the country went on to become, by 2003, one of the richest Member States with a GDP per head nearly twice as high as Portugal.

This performance in Ireland went hand-in-hand with the implementation of stability-oriented macroeconomic policies, and a new approach to industrial relations — which was also initiated in the mid-1980s. However, Ireland's success cannot be attributed to these factors alone, but was also the result of a variety of mutually reinforcing policies, some of which had been pursued for more than 40 years under a proactive strategy to foster economic development. Worth noting are the continuity and predictability over this long period of the policy approaches to attracting FDI and promoting clusters of export-led manufacturing and services activities. Highly important, too, were the investments made in education from the mid-1960s, which translated into labour productivity gains in the late 1980s and 1990s. The evolution of Ireland illustrates that convergence is a process having deep roots in a range of policy areas which may take time to bear fruit.

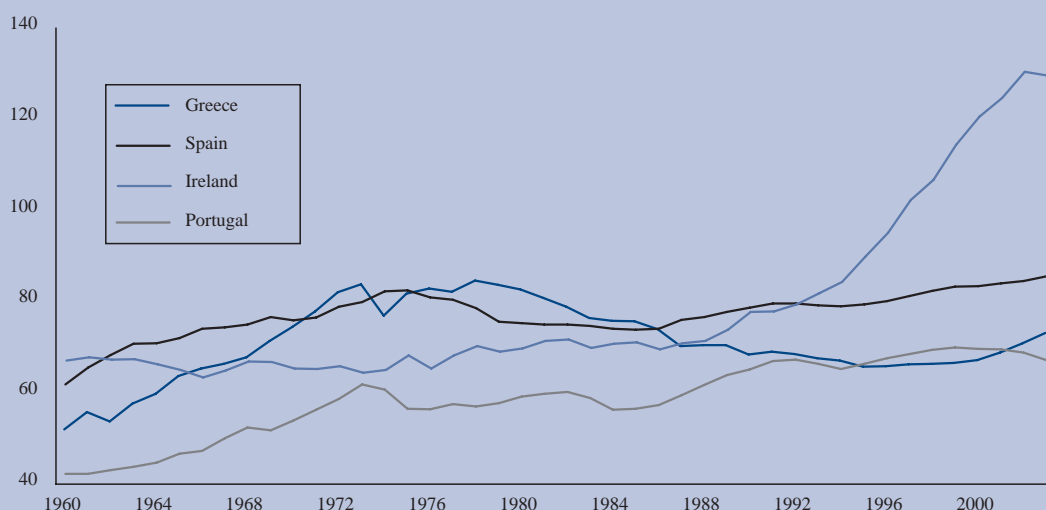
Furthermore, the experience of these countries suggests that catching-up does not necessarily occur at a steady pace. Table 1 below provides additional evidence by reporting the 10-year average annual rate of catch-up for these countries, between 1960 and 2003. This indicator measures the average percentage change in the gap between each country's GDP per capita and the EU-15 average.

The first observation that emerges is that catching-up has been rather uneven across different periods. Overall, the 1960s were years of rapid catch-up for all these countries except Ireland. For other periods, however, the evidence is more mixed across these countries. In particular, if one looks more closely at the decade during which these three countries acceded to the EU, i.e. the 1980s, it

⁽¹⁾ Since 1 January 2004 Ireland has no longer been eligible to the Cohesion Fund given the level of its gross national income (GNI) per head compared with the EU average and therefore no longer included in the group of so-called 'cohesion countries'.

⁽²⁾ Given that convergence refers to a long-term process, a sufficiently long period (1960–2003) is considered here while acknowledging the fact that this does not necessarily correspond to the accession dates of the cohesion countries, i.e. 1973 for Ireland, 1981 in the case of Greece and Portugal and Spain joined in 1986. Also, it should be noted that intertemporal comparisons of PPS figures are limited for methodological reasons. These inconsistencies have been partly corrected in the data used here; see Eurostat (2002).

Graph 2: Evolution of GDP per head in PPS to the EU-15 average (EU-15 = 100)



Source: Commission services.

appears that catch-up was rather slow for Portugal and Spain — with the gap between these countries' GDP per head and the EU average level falling at an average rate of only 1 % per year. The evolution was even less favourable for Greece, where there was a rather sizeable gap in terms of GDP per head in the 1980s. Over the most recent period 1990 to 2003, Spain, Greece and Ireland experienced a narrowing of GDP per head gaps but at markedly differing speeds ⁽¹⁾.

While these results provide a first impression of past EU experience, a more rigorous analysis is needed to determine whether, over the long run, convergence has indeed been taking place and whether it has been significant. Several different approaches are available to assess this formally, and they are followed in turn below. The findings are quite complex and might even seem inconsis-

ent, but on careful inspection they shed rather valuable light on the experience of convergence among and within EU Member States — an experience which emerges as highly relevant, but potentially worrying, for the new Member States.

First, a common tool used in the literature is the estimation of so-called β -convergence: this provides indications about how long, on average, convergence may take (see Annex I for a description of this methodology). Table 2 presents results of an estimation (of equation (i) described in Annex I) on β -convergence for EU-15 countries for the period 1960 to 2003, and also for regions within those countries for the period 1980 to 1996, using the NUTS 2 desegregation level ⁽²⁾. The average annual convergence rate is estimated using 5-year and 10-year intervals, respectively.

⁽¹⁾ Note that, strictly, the catch-up rate and the convergence rate are not identical concepts. Both processes are characterised by a negative sign. But their evolution need not be the same. Catch-up is concerned with the distance left to travel, and convergence addresses the pace of advance. Thus, for any given rate of growth that shrinks the gap, the rate of catch-up will be higher for narrow residual gaps, while the convergence rate will be correspondingly lower.

⁽²⁾ The country-level data are taken from the Ameco (Economic and Financial Affairs DG) database while the region-level data are from the Regio database (Eurostat). Note also that the regional data are available under two different classifications (ESA 79 and ESA 95) and cover different periods (1979–96 under ESA 79 and 1995–2001 under ESA 95). Data concerning the year 1979 are rather incomplete, so the period 1980–96 is considered instead when using the ESA 79 data.

Table 1

Average catch-up rate for Spain, Greece, Portugal and Ireland, 1960–2003 (%) ⁽¹⁾

Period	Spain	Greece	Portugal	Ireland
1960–70	– 4.40	– 5.94	– 2.23	0.53
1971–80	0.55	– 2.34	– 1.05	– 1.20
1981–90	– 1.41	6.13	– 1.49	– 2.85
1990–2003	– 2.84	– 1.14	– 0.40	– 19.75 ⁽²⁾

⁽¹⁾ A negative catch-up rate indicates that the gap between a country and the EU average is falling while a positive rate means that this gap is widening.

$$\text{Catch-up rate} = 100 * \frac{\Delta(y_{it} - y_t^*)}{(y_{it-1} - y_{t-1}^*)}$$

where y_{it} is the level of index of GDP per head in PPS terms for country i at time t and y_t^* is the average value of y_i for EU-15 and Δ denotes absolute variation between t and $t-1$ with y_t^* being the weighted average for EU-15.

⁽²⁾ Average annual catch-up rate up to 1996, given that, after this date, Irish GDP per head became higher than the EU average; see also footnote 2 below.

Source: Commission services.

Table 2

Test of β -convergence for the EU

Country-level results (15 countries, 1960–2003)				
OLS		Fixed effects		
5-year	10-year	5-year	10-year	
– 0.021	– 0.023	– 0.024	– 0.027	
(0.002)	(0.003)	(0.003)	(0.003)	
Region-level results (187 regions, 1980–96)				
1-year	5-year	1-year	5-year	
– 0.04	– 0.043	– 0.062	– 0.046	
(0.002)	(0.002)	(0.002)	(0.002)	

NB: Standard errors reported in parentheses.

Source: Commission services.

The evidence in Table 2, based on least square estimators (OLS), is that convergence has been taking place rather steadily across the EU. The rate of convergence varies between 2.1 and 2.3 % in absolute terms, when using country-level data. This is rather similar to the β -convergence found by a number of authors in the economic literature ⁽¹⁾. Results at the regional level show a β -convergence rate that is markedly higher: between 4.0 and 4.3 % ⁽²⁾. The implied time to halve per capita GDP gaps vis-à-vis the EU average varies between 30 and

33 years at the country level and between 16 and 17 years at the region level.

These results provide a first indication that convergence is indeed taking place, and how long it may take to run its course. Although it appears faster among regions than among countries, these results must be treated with caution for at least two reasons. First, as discussed above, experience shows that the pace of convergence may vary greatly across countries and time periods. Second, as the literature on β -convergence points out, least square estimators are likely to be biased since they do not control for time-invariant features that are country- or region-specific. In its simple OLS form, one implicitly assumes that all countries converge to the same steady state. In order to relax this hypothesis, a ‘fixed-effect panel esti-

⁽¹⁾ See Magrini (2004) for a review.

⁽²⁾ Note that the higher convergence rate found when using region-level data may be partly due to the fact that the time period is different from the one used at country level and also to the fact that income disparities at regional level in the EU are wider than the ones at country level.

mator' can be used instead to take account of unidentified country-specific or region-specific features ⁽¹⁾. Columns 3 and 4 of Table 2 provide such estimators for the EU countries and regions. The fixed-effect estimators obtained are only slightly larger than the OLS ones when considering country-level results, but when using region-level data the difference appears to be more substantial. On this approach, the estimated convergence rate oscillates between 2.4 and 2.7 % at the country level and 4.6 and 6.2 % at the regional level ⁽²⁾. Again, convergence is present, and appears to be generally stronger among regions.

As mentioned earlier, evidence of β -convergence among countries, and across regions EU-wide, does not necessarily mean that disparities in GDP per head within the EU are falling (see Annex I). In order to get a more complete picture of the convergence process, it is necessary to analyse the evolution of GDP per head disparities as σ -convergence which measures the change in the variation around the mean GDP per head. Table 3 provides evidence using three indicators generally used in the convergence literature: the Gini index, the Theil index and the square of the coefficient of variation ⁽³⁾.

The results depicted in Table 3 show, rather unsurprisingly, that inequalities are larger between EU regions than between countries. More importantly, these results show that inequalities have tended to decrease over the period considered, 1982 to 1996, with an accentuated fall from 1988 onwards. Interestingly, while the same result holds for both country-level and region-level data, the average annual fall in inequalities seems to be higher for countries than for regions, as shown by the last two columns of Table 3.

⁽¹⁾ See Islam (1995). Other authors have criticised the regression approach to convergence on the ground that this method provides no information on the dynamics of the entire cross-sectional distribution of regional income and have proposed alternative methods based on non-parametric statistical techniques which allow considering the existence of 'convergence clubs' where countries and regions converge to different steady states; see, for instance, Quah (1996, 1997) and Durlauf and Quah (2002) for a review.

⁽²⁾ Note that the fact that fixed-effect estimators of β -convergence display larger estimates in absolute terms is a well-known fact in the literature suggesting that the bias of OLS estimators is downwards. However, these estimators are more sensitive to the sample of countries or regions considered as well as to the time-length of each time-series; see Tondl (2001). For instance, the estimates found here are slightly lower than the ones generally found in convergence studies. Islam (1995) finds a rate of 9 % for a sample of OECD countries, Canova and Marcet (1995) find a rate of 23 % for EU regions and Tondl (1997) a rate of 20 % for EU regions.

⁽³⁾ Not all EU-15 countries are considered in this table since regional data were not available for all years and all countries. The results thus only concern Belgium, Germany, Spain, France, Italy, the Netherlands, Greece and Portugal. Also, for the same reason, only the years 1982, 1988 and 1996 are considered.

This suggests that, while some convergence took place, it was more pronounced at the country level than at the regional level. Although such evidence seems to be at odds with the above β -convergence analysis, this need not to be the case. The estimated β -convergence results at the regional level show that the average convergence rate was well above 2 %: individual regions thus had very different experiences, explaining in turn the results obtained for the σ -convergence ⁽⁴⁾. A number of economists have also suggested that region-level and country-level convergence have not followed the same rhythm in the EU over the past decades. In particular, Esteban (1999) and Duro (2001) show that, while GDP per head dispersion between EU countries decreased during the 1980s and the 1990s, inequalities between regions within the same country tended to increase ⁽⁵⁾. In order to see this, the Theil index as well as the coefficient of variation for EU regions can be decomposed into within and between countries' variations ⁽⁶⁾. The results of such a decomposition are reported in Table 4.

According to these results, the slight decrease in regional inequalities observed in the EU between 1982 and 1996 masks in fact two opposite shifts: inequalities between countries have tended to decrease, while inequalities within countries have tended to increase. The overall picture for the EU noted above — one in which there is a general fall in regional inequalities — thus reflects the dominance of favourable changes across countries over adverse changes within countries.

A number of authors have offered potential explanations for this phenomenon. The main one put forward in the literature is that economic integration, which advanced quite strongly during the period considered here, may benefit mainly a limited number of regions, at least initially. These would include, notably, the most dynamic and innovative regions in each country — those that are also best placed to benefit from potential externalities within the EU economy as a whole ⁽⁷⁾. The resulting pattern would be that convergence increases at the country level, but that it is in practice driven mainly by a few regions. Within countries, by contrast, levels of GDP per head could well tend to diverge. (Section 2.3 will consider these issues in more detail.) Such a conclusion would be of clear relevance to the new Member States,

⁽⁴⁾ See Chatterji (1992).

⁽⁵⁾ Duro's (2001) result is reported by Puga (2002).

⁽⁶⁾ For the description of such decomposition, see Annex I.

⁽⁷⁾ See Giannetti (2002).

Table 3

Test of σ -convergence in the EU, 1982–96

Year	1982	1988	1996	% annual change, 1982–88	% annual change, 1988–96
Country-level results					
Gini	0.1337	0.1284	0.0977	– 0.66	– 2.99
Theil	0.0320	0.0291	0.0174	– 1.51	– 5.03
Coef. var. (*)	0.0303	0.0276	0.0167	– 1.49	– 4.94
Region-level results					
Gini	0.2127	0.2115	0.2037	– 0.09	– 0.46
Theil	0.0720	0.0704	0.0652	– 0.37	– 0.92
Coef. var. (*)	0.0703	0.0677	0.0656	– 0.62	– 0.39

(*) Half of the square of the coefficient of variation.

NB: Concerns NUTS 2 regions of Belgium, Germany, Spain, France, Italy, the Netherlands, Greece and Portugal.

Source: Commission services.

Table 4

Decomposition of σ -convergence: within versus between countries' components, 1982–96

	1982	1988	1996	% annual change, 1982–88	% annual change, 1988–96
Theil index					
Between country	0.0494	0.0464	0.0396	– 1.01	– 1.86
Within country	0.0225	0.0240	0.0257	1.09	0.89
Coefficient of variation					
Between country	0.0450	0.0410	0.0372	– 1.45	– 1.18
Within country	0.0253	0.0266	0.0284	0.86	0.82

NB: Concerns NUTS 2 regions of Belgium, Germany, Spain, France, Italy, the Netherlands, Greece and Portugal.

Source: Commission services.

where GDP per head disparities within countries typically are at present more marked than in the former EU-15. It may be that — as convergence proceeds at the country level — these internal disparities could become still wider, at least on a temporary basis.

2.2. Recent trends in convergence of the new Member States

Analysis of convergence developments in the new Member States is constrained by the fact that the time-series for GDP per capita are available only for a short time span — in general, since the beginning of the 1990s ⁽¹⁾. This poses a major problem for estimating β -convergence, for example, since this requires time-series over a much longer period. The consequence is that no proper

econometric tests can be carried out. Nonetheless, apparent patterns in the available data do suggest some interesting insights. Graph 3 displays the relative level of per capita GDP for Greece, Portugal, Spain and the 10 new Member States, individually, compared with the EU-25 average for the years 1991, 1997 and 2003. The figure also shows how the weighted average of GDP per capita for these respective country groups — the three existing cohesion countries and the new Member States evolved ⁽²⁾. On average, the relative level of GDP per head of both groups rises over the period. In 1991 the

⁽¹⁾ Even for that period, data are only fully comparable between 1995 and 2003 because a revision of purchasing power standards before 1995 has not yet been made.

⁽²⁾ Total population is used as weight.

level of GDP per head of the three cohesion countries amounted to 84.2 % of the EU-25 average, while by 2003 it had risen to 90.3 %. For the group of new Member States, the increase is even more pronounced in relative terms — advancing from 42.3 % to 53.3 % of the EU-25 average.

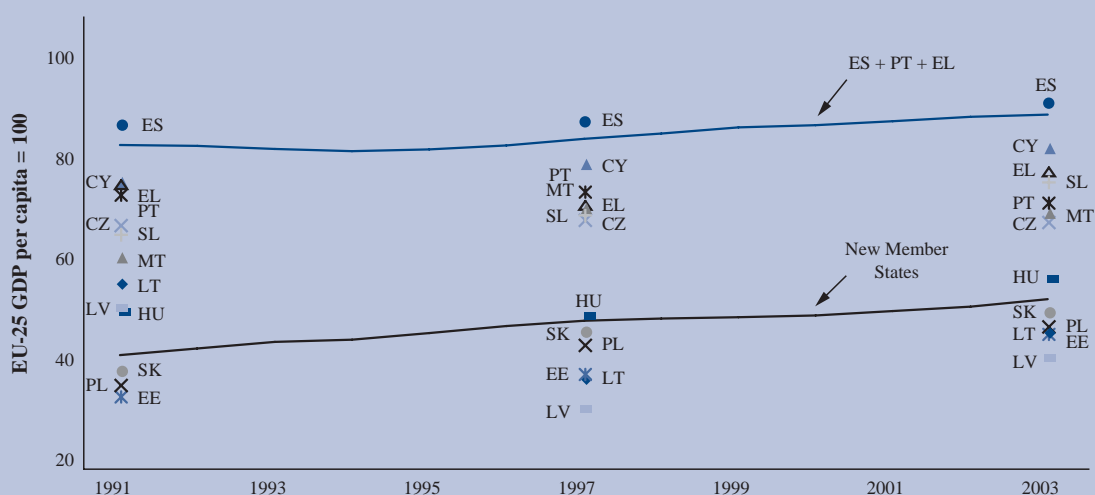
The overall evolution seems rather favourable, however, with some differences both across time and countries. The years between 1991 and 1994 represent a period of relatively slow catching-up which can be explained by the economic downturn of the early 1990s and by the transition process in new Member States ⁽¹⁾. Some differences also appear between countries which do not necessarily correspond to the distinction between cohesion countries and new Member States. For instance, countries such as Spain, Cyprus, Slovakia and Slovenia experienced steady catching-up, while other countries such as Lithuania and Latvia — and also, to some extent, the Czech Republic and Portugal — experienced uneven developments.

In order to shed more light on how fast countries actually caught up towards average EU income during the past decade, Table 5 reports the average annual catch-up rate of the new Member States together with Greece, Portugal and Spain, using the EU-25 average as a benchmark ⁽²⁾. Overall, Spain has experienced the fastest catching-up, with an average annual rate of convergence of – 4 %. Other countries such as Cyprus, Estonia, Malta, Slovenia, Poland and Slovakia have displayed average catch-up rates of around – 2 %. Again, the timing differs across these economies. Countries such as Cyprus, Malta, Poland and Slovakia experienced catching-up during the years 1991–94, while the rest of the countries experienced a less favourable evolution over that period due to transition crises. In particular, Lithuania and Latvia saw their GDP per capita drop on average by 16 and 15 percentage points, respectively, compared with the EU-25 level, reflecting the deep impact of transition. Following this mixed picture, the years after 1994 are marked by a general tendency for most countries to catch-up towards average EU GDP per capita levels.

⁽¹⁾ During the period 1992–94 the average growth rate of the new Member States was equal to –0.08 %, 0.76 % for Spain, 0.01 % for Portugal, 0.37 % for Greece and 1.58 % for the rest of the EU.

⁽²⁾ Note that the differences in the catch-up rates between the first column of Table 5 and the last row of Table 3 are due to the different reference groups considered which is the EU-25 average in the first case and the EU-15 average in the second case.

Graph 3: Evolution of GDP per capita in Greece, Portugal, Spain and the new Member States, GDP per capita in PPS, 1991–2003



Source: Commission services.

While a β -convergence analysis cannot be undertaken because of a too short data time-series, some results can still be obtained for σ -convergence although the results must be considered with caution for the same reason. Table 6 shows the results for all EU-15 members except Ireland, Denmark and Luxembourg (for which regional data were not available at the NUTS 2 level) but, in addition,

Poland, the Czech Republic, Slovakia and Hungary ⁽¹⁾.

⁽¹⁾ Other new Member States did not have regional data on an annual basis for the period considered while others, such as Estonia, Cyprus, Latvia, Lithuania and Malta have no NUTS 2 breakdown.

Table 5

Average annual % catch-up rate for the new Member States, 1991–2003

	1991–94	1995–98	1999–2003	1991–2003
New MS	1.84	- 1.74	- 2.07	- 1.01
Cyprus	- 6.34	0.57	- 2.87	- 2.59
Czech Republic	1.04	0.71	- 1.29	- 0.04
Estonia	0.62	- 2.44	- 2.48	- 1.90
Hungary	0.88	- 0.86	- 2.73	- 1.21
Lithuania	16.00	- 2.56	- 2.51	2.10
Latvia	14.84	- 1.21	- 2.88	2.11
Malta	- 5.18	- 3.36	0.76	- 2.10
Poland	- 1.53	- 2.55	- 1.05	- 1.67
Slovakia	- 2.33	- 2.08	- 1.29	- 1.81
Slovenia	0.36	- 3.64	- 4.38	- 2.95
ES + EL + PT	3.37	- 2.82	- 2.98	- 1.34
Spain	3.33	- 6.12	- 6.20	- 3.79
Greece	3.74	1.38	- 5.34	- 0.83
Portugal	3.04	- 3.73	2.59	0.59

Source: Commission services.

Table 6

Test of σ -convergence in the EU, 1995–2001

Year	1995	1998	2001	% change, 1995–98 (*)	% change, 1998–2001 (*)
Country-level results					
Gini	0.177	0.165	0.160	- 1.54	- 0.95
Theil	0.055	0.050	0.047	- 3.08	- 1.96
Coef. var.	0.050	0.045	0.043	- 2.80	- 1.92
Region-level results					
Gini	0.284	0.259	0.248	- 2.95	- 1.45
Theil	0.143	0.124	0.112	- 4.49	- 3.11
Coef. var.	0.129	0.112	0.105	- 4.58	- 1.96

(*) % annual change.

NB: Including NUTS 2 regions of France, Italy, Germany, the Netherlands, Portugal, Spain, Greece, Austria, Italy, the United Kingdom, Belgium, Sweden, Slovakia, Hungary, the Czech Republic and Poland.

Source: Commission services.

Table 7

Decomposition of σ -convergence: within versus between countries' components, 1995–2001

	1995	1998	2001	% change, 1995–98	% change, 1998–2001
Theil index					
Between countries	0.117	0.095	0.082	– 6.12	– 4.75
Within countries	0.027	0.029	0.031	2.65	2.36
Coefficient of variation					
Between countries	0.095	0.075	0.066	– 6.98	– 4.13
Within countries	0.034	0.036	0.039	2.12	2.54

NB: Includes NUTS 2 regions of France, Italy, Germany, the Netherlands, Portugal, Spain, Greece, Austria, Italy, the United Kingdom, Belgium, Sweden, Slovakia, Hungary, the Czech Republic and Poland.

Source: Commission services.

As expected, inequalities are significantly larger when including the new Member States. The results also tend to confirm the developments noted in the earlier discussion relating to the 1982–96 period. In particular, the average annual variation of the three measures of convergence shows that in all cases GDP per head disparities in the EU have narrowed. This result holds at both country level and region level, although it is less pronounced when considering country-level results for the period 1998–2001. Furthermore, the pace of catching-up seems to have increased compared with the earlier period, especially at regional level, although the starting level of regional inequalities is also much higher.

Table 7 indicates that the decrease in regional inequalities is essentially due to a fall in between-country inequalities, as was found in the earlier analysis. In turn, within-country inequalities have increased at rates varying between 2.4 and 2.6 % a year depending on the indicator used. This result thus tends to reinforce the findings observed for EU-15: while some convergence can be observed at the country level and regional level for EU-25 as a whole, there has been a rise in regional inequalities within countries.

In sum, experience suggests that the road to convergence is far from an easy one. First, over the long run, some convergence has been taking place in the EU, but this process was rather slow. Econometric results show that the rate of convergence was just under 2 % over the past decade — meaning that it may take around 30 years, on average, to halve any GDP per capita gap vis-à-vis the EU average. Second, the pace of catching-up has varied

a good deal across countries and time periods. Third, the experience of former cohesion countries underscores that accession does not automatically trigger rapid catching-up. Fourth, evidence at the regional level is complex. Convergence periods appear, at first glance, shorter for regions than for countries, based on EU-wide developments. But this masks a tendency that regions within countries have, initially at least, diverged rather than converged which reflects the strong performance of the more dynamic regions in a country.

2.3. Spatial dimensions of convergence

The economic literature suggests two potential trade-offs that may explain why convergence is not even across countries and regions. The first is that countries and regions differ in their initial potential to benefit from any given increase in integration as some may be more attractive for the location of economic activities than others. The second is that, over long periods of integration, regions within countries may develop along different paths. In particular, for countries starting from relatively low levels of income, fast national growth may entail rising regional inequalities given that economic development is rather localised around a limited number of growth poles. In practice, both of these effects interact and determine the way the benefits of economic integration spread across regions. These issues are considered in more detail below.

2.3.1. The location of economic activities in the EU

The question of the potential impact of economic integration on the location of economic activities has

generated a sizeable amount of literature over the past decade. In particular, researchers have largely used the framework of new economic geography (NEG) to draw possible conclusions about the impact of EU integration on the location of economic activities and, ultimately, the relative wealth of the countries and regions concerned ⁽¹⁾. A frequent general interpretation is that economic integration may, at least initially, improve the competitiveness of core EU regions more rapidly than peripheral areas — thus deepening income inequalities throughout the EU ⁽²⁾. Accordingly, the relationship between economic integration and the spatial distribution of activity would be non-monotonic: as trade costs decline, agglomeration initially increases — but subsequently it begins to decline, provided trade costs fall to a sufficient degree ⁽³⁾.

Using this theoretical background, empirical studies on the EU have considered how the spatial distribution of economic activities evolved during the 1980s and the 1990s ⁽⁴⁾. The evidence in these studies presents a mixed picture. Studies using value added and employment data show that specialisation increased, but that this development was very slow ⁽⁵⁾. In turn, studies using trade data tend to show that export specialisation has slightly increased in the EU over similar time spans ⁽⁶⁾.

By contrast, studies using regional data tend to find stable or slightly decreasing specialisation during recent decades ⁽⁷⁾. Molle's (1997) study is noteworthy in this respect as it provides the longest time analysis — based on industry/region-level data for every 10 years between

1950 and 1990 — and thus includes years of strong and rapid economic integration. In addition, Molle includes service sectors, for which the determinant of geographical location may arguably be different. Overall, Molle's results show no strong changes in the EU, although a minority of regions experienced a decline in specialisation, rather than the rise predicted by the core-periphery hypothesis. In addition, Molle shows that the service sector tends to be relatively more dispersed than manufacturing. Further evidence, also using region/sector-level gross value added data, similarly shows that the service sector is likely to favour dispersion rather than concentration, given that firms in this sector need to be geographically close to their respective market ⁽⁸⁾.

Empirical studies using sector/spatial concentration measures across EU countries and regions also provide mixed evidence. Studies at the country level show again that results depend on the sectors being considered. Labour-intensive sectors display a tendency to locate preferably in southern EU countries, while sectors with high-technology intensity and economies of scale, and which depend on strong backward and forward linkages, remain highly concentrated ⁽⁹⁾. However, these studies find that changes in location patterns during the 1980s and the 1990s were, at most, very slow.

A number of recent studies have also analysed the case of the new Member States and the candidate countries during the 1990s, although available evidence is still scarce. Landesmann (2003) analyses the trade structure of manufacturing sectors in these countries and shows that specialisation in some of them changed significantly during the last decade, and was characterised by a rise in technology-intensive branches. This was particularly true for countries such as Hungary, the Czech Republic, Slovakia, Estonia and Poland. By contrast, Bulgaria, Romania and Lithuania remained strongly specialised in traditional, low-technology sectors. Traistaru et al. (2002) instead use employment data for a number of countries at NUTS 3 regional level and present rather mixed results. They find an overall increase in regional specialisation for Bulgaria and Romania, but specialisation seems to have decreased in Estonia, and no significant changes occurred in Hungary and Slovenia. Finally, Von Schütz and Stierle (2003) use gross value added data at the regional/sector level to study the evolution of

⁽¹⁾ This literature has provided extensive discussion of the importance of elements such as market size, economic linkages, imperfect competition and returns to scale in determining the geographic location of economic activities. See Krugman (1991), Krugman and Venables (1996) and Duranton and Puga (2004).

⁽²⁾ See Combes and Overman (2004).

⁽³⁾ Martin and Ottaviano (1999) and Baldwin et al. (2001) have built economic geography models with endogenous growth to show that the interactions between agglomeration and growth are also likely to be influenced by the decrease in transport costs and act as an additional force in favour of agglomeration.

⁽⁴⁾ Note that a number of studies, in particular studies based on micro-level data have considered more closely the spatial distribution of economic activities by considering only one EU country as, for instance, Maurel and Sédillot (1999) and Devereux et al. (2003). As these studies do not consider the potential impact of EU economic integration, they are not reviewed here.

⁽⁵⁾ See Amiti (1999), Midelfart-Knarvik et al. (2002), Aiginger and Davies (2004) and WIFO (1999). A different picture arises for trade specialisation measured by import or export data (Midelfart-Knarvik et al., 2002) or by export surplus (WIFO, 1999). Here, overall national specialisation decreased between 1970 and 1988. This result may be due to increased intra-industry trade leading to similar trade structures.

⁽⁶⁾ See Midelfart-Knarvik et al. (2002), WIFO (1999) and Sapir (1996).

⁽⁷⁾ See Hallet (2000) and Molle (1997).

⁽⁸⁾ See Combes and Overman (2004).

⁽⁹⁾ See Brühlhart (1998) and Midelfart-Knarvik et al. (2002).

specialisation patterns in most old and new Member States, as well as candidate countries, during the period 1995–2000. They show that, while these countries appear to differ widely in terms of the structure of their productive activity, no strong changes can be observed — a finding that probably reflects the short time span considered.

Summing up, most studies come to the conclusion that the impact of European integration on regional specialisation and sectoral or spatial concentration has been rather insignificant during the past decades. The lack of strong shifts in the location of economic activities during economic integration in the EU probably reflects specific features of the European economy — especially low labour mobility. If workers do not move according to wage differentials, then wage inequalities will persist and act as a dispersion force by increasing production costs for firms active in relatively dense areas⁽¹⁾. Another possible explanation is that, over the past decades, the service sector has become increasingly important, and is also known to be less footloose than manufacturing. Because of the absence of labour mobility, the service sector is also less concentrated geographically which exerts another strong dispersion force⁽²⁾.

The evidence reviewed so far thus provides little support for a ‘spatial trade-off’ in which deeper economic integration is associated with greater agglomeration. However, the methodological and conceptual limitations noted above call for caution when interpreting these results, especially when considering possible scenarios for the future.

2.3.2. National economic development and regional inequalities in the EU

Before considering evidence for the second trade-off, namely the ‘national growth/regional disparities’ effect, this section discusses how far location influences technological diffusion as a vehicle for growth. This issue is rather important for the national growth/regional disparities trade-off, given the potential role played by knowledge-related spillovers in transmitting growth and innovation across countries and regions.

A central starting hypothesis concerning the link between growth and location is that innovation involves interac-

tions that are easier when agents are located close to each other⁽³⁾. These arguments suggest that growth is necessarily unequal across space because of its very nature. Spatial inequalities must then arise, at least initially; and their potential reduction essentially relies on various forms of transmission mechanisms that include technological externalities, but also trade and factor mobility (including labour and capital)⁽⁴⁾. Since knowledge and innovation are crucial for growth, economic integration may trigger regional income inequalities by favouring the emergence of growth and innovation poles within EU countries. This is the hypothesis supported by Giannetti (2002), who argues that greater economic integration intensifies international knowledge spillovers (compared with within-country spillovers). This would favour convergence at the country, rather than regional, level in the EU over the period 1986–92, which corresponds to the setting-up of the single market programme. Recently, Keller (2002) has also shown that global integration tends to lower country-specific barriers to knowledge spillovers. Nonetheless, innovation and technological diffusion in the EU seems to remain dominated by country-specific features. Bottazzi and Peri (2003) show this by studying the spatial distribution of research and development (R & D) and innovation spillovers, and by linking R & D and patenting activities across EU regions over the period 1977–95. They find that R & D spillovers are subject to strong distance-decay effects, with a significant influence exerted by national borders⁽⁵⁾.

Two important results emerge from this literature.

- Technological and knowledge-related spillovers, which are essential for economic growth, are likely to be geographically bounded.
- Despite the fact that increased economic integration tends to lower the barriers to technological spillovers, the diffusion of knowledge and innovation in the EU still has strong country-specific components.

⁽³⁾ See Lucas (1988). This seminal paper builds on this idea to point out that the externalities central to endogenous growth are mostly local in nature, and that they provide cities with an important role in promoting growth. A similar argument holds in Romer-type models where the location of innovative activities is crucial for growth and technological progress. See Baldwin and Martin (2004) for a review of the theoretical literature, and Audretsch and Feldman (1996) and Feldman and Audretsch (1998) for evidence.

⁽⁴⁾ See Lucas (2000).

⁽⁵⁾ In a recent paper Bode (2004) provides similar evidence concerning German regions.

⁽¹⁾ See Puga (1999) for a theoretical analysis.

⁽²⁾ See Barrios and Strobl (2004a).

For these reasons, both country-level catching-up as well as knowledge spillovers (within and between countries) appear to be fundamental in order to promote regional convergence. More generally, these results may help explain why economic growth in the EU appears to be spatially uneven ⁽¹⁾.

The existing theoretical literature on country-level growth and convergence offers a wide array of arguments pointing either to the long-term reduction or, on the contrary, to the persistence and self-reinforcing nature of economic inequalities across countries ⁽²⁾. Such arguments can be combined when analysing simultaneously developments at the country level, and at the regional level within the same country. In particular, growth and development may raise regional inequalities, especially for countries lagging behind in development where barriers to regional spillovers are potentially greater. Initial investigations of these issues date back to the 1950s and the 1960s. Kuznets (1955) explicitly refers to the existence of a ‘long swing’ in income inequalities across regions — where there is first a rise and then a decline in income differentials, caused by the urbanisation and industrialisation process accompanying the decline of agriculture. Williamson’s (1965) seminal paper in turn provides coherence to these arguments by identifying the key elements driving the evolution of regional inequalities according to the stages of development of a nation — which are essentially related to structural changes, factor movement and public policy. This implies that regional inequalities are likely to rise while countries are engaged in a rapid catching-up process. Any attempts at reducing them may eventually run counter to this process — lowering national growth and, consequently, the potential for future regional spillovers ⁽³⁾.

The Kuznets/Williamson hypothesis is especially helpful in understanding the EU experience where catching-up of cohesion countries (as illustrated in Section 2.2) has translated into rising inequalities within these countries. Quah (1996, 1999) shows that while Spain and Portugal experienced high growth rates and rising regional imbalances during the 1980–89 period, Greece experienced only modest growth rates, accompanied by

decreasing income inequalities across its regions. Petrakos and Brada (1989) and Petrakos and Saratsis (2000) find similar evidence for Greece, while De la Fuente and Vives (1995) provide arguments along the same lines for the EU as a whole. Davies and Hallet (2002), in a qualitative assessment of data, support the view that regional income imbalances tend to rise in fast-growing cohesion countries.

Further evidence pointing in this direction is presented in Graph 4 which displays the evolution of the Gini index computed at the NUTS 2 geographical level for the cohesion countries compared with the EU average, except Ireland for the 1988–96 period ⁽⁴⁾. The graph shows that inequalities in Spanish regions are always greater than for the rest of the EU, although variations are rather limited; while for Greece the level of regional inequalities is always below the EU average.

As mentioned earlier, this result possibly relates to the fact that Greece is also the country which has experienced the slowest growth of GDP per head on average over the same period. For Portugal the evolution is more contrasted, with a marked rise in regional GDP per head inequalities just after EU accession in 1986, which extends until the slowdown of 1993/94 ⁽⁵⁾.

The evolution of income inequalities in some of the new Member States provides even clearer evidence in favour of the Kuznets/Williamson hypothesis. Graph 5 displays the evolution of the Gini index for the Czech Republic, Hungary, Poland and Slovakia ⁽⁶⁾. All countries but one (Poland) experienced regional inequalities that are larger than in the rest of the EU (excluding Portugal, Spain and Greece) ⁽⁷⁾. More importantly, however, while for the rest of the EU regional inequalities remain fairly stable, in the four new Member States considered here we observe a clear rise in regional

⁽¹⁾ Within this context, growth and development may drive rising regional inequalities, especially for countries lagging behind in development, where barriers to spillovers are potentially greater.

⁽²⁾ See, for instance, Solow (2000) and Lucas (2000).

⁽³⁾ These arguments are also well known in the urban economics literature. See, for instance, Alonso (1969).

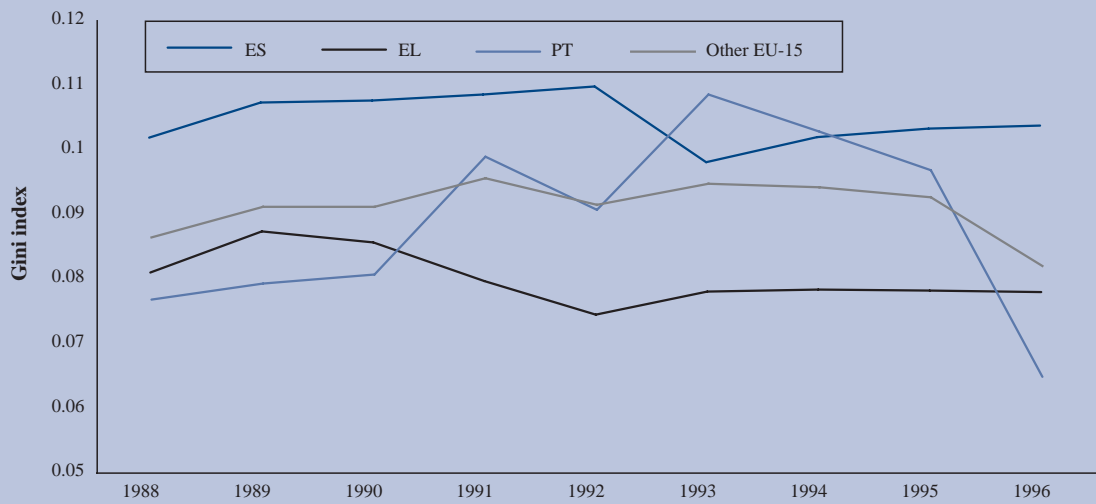
⁽⁴⁾ The regional data come from Eurostat following the ESA 79 definition of GDP which provides data up to 1996. Regional data for Ireland were not available at the NUTS 2 disaggregation level. Other data were also available for other countries but they did not have enough regions in order to get a representative EU-15 average or there were data problems for some countries, in particular Portugal in the earlier period.

⁽⁵⁾ The average growth rate of Portuguese GDP was close to –0.5 % against 1.15 % for the rest of the EU.

⁽⁶⁾ The data are taken from Eurostat’s Regio database for the 1995–2001 period using ESA 95 classification. No comparable regional data at NUTS 2 level were available for the other new Member States.

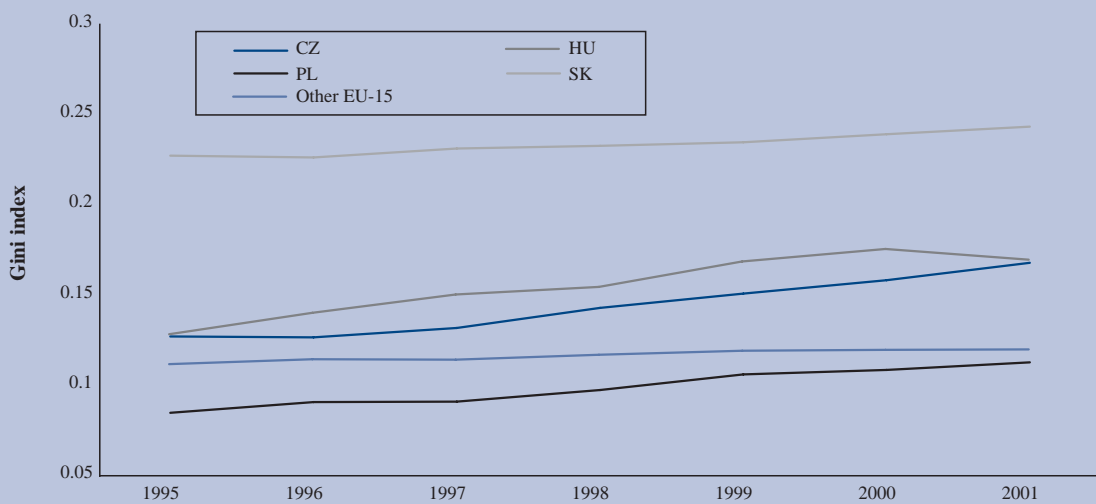
⁽⁷⁾ Note that differences in Gini index values for the rest of the EU between Graph 4 and Graph 5 are due to the fact that data sets are taken from different accounting systems, the first being the ESA 79 and the second the ESA 95.

Graph 4: Evolution of regional GDP per capita inequalities by cohesion country, 1988–96



Source: Commission services.

Graph 5: Evolution of regional GDP per capita inequalities for some new Member States, 1995–2001



Source: Commission services.

income inequalities, which is especially pronounced for the Czech Republic, Hungary and Poland ⁽¹⁾.

Econometric tests of the Kuznets/Williamson hypothesis have been rather limited so far. Petrakos et al. (2003) use standard econometric regression but find no clear evidence. In fact, running a simple regression of these two variables appears rather inappropriate, given the assumed non-linear nature of the relationship. In a recent study, Barrios and Strobl (2004b) make use of semi-parametric techniques in order to tackle this issue. This allows, in particular, a graphical representation. Their approach is to regress the level of each country's Gini inequality index on the level of national GDP per capita, both variables being measured relative to the EU average (see Annex II for details on the econometric methodology). Graph 6 reports results of this regression, together with the confidence intervals ⁽²⁾.

According to these results the relationship between national GDP per capita and regional inequalities is non-monotonic, following an inverted U-shaped curve in line with the Kuznets/Williamson hypothesis. This shows in particular that, for the cohesion countries which are all located at the left of the curve, in other words, with a GDP per head inferior to the EU average, regional inequalities tend to decrease as their national development proceeds ⁽³⁾. Graph 7 provides supplementary evidence adding to the former EU-15 Member States, the Czech Republic, Hungary, Poland and Slovakia during the period 1995–2001 ⁽⁴⁾.

Results shown in Graph 7 again depict an inverted U-shaped curve although several differences arise compared with the previous result. First, the left-hand side of the curve is less accurately estimated as shown by the wider confidence bands. Second, the rise in regional income inequalities appears to be potentially much lower in absolute terms than the subsequent fall experienced for higher levels of GDP per head. Here the corresponding fall occurs when a country reaches approximately 70 % of the

EU GDP per head average. These results suggest that the rise in regional inequalities experienced by the countries with the lowest levels of economic development is likely to be only temporary which is in line with the descriptive statistics provided above. In addition, Graph 7 shows that the initial rise in regional inequalities is likely to be less pronounced in absolute terms than the subsequent fall as national development proceeds.

These results have also important policy implications as they point to the possibility of an equity/efficiency trade-off through which GDP per capita inequalities would necessarily rise at the earlier stages of a country's development process. Indeed this idea fits well with the current experience of the new Member States as national growth in these countries seems to be largely localised in the most dynamic areas around the capital cities where investment, including public investment, is likely to be more productive ⁽⁵⁾.

2.4. Summary

Income convergence in the EU has not proved to be a rapid, continuous or automatic process. The example of Ireland illustrates this best, with a first set of growth-oriented policies initiated in the 1960s, yet catching-up gaining momentum only in the mid-1980s.

Convergence in the EU has been faster at the regional than the country level — due to wider initial disparities at regional level and the strong catching-up of the most dynamic regions in some cohesion countries. New Member States started catching up at a moderate pace after the transition crisis of the early 1990s. This process was accompanied by increasing within-country regional disparities.

Looking at the spatial dimensions of convergence in the EU, regional specialisation and concentration have not changed significantly during the period for which data are available, and which includes episodes of rapid economic integration. Hence, the existing core-periphery pattern has remained broadly stable. Regional inequalities appear to be influenced by national development paths with cohesion countries and the new Member States experiencing rising regional inequalities during

⁽¹⁾ Similar evidence is found in Barrios and Strobl (2004b) who consider also other new Member States.

⁽²⁾ Data are taken from the Regio database for the period 1980–96, using the ESA 79 nomenclature for EU-15 countries. Note that the y-axis values are not reported given that they are estimated values with no direct interpretation.

⁽³⁾ Note that the end of the tail of the curve plotted in Graph 6 is slightly increasing. It is important to note that estimations become less accurate at the beginning and the end of the distribution; see Annex II.

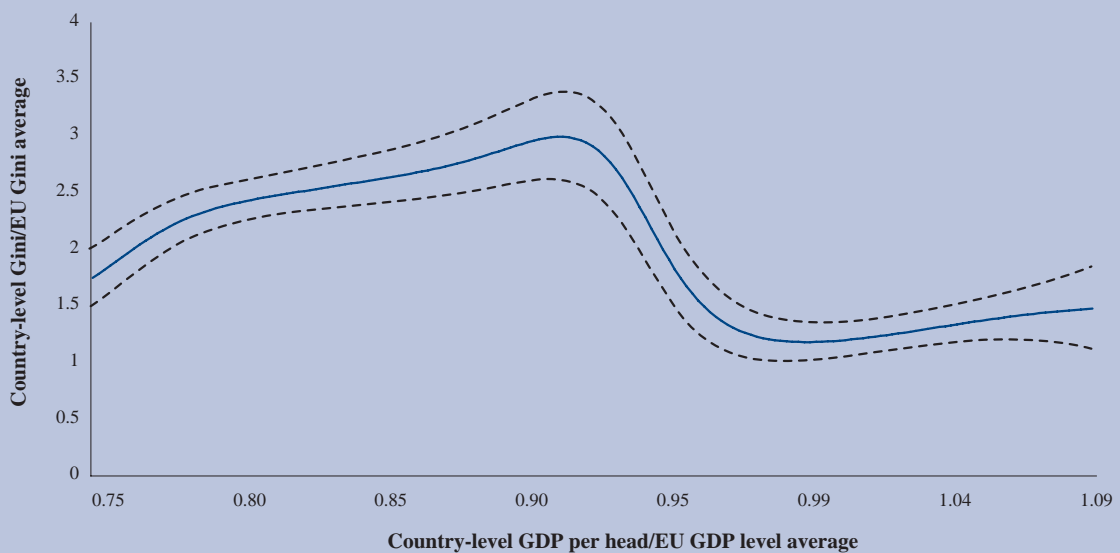
⁽⁴⁾ Graph 7 uses instead data available under the ESA 95 classification which provides regional data for the period 1995–2001.

⁽⁵⁾ From a regional policy viewpoint, these results also support the findings of a paper by de la Fuente (2003) and Castells and Sallé-Ollé (2004) who estimate that, in the case of Spain, the allocation of Structural Funds was under-optimal from a national growth point of view.

periods of fast catching-up. Empirical evidence suggests that in the early stages of catching-up there is potentially a trade-off between national growth and regional income inequalities. Policy actions aimed at maximising national growth may come at the price of (initially) increasing regional imbalances. Against this background, economic policy in the EU aimed both at favouring national growth and at fostering more rapid technological diffusion across regions (within and between countries) could help boost convergence at country level and smooth the catching-up process of lagging regions.

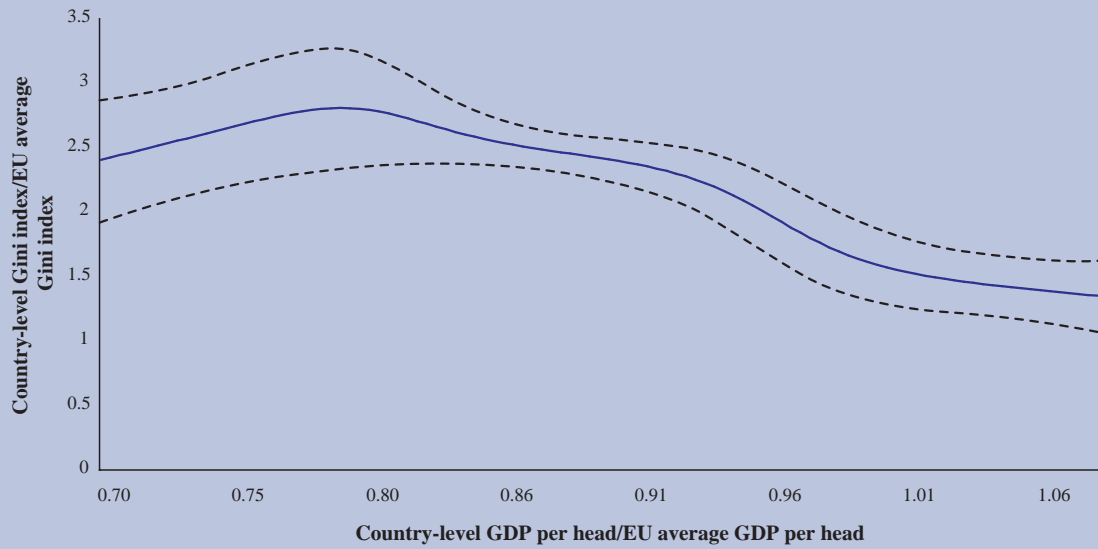
Given this past experience in the EU, and the considerable income gap of the new Member States, it is very pertinent to ask how, if at all, policies can stimulate the process of catching-up. The remainder of this chapter addresses this question from two angles. In Section 3, policy-relevant insights are distilled both from the economic literature and from empirical evidence for the new Member States, with the purpose of identifying priorities for policy-making in these countries. On this basis, Section 4 discusses the role of EU Structural and Cohesion Funds.

Graph 6: Semi-parametric estimations for EU-15, 1980–96



NB: Excludes Denmark, Ireland and Luxembourg. Based on ESA 79. Dotted lines = confidence interval.
Source: Commission services.

Graph 7: Semi-parametric estimations for EU-15 and Hungary, the Czech Republic, Poland and Slovakia, 1995–2001



NB: Dotted lines = confidence interval.
Source: Commission services.

3. How to accelerate catch-up growth in the new Member States

A primary goal of policy-makers is to improve standards of living by stimulating economic growth — including notably where incomes are below those in neighbouring countries or trading partners. And many intuitively appealing proposals float in policy debates concerning what policy can and should do to accelerate this catching-up process. Two words of caution are thus warranted up-front.

First, the abundance of recommendations stands in sharp contrast to the difficulty of finding clear conclusions that are supported by rigorous empirical tests, and are policy-relevant. Indeed, the scope for unchallengeable results is inherently limited by three features of the growth literature: the lack of sufficient data, the problem of endogeneity (or circular causality), and the large number of potentially relevant variables influencing growth. Nonetheless, a fair degree of consensus has emerged in this literature on the key policies likely to enhance — or, respectively, damage — the prospects for growth.

Second, given the heterogeneity of the new Member States, this section does not aim to put forward a standard recipe for rapid catching-up. These economies inherited different industrial structures, with, for example, a large share of agricultural activity in Poland and a strong reliance on tourism and the financial sector in Cyprus and Malta. Eight of them are transition economies whereas two are not. Five are very small economies. Due to their openness, effective growth strategies will rely much more on external competitiveness than in larger Member States, for which trends on the domestic market will be more important. This has also implications for the role of exchange rate movements or domestic capital costs. Therefore, any attempt to copy successful policies from other countries — such as Ireland, for instance — is likely to fail unless country-specific conditions are taken into account.

Economic theory presents growth as ultimately driven by individual behaviour in households, enterprises, or education and research institutions: it thus assigns to policy an indirect role only. This role is, however, critically important. While most economic activity takes place on markets, the relevance of the policy framework for private decision-making can hardly be overestimated. For instance, the security of property rights and returns from investment in capital, research or education, are decisive inputs for individual decisions — and equally important is the availability of infrastructure. Such factors are thus crucial determinants of the growth process. Moreover, it is well recognised that an entirely market-driven allocation of resources may not lead to an optimal provision of goods. (Formally, the market may not reward goods that have features of non-excludability and non-rivalry in consumption, or produce certain externalities.) This applies notably to investment in knowledge: policy needs to design incentives appropriately so that society benefits to the maximum from individual decisions.

Despite numerous advances in the theoretical analysis of economic growth in recent years, the traditional production function approach remains the standard analytical tool. This approach assigns little importance to demand, which is generally considered to be more relevant for cyclical behaviour: rather, it focuses on the supply side of the economy — in other words, the accumulation of labour and capital, as well as technical progress — as the drivers of any increase in output over time. Section 3.1 will take this perspective.

However, there are important elements of the growth process that are not captured in the production function approach: notably, the determinants of factor accumulation and innovation. Largely, these ‘deeper’ sources of growth are attributed in the literature to trade, geography

Table 8

Decomposition of the GDP growth rate in the new Member States

	1996–2005				2006–10			
	Growth	Labour	Capital	TFP	Growth	Labour	Capital	TFP
Cyprus	3.41	0.73	1.53	1.24	3.63	0.46	1.82	1.29
Czech Republic	2.20	– 0.93	2.64	0.57	3.45	– 0.62	2.48	1.59
Estonia	5.85	– 0.61	2.85	3.48	5.76	0.30	2.85	2.42
Hungary	3.80	0.67	2.02	1.06	3.55	0.23	2.08	1.21
Latvia	6.32	– 0.07	2.77	3.49	6.34	0.10	3.26	2.75
Lithuania	5.64	– 0.37	2.80	3.11	5.73	0.29	2.69	2.56
Malta	2.48	0.23	2.07	0.18	1.99	0.03	1.60	0.42
Poland	4.25	– 0.09	2.11	2.17	4.38	0.46	1.86	1.94
Slovakia	4.00	– 0.53	2.49	2.00	3.94	0.48	1.20	2.14
Slovenia	3.76	– 0.09	2.57	1.27	3.13	– 0.20	2.15	1.15

Source: Commission services.

and institutions ⁽¹⁾. While the influence of each of these factors on growth remains controversial, there is some consensus that they all matter. Moreover, many accept that policies should be considered separately from institutions. Section 3.2 will analyse the potential contributions from these driving forces of catching-up.

3.1. The accumulation and diffusion of production factors and knowledge

3.1.1. Growth decomposition and a medium-term scenario

To identify the respective contributions of labour, capital and total factor productivity (TFP, the ‘Solow residual’), a decomposition of actual GDP growth in the new Member States between 1996 and 2005 was calculated on the basis of the Commission’s production function method ⁽²⁾. The period was chosen not only for reasons of data availability, but also to avoid the influence of the early 1990s transition recession in eight of the countries ⁽³⁾.

Table 8 shows that average GDP growth was higher than 3½ % in all transition economies except for the Czech Republic and even above 5 % in the Baltic countries.

Employment made a negative contribution to growth in most of the new Member States — the main exceptions being Cyprus, Hungary and Malta. Investment made an important contribution of two percentage points or more in all cases except Cyprus. The contribution from TFP was highest in the Baltic countries, and only clearly below one percentage point in the Czech Republic and Malta.

Based on a number of assumptions, in particular the Commission’s autumn 2004 forecast and trend estimates for the years after 2006, a medium-term scenario for potential GDP growth in the period 2006 to 2010 was calculated. The technical extension to the years 2006 to 2010 is in no way a forecast for these years. It is simply an attempt to illustrate what would happen if the underlying trends of the most recent years were to continue. Average GDP growth would be similar or higher than previously in most of the new Member States. In contrast to the previous period, labour should make a slightly positive contribution in most countries — with the exception of the Czech Republic and Slovenia (and a broadly neutral effect in Malta). Capital and TFP are projected to remain important, but somewhat less so than in the previous period. Again, the three Baltic countries achieve the highest contributions from capital and TFP among the 10 countries.

A further exercise was to transpose the projected potential growth rates for the period 2006 to 2010 into values of GDP per capita in PPS relative to the EU-15 average

⁽¹⁾ See Rodrick et al. (2002).

⁽²⁾ For methodological explanations see Denis et al. (2002).

⁽³⁾ However, it should be noted that financial crises took place in some cases in the period under consideration.

(see Graph 8). According to this medium-term scenario, all countries — with the exception of Malta — would converge to the EU-15 average. The reason is that in all new Member States except for Malta, potential GDP growth is projected to be significantly higher than that of EU-15 (which is between 1½ and 2 %). At the same time, the population is projected to decrease in most of the countries while there is a small increase in EU-15 between 2001 and 2010, except for Malta and Cyprus where population is projected to increase much more strongly. As a result, by 2010, Slovenia and Cyprus would be around 80 % of the EU-15 average income. The Czech Republic, Estonia, Hungary and Malta would be in a range of 60 to 70 %.

The remaining countries would converge to a range of 50 to 60 %. Thus, the scenario shows that if the currently favourable growth trends are assumed to continue and potential growth rates were actually achieved, the income gap vis-à-vis the EU-15 would still remain considerable in many of the countries at the end of this decade.

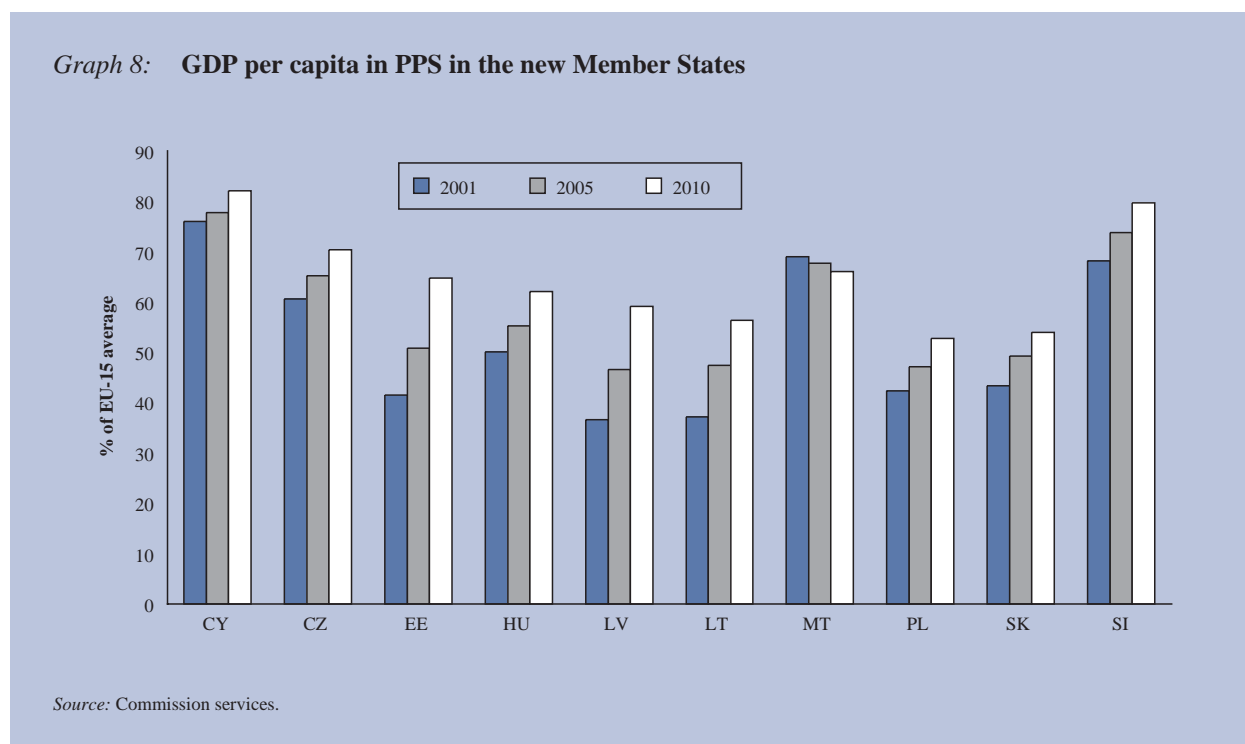
3.1.2. Labour utilisation

With a socially unacceptable high rate of unemployment and an employment rate far below the Lisbon target of 70 %, raising employment is a policy priority not

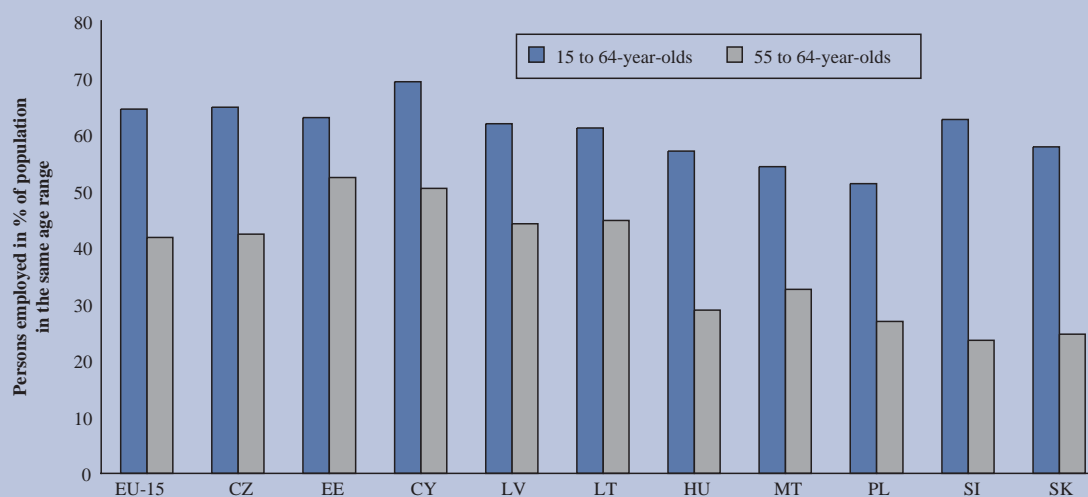
only for the old but also for the new EU Member States. It does not only serve to stimulate growth but is also important for the distribution of income and the reduction of social exclusion. Chapter 3 in this volume gives a more detailed account of incentives on labour markets and means to raise employment and labour force participation ⁽¹⁾.

Graph 9 illustrates the differences among the new Member States regarding employment rates in the working age population of 15 to 64 years. While Cyprus almost achieved the 70 % target in 2003, Hungary, Malta and Poland were even below 60 %. The overall employment rate is to some extent influenced by the rate of the older age group of 55 to 64 years which is also given in Graph 9. In Hungary, Malta, Poland, Slovenia and Slovakia, less than one third of the persons in that age group are employed. In many transition economies generous schemes of early retirement were used to cushion the adverse social effects of labour-shedding enterprises in restructuring.

⁽¹⁾ See also European Commission (2002a), Chapter 5, and European Commission (2004a), Chapter 1.



Graph 9: Employment rates, 2003



Source: Commission services.

While the unfavourable ratio of employed persons relative to those who are not employed and have to live on income distribution or savings (i.e. the dependency ratio) is mostly seen as a problem of public finance, it is also reducing the prospects of economic growth. This is in particular so in countries where a strong demographic decline in the next decades will lead to an ageing population. Between 1990 and 2003 all new Member States except Malta, Poland and Slovakia already lost in population, the most severe losses being in the Baltic countries due to the out-migration of people of Russian origin. According to the medium scenario of the UN population projection, the median age in most of the new Member States is expected to increase by more than 10 years until 2050 from below 40 in 2005. The Czech Republic, Estonia, Latvia and Slovenia would then have a median age of above 50. Hence, there is an increasing need to redesign the tax-benefit systems in a way which gives incentives to older people to stay longer in employment and have them participate in the generation of income.

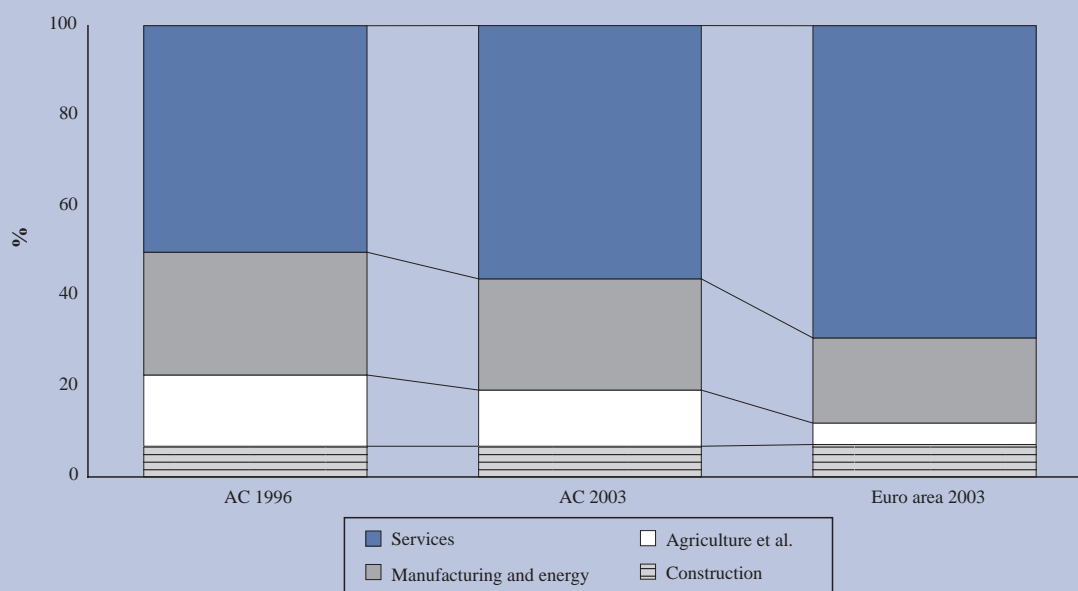
In theory, these demographic developments could deteriorate further if there were further substantial out-migration of younger people. Transition periods of up to

seven years after accession to restrict the free movement of labour from the new Member States (except for Cyprus and Malta) are applied by all old Member States except Ireland, Sweden and the United Kingdom. While some migration has already taken place before accession, most empirical studies suggest that no substantial migration flows are to be expected and estimate the long-run migration potential from the 10 central and east European countries (CEEC-10: eight new Member States, Bulgaria and Romania) into EU-15 at between 2 and 4 % of the population. A study carried out for the European Commission projects, after full liberalisation, an initial net increase of residents from CEEC-10 of 290 000 persons with the net increase peaking at around 370 000 persons and a long-run stock of 3.8 million persons (about 3.7 % of their population in 2003) ⁽¹⁾. Nevertheless, even if quantities are not large, there could be constraints to growth by out-migration of the most qualified (i.e. 'brain drain').

The sectoral structure of employment can also give an indication of growth prospects with a view to either

⁽¹⁾ See Alvarez-Plata et al. (2003).

Graph 10: Employment share in the total economy, industry and services



Source: Commission services.

future adjustment needs (e.g. reduction of agriculture) or the potential for employment in activities of higher productivity. The economic literature, following the Kuznets hypothesis, identifies several regularities as employment structures change in the course of economic development — patterns that also seem evident in the new Member States. Among these regularities is a decline of employment in agriculture, and an increasing share in services. The proportion of employment in industry follows a non-linear pattern. It first increases and later on declines ⁽¹⁾.

Graph 10 presents the change in employment structure over time, showing a decline in the share of agriculture and a build-up in services. The share in manufacturing in the new Member States as a whole has somewhat declined over the last several years but is still higher than in the euro area. Overall, while some convergence to the present euro-area employment structure is evident, the

difference is still apparent. Employment in manufacturing is particularly high in the Czech Republic, Slovenia and Slovakia. The breakdown of employment in services shows that the share of employment in trade and transport is much higher, in finance lower and in public sector activities about the same as in the euro area.

The high unemployment in some of the countries and the need for further adjustments in the future give rise to the question whether labour markets are sufficiently flexible to support a fast process of catching-up. The OECD index of the strictness of employment protection legislation for 2003 is available for the Czech Republic, Estonia, Hungary, Poland, Slovenia and Slovakia. It suggests that employment protection is less strict than in many of the old Member States with the exception of Slovenia where the index turns out to be rather high and thus indicates some excessive rigidity. However, in some of the countries the wage bargaining system and the tax-benefit system lack flexibility and reduce the incentives to create jobs or take up a job. For example, the tax wedge on labour costs for low-wage earners is higher than the EU-15 average in all new Member States except for

⁽¹⁾ See Raiser et al. (2003) for a model and an empirical estimation of structural changes in employment in transition economies.

Estonia, Cyprus and Malta. Although most quantitative indicators do not show this to be a problem in the new Member States, there is some evidence of quality problems to provide a well-educated and trained labour force which is key to high labour market flexibility.

High disparities in regional unemployment also point to problems of labour market flexibility. At the level of NUTS 3 statistical regions in 2002, about one third of the labour force were unemployed in some Polish regions and about one quarter of the labour force were unemployed in several Polish and Slovakian regions whereas their capitals had single-digit rates of unemployment. Analyses of similar cases of high disparities in regional unemployment in Germany, Spain and Italy give a number of explanations which also tend to hold for the new Member States ⁽¹⁾: low level of regional development, insufficient labour force qualification, a wage bargaining system which does not take into account regional differences in labour productivity, and insufficient geographic labour mobility. The latter is particularly the case in many of the new Member States due to the frequently applied privatisation approach of giving housing to the tenants and an inadequate regulation of the housing market — which leads to a high share of owner-occupation and an almost negligible rental market.

3.1.3. Capital deepening

Investment is considered a key driver of economic growth in general and in the new Member States in particular. When capital is scarce in an economy, the working of market forces should result in high returns on capital, which provides incentives to further accumulation of capital either financed through domestic savings or from abroad.

Data on aggregate investment are available in the national accounts. Graph 11 shows that the investment share is higher in most Member States than in the euro area. In those countries where the decomposition into private and public investment is possible, the higher investment share is not explained by higher public investment and the share of private investment is higher than in the euro area. It is, however, not evident whether this finding implies a higher capital intensity of production inherited from past production structures or rapid capital accumulation required by a low capital stock.

The change of the investment share over time — here 1995–99 vis-à-vis 2000–03 — can shed some light on this issue. In many countries, the investment share increased, suggesting that a too capital-intensive production structure is unlikely to be the reason ⁽²⁾.

Employment structures provide some further indication whether the new Member States are characterised by rather capital-intensive production. Employment in industry was typically far higher in 2003 than in the euro area — and particularly in those that also have a high investment share (see Graph 11). Whether these economies have a comparative advantage in industrial production seems to depend very much on the availability of cheap skilled labour. They would face increased pressure for structural change if this comparative advantage ended, in other words, if productivity growth does not keep pace with wage growth.

A less positive assessment of the new Member States could be brought forward in view of their current account deficits. According to Orłowski (2004), external imbalances caused restrictive stabilisation policies that constrained growth in almost all transition economies. He quotes the episodes of Hungary in 1995–96, the Czech Republic in 1997–99, the Baltic States in 1999, Slovakia in 1999–2000 and Poland in 2001–02. The only exception was Slovenia which has a high domestic saving ratio.

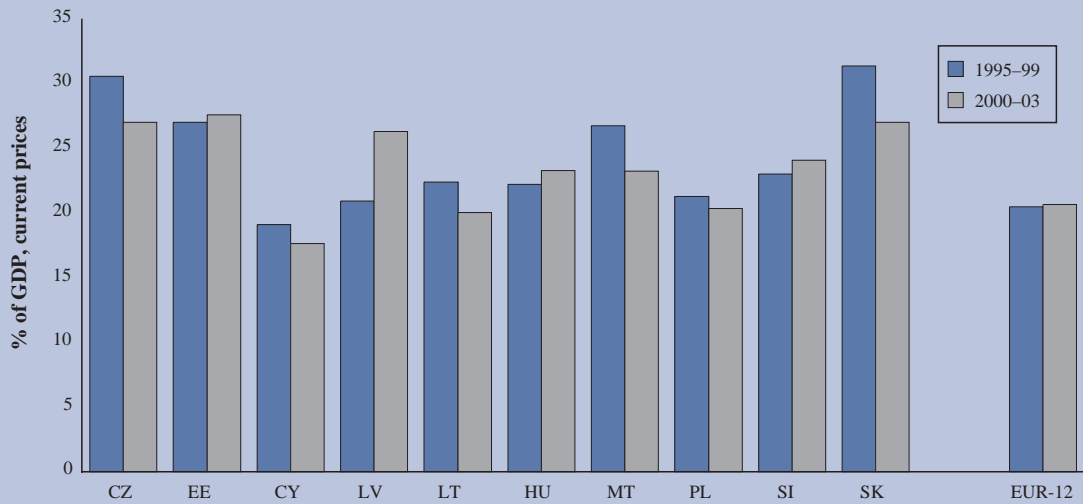
Since the new Member States opened their capital accounts at a relatively early stage of economic transition, a large share of investment was financed from abroad ⁽³⁾. Given a shortage of domestic savings, financing of investment relies to a strong degree on foreign savings, particularly in the form of foreign direct investment (FDI). However, since at least a part of FDI inflows were related to privatisation, which is initially only a change of ownership from the State to a foreign investor, FDI is not equal to capital formation. Over the past years, FDI inflows to these economies amounted, overall, to about 4 % of GDP, meaning that FDI was the main way of financing their current account deficits. Graph 12 demonstrates that FDI inflows picked up only in the late 1990s, and seem to have weakened somewhat after 2000

⁽¹⁾ See, for example, Davies and Hallet (2001).

⁽²⁾ It is not evident that the decline in the investment share indicates an already very capital-intensive production. On the other hand, the fact that the investment share was already high in 1990 in these countries supports this interpretation.

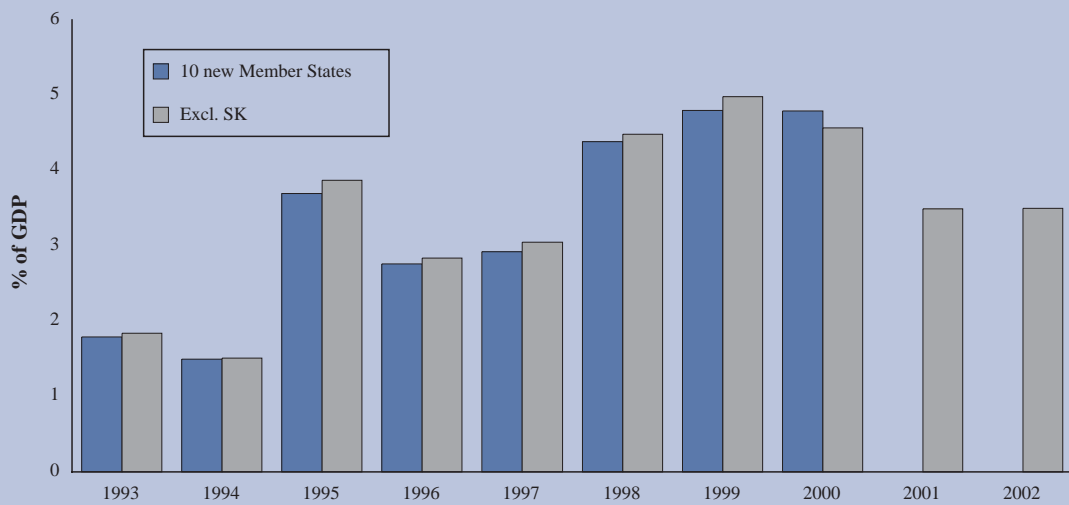
⁽³⁾ Relatively means in comparison with western economies, which only gradually opened capital accounts during the Bretton Woods period.

Graph 11: Investment share in GDP in the new Member States



Source: Commission services.

Graph 12: FDI inflows into the new Member States



NB: No data available for Slovakia for 2001 and 2002.

Source: Commission services.

when global capital flows also softened in the wake of slower global economic growth. Comparing FDI flows with other regions of the world in the 1990s, Campos and Kinoshita (2003) conclude that the high expectations in transition economies had not materialised. Disproportionately more capital was diverted into Asia and Latin America than into the transition economies.

The composition of FDI flows to the new Member States can inform about the direction of structural change. Lovino (2003) identified some patterns on the basis of the stock of FDI in 2000 which are consistent with the direction of sectoral change derived from employment shares ⁽¹⁾.

- More than a third of the FDI stock (36 %) was invested in manufacturing in the new Member States in 2000, compared with 28 % in the EU. In 1997, the share was still about 50 %.
- FDI flows into services have become more important over time, in particular in the subsectors financial intermediation and trade.
- In 2000, 77 % of FDI stocks were concentrated in the Czech Republic and Poland.
- The lion's share of 73 % of FDI stocks in the new Member States had its origin in EU-15. The Netherlands, Germany, France and Austria were particularly important investors.

While the ultimate assessment of the new Member States' liberalisation strategy is still outstanding, the large inflow of FDI is generally viewed as positive. For the host country, it meant the import not only of capital but also of technology and managerial skills ⁽²⁾. Empirical estimates of the impact of FDI on domestic economic activity have also shown that FDI interacts positively with domestic investment, i.e. higher FDI spurs domestic investment and vice versa ⁽³⁾. Mody et al. (2003) find evidence that FDI has also a positive impact on the efficiency of the capital stock and its allocation across firms in a sample of industrial countries, i.e. not covering the

new Member States. According to the empirical estimates of Tondl and Vuksic (2003), FDI inflows were the key driver for economic growth in central and east European regions in the second half of the 1990s. In particular, capitals and border regions benefited from FDI.

As regards the motivation of foreign investors, the available evidence suggests that both access to domestic markets and lower production costs play a role in the case of the new Member States ⁽⁴⁾. For instance, Carstensen and Tourbal (2003) found market potential, relative low real unit labour costs, skilled workforce and relative endowment to be significant determinants in their estimates. Among transition-specific factors, they find support in favour of the importance of the level and method of privatisation and country-specific risk. This evidence in favour of microeconomic determinants, which is in line with the findings of Campos and Kinoshita (2003), who find institutions, openness and agglomeration effects to matter most in east European countries, differs from the previous finding that macroeconomic factors had been key driving factors of FDI inflows in the earlier time of transition ⁽⁵⁾.

3.1.4. Innovative activity and knowledge

Although it is widely acknowledged that stimulating innovative activity and generating technical progress are crucial determinants of economic growth, the economic literature still offers surprisingly little policy-relevant insights. The most promising venue in economic theory has been the modelling of knowledge creation whereas the empirical literature has identified a number of potentially important determinants of total factor productivity growth. In general terms it can be claimed that knowledge creation through research, knowledge diffusion through education and training and its application are important pre-conditions, but they have to be combined with incentives to draw economic benefits from it. It is, however, difficult to translate the academic insights into more concrete policy advice. This section aims at highlighting two aspects that are of relevance for catch-up growth in the new Member States, namely the role of knowledge transfer from other countries and a comparable evaluation of factors that are considered of relevance for stimulating domestic innovative activity.

⁽¹⁾ Due to problems of data availability, the new Member States in this study exclude Cyprus, Hungary and Malta.

⁽²⁾ Razin (2002) considers the import of managerial skills a major advantage of FDI, improving the efficiency of the economy and therewith making FDI more than a simple substitute for trade.

⁽³⁾ According to Hecht et al. (2002), the effect is, however, smaller than initial estimates had suggested.

⁽⁴⁾ Campos and Kinoshita (2003) find evidence that endowment with resources and infrastructure matter more as determinants of FDI in the former Soviet Union than in the Baltic States and other CEECs.

⁽⁵⁾ See Garibaldi et al. (2001).

The most apparent form of knowledge diffusion across borders is education abroad and labour migration. Ireland is currently seen as the prime example that brain drain, which is usually regarded with scepticism when it occurs, can be of benefit in the long term. Key elements of such a 'development strategy' is the preparedness of students and workers abroad to return to their home country and make use of newly acquired knowledge. In this context, the main insights from the Irish experiment are more of social than of economic nature. The number of researchers from the new Member States at universities and research facilities has undeniably increased over the last decade and a similar trend can realistically also be present for workers. However, little is known in quantitative terms about this phenomenon.

A second important mechanism for importing knowledge is through trade and FDI. The endogenous growth literature has provided some support for the view that imports, in particular of intermediate goods, have a positive impact on productivity growth in the importing country. Concerning FDI, Navaretti and Tarr (2000) paint a less upbeat picture. Although the productivity of the recipient economies increases through the activity of multinational enterprises and industry-level studies suggest that spillovers are positive, studies at firm level are less positive. Activity of foreign-owned firms may have negative spillover effects if it reduces domestic firms' ability to benefit from scale economies ⁽¹⁾. Crucial intervening elements in this debate seem to be the time period and the degree of competition prevalent on the market. Boeri, Brücker et al. (2000) found that FDI was often directed to underdeveloped market segments to make use of first-mover advantage in markets with little competition. They claim that the strategy of extracting rents might explain why the new Member States benefited relatively little from FDI in terms of technological spillovers ⁽²⁾.

The new Member States' ability to benefit from importing technology can be considered to depend largely on the same factors that would allow them to develop domestically driven innovative activity. In order to structure the discussion and highlight Member States' potential, the subsequent part builds on the Commission's 2003 European innovation scoreboard indicators, which distinguish among four main factors

of innovative activity. These are determinants governing human resources, knowledge creation, transmission and application of knowledge, and innovation, finance, output and markets.

While indicators are available for almost all EU-15 Member States, gaps are still common for the new Member States, in particular for indicators in the fourth category data. Since the innovation scoreboard is based on the most recent data available, data entries can be different across countries. In most cases, data are from 2001 or 2002 ⁽³⁾.

Higher education is an important determinant of human resources. For instance, Tondl and Vuksic (2003) reason that higher growth in the new Member States' capitals is due to these regions' endowment with a more qualified labour force which makes them more attractive as a location for FDI. Graph 14 shows on the horizontal axis that upper-secondary education among the currently young people in the new Member States' labour force is not systematically different from that in the EU-15 Member States. With the exception of a low share of secondary education in Malta, the range is about the same in the old and the new Member States. A similar picture would emerge for tertiary education. One observes an extraordinarily high share of tertiary education in Latvia, but the range is about the same in the old and the new Member States.

One finding is the absence of a clear relationship between higher education and employment in high-tech manufacturing and services. The existence of such a relationship for the old Member States is suggested by the trend line in Graph 14. It is similar when tertiary education is used instead of upper-secondary education ⁽⁴⁾. If the share of graduates in science and engineering is related with employment in high-tech sectors, there is a positive correlation for the old Member States but an inverse one for the new Member States. That is, employment in high-tech sectors in the new Member States is rather invariant to their endowment with human

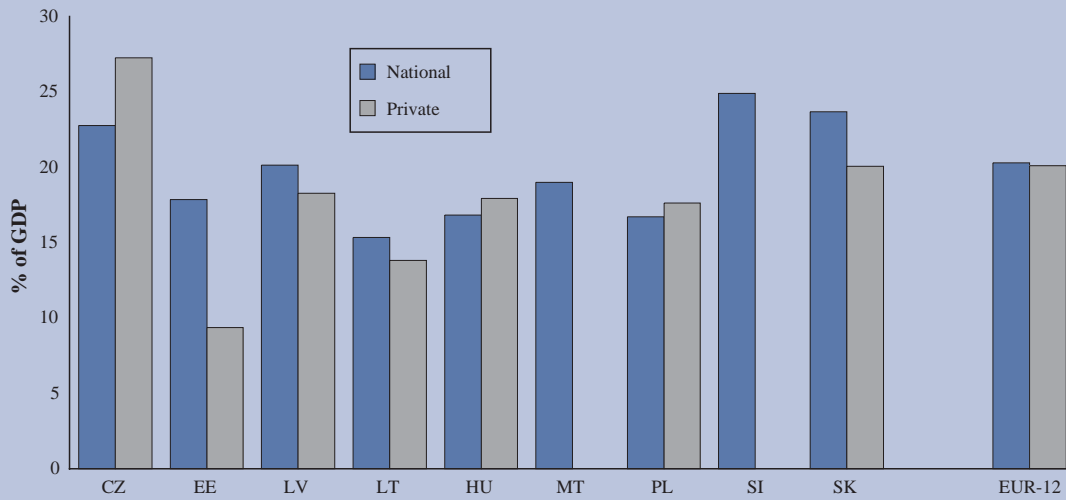
⁽¹⁾ See Djankov and Hoekmann (2000) for an analysis of Czech firms.

⁽²⁾ See also Barrell et al. (2001) and Holland and Pain (1998).

⁽³⁾ For more detailed information on the innovation scoreboard, see European Commission (2003a). Key input to the innovation scoreboard is the Community innovation survey, which is conducted every four years. The latest data were released in August 2003.

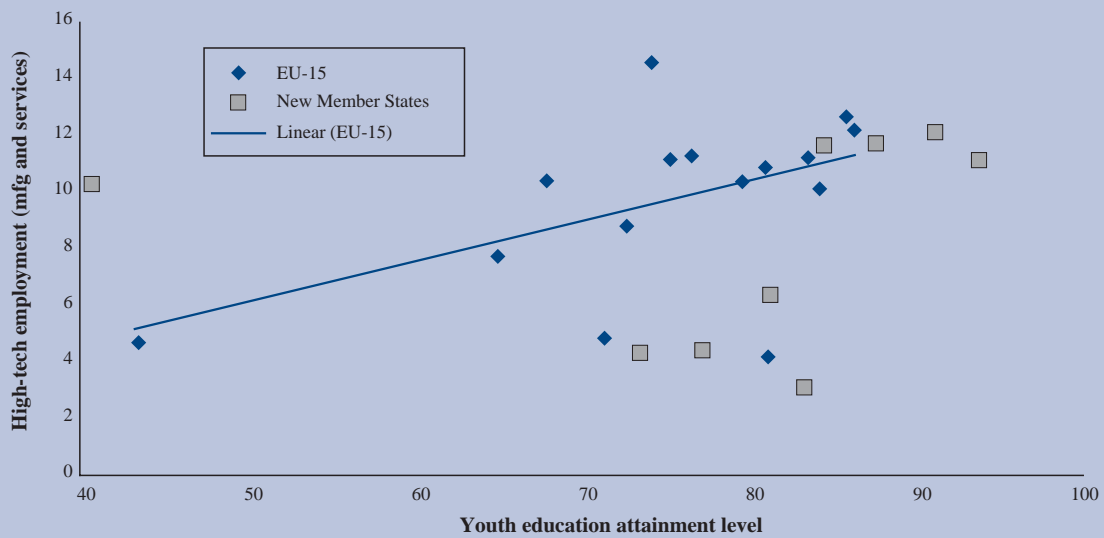
⁽⁴⁾ Since there is no breakdown in the tertiary education into age classes and education of elderly people in the workforce under the previous regimes may not be worth much today, this indicator is probably less telling.

Graph 13: Saving rates in the new Member States, 2003



Source: Commission services.

Graph 14: Educational attainment and high-tech employment in the new Member States, 2002



NB: Youth education attainment level — total: percentage of the population aged 20 to 24 having completed at least upper-secondary education.
 Source: Commission services.

resources ⁽¹⁾. Although an explanation for this finding is not straightforward, it could suggest that most new Member States have not (yet) specialised in high-tech sectors.

Numerous factors related to knowledge creation and diffusion have been highlighted in the economic literature. Some of them stand as proxies for input in research, such as R & D expenditures. Others measure the number of patents as the intermediate output. Since SMEs are expected to play a central role in innovation, indications of how they actually perform can be informative. While the theoretical link of these variables with technical progress is apparent, complications occur when it comes to presenting empirical evidence. Relationships over time or across countries are often weak and seldom stable if other control variables are included.

Table 9 gives an overview of selected indicators on innovation in the new Member States. Although data are not fully comparable across countries, there are

clear signs of a lag in innovative activity in the new Member States relative to the EU-15 Member States. Ignoring problems of data comparability, one would expect that Member States that fare high with the innovation indicators should also have higher labour productivity growth and vice versa. By plotting the coefficient of correlation between labour productivity growth and innovation indicators across countries, Graph 15 shows that this is neither the case for EU-15 nor for the new Member States ⁽²⁾. But again the empirical patterns are different between new and old Member States. In the old Member States labour productivity growth across countries is positively correlated with all innovation indicators bar innovation in SMEs. For the new Member States, it is negatively related to five of the indicators and close to zero for a sixth indicator. Only in SME innovation and ICT expenditure is the relationship among new Member States more consistent than across the old Member States. This seems to suggest that innovation has not yet been a central determinant of productivity growth in the new Member States.

⁽¹⁾ This result is consistent with the empirical analysis of Tondl and Vuksic (2003) that finds own innovative activity not to be a significant growth factor in the new Member States.

⁽²⁾ More precisely, it shows the correlation between the rank among countries of labour productivity growth and the rank of innovation indicators.

Table 9

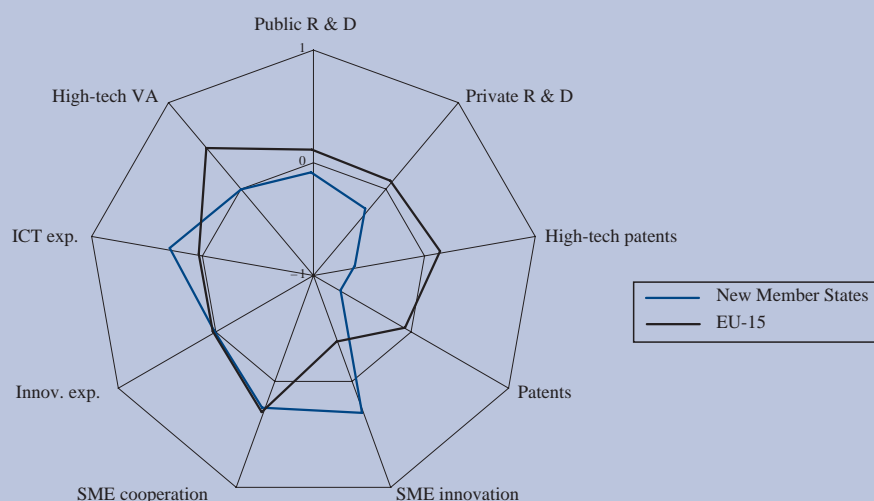
Innovation indicators for the new Member States

	CY	CZ	EE	HU	LT	LV	MT	PL	SI	SK	EU-15
Public R & D expenditure (% of GDP)	0.22	0.52	0.53	0.57	0.49	0.28	—	0.43	0.69	0.22	0.69
Business R & D expenditure (% of GDP)	0.05	0.78	0.26	0.38	0.2	0.16	—	0.24	0.94	0.45	1.3
High-tech patent applications (per million inhabitants, EPO + USPTO)	3.2	0	0	4.6	1	0	4.1	0.3	9.1	1.3	44
Patent applications (per million inhabitants, EPO + USPTO)	17.1	13.7	13.2	26.3	3.8	8.4	15.3	3.6	53.8	6.8	241
SMEs innovating in-house (% of SMEs, mfg)	—	25.8	39.1	—	26	19.1	15.4	4.1	22	14.1	37.4
SMEs involved in innovative cooperation (% of SMEs, mfg)	—	5.8	11.8	—	12.1	4.1	4.9	—	8.4	4.4	9.4
Innovation expenditure (% of turnover, mfg and services)		2.2	3.35		3.89	5.31			6.8	16.3	5.28
ICT expenditures (% of GDP)	—	9.5	9.6	8.9	5.9	7.9	4.1	5.9	4.7	7.5	7
Share of value added in high-tech sectors (mfg)	v	—	—	14.9	22.3	—	22.4	—	15.9	—	14.1

NB: Data not completely comparable since the methodology in some cases is different and the data processing has not been harmonised.

Sources: WITSA/IDC, Commission services.

Graph 15: Correlation of innovation indicators with labour productivity growth, coefficient of correlation of ranks across new and old Member States



NB: The blue line shows the coefficient of correlation between the rank of the innovation indicator among new Member States and the new Member States' rank of labour productivity growth 1999–2003. The black line shows the result of the same exercise for the old Member States. For more explanations on the variables, see Table 10.

Source: Commission services.

3.1.5. Policy challenges

The decomposition of growth in the new Member States indicates that, between 1996 and 2004, it was driven by investment and total factor productivity, while labour utilisation had a negative effect. In a scenario from 2005 to 2010, which is a projection of what would happen if the trends of the most recent years were to continue, contributions from capital and total factor productivity moderate somewhat and labour is expected to have a positive, although limited, contribution to growth. Except for the Baltic countries, growth rates are projected to be below 5% which allows only limited progress in catching-up vis-à-vis the EU average.

Employment rates, in particular in the old age group, are fairly low in most of the new Member States. In view of the expected demographic trend of an ageing population, tax-benefit systems need to be reviewed to provide incentives for creating and taking up jobs and to increase the actual age of retirement. Deficits in the adaptability of the labour market do not appear to arise from excessively rigid employment protection legislation but rather from insufficient wage differentiation, the tax-benefit

system and a lack of regional labour mobility for a number of reasons such as an inflexible housing market. In view of the still high importance of agricultural employment in some of the new Member States, an unduly generous support to this sector should be avoided in order not to decelerate the required structural change to employment of higher productivity in other sectors.

Capital deepening has been an important source of growth in the new Member States which tend to have a much higher investment-to-GDP ratio than EU-15, although they still have a less capital-intensive production. Given the early liberalisation of capital movements, FDI was a major source of financing the current account deficit as a reflection of the gap between domestic savings and investment. The mostly foreign-owned banking sector, rather than the stock exchange, was the main channel of financial intermediation. Given that the net inflow of foreign capital to finance continuing high investment will not last forever, the main challenge will be to gradually mobilise more domestic savings through channels other than banks such as pension funds and the stock markets.

Innovative activity and knowledge are important triggers for technical progress. Educational attainment levels in the new Member States do not differ much from those in EU-15, but anecdotal evidence suggests that there could still be a quality problem which requires improvements in the education systems in several of the countries ⁽¹⁾. Although less than one would expect, trade and FDI have been important for the cross-border transfer of knowledge in management and technology. However, innovation has not yet been a central determinant of productivity growth in the new Member States. Activity and employment in R & D and innovation tend to be much lower which can best be explained by a different pattern of specialisation. One should however be cautious in urging the new Member States and their business sector to spend substantially more on R & D activities at the current stage given that, due to their specialisation, spending in other areas could have much higher returns at this stage.

3.2. Other determinants of economic growth

3.2.1. Trade and geography

Trade and geography are among the factors that have long been considered as the most important driving forces of long-term growth and development.

It is a well-established fact in economic theory that trade liberalisation promotes economic efficiency and consumer welfare, but proper modelling of the link to growth is more recent. In the context of studies on the expected single market effects, Baldwin (1989) argued in a Solow-type model that the first-round allocation effects due to a larger market would induce a second-round effect of higher income, savings and investment as medium-term growth effects. The intuition would be that export-oriented and import-competing firms would invest to improve their competitiveness. New growth theory focused on knowledge spillovers that can go along with the trade of goods ⁽²⁾. Taking into account that trade often goes along with FDI, this argument of technology transfer seems rather plausible. However, the empirical evidence on the trade-growth links is rather weak and has been subject to scepticism ⁽³⁾. Causality (or endogeneity) is a

major problem. For example, the standard result that more open economies tend to be richer can either prove the growth effects of trade or prove that richer economies find it easier to liberalise their trade. Investment in export-oriented sectors can have positive effects on both growth and trade simultaneously. Furthermore, trade liberalisation often goes in parallel with other economic policies which makes it difficult to isolate the effect of trade liberalisation. Lee et al. (2004) are trying to deal with these problems more explicitly by applying sophisticated econometric methodology and find a robust effect from growth to openness and a positive, although small effect of openness on growth.

Other authors argue that geography is the most important determinant of growth and point to the influence through resource endowments, productivity and access to markets ⁽⁴⁾. Some models of imperfect competition of new economic geography illustrate how small initial differences in market size can lead to the formation of a high-wage centre and a low-wage periphery. The EU itself provides some evidence of the importance of geography when considering that, although with several exceptions, the richest regions tend to be located in the centre of the EU whereas the poorest regions tend to be located at its periphery. Again, causality is a major methodological problem since high-income countries have the possibility to mitigate the adverse effects of geography, for example through investment in infrastructure and technology.

Whatever the difficulties of providing empirical evidence on the individual effects of trade or geography on growth, the gravity model is a powerful empirical tool combining economic size and distance between countries to predict bilateral trade flows without implying strong causality among them ⁽⁵⁾. Rose (2000) used the gravity approach to find that currency unions have a tripling effect on trade. This finding was subsequently critically discussed and revised somewhat downwards but there tends to be agreement on the overall large effects of currency unions. Applying this approach to EMU, trade effects of up to 50 % were found ⁽⁶⁾.

⁽¹⁾ See European Commission (2002a), Chapter 5.

⁽²⁾ See Rivera-Batiz and Romer (1991).

⁽³⁾ See, for example, Rodriguez and Rodrick (2000) and Wälde and Wood (2004).

⁽⁴⁾ For example, Gallup et al. (1998) demonstrate that location and climate have large effects on income levels and income growth through their effects on transport costs, disease burdens, and agricultural productivity, among other channels.

⁽⁵⁾ In physics, gravity is a function of mass and distance. However, economic theory has problems to model the results of the gravity model. For such an attempt see, for example, Evenett and Keller (2002).

⁽⁶⁾ For an overview on trade effects of EMU see European Commission (2004b), Chapter IV.

The situation in the new Member States

Trade between the EU and the 10 new Member States was already liberalised to a large extent before accession in the context of the Europe agreements signed in the early 1990s. This was done in an asymmetric way, that is, the EU opened up its markets faster.

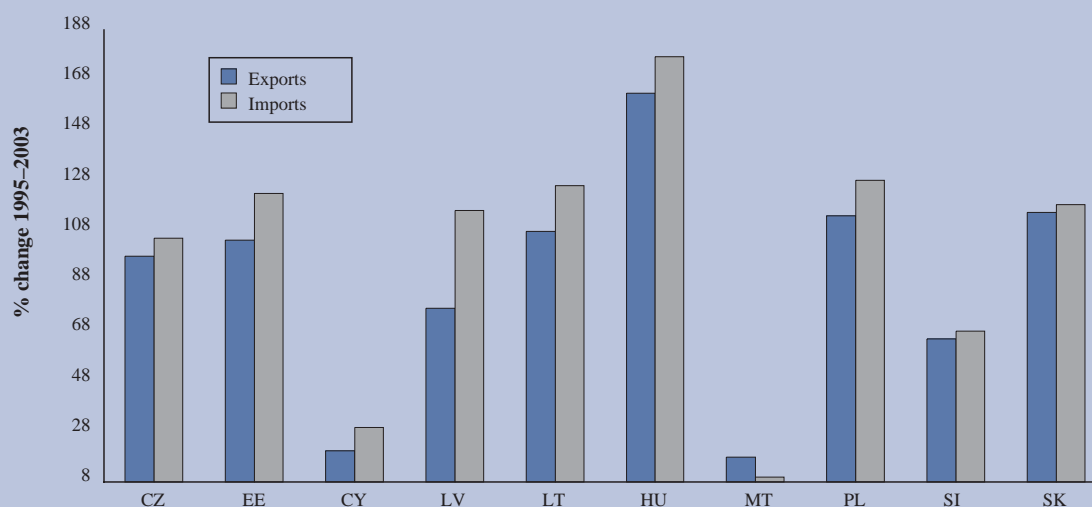
Baldwin (1994) used a gravity model to compare the potential trade of central and east European countries in the absence of trade barriers with the actual trade in 1989. The ratio of potential to actual trade was nearly always larger than one and exceeded two in the case of Poland and four in the case of the Czech Republic. The largest potential EU exporter to CEECs would be Germany followed by Italy. While at the time these were only rough estimates due to limitations of data, it clearly illustrated how trade barriers can impede potential trade on the basis of geographic and economic conditions.

Although time periods are not fully comparable due to problems of data availability, Graph 16 shows the enormous growth in total trade of the new Member States. Trade in constant prices has doubled in all of them except for Cyprus, Slovenia and Malta between 1995 and 2003. Imports have been growing much faster than

exports and several of the countries are running large trade deficits. The relatively slow growth of trade in Slovenia could be related to the low FDI inflows, due to the special way of privatisation, which triggers fewer imports of intermediate goods for the production and export of manufactured goods.

In their transition process most of the eight new Member States have substantially reoriented their trade from the ex-communist trade partners towards EU-15. Except for Lithuania, more than half of all their merchandise trade in 2002 was with EU-15 countries and in all central European Member States (except Slovakia) as well as in Estonia the share exceeded 60%. The EU-15's share in the new Member States' total exports was considerably higher than the share in total imports except for Malta, Cyprus and Slovenia. Within the new Member States, the regions closest to EU-15 usually had the strongest trade and growth effects. The most important trade partners in EU-15 are those closest to new Member States, in other words, above all Germany, but also Italy, Austria, Greece and Finland. Over the last years EU-15 had a trade surplus with the new Member States which can be explained by strong demand for durable consumer goods and investment

Graph 16: Change in exports and imports of goods and services in constant prices from 1995 to 2003, in %



NB: Data are from national accounts.
Source: Commission services.

goods which are still hardly produced locally. Trade specialisation is still in labour-/low-skill-intensive production but Hungary, the Czech Republic, Slovakia, Slovenia and Estonia are gradually moving into more technology-/high-skill-intensive production ⁽¹⁾.

Policy challenges

The new Member States have undergone considerable trade liberalisation since the early 1990s and have impressively increased their trade, in particular with the EU in the context of the Europe agreements. A part of the growth performance in the past is likely to have benefited from this increase in trade.

Membership brings some further trade liberalisation regarding sensitive sectors (agriculture, steel, services) and non-tariff barriers as well as a possible further reduction of transport costs arising from reduced waiting times at borders and from improvements in infrastructure. The latter will also depend on more efficient network industries as a result of their successful liberalisation. Less exchange rate volatility in the case of ERM II participation and later the adoption of the euro could even further reduce trade costs and could have substantial trade effects.

Improving even further the already good market access should enhance their competitive position in the single market. The gravity model suggests that these reductions in trade costs will result in further increases in trade. It also points to the importance of the growth performance of the core euro-area economies for the trade and growth performance of the new Member States. For those among the new Member States whose location puts them at a geographic disadvantage in developing closer economic ties with the EU (such as the Baltic countries, Cyprus and Malta), particular efforts on reducing trade costs will be key to further growth from trade integration with the EU. Given that they are likely to specialise their intra-EU trade in those goods and services with lower transport costs, such as the exchange of data and information, developing the relevant infrastructure and education — in particular, in information and communication technologies — could be particularly important.

The expected trade-related growth effects will also depend on the external competitiveness of local firms

and their incentives to improve their efficiency through investment. In order to be able to compete on EU and global markets, flexible and liberalised product markets are of major importance. While aspects of capital and labour markets have already been discussed above, there are indications that there is a considerable potential to increase the efficiency of product markets in most of the countries ⁽²⁾.

3.2.2. Macroeconomic policies

Accomplishing and preserving macroeconomic stability is consistently seen as an essential contribution of public policy to economic growth. The justification is apparent. Volatility in macroeconomic conditions entails that long-term planning is exposed to a higher degree of uncertainty. Investment projects with long gestation periods and high sunk costs are likely to be most responsive to changes in macroeconomic stability. This does not only hold for investment in physical capital but also for investment in research, skills and education ⁽³⁾. The more uncertain the macroeconomic environment, the less resources used for long-term investments and the lower the potential rate of growth.

Whereas economic theory allows postulating that high inflation must not impede economic growth, high inflation tends to mean in practice also a high variation in the rate of inflation, which is an obstacle to longer-term planning and could result in distorted relative prices. For instance, it is often argued that high inflation leads to overinvestment in assets such as real estate that are considered to offer a safeguard against inflation. The interaction of inflation with the tax system implies distorted incentives to invest and this might entail significant economic costs even at moderate rates of inflation ⁽⁴⁾. As regards fiscal policy, a high level of taxation may lead to distorted incentives to invest and to bear risks. An unsustainable path of public debt implies austerity measures in the future. Current investment decisions will be framed in anticipation of high future taxes and less public spending, with practical experience showing that investive public spending is often the most strongly curtailed when public finances are consolidated.

While the empirical evidence of an inverse relationship between very high inflation and economic growth is

⁽¹⁾ See Landesmann (2003).

⁽²⁾ See European Commission (2004a), Chapter 4.

⁽³⁾ For a literature review of the theory and evidence on the link between macroeconomic stability and growth, see Ahn and Hemmings (2000).

⁽⁴⁾ See Feldstein (1996).

undisputed, the case is less clear for moderate rates of inflation ⁽¹⁾. Despite some reservations on their robustness, several empirical studies on the basis of data for the OECD countries, which have low to moderate rates of inflation, were able to establish a link between the two variables ⁽²⁾. It might be that for low rates of inflation, it is less the efficiency of the price system in the allocation of resources that matters for growth but the distortion of incentives due to the interaction of inflation with capital taxes in particular. Thus, empirical results may depend on the kind of investment or fiscal variables that are included in the regressions.

Studies that analyse the impact of public finances on economic growth tend to find a negative correlation between public deficits or debt and economic growth. A caveat is, however, related to the direction of causality since it is difficult to establish whether either high deficits are hampering growth or they are themselves a consequence of low growth. While moderate changes in fiscal policy may have little or no negative effect on economic growth, especially if the government has access to finance on the global capital market, there may be a country-specific threshold above which market participants perceive the fiscal stance as not sustainable and demand a higher risk premium for holding the country's assets. This may then give rise to crowding-out effects to private investment ⁽³⁾.

Evidence is generally more robust on that the composition of public expenditure and its financing matter rather than global variables such as total public expenditure, revenues, debts or deficits. This is why the policy discussion on this issue has increasingly focused on the quality of public finances ⁽⁴⁾.

The OECD's growth project 2000–01 aimed at compiling all the available evidence on the factors driving economic growth ⁽⁵⁾. As regards inflation, the results

provide support for the notion that evidence in favour of a negative impact of moderate inflation on economic growth (or investment) is hard to obtain. Evidence is more apparent for the impact on growth of the volatility of inflation. Whenever the variable was included, it turned out with a significantly negative sign. As regards public finance variables, the estimates suggest that the share of tax and non-tax revenues in GDP is inversely related to economic growth and investment. This, however, leaves open whether the level of taxes is negatively affecting growth or whether high taxes are correlated with a high level of distortive taxes. The ratio of direct taxes to indirect taxes, where the latter are supposed to be less distortive to investment/saving decisions, turned out to have the expected negative relationship to growth. Public investment and consumption tend to have different signs in most estimates. The positive impact of public investment on growth has also been found in some but not all other studies. The European Commission (2003b) concluded that results appear weak and fragile, pointing to the consensus that public investment is less important for growth than other factors.

The situation in the new Member States

The new Member States' performance varied with respect to a number of macroeconomic variables, including inflation, public finance and the current account deficit.

Graph 17 plots both average inflation (x-axis) and inflation variability (y-axis) in the new Member States in two periods, namely 1997–99 (blue diamonds) and 2001–03 (grey squares). For comparison, the observation for the euro area in 2001–03 (black triangle) is also included ⁽⁶⁾. It shows that inflation rates have come down markedly in the new Member States. In the later period, the difference to the euro area is small for some of them. The reasons for the success of monetary authorities in the new Member States in engineering disinflation are still disputed in the economic literature. Disinflation is attributed to favourable developments in import prices, insti-

⁽¹⁾ For example, Bruno and Easterly (1998) argued that the inverse relationship between inflation and growth was only due to outliers with very high rates of inflation and the use of high-frequency data.

⁽²⁾ See Ahn and Hemmings (2000) for an overview.

⁽³⁾ Identifying such a threshold would be a serious challenge for theoretical as well as empirical work. Even if it were possible, it would be of no help for practical policy-making as these estimates were subject to the Lucas critique, i.e. change once they are known.

⁽⁴⁾ An obvious indication for this shift can be seen in the fact that the world competitiveness report has replaced the variable public spending relative to GDP with an index capturing the amount of distortive public activity. It consists of three sub-indices measuring distortive subsidies, diversion of public funds and public trust in politicians' fiscal honesty. See Sala-i-Martin (2003).

⁽⁵⁾ More detailed explanation of this research, which provides some kind of benchmark estimates for industrialised countries, is given in Bassanini et al. (2001). As regards the impact of macroeconomic variables on growth, the empirical approach was a pooled-mean group estimator that exploits the information content of both differences across 21 OECD countries and variation over time (1971–98) while imposing some coefficients to be uniform in all countries.

⁽⁶⁾ 1997 is the first observation of HICP inflation for some of the new Member States.

tutional developments driven by the prospect of EU accession and conducive to a sounder policy-mix, and the diminishing need for adjustments and liberalisation of administered and regulated prices ⁽¹⁾.

Graph 17 also shows that the variability of consumer price inflation is considerably higher in the new Member States than in the euro area. It was more volatile despite the fact that the average level of the inflation rate was not markedly different from the euro-area rate of inflation in some of them. With the blue diamonds in the graph representing the realisation of both variables in the new Member States in the period 1997–99, it becomes evident that both the level and variability of inflation have declined over time.

The new Member States are generally expected to experience average inflation higher than incumbent EU members because of convergence effects. Catch-up growth tends to be accompanied by higher inflation in the non-tradable sector, causing overall inflation also to be higher. Empirical estimates of this so-called Balassa–Samuelson effect have come up so far with very different results, depending on method, data and time period used ⁽²⁾. This variability is very likely due to the fact that the central assumption of the Balassa–Samuelson effect, namely of productivity growth primarily taking place in the tradable sector, does not necessarily hold. Recent productivity growth has been driven to a large extent by the take-up of ICT in the service sector, which consists of many non-tradables. Nevertheless, a positive relationship between price level and income level is well documented. Cross-country analysis presented in European Commission (2002b) suggested that a one percentage point increase in GDP per capita relative to the EU-15 average would raise the price level as measured by PPS by 0.86 % relative to the EU-15 average. It also cautioned that alternative techniques would exhibit a considerably smaller — albeit still significant — effect.

As regards public finance, general government deficits in 2003 as notified to the Commission in autumn 2004 are illustrated in Graph 18. Taking the Maastricht criteria as benchmarks, deficits were higher than 3 % of GDP in Cyprus (6.4 %), the Czech Republic (12.6 %), Hungary (6.2 %), Malta (9.7 %), Poland (3.9 %) and Slovakia

(3.7 %). Policy-makers in all of these countries are likely to implement measures of fiscal consolidation in the next years ⁽³⁾. Regarding public debt, the situation looks better in that all countries except Cyprus and Malta were below 60 % of GDP in 2003, although Hungary only marginally so.

Public investment in 2003 was close to or above 3 % of GDP in all countries with the exception of Latvia which spent only 1.6 % of its GDP. Public investment in infrastructure with the aim of bringing it to EU-15 average standards entails large costs. Calculations by DIW, a German research institute, suggest that they amount to about EUR 500 billion of which about two thirds are on environment, water and energy. This would be more than 5 % of annual GDP if investment is spread over 15 years.

For public expenditure, which the empirical growth literature considers to be inversely related to economic growth, Graph 19 shows that the public consumption to GDP ratio is not very different in most of the new Member States than in the euro area. Four of the countries have a ratio around 20 %, three are higher and two are considerably lower than the euro area. The European Commission (2002b) analysed CEEC-10 budget data in 2000, taking into account as explanatory variables GDP per capita, trade openness, debt level and demographic variables, and compared predicted and actual expenditure to GDP ratios in CEEC-10. Except for Poland, Bulgaria and Latvia where the actual ratio was higher, most of the new Member States did not deviate considerably from their predicted ratio.

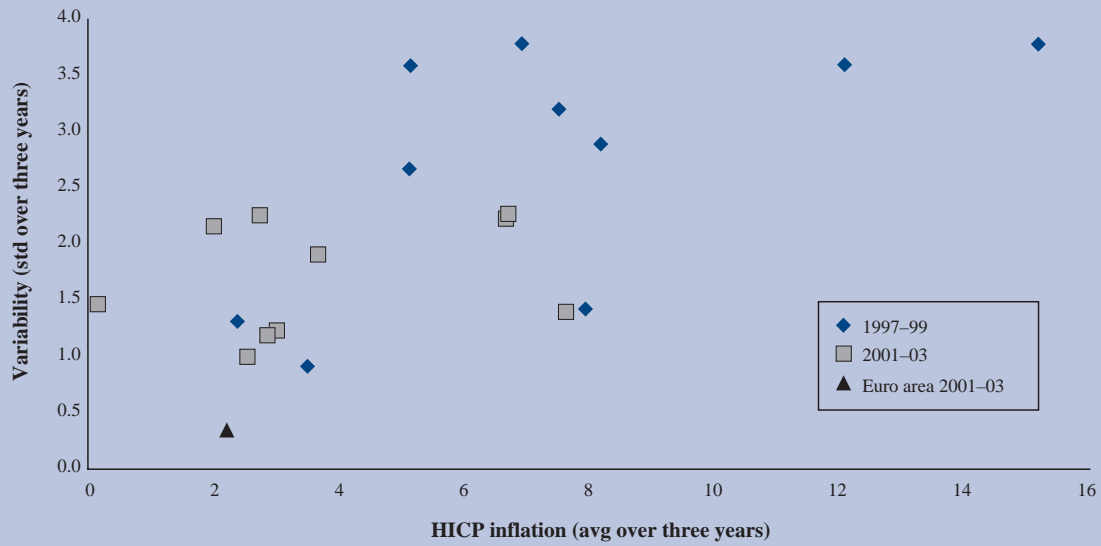
Somewhat surprisingly, national accounts data suggest an inverse relationship between the compensation of public employees and public consumption across the new Member States (coefficient of correlation of – 0.5) in contrast to the strong positive link both between and across the EU-15 Member States (coefficient of correlation of + 0.7). This suggests that countries with a high share of public consumption do not have a particularly high share of public employment. A tentative conclusion could be that these countries have more flexibility to adjust public finances than euro-area Member States. However, more detailed analysis on a country-by-country level suggests that up to 80 % of government

⁽¹⁾ See Brada and Kutan (2002) and Wachtel and Kurhonen (2004).

⁽²⁾ For an overview of different empirical studies, see Chapter 5 in 'The EU economy: 2002 review' and Égert et al. (2004).

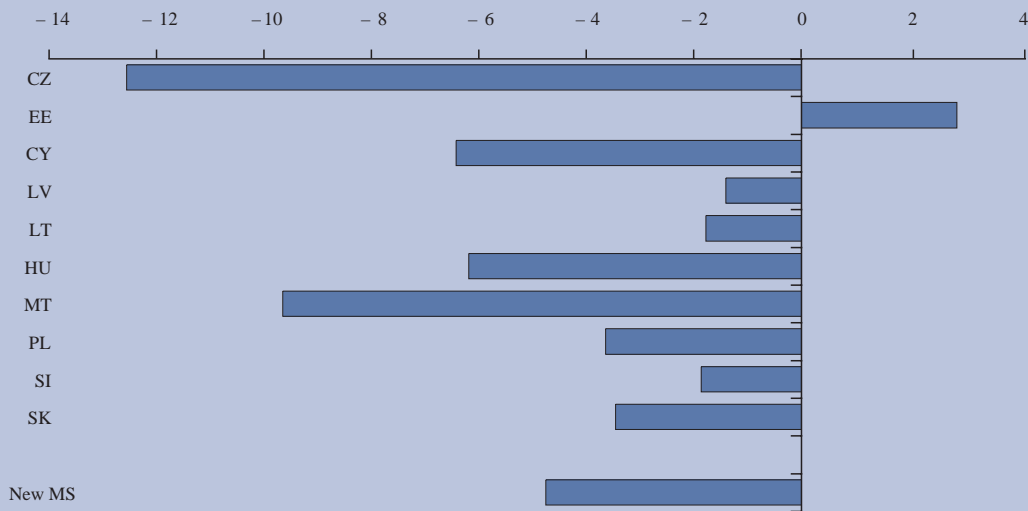
⁽³⁾ These countries have already received recommendations under the excessive deficit procedure to bring down their deficits in the coming years.

Graph 17: Level and variability of consumer price inflation in the 10 new Member States



Source: Commission services.

Graph 18: Net lending in % of GDP, new Member States, 2003



Source: Commission services.

expenditure is rigid ⁽¹⁾. A reason is that a larger share of public consumption falls on the consumption of collective goods, in other words, security, defence, infrastructure, and legal and political administration. These expenditures are likely to feature scale effects. That is, they are higher than in the old Member States because the new Member States still have a lower level of GDP per capita but these expenditure items should grow in proportion to GDP.

Most of the new Member States have similar or smaller revenue/GDP levels than the euro area and the average tax burden is also consistently lower. This does not necessarily imply that taxes have a less distortive effect on individual incentives in the new Member States than in the euro area because the variable of interest is the marginal tax rate rather than the average tax burden shown in the graph. Despite absent comparable information on marginal tax rates, at least at the aggregate level, the graph can nevertheless be expected to give a good proxy for tax incentives.

Finally, the tax system is not less supportive to growth in the new Member States compared with the euro area in the aggregate perspective. A higher share of tax revenue falls on indirect taxes, which are perceived to be less distortive to the allocation of income to consumption and investment/savings than direct taxes. A qualification to this finding, however, results from the size of social security contributions, which — though smaller relative to GDP than in the euro area — are rather large in relation to the tax base, leading to high rates of taxation on labour. This negatively affects incentives for job-intensive growth and for work in the official economy.

Regarding the external balance, the economies of the new Member States, at the time of accession, displayed important strengths that should help ward off risks of instability. Nonetheless, policy-makers need to ensure that the process of convergence is not punctuated by external or financial sector stresses. Among the key favourable elements in this regard are reforms that have restructured the financial sector and buttressed external positions against possible shocks.

Policy-makers have made great strides in strengthening frameworks for financial supervision. Banking systems

are on average well capitalised and sizeable foreign-ownership stakes have typically helped to improve management. Already in the transition decade, hard budget constraints were imposed on former State-owned enterprises — removing a key source of quasi-fiscal pressures on banks and governments. And in general the leverage of households and corporations is low.

In the external sector, current account deficits have been covered significantly by foreign direct investment (see Graph 20). Short-term debt typically is well covered by reserves. Monetary and exchange regimes are mostly the ‘corner solutions’ of hard pegs or qualified inflation targeting, reducing vulnerability to capital flows. Moreover, adjustment mechanisms in the real economy display greater flexibility than in other Member States — notwithstanding some rigidities that keep structural unemployment high — and competitiveness has been quite well preserved.

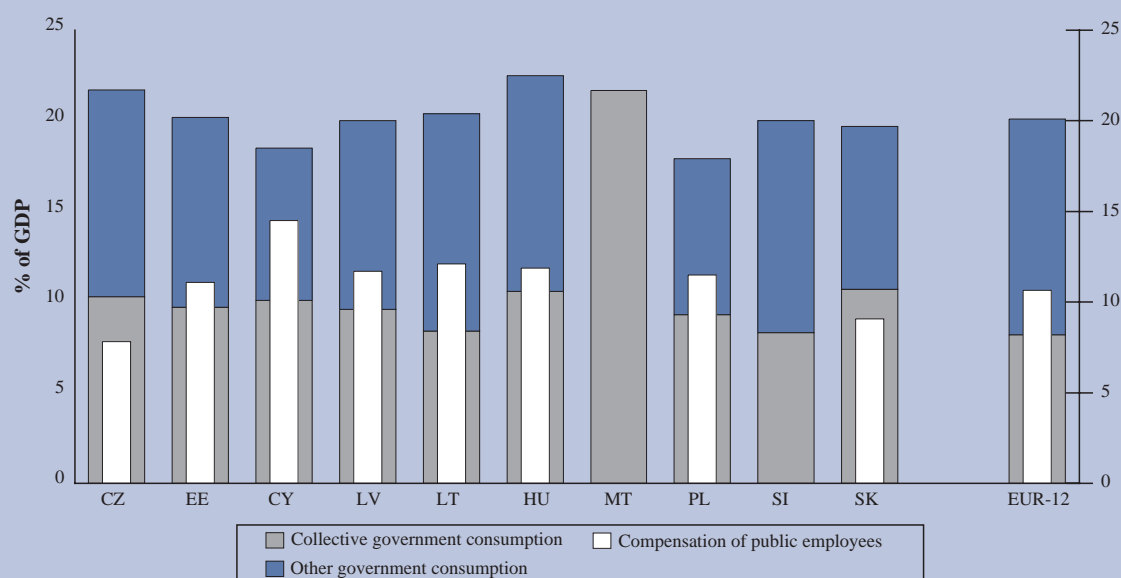
In terms of possible vulnerabilities over the medium term, however, the discussion above of current trends in public finances presents a decidedly more mixed picture. The larger economies in central Europe, as well as Cyprus and Malta, have experienced sizeable fiscal deficits; and in a number of cases debt ratios are quite high relative to income levels. This argues for a steady reduction in deficits — so that policy is positioned to respond flexibly to possible shocks. In the Baltic region and in Slovenia deficits are much smaller, and three of these economies have already entered ERM II ⁽²⁾. It remains important, nonetheless, to ensure that policy is free to allow automatic stabilisers to operate — and in particular to avoid a fiscal stimulus to demand at times when, as at present in the Baltics, credit growth is strong.

While policy-makers can feel considerable confidence about the present robustness of their economies, the strong real and financial convergence ahead carries inherent risks. Experience in emerging market economies points to the potential stresses that can emerge as financial systems expand in an open capital account setting. Experience in some central European economies has already illustrated the scope for financial market exuberance to drive risk premiums on external debt and domestic instruments to levels lower than warranted by fundamentals. Under such circumstances, strong inflows, rapid credit growth, and buoyant asset prices

⁽¹⁾ Rigidity means here determined outside the budget bill process. See European Commission (2003b), Part V, for a review of key budget issues for the new Member States.

⁽²⁾ These are Estonia, Lithuania and Slovenia.

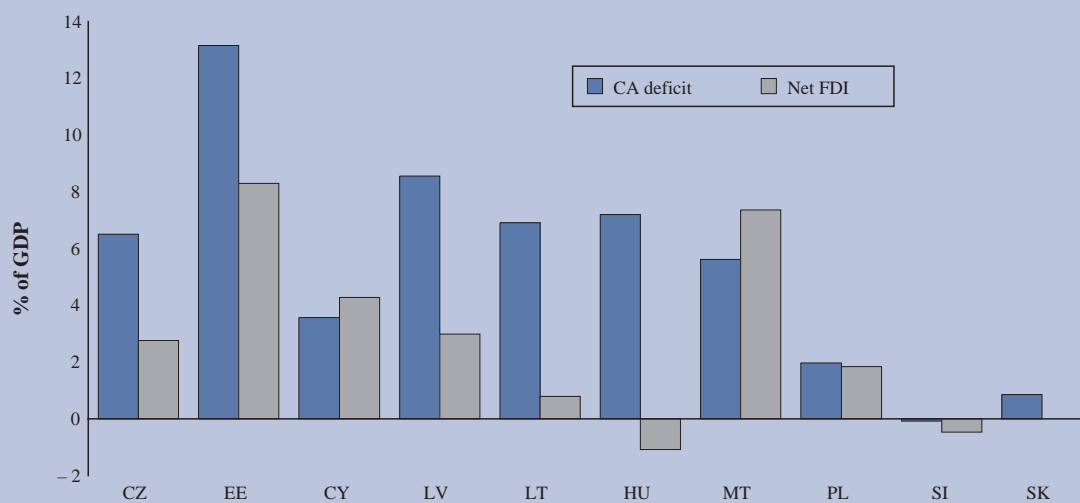
Graph 19: Public consumption in the new Member States, % of GDP



NB: Malta: 2001 observation for total government consumption; no breakdown available. No comparable data on compensation of public employees for Slovenia.

Source: Commission services.

Graph 20: Current account deficits and net foreign direct investment in % of GDP, 2003



NB: No FDI graphs for Slovakia.

Source: Commission services.

can lead to a cycle of real appreciation — and potential stresses when expectations at some point reverse. The new Member States in the Baltics and central Europe need to guard against such a cycle — given the setting of positive credit supply shocks, rising permanent income expectations, and open capital accounts.

Policy challenges

Overall, abstracting from sizeable variations across the new Member States, policy-makers have made good progress in establishing stable macroeconomic frameworks, conducive to growth. Looking ahead, macroeconomic policies will remain a key focus of attention in connection with potential euro-area membership. At least in those new Member States contemplating a concrete schedule for introducing the euro, policy-makers will need to set their priorities so as to achieve the nominal convergence criteria set by the Maastricht Treaty.

Where inflation has come down markedly, it will be crucial to keep it at a low level. The still high variability of inflation indicates that inflation expectations might not yet have followed the downward trend in actual inflation. Therefore, inflation surprises will challenge monetary authorities. On the one hand, ERM II could provide an external anchor for the credibility of monetary policy. On the other hand, catch-up in price levels, wages and growth may cause temporarily higher rates of inflation in some of the countries. In these cases, keeping the option of a more flexible adjustment of exchange rates for some time could be conducive to securing external competitiveness.

Budgetary deficits in most new Member States are still much higher than the 3 % benchmark enshrined in the Treaty. The experience of some of the current euro-area Member States taught that stringent budgetary consolidation can bring deficits down quite quickly. The new Member States, however, differ in two important respects. First, they are faced with the need to build up and modernise their infrastructure. However, public investment does not necessarily need to be financed by budget deficits. Second, economic restructuring is an ongoing process in the new Member States and may require the use of public spending to cushion adjustment costs by compensating the losers of structural change and economic reforms.

Fiscal discipline facilitates the task of monetary authorities in keeping inflation under control. Some even argue that it represents a pre-condition for accomplish-

ing price stability on a sustainable basis. In this respect, the tensions to which public finances in new Member States are exposed, with the objective of consolidating deficits below the 3 % ceiling on the one hand and improving infrastructure and social cohesion on the other hand, are a crucial challenge. Moreover, still high public deficits and outstanding spending necessities also warrant a tone of caution on whether the above brief description of the favourable structures of public revenues is lasting. Unsustainable public finances can mean crowding-out effects and distortive taxation in the future.

Regarding external and financial stability, the striking success of policy-makers in navigating the uncharted waters of transition over the past decade has left these economies well-braced against external or financial sector stresses. Nonetheless, the period ahead will bring new challenges. To safeguard external and financial stability, attention needs to be paid to the interaction of monetary, prudential and fiscal policy regimes, and to the ways in which these may influence the risk behaviour in the private sector. And in particular, as the private sector enters a phase of strong expansion, the design of fiscal policy can play an important supporting role in ensuring that imbalances are limited and that private sector confidence is maintained.

3.2.3. Institutional quality

There is a growing emphasis in the economic literature on the role of institutions for long-term economic developments. The IMF and the World Bank are increasingly focusing on the role of institutions in their strategies of macroeconomic stabilisation and poverty reduction ⁽¹⁾. In Europe, the most prominent example of attention given to the quality of institutions are the so-called Copenhagen criteria (political, economic and legislative) which candidate countries have to fulfil in order to become members of the EU.

In general, institutions are defined as the ‘rules of the game’ which can be formal and informal rules, enforcement mechanisms and organisations ⁽²⁾. Policies should aim at efficient institutions by ensuring the rule of law in order to avoid unclear property rights, providing a well-functioning administration and integrating

⁽¹⁾ For a more extensive overview of how institutions and political factors impact on economic growth, see IMF (2003a) and Borner et al. (2004).

⁽²⁾ See North (1990).

markets by reducing trade costs. Hence, the public sector has a crucial role to play in providing the conditions for a functioning market economy by guaranteeing the exclusivity of private property rights, in particular by fighting crime and corruption, and by reducing the costs of trading property rights, in particular through the provision of macroeconomic stability, good infrastructure, clear legal procedures for the enforcement of contracts and so on. Efficient institutions are essential for economic development since they provide incentives for private agents to fully benefit from the investment and production of goods and to trade them with those who value them most. Furthermore, without well-defined private property rights, financial intermediation of savings and investment and hence the accumulation of capital do not function smoothly due to a lack of collateral ⁽¹⁾.

A fundamental problem for both theoretical analysis and empirical research on institutional economics is endogeneity or the direction of causality, i.e. whether income is high because of good institutions or whether institutions are good because a high-income country can better afford to have them ⁽²⁾. Empirical research in this area is quite recent and has only become possible after different researchers and institutions had compiled data on institutions and governance across countries, which has allowed for the empirical backing of the importance of institutions for economic activity.

The most comprehensive database on institutions and governance currently available has been established by the World Bank. It covers six different variables for governance for 199 countries (including the new Member States) and observations for four points in time (1996, 1998, 2000 and 2002). The raw data are from surveys and opinion polls carried out by various different organisations (international organisations, risk-rating agencies, think-tanks, NGOs) ⁽³⁾. The main variables, of which some are apparently of more importance for developing countries than for the EU, are voice and

accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption.

Despite the progress made in data collection on the quality of institutions, these data are not without problems and results should be regarded with a certain caution. For instance, it is well known that institutions are context-specific because they develop on a longer-term historical and cultural background. It is also questionable whether the legal characteristics are sufficient to describe the actual impact of institutions. A solution is that most of the empirical measures for institutional quality tend to be based on opinion polls and expert surveys about the data. The advantage is that it reflects economic actors' perception of the actual institutional quality rather than the legal or social norms that govern institutions ⁽⁴⁾.

In spite of these data problems, the empirical results are very robust. The main outstanding question from this line of research is not whether institutions are important for growth but how important they are. While some authors conclude that 'the quality of institutions trumps everything else' others consider geographical variables as equally important and stress the interaction between 'institutions, policies and geography' ⁽⁵⁾. Applying the IMF (2003a) methodology to the World Bank data for the EU Member States, candidate countries and other industrial economies shows the expected positive relationship between the quality of institutions and GDP per capita (Graph 21). Here, the quality of institutions is able to explain about two thirds of cross-country variation in growth. By adding further control variables, the more sophisticated econometric approach used in IMF (2003a) is able to explain three quarters of the variations in cross-country growth regressions. It also finds that improving the institutional quality by one standard deviation would raise GDP per capita by 1.4 percentage points.

Identifying the institutions that have the largest impact on economic activity is difficult. The first column in the

⁽¹⁾ See Bassanini et al. (2001, Annex) or Romer (2001, Chapter 3.11) for two alternative approaches as to how institutions could be integrated into traditional growth models.

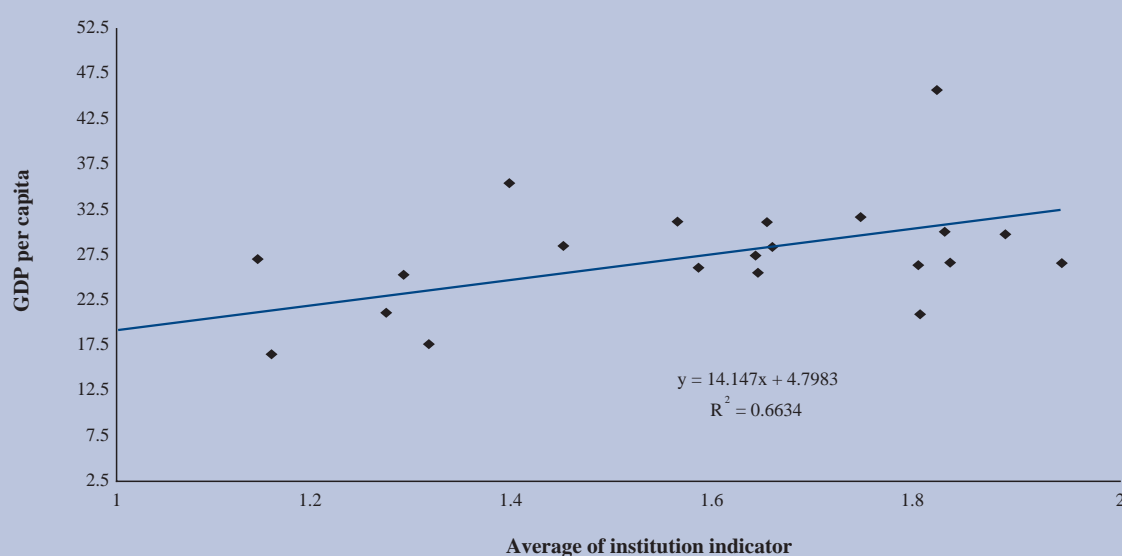
⁽²⁾ Taking corruption as an example, it is difficult to imagine both that a country with a high degree of corruption can achieve a high level of income given the disincentives to invest and that a poor country could afford public service wages that are sufficiently high to reduce the incentive to take bribes. Moreover, due to a less developed system of control and justice, the risk of being discovered or sanctioned for taking or giving bribes may be lower.

⁽³⁾ A detailed explanation of data and methodology is given in Kaufmann et al. (2003). The data are published on the World Bank website.

⁽⁴⁾ A potential drawback of this approach is that survey results could be culturally biased, which reduces the extent to which policy recommendations can be drawn from cross-country analyses or case studies. Kaufmann et al. (2003), who built up a data set for the World Bank, found little evidence of ideological biases in the assessment of corruption in the surveys.

⁽⁵⁾ See Rodrick et al. (2002) for the first and Sachs (2003) for the latter quote. Easterly and Levine (2003) find that institutions matter most for the long-term level of income whereas geography and policies do not if their effects on institutions are controlled for. Dollar and Kraay (2003) give evidence of a strong effect of trade on growth and a much smaller role for improvements in institutions.

Graph 21: GDP level and the quality of institutions, industrial economies



Sources: World Bank, IMF, Commission services.

table below displays that coefficients of correlation with the World Bank indices of institutions are all high, except for the one that captures political stability. Moreover, each indicator is strongly correlated with the other indicators, again with the exception of political stability. This probably reflects the importance of interactions among institutions, i.e. good institutions in one field are supportive to the quality of institutions in another field.

Table 10

Correlation of institutional variables with GDP level (2002, PPS)

	35 ind. countries	EU-25
Voice and accountability	0.77	0.59
Political stability	0.48	0.28
Government effectiveness	0.87	0.73
Regulatory control	0.79	0.66
Rule of law	0.88	0.72
Control of corruption	0.85	0.70

Sources: IMF, World Bank, Commission services.

The situation in the new Member States

Eight of the 10 new Member States underwent the transition from a central planning to a market economy within a very short time. They experienced an immense deterioration in living standards in the early phase of transition which the economic literature often attributes to the ‘institutional collapse’, in particular the lack of market-oriented legal structures⁽¹⁾. It is now tempting to relate the strong growth, which some of the new Member States witnessed over the past years, to their progress with institutional reforms. Although the imprecision of measurement described above requires some caution in cross-country comparisons of institutional variables, it allows a broad snapshot of the perception of how efficient institutions work in the new Member States relative to EU-15.

While the average is lower for the new Member States than for EU-15 in all categories and particularly lower for the three sub-indicators of effectiveness of governments, rule of law and control of corruption, there is at least one

⁽¹⁾ For an overview of the economics of transition, see Campos and Coricelli (2002), Svenjnar (2002) and, for a review of the determinants of enterprise restructuring during transition, Djankov and Murrell (2000).

new Member State in each category that performs better than the lowest ranked Member State in EU-15. It is also apparent that the gap between the EU-15 average and the new Member States is particularly large in those categories where EU-15 has a high rank, in other words, performs especially well relative to the rest of the world. The gap between East and West is lowest for the sub-indicator of political stability, which, according to Table 11, has the smallest relevance for economic activity and quality of other institutions, respectively.

An advantage of the World Bank data set is that it allows the tracing of developments over time, although only for a short period. Whereas institutions are usually seen as rather invariant over time, this might not be true for the new Member States, which had undergone huge political, economic and social transformation in the 1990s. Since the indicators of institutional quality are derived from experts' or citizens' perception of the institutions and this perception can reasonably be expected to adjust with a lag to actual improvements in quality, it could be telling to consider the improvements measured between 1996 and 2002 ⁽¹⁾. Given the kind of measurement, all improvements in the indicators are not in absolute terms but relative to all the other countries in the panel.

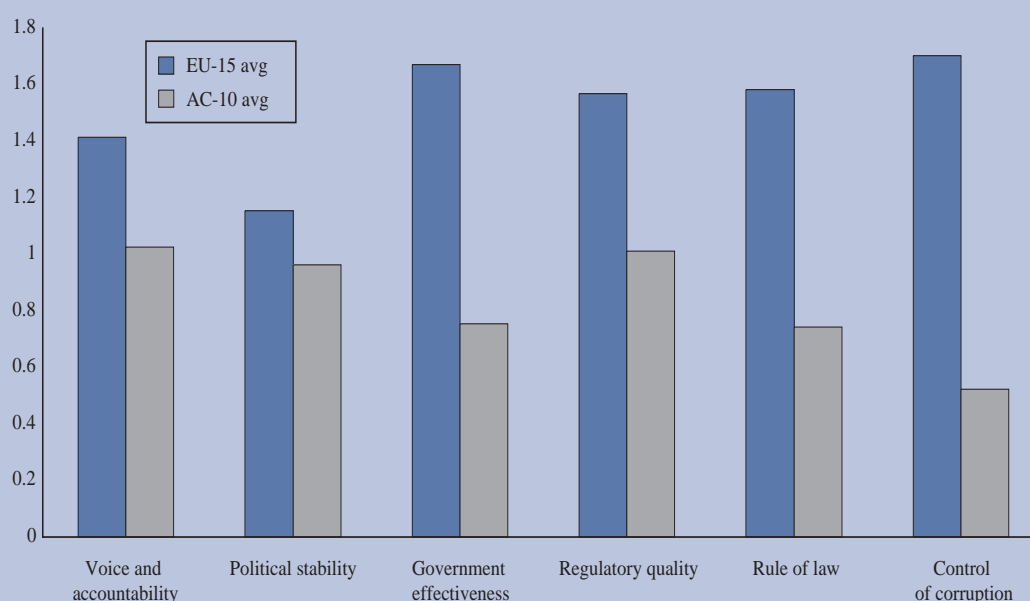
Graph 23 illustrates the enormous progress the new Member States made. Between 1996 and 2002, they were able to improve the quality of their institutions — as assessed by citizens and experts — by 0.3 standard deviations. Assuming, for both simplicity and illustration, that the convergence process is linear and that the trend continues in the years ahead at the same speed, the gap to EU-15 would be closed in 12 to 15 years ⁽²⁾.

When translated into terms of the gap to the EU-15, the improvement in the perceived quality of institutions means that more than 70 % of the gap in 1996 was closed between 1996 and 2002 for the sub-indicators of political stability and regulatory quality. Somewhat less assuring is the observation that catch-up has been more limited in government effectiveness, rule of law and especially control of corruption. These are categories where EU-15 fares very well compared with the rest of

⁽¹⁾ For the sample of all countries, there is no evidence that there could be a negative relationship between the quality of institutions in 1996 and the improvement in the quality between 1996 and 2002.

⁽²⁾ In another project on indicators of 'doing business' including 145 countries, the World Bank (2004) notes the reform progress in 2003 of Poland, Lithuania and Slovakia which brought the latter two countries into the top 20 economies on the ease of doing business.

Graph 22: Quality of institutions in the old and new Member States, 2002



NB: The graph shows the average of EU-15 and AC-10. The scale is expressed in standard deviations with zero being the average of 198 countries.
Source: World Bank.

the world as evidenced by a high level of these indicators in the EU-15 Member States ⁽¹⁾. This somewhat puts into perspective the observation of less progress made in the new Member States.

Taking the IMF estimates quoted above at face value, this improvement in the institutional quality by 0.3 points has contributed to raising average annual GDP growth in the new Member States by 0.4 percentage points. Applying a more simplistic view, Graph 24 relates the variations in the improvement in institutional quality across the new Member States to their average growth performance in 1996–2002. While the slope is positive, it is borderline significant at the 10 % level. The graph shows that the observation for Malta apparently interferes with the stronger relationship visible for the other nine new Member States. Excluding Malta from the sample would yield a significant relationship that suggests growth gains from the improvements in institutions far higher than calculated by the IMF researchers.

In a panel of the 10 Member States and the six sub-categories for the quality of institutions, the improvement of only two sub-categories displays a strong positive correlation with GDP growth. These are the effectiveness of government (0.85) and control of corruption (0.74). Cross-country variations in the other variables are not correlated with differences in the growth performance across the new Member States or, very surprisingly, even weakly negative for the case of improvements in regulatory control. This might be due to the time lags with which improvements in regulation usually impact on economic activity ⁽²⁾.

When analysing how the new Member States managed to improve the quality of their institutions, the literature unanimously points to the role of EU integration ⁽³⁾. In this context, at least three factors were important. Firstly, accession to the EU required the adoption of the *acquis communautaire*, in other words, the direct import of legislation that has advanced integration between the old EU Member States. EU pre-accession funding from the Phare instrument spent considerable amounts on institu-

tion-building to help achieve the accession criteria (see Box 1). Secondly, the accession process provided an external anchor for policy-makers' constraints and incentives, which helped in overcoming domestic obstacles to reform. Thirdly and related, the path towards EU accession brought to the fore the importance of stimulating openness, competition and an administrative environment supportive to business activity.

While the path towards EU accession seems to have favourably impacted on institutions and economic performance, it remains to be seen which factors could stimulate further progress in the quality of institutions. In this context, economic surveillance within the EU could play an important role, substituting the external anchor of EU accession by the one of peer pressure and best practices. The IMF (2003a) points to some fundamental factors that have proven conducive to institutional reform. These are openness to trade, stronger competition, information and higher transparency. Ownership of and commitment to reforms are considered overriding determinants of progress with the quality of institutions.

Policy challenges

The available literature points to a strong link between the quality of institutions and catching-up or GDP per capita levels. For a number of indicators of institutional quality and in spite of impressive progress between 1996 and 2002, the new Member States still have considerable gaps compared with most old Member States, in particular with a view to the efficiency of public administration and judiciary. The preparation for EU accession as an external anchor is the most frequently used explanation for the progress in institutional reforms in the new Member States (see Box 1).

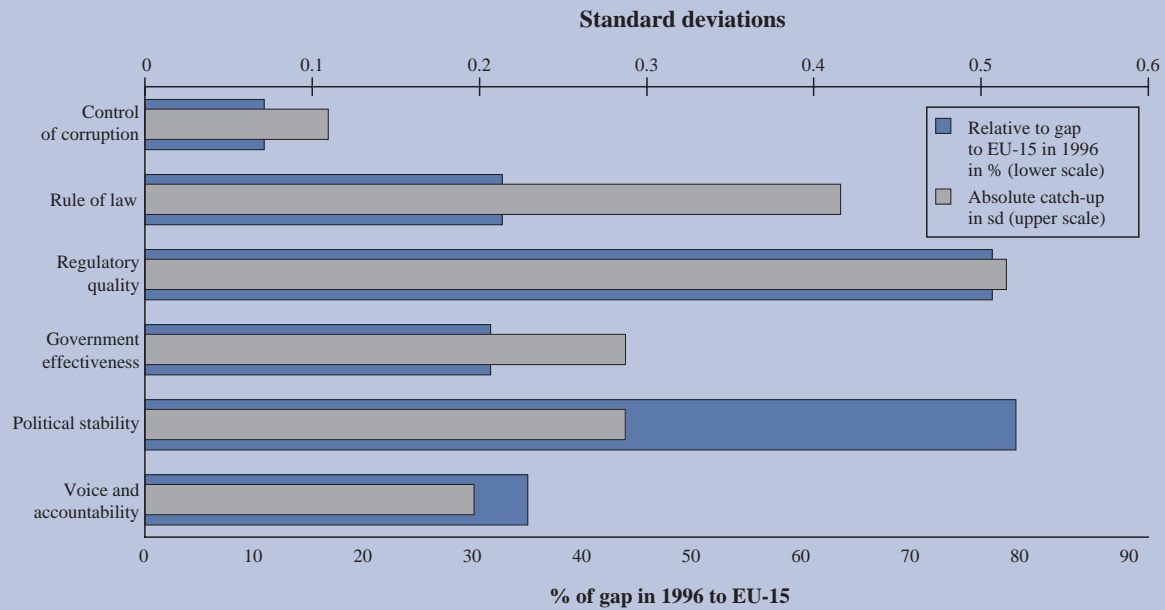
Further progress in reforming institutions will be of major importance for the new Member States' process of catching-up. To the extent that it is difficult to carry out institutional reforms on a purely domestic political basis, the disappearance of the EU membership 'carrot' prompts a question whether comparable new external anchors have become available after accession. Mechanisms of Community law and of economic policy coordination could be thought of as possible substitutes after accession. However, the Treaty is relatively silent on what is considered here as institutions and mostly based on cooperation between Member States rather than on Community procedures. Economic policy coordination addresses issues of institutional quality only marginally

⁽¹⁾ It should be noted, however, that the United States records a still slightly better assessment of their quality in the institutions in these three categories, though the distance is small.

⁽²⁾ According to the literature on the credibility of monetary policy, which can be applied to this case, the track record is a more important determinant of reputation than announcements. It is therefore reasonable to expect changes in the perception of the quality of institutions to materialise with a lag only.

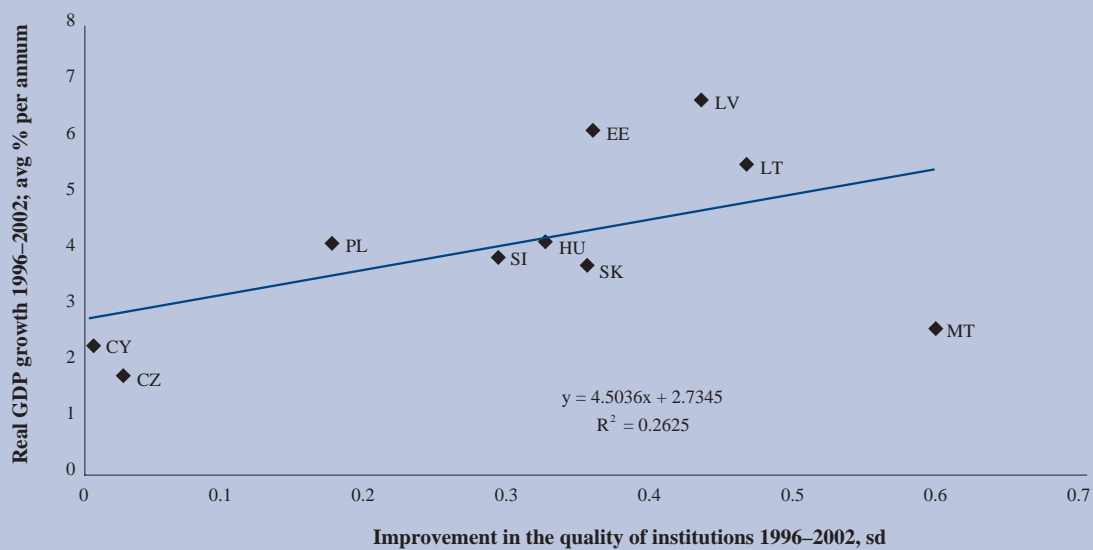
⁽³⁾ For a review, see IMF (2003a), Box 3.2.

Graph 23: Catch-up of institutional quality to EU-15 — Change, 1996–2002, in % of the gap to EU-15 in 1996



Source: Commission services.

Graph 24: GDP growth and the improvements in institutional quality in the new Member States



Source: Commission services.

when it comes to assessing the progress in structural reforms ('Cardiff process') in the context of the business environment. Sanctioning mechanisms here are relatively weak and mainly based on exchange of best practice and peer pressure.

It could therefore be useful to reflect how to reinforce mechanisms at the EU level which could serve as external anchors, to help further improve the quality of institutions in the new Member States. A first option could be to widen the scope of monitoring structural reforms to aspects covering institutional quality. A second option is to use existing instruments in the EU cohesion policies to reorient them to the performance of institutions or the implementation of recommendations in that area. Finally, spending on institution-building, as under the pre-accession instrument Phare, should also have more importance in Structural Funds programmes.

It would seem preferable to implement the link between institutions and EU policies as an incentive to make further progress, and as an attempt to improve the efficiency

of EU funding — not as a sanction. The most difficult part will be to agree on indicators for the quality of institutions which are not contestable and based on sound methodology. When implementing recommendations to improve the quality of their institutions, Member States should be able to make use of the important function of the EU as an external anchor which allows more courageous reforms than mere within-country political forces would do. However, the focus should only be on the 'function' and not on the 'form' of institutions (Rodrick et al., 2002) since there is broad agreement in the literature that universally good institutions do not exist. Institutions are context-specific and therefore depend on the historical, cultural and political background of a country or region. When building institutions, norms and culture as well as existing institutions need to be taken into account. Therefore, the World Bank (2002) holds that 'best practice in institutional design is a flawed concept' and suggests four key approaches to institution-building: complement what exists, innovate to identify institutions that work, connect communities through information flows and trade, and promote competition.

Box 1: Institution-building in the pre-accession process

The Copenhagen European Council in June 1993 concluded that 'membership requires that the candidate country has achieved stability of institutions guaranteeing democracy, the rule of law, human rights and respect for and protection of minorities, the existence of a functioning market economy as well as the capacity to cope with competitive pressure and market forces within the Union. Membership presupposes the candidate's ability to take on the obligations of membership including adherence to the aims of political, economic and monetary union.' Since 1998, the European Commission has been publishing annually a regular report on each candidate country's progress towards accession to provide an assessment of progress in meeting these political, economic and *acquis* criteria for accession.

Regarding the economic criteria, the existence of a functioning market economy requires that prices, as well as trade, are liberalised and that an enforceable legal system, including property rights, is in place. Macroeconomic sta-

bility and consensus about economic policy enhance the performance of a market economy. A well-developed financial sector and the absence of any significant barriers to market entry and exit improve the efficiency of the economy. The capacity to cope with competitive pressure and market forces within the Union depends on the existence of a market economy and a stable macroeconomic framework, allowing economic agents to make decisions in a climate of predictability. It also requires a sufficient amount of human and physical capital, including infrastructure. State enterprises need to be restructured and all enterprises need to invest to improve their efficiency. Furthermore, the more access enterprises have to outside finance and the more successful they are at restructuring and innovating, the greater will be their capacity to adapt. Overall, an economy will be better able to take on the obligations of membership the higher the degree of economic integration it achieves with the Union before accession. Both the volume and the range of products traded with EU Member States provide evidence of such integration.

(Continued on the next page)

Box 1 (continued)

With the objective of supporting the achievement of the Copenhagen criteria, the Commission regularly adopts 'accession partnerships' which provide an assessment of the priority areas in which the candidate country needs to make progress in order to prepare for accession and on the basis of which 'national programmes for the adoption of the *acquis*' provide a single framework for the programming of the EU pre-accession financial instruments. These include the Phare programme to finance institution-building and for investment to help adopt the *acquis*, ISPA for the financing of large infrastructure projects in the transport and environment sectors, and Sapard to support agricultural and rural development. Community assistance for financing projects through these three pre-accession instruments is conditional on respect of commitments under the Europe agreements, further steps

towards satisfying the Copenhagen criteria and progress in meeting the specific priorities of the accession partnership. The financial framework 2000–06 makes available EUR 3.12 billion (in 1999 prices) per year for all three financial instruments of which about half is spent on Phare projects. The main objectives of Phare are to strengthen their public administrations and institutions to function effectively inside the Union, to promote convergence with the European Community's extensive legislation and reduce the need for transition periods, as well as to promote economic and social cohesion (also to prepare the transition to Structural Funds). Around 70 % of Phare resources are allocated for investment in the regulatory framework and for economic and social cohesion, while approximately 30 % are being used to meet institution-building needs.

4. What can be the contribution from EU cohesion policy?

The EU spends about one third of its budget on supporting cohesion by assisting Member States and their regions in efforts to promote catching-up (see Box 2). Though the policy has a distributive dimension, evidenced by significant net transfers to the poorer Member States, it aims primarily to enhance efficiency and growth. The goal of the Structural and Cohesion Funds is precisely to support the main determinants of catching-up highlighted above in Section 3. A number of questions will help to identify the potential contribution of EU funds to the catching-up of the new Member States. Have Structural Funds contributed to real convergence in Europe? What are the conditions under which they have an impact on growth and employment? How will and how should Structural Funds be changed?

4.1. Evidence of Structural Funds impact

Some authors have criticised the Structural Funds as having — if any — only a marginal impact on real convergence in Europe ⁽¹⁾. However, most of these studies use growth regressions subject to methodological, econometric and data weaknesses. Moreover, the role of the Structural Funds is, in essence, to co-finance investments in physical and human capital, using financial means coming mainly from other economies. EU regional policy should therefore be expected to have a positive impact on growth and employment in the recipient regions and Member States.

Standard growth regressions testing for absolute or conditional β -convergence cannot as such provide any evidence on the impact and effectiveness of the EU cohesion policy. No causality can be inferred from either the occurrence or the lack of convergence or from its speed which may result from many economic, social and policy factors other than the EU assistance.

⁽¹⁾ See, for example, Boldrin and Canova (2001), Ederveen and Gorter (2002) or Midelfart-Knarvick (2004).

Two main methods have thus been adopted to assess the direct effect of the EU cohesion policy: model simulations and econometric growth regressions incorporating the amount of cohesion funding as an explanatory variable among other variables.

A variety of macroeconomic models, based on different theoretical foundations, have been used to assess the impact of the Structural Funds. The Commission mainly relies on two combined demand-side and supply-side models, Quest II and Hermin ⁽²⁾.

Quest II embodies a neoclassical Keynesian synthesis. While in the short run the model is influenced by standard Keynesian features, the behavioural equations are based on microeconomic principles of intertemporal optimising behaviour of households and firms and the supply side of the economy is modelled explicitly via a neoclassical production function ⁽³⁾.

Hermin is basically a neo-Keynesian model with some neoclassical features in the supply side ⁽⁴⁾. The model attempts to capture the effect of public investment by incorporating the beneficial externalities associated

⁽²⁾ For other models, see, for example, Bourguignon, et al. (1995). A complementary approach used by the Commission is a predominantly demand-side model based on input–output techniques allowing the assessment of how Structural Funds expenditures affect the structure and level of final demand including investment and induce changes in imports, value added, labour and capital use. See Beutel (2002).

⁽³⁾ Real interest and exchange rates are determined endogenously. Thus, the initial positive effect of the cohesion policy through an increase in the public capital stock may be reduced by a temporary crowding-out of private investment. In the longer run, the increase in GDP is higher than the induced short-term demand effect due to positive supply-side effects which continue beyond the period of aid payments. For a description of the model, see Röger and in't Veld (1997).

⁽⁴⁾ Two sectors are modelled behaviourally: a tradable sector (manufacturing) and a non-tradable sector (market services). Output is primarily driven by world demand and cost and price competitiveness in the former and by final demand in the latter. Wages are determined in the tradable sector in a bargaining model and are sensitive to the tax wedge, unemployment and productivity. Expectations are auto-regressive and interest and exchange rates are exogenous to the model. For a description of the model, see Bradley et al. (1995).

Box 2: What is the EU cohesion policy?

In the less developed regions of the EU (Objective 1), the EU Structural Funds co-finance programmes in the fields of physical infrastructure, human resources development as well as aid to the private sector. Structural Funds also support the conversion of areas facing structural difficulties (Objective 2) and policies and systems of education, training and employment outside Objective 1 regions (Objective 3). For the EU-15 in the period 2000 to 2006, about 70 % of the EUR 195 billion (at 1999 prices) is allocated to Objective 1 regions. In the so-called ‘cohesion countries’ (Greece, Spain, Portugal and, until 2003, Ireland), whose gross national income per capita is below 90 % of the EU average, the EU Cohesion Fund finances projects on the environment and on trans-European transport networks and has a volume of EUR 18 billion (at 1999 prices) in the period 2000 to 2006. The Structural Funds

and Cohesion Fund together have a certain macroeconomic importance in some countries, peaking at levels of around 3 % of GDP in Greece and Portugal at the end of the 1990s. The European Council meeting in Copenhagen in December 2002 decided, and this was later inserted into the Accession Treaty and implemented in programmes, that the 10 acceding countries would benefit from EUR 14.2 billion of Structural Funding and EUR 7.6 billion of Cohesion Funding (at 1999 prices) from 2004 to 2006. In addition, a transitional sub-heading on institution-building measures of EUR 380 million has also been agreed. The draft framework regulation for the new programming period starting in 2007, adopted by the European Commission in July 2004, aims at reinforcing the financial focus on real convergence, thematic concentration and further simplifying the management systems.

with increased stocks of infrastructure and human capital. The elasticities used are taken from existing empirical studies.

The Hermin results of the *ex post* evaluation for the last programming period (1994–99) identify their continuing supply-side effects by assuming that funding terminates after the programming period. The results for the cohesion countries (see Graph 25) range from a relatively modest long-term impact in the cases of Greece and Spain to a real GDP level in Portugal that is more than 2 % higher in 2010 than in the absence of Structural Funds and national co-financing, both ending in 2000 according to the assumption made for the calculation.

The results of the *ex ante* macroeconomic evaluations for the new Member States are not easily comparable as the applied methodologies are heterogeneous. However, they also show a substantial impact. In Poland, for example, according to the Hermin model’s impact assessment, real GDP would be higher in 2010 by approximately 1 % due to the support provided in the period 2004 to 2006.

Model simulations all conclude that cohesion support contributes significantly to growth and employment at national and, when analysed, at regional level. The magnitude of the impact may vary depending on the model specifications, the economy’s characteristics, the amount of assistance and the types of public investments

targeted. Modelling has two main advantages. It shows how the policy affects the demand and supply sides of the domestic economy depending on a wide range of other factors and allows for a counterfactual (i.e. without policy) situation. On the other hand, simulations tend to assume that cohesion support is fully turned into productive public investment, overlooking possible weaknesses in policy delivery. They may thus assess the potential rather than the actual impact of the cohesion policy (¹).

Econometric regressions would be expected to give a better *ex post* assessment. However, attempts to link national and regional GDP or productivity growth to cohesion assistance are plagued with methodological, econometric and data weaknesses. No structural model of such a complex mechanism as growth can be represented by a single equation linking the former to one variable i.e. the amount of Structural Funds transfers as done in Boldrin and Canova (2001) or two variables if initial income per capita is also considered. Such regressions are not exempt from econometric problems. For instance, since the beneficiaries of EU cohesion policy are poor economies, the amount of EU assistance works as a proxy for the omitted variables that presumably explain why they have below average incomes (²). As a

(¹) See Ederveen et al. (2002).

(²) See de la Fuente (2004).

Graph 25: Impact of the European regional policy, programming period 1994–99



NB: Bars: CSF expenditure as percentage of GDP of the programming period 1994–99, i.e. under the assumption of ending support in 2000; lines: CSF-induced change of GDP level against baseline in per cent.
Source: European Commission (2003d).

result, the estimated coefficient on the volume of aid is negative while the inclusion of additional variables in the equation, even in a simple form, leads to a positive impact of EU assistance on growth ⁽¹⁾.

In other words, imposing the assumption of absolute convergence creates a downward bias on the estimated impact of cohesion support while it can be significant

⁽¹⁾ This is illustrated by Ederveen et al. (2002). Their results, at NUTS 2 regional level for the period 1981–96, suggest a negative impact of the cohesion policy when factors other than initial productivity and cohesion support are not controlled for. When they are, the estimated impact is positive and significant. An additional amount of cohesion support of 1 % of GDP leads to an annual increase in GDP per capita of 0.7 %.

and positive if convergence is only conditional, which seems to be the consensus view today.

In addition, such regressions, when performed at regional (NUTS 2) level, are faced with acute problems of data availability and reliability. Not only is the bulk of cohesion support national or transregional and thus difficult to attribute to regions, but available statistics hardly allow controlling for other factors that can influence growth.

Against this background, results have to be considered with caution as they are very sensitive to the different methods, time periods and data sets on which they are

based. With few exceptions ⁽¹⁾, most econometric studies tend to find a significantly positive effect of cohesion support on national growth and convergence ⁽²⁾. At the regional level, across the EU and in some cases within countries, many studies also identify a positive impact ⁽³⁾.

In addition to their impact on growth and convergence, the implementation methods of Structural Funds have an effect on governance, that is, they improve the efficiency of public administration and public expenditure.

- The bottom-up approach and the partnership principle between all actors involved allow programmes to better reflect the real needs in the regions.
- The set-up of an integrated development strategy in a multiannual framework enforces the planning capacity and strategic thinking for regional development ⁽⁴⁾.
- The introduction or strengthening of the monitoring and evaluation culture leads to a more efficient selection of projects and a better targeting of spending ⁽⁵⁾.
- Rules on financial management and control help to improve the quality and efficiency of public administration ⁽⁶⁾.
- Interregional and international exchange of good practices for regional policy can be a helpful tool for better targeting and a more efficient regional policy.

EU Structural Funds can thus have an important impact not only on the efficiency of regional policy, but also on national administration and overall public spending in the corresponding Member States.

4.2. Conditions for maximising the impact

Several of the abovementioned studies give also interesting insights into the conditions that can affect the effectiveness of EU cohesion policy. If public invest-

ment has an impact on productivity and growth and a leverage rather than a crowding-out effect on private investment, EU cohesion policy can be expected under both the neoclassical and the endogenous growth models to be effective since it adds to physical and human capital stocks and promotes technological progress. There is nevertheless a range of factors that could hamper such effectiveness. Some factors may go beyond the control of policy-makers. Others, such as domestic policies and the design of the development strategy co-financed by the EU may, however, be targeted for improvement.

In view of the very limited budgetary means of EU cohesion policy, representing less than 0.5 % of the EU-15 GDP, the following conditions can be identified to be important for a significant impact. First, sound and supportive national policies, including macroeconomic policies, national regional policies and good governance, are an essential precondition for the achievement of a real impact. Second, the scarce financial means must be concentrated spatially, i.e. on the poorest Member States and regions, and two issues have to be considered: (a) whether to concentrate on national growth or on equalising living conditions across the country and (b) whether to focus on growth poles and cluster or target more dispersion of economic activity. Third, the strategic design of Structural Funds programmes must allow for a concentration on those types of expenditures most likely leading to growth and employment. Fourth, ways have to be found to achieve the most effective use of EU Structural Funds.

4.2.1. The role of national policies

Since the effects of Structural Funds depend to a large extent on triggering additional private investment, a sound and supportive national economic and political environment can be regarded as a necessary condition for maximising the impact of Structural Funds. In this context, the importance of the national political environment has three main aspects:

- macroeconomic and regulatory framework
- national regional policies
- governance including the administrative capacity.

In the general and country-specific recommendations of the broad economic policy guidelines (BEPGs) several countries have also been given specific recommenda-

⁽¹⁾ See, for example, Ederveen and Gorter (2002).

⁽²⁾ See, for example, García Solanes and María-Dolores (2001); Beugelsdijk and Eijffinger (2003).

⁽³⁾ See, for example, Fayolle and Lecuyer (2000); Solanes and Ramón (2001); de la Fuente (2004), although some do not find a positive impact such as Boldrin and Canova (2001); Basile and Kistoris Padoa Schioppa (2002).

⁽⁴⁾ See, for example, Fitz Gerald (1999).

⁽⁵⁾ See Fitz Gerald (1999) and Barry (2003).

⁽⁶⁾ See Barca (2003).

tions concerning their regional labour market. In particular, measures allowing wages to better reflect productivity and skill differentials would facilitate the attraction of investment flows into higher unemployment areas. However, the 2004 report on the implementation of the 2003–05 BEPGs indicates that progress made by the EU-15 Member States remains insufficient and uneven.

Empirical studies show that a sound economic-political environment not only increases the growth and employment perspectives of the corresponding country and its regions, but is also crucial for the effectiveness of international support. Based on an econometric analysis including a set of policy indicators into a neo-classical growth model, Burnside and Dollar (2000) find that ‘aid has a positive impact on growth in developing countries with good fiscal, monetary, and trade policies but has little effect in the presence of poor policies’, concluding that ‘aid would be more effective if it were more systematically conditioned on good policies’ (p. 847). While EU Member States are not comparable with the developing countries analysed, the underlying idea remains valid and is supported by other empirical studies. Drawing on Burnside and Dollar (2000), Ederveen et al. (2002) perform cross-country regressions with panel data for 13 EU countries and seven-year periods from 1960 to 1995, based on a standard neoclassical growth model as introduced by Mankiw et al. (1992). Testing only part of the Structural Funds, they find a non-significant impact. The result is markedly different when they introduce a variable that proxies openness; the interaction is significantly positive. Similar results are obtained with some variables which proxy the institutional context, namely a corruption perception index and an index of institutional quality. These results, in line with previous studies on the determinants of long-term growth, tend to confirm that the effectiveness of the cohesion policy is highly dependent on the growth orientation of national policies.

EU Structural Funds have to a certain extent internalised some of the implications. First, the payments of the Cohesion Fund are conditional upon sound public finances. Second, a reference to the key role of national policies for the impact of Structural Funds has been introduced, in particular, in the programming documents 2004–06 for the new Member States. These include, *inter alia*, macroeconomic stability, the continuation of privatisation and restructuring, a reduction and re-orienta-

tion of State aid, the implementation of mechanisms reducing labour costs and improving flexibility (and mobility) in the labour market. They can translate into concrete requirements, for example, on the pursuit of labour market reforms including the obligation to report to the Commission on progress and results.

Besides the macroeconomic environment, an effective national regional policy is needed for the achievement of real convergence between European regions. Regional policy instruments used by the Member States can be classified mainly into two categories: on the one hand instruments with a rather redistributive character, aiming at an equalisation of public finance resources or living conditions among regions; on the other hand proactive policy measures aiming at achieving economic development in the poorest regions. However, even if a ‘tendency for the policy focus to shift to wealth creation from wealth distribution’ can be observed ⁽¹⁾, national regional policies, if compared with the proactive design of EU Structural Funds, are still rather redistributive in nature (for a discussion on the investment mix of Structural Funds, see Section 4.2.3). In Germany, for example, estimates on the gross transfer to eastern Germany arrive at EUR 116 billion in 2003 and net transfers represent nearly one third of eastern German GDP. The main part of these transfers is redistributive as transfers via the social security system or unconditional grants represent 45 and 21 % of gross transfers respectively. In contrast, only 9 % of gross transfers are spent for support to the private sector and 13 % for infrastructure investment ⁽²⁾. Also in other Member States like Spain a mix of fiscal transfer schemes and active regional policy exists ⁽³⁾. Active regional national policy has in some Member States shifted its focus from large infrastructure investments and sectoral State aid to selected large enterprises towards more human resource development (HRD) and technological progress-related projects ⁽⁴⁾. Nevertheless, even if expenditures are dedicated to an active regional policy, this does not automatically mean that the projects directly impact on growth and employment ⁽⁵⁾.

⁽¹⁾ See Yuill and Wishlade (2001).

⁽²⁾ See Institut für Wirtschaftsforschung Halle (2003).

⁽³⁾ See, for example, Davies and Hallet (2001).

⁽⁴⁾ See, for example, for Italy IMF (2003b).

⁽⁵⁾ See, for example, Wurzel (2001); on parallel issues on EU regional policy see Section 4.2.4.

A further factor of crucial importance for the impact of Structural Funds is a sound institutional and public administrations environment. One of the expected effects of Structural Funds is the improvement of the administrative capacity due to capacity-building measures and the introduction of corresponding legislations. This is of particular importance to the new Member States as first their institutional quality is in general poorer than in the old Member States (see Section 3.2.3) and second because they still have to adapt to the management system of the Structural Funds as most incumbent Member States did more than a decade ago. Consequently, guaranteeing a substantial absorption of the Structural Funds can be seen as one of the crucial challenges for the new Member States (see also Section 4.2.4).

4.2.2. Achieving spatial concentration

For the achievement of a significant impact on convergence in Europe, cohesion policy has in the first place to concentrate its scarce financial means on those regions and Member States most in need. In addition, two strategic decisions have to be made: first, addressing national growth or trying to increase growth in poorer regions; second, trying to support concentration through clusters and growth centres or dispersion of economic activity in areas of slow growth.

Eligibility criteria for the Cohesion and Structural Funds try to achieve a spatial focus on those regions and Member States in need. While the Cohesion Fund is supporting Member States having in the reference period a gross national income (GNI) per capita in purchasing power standards (PPS) below 90 % of the EU, some 65 % of Structural Funds (SF) are allocated to the poorest, so-called Objective 1 regions with a GDP per capita in PPS below 75 % of the EU average. Over the period 2000 to 2006, Structural Funds transfers to EU-15 Objective 1 regions are equivalent to EUR 127.5 billion at 1999 prices (EUR 18.2 billion per annum), amounting approximately to 2.3 % of GDP in Portugal, 2.2 % in Greece and 0.9 % in Spain.

Table 11 shows, on the one hand, that these eligibility criteria have been instrumental in achieving a spatial focus and on the other hand, that at the same time relatively rich countries, well above the EU average, also receive substantial Structural Funds support. This has led to strong criticisms and proposals to grant Structural Funds only to poorer Member States, while comparatively rich Member States should support their poor

Table 11

GDP per capita (EU-15 = 100) and Structural Funds (all objectives average, 2000–06) in % of GDP

	GDP	SF
EL	67	2.9
PT	71	2.9
ES	84	1.4
IT	100	0.4
DE	100	0.2
FI	104	0.2
FR	105	0.2
UK	105	0.2
SE	106	0.1
BE	107	0.1
AT	112	0.1
NL	113	0.1
DK	115	0.1
IE	118	0.6
LU	194	0.1

NB: GDP per capita in PPS in relation to the average of the EU-15 in 2001;
SF: all objectives in relation to national GDP by country, 2000–06.

Source: European Commission (2004c).

regions by own financial means and reduce their contributions to the EU budget accordingly (¹).

Enlargement has not only increased the diversity within the EU substantially but also the average level of GDP per head has decreased statistically by nearly 10 %. Consequently, the need to spatially concentrate Structural Funds has become even more urgent with the accession of 10 countries that have income levels below — and often far below — the EU average.

An additional effect of accession is that some regions in EU-15 Member States having a GDP per capita in PPS below the ceiling of 75 % surpass this threshold when measured against EU-25, exclusively due to the inclusion of poorer Member States. On the one hand, it can be argued that their economic situation has not changed through the purely statistical effect and therefore support has to be continued. On the other hand, allocation of scarce financial means requires prioritisation and Structural Funds should favour only the poorest, which means, nearly exclusively, new Member States and their regions.

(¹) See Ederveen et al. (2002), Weise (2002) or Sapir et al. (2003).

According to the Kuznets/Williamson hypothesis (see Section 2.3.2), the possibility of an equity/efficiency trade-off exists. Particularly in earlier stages of a country's catching-up process the maximisation of national growth can be accompanied by a (temporary) rise in regional inequalities as economic growth is driven by only few growth poles. Current experience of the new Member States supports this argument as national growth in these countries seems to be largely localised in the most dynamic areas around the capital cities and other major agglomerations where investment, including public investment, is likely to be more productive.

These findings have implications for regional policy. Namely, consideration should be given to proper sequencing when designing the strategy for EU regional policy by taking into account the differences between the stages of development achieved in the catch-up process. In those countries where the convergence gap is highest, in particular when the territory is completely covered under Objective 1 like in most new Member States, more emphasis should be given to national growth as trying to counteract market forces would be inefficient if not even unsuccessful. In the incumbent Member States, which have already reached an income level which is closer to the EU average, relatively more focus can be given to the reduction of regional income dispersion.

Sequencing and prioritisation have, to some extent, been implemented in the EU-15 cohesion countries. In Ireland, the country with the most impressive growth performance, the main objective since the 1960s has been the maximisation of national growth. It is only towards the end of the 1990s that a specific regional policy emerged and more emphasis was given to the reduction of regional inequality. In the other countries and southern Italy a 'mixed' but prioritised strategy has been pursued. Structural expenditures have initially been focused on national/interregional measures with specific regional programmes accounting for a small share of total funding. Only from 2000 on has there been a shift towards more regional expenditures, notably in Portugal and southern Italy. Similarly, in the 2004–06 period, structural expenditures in the new Member States have been mainly focused on national, interregional measures.

Linked to the trade-off between equity and efficiency within a country is the issue of the intra-regional focus of regional policies. According to the new economic geography (NEG), enterprises tend to locate in clusters and

areas with high purchasing power and close to other enterprises in order to benefit from agglomeration economies. In particular in the new Member States, business activities tend to locate in the most developed areas (see Section 2.3.1).

In this context a strategic decision has to be made between, on the one hand, supporting the development of clusters and growth poles and therewith increasing overall growth or trying, on the other hand, to favour the dispersion of economic activities. The latter may be particularly inefficient at early development stages and may run counter to market forces. For instance, the relocation of public enterprises to southern Italy from the 1960s to the mid-1970s with national support under the form of capital grants and wage subsidies did not succeed in attracting small and medium-sized private firms and thus in enlarging the industrial basis in the south. While clusters have developed in the centre-north, no similar agglomeration effects can be found in the Mezzogiorno. On the other hand, the promotion of clusters has been a major feature of the Irish development strategy since the 1970s and horizontal and vertical linkages between industries and research centres are promoted in Portugal. However, as has been argued by some authors, creating artificially comparative advantages has in most cases proved to have little impact ⁽¹⁾. Therefore, regional policy should rather try to build upon existing clusters than try to create new ones.

Dispersion of activities is more an issue in relatively wealthy Member States where costs of agglomeration, such as high factor prices, pollution, and congestion tend to overwhelm agglomeration benefits. However, a more complete internalisation of negative externalities through efficient pricing and environmental taxes may be more efficient instruments than regional policy to divert activities towards other areas.

4.2.3. The strategy and the investment mix

EU regional policy is based on a proactive, allocative approach which targets the determinants of long-term sustainable growth with the aim of:

- improving the availability of public goods, i.e. mainly basic infrastructure;
- enhancing human capital; and

⁽¹⁾ See, for example, Midelfart-Knarvik and Overman (2002) or Midelfart-Knarvik (2004).

- improving the business environment for investment and offering investment support.

However, empirical evidence indicates that not all of these investments are equally effective under all circumstances. Rodríguez-Pose and Fratesi (2002) test the design of the development strategies co-financed by the Structural Funds. They regress Structural Funds commitments for each of the four main areas of intervention (infrastructure, business/tourism, human resources, agriculture/rural development) on regional growth in all NUTS 2 and Objective 1 regions for three periods from 1989 to 1999, also taking into account a number of structural variables. They find that agricultural/rural support has a strong immediate effect on growth in Objective 1 regions but this impact vanishes almost immediately and turns negative in later years, suggesting that it fulfils an income support rather than a sustainable development objective. Returns to infrastructure in transport and environment as well as business/tourism are relatively disappointing having little or no short-term or medium-term impact. However, for infrastructure, this result may be due to a too short period to assess its full impact. Human resources, on the other hand, have both short-term and medium-term impacts if some characteristics of the labour market are controlled for. On the whole, regions with a balanced distribution of funds have performed well while those with unbalanced strategies (e.g. emphasis on business support or agricultural/rural preferences) have not. Such results contribute to highlighting the importance of adequate regional development strategies.

Consequently, the effectiveness of EU cohesion policy in enhancing productivity growth and employment depends on the national or regional strategy, i.e. the investment mix chosen for co-financing. Evidence on the effectiveness of different types of investment is first discussed before analysing the strategy chosen for Structural Funds support in the old and the new Member States.

Infrastructure projects are one of the main areas of Structural Funds co-financed investment. A relatively abundant literature argues that enhanced endowments in transport infrastructure raise the total factor productivity of all inputs (i.e. via reduced transaction costs for enterprises and also improving workers' labour mobility) and thus the growth perspectives of regional or national economies. This is supported by evaluations of Struc-

tural Funds programmes and numerous empirical studies ⁽¹⁾. However, the available empirical evidence is still subject to debate as causality and econometric issues have not been fully clarified. Three main points seem to emerge from the existing literature. First, the provision of transport infrastructure can be regarded as a necessary precondition for economic development, but will not per se solve all problems of lagging regions, especially if they lack adequate factors of production. Second, the returns to such investments are probably high when infrastructure is scarce and basic networks have not been completed but may be decreasing if a certain threshold has been reached ⁽²⁾. This is to be taken into account in the context of EU enlargement, where regions with a substantial lack of infrastructure (in most new Member States) co-exist with regions with higher endowments. Finally, according to the new economic geography, infrastructure opening up interregional trade may have the paradoxical effect of concentrating production in the wealthier regions. However, the evidence is quite mixed. Concentration has been highlighted in some cases ⁽³⁾ while a positive effect on disadvantaged regions has been evidenced for others ⁽⁴⁾. Besides transport infrastructure, increasing support is given to environmental infrastructure like waste water treatment plants.

Recent theories of economic growth, in particular the literature on endogenous growth, point to the important role of human capital. The result that economies only grow fast if they have high levels of human capital seems robust both theoretically and empirically ⁽⁵⁾. However, studies tend to assess human capital at a very aggregate level without precisely defining the mechanisms through which it influences growth. The specific types of educational and training expenditures to be undertaken by policy-makers are thus less clear.

A recent study ⁽⁶⁾ provides policy suggestions, to be adapted to the specific national and regional conditions, in favour of a moderate increase in human capital investment but not in favour of an across-the-board increase in

⁽¹⁾ See, for example, Moreno et al. (2002) or Del Mar Salinas-Jiménez (2004).

⁽²⁾ A non-monotonic relationship between infrastructure and long-run growth is found, for example, by Bougheas et al. (2000).

⁽³⁾ See Combes and Lafourcade (2001) and Faini (1983).

⁽⁴⁾ See, for example, Martin and Rogers (1995).

⁽⁵⁾ This is confirmed by cross-country empirical evidence, see Mankiw et al. (1992) and Barro and Lee (1994). Some studies (e.g. Pritchett (1995) or Caselli et al. (1996)) using different (panel data) techniques have questioned the link between education and productivity, but recent investigations explain their negative results by poor data and econometric problems.

⁽⁶⁾ de la Fuente and Ciccone (2002). See also Chapter 3 in 'The EU economy: 2003 review'.

subsidies for post-compulsory education as incentives for individuals to invest are found to be adequate. More important may be the elimination of implicit barriers to access to higher education such as liquidity constraints and lower basic skills levels among individuals from disadvantaged backgrounds. In addition, guidance on the most productive types of investments include giving technology-related skills to a broad segment of the population, supporting lifelong learning and improving conditions for the accumulation of research-related human capital.

Although some parts of the Structural Funds are used to co-finance the provision of technical and business services (mainly to SMEs), technology diffusion and more market-based forms of investment financing, the co-financing of direct State aid to enterprises remains a main area of intervention ⁽¹⁾. Such aid can have important deadweight, displacement or substitution effects which can question the impact of support and subsequently the effectiveness of EU cohesion policy ⁽²⁾.

Evaluations of State aid are relatively scarce. Nevertheless, the extent of such effects has been assessed by some studies, in most cases concluding that only 10 to 20 % of the projects are not subject to deadweight ⁽³⁾. There is thus some evidence, though quantitatively limited, that co-financing of State aid may not be the most effective channel for EU cohesion policy. Therefore, EU cohesion policy should be targeted to those investments where deadweight seems lower according to existing studies, namely in start-up companies, in small businesses and for technological upgrading, research and development and human capital training.

Besides these types of investment, support for rural development, mainly for the agricultural sector, is quantitatively important. However, the economic importance of primary agriculture for the economy as a whole is lim-

ited. Even in predominantly rural NUTS 3 areas within the enlarged EU, the largest part of economic activities stems from service (62 %) and industry (32 %) activities. In addition, the trends clearly indicate a further decline in the agricultural share in gross value added and employment. Thus, in order to help lagging rural areas, it seems necessary to concentrate the efforts increasingly outside the agricultural sector.

The standard measures targeted to the agricultural sector are, furthermore, not exempt from criticism. Early retirement schemes for instance have little proven effects on the restructuring of the sector and run counter to the Community employment strategy by reducing the participation rate. The lump sum support to farmers in rural areas is neither targeted nor supportive to a positive sectoral restructuring. Finally, farm investment support seems not to be implemented efficiently ⁽⁴⁾.

Furthermore, Structural Funds also offer co-financing of projects where the link to economic growth and employment is at least doubtful. For example, a positive impact on regional development will be difficult to find for cultural projects or sport facilities.

The investment mix in EU-15 and the new Member States

As the list of eligible expenditures for EU Structural Funds support is long and not all eligible expenditures can be regarded as equally effective, the strategy and main areas of support have to be adapted to the needs of the corresponding Member States and regions. Regional and national authorities present development plans which are then negotiated with the European Commission and adopted as multiannual programmes.

For the EU-15 Objective 1 regions (see Tables 12 and 13), there is mixed evidence on whether or not financial support is shifting over time towards investments that are more conducive to growth and employment. Using very rough categories and only considering Structural Funds, the share of basic infrastructure has increased in the first years of the current programming period compared with the late 1990s. In contrast, the share of the support for human resource development has been reduced. However, as Table 13 displays, this is not only due to investments in 'concrete rather than brain', but it is also due to a stronger focus on environmental and ICT

⁽¹⁾ However, it is incorrect to assume EU Structural Funds would mainly distribute State aid, and conclude, based on this assumption, that Structural Funds are ineffective like in Midelfart-Knarvik and Overman (2002) or Midelfart-Knarvik (2004).

⁽²⁾ A deadweight effect is if the enterprise would have invested even without support; a displacement effect is if it would have invested anyway but in a different region; and a substitution effect is if a different enterprise would have undertaken the investment.

⁽³⁾ For a literature review including a discussion of the methodologies applied see Gerling (2002). For empirical studies, applying heterogeneous methodologies and analysing different kinds of aid schemes, see, for example, Honohan (1998), Barry (2003) and Lenihan (2004) for Ireland, Arup Economics and Planning (2000) for the United Kingdom or Gerling (2002) and Ragnitz (2003) for Germany.

⁽⁴⁾ See, for example, studies by Striewe et al. (1996), Ebers (1998) and Forstner and Clemens (1998).

investments. In addition, Structural Funds can be more easily absorbed by large projects, such as infrastructure

investments, than by smaller and more complex projects, such as in the area of human resources.

Table 12

Financial allocation of public spending eligible under Objective 1 in % of total

		Old MS 1994–99	Old MS 2000–02	New MS 2004–06
National without EU co-financing	INFR	53.8	45.2	58.4
	HRD	30.0	36.9	19.8
	PROD	16.2	17.9	21.8
National co-financing	INFR	40.9	40.1	43.3
	HRD	18.2	23.9	24.4
	PROD	40.9	36.0	32.3
EU Structural Funds	INFR	31.8	36.9	44.9
	HRD	31.8	28.4	25.8
	PROD	36.5	34.7	29.3

NB: Percentage share of investment area in expenditures on infrastructure (INFR), human resources development (HRD) and aid to the productive sector (PROD), excluding other spending of each source of finance, national eligible expenditure without co-financing, national co-financing and EU Structural Funds. Figures for the new Member States are *ex ante* figures. Calculations are based on tables submitted for the verification of additionality of Objective 1 programmes.

Table 13

Financial allocation of EU Structural Funds in EU-15 in % of total

	Objective 1		Non-Objective 1
	1994–99	2000–06	2000–06
Infrastructure	29.8	41.3	14.1
Transport	15.7	19.8	3.5
ICT	1.6	3.5	1.7
Energy	2.3	1.2	0.4
Environment and water	7.5	12.8	7.5
Health and social	1.7	3.9	0.7
Other	1.1	0	0.3
Human resources	24.5	23.1	53.3
Education	6.9	n/a	n/a
Training	17.4	n/a	n/a
Other	0.1	n/a	n/a
Productive environment	41	33.8	29.1
Industry and services	19.9	11.3	15.8
RDTI	3.5	6	4.5
Agric./rural dev./fishery	15.2	13.7	5.1
Tourism	2.4	2.7	3.7
Other	4.6	1.8	3.4
Total	100	100	100

NB: n/a = not available.

Source: European Commission (2003d).

In the recent process of Objective 1 programming for the new Member States, the focus was on the main determinants of higher productivity and, in those countries where the labour market situation is a key challenge, on a rapid improvement in the use of human resources. Growth and employment have thus been the two main criteria against which priorities, investments and measures were selected. The approach was to maximise measures with higher growth and employment potential, promote concentration by avoiding a scattering of resources into numerous small projects, suppress or at least reduce redistributive types of measures and avoid the creation of distortions in economic activity. Against the background of uneven effectiveness of different investment areas as highlighted by available evidence, the aim was to select both adequate priorities and an effective mix of measures within each priority. This, in turn, has translated into shifts in financial allocations between and within priorities.

The major adjustments between priorities in the initially submitted development plans and the finally adopted programmes are illustrated by Table 14 for the four largest new Member States. Even if agriculture is still of major importance for some rural areas in the new Member States, it is questionable if this sector will be a driving force for growth and employment. In contrast, major restructuring and labour adjustment are still needed in some countries which will add to the expected decrease of the share of agriculture in gross value added and employment. Consequently, assistance for agriculture was reduced. The highest reduction was agreed on in the case of Slovakia where the Structural Funds allocation was reduced from 27.7 % to 17.6 %. As mentioned above, there is no evidence on the contribution to national growth and employment of some regional and local measures such as cultural investment or sport facilities. Therefore, it was agreed with several countries to scale down such programmes. In addition, due to the high deadweight and displacement effects of State aid and because of the already high level of State aid in most new Member States⁽¹⁾, it was in most cases agreed to reduce the support of EU Structural Funds to this area. This resulted, if not counterbalanced by increasing support for the business environment like in the Czech Republic, in a reduction of the competitiveness/enterprises' financial allocations like in Poland and Hungary. In contrast, more emphasis was put on infrastructure as

this is regarded as a major weakness impeding higher growth in several new Member States. This was particularly the case for Poland where the allocation was increased from 8.6 % to 14.1 % (excluding regional infrastructure) and for Slovakia from 30.4 % to 40.6 % (including regional infrastructure)⁽²⁾ and to a lesser extent for the Czech Republic. Since the development of human resources is key to long-term growth, the allocations to the corresponding programmes were increased both where employment is a major challenge as in Poland and where higher qualifications are called for by the upgrading of economic activity and by the need to activate participation in the labour market as in Hungary.

The final allocations are thus significantly different from the ones of the national development plans (see Table 15)⁽³⁾. Even if the figures on the financial allocation between priorities are not directly comparable⁽⁴⁾, they indicate that the higher investment need, compared with the EU-15, in the area of basic infrastructure has been reflected in the programmes and that more emphasis has been given to human resource development.

For competitiveness, not only was EU co-financing of direct State aid reduced, simultaneously, State aid was reoriented towards SMEs and targets ensuring that priority given to SMEs in the financial allocation have been set for example in Poland, Hungary and the Czech Republic. All sectoral preferences were suppressed to avoid 'protecting' declining industries or trying to pick up winners by targeting manufacturing or specific 'high-tech' sectors⁽⁵⁾. The remaining measures in this priority are thus more focused on soft aid for knowledge, innovation and technology and the business environment.

⁽¹⁾ European Commission (2002d).

⁽²⁾ These shares do not include infrastructure like trans-European networks (TENs) financed by the Cohesion Fund.

⁽³⁾ Note that Table 14 gives only a partial picture of the reallocation of funds agreed on between the national authorities in charge and the Commission services as already in the officially submitted NDPs major shifts had been included compared with the preliminary draft plans submitted informally at end-2001/early 2002.

⁽⁴⁾ Programmes with similar objectives are in different countries not identically designed. For example, a major part of the Polish integrated regional development programme is devoted to infrastructure, largely explaining the differences compared with other new Member States in the percentage shares of the corresponding two operational programmes.

⁽⁵⁾ For example, in the case of Poland it was originally envisaged to give preference to projects in 'high-technology sectors' and in 'traditional industrial branches, which have potential for efficient export and may become competitive in the future (e.g. steel industry, ... ship-building industry, heavy machine-building industry, heavy chemistry, industry of copper ...)'. Ministry of the Economy, Labour and Social Policy: sectoral operational programme for improvement of competitiveness of the economy for 2004–06, adopted by the Committee for European Integration, 14.2. 2003, p. 48.

Table 14

Comparison of the financial allocation in the national development plans (NDPs) and the Community support frameworks (CSFs)

Priorities /OPs		PL	HU	CZ	SK
Competitiveness and enterprises	NDP	17.8	23.3	15.0	14.5
	CSF	15.1	21.5	17.9	14.5
Human resources	NDP	17.4	23.9	21.0	27.5
	CSF	17.8	28.2	21.9	27.3
Agri/food/rural (incl. fishery)	NDP	16.8	18.2	12.0	27.7
	CSF	16.8	15.9	12.0	17.6
Infrastructure (*)	NDP	8.6	16.5	13.5	30.4
	CSF	14.1	16.4	16.9	40.6
Regional development	NDP	39.2	17.9	38.5	
	CSF	35.9	18.0	31.2	

(*) Excluding regional and local infrastructure, except for Slovakia. Calculations are based on national development plans (NDPs) and Community support frameworks (CSFs).

NB: Figures given in % of total, Cohesion Fund excluded. The figures for the technical assistance priority are not included in the table.

Especially for human resources the measures have to be tailored to the country's situation. For example in Hungary where both unemployment and the participation rate are low and where in some sectors and regions shortages of highly skilled workers can be observed, the focus was put on those measures likely to increase participation and on education and training. In contrast, for example in Poland and Slovakia where unemployment is a key challenge, measures for social inclusion were granted limited financial allocation to the benefit of active labour market policies and in the latter support was shifted towards groups with the highest possibility to (re-)enter the labour market like youth.

In transport, a hierarchy of priorities for the period 2004–06 were followed with a view to maximising investments that yield higher returns in terms of enterprises' competitiveness while facilitating labour mobility. This has led, depending on the situation in the country, to giving international and interregional transport infrastructure clear priority like in the Czech Republic and Hungary and to suppress (Hungary) or condition (Czech Republic) aid for regional airports.

For regional programmes the aim was to avoid that they mimic the CSFs at regional level and widely disperse resources into numerous priorities and measures with most likely little effect on long-run growth and employment. Consequently, an even distribution of the Structural Funds across the whole territory (like in Slovakia) as well as one favouring the most backward regions (like

in Poland) had to be avoided. The focus was on investment in areas and urban centres with growth potential while providing the necessary infrastructure to allow for their inter-connections and connections with major transit routes, notably in Slovakia and Poland. Financing of small-scale regional transport infrastructure was substantially reduced (e.g. in Poland and the Czech Republic). The numerous requests for regional/local cultural or sport facilities were reduced in terms of financial allocations and made subject to conditions, in particular economic sustainability and significant regional economic impact.

In agriculture, finally, efforts were made to give higher importance to rural development aimed at offering alternative employment at the expense of State aid for the processing industry and on-farm investment support. For example in Poland, the financial allocation to rural development has more than tripled at the expense of direct aid measures.

4.2.4. Effective use of funds

The extent to which EU cohesion policy will be turned into capital formation depends on the magnitude of the administrative costs as these divert expenditures from productive investments. Costs can result from insufficient management and can be improved by capacity-building measures increasing public administrative efficiency. Though necessary, such measures will in turn diminish resources for investment. They can also result

from regulatory complexity. The requirements of the Structural Funds regulations imply somewhat complex procedures and thus transaction costs for programming, monitoring, evaluations and control systems. Simplifications have been introduced, but there is a trade-off between simplicity and accountability, all the more so since the final accountability for the use of Structural Funds lies in the hands of the European Commission.

Table 15

Compliance with the principle of additionality for Objective 1

	<i>Ex post</i> 1994–99 ⁽¹⁾	<i>Ex ante</i> 2000–06 ⁽²⁾	Mid-term 2000–02 ⁽³⁾
BE	118	98	117
DE	80	93	88
EL	124	146	139
ES	98	101	104
FR	120	105	99
IE	166	200	189
IT	80	104	98
NL	124	231	253
AT	136	103	103
PT	118	116	119
FI	127	108	110
SE	114	249	264
UK	n/a	n/a	n/a

NB: Indices for annual averages of national public eligible expenditures.

⁽¹⁾ *Ex post* 1994–99 compared with *ex ante* 1994–99.

⁽²⁾ *Ex ante* 2000–06 compared with *ex post* 1994–99.

⁽³⁾ *Ex post* 2000–02 compared with *ex post* 1994–99 ⁽¹⁾.

Calculations are based on tables submitted for the verification of additionality of Objective 1 programmes.

The regulation for the current 2000–06 programming period has tried to set incentives to achieve high quality in the implementation of Structural Funds programmes by introducing the performance reserve as a new instrument. The allocation of the reserve of about 4 % of total funding 2000–06, which took place in 2004, has led to rather heterogeneous results. Three groups of indicators have been used to determine which programmes can be regarded as performing: indicators related to output, to management and to financial absorption. The use of

these indicators is regarded as an incentive to improve the administrative situation. In practice, however, the necessary information was not always available and a variety of methods have been used for the allocation of the reserve in different Member States so that in some cases also less performing programmes benefited.

The second condition for effectiveness is that transfers contribute to increasing investment and do not lead to crowding-out. The principle of additionality enshrined in the Structural Funds regulations requires for Objective 1 programmes that Member States agree *ex ante* with the European Commission on a target for national public eligible expenditure that should generally not be lower than the level achieved during the former programming period. *Ex post* and mid-term verifications for the periods 1994–99 and 2000–06 show that in most Member States additionality has at least nearly been met and that this result can be expected as well for the current period (see Table 15).

4.3. Policy challenges

In spite of its limited financial means, EU cohesion policy can have a substantial impact on catching-up — as has been shown by impact assessments based on macro-economic modelling. However, it can only have significant effects if several conditions are fulfilled, and here experience in recent years shows that room for improvement exists. Among the various factors influencing the effectiveness of Structural Funds in achieving convergence, particularly against the background of enlargement, the following aspects are important:

- stronger spatial concentration
- better thematic concentration
- more effective use of funds.

Spatial concentration means concentrating Structural Funds on those regions and Member States most in need. This implies, first, a decision whether to continue supporting regions in relatively rich Member States; and, second, if and to what extent to continue the support in regions whose eligibility is affected negatively by the statistical effect of enlargement. These issues are considered in the draft framework regulation of Structural Funds for the programming period 2007–13 proposing to strengthen the focus on the new convergence objective by allocating 78.5 % of the resources to this objective, in

⁽¹⁾ Note that in the mid-term and *ex post* verifications the figures are compared with the (in some cases modified) *ex ante* figures for the same period and not with the *ex post* figures of the previous programming period. Note also that in exceptional cases a reduction of national eligible expenditures can be accepted if the former expenditures have been of an exceptional magnitude.

comparison with 72 % for the Objective 1 regions in the current programming period. Structural Funds in 'statistical effect regions' would be continued, but only on a transitional and decreasing basis that cannot be prolonged for the years after 2013.

Spatial concentration also means not counteracting market forces in the selection of areas for support. As a response to the possible equity-efficiency trade-off, that is, that high catch-up growth might temporarily be accompanied by higher inequalities between regions, a sequencing approach initially emphasising growth of the national economy as a whole and at a later stage giving more prominence to addressing regional disparities could be followed in order to make regional policy more efficient. In parallel, the catching-up process of poorer regions might be accelerated by supporting their growth poles and by building on existing clusters. But one should avoid any artificial dispersion of economic activities or creation of new clusters.

Thematic concentration, in turn, means choosing an effective investment mix. The question what an effective investment mix is can only be answered on a case-by-case basis after a sound analysis of the situation in the corresponding Member State and region. However, some general arguments can be made. First, infrastructure endowment can be seen as a precondition for growth, though not as a growth-enhancing investment per se. Second, even if it generally takes time to achieve a needed enhancement of human capital, this can be regarded as key to long-term growth. Third, aid to the productive sector should be limited to specific projects enhancing the business environment, and support for

start-ups and SMEs. Thus, in the draft new ERDF regulation business support is always directly linked to SMEs. Fourth, support for rural areas should take into account the limited and declining importance of agriculture in the process of catching-up, and should be focused on providing alternative employment and development opportunities. Fifth, projects of doubtful economic benefit — such as, for example, cultural projects — should not be financed. Finally, and in the light of the subsidiarity principle, thematic concentration implies concentrating EU Structural Funds on larger projects, in order to achieve a significant impact, while leaving smaller projects to national, regional and local financing.

In order to guarantee the effective use of Structural Funds, two areas will have to be addressed. First, simplifications for the management of Structural Funds will help to reduce administrative problems and costs. Second, particularly in the new Member States, building up the necessary administrative capacity will be of crucial importance.

While the draft new regulation for Structural Funds aims to introduce a stronger regional and thematic concentration, the contribution of EU cohesion policy to real convergence will depend predominantly on Member States' own national and regional policies. The role of regional and national authorities in setting up strategies to support and implement Structural Funds programmes will be of key importance. More broadly, for the Structural Funds to have a favourable impact, it will be important to assure a stable macroeconomic setting, effective structural reforms, and good governance practices.

5. References

- Ahn, S. and P. Hemmings (2000), 'Policy influences on economic growth in OECD countries: an evaluation of the evidence', *OECD Economics Department working paper*, No 246, Paris.
- Aiginger, K. and S. W. Davies (2004), 'Industrial specialisation and geographic concentration: two sides of the same coin? Not for the European Union', *Journal of applied economics*, Vol.VII, No 2, 2004, pp. 231–248.
- Alonso, W. (1969), 'Urban and regional imbalances in economic developments', *Economic development and cultural change*, 17, pp. 1–14.
- Alvarez-Plata, P., H. Brücker, B. Siliverstovs and DIW Berlin (2003), 'Potential migration from central and eastern Europe into the EU-15 — An update', report for the European Commission, Employment and Social Affairs DG, Berlin.
- Amiti, M. (1999), 'Specialisation patterns in Europe', *Weltwirtschaftliches Archiv*, 135, pp. 1–21.
- Arup Economics and Planning (Contractor: Ecotec Research and Consulting Ltd in association with GVA Grimley and the Centre for Urban and Regional Development Studies, University of Newcastle upon Tyne) (2000), *Planning for clusters*, London.
- Audretsch, D. B. and M. P. Feldman (1996), 'Knowledge spillovers and the geography of innovation and production', *American economic review*, 8, pp. 630–640.
- Baldwin, R. (1989), 'The growth effects of 1992', *Economic policy*, pp. 248–281.
- Baldwin, R. (1994), *Towards an integrated Europe*, London.
- Baldwin, R. and P. Martin (2004), 'Agglomeration and regional growth', in Henderson, V. and J.-F. Thisse (eds), *Handbook of urban and regional economics*, forthcoming.
- Baldwin, R., P. Martin and G. I. P. Ottaviano (2001), 'Global income divergence, trade and industrialisation: the geography of growth take-offs', *Journal of economic growth*, No 6, pp. 5–37.
- Barca, F. (2003), 'Regional policy experience in southern Italy', in Funck, B. and L. Pizzati (eds), *European integration, regional policy, and growth*, Washington DC, pp. 129–133.
- Barrell, R. et al. (2001), 'Openness, integration and transition: prospects and policies for economies in transition', *NIESR discussion paper*, No 177.
- Barrios, S. and E. Strobl (2004a), 'Industry mobility and geographic concentration in the European Union', *Economics letters*, 82, pp. 71–75.
- Barrios, S. and E. Strobl (2004b), 'Revisiting the link between national development and regional inequalities: evidence for Europe', Université catholique de Louvain, forthcoming.
- Barro, R. J. and J.-W. Lee (1994), 'Sources of economic growth', *Carnegie-Rochester conference series on public policy*, 40, pp. 1–46.
- Barro, R. J. and X. Sala-i-Martin (1992), 'Convergence', *Journal of political economy*, 100(2), pp. 223–251.
- Barro, R. J. and X. Sala-i-Martin (1995), *Economic growth*, New York, McGraw-Hill.
- Barry, F. (2003), 'European Union regional aid and Irish economic development', in Funck B. and L. Pizzati (eds), *European integration, regional policy, and growth*, Washington DC, pp. 135–151.

- Basile, R. and F. Kistoris Padoa Schioppa (2002), *Unemployment dynamics of the Mezzogiorno of Europe: lessons for the Mezzogiorno of Italy*, ISAE, Istituto di Studi e Analisi Economica and ISAE, Istituto di Studi e Analisi Economica.
- Bassanini, A., S. Scarpetta and P. Hemmings (2001), 'Economic growth: The role of policies and institutions. Panel data evidence from OECD countries', *OECD Economics Department working paper*, No 283, Paris.
- Beugelsdijk, M. and S. C. W. Eijffinger (2003), 'The effectiveness of structural policy in the European Union: An empirical analysis for the EU-15 during the period 1995–2001', *CEPR (Centre for Economic Policy Research) discussion paper*, 3879, London.
- Beutel, J. (2002), 'The economic impact of Objective 1 interventions for the period 2000–06 — Final report to the Directorate-General for Regional Policies', http://europa.eu.int/comm/regional_policy/sources/docgener/studies/pdf/objective1/final_report.pdf.
- Blundell, R. and A. Duncan (1998), 'Kernel regression in empirical microeconomics', *Journal of human resources*, Vol. 33 (1), pp. 62–87.
- Bode, E. (2004), 'The spatial pattern of localised R & D spillovers: an empirical investigation for Germany', *Journal of economic geography*, 4, pp. 43–64.
- Boeri, T., H. Brücker et al. (2000), 'Study on the impact of eastern enlargement on employment and labour markets in the EU Member States', study commissioned by the European Commission, Employment and Social Affairs DG, Berlin/Milan, 2000.
- Boldrin, M. and F. Canova (2001), 'Inequality and convergence in Europe's regions: Reconsidering European regional policies', *Economic policy*, No 32.
- Borner, S. et al. (2004), 'Institutional efficiency and its determinants — The role of political factors in economic growth', OECD Development Centre Studies, Paris.
- Boscá, J., R. Domenech and D. Taguas (1999), 'La política fiscal en la Unión Económica y Monetaria', *Moneda y Crédito*, Vol. 206, pp. 267–324.
- Bottazzi, L. and G. Peri (2003), 'Innovation and spillovers in regions: evidence from European patent data', *European economic review*, 47(4), pp. 687–710.
- Bougheas, S., P. O. Demetriades and T. P. Mamuneas (2000), 'Infrastructure, specialisation and economic growth', *Canadian journal of economics*, Vol. 33, No 3, pp. 506–522.
- Bourguignon, F., S. Lolos, N. Zonzilos and A. Suwa-Eisenmann (1995), 'Evaluating the CSF with an extended computable general equilibrium model: The case of Greece (1988–95)', *Journal of policy modelling*, Vol. 17, Issue 2, pp. 177–197.
- Brada, A. C. and A. M. Kutan (2002), 'The end of moderate inflation in three transition economies?', *David Williamson Institute working paper*, No 433.
- Bradley, J., L. Modesto and S. Sosvilla-Rivero (1995), 'Hermin: A macroeconomic modelling framework for the EU periphery', *Economic modelling*, 12(3), pp. 221–247.
- Brülhart, M. (1998), 'Trading places: Industrial specialisation in the European Union', *Journal of common market studies*, No 36, pp. 319–346.
- Bruno, M. and W. R. Easterly (1998), 'Inflation crises and long-run growth', *Journal of monetary economics*, Vol. 41, No 1, pp. 3–26.
- Burnside, C. and D. Dollar (2000), 'Aid, policies, and growth', *American economic review*, Vol. 40, pp. 289–329.
- Campos, N. F. and F. Coricelli (2002), 'Growth in transition: What we know, what we don't and what we should', *Journal of economic literature*, Vol. 40, pp. 793–836.
- Campos, N. F. and Y. Kinoshita (2003), 'Why does FDI go where it goes? New evidence from the transition economies', *IMF working paper*, No 03/228.
- Canova, F. and A. Marcet, (1995), 'The poor stay poor: non-convergence across countries and regions', *CEPR discussion paper*, No 1265.
- Carstensen, K. and F. Tourbal (2003), 'Foreign direct investment in central and eastern European countries: A

dynamic panel analysis', *Kiel working paper*, No 1143, forthcoming in *Journal of comparative economics*.

Caselli, F., G. Esquivel and F. Lefort (1996), 'Reopening the convergence debate: a new look at cross-country growth empirics', *Journal of economic growth*, Vol. 1 No 3, pp. 363–389.

Castells, A. and A. Sollé-Ollé (2004), 'The regional allocation of infrastructure investment: The role of equity, efficiency and political factors', forthcoming in *European economic review*.

Chatterji, M. (1992), 'Convergence clubs and endogenous growth', *Oxford review of economic policy*, 8(4), pp. 57–69.

Combes, P.-P. and M. Lafourcade (2001), 'Transportation cost decline and regional inequalities: evidence from France', *CEPR discussion paper*, No 2894.

Combes, P.-P. and H. Overman (2004), 'The spatial distribution of economic activities in the European Union', in Henderson V. and J.-F. Thisse (eds), *Handbook of urban and regional economics*, Vol. 4. Elsevier-North Holland, Amsterdam, forthcoming.

Davies, S. and M. Hallet (2001), 'Policy responses to regional unemployment: Lessons from Germany, Spain and Italy', *Economic and Financial Affairs DG economic paper*, No 161, Brussels.

Davies, S. and M. Hallet (2002), 'Interactions between national and regional development', *HWWA discussion paper*, 207, Hamburg Institute of International Economics.

de la Fuente, A. (2002), 'Convergence across countries and regions: theory and empirics', Instituto de Análisis Económico (CSIC), forthcoming.

de la Fuente, A. (2003), 'Does cohesion policy work? Some general considerations from Spain', in Funck, B. and L. Pizzati (eds), *Regional policy for the new EU members*, World Bank, Washington, DC, pp. 155–166.

de la Fuente, A. (2004), 'Second-best redistribution through public investment: A characterisation, an empirical test and an application to the case of Spain', *Regional science and urban economics*, Vol. 34, pp. 489–503.

de la Fuente, A. and X. Vives (1995), 'Infrastructure and education as instruments of regional policy: evidence from Spain', *Economic policy*, No 20, pp. 13–51.

de la Fuente, A. and A. Ciccone (2002), *Human capital in a global and knowledge-based economy*, report for the European Commission, Employment and Social Affairs DG, Brussels.

Del Mar Salinas-Jiménez, M. (2004), 'Public infrastructure and private productivity in the Spanish regions', *Journal of policy modelling*, Vol. 26, Issue 1, pp. 47–64.

Denis, C., K. McMorrow and W. Röger (2002), 'Production function approach to calculating potential growth and output gaps — Estimates for the EU Member States and the US', *Economic and Financial Affairs DG economic paper*, No 176, Brussels.

Devereux, M., R. Griffith and H. Simpson (2003), 'The geographic distribution of productive activity in the United Kingdom', *Regional science and urban economics*, forthcoming.

Djankov, S. and B. M. Hoekmann (2000), 'Foreign investment and productivity growth in Czech enterprises', *World Bank review*, Vol. 14, pp. 49–64.

Djankov, S. and P. Murrell (2000), 'Enterprise restructuring in transition: A quantitative survey', *Journal of economic literature*, Vol. 40, pp. 739–792.

Dollar, D. and A. Kraay (2003), 'Institutions, trade, and growth', *Journal of monetary economics*, No 50, pp. 133–162.

Durlauf, S. and D. Quah (2002), 'The new empirics of economic growth', *NBER working paper*, No 6422.

Duranton, G. and D. Puga, (2004), 'Micro-foundations of urban agglomeration economies', in Henderson, V. and J.-F. Thisse (eds), *Handbook of urban and regional economics*, Vol. 4. Elsevier-North Holland, Amsterdam, forthcoming.

Duro, J. A. (2001), 'Regional income inequalities in Europe: an updated measurement and some decomposition results', Instituto de Análisis Económico (CSIC) forthcoming.

- Easterly, W. and R. Levine (2003), 'Tropics, germs and crops: how endowments influence economic development', *Journal of monetary economics*, No 50, pp. 3–39.
- Ebers, H. (1998), *Erfolgskontrolle investiv geförderter landwirtschaftlicher Unternehmen im Bereich der Landwirtschaftskammer Hannover*, Diplomarbeit, Göttingen.
- Ederveen, S. and J. Gorter (2002), 'Does European cohesion policy reduce regional disparities?', *CPB discussion paper*, No 15, The Hague.
- Ederveen, S., J. Gorter, R. de Mooij and R. Nahuis (2002), *Funds and games: The economics of European cohesion policy*, The Hague.
- Égert, B. et al. (2004), 'Inflation differentials in Europe: Past experience and future prospects', Österreichische Nationalbank, Monetary policy and the economy, Q1/04, pp. 47–72.
- Esteban, J. M. (1999), 'L'euro y la desigualtat territorial: implicacions per a Catalunya', in Esteban, J. M. and J. Gual (eds), *Catalunya dins l'Euro*, Barcelona, Antoni Bosh Editor, pp. 165–210.
- European Commission (1996), *European system of accounts ESA 95*, Eurostat, Luxembourg.
- European Commission (2002a), *Employment in Europe 2002*, Luxembourg.
- European Commission (2002b), *Public finance report 2002*, Luxembourg.
- European Commission (2003a), '2003 European innovation scoreboard', Commission staff working paper SEC(2003) 1255.
- European Commission (2003b), 'Public finances in EMU — 2003', *European Economy*, 3/2003, Luxembourg.
- European Commission (2003c), *Second progress report on economic and social cohesion*, Luxembourg.
- European Commission (2003d), 'Ex post evaluation of Objective 1 1994–99: A final report to the Directorate-General for Regional Policy, European Commission', Brussels.
- European Commission (2004a), *Employment in Europe 2004*, Luxembourg.
- European Commission (2004b), 'EMU after five years', *European Economy*, Special Report 1/2004, Brussels.
- European Commission (2004c), *A new partnership for cohesion: convergence competitiveness cooperation: Third report on economic and social cohesion*, Luxembourg.
- European Commission (2004d), *State aid scoreboard, autumn 2004 update*, Luxembourg.
- Eurostat (2002), *Statistics in focus*, Theme 3, 56/2002, Luxembourg.
- Evenett, S. J. and W. Keller (2002), 'On theories explaining the success of the gravity equation', *Journal of political economy*, 110 (2), pp. 281–316.
- Faini, R. (1983), 'Cumulative process of deindustrialisation in an open region: The case of southern Italy, 1953–71', *Journal of development economics*, Vol. 12, pp. 277–301.
- Fayolle, J. and A. Lecuyer (2000), 'Regional growth, national membership and European Structural Funds: an empirical appraisal', *OFCE (Observatoire Français des Conjonctures Économiques) working paper*, No 00-02, Paris.
- Feldman, M. P. and D. B. Audretsch. (1998), 'Innovation in cities: science-based diversity, specialisation, and localised competition', *European economic review*, 43, pp. 409–429.
- Feldstein, M. (1996), 'The costs and benefits of going from low inflation to price stability', *NBER working paper*, No 5469.
- Fitz Gerald, J. (1999), 'Impact of NDP on the economy', *Stationery Office: Ex ante evaluation of the national development plan, 2000–06*, Dublin.
- Forstner, B. and D. Clemens (1998), 'Einzelbetriebliche Investitionsförderung in Schleswig-Holstein effizient und nachhaltig?', *Bauernblatt für Schleswig-Holstein und Hamburg*, Issue 51/52, pp. 74–78.

- Gallup, J. L., J. Sachs and A. D. Mellinger (1998), 'Geography and economic growth', paper prepared for the Annual Bank Conference on Development Economics, Washington DC, 20–21 April 1998.
- García-Solanes J. and R. María-Dolores (2001), 'The impact of European Structural Funds on economic convergence in European countries and regions', in Meeusen, W. and J. Villaverde Castro (eds), *Convergence issues in the European Union*, Edward Elgar Publishing Ltd, 2002, pp. 61–82.
- Garibaldi, P. et al. (2001), 'What moves capital to transition economies?', *IMF staff papers*, Vol. 48, pp. 109–145.
- Gerling, K. M. (2002), 'Subsidisation and structural change in eastern Germany', Berlin.
- Giannetti, M. (2002), 'The effects of integration of regional disparities: Convergence, divergence or both?', *European economic review*, No 46, pp. 539–567.
- Haerdle, W. (1990), 'Applied non-parametric regression', *Econometric society monographs*, Series 19, Cambridge University Press.
- Hallet, M. (2000), 'Regional specialisation and concentration in the EU', *Economic and Financial Affairs DG economic paper*, No 141, Brussels.
- Hecht, Y., A. Razin and N. G. Shinar (2002), 'Interactions between capital inflows and domestic investment: international panel data', Central Bank of Israel, Mini Conference, May 2002.
- Hirschhausen, C. von (2002), 'Infrastrukturentwicklung in den mittel- und osteuropäischen EU-Beitrittsländern: Auf dem Weg nach Europa', *DIW Wochenbericht* 37/02 2002.
- Holland, D. and N. Pain (1998), 'The diffusion of innovation in central and eastern Europe: A study of determinants and impact of foreign direct investment', *NIESR discussion paper*, No 137.
- Honohan, P. (1998), 'Key issues of cost-benefit methodology for Irish industrial policy', *General research series*, 172, Economic and Social Research Institute, Dublin.
- Institut für Wirtschaftsforschung Halle (2003), 'Wie hoch sind die Transferleistungen für die neuen Länder?', *IWH-Pressemitteilung* 21/2003.
- International Monetary Fund (IMF) (2003a), *World economic outlook 2003*, Washington DC.
- International Monetary Fund (IMF) (2003b), 'Italy: selected issues', *Country report*, No 03/352.
- Islam, N. (1995), 'Growth empirics: a panel data approach', *Quarterly journal of economics*, No 4, pp. 1127–1170.
- Jenkins, S. P. (1991), 'The measurement of income inequality', in Osberg (ed.), *Economic inequality and poverty: international perspectives*, Armonk NY, M. E. Sharpe.
- Jenkins, S. P. (1995), 'Accounting for inequality trends: decomposition analyses for the United Kingdom, 1971–86', *Economica*, 62, pp. 29–63.
- Kaufmann, D., A. Kraay and M. Mastruzzi (2003), 'Governance matters III: Governance indicators for 1996–2002', *World Bank Policy Research Department working paper*, No 3106.
- Keller, W. (2002), 'Geographic localisation of international technology diffusion', *American economic review*, 92(1), pp. 120–142.
- Krugman, P. (1991), 'Increasing returns and economic geography', *Journal of political economy*, 99 (3), pp. 483–499.
- Krugman, P. and A. J. Venables (1996), 'Integration, specialisation, and adjustment', *European economic review*, 40 (3–5), pp. 959–967.
- Kuznets, S. (1955), 'Economic growth and income inequality', *American economic review*, 65, pp. 1–28.
- Landesmann, M. A. (2003), 'Structural features of economic integration in an enlarged Europe: patterns of catching-up and industrial specialisation', European Commission, *Economic and Financial Affairs DG economic paper*, No 142, Brussels.

- Lee, H. Y., L. A. Ricci and R. Rigobon (2004), 'Once again, is openness good for growth?', *IMF working paper*, WP/04/134, Washington DC.
- Lenihan, H. (2004), 'Evaluating Irish industrial policy in terms of deadweight and displacement: A quantitative methodological approach', *Applied economics*, Vol. 36, No 3, pp. 229–252.
- Lovino, I. (2003), 'Acceding countries: still attractive to foreign direct investors', Eurostat, *Statistics in focus*, Theme 2, No 51.
- Lucas, R. E. Jr (1988), 'On the mechanics of economic development', *Journal of monetary economics*, No 22, pp. 3–42.
- Lucas, R. E. Jr (2000), 'Some macroeconomics for the 21st century', *Journal of economic perspectives*, 14(1), pp. 159–168.
- Magrini, S. (2004), 'Regional (di)convergence', in Henderson, V. and J.-F. Thisse (eds), *Handbook of urban and regional economics*, Vol. 4, Elsevier-North Holland, Amsterdam, forthcoming.
- Mankiw, N. G., D. Romer, and D. N. Weil (1992), 'A contribution to the empirics of economic growth', *Quarterly journal of economics*, Vol. 107, pp. 407–437.
- Martin, P. and G. Ottaviano (1999), 'Growing locations: industry location in a model of endogenous growth', *European economic review*, No 43, pp. 281–302.
- Martin, P. and C. A. Rogers (1995), 'Industrial location and public infrastructure', *Journal of international economics*, Vol. 39, pp. 335–351.
- Maurel, F. and B. Sédillot (1999), 'A measure of the geographic concentration in French manufacturing industries', *Regional science and urban economics*, 29, pp. 575–604.
- Midelfart-Knarvik, K. H. (2004), 'Regional policy design: An analysis of relocation, efficiency and equity', *CEPR discussion paper*, No 4321, London.
- Midelfart-Knarvik, K. H. and H. G. Overman (2002), 'Delocation and European integration: Is structural spending justified?', *Economic policy*, Vol. 35, pp. 322–359.
- Midelfart-Knarvik, K. H., H. G. Overman, S. R. Redding and A. J. Venables (2002), 'The location of European industry', *European Economy*, 2, pp. 216–273.
- Mody, A., A. Razin and E. Shadka (2003), 'The role of information in driving FDI flows: Host country transparency and source-country specialisation', *NBER working paper*, No 9662.
- Molle, W. (1997), 'The regional economic structure of the European Union: an analysis of long-term developments' in Peschel, K. (ed.), *Regional growth and regional policy within the framework of European integration*, Physica-Verlag, Heidelberg pp. 66–86.
- Moreno, R., E. López-Bazo and M. Artís (2002), 'Public infrastructure and the performance of manufacturing industries: short- and long-run effects', *Regional science and urban economics*, Vol. 32, Issue 1, pp. 97–121.
- Nadaraya, E. (1964), 'On estimating regression', *Theory of probability and its applications*, 9, pp. 141–142.
- Navaretti, G. B. and D. Tarr (2000), 'International knowledge flows and economic performance — An introductory survey of the evidence', *FEEM working paper*, No 27.
- North, D. C. (1990), *Institutions, institutional change and economic performance*, New York.
- Orlowski, W. M. (2004), *Accelerate change*, IMF Finance and Development, June 2004, pp. 34–35.
- Pereira, A. M. (1999), 'International public transfers and convergence in the European Union', *Public finance review*, Vol. 27, pp. 194–219.
- Petrakos, G. and J. C. Brada (1989), 'Metropolitan concentration in developing countries', *Kyklos: The international review of social sciences*, Vol. 42, Fasc. 4, pp. 556–578.
- Petrakos, G. and Y. Saratsis (2000), 'Regional inequalities in Greece', *Papers in regional science*, 79(1), pp. 57–74.
- Petrakos, G., A. Rodríguez-Pose and A. Rovolis (2003), 'Growth, integration and regional inequality in Europe', *Research papers in environmental and spatial analysis*, No 81, London School of Economics.

- Pritchett, L. (1995), 'Patterns of economic growth: hills, plateaus, mountains, and plains', *World Bank working paper*, No 1947, Washington DC.
- Puga, D. (1999), 'The rise and fall of regional inequalities', *European economic review*, 43(2), February 1999, pp. 303–334.
- Puga, D. (2002), 'European regional policies in light of recent location theories', *Journal of economic geography*, No 2, pp. 373–406.
- Quah, D. (1996), 'Regional convergence clusters across Europe', *European economic review*, 40 (3–5), pp. 951–958.
- Quah, D. (1997), 'Empirics for growth and distribution: stratification, polarisation, and convergence clubs', *Journal of economic growth*, 2(1), pp. 27–59.
- Quah, D. (1999), 'Models of explicit distribution dynamics', in European Commission (ed.), *The socio-economic impact of projects financed by the Cohesion Fund: a modelling approach*, Luxembourg, pp. 79–219.
- Ragnitz, J. (2003), 'Wirkungen der Investitionsförderung in Ostdeutschland', *Institut für Wirtschaftsforschung Halle: Diskussionspapiere*, No 186, Halle.
- Rahman, M. A. (1963), 'Regional allocation of investment', *Quarterly journal of economics*, 77, pp. 26–39.
- Raiser, M. et al. (2001), 'Social capital in transition, a first look at the evidence', *EBRD working paper*, No 61.
- Raiser, M., M. Schaffer and J. Schuchart (2003), 'Benchmarking structural change in transition', *EBRD working paper*, No 79.
- Razin, A. (2002), 'FDI contribution to capital flows and investment in capacity', *NBER working paper*, No 9204.
- Rivera-Batiz, L. A. and P. Romer (1991), 'Economic integration and endogenous growth', *Quarterly journal of economics*, 106, pp. 531–555.
- Robinson, P. M. (1988), 'Semi-parametric econometrics: a survey', *Journal of applied econometrics*, Vol. 3, pp. 35–51.
- Rodrick, D., A. Subramanian and F. Trebbi (2002), 'Institutions rule: the primacy of institutions over geography and integration in economic development', *IMF working paper*, No 189.
- Rodriguez, F. and D. Rodrick (2000), 'Trade policy and economic growth: A sceptic's guide to cross-national evidence', in Bernanke, B. and K. S. Rogoff (eds), *Macroeconomics annual 2000*, MIT Press, Cambridge, MA, 2001.
- Rodríguez-Pose, A. and U. Fratesi (2002), 'Unbalanced development strategies and the lack of regional convergence in the EU', *ERSA conference papers*, ersa02p415, <http://www.ersa.org/ersaconfs/ersa02/cd-rom/papers/415.pdf>.
- Röger, W. and J. in't Veld (1997), 'Quest II — A multi-country business cycle and growth model', *Economic and Financial Affairs DG economic paper*, No 123.
- Romer, D. (2001), *Advanced macroeconomics*, second edition, McGraw-Hill, Irwin.
- Rose, A. K. (2000), 'One money, one market: The effect of currency unions on trade', *Economic policy*, April 2000, pp. 9–45.
- Sachs, J. D. (2003), 'Institutions don't rule: direct effects of geography on per capita income', *NBER working paper*, No 9490.
- Sala-i-Martin, X. (1997), 'I just ran four million regressions', *NBER working paper*, No 6252.
- Sala-i-Martin, X. (2003), *Executive summary to the world competitiveness report 2003/04*.
- Sapir, A. (1996), 'The effects of Europe's internal market programme on production and trade: a first assessment', *Weltwirtschaftliches Archiv*, 132 (3), pp. 457–475.
- Sapir, A. et al. (2003), 'An agenda for a growing Europe: Making the EU economic system deliver', report of an independent high-level study group established on the initiative of the President of the European Commission, Brussels.
- Silber, J. (1989), 'Factor components, population subgroups and the computation of the Gini index of ine-

- quality', *Review of economics and statistics*, No 71, pp. 107–115.
- Solow, R. (2000), 'Toward a macroeconomics of the medium run', *Journal of economic perspectives*, 14(1), pp. 151–158.
- Striwe, L., J.-P. Loy and U. Koester (1996), 'Analyse und Beurteilung der einzelbetrieblichen Investitionsförderung in Schleswig-Holstein', *Agrarwirtschaft*, Vol. 45, No 12, pp. 423–434.
- Svenjnar, J. (2002), 'Transition economies: performance and challenges', *Journal of economic perspectives*, Vol. 16, No 1, pp. 3–28.
- Tondl, G. (1997), 'The ups and downs of regional income convergence in Europe', *Robert Schuman Centre working paper*, No 97/53, European University Institute, Florence.
- Tondl, G. (2001), *Convergence after divergence? Regional growth in Europe*, Springer-Verlag, Vienna.
- Tondl, G. and G. Vuksic (2003), 'What makes regions in eastern Europe catch-up? The role of foreign investment, human resources and geography', *ZEI working paper*, B12.
- Traistaru, I., P. Nijkamp and S. Longhi (2002), 'Regional specialisation and concentration of industrial activity in accession countries', *ZEI working paper*, No 16, Bonn.
- Von Schütz, U. and M. Stierle (2003), 'Convergence in an enlarged EU? An empirical analysis of regional specialisation and sectoral concentration', in Hausen, C., M. S. Resinek, N. Schürmann and M. Stierle (eds), *Determinants of growth and business cycles: theory, empirical evidence and policy implications*, INFER Annual Conference 2003, INFER research edition, Vol. 9
- Wachtel, P. and I. Kurhonen (2004), 'Observations on disinflation in transition economies', *Bank of Finland discussion paper*, No 5/2004.
- Wälde, K. and C. Wood (2004), 'The empirics of trade and growth: Where are the policy recommendations?', *Economic and Financial Affairs DG economic paper*, No 204, Brussels.
- Watson, G. (1964), 'Smooth regression analysis', *Sankhya*, 26, pp. 359–372.
- Weise, C. (2002), 'How to finance eastern enlargement of the EU: The need to reform EU policies and the consequences for the net contributor balance', *DIW discussion paper*, No 287, Berlin.
- WIFO (1999), 'Specialisation and (geographic) concentration for European manufacturing — Background paper for "The competitiveness of European industry 1999 report"', European Commission, *Enterprise DG working paper*, 1, Brussels.
- Williamson, J. (1965), 'Regional inequality and the process of national development', *Economic development and cultural change*, 14, pp. 3–45.
- World Bank (2002), *World development report 2002*, Washington DC.
- World Bank (2004), *Doing business in 2005: Removing obstacles to growth*, Washington DC.
- Wurzel, E. (2001), 'The economic integration of Germany's new Länder', *OECD Economics Department working papers*, No 307, Paris.
- Yuill, D. and F. Wislade (2001), 'Regional policy developments in the Member States: A comparative overview of change', European Policies Research Centre, University of Strathclyde, *Regional and industrial policy research paper*, No 45, Glasgow.

Annex I

Methodological concepts of convergence

Three concepts of convergence are generally found in the literature. The first one concerns the evolution of the distribution of income per capita, that is, the so-called σ -convergence. The other two ask whether poorer countries tend to catch up with the richer ones or whether the relative position of each country within the income distribution, considering its fundamentals, tends to stabilise over time. In the first case we talk about absolute β -convergence while in the second we talk about conditional β -convergence. While the concept of σ -convergence refers to a single statistic, the other two deal with the causality between two variables: the growth rate of income per capita and its initial level. Considering the following expression:

$$\Delta y_{it} = \alpha x_i - \beta y_{it} \quad (1)$$

where y_{it} is the level of income per capita in country (or region) i and Δy_{it} is the rate of growth of this variable between $t = T$ and $t = 0$. The variable x_i is assumed, for simplicity, to be constant over time and represents the fundamentals of each country i (i.e. change in population, investment rate, technological capability, etc.) that are likely to determine the steady-state level of per capita income of each economy. With $\Delta y_{it} = 0$ in the steady state we have:

$$y^* = (\alpha x_i) / \beta \quad (2)$$

Then if $0 < \beta < 1$, there is conditional β -convergence. If, in addition, x_i is the same across all i , that is, all countries (regions) converge to the same income per capita, then there is absolute β -convergence. This is equivalent to estimate econometrically (1) with common intercept and no other explanatory variable besides the initial level of per capita income. Starting from the neoclassical model of convergence described, for instance, in Barro and Sala-i-Martin (1995), one can derive the corresponding convergence time, i.e. the time it takes for a given coun-

try to converge to the steady state. Using the logarithm expression of the convergence equation:

$$\ln(y_t) = (1 - e^{-\beta t}) \ln(y^*) + e^{-\beta t} \ln(y_0) \quad (3)$$

where y^* denotes the steady-state level of income and y_0 the initial level of income, the convergence time t can be derived by inserting the estimate of β into the following expression:

$$e^{-\beta t} = H$$

where H denotes the position of y_t compared with y_0 and y^* . For instance, in order to know how long it takes for a country's GDP per head y_t to be halfway between y_0 and y^* , the corresponding convergence time will be:

$$T = \ln(1/2) / \beta$$

Note also that, while β -convergence is a necessary condition for σ -convergence, it is not sufficient for convergence to actually take place since a positive value of β is compatible with a transitory rise of income dispersion (due, for instance, to transitory shocks to the economy). It is only when poor economies grow faster than richer ones that the reduction of income disparities will in fact happen. It follows that a negative value of β does not guarantee that the dispersion of incomes is smaller at the end of a period than at the beginning or even that regions converge to a common steady state. In particular, Chatterji (1992) showed that for both β -convergence and σ -convergence to take place, the value of β must be such that $-2 < \beta < 0$.

Note also that, related to this latter point, the concepts of absolute and conditional β -convergence have not the same implications in terms of inequality since the first implies that all economies will, in the long run, converge exactly to the same level of income while in the second

case, each economy converges towards its own steady state. Hence, in the latter case, inequalities could persist even if conditional convergence is taking place.

Several indices can be used to describe income disparities across countries and regions. Three main indices have generally been used in the literature: the Gini index, the Theil index and the coefficient of variation. These inequality indices differ in their sensitivities to income differences in different parts of the distribution, in particular, the Gini coefficient being most sensitive to income differences at the mode of the distribution while the coefficient of variation is more sensitive to high incomes. An advantage of the Theil index and of the

coefficient of variation, however, is that they are easily decomposable into group contribution. In particular, EU countries can be considered as specific groups with regions belonging to the same country sharing common features in terms of GDP per head ⁽¹⁾. One can thus use the coefficient of variation and the Theil index to derive the relative contribution of within-country variation and between-country variation in explaining the total variation in GDP per head across EU regions.

⁽¹⁾ The Gini index can also, in principle, be decomposed into within- and between-group components. However, while such decomposition is not straightforward, it also involves an interaction which may capture a large part of income variability across regions (see Silber, 1989).

Annex II

Semi-parametric techniques

Non-parametric techniques are especially suitable when considering the possibility for non-linear relationships between a set of variables. Robinson (1988) shows that these techniques can also allow for the effect of other conditioning variables by using the Kernel regression estimator. This second class of estimator is often termed a semi-parametric estimator⁽¹⁾. Accordingly, the following equation is estimated:

$$Y_{it} = \alpha + g(X_{it}) + \beta Z_{it} + u_{it} \quad (1)$$

where Z is a set of explanatory variables that are assumed to have a linear effect on Y . The variable Y represents the level of regional inequalities measured as before by the Gini index. The function $g()$ is smooth and continuous while X is the level of GDP per head measured in PPS and u is a random error term. Time and country indices are represented by i and t respectively. In addition, both the dependent and explanatory variables are measured with respect to the EU average. Note also that the set of control variables Z contains time and country dummies in order to control for time- and country-specific characteristics that can influence the relationship between national GDP per head and the level of regional inequalities⁽²⁾.

A commonly used non-parametric estimator of an unknown function like $g(X)$ without allowing for the effect of other conditioning variables is the well-known Nadaraya–Watson estimator⁽³⁾:

$$\hat{m}_h(X) = \frac{\sum_{i=1}^n K_h(X - X_i) Y_i}{\sum_{i=1}^n K_h(X - X_i)} \quad (2)$$

such that $i = 1 \dots n$ are the n number of observations, $K_h()$ is the shape function, commonly referred to as the Kernel, that is a continuous, bounded and real function that integrates to one and acts as a weighting function of observations around X and depends on the choice of bandwidth h . This technique corresponds to estimating the regression function at a particular point by locally fitting constants to the data via weighted least squares, where those observations closer to the chosen point have more influence on the regression estimate than those further away, as determined by the choice of h and K . This allows avoiding any parametric assumptions regarding the conditional mean function $m(X)$, and thus about its functional form or error structure. Furthermore, Robinson (1988) shows that in controlling for other conditioning variables the (semi-parametric) Kernel regression estimator for $g(X)$ simply becomes⁽⁴⁾:

$$\hat{g}(X) = \hat{m}_y(X) - \hat{\delta} \hat{m}_z(X) \quad (3)$$

where $\hat{m}_y(X)$ and $\hat{m}_z(X)$ are the (non-parametric) Kernel regression estimates of $E(y|X)$ and $E(Z|X)$, and $\hat{\delta}$ is the OLS estimator of:

$$Y - \hat{m}_y(X) = \delta(Z - \hat{m}_z(X)) + \varepsilon \quad (4)$$

where ε is a random error term. Intuitively, $\hat{g}(X)$ is the estimate of $g(X)$ after the independent effect(s) of Z on Y has been removed.

⁽¹⁾ See Blundell and Duncan (1998) for a useful introduction.

⁽²⁾ This is especially important given that, for instance, the number of regions could have an influence on the value of the Gini index (see Barrios and Strobl, 2004b). Time dummies can also allow controlling for annual specific shocks due to business cycle fluctuations.

⁽³⁾ See Nadaraya (1964) and Watson (1964).

⁽⁴⁾ The fact that δ is in part estimated using OLS makes this a semi- rather than non-parametric estimator.

The semi-parametric estimator presents a number of limitations. First, given that the estimate of $\hat{g}(X)$ is at least in part based on non-parametric estimation techniques, one cannot subject it to the standard statistical-type tests (e.g. t -test). A possibility, adopted here, is to calculate upper and lower pointwise confidence bands as shown by Härdle (1990). Another limitation comes from the fact that the shape function K_h is a weighting function of

observation around X and depends on the choice of bandwidth which, again, limits the possibility of hypothesis testing. Finally, the estimator tends to be biased at sudden peaks of the estimation of $g(X)$ and at the left and right boundaries of the data, simply because observations at the neighbourhood of these points are necessarily less informative. For this reason, estimates at the extreme points of the distribution are less reliable.

Chapter 3

Labour markets in the EU: an economic analysis of recent performance and prospects

Summary

Halfway through the first decade of the Lisbon strategy, **the targets for employment rates in the EU now look more challenging than they did.** When one looks at the key demographic groups from which most of the increase in employment must come, it is difficult to see how the overall target of a 70 % employment rate can be achieved by 2010, even in EU-15, let alone EU-25. The 50 % target for older workers also appears out of reach, though substantial progress has been registered. There is still a chance that the 60 % target for female workers will be reached. The macroeconomic slowdown has not helped, but, more importantly, a great deal remains to be done in the area of structural reforms.

Nevertheless, there is evidence that much of the improvement in labour market performance over the 1990s was structural, and that significant progress has continued in some areas, such as tax and benefit reforms and early retirement. Also on the positive side, there is no great mystery about the main determinants of labour market performance, or about the kinds of measures Member States need to take in order to permanently raise employment rates. The economic evidence — on the determinants of both overall labour market performance and employment in specific demographic groups — suggests that **the right strategy has been set out** in the EU's broad economic policy guidelines for 2003–05, in the employment guidelines based on the reformed European employment strategy and in the recent report of the European Employment Taskforce chaired by Wim Kok.

The strategy includes, *inter alia*, steps to ensure that wages better reflect productivity and local labour market conditions, tax and benefit reforms in conjunction with well-targeted active labour market policies that favour labour market participation, labour market regulations that are conducive to job creation and policies to improve education and training, especially for the low-skilled and older workers. Detailed reform strategies have to be country-specific, looking at the ensemble of

labour market and social protection institutions. Appropriate measures in one country might differ from what is required in another. But, in most EU Member States, there is ample scope for improvements in the design of institutions so as to improve incentives to take up employment while tackling deadweight costs and distortions that provide very little in the way of genuine social insurance. A comparison of country-specific priorities as identified in the EU employment recommendations and the broad economic policy guidelines with progress made in the last few years points to **areas for urgent action at the Member State level.**

Although a rising employment rate **may temporarily depress productivity growth**, simply because the number of workers per unit of capital is increasing, and because those who move from unemployment or inactivity into employment are likely, on average, to have a relatively low level of productivity to start with, there are three reasons why **this does not give cause for concern.** Firstly, the temporary negative effect on productivity growth is estimated to be rather small. Secondly, even if growth in productivity — GDP per employed person — is negatively affected, a higher employment rate unambiguously raises growth in GDP per capita. Newly employed people clearly contribute more to GDP than they used to, even if their productivity is below average. Thirdly, both economic theory and evidence suggest that a higher employment rate has no significant negative implications for longer-term productivity growth, which is what really matters for the competitiveness and dynamism of the EU economy. These points — important ones for the Lisbon strategy — are supported by two separate pieces of analysis: an econometric analysis of the dynamic response of productivity to structural employment shocks, and a simulation based on the Commission's macroeconomic model. This suggests that there is **no genuine trade-off between policies to raise the employment rate and policies to foster productivity growth.**

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1. Introduction

The Lisbon strategy involves efforts on several fronts both to improve labour market performance and to raise productivity growth. This twin aspiration is neatly summed up in the phrase ‘more and better jobs’, which implies higher employment rates but also more productive, higher-quality employment.

The strategy set explicit targets for ‘more jobs’: an employment rate of as close as possible to 70 % and a female employment rate of over 60 % by 2010. The Stockholm summit a year later added a further target of an employment rate of 50 % for older working-age people. Given the rate of employment growth required to meet these targets, the Lisbon conclusions also established an implicit target for productivity growth with the statement that — if the recommended measures were implemented against a sound macroeconomic background — it should be possible to achieve 3 % GDP growth.

These targets have met with criticism in some quarters on several counts. Some regarded them as over-ambitious, particularly since the European Council — as opposed to individual Member States — lacks full control of the necessary instruments to meet its objectives. There were doubts about whether a credible strategy had been set out, or even whether EU leaders realised the extent of reforms that would be required. Others pointed to the risk of policy distortions — there are many ways to raise employment rates, for example, but not all of them are fully consistent with raising economic welfare. On the other hand, the Lisbon targets appeared to score an initial public relations success, being widely interpreted as a signal that the EU was taking economic reform seriously⁽¹⁾.

Two clear advantages of the Lisbon strategy, and especially the employment rate targets, are often overlooked

in these discussions. Firstly, the commitment to raising employment rates, i.e. raising labour force participation as well as reducing unemployment, represents a clear rejection of an idea that has been one of the great weaknesses of some Member States’ employment policies in recent decades, namely that high unemployment can be cured by discouraging labour supply. If this seems obvious today, it is not so long ago in some countries that married women were discouraged from working, while older workers were actively encouraged to quit the labour market through early retirement schemes, partly in response to high unemployment. Even more recently, governments in some EU Member States were entertaining a similar notion — that employment in persons might be boosted by means of regulatory restrictions on hours worked.

Secondly, the Lisbon strategy embodies the idea that structural improvements in the functioning of markets are required for a sustained increase in employment rates and higher productivity growth. Clearly, at any given moment, output and (un-)employment are determined by real demand in the economy. However, over the longer term, real demand will generally tend towards a level consistent with stable inflation, this level being determined by overall supply conditions in the economy. By focusing on the functioning of labour, product and capital markets, as well as investments in R & D and human capital, the Lisbon strategy seeks to raise employment and growth potential in a sustainable manner.

In addition, while one may ask whether the employment rate is the ideal variable to target, there is no doubt that low employment rates in several EU Member States are a symptom of poor labour market performance, and that improving labour market performance would lead both to higher employment rates and to greater economic welfare. The benefits of higher employment rates for the sustainability of public finances, at least in the short to medium term, were also noted.

⁽¹⁾ Even then, though, it was noted that this might damage the credibility of similar exercises were the targets to be missed by a wide margin.

The Lisbon strategy also addresses two much-discussed ‘trade-offs’ — one between employment growth and productivity growth, the other between employment and social cohesion. On the former, the position is clear: provided the necessary reforms are undertaken, it is possible to have both a substantial increase in the employment rate and higher productivity growth. Whether this is actually the case is the special subject of Section 2.2 of this chapter.

On social cohesion, Lisbon also takes quite a clear line, calling for modernisation of social protection systems in order to ensure that work pays, and stating that ‘the best safeguard against social exclusion is a job’. At the same time, the strategy underlines the need to improve working conditions and skill levels, in other words, the quality of jobs. This is not to say that uncomfortable choices may not sometimes have to be made between social protection and economic efficiency. However, in many cases, there is substantial scope for improving the design of labour market institutions in such a way as to improve employment performance without weakening social protection (see Section 3.1.3).

This chapter takes stock of the implementation of the Lisbon strategy as far as labour markets are concerned.

Section 2 reviews labour market performance since 2000 and considers the extent to which disappointing progress can be put down to the less than favourable macroeconomic environment. It then focuses on a crucial question for the strategy of ‘more and better jobs’: whether and in what sense there are trade-offs between employment growth and productivity growth.

Section 3 reviews the best available evidence on the determinants of labour market performance, and compares this with actual performance and policy-making in EU-15 since 2000. It then turns to critical groups in the labour force in which significantly lower unemployment and/or higher labour force participation would appear to be necessary conditions for approaching the Lisbon employment targets.

Section 4 reviews the priorities established for labour market reforms in EU Member States and compares progress achieved since 2000 with what is likely to be required in order to hit the Lisbon targets. Most of the chapter focuses on the former EU-15, to which the Lisbon strategy initially applied. However, Section 4 also looks at the labour market challenges faced by the 10 new Member States, and at how they will fit into the Lisbon strategy.

2. Lisbon at mid-term: an overview

2.1. Labour market performance since 2000

In 2000, the Lisbon employment targets seemed within easy reach to many. The EU-15 employment rate for the population aged 15–64 was 63.4 %, which meant that in order to reach 70 % by 2010, employment had to grow at an annual rate of 1 % ⁽¹⁾. This would be well above the long-term average of 0.4 % since 1960, but half the rate of employment growth in 2000.

As it turned out, employment growth peaked at 2.0 % in 2000, fell to almost zero in 2003, and is expected to remain relatively weak in 2004 and 2005: 0.3 and 0.8 % respectively, according to the Commission's spring 2004 economic forecasts. On this basis, the employment rate would rise to 65 % in 2005, and the annual rate of employment growth required to hit the 70 % target by the end of 2010 would then be 1.5 %. In other words, an immediate return to the economic performance of the late 1990s would be needed in order to hit the overall Lisbon target. Even then, the higher the employment rate rises, the more difficult it becomes to sustain rapid employment growth.

The disappointing performance over the past few years can be partly explained by the macroeconomic slowdown. Up to 2001, there were signs that structural reforms of product and labour markets, together with wage moderation, were beginning to pay off. The Commission services' assessment was that these factors might be behind as many as 5–6 million additional jobs since 1995 ⁽²⁾. However, the remaining 6–7 million jobs created during the same period could then be put down to cyclical or macroeconomic factors, and the removal of this stimulus clearly makes it much more difficult to reach the Lisbon employment targets on schedule.

Nevertheless, disappointing performance cannot be ascribed entirely to the cyclical downturn. Firstly, EU leaders were presumably aware that the favourable conditions of 1999 and 2000 might not continue for a whole decade. Secondly, had employment continued to grow rapidly, further structural improvements in labour market performance would still have been required in order to avoid inflationary pressures. Labour markets in some EU countries were already showing signs of tightness in 2000. Thirdly, the cyclical downturn in the labour market has not been particularly severe. Indeed as Graph 1 shows, the employment rate appears to be at about its equilibrium level.

The upper panel of Graph 1 shows estimated 'structural employment' in the EU and the United States, which combines estimates of the NAIRU ⁽³⁾ and trend labour force participation. The lower panel compares the 'employment rate gap' — the deviation of the actual employment rate from its estimated structural level — with the output gap, or the deviation of actual GDP from its potential level. While for the EU the employment rate gap is almost zero, in the United States it is around –1.4 percentage points, in other words, the actual employment rate is 1.4 percentage points below its structural level ⁽⁴⁾. The cyclical response of employment appears more moderate in the EU than in the United States, even after controlling for the wider fluctuations of the output gap in the United States. This is despite the growing use of temporary contracts in the EU, which

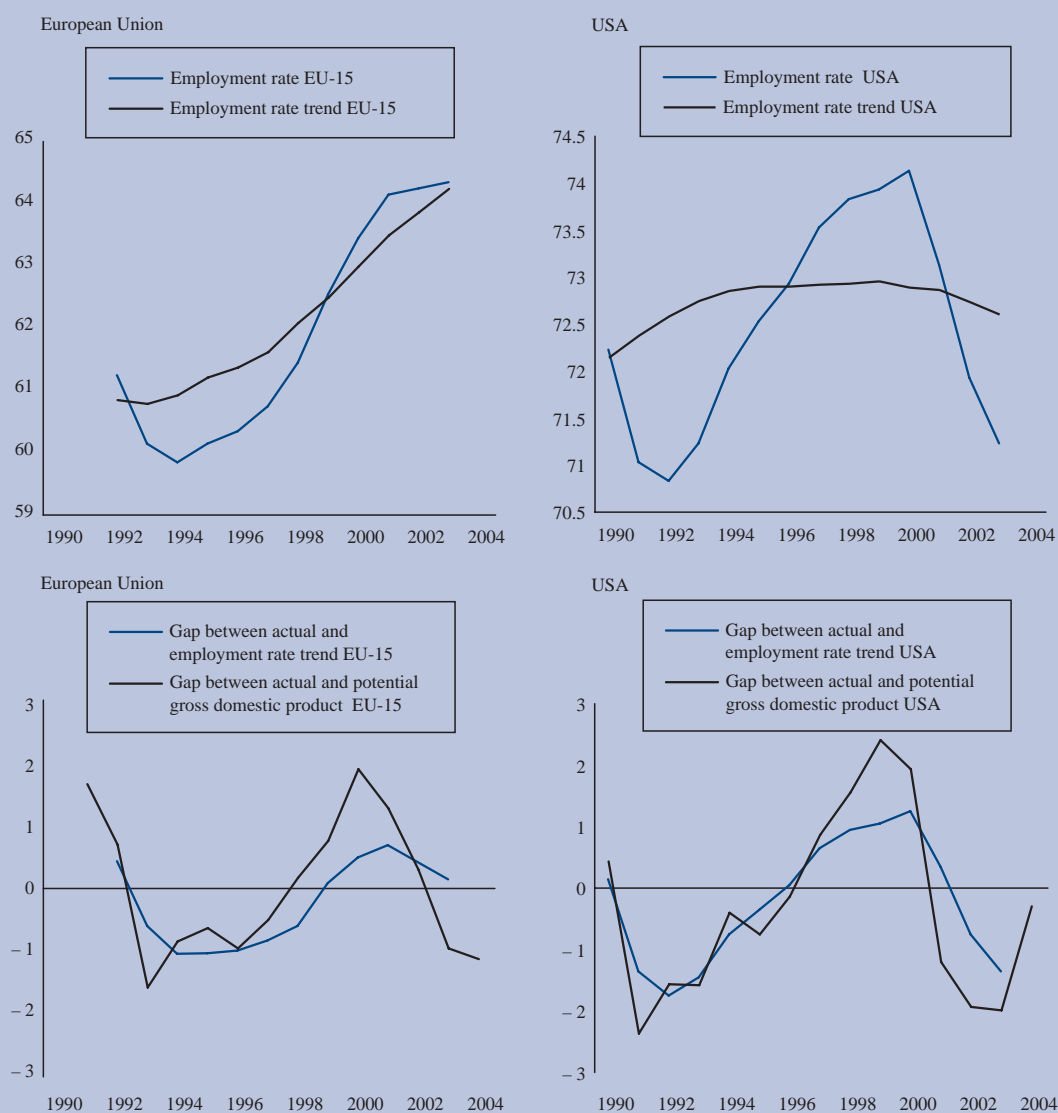
⁽¹⁾ Assuming, as projected by Eurostat, a roughly constant working-age population.

⁽²⁾ See 'The EU economy: 2002 review', Chapter 2.

⁽³⁾ Non-accelerating inflation rate of unemployment: the 'structural' rate of unemployment that is consistent with constant inflation.

⁽⁴⁾ With a US working-age population of 192 million, this implies a gap between potential and actual employment of 2.7 million jobs, not far from the 'low' estimate (3.5 million) recently obtained by the Federal Reserve Bank of Boston (2004) assuming a NAIRU of 5.5 and a participation rate of 66.3 %. When the same calculation is done using OECD data on the population aged 15 years and over (as opposed to aged 15–64), which corresponds more closely to the usual US definition of the employment rate, the implied gap is 2.8 million persons. The Boston Fed's 'baseline' and 'high' estimates (assuming, respectively, a NAIRU of 5 and 4.5 % and a participation rate of 66.8 and 67.3 %) indicate a somewhat larger employment gap, of 5.2 million and 6.9 million jobs respectively.

Graph 1: Structural employment and the employment gap



NB: The trend employment rate is calculated using Commission services' and OECD estimates of the NAIRU (for the EU and the United States respectively) and HP-filtered labour force participation. For both the EU and the United States, employment and participation rates are calculated for the population aged 15–64.

Sources: Commission services, OECD for US data.

many expected to lead to an increase in the sensitivity of labour demand to the business cycle (see Box 1).

Regarding the immediate prospects for employment, there are several different possible interpretations. Firstly, and

most pessimistically, the scenario of a delayed reaction to the downturn in output still cannot be excluded. This was the case in the early 1990s, when the employment gap continued to fall even after GDP growth had resumed. Secondly, if the employment rate is indeed at around its

Box 1: The impact of temporary contracts on the cyclicity of employment rates

The use of temporary contracts in EU countries has grown rapidly over recent decades. These types of contracts, once a relatively rare exception to the rule of permanent employment, now represent a significant share of total employment in EU-15: around 13 % in 2003 compared with 7 % in 1987. However, the share varies a lot across countries, ranging from 2 % in Luxembourg to 31 % in Spain in 2003.

Whether or not the growth of temporary contracts affects the overall level of employment, one might expect it to modify the response of participation and employment to the business cycle. Firms can choose not to renew temporary contracts in downturns, while, in periods of recovery or expansion, they can quickly hire new staff without running the risks associated with high firing costs. However, the legal restrictions on the renewal of temporary contracts may limit their use as a cyclical buffer. As surveyed by Portugal and Varejão (2003), other reasons to use temporary contracts include screening and ‘churning’. Screening occurs when employees are offered temporary contracts to see if they are suitable for permanent positions, while churning refers to the practice of successively hiring different employees on fixed-term contracts to fill the same permanent position.

To shed light on this issue, we checked in a panel of EU-15 countries whether the sensitivity of employment to the output gap is modified by the introduction of temporary contracts. The employment rate, E_{it} , is explained by the output gap, OG_{it} , the interaction between the output gap and the share of temporary contracts, S_{it} , country dummies (fixed effects) α_i and country-specific trends, t_i , capturing the heterogeneity across EU-15 countries. The equation is estimated for both male and female employment rates, where γ is the parameter of interest that captures the impact of the temporary contracts on the cyclical components of employment rate:

$$E_{it} = \alpha_i + \lambda_i t + \beta OG_{it} + \gamma OG_{it} * S_{it-2} + \varepsilon_{it}$$

$$= \alpha_i + \lambda_i t + (\beta + \gamma S_{it-2}) OG_{it} + \varepsilon_{it}$$

Initial results (table below) suggest that temporary contracts have a small pro-cyclical effect on male employment but are insignificant for female and overall employment. For men, the magnitude of this effect is fairly modest, albeit not negligible: an increase of 10 percentage points in the share of temporary contracts would raise the (positive) impact of a 1 % output gap on the male employment rate by around 0.2 percentage points.

Panel data results, 1985–2003, for EU-15 countries

	Total	Female	Male
Output gap	0.200 ** (2.51)	0.192 * (1.81)	0.159 * (1.91)
Output gap * share of temporary jobs	0.009 (1.25)	- 0.001 (- 0.13)	0.019 ** (2.42)
Observations	239	239	239

NB: Absolute value of t statistics in parentheses. Significance at 10 and 5 % denoted by * and ** respectively. The equations are estimated by GLS allowing for heteroskedastic errors and common-across-group first-order serial correlation. The share of temporary contract jobs is lagged by two years to avoid any problem of endogeneity between the share of temporary contracts and the employment rate. Data are annual and start from 1986 for Portugal, from 1987 for Spain, for 1995 only for Denmark, Sweden and Finland.

Sources: Eurostat labour force survey; Economic and Financial Affairs DG, Ameco database.

When the same regression is run separately for periods of slowdown and expansion, the pro-cyclical impact of temporary contracts on male employment appears to be slightly stronger in downturns. This may point to the role of temporary contracts as a cyclical buffer, though the smaller pro-cyclical effect in periods of expansion is

consistent with their use as a screening device as well. Conversely, for women, the effect of the share of temporary contracts is insignificant throughout the business cycle. This could indicate churning of temporary contracts in services, where female employment is concentrated.

(Continued on the next page)

Box 1 (continued)

In any event, temporary contracts do not, at first sight, appear to have a large impact on the cyclical of total employment, although their effect on male employment might not be negligible. Further analysis, perhaps disag-

gregating further by economic sector or by age group and including missing explanatory variables, would be required to draw firm conclusions.

Table 1

Labour market performance in EU-15 Member States

	Employment rate			Unemployment			Regional disparities (*)
	All	Female	Older workers	All	Youth	Long term	
	2003	2003	2003	2003	2003	2003	2002
BE	59.6	51.8	28.1	8.1	21.5	3.7	0.48
DK	75.1	70.5	60.2	5.6	10.3	1.1	:
DE	65.0	59.0	39.5	9.6	11.1	4.6	0.63
EL	57.8	43.8	42.1	9.3	26.3	5.1	0.16
ES	59.7	46.0	40.8	11.3	22.7	3.9	0.38
FR	63.2	57.2	36.8	9.4	20.9	3.5	0.22
IE	65.4	55.8	49.0	4.6	8.3	1.5	:
IT	56.1	42.7	30.3	8.6	27.0	4.9	0.78
LU	61.8	50.0	34.2	3.7	10.4	0.9	:
NL	73.5	65.8	44.8	3.8	6.7	1.0	0.16
AT	69.2	62.8	30.4	4.1	7.0	1.1	0.43
PT	67.2	60.6	51.1	6.3	14.4	2.2	0.27
FI	67.7	65.7	49.6	9.0	21.8	2.3	0.31
SE	72.9	71.5	68.6	5.6	13.4	1.0	0.17
UK	71.8	65.3	55.5	5.0	12.3	1.1	0.30
EU-25	62.9	55.1	40.2	9.1	18.4	4.0	:
EU-15	64.4	56.0	41.7	8.1	15.9	3.3	0.63

(*) Coefficient of variation = standard deviation of NUTS 2 regional unemployment rates/national average unemployment rate.

Source: Commission services.

equilibrium level, then the nascent recovery might soon encounter the obstacles of low labour force participation and high structural unemployment. In this scenario, employment growth might remain relatively flat for several more years, assuming that there are no further increases in structural employment in the pipeline, due for instance to the delayed effects of earlier reforms.

Thirdly, however, the experience of the 1990s suggests that structural improvements to accommodate sus-

tained employment growth without excessive inflationary pressures are a feasible scenario. This depends, of course, on sufficient progress on reforms having been made, or at least on expectations of continued growth in the structural employment rate in the EU (see Graph 1, top-left chart). This is consistent with the idea that employers in the EU have hoarded labour during the recent downturn, anticipating that employment rates would continue to grow and that recruitment difficulties might quickly re-emerge.

Graph 2 breaks down progress since 2000 by age group and gender. While the overall employment rate increased by less than one percentage point between 2000 and 2003, the female employment rate rose by two percentage points, in line with strong growth in women's labour force participation. Indeed, there is a chance that the Lisbon target for a female employment rate of more than 60 % by 2010 could still be reached. The contribution of males to employment growth was actually negative in Denmark, Germany, Austria, Portugal and Finland. This is explained mainly by falling employment of younger people, partly due to increased enrolment in education, though even the employment rate of prime-aged men fell in some countries.

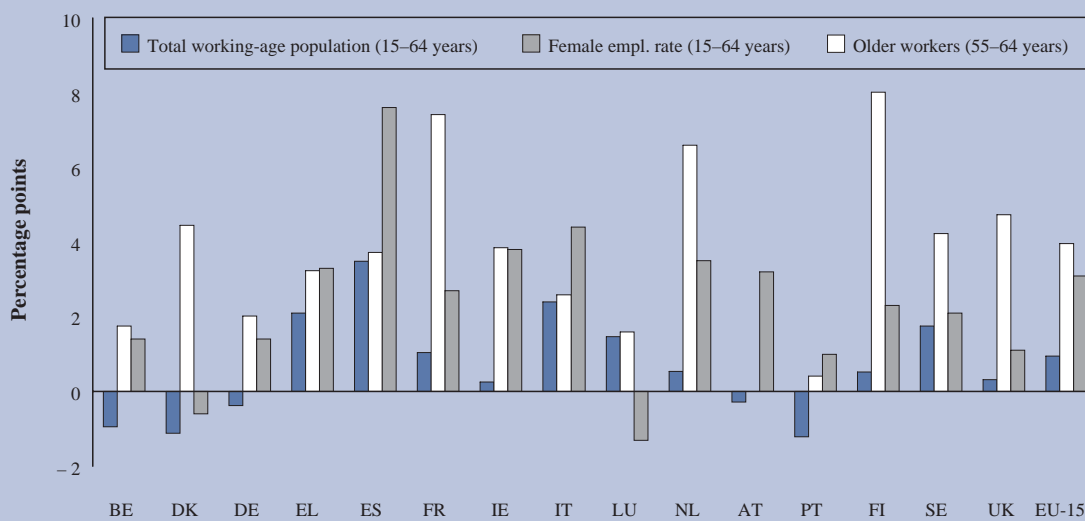
Older workers have made a remarkable contribution in recent years. The employment rate of 55–64-year-olds rose by as much as four percentage points between 2000 and 2003, accounting for around half of total employment growth. Reforms of pension systems and early retirement schemes — in some cases decided in the early 1990s, but with phased-in implementation — have begun to take effect. Particularly strong increases were

recorded in Finland, France and the Netherlands: 8, 7.4 and 6.6 % respectively. Nevertheless, the employment rate of older workers, at just under 42 % in 2003, remains far short of the Stockholm target of 50 % by 2010.

So far, this chapter has looked at labour market performance for EU-15 as a whole. But of course performance varies a great deal among Member States, ranging from good to exemplary in the cases of Denmark, Ireland, the Netherlands, Austria, Portugal, Sweden and the United Kingdom, and from bad to worse in Belgium, Germany, Greece, Spain, France and Italy, with Finland and Luxembourg somewhere in between. Table 1 provides a snapshot of performance by Member State. Although many Member States are still far from complying individually with the Lisbon employment targets, it should be recognised that some, including Spain and Greece, have made significant progress in recent years ⁽¹⁾.

⁽¹⁾ See Chapter 1 in European Commission (2004a) for further details.

Graph 2: Increased employment rates, 2000–03, EU-15



Source: Commission services.

2.2. Employment and labour productivity: reconsidering the potential trade-off

2.2.1. Introduction

At the moment, EU GDP per capita in purchasing power parities is around 70 % of the US level, with one third of the gap due to productivity differentials and two thirds due to a lower labour input, in other words, a lower employment rate and fewer hours worked compared with the United States. Consequently, improving the EU's productivity performance and raising employment is fundamental to increasing the long-term growth potential of the EU economy. However, several observers have argued that the twin goals of raising both employment rates and productivity growth may be difficult, or even impossible to pursue simultaneously, given a perceived negative trade-off between employment and productivity.

The basic argument for the existence of a negative relationship between employment and productivity is derived from straightforward comparative-static reasoning. For any standard production function, average factor productivity will decrease with rising output as the expansion of production will require bringing less and less productive factors into operation — less fertile soil, older and less efficient equipment and machinery, workers with lower abilities and skills, and so on. Then, obviously, higher employment will be inevitably associated with lower output per worker and vice versa. Thus, in such a comparative-static setting it is easy to construe a situation where, for example, regulations and restrictions excluding low-productivity workers from employment result in a higher level of actual labour productivity, but it will come at the price of lower employment; similarly, reform efforts to price back low-productivity workers into employment will mean more jobs, but this will be associated with lower overall productivity.

In comparing labour productivity levels across countries, such considerations of a comparative-static nature can be useful. There appears to be widespread agreement that measured labour productivity in Europe relative to the United States may be upward biased as a result of the exclusion of more low-productivity workers. Indeed, the EU employment rate falls short of the US level by some 10 percentage points, with lower participation rates and higher unemployment rates disproportionately affecting low-skill workers. In a similar vein, the capital-labour ratio appears to be typically higher in the EU than in the

United States, driving up measured labour productivity in Europe. Thus, both economic theory and quick inspection of a few aggregate figures suggest that one should control for these effects in productivity comparisons. Obviously, in consequence, a Europe at full employment may well see a significantly larger labour productivity gap vis-à-vis the United States than the current actual figures suggest.

By how much could the productivity gap rise? A simple calculation could be performed focusing on comparisons of total factor productivity levels, using the following relationship:

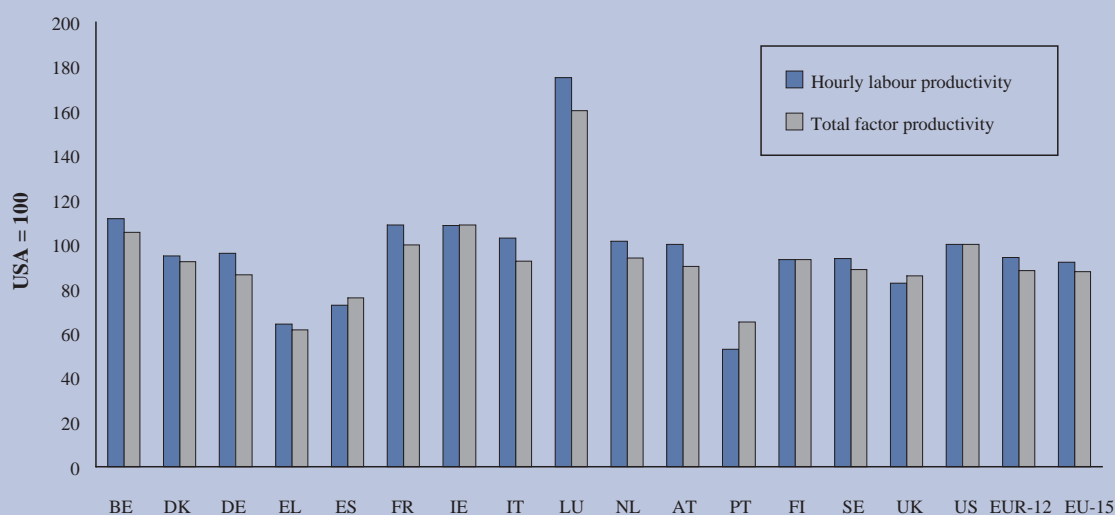
$$Y/L = (K/L)^{1-\alpha} TFP \quad (1)$$

where Y/L denotes measured labour productivity, TFP is total factor productivity, K/L is the capital intensity of production and $1 - \alpha$ is the capital-elasticity of output in the constant-returns Cobb-Douglas case. For the calculation, GDP and capital stock in PPP are taken from Ameco. Employment is civilian employment (LFS). Hours worked come from the GGDC (Groningen Growth and Development Centre). The results of this simple exercise, shown in the graph below, suggest that the productivity gap between the euro area and the United States may be some six percentage points wider than the actual figures indicate.

However, the notion of a negative relationship between employment and productivity levels emerging in comparative-static considerations should not be confused with a genuine trade-off between employment and productivity in a long-run dynamic sense. One of the 'big' stylised facts in economics is that in the long run technical progress is neutral with respect to employment. History has told us that the process of capital accumulation and technological innovation has not meant the 'end of work' and, despite notions of 'factories without workers', it is clear that from an overall perspective workers have not been replaced by machines. In standard economic growth theory this long-run neutrality proposition has been captured by the concept of labour-augmenting technical progress⁽¹⁾. Along this balanced growth path, labour productivity, real wages and the capital intensity

(1) Labour-augmenting technical progress is equal to Harrod-neutral technical progress when the capital stock grows at the same rate as output, thus leaving the capital output ratio constant. For a Cobb-Douglas production function this 'balanced' labour productivity growth rate is defined as TFP growth divided by the labour share.

Graph 3: TFP and labour productivity gap



Source: Commission services.

of production grow at the same rate, driven by (exogenous) technical progress. Technical progress is called total factor productivity growth, indicating that this concept should not be seen in a narrow ‘engineering’ sense. Given that TFP determines our standards of living in the long run, clearly policy-makers want it to grow faster than in recent years.

Actual labour productivity growth can of course deviate from the balanced labour productivity growth rate over the short to medium term due to capital–labour substitution; faster than ‘balanced’ productivity growth indicates labour shedding, and a shortfall of actual relative to ‘balanced’ productivity growth is a characteristic of what is loosely called labour-intensive growth. Obviously, then, the employment neutrality hypothesis will not hold over the short to medium term ⁽¹⁾. In consequence, pressing ahead with labour market reforms may entail a temporary reduction in measured productivity growth below full potential, but this should not be regarded as a trade-off in any sense. A higher employment rate implies an

unambiguous increase in GDP per capita with no negative implications for the long-run productivity growth of the existing workforce. Thus, there is no inherent problem to act on both fronts simultaneously, raising the ‘balanced’ rate of productivity growth using all the available instruments to stimulate TFP growth, whilst at the same time encouraging the labour-intensive growth in the medium term that is needed to move towards full employment ⁽²⁾.

2.2.2. The dynamic employment–productivity relationship in recent years

EU employment and productivity growth patterns have diverged sharply over recent years. Compared with the first half of the 1990s, the period since then has witnessed a significant increase in the contribution of labour to EU GDP growth but unfortunately this has been accompanied by a reduction in the contribution from labour productivity, with labour productivity growth having come down by about one percentage point. By comparison, over the same time frame, the United States

⁽¹⁾ Gordon (1995) provides a neat theoretical and empirical investigation how a productivity–unemployment trade-off might emerge and how it will subsequently be eliminated through a dynamic path of capital adjustment.

⁽²⁾ Obviously, misguided policies attempting to exploit a perceived trade-off have to be avoided, for example unnecessary regulations leading to ‘over-manning’.

has been able to combine a strong employment performance with acceleration in labour productivity growth. Against this background, this section investigates to what extent the recent slowdown in labour productivity growth may merely reflect a response to a series of positive shocks to labour supply and jobs emanating from structural reforms and employment-friendly wage developments.

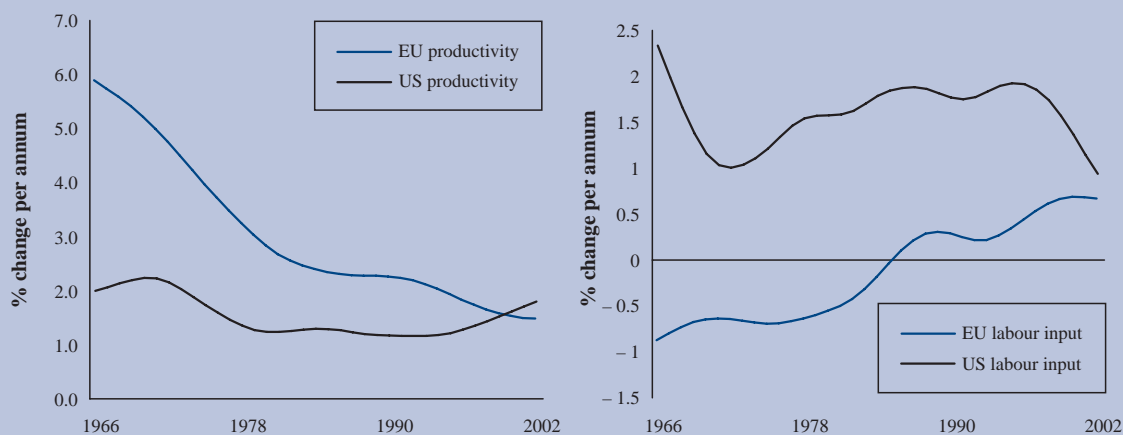
Graph 4, as a starting point for the analysis, shows the contribution to growth from employment measured in total hours worked and from labour productivity, with the United States included for comparison purposes. Evidently, productivity growth has further slowed down over the 1990s, with the EU's long-established superiority in terms of labour productivity growth having disappeared over recent years. It is also striking that the contribution of employment to growth in the United States, albeit partly due to immigration, has been consistently higher than in the EU, even during the recent period of 'jobless growth' in the United States.

The benign interpretation of the observed productivity growth trends sees the recent performance deterioration mainly as the mirror image of structural labour market improvements. Under this view the EU may now simply

be in a transition phase whereby wage moderation and positive labour supply shocks may have initially created a negative trade-off between employment and productivity growth, basically via a temporary decline in capital-labour substitution; however, the dynamic adjustment path towards a new equilibrium with higher employment and lower structural unemployment will also involve capital accumulation that should eliminate the trade-off over the medium term. The more pessimistic view, on the other hand, is that the labour productivity growth slowdown reflects a genuine negative shock, either in the form of a decline in total factor productivity growth or additional pressures on capital productivity; clearly, in such a scenario, prospects for a recovery of labour productivity growth are much bleaker.

Obviously, both interpretations are likely to contain an element of truth, posing the analytical challenge to derive inference on the relative magnitude of the employment and the productivity shock and their respective consequences for overall productivity and employment developments. The picture is complicated by a third possible factor, namely aggregate demand. Indeed, a comprehensive analysis has to allow for the possibility of positive or negative shocks to demand affecting output, employment and productivity in recent years.

Graph 4: Labour input (employment + hours worked) and labour productivity per hour trends (1966–2002)



Source: Commission services.

Thus, the analysis distinguishes between three shocks, shocks to employment, shocks to productivity and shocks to aggregate demand and makes an effort to measure their relative importance for productivity and employment. What is of specific interest in the context of this section is the dynamic response of productivity to structural employment shocks. In technical terms, a structural VAR methodology is used to estimate a model in the three variables employment, productivity and inflation for the euro area, applying a procedure suggested by Stock and Watson (1988) and Blanchard and Quah (1989) to identify the shocks and estimate structural relationships. The identifying restrictions implied by a standard neoclassical growth model and used in the present analysis are the following ⁽¹⁾.

- The labour market shock can have short- and long-run effects on employment, productivity and inflation.
- The productivity shock can have long-run effects on productivity and inflation, but only short- and medium-run effects on employment.
- The demand shock can have a long-run effect on inflation only, but not on employment and productivity.

The empirical results are presented in two steps. First, the impulse responses from the estimated VAR are discussed. These responses give the impact on employment and productivity of a unit shock to employment, productivity and demand. Recall that the identifying restrictions imply that temporary unit shocks to employment can have permanent effects on employment and productivity, while a unit shock to demand (inflation) can only have temporary effects. In order to evaluate the quantitative magnitudes of these shocks, they are compared with similar shocks simulated with the euro-area Quest model. This comparison is useful since it shows whether orders of magnitudes of these shocks are similar when two very distinct empirical tools are used, with the VAR model imposing very little economic structure apart from the long-run constraints, while Quest consists of explicitly estimated structural equations and estimated adjustment lags.

Employment shock: A positive employment shock initially leads to an increase in productivity; however, this short-run positive effect in the VAR model is partly spurious ⁽²⁾. In the medium and long run, the effect on productivity is negative, in other words, an increase in employment is associated with a decrease in labour quality. Note, though, that this negative long-run effect is estimated to be small: a shock which leads to a permanent increase in the level of employment of about 1 % is associated with a long-run productivity level effect of about –0.1 % ⁽³⁾. Analysis based on Quest model simulations yields fairly similar results to the VAR approach, but the negative impact upon the long-run productivity level is slightly stronger (–0.3 % instead of –0.1 %); moreover, the Quest model analysis does not reveal any short-run increase in productivity. The productivity effect remains negative in the Quest model over the entire simulation period of 10 years, reflecting the long-lasting dynamics of capital–labour substitution induced by labour market reforms. However, the Quest model does not distinguish between different skill levels and, in consequence, there will be no productivity impact over the very long term.

Productivity shock: A positive productivity shock is associated, in the short run, with a small negative employment effect. The order of magnitude of the employment effect is only about one tenth of the size of the productivity shock. Again, in the Quest model analysis a qualitatively similar pattern to the VAR emerges, but the short-run negative employment response appears to be somewhat stronger.

Demand shock: The demand shock is initially associated with a positive employment and productivity effect. This result appears quite plausible, since a demand shock is likely to lead to better capacity utilisation in the short run. As the demand effect fades away and employment is slow to adjust, the productivity effect turns negative and dies out within a year.

The identifying restrictions of the VAR model allow calculating the structural shocks from the estimated residuals. In the second step of the empirical analysis the shocks are cumulated over the period 1995Q1

⁽¹⁾ See Box 2 for a formal description.

⁽²⁾ This results from the labour input series being employment rather than hours worked. A positive employment shock is likely to be correlated with a short-run increase in hours worked, which by definition will be associated with an increase in labour productivity per worker.

⁽³⁾ In fact, the hypothesis of a zero long-run productivity effect cannot be rejected at standard significance levels.

to 2003Q4 ⁽¹⁾ in order to derive an estimate for the structural component in employment growth and its likely impact on productivity. The results of this exercise are depicted in Graph 7. The cumulated size of the employment shock over the period 1995–2003 is estimated at about 5%. Thus, roughly one half of the overall observed employment expansion over that period is attributed to structural trend improvements. According to the VAR approach the cumulated productivity cost of this structural employment expansion may have amounted to three quarters of a percentage point; the Quest model simulations would put the productivity cost somewhat higher at 1 ½%; roughly translated into year-on-year figures, this implies a reduction in annual productivity growth of around two tenths of a percentage point, equivalent to some 20% of the observed total productivity growth slowdown, which could be attributed to positive structural shocks in the labour market.

The empirical results presented above are quantitatively broadly in line with other available evidence on structural labour market improvements as indicated by a trend increase in participation and a reduction in structural unemployment. Moreover, relating the productivity effect to real wage moderation also suggests that the estimated impact on short-run productivity developments is of a reasonable order of magnitude. A stylised number for real wage moderation in the past 10 years or so would put the average annual reduction in real efficiency wages at slightly less than half of a percentage point. Thus, back-of-the-envelope calculations would suggest that real wage moderation could, on average, have reduced annual actual labour productivity growth relative to its balanced steady-state rate by about two tenths of a percentage point, which is well within the range derived from the VAR and Quest model approaches. Further corroborating evidence stems from growth regressions suggesting that about 25% of the productivity decline is due to the increase in employment ⁽²⁾. In summary, and recalling that the overall slowdown in average annual productivity growth has amounted to about one percentage point, it emerges as a fairly robust result that only some 20% of this reduction can be attributed to the dynamic response of productivity to positive structural shocks in the labour market.

⁽¹⁾ It should be noted that this provides an estimate for the overall magnitude of the shocks, but not of the impact these shocks have had on the macro-economic aggregates.

⁽²⁾ See 'The EU economy: 2003 review', Chapter 2, Table A.4.

2.2.3. Conclusions

In a nutshell, the analysis in this section dismisses the notion of a genuine trade-off between employment and productivity growth. Obviously, misguided policies to exploit such a trade-off have to be avoided. However, there are no reasons to think that structural labour market reforms boosting employment will typically entail negative implications for longer-term productivity growth. In particular, this section reaches the following conclusions.

- The negative relationship between productivity and employment in comparative-static considerations should not be interpreted as a genuine trade-off.
- However, all else equal, a move towards full employment is likely to see a widening of the labour productivity gap between Europe and the United States.
- The dynamic response of productivity to positive labour supply and wage shocks may entail a temporary reduction in productivity growth rates, which, in principle, could be considered as benign; anyway, the size of a negative effect of this type is estimated to be fairly small.
- The increase in employment since the mid-1990s has indeed been to a significant extent the result of such positive labour market shocks, with about one half of the additional jobs attributed to structural improvements.
- Positive employment shocks can only account for a very small fraction of the observed productivity slowdown in recent years. Consequently, the decline of labour productivity growth must be considered as predominantly caused by other factors and probably not just a temporary phenomenon.

The implications of the above findings for the Lisbon strategy are straightforward. Indeed, 'the more jobs the better' may serve as a simple catch-phrase characterising the principal goal of labour market reform efforts since there is no genuine trade-off — in the sense of a difficult decision to be made — between policies to raise the employment rate and policies to foster productivity growth. Of course, misguided policies attempting to exploit such a trade-off have to be avoided. If, for example, policy-makers promoted sectors with low productivity growth prospects, if they introduced unnecessary reg-

Box 2: Identifying structural shocks for employment, productivity and demand with a structural VAR model

We use a structural VAR (SVAR) methodology, based on Stock and Watson (1988) and Blanchard and Quah (1989), for the identification of structural shocks. The intuition for shock identification in Blanchard and Quah is based on the idea that demand shocks only have temporary effects while supply shocks have permanent effects. Stock and Watson extend this approach and allow for separate supply contributions from labour and productivity (TFP). In order to identify different supply contributions, namely those coming from employment and those coming from productivity, additional identification criteria must be introduced. Stock and Watson use long-run restrictions implied by the neoclassical growth model for that task. The neoclassical growth model appears to be suitable, since there are at least three important features in the long-run trends which are compatible with this model.

1. There is a close trend correlation between the growth of labour productivity and capital intensity.
2. Capital intensity and productivity grow at a similar rate in the long run.
3. If one looks over long periods of time and across the EU and the United States, the employment rate appears to be unrelated to productivity growth.

If one uses the neoclassical growth model, then one can impose the following long-run structure on the data.

1. The labour market shock can have short- and long-run effects on employment, productivity and inflation.

2. The productivity shock can have long-run effects on productivity and inflation but only short- and medium-run effects on employment. This constraint arises from the assumption that real wages are indexed to productivity in the long run.
3. The demand shock can have a long-run effect on inflation only but not on employment and productivity. No long-run constraint is imposed on inflation.

These three types of restrictions imply a triangular long-run structure between the growth rate of employment (Δh), productivity ($\Delta(y-h)$), and inflation π , on the one hand, and the corresponding shocks to employment (v), productivity (e) and demand (d), on the other. If one defines the vector $\Delta x_t = [\Delta x_p, (\Delta(y_t - h_t), \Delta \pi_t]$ and the vector $\xi_t = [v_t, e_t, d_t]$, then the moving average representation of this model is given by:

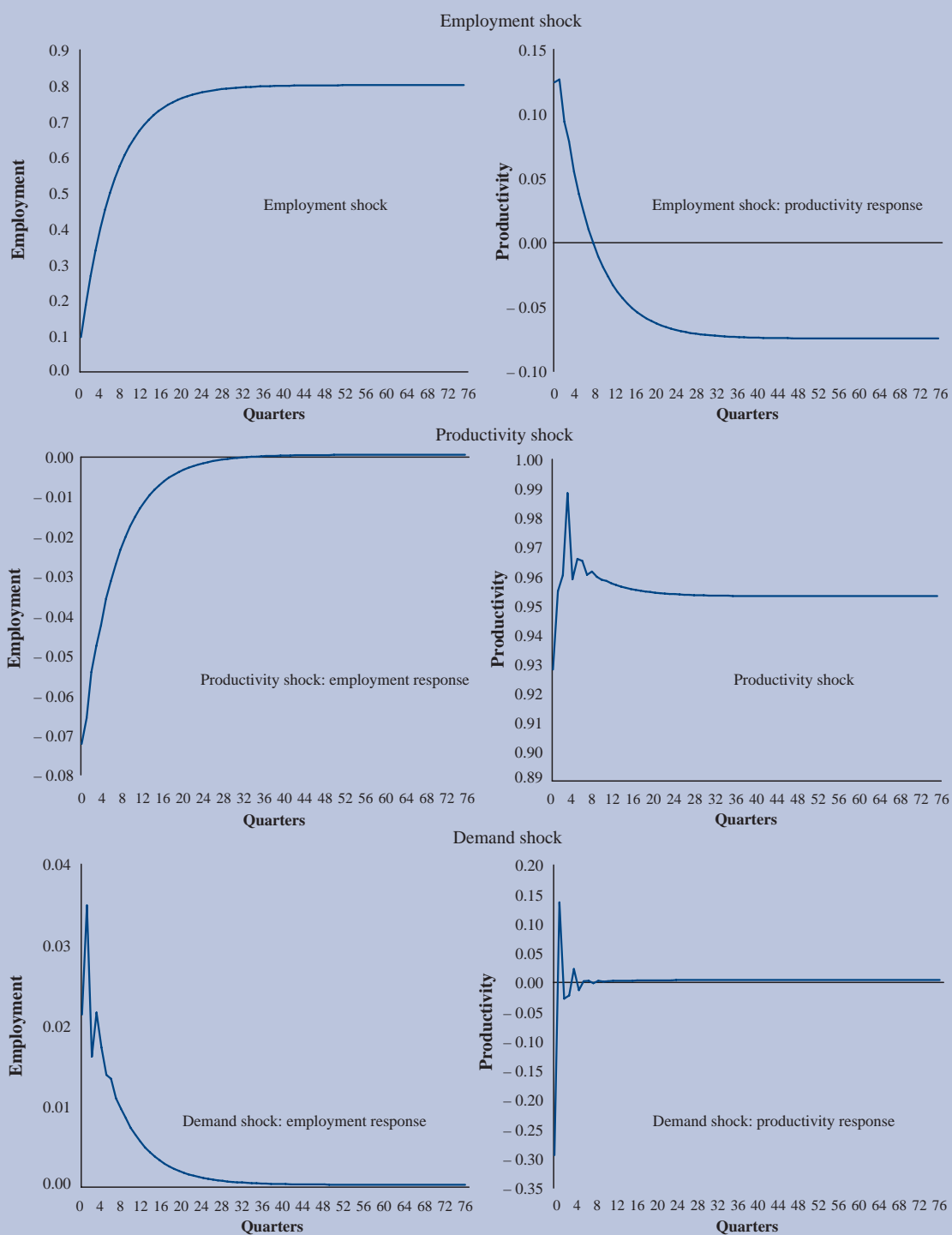
$$\Delta x_t = A(L)\xi_t \text{ with } A(1) = \begin{bmatrix} a_{11} & 0 & 0 \\ a_{21} & a_{22} & 0 \\ a_{31} & a_{32} & a_{33} \end{bmatrix}$$

where the matrix $A(1)$ shows the long-run restrictions. Notice that this particular structure is particularly suited to test for the short-, medium- and long-run effects of an employment shock. Allowing for a non-zero long-run productivity effect of an employment shock allows one to test for labour quality effects associated with a permanent change in the employment rate. A similar analysis has been conducted by Galí (1999). He is mainly interested in the employment effects of productivity shocks.

ulations leading to ‘overmanning’, if they discouraged young people from pursuing further education, or if they used funds for public training programmes in an unproductive manner, then employment might be raised at the expense of longer-term productivity potential. However, none of these policies is advocated in the EU economic and employment policy framework. There is no inherent

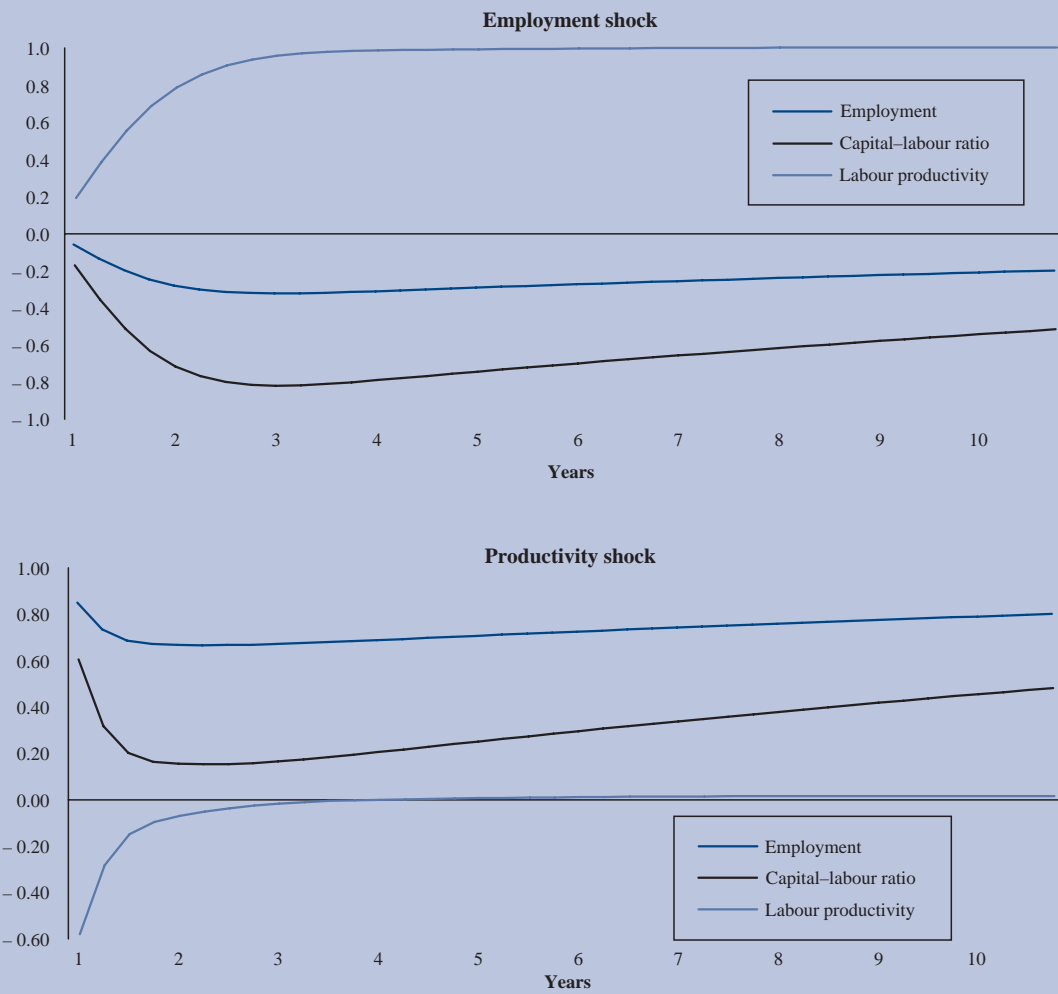
problem with the logic of the European employment strategy, in other words, attempting simultaneously to raise employment growth and labour productivity growth, and, in consequence, the dismal productivity performance in recent years cannot be attributed to labour market reform efforts.

Graph 5: Impulse response analysis



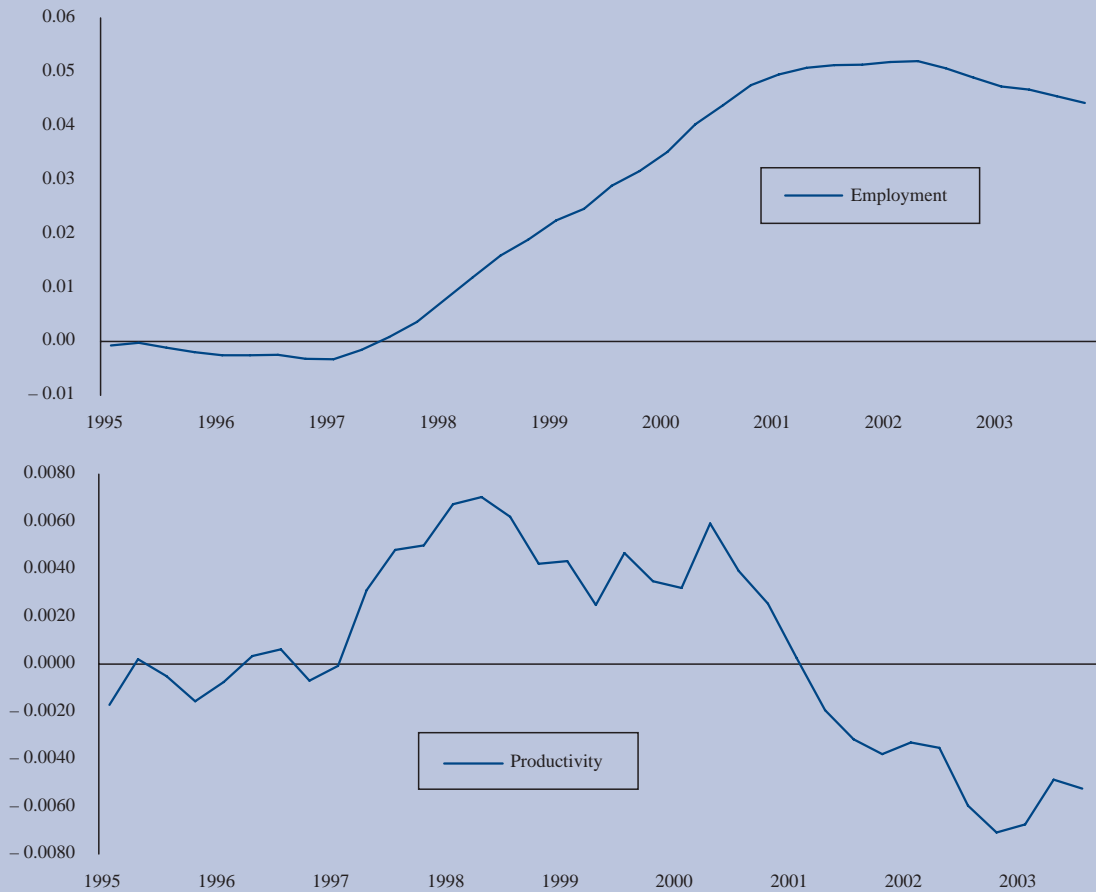
Source: Commission services.

Graph 6: Quest analysis



Source: Commission services.

Graph 7: Cumulated shocks (based on VAR analysis): historical decompositions, 1995–2003



Source: Commission services.

3. The determinants of labour market performance

3.1. Determinants of overall performance

3.1.1. The impact of labour market institutions on labour market performance

A realistic account of the role of labour market institutions in influencing labour market performance must start from the recognition that the assumptions behind the textbook model of a competitive economy — complete markets, perfect information, atomistic and homogeneous agents, perfect competition — are often violated where labour markets are concerned. Nominal wages are the result of negotiations between employers and employees, while firms set price as a mark-up over labour costs. While in the short run unemployment is determined by real aggregate demand, in the long run it converges towards the level which is compatible with a stable inflation rate ⁽¹⁾. In this framework, labour market policies influence the stock of employment and unemployment in three ways: by modifying the wage formation mechanism; by changing the price elasticity of product demand; and by stimulating technological progress ⁽²⁾.

Another way to look at labour market performance is as the outcome of a process of matching between workers and job vacancies ⁽³⁾. The heterogeneity of workers and jobs, imperfect information about the characteristics of potential employers and employees and restrictions on labour mobility all generate labour market frictions. These in turn influence labour market flows. In the steady state, inflows into unemployment are equal to outflows from unemployment, and there is an inverse relationship (the Beveridge curve) between the number of vacancies and the unemployment rate. Anything that

improves the efficiency of the matching between unemployed people and vacancies and/or increases the exit rate from unemployment will shift this curve inwards and reduce the steady-state level of unemployment for a given number of vacancies.

In both the stock and the flow approaches to equilibrium unemployment, labour market institutions affect firms' hiring and firing decisions and individuals' readiness and willingness to take up a job, as well as the extent to which unemployment reins in inflationary pressures. Institutions such as unemployment and welfare-related benefits, wage bargaining, labour market regulation and labour taxation thereby influence the equilibrium rate of unemployment.

However, the impact of labour market policies and reforms on labour market performance is often ambiguous, at least in theory. For example, it is well known that unemployment benefits are subject to moral hazard, since job-search efforts cannot be fully observed. Benefits thereby reduce the incentive to find a job and raise reservation wages. But, in search models with risk-averse workers and imperfect capital markets, the absence of unemployment insurance may lead people to accept jobs too quickly, in the sense that further searching for a higher productivity match would increase overall welfare. In this case, unemployment benefits do not work as a search subsidy but as a way to deal with imperfect insurance ⁽⁴⁾.

During the 1990s there was a wealth of studies focusing on the effects of institutions on employment performance. The main results of several of the most widely cited are summarised in Table 2. Among these, three main strands may be identified.

⁽¹⁾ See, for example, Blanchard (1986) and Layard et al. (1991).
⁽²⁾ See the 'The EU economy: 2002 review', Chapter 2.

⁽³⁾ See, for example, Mortensen and Pissarides (1999).

⁽⁴⁾ See Acemoglu (1999, 2001) and Acemoglu and Shimer (2000).

In a first group of studies, indicators of labour market institutions are used to explain cross-country differences in unemployment rates ⁽¹⁾. Unemployment is positively associated with generous unemployment benefits, a high tax wedge, and high union coverage and negatively associated with active labour market policies (ALMPs) ⁽²⁾ and a high degree of coordination in wage bargaining. The role of employment protection legislation and union density is uncertain. However, a large part of the change in structural unemployment remains unexplained. Moreover, some of the unfavourable institutions were already in place in the 1960s in many EU countries, when European unemployment was lower than in the United States.

A second group of studies focuses on the interactions between labour market institutions and macroeconomic shocks ⁽³⁾. The essence of these is that transitory increases in unemployment due to shocks may be prolonged by labour market institutions that restrict labour market flows and protract the adjustment of wages. There is not a full consensus on the impact of different institutions. In Blanchard and Wolfers (2000), for instance, all the ‘usual suspects’ except union density are significant and with the expected sign. In Nickell et al.

(2003), benefit duration, union density and low labour mobility shift the Beveridge curve outwards, which implies higher equilibrium unemployment, while employment protection legislation shifts it inwards.

A third important strand is studies, including some of those already cited, that look at interactions between different labour market institutions. Coe and Snower (1997) argued theoretically that a wide range of institutions may have complementary effects on unemployment. In Belot and Van Ours (2001, 2004), institutions strongly influence performance when they reinforce each other. This means that it is harder to predict the response of equilibrium employment to changes in a single institutional variable in isolation. Belot and Van Ours find, for example, that high labour taxes and benefit replacement rates combine to weaken the financial incentives for employment, and that this interaction has driven the evolution of unemployment rates in several countries.

Taken together, these studies suggest that labour market institutions can explain a significant share of cross-country differences in labour market performance. Moreover, this is so even though the available indicators of time-varying institutions are far from perfect — in other words, there is a degree of measurement error. The studies considered do not reach a complete consensus on the role of each and every labour market institution. This is perhaps unsurprising given the different specifications and methodologies employed, the scope for omitted

⁽¹⁾ See Elmeskov et al. (1998) and Nickell and Layard (1999).

⁽²⁾ It should be noted that placement of the unemployed in labour market programmes automatically reduces the number of people registered as unemployed. When one includes in the definition of unemployment also those participating in such programmes, the impact of ALMPs is usually more uncertain.

⁽³⁾ See Blanchard and Wolfers (2000); Fitoussi et al. (2000); Bertola et al. (2001) and Nickell et al. (2003).

Table 2

Labour market institutions and labour market performance

Study	Countries and periods	Institutions considered	Results
1. Aggregate performance			
Elmeskov et al. (1998)	Static panel data on 19 OECD countries over the period 1983–95 (GLS random effects)	Tax wedge (TW)	Small positive effects. Positive and significant only in countries with intermediate coordination
		Gross replacement rate (GRR)	Positive effects, larger in countries that spend more on ALMPs
		Spending on ALMPs (ALMPU)	Negative effects if Sweden is excluded
		EPL	Positive effects. Positive and significant only in countries with intermediate coordination
		Minimum wage (MW)	Insignificant effects
		Coordination/Centralisation (CO)	Negative effects in high centralised/coordinated and decentralised countries
		Union density (UD)	Insignificant effects

Table 2 (continued)

Labour market institutions and labour market performance

Study	Countries and periods	Institutions considered	Results	
Nickell and Layard (1999)	Cross-section on 20 OECD countries (GLS random effects)	Tax wedge (TW)	Positive effects	Positive effects
		Gross replacement rate (GRR)	Positive effects	Insignificant
		Benefits duration (BD)	Positive effects	Positive effects
		Spending on ALMPs (ALMPU)	Negative effects	Negative effects
		EPL		Insignificant
		Coordination (CO)	Negative effects	Negative effects
		Union density (UD)	Positive effects	Insignificant
		Union coverage (UC)	Positive effects	Positive effects
		Owner-occupation rate	Positive effects	Insignificant
			Similar effects. UD, UC, GRR, ALMP insignificant	
Blanchard and Wolfers (2000)	Static panel data on 20 OECD countries over the period 1960–95 Interactions of time fixed institutions with TFP, real interest rate and labour demand shocks are considered with non-linear least squares	Tax wedge (TW)	Positive effects	
		Gross replacement rate (GRR)	Positive effects. Among most significant when interacted with shocks	
		Benefits duration (BD)	Positive effects. Among most significant when interacted with shocks	
		Spending on ALMPs (ALMPU)	Positive effects	
		EPL	Positive effects but weaker when Spain is dropped from sample	
		Minimum wage (MW)	Positive effects	
		Coordination/Centralisation	Positive effects. Among most significant when interacted with shocks	
		Union density (UD)	Positive effects. Among most significant when interacted with shocks	
Union coverage (UC)	Insignificant effects			
Fitoussi et al. (2000)	Two steps approach First step: over the period 1960–98 for 19 OECD countries, a dynamic panel (fixed effects) estimate of unemployment persistence and sensitivity to macro shocks is obtained Second step: cross-section of (short- and long-run) fixed effects and sensitivity coefficients to labour market institutions	Macro-variables: world real interest rate, trend labour productivity growth, ratio of non-wage support to labour productivity, direct taxes, payroll taxes, inflation rate		
		Labour market institutions: gross replacement rate (GRR), benefits duration (BD), union density, (UD) union coordination (CO), union coverage (UC), active labour market expenditure (ALMP)		
		At least 50 % of cross-country differences in unemployment and in sensitivity to shocks are explained by labour market institutions		
		Cross-country differences in unemployment are a positive function of GRR, UD, CO and a negative of UC		
		Cross-country differences in sensitivity of shocks are a positive function of BD, UD and a negative of CO and ALMP		
Nickell et al. (2003)	Dynamic panel data on 20 OECD countries over the period 1961–95 (GLS estimates)	Tax wedge (TW)	<i>Effects on unemployment rate</i>	
		Gross replacement rate (GRR)	Positive effects. Larger in countries with high degree of bargaining coordination	
		Benefits duration (BD)	Positive effects. Larger in countries where the duration of unemployment benefits is high	
		EPL	Positive effects	
		Coordination (CO)	Insignificant effects	
		Union density (UD)	Negative effects	
		Owner-occupation rate	Positive effects, reduced when coordination in bargaining is high	
			Insignificant effects	
			<i>Effects on employment rate</i>	
			Similar effects. Only benefits duration is insignificant	

Table 2 (continued)

Labour market institutions and labour market performance

Study	Countries and periods	Institutions considered	Results			
			<i>Effects on unemployment rate</i>			
		Tax rate	Insignificant effects.			
		Gross replacement rate (GRR)	Negative effects. The effect of GRR is larger in countries with a high tax rate			
Belot and Van Ours (2004)	Static panel data on 17 OECD countries over the period 1960–99	EPL	Insignificant. Effect of the interaction with centralisation ambiguous			
		Centralisation	Insignificant effects			
		Union density (UD)	Insignificant effects			
		Union density x centralisation	Positive			
			<i>Effects on non-employment rate</i>			
			Similar results			
2. Relative performance						
			<i>Effect on employment rate of middle- relative to low-skilled</i>			
			<i>Men</i>		<i>Women</i>	
Kahn (2000)	Static panel data over the period 1985–94 for 15 OECD countries	Coordination	Positive		Insignificant	
		Union density (UD)	Positive		Insignificant	
		Union coverage (UC)	Positive		Insignificant	
			<i>Effect on relative employment rate</i>			
			<i>Prime age versus youth</i>		<i>Prime age versus older</i>	
			<i>Men</i>	<i>Women</i>	<i>Men</i>	<i>Women</i>
		Tax wedge (TW)	Insignificant	Insignificant	Negative	Insignificant
		Replacement rate year 1	Insignificant	Negative	Negative	Insignificant
		Replacement rate year 5	Insignificant	Insignificant	Negative	Negative
		EPL	Insignificant	Positive	Positive	Insignificant
		Coordination (CO)	Positive	Positive	Insignificant	Positive
		Union density (UD)	Negative	Negative	Positive	Positive
		Union coverage (UC)	Positive	Insignificant	Positive	Positive
		Public pension replace. rate	Insignificant	Positive	Insignificant	Positive
		Replac. rate older workers	Insignificant	Positive	Positive	Insignificant
		Disabil. replace. rate	Insignificant	Insignificant	Insignificant	Negative
		Female retirement age	Insignificant	Negative	Negative	Insignificant
		Male retirement age	Negative	Insignificant	Negative	Insignificant
Bertola et al. (2002)	Static panel data on 17 OECD countries over the period 1960–99 (GLS estimates)	Accrual rate 10 years age 55	Insignificant	Insignificant	Positive	Insignificant
			<i>Effect on relative unemployment rate</i>			
			<i>Prime age versus young</i>		<i>Prime age versus older</i>	
			<i>Men</i>	<i>Women</i>	<i>Men</i>	<i>Women</i>
		Tax wedge (TW)	Insignificant	Insignificant	Negative	Negative
		Replacement rate year 1	Insignificant	Insignificant	Negative	Insignificant
		Replacement rate year 5	Insignificant	Insignificant	Negative	Insignificant
		EPL	Negative	Negative	Insignificant	Insignificant
		Coordination (CO)	Insignificant	Insignificant	Insignificant	Positive
		Union density (UD)	Positive	Insignificant	Insignificant	Negative
		Union coverage (UC)	Insignificant	Positive	Negative	Insignificant
		Public pension replace. rate	Positive	Positive	Positive	Positive
		Replac. rate older workers	Insignificant	Insignificant	Negative	Insignificant
		Disabil. replace. rate	Negative	Insignificant	Negative	Negative
		Female retirement age	Positive	Positive	Insignificant	Insignificant
		Male retirement age	Insignificant	Insignificant	Positive	Insignificant
		Accrual rate 10 years age 55	Insignificant	Positive	Negative	Negative

Table 2 (continued)

Labour market institutions and labour market performance

Study	Countries and periods	Institutions considered	Results				
			Effect on relative unemployment rate				
			Young		Prime-age men	Young prime age	
			Men	Women		M	W
Jimeno and Rodríguez-Palenzuela (2003)	Static unbalanced panel data on 19 OECD countries	Tax wedge (TW)	Positive	Positive	Positive	Pos.	Pos.
		Gross replacement rate (GRR)	Positive	Insignificant	Positive	Ins.	Neg.
		Benefits duration (BD)	Positive	Insignificant	Positive	Ins.	Neg.
		Spending on ALMPs (ALMPU)	Insignificant	Insignificant	Negative	Ins.	Neg.
		EPL	Insignificant	Positive	Insignificant	Pos.	Pos.
		Strictness of temporary contracts	Insignificant	Positive	Positive	Ins.	Pos.
		Relative minimum wage (MW)	Negative	Negative	Insignificant	Pos.	Neg.
		Coordination/Centralisation	Negative	Negative	Negative	Neg.	Pos.
Union density (UD)	Positive	Negative	Insignificant	Pos.	Neg.		
Union coverage (UC)	Insignificant	Positive	Positive	Ins.	Pos.		

variables ⁽¹⁾ and the fact that it is difficult to take full account of interactions between different policies and institutions. Nevertheless, as Table 2 shows, there is a reasonable degree of consensus on some of the institutions that clearly make a difference.

3.1.2. The determinants of labour market institutions

The next relevant question is why labour market institutions are as they are, and whether the current state of affairs might be desirable despite the likely unfavourable impact of some labour market institutions on employment and unemployment. Here, two basic views may be outlined.

The ‘normative as positive’ view emphasises the role of labour market institutions in insuring risk-averse agents against income volatility, where capital markets fail to provide adequate insurance against employment and income risks ⁽²⁾. Institutions such as unemployment insurance, employment protection legislation and wage compression in collective bargaining entail deadweight losses and information costs, but may still be welfare-improving when markets are incomplete. In addition, the aims of some policies and institutions are clearly related

to pure redistribution and social protection. The argument here is that, even though these may unavoidably reduce labour market efficiency, the benefits in terms of distribution mean that social welfare is still greater ⁽³⁾.

These normative arguments for labour market institutions are important, since they show clearly why ‘flexibility’ of labour markets is not an end in itself. However, an alternative, ‘purely positive’, view contends that institutions are in practice largely shaped by political interests. In particular, anything that raises average wages and reduces the likelihood of dismissal will benefit the typical labour market ‘insider’ ⁽⁴⁾. The resulting institutions are liable to introduce a wedge between labour supply and labour demand, interfere with the reallocation of labour, compress the wage distribution and restrict mobility. This results in lower employment rates, especially for those with high labour supply elasticity, including many women, young people and older workers, and quite possibly reduced overall welfare.

In practice, both views have some validity. The question is how to design labour market institutions in order to secure the benefits, while avoiding as far as possible the distortions that provide little benefit in terms of insur-

⁽¹⁾ Including on aspects known to be important in theory, such as enforcement of benefit eligibility criteria, but on which few data are available.

⁽²⁾ The consequences of incomplete insurance markets have been explored in the case of redistributive taxation (Varian, (1980)), of unemployment insurance (Acemoglu and Shimer (2000)), of employment protection (Bertola (2004a) and Bertola and Koeniger (2004)) and institutional wage compression (Agell (2002)). With insurance arguments the benefits of insurance should be trade-offs with the cost due to reduced efficiency.

⁽³⁾ Higher wages for those remaining employed and social transfers for non-employed individuals have a first-order effect on the welfare of risk-averse workers who prefer to smooth consumption inter-temporally across different States of the world, see Bertola and Koeniger (2004) and Bertola (2004a).

⁽⁴⁾ That is, established worker, probably on a permanent contract and well represented by labour unions, see Lindbeck and Snower (1988).

ance or social protection. The optimal design of institutions depends on several factors, including the characteristics of financial markets and the frequency and nature of labour demand shocks, both of which influence the need for insurance ⁽¹⁾. In addition, different labour market institutions, and social protection more generally, may act as substitutes. The apparent trade-off between the stringency of EPL and the generosity (levels and coverage) of unemployment insurance is well known, for example ⁽²⁾.

Both views also imply that institutions cannot be regarded as exogenous in practice. Changes in one area, or in external conditions, are likely to create demands for changes elsewhere. Moreover, the optimal configuration of institutions will change over time. Increased competition in product markets, which increases the elasticity of demand for labour, and arguably more turbulent technological progress, for example, change the labour market response to existing institutions ⁽³⁾. Institutions that performed reasonably well in the past may entail large employment losses in more competitive markets ⁽⁴⁾.

3.1.3. Principles for the design of labour market institutions

Growth- and stability-oriented macroeconomic policies are an essential underpinning for an improvement in labour market performance. Macroeconomic stability is supported by a wage formation mechanism that sets wage growth in line with both price stability and productivity developments. There remains some room for debate over whether wage bargaining should in general be centralised or decentralised (see Box 3). In the context of monetary union, and in view of large regional employment disparities in several Member States, wages, including minimum wages, must be adaptable to local productivity and labour market conditions. At the microeconomic level, an improvement in the functioning of the labour market requires pricing in workers with low labour market attachment and improving the matching between unemployment and vacancies. The role of incentives — particularly

in the design of unemployment benefits and in the targeting of active labour market policies — has been highlighted in countries where reforms appear to have led to improved labour market performance.

Successful reforms have included activation measures serving partly to tighten the eligibility conditions of unemployment benefits, combined with more intensive active measures — including subsidies to employers, direct job creation and training measures — targeted towards groups at higher risk of inactivity or unemployment ⁽⁵⁾. Eligibility conditions and job-search requirements may be even more important than the level of benefits. There is evidence that the threat of losing benefits if an employment offer is not accepted tends to raise the incentive to find work (Jensen et al., 2003). More generally, a system with monitoring and sanctions restores search incentives most effectively, since it brings additional incentives to search actively so as to avoid the sanction, allowing for higher benefits than otherwise ⁽⁶⁾.

In recent years, several EU countries have undertaken partial reforms of their labour market institutions. Liberalising temporary contracts without addressing labour market regulation for other employees is perhaps the most notable example, and may be a risky strategy ⁽⁷⁾. In addition, early reforms have sometimes focused on politically 'low-hanging fruit', such as tax cuts in return for wage moderation, expenditure-based active labour market policies and liberalisation of part-time work. Remaining reform options may therefore be concentrated in politically more difficult areas such as benefit entitlements, wage bargaining or employment protection legislation, and therefore tougher to implement. Moreover, the experience of the most successful countries suggests that far-reaching labour market reforms require major shifts at both macro and micro levels. Thus, both theory and experience suggest the need for a comprehensive package, or at least a close sequence, of reforms.

⁽¹⁾ Bertola and Koeniger (2004) show that there is a significant correlation between EPL and borrowing constraints, which suggests a greater need for institutions to reduce labour income fluctuations in countries where underdeveloped financial systems reduce consumption smoothing opportunities. Hassler et al. (2001) argue that relatively immobile workers who acquire specialised skills tend to prefer more generous unemployment insurance. The data indeed strongly suggest a negative relationship between the mobility rate and unemployment insurance.

⁽²⁾ See Buti et al. (1998) and Boeri et al. (2002).

⁽³⁾ See Bertola et al. (2001a) and Mortensen and Pissarides (1999).

⁽⁴⁾ See Boeri (2001) and Bertola (2004b, c).

⁽⁵⁾ See De Koning and Mosley (2001); Van Ours (2003) and Madsen (1999). The example of the British 'New deal for young people' (for those unemployed for six months or more) is interesting. Before being offered subsidies training or subsidies or government-provided employment, participants must pass through a 'gateway' period where they are assigned a personal adviser. The evidence suggests that, at this stage, a substantial share (40 %) move into unsubsidised employment (Bell et al. (1999)).

⁽⁶⁾ See Fredriksson and Holmlund (2004).

⁽⁷⁾ The liberalisation of temporary contracts facilitates hiring and allows employers to screen staff before offering a permanent job. But, unless stringent employment protection for permanent contracts is relaxed, this may also result in excess staff turnover among temporary workers, whose contracts cannot be freely renewed. It may also strengthen the bargaining position of those on protected permanent contracts, since there is now a buffer of temporary staff who will be the first to be fired in a downturn.

Box 3: Centralised versus decentralised wage bargaining

Both theoretical and empirical analyses have suggested that bargaining systems which are either highly centralised at national or multi-industry level or decentralised at the level of firms perform better than intermediate systems where bargaining takes place at the level of industries (Calmfors, 1993). According to this literature, the relationship between wages and centralisation is hump-shaped, implying lower employment in intermediate bargaining systems. In practice, the key requirement is that wages should reflect productivity and local labour market conditions, and this might be achieved under different bargaining systems, depending partly on factors such as the size of the country, the extent of regional productivity disparities and whether bargaining tends to be constructive or conflictual.

The main advantage of centralised bargaining is that it allows labour representatives to take into account the negative impact that excessive wage claims would have on overall employment. Decentralised bargaining, on the other hand, means that wages are restrained by market forces and adjust better to local productivity and labour market conditions.

Evidence from OECD countries (Boeri et al., 2001) suggests that highly coordinated, centralised systems tend to be associated with lower unemployment and, moreover, that the degree of coordination between different bargaining levels is a much more significant influence on performance than union density or coverage, in other words,

the share of workers who belong to a union or are covered by collective agreements.

However, coordinated bargaining also entails greater wage compression, with negative effects on relative employment — especially at the bottom of the wage distribution (Blau and Kahn, 1996). Bargaining institutions tend to raise the relative wages of the young and less educated, which results in lower employment, especially for men, though possibly higher employment for women, since higher relative wages encourage female labour supply (Kahn, 2000). Wage compression also modifies the industry distribution of employment, shifting employment away from industries with low wages (Davis and Henrekson, 2000), and is liable to widen regional employment disparities. In contrast, decentralised bargaining allows higher relative wage flexibility and leaves wider room for bargaining on working conditions more generally. It also makes possible the introduction of performance-related pay schemes where wages are used to motivate and improve workers' productivity.

In practice, the distinction between centralised and decentralised systems is blurred, since bargaining often takes place at two or more levels. The kind of 'decentralisation' in two- or three-tier systems that involves local wage increases in excess of those agreed at higher levels, is liable to discourage wage moderation (Calmfors, 1993). In the context of monetary union and large regional disparities within several EU countries, a shift from centralised towards more decentralised bargaining appears desirable.

Policy efforts within the revised European employment strategy and the BEPGs might include a shift in the wage-setting mechanism through a redefinition of rules, norms and the nature of contractual arrangements, perhaps combined with tax reforms; a rebalancing of measures designed to protect workers from labour demand shocks, such as employment protection or unemployment insurance; reform of unemployment and other benefits, focusing especially on duration and eligibility criteria, coupled with enhanced enforcement of job-search requirements and followed by a range of targeted active measures for those unable to find work during the period of benefit entitlement.

A well-functioning labour market should also be inclusive, reducing the risks of marginalisation and of long-term unemployment. The debate on how to reform the European labour market has often been dominated by the perception of an inescapable trade-off between efficiency and equity. Blanchard (2004) presents this as a production possibility frontier, with efficiency on one axis and social insurance on the other. However, several countries are characterised as being located inside the frontier. The idea is that the design of labour market institutions is below best practice, and might be improved in ways that would improve both efficiency and equity, or at least improve one without compromising the other.

Box 4: Reforms in successful countries

As noted in Section 3.1.1, labour market institutions alone explain a relatively low share of the variation in employment and unemployment performance. Thus, a simple story about successful countries that have pursued reforms and unsuccessful ones that have not is unlikely to be fully convincing. In order to explain a large share of the variation in employment rates, researchers usually have to include macroeconomic factors, country dummy variables (fixed effects) and/or lagged employment rates among the explanatory variables.

This means that, over a period of around 10 years, some countries will be doing better, and some worse, than one might expect just by looking at labour market institutions. In some cases, this will be due to unobserved factors — an example here would be the relatively cooperative relationship between unions and employers in the Nordic countries, which does not show up in standard indicators. In countries where bargaining is more conflictual, a similar bargaining structure may be more problematic. Another example is where the employment rate deviates from its structural level on account of macroeconomic shocks or short-term policy effects. As noted in Section 2.1, part of the improvement in the EU since the mid-1990s has been cyclical rather than structural.

What can be said is that, in the few countries where more or less comprehensive labour market reforms have been undertaken over the past decade or more, these appear

quite clearly to have led to improved performance. Within the EU, the leading examples are:

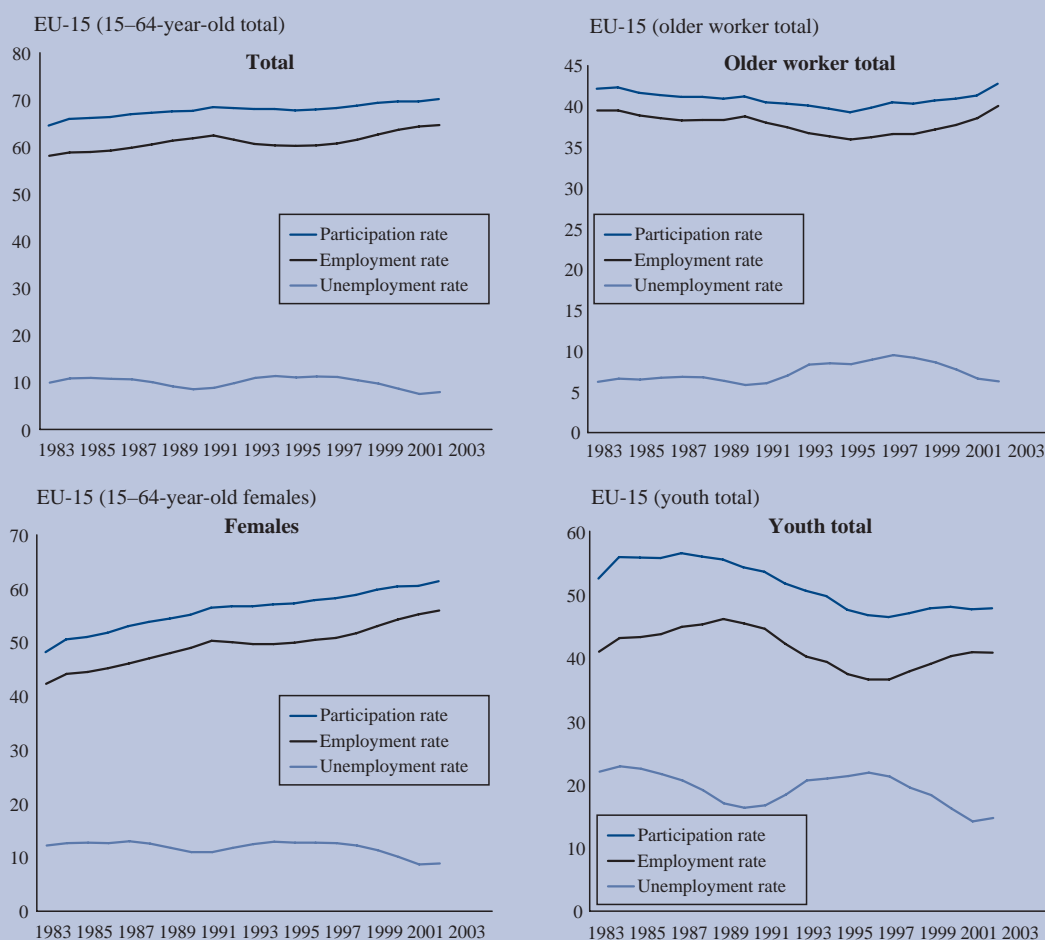
- the United Kingdom: substantial reforms of taxes, benefits and the collective bargaining system in the 1980s, continued tax and benefit reform, reinforced by active labour market policies focused on job search in the 1990s;
- the Netherlands: wage moderation combined with reductions in the tax burden on labour; substantial tightening of benefit systems and job-search requirements, especially for younger unemployed people; and
- Denmark: reforms of unemployment benefits and active labour market measures in the 1990s, shifting the emphasis towards job search rather than automatic benefit entitlement, were widely seen as instrumental in the large fall in unemployment, especially among young people.

Ireland is sometimes included, though the very particular macroeconomic circumstances affecting that country over the past decade make it a difficult case to judge. Spain, despite its beginning as the worst-performing EU Member State, and the fact that the fall in unemployment in recent years is partly a statistical phenomenon, might well be added to the list. A succession of reform packages since the mid-1990s addressing employment contracts, unemployment benefits and labour taxation has coincided with a sustained rise in the employment rate.

Clearly, the management of taxes and transfers entails administrative costs and deadweight losses as well as risks of welfare dependency. Nevertheless, Blank (2002) notes three situations in which the equity-efficiency trade-off may be low, or there may even be complementarities between equity and efficiency. These are: (1) when transfers go to segments of the population with no capacity for changing their behaviour; (2) when benefits are paid conditional to behavioural requirements; (3) when payments change the behaviour or the opportunities in such a way that increases income in the future. While the first condition holds only in the case of social policies *sensu stricto*, such as genuine incapacity benefits, the others are clearly relevant for labour market policies.

Reforms of unemployment benefit systems and active labour market policies that withdraw entitlement to benefits for those not actively seeking employment may be perceived as inequitable by some. But in cases where such reforms appear to have been effective, particularly in reducing youth unemployment, it seems difficult to argue that equity or social cohesion overall has been adversely affected. Employment protection legislation in some countries has a clear impact on distribution, but not necessarily in a way that everyone would agree is equitable. It protects established employees on permanent contracts, but partly at the expense of groups who are worse-off, such as the unemployed or those on temporary contracts. Moreover, protection often takes the form of administrative and legal costs and delays — i.e. deadweight costs.

Graph 8: Development in labour force participation, employment and unemployment, EU-15, 1983–2003



Source: Commission services.

The impact on efficiency and distribution could be strengthened, for example, by reducing deadweight costs while facilitating redundancy payments.

3.2. Employment and participation in specific groups

This section provides an alternative perspective on the determinants of labour market performance by looking at the structural determinants of employment in key

demographic groups. Graph 8 provides a memorandum of longer-term developments in labour force participation, employment and unemployment among women, older working-age people and young people, as well as for the working-age population overall.

3.2.1. Female employment

The female employment rate has increased sharply in recent years and decades, driven mainly by increased female labour force participation. This in turn is due

partly to institutional factors, but also largely to changing social and cultural attitudes as well as the rise in female educational attainment in recent decades. Indeed, participation of young women in education or the labour force is now barely below that of young men, while young women are now on average better educated than their male counterparts (see Table 4).

However, women — especially married women and those with children — are still less attached to the labour market on average than men. The opportunity cost of employment is higher when there are viable alternatives in the form of home production or childcare. Part-time employment has risen rapidly in recent years, and around one third of employed women are working part-time in EU-15 as a whole, although this varies substantially across countries, from 7 % in Greece to 74 % in the Netherlands.

Women who participate in the labour force also remain more likely to be unemployed than active men, though the gap between female and male unemployment rates has declined since the mid-1990s ⁽¹⁾. The share of long-term unemployment in total unemployment is also higher for women, at 42 % of total female unemployment in 2002 as compared with 38 % for men.

Nevertheless, the fall in overall unemployment signals greater employment opportunity for women, and may thus prompt ‘discouraged workers’ to return to the labour market from inactivity or long-term unemployment. This phenomenon also explains the pro-cyclical pattern of labour force participation, with a positive output gap or higher economic growth enhancing women’s prospects of finding a job.

Main structural determinants of female employment

The increase in female education in recent decades appears to be a major determinant of the positive trend in female labour force participation. In 2002, a woman with tertiary-level education was more than twice as likely (79 %) as a woman with lower-secondary level or below (38 %) to be in employment ⁽²⁾. This does not guarantee that further increases in average educational attainment

will lead to further increases in aggregate female employment. Nevertheless, the rise in female education relative to males over recent decades is no doubt a factor that, along with broader social and cultural changes, has enabled women to opt increasingly for market employment. Improved education may also increase the returns to professional experience, as more women access higher responsibilities and more qualified occupations. Olivetti (2001) shows for the United States that the increase in total hours worked by married women between 1970 and 1990 can be explained by a rise in returns to experience. As the opportunity cost of temporarily leaving the labour market increases, married women increasingly avoid interruptions to their professional life.

The change in cultural attitudes and social norms regarding gender roles is clearly a major influence on female employment. Participation in the labour market is increasingly the norm for women of all ages. In most European countries, women try to plan motherhood in order to reconcile family and professional life. They tend to postpone the first child, have children at shorter intervals and have fewer children in total ⁽³⁾. The change in cultural attitudes is reflected in differences between age cohorts, with married women from younger generations much more likely to participate in the labour force.

Some reduction in the gender wage gap might be an additional factor behind the rise in female participation, although its magnitude should not be overstated. The narrowing of the wage gap is not fully explained by convergence in experience and education but may also be related to the decline in gender discrimination ⁽⁴⁾. Gender segregation by sector and relatively low wages in female-dominated sectors nevertheless explain a significant proportion of the remaining gender pay gap ⁽⁵⁾.

The tax system distorts the labour market participation decision of married women, who are more heavily taxed as second earners than men in many EU countries ⁽⁶⁾. There is sound evidence that high marginal tax rates reduce labour supply and, moreover, that labour supply is more elastic for women than for men. Only in a few countries — Finland, Sweden, Luxembourg and Greece — do second earners and single individuals face similar

⁽¹⁾ In absolute terms and, to a lesser extent, in relative terms.

⁽²⁾ Men with tertiary-level education are also more likely to be employed (86.4 %) than men with lower-secondary level or below (61.8 %). Of course, the causality may run both ways, better employment prospects leading individuals to invest more in education, as well as education leading to improved employment prospects.

⁽³⁾ See Vlasblom and Schippers (2004).

⁽⁴⁾ See Pissarides et al. (2003).

⁽⁵⁾ See European Commission (2003).

⁽⁶⁾ See Jaumotte (2003).

marginal tax rates. Almost all countries now have separate taxation for married individuals ⁽¹⁾, but the total tax burden on second earners remains significantly higher than on single individuals owing to the loss of the dependent spouse allowance.

Likewise, child benefits reduce female participation by increasing the disposable income of families with children, by up to 10–20 % on average in some EU countries. This income effect on participation may be combined with an inactivity trap effect in the case where child benefits are means-tested and are likely to decrease if the mother enters employment. In particular, child benefits deter women from taking up part-time work ⁽²⁾. Some of the evidence suggests that, other things equal, the availability of long paid parental leave may also lower female participation by encouraging women to withdraw from the labour market in the short run ⁽³⁾. In turn, withdrawal from the labour market is liable to reduce wage and career prospects in the longer run.

⁽¹⁾ OECD (2001).

⁽²⁾ See Buddelmeyer et al. (2004).

⁽³⁾ See Jaumotte (2003).

Conversely, female participation may benefit from measures aimed at better reconciliation of work and family life. In particular, childcare subsidies cut the relative price of childcare, increasing the relative return of market work. The empirical evidence ⁽⁴⁾ indicates that childcare subsidies raise female labour supply and that the employment rate of married women is higher in countries providing for subsidised childcare. Maternity leave or short paid parental leave helps women to reconcile working and family lives by reinforcing their attachment to the labour market while allowing them to take care of newborn children.

Part-time work also appears to facilitate female labour force participation. Labour force surveys indicate that family responsibilities are one of the main reasons for working part-time and that only 14 % of female part-time employees are seeking a full-time job. Part-time work is clearly associated with higher female participation and higher employment in persons ⁽⁵⁾. Nevertheless,

⁽⁴⁾ See Jaumotte (2003).

⁽⁵⁾ See Jaumotte (2003) and Garibaldi and Mauro (2002).

Table 3

Part-time employment as a share of total employment in EU-15

	1983		1993		2003	
	Males	Females	Males	Females	Males	Females
BE	1.8	19.6	2.2	28.6	6.1	39.0
DK	6.1	43.7	10.1	36.9	10.8	32.1
DE	1.2	29.7	2.6	31.7	5.5	40.4
EL	3.0	11.2	2.2	7.2	1.9	7.4
ES	:	:	2.2	14.6	2.5	16.7
FR	2.1	19.8	3.9	26.2	5.2	29.8
IE	2.6	15.3	4.7	21.2	6.1	30.5
IT	1.9	9.1	2.2	10.9	3.0	17.3
LU	1.0	17.0	1.0	18.6	0.9	25.4
NL	6.5	49.7	14.7	64.4	21.3	73.9
AT	:	:	:	:	4.3	35.1
PT	:	:	3.1	10.3	4.2	14.2
FI	:	:	:	:	8.0	17.4
SE	:	:	:	:	10.0	34.9
UK	2.3	40.8	5.4	43.2	8.7	43.3
EU-15	:	:	:	:	:	:

Source: Eurostat.

a high share of part-time work is not a necessary condition for a high female employment rate, as the example of Finland shows.

Anti-discrimination policies are expected to lead to further increases in female participation and employment. Although there is a relatively well-developed legislative framework regarding equal pay and employment opportunities within the European Union, there remain substantial differences in enforcement, as measured for example by the number of lawsuits, and public awareness of these problems ⁽¹⁾.

The sectoral shift from manufacturing and agriculture to services, which tend to be more female employment-intensive, is perhaps the main demand-related factor behind the rise in female employment. As women are disproportionately employed in smaller establishments in service subsectors such as retailing, catering and personal services, product market regulations affecting the creation and expansion of such enterprises may be particularly relevant for female employment ⁽¹⁾.

However, there is still some evidence of segmentation by gender, especially in the southern Member States, where women are over-represented in involuntary part-time, temporary or casual jobs. Since these jobs tend to offer relatively poor pay, working conditions and prospects, there is a risk that many women's skills are under-utilised.

As regards institutional influences on the demand side, Bertola et al. (2002) find that centralised wage bargaining together with a high degree of unionisation lowers the female employment rate, while preserving a high employment rate for prime-age men. The idea is that unions purposely negotiate large wage premiums for those whose opportunity cost of employment is high, which results in wage compression, and increased female inactivity and unemployment.

3.2.2. Older working-age people

The low employment rate for 55–64-year-olds is mainly due to early exit from the labour force ⁽²⁾. The unemployment rate for this age group is less than half the rate for the working-age population as a whole. There is a broad agreement in the economic literature that the

decline in participation and employment of older working-age people over recent decades has been largely due to generous early retirement pathways. Such schemes were offered to redundant or unemployed elderly workers in response to severe shocks in the labour market. They comprised a wide array of early retirement and other benefit schemes such as unemployment pensions or prolonged unemployment benefits, special contracted pensions to redundant workers, disability pensions awarded on the basis of labour market considerations, and benefits provided in exchange for the employment of young workers.

In addition, many reforms of old-age pension systems have contributed to disincentives for continued work, for instance, by lowering the standard retirement age, increasing replacement rates of pensions, increasing pension contribution rates, and reducing the pension benefit in case of early retirement by less than what would be actuarially justified ⁽³⁾.

Main structural determinants of employment of older working-age people

In theory, rational individuals would withdraw from the labour market at the age which maximises their expected welfare over the life cycle, given preferences for consumption and leisure. However, actual retirement decisions do not conform to the basic life-cycle model, for several reasons. Firstly, capital market imperfections may prevent people from borrowing to finance retirement before they become eligible for benefits. Secondly, pension systems often strongly discourage or even disallow work after the statutory retirement age. Thirdly, retirement at the customary age may be a strong social norm. Fourthly, people are usually not fully aware of incentives to advance or defer retirement, which tends to result in their retiring as soon as benefits become available ⁽⁴⁾.

The retirement decision is influenced by many factors, including: (i) health, (ii) mandatory retirement rules, (iii) rules on continued earnings, (iv) other benefits apart from pensions, (v) actuarial fairness, or the incentive structure, of pension systems, and (vi) social norms ⁽⁵⁾.

⁽¹⁾ See Pissarides et al. (2003).

⁽²⁾ See European Commission (2004b).

⁽³⁾ See, for example, OECD (1998, 2000), Blöndal and Scarpetta (1998, 1999), and Conde-Ruiz and Galasso (2002).

⁽⁴⁾ OECD (2003a).

⁽⁵⁾ See Casey (1998).

A broad range of theoretical and empirical literature concludes that incentives embedded in tax and benefit systems are a critical influence⁽¹⁾. Old-age and early retirement pension systems are the most important benefit types in this respect, but unemployment insurance and disability benefits often serve as substitutes. In addition, the interaction of benefits with the taxation of earnings is an important influence.

More precisely, the key determinants of early retirement appear to be: (i) the first age at which the benefits are available; (ii) the generosity of benefit systems; and (iii) the implicit tax rate imposed on continued employment once an individual is eligible for benefits⁽²⁾. The availability of benefits seems to largely eclipse incentives to postpone the take-up of benefits. An implicit tax on continued employment arises when the cost of working one additional year in terms of forgone benefits and additional contributions paid is not offset by higher future benefits. This represents a clear distortion of the labour supply decision.

In addition, the OECD (2003a) finds that the prevalence of unemployment has an impact on the labour supply of older workers, probably through the ‘discouraged worker’ effect.

Education is often supposed to play a role in the employment and participation decisions of older workers, less educated people being prone to early withdrawal. As in the working-age population in general, those with a high level of education are much more likely to be employed than those with a medium or low level. However, it is unclear whether changes in the average level of education over time influence older working-age people’s employment. In countries where mass upper-secondary and tertiary education spread earliest, and where older workers are therefore almost as well educated as the rest of the labour force (see Table 4), the employment rate of older workers is not necessarily high (see Table 1, third column). Nevertheless, formal years of schooling provide at best an imperfect proxy for functional skills and adaptability, which are likely to be among the true determinants of older workers’ employability.

On the demand side, older workers are affected by temporary demand shocks like any other workers. However, they may be less adaptable than younger colleagues, in part because of lower education levels and/or obsolete skills, and therefore more difficult to retain in employment. This is of particular relevance in times of rapid technological change. Employers may be reluctant to provide training for older workers, both for the above reasons and simply because the period over which the investment can be amortised is relatively short.

These issues might be less problematic if wages closely reflected productivity and performance. However, wages tend to increase with seniority and are rigid, at least downwards, even in the event of declining productivity, which reduces the demand for older workers’ labour. Moreover, to the extent that a monotonically increasing age-earnings profile is seen as the norm, older workers may be discouraged from supplying their labour under different terms and conditions.

There is limited evidence that participation in training may, in a sense, substitute for wage flexibility. Bassanini (2004) finds low returns to training in the form of higher wages for older workers, but some evidence of returns in the form of increased job security. One possible interpretation is that, other things equal, the productivity of older workers fails to keep up with the growth in wages due to seniority pay, thus reducing the likelihood of continued employment. Training, however, may arrest this decline in older workers’ unit labour costs, which would raise the probability of continued employment, but without leading to wage increases.

Employment protection legislation favours established workers by definition and is therefore likely to delay redundancies of some older workers, with a positive impact on their employment relative to other groups. However, it does not prevent redundancies or early retirement in the event of severe demand shocks or sharp declines in an individual’s productivity, and is likely to make it more difficult for older working-age people seeking re-employment, at least on similar terms and conditions to established staff.

3.2.3. Young people

The situation of young people in European labour markets appears to have steadily worsened over the past 30 years, with falling participation and rising unemployment. Moreover, earnings are not only much lower than

⁽¹⁾ See Pestieau (2001) and OECD (2003a).

⁽²⁾ See Gruber and Wise (1999), Blöndal and Scarpetta (1998, 1999), and OECD (2003a).

those of prime-age workers, but have been falling gradually in relative terms since the 1970s ⁽¹⁾. These developments may be partly explained by increased enrolment in education since, as enrolment in education rises, labour market participation falls directly, while those young people who remain in the labour market tend to be the lowest-skilled. Nevertheless, with youth unemployment around or over 20 % in several EU countries, the picture is still bleak.

Employment of young people is also relatively volatile, for several reasons. Firstly, almost 37 % of employees aged 15–24 are on temporary contracts, compared with 9.5 % of 25–64-year-olds. Secondly, many others do not benefit from employment protection laws or are vulnerable to ‘last in, first out’ provisions ⁽²⁾. Thirdly, young people’s labour supply tends to be elastic: many are still searching for and choosing the job that suits them best; the opportunity cost of working is high for those with parental support but without families of their own; and

publicly funded education provides a viable alternative to employment.

The situation improved over the mid-1990s, following a severe shock to youth employment during the recession of the early 1990s. Since 2000, the youth employment and unemployment rates in EU-15 have remained broadly constant at around 40–41 % and 15 % respectively.

Main structural determinants of employment of young people

The population aged 15–24 decreased in the EU by over 6 % between 1995 and 2002, from 48 to 45 million, while total population grew over the same period by over 3 %, from almost 363 million to almost 375 million. To the extent that youth unemployment is partly due to over-supply of relatively low-skilled, inexperienced workers, the fall in the youth population, given a broadly constant participation rate, would be expected to result in lower youth unemployment ⁽³⁾.

⁽¹⁾ See Blanchflower and Freeman (2000).

⁽²⁾ See also Pissarides (1986) and O’Higgins (1997).

⁽³⁾ See Korenman and Neumark (1997).

Table 4

Years of schooling by age group and gender, 2002

	15–24		25–34		35–44		45–54		55–64		25–64	
	F	M	F	M	F	M	F	M	F	M	F	M
BE	10.7	10.3	12.4	11.9	11.4	11.5	10.6	10.8	9.4	10.0	11.0	11.1
DK	10.3	10.3	12.8	12.6	12.6	12.5	12.4	12.6	11.9	12.3	12.4	12.5
DE	10.0	9.8	12.9	13.1	12.9	13.2	12.8	13.3	12.2	13.1	12.7	13.2
EL	10.7	10.3	12.0	11.5	10.7	11.1	9.2	10.0	7.9	8.7	10.0	10.4
ES	10.2	9.6	11.1	10.6	9.7	9.7	7.9	8.5	6.4	7.3	9.1	9.3
FR	10.7	10.5	12.0	11.8	11.1	11.2	9.8	10.3	8.5	9.2	10.5	10.8
IE	10.6	10.2	11.9	11.6	11.1	10.9	10.1	9.9	9.0	8.8	10.8	10.5
IT	10.1	9.8	11.2	10.9	10.4	10.4	8.9	9.6	6.9	8.0	9.5	9.9
NL	10.5	10.1	12.5	12.3	12.0	12.3	11.3	12.0	10.6	11.5	11.7	12.1
AT	11.2	11.0	12.6	12.8	12.4	12.9	11.9	12.6	11.4	12.3	12.1	12.7
PT	8.8	8.0	9.0	8.2	7.6	7.3	6.7	6.9	4.5	6.1	7.1	7.2
FI	10.3	10.0	12.7	12.1	12.4	12.0	11.4	11.0	9.9	9.9	11.6	11.3
SE	10.8	10.7	12.4	12.3	12.2	11.9	11.9	11.5	10.9	10.6	11.9	11.6
UK	11.8	11.7	12.3	12.4	12.1	12.3	11.7	12.1	11.2	11.6	11.9	12.1
EU-15	10.6	10.3	12.0	11.9	11.5	11.6	10.5	11.0	9.3	10.2	10.9	11.3
EU-15 (both sexes)	10.5		11.9		11.5		10.8		9.8		11.1	

NB: Estimated from labour force survey data. The (self-reported) highest level of schooling attained is multiplied by the standard number of years required to reach that level; see ‘The EU economy: 2003 review’, Chapter 3, for further details.

Source: Commission services.

The share of young people in education has increased considerably in most EU countries over recent decades, which is reflected in the decline in average years of schooling beyond age 25, as shown in Table 4 ⁽¹⁾. This explains part of the decline in labour force participation and employment. It may also be a negative influence on the youth unemployment rate, since it is the relatively low-skilled who tend to enter the labour force rather than pursuing further education. On the other hand, the increase in educational attainment may have a positive longer-term effect on overall employment (see Box 5).

Over 22 % of young workers are in part-time jobs, compared with 15.5 % of prime-age workers. There is a significant gender difference, though less pronounced than

in the case of prime-age workers: 16.3 % of young men work part-time, compared with 29 % of young women. Of course, many people who combine studies with employment choose to work part-time. Thus, the availability of part-time work is likely to be an important influence on youth labour supply in persons.

A combination of unemployment benefit reforms and active labour market policies has had a clear impact on effective labour supply among young people in recent years. As noted in Section 3.1.3, stricter enforcement of benefit eligibility criteria in combination with personalised job-search assistance appears to have helped many young people at risk of becoming long-term unemployed to find unsubsidised employment.

The evidence is less clear on whether more intensive active interventions — such as subsidised jobs and training programmes — have improved the employability of

⁽¹⁾ Fifteen- to twenty-four-year-olds have fewer average years of completed schooling because many are still studying, and years are only counted once the level of education in question has been successfully completed.

Box 5: Education and employment

For those of working age, education and labour force participation are strong substitutes, especially in countries where part-time work is hard to come by or where students traditionally live with parents during studies. Nevertheless, one may be both employed and in full-time education, since paid work of one hour or more per week counts as employment in the labour force survey.

Rising enrolment in education is thus one reason for the long-term decline in labour force participation of young people. ‘The EU economy: 2003 review’ (Chapter 3) estimates that, with a further rapid expansion in upper-secondary and tertiary enrolment over the next decade or so, reduced participation might lower the overall (i.e. 15–64) employment rate by up to 0.9 percentage points. This is not to be lamented, since the evidence suggests that education is a key driver of economic growth, so that reduced employment today will be compensated by more productive employment in future.

An important question is whether rising educational attainment also has a positive employment impact. Individuals with tertiary education are much more likely to be employed (82.8 %) than those with only lower-secondary education or less (49.4 %). But it does not necessarily follow that an increase in the average level of education leads to an increase in aggregate employment. This is because it

is arguably one’s level of education and skills relative to others that influences labour supply and demand. In any event, it is striking that neither in the literature on the determinants of aggregate employment and unemployment (see Table 2) nor in studies of the impact of education on economic growth is there any solid evidence that education influences the aggregate employment rate. That may be partly because researchers have not had access to data — including data on functional competences, as opposed simply to years of schooling — that would allow them to investigate the links between education and employment more thoroughly.

It seems likely that education, along with broader social and cultural shifts, has been a factor behind rising female employment (see Section 3.2.1), and quite possible that training may help older people to remain longer in the workforce. For younger people, any aggregate employment effect is likely to depend on how increased attainment is distributed. It is far from obvious that sending more young people to university, for example, will raise aggregate employment. On the other hand, encouraging more people to complete upper-secondary education would have the effect of evening out the distribution of skills. This, given the impact of labour market institutions on the demand for young people’s labour, seems more likely to yield aggregate employment gains.

beneficiaries. People are not counted as unemployed while they participate in such programmes, so in this sense there is a statistical improvement. But evaluation results have been mixed. Some studies find that active programmes do nothing to raise — and in some cases even reduce — the probability of unsubsidised employment, or that any enhancements in employability are prohibitively costly. But some programmes, where well-designed and carefully targeted to the individual needs of participants, appear to have been more successful.

Youth unemployment is generally much higher than overall unemployment, but closely correlated with it. According to various studies, total unemployment is — together with the relative size of youth population, labour market institutions and macroeconomic shocks — the main factor explaining differences in youth unemployment ⁽¹⁾.

The sectoral shift from agriculture and industry to services, and the expansion of many low-wage service industries that traditionally employ many youths, has arguably been a positive factor for youth employment. Many young people find their first jobs in retail trade or hotels and restaurants. Young males are often employed in construction and young females in healthcare. Blanchflower and Freeman (2000) find empirically that, in most countries over the period 1985–94, the changing industrial structure had a positive impact on youth employment.

One reason why the labour market is tough for young people is that they tend to have relatively low skill levels and, by definition, not much work experience. While, as noted, educational attainment has risen rapidly in recent decades, the consensus view is that the demand for highly educated workers has risen even faster. This has been good news for young people who complete higher education, but leaves those who drop out early from education in a difficult situation.

The wage-setting mechanism has been highlighted as one key institutional factor affecting youth unemployment. As noted, the labour supply of young people is relatively elastic, which makes them vulnerable to bargained wage structures, by the same argument as in Section 3.2.1 on female employment.

Minimum wages might be expected to have a similar impact, although theoretical and empirical studies are far from reaching conclusive agreement on this. Nobody doubts that a very high and undifferentiated minimum wage would have a negative impact on youth employment. But some argue that market-determined wages may be too low in some circumstances, especially where employers have monopsony power and workers are in a weak bargaining position. In this case, a minimum wage might even raise employment by encouraging increased labour supply; or it could at least improve job quality without reducing employment. Empirical studies do not give a clear indication of the direction of interactions between minimum wages and youth unemployment ⁽²⁾. This may be partly because minimum wages are frequently set at lower levels for young people.

Employment protection legislation (EPL) clearly benefits prime-age, established workers at the expense of young people. Firms are more reluctant to fire established workers if this involves severance payments, notice periods and costly procedures. They are also reluctant to take on new workers on standard permanent contracts, since they must take into account the possibility of having to pay firing costs in the future. Young people may be employed on apprenticeship contracts or temporary contracts, which involve lower firing costs, but more often than not these are not converted into standard contracts. Empirical studies confirm that more stringent EPL is associated with higher youth unemployment relative to prime-age unemployment ⁽³⁾.

3.2.4. Migrants

Third-country nationals are a small but increasingly significant group as far as EU employment rates are concerned. In EU-15, they accounted for 3.6 % of total employment in 2002, but as much as 22 % of employment growth between 1997 and 2002. Spain, Italy and Ireland have seen particularly large increases, albeit beginning from low levels. Migrants make a significant contribution to the labour force in several Member States: Luxembourg (43.2 % of the labour force), Austria (9.9 %), Germany (8.9 %), Belgium (8.2 %) and France (6.2 %).

⁽¹⁾ See Gaude (1997) and Jimeno and Rodríguez-Palenzuela (2003).

⁽²⁾ See Ghellab (1998).

⁽³⁾ See Bertola et al. (2002) and Jimeno and Rodríguez-Palenzuela (2003).

In most countries, migrants of working age, especially women, are less likely than natives to participate in the labour force ⁽¹⁾. In a few Member States, namely Spain, Italy, Greece, Luxembourg and Austria, the participation rate of foreigners is similar to or higher than that of natives. Foreign workers are more likely to be unemployed than natives in all Member States.

Disparities in labour market outcomes exist both between migrants and natives and among migrants themselves. Migrants are a very heterogeneous group according to their age, gender, skill level, country of origin, reasons for immigration and timing thereof. Not surprisingly, women, young adults, older workers and those with lower skills find themselves in the worst position, even more so than the same groups in the native population. Empirical evidence available for some countries indicates that humanitarian migrants tend to have worse labour market outcomes than other migrants, and that the disadvantage of migrants relative to natives tends to be reduced with the time spent in the host country.

Main structural determinants of employment of migrants

The low level of education and skills — including language and other host-country skills — among many migrants is a major determinant of low labour force participation and high unemployment ⁽²⁾. In most Member States, over 40 % of foreigners aged 25 to 64 have no secondary education. Differences in the labour market performance of migrants across Member States may also be linked to their education level, since the distribution of the foreign population by education level varies across receiving countries. The proportion of foreigners with tertiary-level education attainment is relatively high in Denmark, Luxembourg, Portugal, Sweden and Spain.

Formal education is only part of the picture. Most of the difference in unemployment rates between foreigners and natives is explained by the quality of initial training, professional experience, the transferability of skills, language skills and problems relating to discrimination ⁽³⁾.

Several empirical studies, mainly for the United States, indicate that the marital status and presence of children also play a role in explaining the difference in participation rates among immigrant and native women; the foreign-born who had not graduated from high school were more likely to be married or to have children than their native counterparts, which in turn reduced their likelihood of participating in the labour force ⁽⁴⁾.

A large body of literature for the United States supports the hypothesis of economic assimilation, whereby wages or employment prospects of migrants improve with time spent in the host country. Empirical studies typically find that the earnings gap between immigrants and natives decreases over time. The interpretation provided is that, in the absence of any form of discrimination, wages reflect individual productivities, and only part of the human capital acquired in the country of origin can be transferred to the destination. Migrants who have lived longer in the country have had more time to adapt and learn the language and other country-specific skills ⁽⁵⁾.

Empirical evidence for the EU is more limited. Results for the United Kingdom indicate that, among non-white foreign-born men, a significant share of the initial disadvantage diminishes with time and labour market experience ⁽⁶⁾. Employment rates rise sharply in the five years after arrival and more slowly afterwards. The effects on unemployment probabilities are even more marked. There is ample empirical evidence on the importance of host-country language skills, notably on employment probabilities ⁽⁷⁾.

The data available for Belgium, Germany, France, Luxembourg, the Netherlands and the United Kingdom suggest that the skill level of foreigners tends to be higher on average for recently arrived migrants than for those who arrived a few years ago. Evidence for the United States and the United Kingdom indicates an improvement in the educational attainment of migrants' children relative to natives. Card (2004) finds above-average levels of educational attainment for immigrants' children in the United States, even for children born to parents who had much lower educational attainment than native parents. Hatton and Wheatley Price (1998) identify higher participation rates in full-time education among ethnic minor-

⁽¹⁾ Nevertheless, because immigrants are over-represented in working-age cohorts, the average immigrant is still more likely to be in the labour force than the average native, except in Sweden, Finland, Denmark and the Netherlands.

⁽²⁾ See Bauer et al. (2003).

⁽³⁾ OECD (2003b).

⁽⁴⁾ See Mosisa (2002).

⁽⁵⁾ See Chiswick (1978).

⁽⁶⁾ See Hatton and Wheatley Price (1998).

⁽⁷⁾ See Dustmann and Fabbri (2000).

ities than among whites in the United Kingdom, while their labour market participation rates are slightly lower and their unemployment rates are significantly higher.

Country-of-origin differences can have a strong impact on the labour market performance of migrants. Nationals from other EU Member States or the United States have an average participation rate similar to natives in the host country, but migrants from, for example, Turkey, Morocco, Sub-Saharan Africa or the former Yugoslavia have lower participation rates than natives. The same applies to Mexicans in the United States and it often reflects the economic situation prevailing in the country of origin. However, the labour market participation of foreigners also differs across host-countries, depending partly on host-country characteristics and partly on when immigrants arrived. For example, the participation rate of Moroccans is more than 73 % in Spain and less than 40 % in Belgium and nationals from the former Yugoslavia have lower participation rates than natives in Sweden and the United Kingdom and higher rates than natives in Austria.

Observed wage differentials between immigrants and natives can be explained by the quality of education and training received abroad, language acquisition, discrimination and also unobserved individual characteristics. Empirical studies in the United States indicate that, once education is controlled for, the wage gap falls to under 10 % for both males and females ⁽¹⁾. Nevertheless, the possible role of discrimination remains significant. UK evidence suggests that the wage disadvantage of foreign-born people relative to natives seems to be smaller than that in access to jobs ⁽²⁾.

Labour market institutions are also likely to play a role in explaining the relatively low employment rates of many immigrant groups, although there is insufficient

evidence to draw robust conclusions. Migrants perform relatively well in the labour market in Spain and Greece, where low-skilled jobs are relatively abundant. The employment of migrant and foreign workers is concentrated in certain sectors employing a relatively high share of unskilled workers such as agriculture, construction, hotels and restaurants, care for the elderly and other household services. In the past, many foreigners were employed in industry. In the last few years, however, employment of foreigners in the service sector has gained importance, partly due to the characteristics of new foreigner inflows. Foreigners who have arrived in the past five years are generally under-represented in sectors such as mining, manufacturing, energy and construction, while they tend to be over-represented in the service sector: education, health and other community services, household and other services.

Institutions such as unemployment and other benefits or minimum wages can be expected to affect migrants disproportionately, given their lower earnings potential on average, for reasons explained in previous subsections. Institutions leading to a high degree of wage compression may also act as a disincentive for the highly skilled, which may partly explain the attractiveness of some Member States for highly skilled migrants. Evidence from Denmark and the United Kingdom on self-employment ⁽³⁾ provides partial support for this view. In Denmark, self-employment is much higher among migrant groups and they earn lower wages than wage earners. Yet self-employed natives earn on average one quarter more than wage earners. This is consistent with the view that it is difficult for immigrants to find employment at going wages. Finally, a relatively high tax wedge on labour incomes tends to make it more expensive to employ low-skilled workers, including migrants, in the provision of household services.

⁽¹⁾ See Card (2004).

⁽²⁾ See Hatton and Wheatley Price (1998).

⁽³⁾ See Roseveare and Jorgensen (2004).

4. Labour market reform in the EU: priorities and progress

4.1. What is required to meet the Lisbon targets?

Even without further policy measures, the employment rate in the EU is expected to continue increasing over the next decade and beyond for two main reasons. Firstly, younger women are much more likely to be employed than older women, owing to social and cultural changes, rising educational attainment and the effects of previous reforms, such as the liberalisation of part-time employment. This gives rise to a cohort effect which, according to Burniaux et al. (2003), would mechanically increase female participation from 59.9 % in 2000 to 63.6 % in 2010. Secondly, the early retirement tide has turned, with most governments having embarked on reforms to encourage later and more flexible retirement and to support the employability of older workers. It will take some time for the full impact of these reforms on the employment of older working-age people to materialise.

However, without further structural reforms, the EU is likely to miss the Lisbon target of a 70 % overall employment rate by a considerable distance. If female participation rises to 63.6 %, the female unemployment rate would still need to be halved, from 8 % to 4 %, in order to reach a 60 % female employment rate, which looks difficult though not impossible. The target for older working-age people looks challenging even if further reforms are implemented. The OECD (2003a) simulates the impact of the following additional measures: (i) a removal of early retirement schemes; (ii) a move towards actuarial neutrality of old-age pension schemes; (iii) a convergence of standard retirement ages to 67. With these reforms and under the assumption of a high elasticity of labour supply, a halving of the unemployment rate for older workers would still be required to reach the 50 % employment rate (see Table 5). Moreover, the labour force participation rate of 15–24-year-olds is likely to continue to decline in view of stated policy objectives at both EU and national

levels for increased investment in human resources, in some cases involving targets for increased enrolment in higher education.

Broadly speaking, these results are consistent with the overall findings of Section 2. In particular, the importance of reforms of tax and benefit systems, wage bargaining and early retirement incentives is confirmed. Some points emerge more clearly when looking at specific groups — two examples are the importance of part-time work for the participation of young people and women, and the need for vigorous implementation of anti-discrimination laws in the case of women and migrants.

The potential role of education and training also appears in a more positive light. Rising educational attainment has been an important influence on female employment, which raises the question of whether lifelong learning could not play a similar role with regard to older working-age people. The role of well-targeted training measures in facilitating the entry of young people and migrants into the labour market is also highlighted. Increasing the share of young people who successfully complete upper-secondary education — which is an explicit objective of the Lisbon strategy — might be expected to have a positive long-term employment impact. However, one should not necessarily expect that sending more young people into tertiary education, which is where much of the additional investment in human resources seems likely to be concentrated, will have a significant impact on aggregate employment, though it will raise productivity.

In the light of the results of Section 2.2, one may ask what the implications of measures to raise employment among women, older working-age people, young people and migrants might be for productivity growth. There are clear examples of possible short-run ‘trade-offs’, in that

Table 5

Employment rate targets under alternative scenarios for participation and unemployment

Total	Employment rate	Participation rate (PR)	Unemployment rate (UR)	
2002	64.4	69.6	7.50	
2010 — OECD baseline scenario for PR	66.1	71.5	7.50	UR in 2002
2010 — OECD baseline scenario for PR	70.1	71.5	2.00	UR to reach the target
2010 — OECD high-case for PR	69.0	74.6	7.50	UR in 2002
2010 — OECD high-case for PR	70.1	74.6	6.00	UR to reach the target
Females				
2002	55.6	60.8	8.50	
2010 — OECD baseline scenario for PR	58.2	63.6	8.50	UR in 2002
2010 — OECD baseline scenario for PR	60.4	63.6	5.00	UR to reach the target
2010 — OECD high-case for PR	61.8	67.5	8.50	UR in 2002
2010 — OECD high-case for PR	—	—	—	UR to reach the target
Older workers (55–64)				
2002	39.9	42.4	6.00	
2010 — OECD baseline scenario for PR	43.5	46.3	6.00	UR in 2002
2010 — OECD baseline scenario for PR	—	46.3	—	UR to reach the target
2010 — OECD high-case for PR	48.8	51.9	6.00	UR in 2002
2010 — OECD high-case for PR	50.3	51.9	3.00	UR to reach the target

Box 6: Main additional measures to raise employment in specific groups highlighted in Section 3.2

Women: reforms of wage-bargaining systems; tax reforms promoting neutral treatment for second earners; affordable childcare facilities in preference to higher child benefits; more flexible labour market regulations, especially as regards part-time employment; enhanced enforcement of anti-discrimination legislation; and product market reforms enabling the expansion of sectors where female employment is concentrated.

Older working-age people: removal of early retirement schemes; actuarially reduced benefits or additional contributions in the case of early retirement; proper implementation of eligibility conditions for disability pensions, extended unemployment benefits or unemployment pensions; higher pension accrual rates for people continuing to work beyond a certain age; flexible retirement arrangements such as removing the statutory retirement age and allowing more flexible combinations of part-time work and semi-retirement; reforms of wage bargaining, including a more flexible relationship between earnings and seniority; and greater participation of older workers in training and lifelong learning.

Young people: reforms of wage-bargaining systems; reforms of labour market regulation, in particular redressing the balance between established workers and first-time jobseekers; continued progress on benefit reforms and well-targeted active labour market policies; and investments in education and training, especially measures targeted at those with low attainment. Facilitating part-time employment could help more young people to combine education and employment.

Migrants: measures to ease assimilation, such as language training and validation of existing qualifications, and improved enforcement of anti-discrimination would help. Reforms of labour market institutions as discussed in Section 3.1.3 could help in two ways: firstly, by improving access to low-skilled employment and, secondly, by allowing labour markets the flexibility to attract highly skilled immigrants, particularly in areas of apparent skill shortages.

people with low attachment to the labour market and below-average productivity are likely to be over-represented in net employment growth. Examples may include low-skilled migrants, unemployed young people, women entering the labour market after a long period of absence and possibly some older workers whose productivity may be declining, particularly if they have changed occupations ⁽¹⁾. In any event, Section 2.2 suggests that the impact is in general temporary, with no significant implications for longer-term productivity growth, and so this should not be regarded as a genuine trade-off.

The question remains whether there are any exceptions to the general rule. Among the measures discussed in this section, there are few candidates. One might be if a particular economic sector with low productivity growth potential, for example in the service sector, was promoted in order to favour female employment. An area where there is clear scope for genuine trade-offs is investment in education. It would not be a good idea, for example, to discourage young people from participating in further education in order to raise the employment rate. This might well have long-term consequences for productivity growth, since learning begets further learning ⁽²⁾. Nor would it be a good idea to promote inefficient investment in human capital, however, since the resources could be used more productively elsewhere — in investment in R & D, for example.

4.2. Priorities for and progress with labour market reforms in EU-15

Clearly, an improvement in the performance of EU-15 as a whole depends mainly on an improvement in the group of poorly performing countries. But, as stressed in Section 3.1, the precise measures required will vary from country to country. Thus, it would be difficult to prescribe a detailed reform package for the EU as a whole.

Nevertheless, it is possible to identify priorities for the EU as a whole in the following, more restricted, sense. Firstly, it is relatively simple to identify which Member States have the greatest potential contribution to make to raising the EU-15 employment rate — those with larger working-age populations and/or lower employment rates.

Secondly, the large body of cross-country evidence reviewed in Section 3 and especially in Table 2 is a valuable guide to which policy areas are likely to be most significant in determining employment in a heterogeneous group of countries with different institutional configurations. This literature is less useful when it comes to designing detailed reforms in individual countries. One can always point to imperfections in the data and indicators used, as well as apparent inconsistencies between the results of different studies. For example, as regards wage bargaining, it is not clear whether union density, coverage of wage bargains or the degree of coordination and centralisation are the key factors. The answer may be some combination of these, together with other factors — such as whether industrial relations are more or less confrontational or constructive — that are very difficult to take account of in simple indicators. Nevertheless, despite these imperfections, the empirical literature consistently identifies wage bargaining as a key determinant of labour market performance.

In Table 2, incentives in tax and benefit systems are also consistently identified as being a critical influence on employment and unemployment. Incentives to retire early are an important special case of this, as stressed in Section 3.2.2. The evidence is more mixed on other areas such as employment protection legislation and active labour market policies. Some areas of work organisation, such as the availability of part-time contracts, are clearly relevant, but the evidence on other elements — working-time arrangements, for instance — is lacking.

Some policy areas — such as education and training or labour mobility — are hardly covered in the cross-country literature on the impact of labour market institutions on aggregate employment and unemployment. This may be partly due to the lack of suitable indicators. In the case of education and training, the expectation that the major impact will be on productivity as opposed to aggregate employment may also play a role. Nevertheless, lack of evidence should not be confused with insignificance; it may be that the importance of these areas simply remains to be proven.

Priorities thus identified are broadly consistent with the four key challenges identified by the European Employment Taskforce chaired by Wim Kok ⁽³⁾. These are

⁽¹⁾ On the other hand, there are also highly skilled migrants, and younger women are now better educated than men on average, while older workers have, of course, the benefit of experience.

⁽²⁾ See Heckman (2000).

⁽³⁾ 'Jobs, jobs, jobs: Creating more employment in Europe', report of the European Employment Taskforce chaired by Wim Kok, November 2003.

increasing adaptability of workers and enterprises; attracting more people to the labour market and making work a real option for all; investing more and more effectively in human capital, for the benefit of productivity as well as employment; and ensuring effective implementation of reforms through better governance.

Thirdly, we may look directly at country-specific priorities for labour market policies, of the kind established in the detailed country-specific analysis underlying the EU's broad economic policy guidelines (BEPGs) and European employment strategy. The country-specific recommendations in the BEPGs and the employment recommendations take into account the institutional configuration and any national particularities in each Member State. For example, the cross-country evidence suggests that generous unemployment benefits may be problematic. In Italy, however, coverage of unemployment insurance is very low, and the recommendation is to increase the resources available in order to widen coverage. At the same time, while employment protection legislation (EPL) is not necessarily a problem per se, the rigid systems in Germany and Italy for medium-sized and large enterprises are an issue. On the other hand, EPL is not judged to be particularly problematic for the Netherlands, even though, according to the indicator used in most cross-country studies, EPL is also stringent in the Netherlands ⁽¹⁾.

Table 6 summarises the main priorities established since Lisbon, and also progress made against these, as assessed in the Commission's reports on the implementation of the BEPGs.

Table 7 combines Tables 2 and 6 to provide a broad, graphical illustration of progress compared with priorities for the EU as a whole ⁽²⁾. Along the top, Member States are ordered by their approximate potential contribution to raising the EU-15 employment rate. Down the side, the main policy areas are listed very tentatively in order of their known potential contribution to raising aggregate employment over the next decade, as discussed above. Each cell is shaded according to Table 6. Panel A shows priorities. It makes no assertion about precisely what kinds of reforms are required; it merely

identifies the policy areas and countries where appropriate measures would make an important contribution to attaining the Lisbon objectives for the EU as a whole. The clear concentration of shading towards the upper left-hand corner suggests that the BEPGs indeed largely focus on areas likely to have the largest impact in raising the EU employment rate ⁽³⁾.

If EU Member States were doing enough, collectively, to hit the Lisbon employment targets, then one would expect to see a similar pattern in Panel B, which illustrates progress. There is a substantial amount of shading, including in some of the key areas, such as tax and benefit systems and early retirement. However, many blanks remain, often in country-specific priority areas, that is, the ones shaded in Panel A. Most notably, almost nothing has been done in the key area of wage bargaining. Furthermore, a closer reading of the implementation reports on the BEPGs reveals that, where progress has been made, it has often been of a piecemeal nature, including in the key area of tax and benefit reforms. Thus, while the strategy may be sound, serious doubts remain over whether its implementation is sufficiently timely and comprehensive.

4.3. Labour markets in the enlarged EU

4.3.1. Labour market conditions in new Member States

The labour market situation in new Member States is considerably worse than in EU-15. In the central and east European countries, the process of transition to the market economy has brought about large structural shifts in the labour market, and this accounts for much of the initial decline in employment and the dramatic increase in unemployment. However, the persistence of labour market problems also reflects deep structural problems. Table 8 provides an overview of labour market conditions in the new Member States. The main features can be summarised as follows:

- Performance varies among the new Member States as much as it does within EU-15.
- Nevertheless, employment rates are generally below the EU-15 average of 64 %, although higher than in

⁽¹⁾ The OECD indicator of EPL stringency for the Netherlands is high largely because formal approval by the courts or public employment services is still required for dismissals. However, employers do not report particular problems in obtaining approval where necessary.

⁽²⁾ It is no substitute for a careful reading of the BEPG implementation reports when it comes to assessing progress in individual Member States.

⁽³⁾ Of course, this partly reflects the fact that countries with the greatest problems receive the most recommendations, and four of the six problem countries are large.

Table 6

Main priorities of and progress on labour market reforms, 2000–03

	Priority policy areas (as indicated in BEPGs)	Progress made (as indicated in implementation reports)
BE	<ul style="list-style-type: none"> tackle distortions to work incentives in the tax-benefit system reduce early withdrawal from labour force wage setting to take account of productivity and skill differences relax restrictions on fixed-term and temporary contracts address obstacles to labour mobility 	<ul style="list-style-type: none"> changes in housing market and efforts to overcome linguistic barriers work-related tax credits reducing marginal tax rates at lower levels; streamlining of tax incentives for recruitment of specific groups (female and older workers) steps towards alignment of the retirement age for men and women
DK	<ul style="list-style-type: none"> improve efficiency of ALMPs reform of tax system and benefit eligibility; reduce marginal tax rates on low wages postpone retirement through improved incentives increase labour supply by integrating immigrants and by channelling students faster through education 	<ul style="list-style-type: none"> improved incentives in the benefit systems; steps to tighten eligibility and reduce marginal tax rates more flexibility of working time training measures to address foreseen shortages of skilled workers more effective and efficient ALMP spending
DE	<ul style="list-style-type: none"> simplify benefit administration; improve tax-benefit incentives especially for older workers improve efficiency and evaluation of ALMPs allow for wage differentials to reflect productivity across regions and skills with social partner involvement tackle excessive rigidity of labour market regulations, including EPL reduce regulatory burden <i>inter alia</i> in view of more flexible working time promote childcare availability for more female participation further reforms in education to improve achievements to address skill shortages 	<ul style="list-style-type: none"> some progress towards improved incentives in the benefit system; reduced marginal tax rate at lower wages; changes in tax-benefit system to improve mobility incentives; unemployment benefits reform relaxation of social criteria for firing and reduced EPL for small firms some progress towards more efficient ALMPs (Hartz reforms)
EL	<ul style="list-style-type: none"> improve work incentives in tax and pension systems reduce non-wage labour costs reform wage bargaining to allow wage differentials to reflect productivity and local conditions improve flexibility, modernise work organisation and review labour market regulation; relax EPL improve education and vocational training systems to enhance skill levels take measures to raise the female employment rate 	<ul style="list-style-type: none"> partial but still incomplete implementation of 1998 labour market reform packages; some facilitation of part-time work changes in tax-benefit system to improve mobility incentives some progress on childcare facilities steps taken to reform pension system
ES	<ul style="list-style-type: none"> reform wage bargaining through effective decentralisation; wage differentials to reflect geographical and productivity differences further reforms of EPL to reduce market segmentation across contract types remove fiscal distortions to improve mobility improve childcare facilities and facilitate part-time work review tax-benefit incentives to promote hiring 	<ul style="list-style-type: none"> excessive rigidity of labour market regulations that discourage hiring and slow adjustment tackled; increased control of fixed-term contracts job search and mobility requirements to unemployment benefits strengthened — disincentives addressed eased search in the housing market (rental reform) to increase mobility orientation for lower-level wage bargaining, but no reforms tax incentives and childcare to increase female participation
FR	<ul style="list-style-type: none"> fully implement new unemployment insurance system; improve incentives for job search in tax-benefit system reform EPL reform the pension system, adapting it to more flexible employment and reducing early retirement incentives 'closely monitor' the 35-hour week reduce fiscal pressure on labour 	<ul style="list-style-type: none"> improved incentives in the benefit systems; increased tax credits; reduced marginal tax rates; changes in tax-benefit system to improve mobility incentives reduction in social security contributions 35-hour week monitored

(Continued on the next page)

Table 6 (continued)

Main priorities of and progress on labour market reforms, 2000–03

IE	<ul style="list-style-type: none"> improve efficiency of ALMPs ensure that wage bargaining allows wage differentials to reflect productivity and skills; monitor wage developments 	<ul style="list-style-type: none"> measures undertaken to reconcile work and family life through increased parental/care leave rights better tax incentives to increase female participation
IT	<ul style="list-style-type: none"> encourage more decentralised wage-setting mechanism, reflecting differences in productivity and skills further reform of EPL to reduce market segmentation across contract types and firm size lower tax on low wages improve childcare and postpone retirement increase resources and efficiency of unemployment benefits increase flexibility of working time 	<ul style="list-style-type: none"> excessive rigidity of labour market regulations that discourage hiring and slow adjustment tackled; efforts to achieve more flexible contracts decline in marginal tax rates expansion of private job placement services partial implementation of tightening of eligibility rules for pension and other benefit schemes
LU	<ul style="list-style-type: none"> reduce early retirement incentives; tighten disability pension eligibility rules 	<ul style="list-style-type: none"> reduction of inflow in disability pensions through tightening of eligibility; tax-benefit reform to raise female participation
NL	<ul style="list-style-type: none"> improve efficiency of ALMPs continue benefit reforms, including disability benefits, especially with regard to eligibility and conditionality 	<ul style="list-style-type: none"> improved incentives in the benefit systems; review of unemployment insurance, tightening eligibility requirements; reduction in the disability inflow; tax-benefit reform to raise female participation agreements on flexibility of working time measures undertaken to reconcile work and family life through increased parental/care leave rights
AT	<ul style="list-style-type: none"> improve link between contributions and benefits in pensions speed up tax-benefit reform for older workers enhance incentives to work and increase low average effective retirement age 	<ul style="list-style-type: none"> 2000 reform package reduces tax burden on labour, increases retirement age, and lowers replacement ratio in unemployment insurance; reduced marginal tax rate envisaged overhaul of pension system, expected to raise participation; alignment of the retirement age for men and women reform of severance pay
PT	<ul style="list-style-type: none"> allow for wage differentials and encourage wage moderation (taking into account productivity and skill increases in wage growth) improve training and education systems and reduce early school leaving increase flexibility of working time 	<ul style="list-style-type: none"> new labour code, raising duration of fixed contracts (i.a.) better use of ALMPs more cost-effective education spending and progress in proposed enhancement of productivity and skills
FI	<ul style="list-style-type: none"> reform wage bargaining so that wage differentials reflect productivity improve tax-benefit incentives and reform eligibility criteria to make job search more effective; reduce marginal effective tax rates for low wages increase efficiency of ALMPs 	<ul style="list-style-type: none"> steps to reduce marginal tax rate envisaged steps towards pension reform taken more effective and efficient ALMP spending
SE	<ul style="list-style-type: none"> reform income tax to improve work incentives make ALMPs more efficient 	<ul style="list-style-type: none"> agreements on flexibility of working time reforms in the tax-benefit system to improve work (and mobility) incentives measures to retain older workers and to promote participation of young and immigrants more effective and efficient ALMP spending
UK	<ul style="list-style-type: none"> improve work incentives for all those who can and want to work by reforming sickness and disability benefits efficient active measures for those at most risk of long-term unemployment, particularly in deprived areas 	<ul style="list-style-type: none"> improved incentives in the benefit systems; tax credits and financial incentives extended merging employment services with the benefit administration for those of working age steps towards alignment of the retirement age for men and women enhanced ALMPs announced

Table 7

Priorities of and progress on labour market reforms since 2000

Panel A: Priorities as indicated in the BEPGs															
	IT	DE	ES	FR	UK	EL	BE	PT	AT	NL	IE	SE	FI	LU	DK
Tax/benefit systems															
Wage bargaining															
Early retirement															
Employment protection															
Active labour market policies															
Work organisation															
Other female labour supply															
Education and training															
Labour mobility															

Panel B: Progress as assessed in the implementation reports															
	IT	DE	ES	FR	UK	EL	BE	PT	AT	NL	IE	SE	FI	LU	DK
Tax/benefit systems															
Wage bargaining															
Early retirement															
Employment protection															
Active labour market policies															
Work organisation															
Other female labour supply															
Education and training															
Labour mobility															

NB: 'Tax and benefit system' includes recommendations on labour taxation alone; recommendations on active labour market policies in recent BEPGs mostly concerned improving the efficiency of existing policies. Countries are ordered along the top according to their approximate potential contribution to raising the EU-15 employment rate. For present purposes, this is taken to be the number of jobs that would be created if each country equalled the performance of the Member State with the highest employment rate in 2000, which was Denmark with an employment rate of 76.4 %.

Source: Commission services.

the worst-performing countries of EU-15. They are particularly low among young and older working-age people. Female employment rates, once higher than in EU-15, have fallen considerably since the start of transition. In contrast to EU-15, employment rates in the new Member States as a whole have been steadily falling, albeit with differences across countries. Employment losses in agriculture and industry have not been fully offset by gains in the expanding service sector.

- Unemployment rates are above the EU-15 average in most of the new Member States, though again these range widely, from 4 % in Cyprus to 19 % in Poland. Unemployment tends to be concentrated among certain groups, especially the young, the low-skilled and ethnic minorities. Moreover, a large share of unemployment is long term in most countries.

In general, differences in regional unemployment widened during the 1990s and regional disparities in some new Member States are serious, close to those of existing EU Member States with the largest imbalances. Over that period, changes in the structure of employment by sector, occupation and firm ownership were dramatic, yet labour mobility within new Member States has been very low, even declining in some countries ⁽¹⁾.

The large income gap, yet relatively small education and skills differentials, as educational attainment is in some cases much higher than the EU-15 average, would argue for the relocation of labour towards EU-15 Member States that enjoy relatively higher wages. There is a high uncertainty about the potential flows of labour from the

⁽¹⁾ OECD (2002).

new Member States after EU enlargement. The share of residents from central and east European countries in most EU-15 Member States is low, generally below 0.3 % of the total population and between 0.6 and 0.9 % in Luxembourg, Germany and Austria, in 2002. Available projections do not suggest massive east–west net flows of labour, even if the movement of workers were completely unrestricted after the date of accession. Most studies find that the bulk of the flows would go to Germany and Austria ⁽¹⁾.

4.3.2. Integrating the new Member States into the Lisbon strategy

Since most of the new Member States have employment rates that are below the EU-15 average and, moreover, on a deteriorating trend, their inclusion in the Lisbon strategy will clearly make the employment targets — which apply to the EU as a whole — even harder to achieve. On the other hand, with economic growth

potential well in excess of 4 % in most cases, these countries are likely to provide a major stimulus to attaining the overall Lisbon goals of increased competitiveness and dynamism.

The broad policy challenges in the field of labour markets do not differ a great deal between new and old EU Member States. Structural problems include a very high tax burden on labour and financial disincentives to work in benefit systems, highly regulated permanent employment with relatively loose arrangements for temporary contracts, and undifferentiated national minimum wages that are liable to restrict labour market access for new entrants, the low-skilled and those living in less productive regions. Nonetheless, many of the new Member States do face a somewhat different set of economic circumstances, which suggests that a slight change of emphasis may be warranted. Real convergence implies that large structural shifts in the labour market are most likely to continue for many years. Significant labour reallocation away from industry and agriculture towards the service sector and a sectoral composition closer to that in Member States in EU-15 is likely to continue. This would underline the need for flexible and adaptable labour markets and institutions and effective ALMPs to

⁽¹⁾ Nevertheless, as a result of the accession negotiations, temporary derogations to the principle of free movement of workers will apply for a maximum of seven years. All EU-15 Member States except Ireland and the United Kingdom have announced that they will maintain restrictions on access to their labour markets for workers from the new Member States, at least for the first two years following accession.

Table 8

Labour market conditions in the new Member States

	Employment rate			Unemployment			Regional disparities (*)
	All	Female	Older workers	All	Youth	Long-term	
	2003	2003	2003	2003	2003	2003	
CY	69.2	60.4	50.4	4.4	10.6	1.1	:
CZ	64.7	56.3	42.3	7.8	18.6	3.8	0.44
EE	62.9	59.0	52.3	10.1	22.9	4.6	:
HU	57.0	50.9	28.9	5.8	13.1	2.4	0.32
LT	61.1	58.4	44.7	12.7	27.2	6.1	:
LV	61.8	57.9	44.1	10.5	17.6	4.3	:
MT	54.2	33.6	32.5	8.2	19.8	3.5	:
PL	51.2	46.0	26.9	19.2	41.1	10.7	0.17
SI	62.6	57.6	23.5	6.5	15.9	3.4	:
SK	57.7	52.2	24.6	17.1	32.9	11.1	0.23
EU-25	62.9	55.1	40.2	9.1	18.4	4.0	:
EU-15	64.4	56.0	41.7	8.1	15.9	3.3	0.63

(*) Coefficient of variation = standard deviation of NUTS 2 regional unemployment rates/national average unemployment rate.

Source: Commission services.

facilitate the adjustment process, by supporting labour mobility across sectors, regions and occupations, as well as by enhancing workers' skills.

The framework for the conduct of macroeconomic policies will remain different from that facing EU-15 Member States for some time. In particular, the new Member States will continue to operate national monetary and exchange rate policies. Notwithstanding efforts to support a stable macroeconomic climate, they may be more susceptible to economic shocks compared with EU-15. Against this background, wages will play an important role. It will be necessary to avoid wage-inflation spirals, and also to ensure that real wage developments support external competitiveness in light of the need to attract foreign direct investment. New Member States will continue to face very tight fiscal constraints. It is therefore

essential that labour market policies are affordable and consistent with achieving sound fiscal policies that support a stable macroeconomic framework. The challenge is in many respects wider than pure labour market concerns, and relates to the overall structure of the tax systems as well as administrative efficiency.

New Member States need to combine more jobs with fast productivity growth to catch up with EU-15. Productivity gains have been substantial during transition, but may be more difficult to sustain as past gains were mainly achieved through labour shedding. With the process of privatisation largely completed in most countries, this suggests that future productivity increases will rely more heavily on investment and human capital formation, and underlines the need to tackle skill shortages and improve the quality of education and training systems.

5. General conclusions

The Lisbon employment targets look much more challenging than they did in March 2000. When one looks at the key demographic groups from which most of the increase in employment must come, it is difficult to see how the overall target of a 70 % employment rate can still be achieved by 2010, even in EU-15, let alone EU-25.

The macroeconomic slowdown has not helped, but cannot shoulder all the blame. Progress on structural reforms has not matched the ambitious targets set at Lisbon and Stockholm. Nevertheless, there is evidence that much of the improvement in labour market performance over the 1990s was structural, and that significant progress has continued in some areas, including tax and benefit reforms and early retirement.

Also on the positive side, there is no mystery about the main determinants of labour market performance, or about the kinds of measures Member States could take in order to permanently raise employment rates. The economic evidence — on the determinants of both overall labour market performance and employment in specific demographic groups — suggests that the right strategy has been set out in the BEPGs, as summarised in Table 6, and in the European employment strategy.

Reform strategies should be country-specific, looking at the ensemble of labour market and social protection institutions. There is scope for improvements in the design of institutions with a view to improving incentives to take up employment and eliminating dead-weight costs and distortions that benefit vested interests rather than providing genuine social insurance. Governance, as highlighted in the recent report of the European Employment Taskforce chaired by Wim Kok, is a key priority.

Reforms aimed at raising the employment rate necessarily imply that productivity growth will be temporarily below full potential, because of the implied increase in the labour intensity of production. Furthermore, net additions to the labour force are likely to be below the average skill level, at least initially. This negative effect on average productivity is estimated to be fairly small. In any event, it should not be regarded as a genuine trade-off. The higher employment rate represents an unambiguous increase in GDP per capita, since newly employed people clearly contribute more to GDP than they did before. Moreover, there are no reasons to think that a higher employment rate has any negative implications for longer-term productivity growth.

6. References

- Acemoglu, K. D. (1999), 'Efficient unemployment insurance', *Journal of political economy*, Vol. 107, pp. 893–928.
- Acemoglu, K. D. (2001), 'Good jobs versus bad jobs', *Journal of labour economics*, Vol. 19, pp. 1–22.
- Acemoglu, K. D. and R. Shimer (2000), 'Productivity gains from unemployment insurance', *European economic review*, Vol. 44, pp. 1195–1224.
- Agell, J. (2002), 'On the determinants of labour market institutions: Rent seeking versus social insurance', *German economic review*, Vol. 3, Issue 2, pp. 107–135.
- Bassanini, A. (2004), 'Improving skills for more and better jobs? The quest for efficient policies to promote adult education and training', paper presented at a workshop on quality and efficiency in education, European Commission, May.
- Bauer, T. K. and A. Kunze (2004), 'The demand for high-skilled workers and immigration policy', *CEPR discussion paper*, No 4274.
- Bauer, T. K., M. Lofstrom and K. Zimmermann (2000), 'Immigration policy, assimilation of immigrants and natives' sentiments towards immigrants: evidence from 12 OECD countries', *IZA discussion paper*, No 187.
- Bauer, T. K., J. P. Haisken-DeNew and C. M. Schmidt (2003), 'International labour migration, economic growth and labour markets: the current state of affairs', mimeo, Ruhr-Universität Bochum.
- Bell, B., R. Blundell and J. Van Reenen (1999), 'Getting the unemployed back to work: The role of targeted wage subsidies', *IFS working paper*, No 99/12.
- Belot, M. and J. C. Van Ours (2001), 'Unemployment and labour market institutions: an empirical analysis', *CentER discussion paper*, No 50.
- Belot, M. and J. C. Van Ours (2004), 'Does the recent success of some OECD countries in lowering their unemployment rates lie in the clever design of their labour market reforms?', *Oxford economic papers*, forthcoming.
- Bertola, G. (2004a), 'A pure theory of job security and labour income risk', *Review of economic studies*, Vol. 71, pp. 43–61.
- Bertola, G. (2004b), 'Labour market institutions in a changing world', forthcoming, Moneda y Credito.
- Bertola, G. (2004c) 'Distribution, efficiency and labour market regulation in theory, in OECD countries, and in Latin America', <http://www.personalweb.unito.it/Giuseppe.Bertola/>.
- Bertola, G. and W. Koeniger (2004), 'Consumption smoothing and the structure of labour and credit markets', <http://www.personalweb.unito.it/Giuseppe.Bertola/>.
- Bertola, G., T. Boeri and G. Nicoletti (eds) (2001a), 'Welfare and employment in a united Europe', MIT Press.
- Bertola, G., F. D. Blau and L. M. Kahn (2001b), 'Comparative analysis of labour market outcomes: lessons for the US from international long-run evidence', *NBER working paper*, No 8526.
- Bertola, G., F. D. Blau and L. M. Kahn (2002), 'Labour market institutions and demographic employment patterns', *CEPR discussion paper*, No 3448.
- Blanchard, O. (1986), 'The wage price spiral', *Quarterly journal of economics*, Vol. 101, No 406, pp. 545–565.

- Blanchard, O. (2004), 'The economic future of Europe', *NBER working paper*, No 10310.
- Blanchard, O. and D. Quah (1989), 'The dynamic effects of aggregate demand and supply disturbances', *American economic review*, Vol. 79(4), pp. 655–673.
- Blanchard, O. and J. Wolfers (2000), 'The role of shocks and institutions in the rise of European unemployment: the aggregate evidence', *Economic journal*, Vol. 110, pp. 1–33.
- Blanchflower, D. G. and R. B. Freeman (2000), 'The declining economic status of young workers in OECD countries', in Blanchflower, D. G. and R. B. Freeman (eds), *Youth employment and joblessness in advanced countries*, National Bureau of Economic Research — Comparative labour markets series.
- Blank, R. (2002), 'Can equity and efficiency complement each other?', *NBER working paper*, No 8820.
- Blau, F. D. and L. M. Kahn (1996), 'International differences in male wage inequality: institutions versus market forces', *Journal of political economy*, Vol. 104, Issue 4, Suppl., pp. 791–837.
- Blau, F. D. and L. M. Kahn (1999), 'Institutions and laws in the labour market', in Ashenfelter, O. and D. Card (eds), *Handbook of labour economics*, Vol. 3A, North Holland, pp. 1399–1461.
- Blöndal, S. and S. Scarpetta (1998), 'The retirement decision in OECD countries', *OECD Economics Department working paper*, No 98.
- Blöndal, S. and S. Scarpetta (1999), 'Early retirement in OECD countries: the role of social security systems', *Economic studies*, No 29, OECD.
- Boeri, T. (2001), 'Conclusions: Is there a role for supranational institutions?', in Boeri, T., G. Bertola and G. Nicoletti (eds), *Welfare and employment in a united Europe*, Cambridge, MA, and London: MIT Press, pp. 251–255.
- Boeri, T., A. Brugiavini and L. Calmfors (2001), *The role of unions in the twenty-first century*, Oxford University Press.
- Boeri, T., J. I. Conde-Ruiz and V. Galasso (2002), 'Protecting against labour market risk: employment protection or unemployment benefits?', mimeo.
- Buddelmeyer, H., G. Mourre and M. Ward-Warmedinger (2004), 'Recent developments in part-time work in EU countries: Trends and policy', in Gomez-Salvador, R., A. Lamo, B. Petrongolo, M. Ward and E. Wasmer (eds), *Labour supply and incentives to work in Europe*, Edward Elgar (forthcoming).
- Burniaux, J. M., R. Duval and F. Jaumotte (2003), 'Coping with ageing: a dynamic approach to quantify the impact of alternative policy options on future labour supply in OECD countries', *OECD Economics Department working paper*, No 371.
- Buti, M., L. R. Pench and P. Sestito (1998), 'European unemployment: Contending theories and institutional complexities', European University Institute, Florence, *Robert Schuman Centre policy papers*, No 98/1.
- Calmfors, L (1993), 'Centralisation wage bargaining and macroeconomic performance', *OECD economic studies*, 21.
- Card, D. (2004), 'Is the new immigration really so bad?', *IZA discussion paper*, No 1119.
- Casey, B. (1998), 'Incentives and disincentives to early and late retirement', *Working paper*, AWP3.3, OECD, Paris.
- Chiswick, B. (1978), 'The effect of Americanisation on the earnings of foreign born men', *Journal of political economy*, Vol. 86 (5).
- Coe, D. and D. Snower (1997), 'Policy complementarities: the case for fundamental labour market reform', *IMF staff papers*, Vol. 44(1), pp. 1–35.
- Conde-Ruiz, J. I. and V. Galasso (2002), 'Early retirement', *CEPR working paper*, May 2002.
- Council of the European Union (2003), 'Joint report by the Commission and the Council on adequate and sustainable pensions', 7165/03.
- Davis, S. J. and M. Henrekson (2000), 'Wage-setting institutions as industrial policy', *NBER working paper*, No 7502.

- De Koning, J. and H. Mosley (2001), *Labour market policy and unemployment: Impact and process evaluation in selected European countries*, Edward Elgar.
- Dustmann, C. and F. Fabbri (2000), 'Language proficiency and labour market performance of immigrants in the United Kingdom', *CEPR discussion paper*, No 2487.
- ECB (2002), 'The composition of employment growth in the euro area in recent years', *ECB monthly bulletin*, November, pp. 67–79.
- Elmeskov, J., J. P. Martin, and S. Scarpetta (1998), 'Key lessons for labour market reforms: Evidence from OECD experiences', *Swedish economic policy review*, Vol. 5.
- European Commission (2003), 'Gender pay gaps in European labour markets', *Commission staff working paper*, SEC(2003) 937.
- European Commission (2004a), *Employment in Europe: Recent trends and prospects*, Office for Official Publications of the European Communities, Luxembourg.
- European Commission (2004b), communication from the Commission 'Increasing the employment rate of older workers and delaying the exit from the labour market', COM(2004) 146 final.
- Federal Reserve Bank of Boston (2004), 'Understanding the "job-less recovery"', *Public policy brief*, No 04-1.
- Fitoussi, J. P., D. Jestaz, D. Phelps and E. S. Zoega (2000), 'Roots of the recent recoveries: Labour reforms or private sector forces?', *Brookings papers on economic activity*, Vol. 1, pp. 237–312.
- Fredriksson, P. and B. Holmlund (2004), 'Optimal unemployment insurance design: time limits, monitoring, or workfare?', *CESifo working paper*, No 1019.
- Galí, J. (1999), 'Technology, employment, and the business cycle: Do technology shocks explain aggregate fluctuations?', *American economic review*, Vol. 89, pp. 249–271.
- Garibaldi, P. and P. Mauro (2002), 'Employment growth. Accounting for the facts', *Economic policy*, April.
- Gaude, J. (1997), 'L'insertion des jeunes et les politiques d'emploi-formation', *Cahiers de l'emploi et de la formation*, No 1, Bureau international du travail, Geneva.
- Ghellab, Y. (1998), 'Minimum wages and youth unemployment', *Employment and training papers*, No 26, International Labour Office, Geneva.
- Gordon, R. J. (1995), 'Is there a trade-off between unemployment and productivity growth?', *CEPR discussion paper*, No 1159.
- Gruber, J. (1994), 'The consumption smoothing benefit of unemployment insurance', *NBER working paper*, No 4750.
- Gruber, D. and D. Wise (1999), *Social security programmes and retirement around the world*, University of Chicago Press, Chicago.
- Hassler, J., J. V. Rodríguez Mora, K. Storesletten and F. Zilibotti (2001), 'Unemployment, specialisation, and collective preferences for social insurance', in Cohen, D., T. Piketty and G. Saint-Paul (eds), *The new economics of rising inequalities*, Oxford University Press, 2001, pp. 331–350.
- Hatton, T. J. (2004), 'Seeking asylum in Europe', *Economic policy*, April, pp. 5–62.
- Hatton, T. J. and S. Wheatley Price (1998), 'Migration, migrants and policy in the United Kingdom', *CEPR discussion paper*, No 1960.
- Heckman, J. (2000), 'Policies to foster human capital', *Research in economics*, Vol. 54, No 1, 2000, pp. 3–56.
- International Organisation for Migration (2003), 'World migration 2003: Managing migration challenges and responses for people on the move', Vol. 2, *IOM World Migration Report Series*.
- Jaumotte, F. (2003), 'Female labour force participation: past trends and main determinants', *OECD Economics Department working paper*, No 376.
- Jensen, P., M. Rosholm and M. Svarer (2003), 'The response of youth unemployment to benefits, incentives, and sanctions', forthcoming in *European journal of political economy*.

- Jimeno, J. F. and D. Rodríguez-Palenzuela (2003), 'Youth unemployment in the OECD: Demographic shifts, labour market institutions and macroeconomic shocks', *Enepri working paper*, No 19.
- Kahn, L. M. (2000), 'Wage inequality, collective bargaining and relative employment from 1985 to 1994: evidence from 15 OECD countries', *Review of economics and statistics*, Vol. 82(4), pp. 564–579.
- Korenman, S. and D. Neumark (1997), 'Cohort crowding and youth labour markets: a cross-national analysis', *NBER working paper*, No 6031.
- Layard, R., S. Nickell and R. Jackman (1991), *Unemployment: macroeconomic performance and the labour market*, Oxford University Press.
- Lindbeck, A. and D. Snower (1988), *The insider-outsider theory of employment and unemployment*, Cambridge, MA, MIT Press.
- Madsen, K. (1999), 'Denmark: Flexibility, security and labour market success', *ILO employment and training papers*, No 53.
- Mortensen, D. T. and C. Pissarides (1999), 'Unemployment response to skill-biased technology shocks: the role of labour market policy', *The economic journal*, Vol. 109, pp. 242–265.
- Mosisa, A. T. (2002), 'The role of foreign-born workers in the US economy', *Monthly labour review*, Bureau of Labour Statistics, May.
- Nickell, S. and R. Layard (1999), 'Labour market institutions and economic performance', in Ashenfelter, O. and D. Card (eds), *Handbook of labour economics*, Vol. 3, pp. 3029–3084.
- Nickell, S. J. and J. C. Van Ours (2000), 'The Netherlands and the United Kingdom: a European unemployment miracle?', *Economic policy*, Vol. 30, pp. 137–175.
- Nickell, S., L. Nunziata, W. Ochel and G. Quintini (2003), 'The Beveridge curve, unemployment and wages in the OECD from the 1960s to the 1990s', in Aghion, P. et al. (eds), *Knowledge, information and expectations in modern macroeconomics*, in honour of Edmund S. Phelps, Princeton University Press.
- OECD (1998), *Maintaining prosperity in an ageing society*, Paris.
- OECD (2000), *Reforms for an ageing society*, Paris.
- OECD (2001), *Employment outlook*, Paris.
- OECD (2002), 'Trends in international migration', *Sopemi Annual Report*.
- OECD (2003a), *Labour force participation of groups at the margin of the labour market: past and future trends and policy challenges*, ECO/CPE/WP1(2003)8.
- OECD (2003b), 'The economic impact of migration', *Economic survey: Spain*.
- O'Higgins, N. (1997), 'The challenge of youth unemployment', *Employment and training papers*, No 7, International Labour Office, Geneva.
- Olivetti, C. (2001), 'Changes in women's hours of market work: The effect of changing returns to experience', PhD dissertation, University of Pennsylvania.
- Pestieau, P. (2001), 'Are we retiring too early?', *CESifo working paper*, No 522.
- Pissarides, C. (1986), 'Unemployment and vacancies in Britain', in *Economic policy*, No 3, pp. 499–559.
- Pissarides, C., P. Garibaldi, C. Olivetti, B. Petrongolo and E. Wasmer (2003), *Women in the labour force: How well is Europe doing?*, Fondazione Rodolfo De Benedetti.
- Portugal, P. and J. Varejão (2003), 'Why do firms use fixed-term contracts?', *Bank of Portugal working paper*, No 8/03.
- Roseveare, D. and M. Jorgensen (2004), 'Migration and integration of immigrants in Denmark', *OECD Economics Department working papers*, No 368, April.
- Stock, J. H. and M. W. Watson (1988), 'Testing for common trends', *Journal of the American Statistical Association*, Vol. 83, pp. 1097–1107.
- Van Ours, J. C. (2003), 'Has the Dutch miracle come to an end?', *CentER discussion paper*, No 32.

Varian, H. R. (1980), 'Redistributive taxation as social insurance', *Journal of public economics*, Vol. 14, pp. 49–68.

Vlasblom, J. and J. Schippers (2004), 'Increases in female labour force participation in Europe: similarities

and differences', T. C. Koopmans Research Institute, *Discussion paper series*, 04-12, Utrecht University.

Walmsley, T. and L. Winters (2003), 'Relaxing the restrictions on the temporary movements of natural persons: a simulation analysis', *CEPR discussion paper*, No 3719.

Chapter 4

The Lisbon strategy and the EU's structural productivity problem

Summary

The structural nature of the EU's productivity downturn is confirmed, with the bulk of the deterioration emanating from an outdated and inflexible industrial structure which has been slow to adapt to the intensifying pressures of globalisation and rapid technological change. The EU's productivity problems are driven by the combined effect of an excessive focus on low- and medium-technology industries (with declining productivity growth rates and a globalisation-induced contraction in investment levels); an inability to seriously challenge the United States' dominance in large areas of the ICT industry, as reflected in the relatively small size of its ICT production sector; and finally, its apparent slowness in reaping the productivity-enhancing benefits of ICT in a range of ICT-using industries, although measurement issues severely complicate an assessment of the gains from ICT diffusion.

The post-1995 differences in EU-US productivity patterns are fundamentally driven by the United States' superiority in terms of its capacity to produce and absorb new technologies, most notably in the case of ICT. Healthy knowledge production and absorption processes are mutually supportive elements of any successful long-run productivity strategy. Evidence is presented which suggests that the United States' overall innovation system is superior to that of the EU's, both in terms of the quality and funding of its knowledge sector and the more favourable framework conditions prevailing. The repeated ability of the US system to direct resources towards the newer, high-technology (and often high productivity growth) industries is a reflection of the quality of the interrelationships between the different actors in its innovation system and of an economic and regulatory framework which has the capacity to transform excellence in knowledge creation into a globally competitive industrial structure.

The systemic inadequacies of the EU's innovation system are highlighted by the experience of the ICT industry, with the history of this industry suggesting

that a 'national champions' strategy in high-technology industries is highly problematic. A wide range of factors are shown to have contributed to the United States' global dominance in ICT. These factors include focused R & D activities; world class research and teaching establishments; defence procurement contracts which nurtured the ICT industry (on the demand side) in its incubation phase in the 1950s and 1960s; and the unique combination of financing mechanisms and a highly competitive domestic marketplace which brought the ICT industry from the knowledge-creation phase to the critical diffusion/mass market phase. The history of the ICT industry also suggests that a 'national champions' strategy in high-technology industries is a recipe for failure, with the chapter highlighting in particular the large price which Europe has paid for its 'national champions' policy in this particular industry back in the 1960s and 1970s, which contrasted sharply with the strategies adopted by Japan and the United States.

In terms of policy, the chapter stresses that the EU's innovation system needs to be fundamentally reformed if the EU is to make a decisive shift towards realising the vision of a successful, innovation-based, economic model, the broad features of which have been laid out in the Lisbon 2010 agenda. The success of such a model will be determined not so much by a massive increase in the amount of financial resources devoted to knowledge production (i.e. increased spending on R & D and higher education), but by an acceptance of the need to improve linkages in the innovation system and to make painful changes in many areas of the EU's economic and regulatory environment. More specifically, the present study stresses the following.

- **The systemic nature of the innovation process needs to be fully recognised and the quality of the interrelationships between the different actors in the EU's system needs to be dramatically improved.**

- **The public and private sectors each play important, mutually supportive, roles in determining a country's innovation capacity and each must assume its responsibilities if the EU's knowledge economy objectives are to be realised.**
 - **Industry-specific framework conditions need to be taken into account by EU policy-makers due to the complicated link between competition and innovation. Product market conditions and**
- the characteristics of specific technologies are what ultimately determine the relationship between market concentration and R & D intensity.**
- **Market entry and exit rules, by putting pressure on incumbent firms to innovate and by supporting market experimentation, are crucial to an effective innovation process in rapidly changing industries.**

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1. Introduction

Europe's growth performance has been the subject of increasing scrutiny over recent years, most notably in the context of the Lisbon process and its efforts to encourage governments to introduce employment and productivity-enhancing reforms. This reform agenda is all the more pressing given that the EU's underlying growth rate has been trending downwards since the second half of the 1990s and since the medium- to long-term outlook points to a continuation of these trends. While many EU countries are understandably preoccupied with extricating their economies from the relatively prolonged short-run downturn, it is widely acknowledged that many of the solutions to this slow growth problem require a longer-term policy perspective. A sustainable medium-term recovery process, according to a wide range of commentators, demands action on a Lisbon-inspired structural reform agenda aimed at effectively addressing the EU's fundamental growth challenges, presently posed by the accelerating pace of technological change, globalisation (most recently in terms of the growing tradability of large parts of the service economy) and ageing populations.

Whilst accepting the absolute necessity of encouraging a more labour-intensive growth pattern over the medium to long term, the present chapter focuses on the productivity part of the Lisbon agenda. It specifically analyses the nature/source of the deterioration in the EU's productivity performance relative to that in the United States since the mid-1990s and outlines the approach to be adopted in order to remedy this situation. Given the extensive treatment accorded to the productivity theme in last year's review, the present chapter will build on this latter work by focusing on three specific issues related to the EU's recent productivity performance and its ambitions to become the most competitive, knowledge-based economy in the world by 2010.

Firstly, how does the EU compare with the United States in terms of economy-wide productivity trends and how

big a role has ICT played in explaining the diverging patterns? Furthermore, should the post-1995 deterioration in EU productivity be interpreted as a transitory or a structural phenomenon?

Secondly, in explaining recent EU-US divergences in productivity trends, to what extent is the EU's relatively poor performance linked with its particular industrial structure and its difficulty in reorienting its economy towards the newer, higher-productivity, growth sectors such as ICT? In terms of the specific role of ICT, the chapter asks whether the contribution of the ICT-producing industries to overall productivity patterns has been underestimated in favour of ICT diffusion explanations which stress the crucial role of a small number of intensive ICT-using industries such as wholesale and retail trade.

Finally, in the context of delivering on the EU's longer-term ambitions of progressively moving towards a more knowledge-based economy, the study focuses on the specific role to be played by the production and absorption of new technologies in any overall strategy. While the present chapter fully accepts that the absorption of innovation from other industries/countries will remain a fundamental element in determining the EU's future productivity performance, it nevertheless argues strongly in favour of a greater recognition amongst EU policy-makers of the importance of a globally competitive knowledge production system to the realisation of the Lisbon goals. Creating a system capable of delivering on both aspects of the innovation process is not simply an issue of more spending on R & D and third-level education. More importantly it is a question of better linkages between the different players in the innovation system and a recognition of the need for a dynamic, competitive, business environment in accelerating the move from the knowledge-creation/absorption phase to the critical commercial phase.

2. EU productivity trends at the economy-wide level

2.1. Overview of main trends

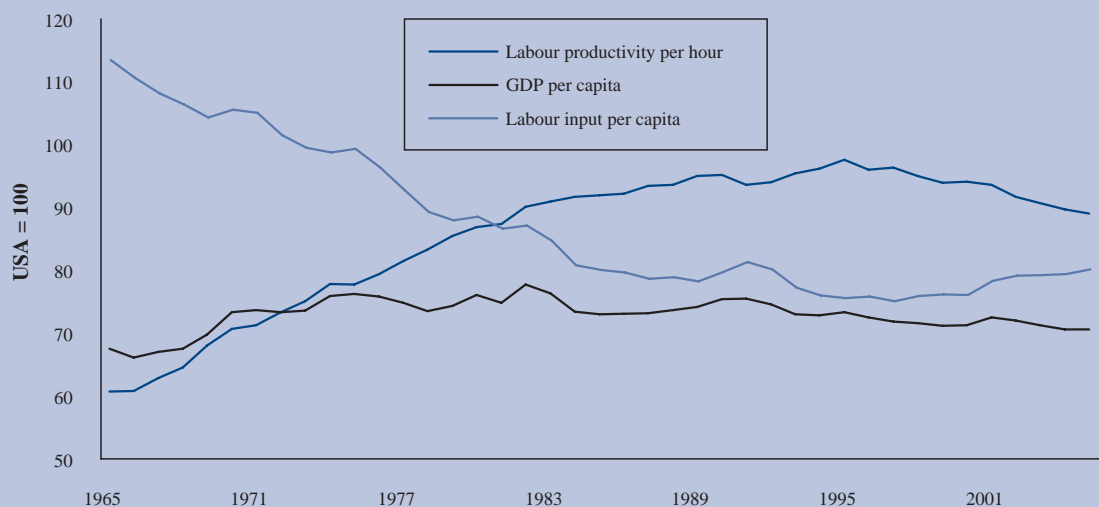
At the moment, EU living standards (GDP per capita) are at roughly 70 % of US levels, with about one third of the gap due to labour productivity differences, with the remaining two thirds due to differences in the utilisation of labour (measured in hours worked) ⁽¹⁾. The EU has also experienced some important changes over the course of the 1990s with, on the positive side, the previously downward movement in total hours worked relative to the

United States coming to an end and, on the negative side, the post-World War II convergence to US productivity levels going into reverse. In fact, after having peaked in the mid-1990s at around 97 % of US levels, EU labour productivity per hour is projected to deteriorate to around 88 % in 2005, which is close to its relative level in the early 1980s (Graph 1). This post-1995 deterioration in relative productivity levels reflects a sharp decline in EU productivity growth rates relative to those of the United States over the period in question.

Graph 2 shows labour productivity per hour trend developments in the United States and the EU since the mid-1960s. Over most of that time, and indeed for most

⁽¹⁾ See annex for an overview of the ongoing discussion on measurement issues.

Graph 1: Productivity trends, EU-15 relative to the United States



Source: Commission services.

of the post-World War II period up until the mid-1990s, the EU has enjoyed productivity growth rates well in excess of those prevailing in the United States. Given relatively low employment rates, the EU was able to use its superior productivity performance to broadly maintain its living standards. This is why policy-makers need to be seriously concerned with the fact that the EU is now, for the first time in decades, on a trend productivity growth path which is lower than that of the United States, with the cross-over point occurring in the mid-1990s ⁽¹⁾. This recent EU performance marks a serious downgrading relative to the situation in the early 1990s

⁽¹⁾ While overall EU productivity trends have clearly deteriorated over recent years, it is important to underline the wide range of performances at the individual EU Member State level, with large numbers of countries comparing favourably with international trends. With regard to the performance of the EU-15 Member States, there is a clear divergence for the euro-area and non-euro-area countries. The non-euro-area Member States have been able to arrest the decline in their 1980s productivity growth rate and stabilise it in the 1½–2 % range over the 1990s. Over the same period the euro-area countries as a group have experienced a decline in their productivity growth rate from close to 2 % to well under 1 %. This euro-area pattern is totally dictated by developments in the big four euro-area countries, namely Germany, France, Italy and Spain. The remaining eight euro-area countries have managed to achieve an acceleration in their productivity growth rates between the first and second halves of the 1990s similar to that which occurred in the United States. The problem of course is that with the big four countries accounting for nearly 80 % of overall euro-area output, the poor performances from all four of these countries ensure that the 'area' as a whole has a clear productivity problem.

when annual EU labour productivity growth was averaging 2½ %, compared with 1½ % for the United States. Since that time, there has been a dramatic reversal in fortunes, with the EU's labour productivity growth rate declining by one full percentage point and that of the United States' accelerating by a roughly similar amount.

From a purely growth accounting perspective, the one percentage point decline in EU labour productivity emanates from two sources.

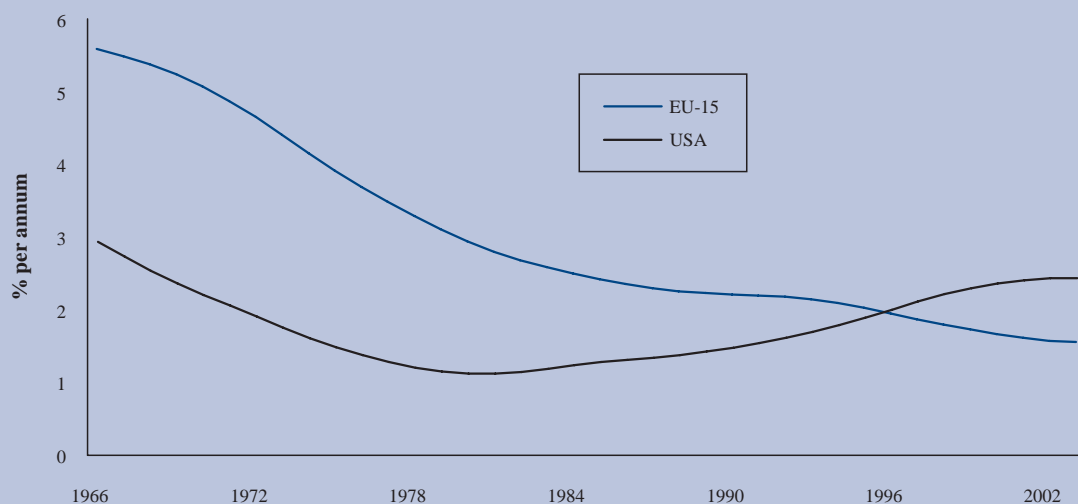
Firstly, 50 % can be attributed to a reduction in the contribution from capital deepening, that is, relatively low rates of investment per worker.

Secondly, the remaining 50 % appears to emanate from a deterioration in total factor productivity, that is, a decline in the overall efficiency of the production process.

2.2. ICT as an explanatory factor at the total economy level

One of the most popular explanations for the diverging productivity fortunes of the EU and the United States has been the relative exposure of both areas to ICT. Last

Graph 2: Labour productivity per hour growth trends



Source: Commission services.

year's review showed that ICT has indeed been an important part of the story, especially in terms of explaining the turnaround in the productivity trend of the United States. The overall contribution to labour productivity growth from ICT investments (i.e. purchases of software, computing and communications equipment) and from technical progress in the production of ICT goods and services (e.g. the semiconductor and telecommunications industries) accounted for about 60 % of US labour productivity growth over the second half of the 1990s, compared with 40 % in the four EU countries for which such a breakdown exists ⁽¹⁾. This translates over the second half of the 1990s into an ICT contribution to labour productivity growth of around one and a half percentage points in the United States and three quarters of a percentage point in the case of EU-4.

In terms of the trend acceleration in US labour productivity growth over the two halves of the 1990s, about half of the one percentage point acceleration can be directly attributed to ICT. In the case of the EU-4 group of countries, the effects of ICT on both capital deepening and TFP over the same period were positive, although significantly less positive than in the United States. Consequently, given that ICT was not responsible for the deteriorating EU productivity trend, the role of non-ICT determinants such as labour market reforms or the EU's outdated industrial structure needs to be assessed. Section 2.3 looks at the role of labour market reforms, with Section 3 asking whether an excessive focus on traditional, low productivity growth, industries could be responsible for the deteriorating EU trend.

2.3. Are low EU productivity growth rates a permanent phenomenon or a temporary blip?

Are low EU productivity growth rates likely to be a permanent phenomenon or a temporary blip linked to labour market reforms? To help answer this question, it is helpful to review the basic growth patterns (employment and productivity) between the EU and the United States in the 1990s.

- The EU's trend productivity growth rate, as shown earlier, continued to decline throughout the 1990s

⁽¹⁾ These are France, Germany, the Netherlands and the United Kingdom. They constitute EU-4 in the subsequent analysis.

and fell below the equivalent, and rapidly increasing, US productivity growth rate around the middle of the decade.

- Regarding employment, the decline in employment rates in the EU came to an end in the early 1990s and started to trend upwards. In the United States a positive trend continued but at a slower pace.
- Closely associated with the movement in labour productivity growth, fairly parallel trend developments for capital-labour substitution were observed, that is, a further decline in Europe and an increase in the United States.

Graph 4 shows the basic movements for the EU for these three variables, with these trends especially striking when contrasted with those of the United States over the same period (Graph 5). This comparison shows in a dramatic way the extent to which the EU economy is failing to exploit the technological opportunities which are presently available in the world economy. The United States in contrast has experienced a marked trend reversal in its labour productivity performance, with the latter strongly linked to its exploitation of the opportunities presented by the ICT industry. The trends in these graphs can be assessed in alternative ways, with different interpretations having different implications for the long-run outlook for productivity and employment, with our main interest here being productivity.

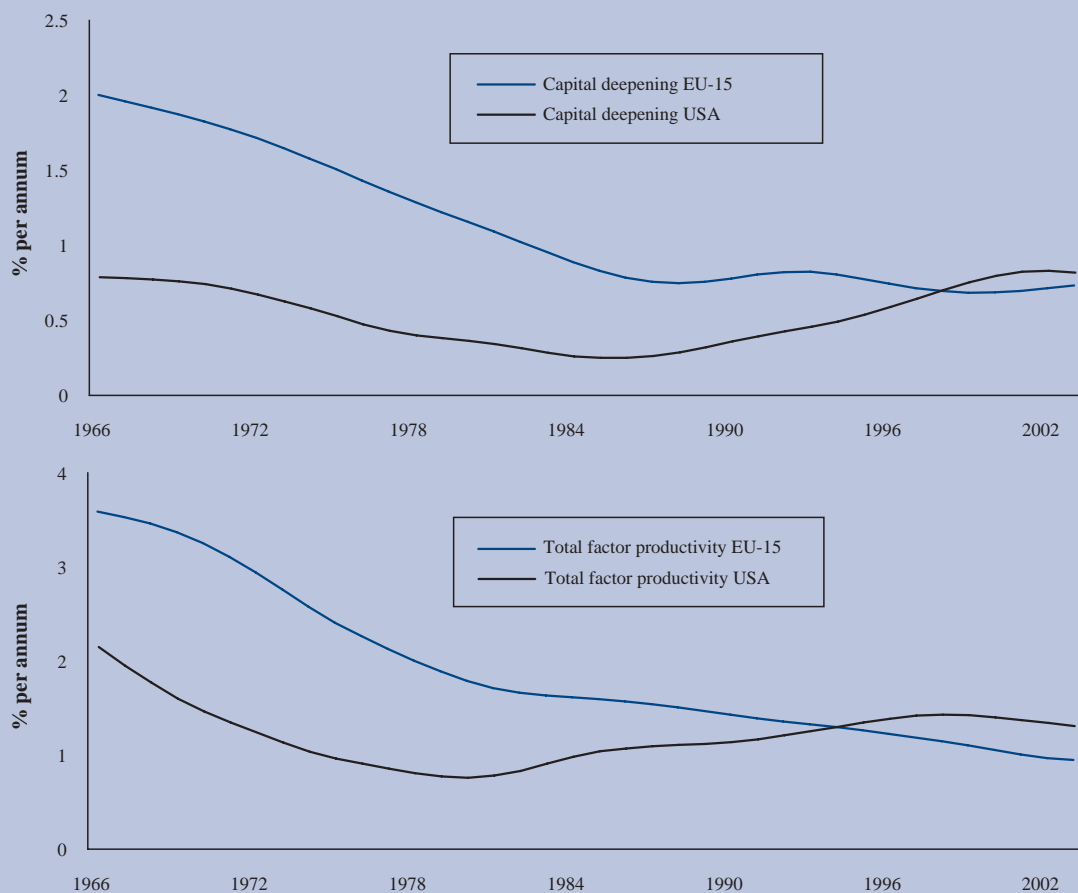
- A popular interpretation explains the recent productivity trends as a response of the economy to a positive labour supply shock. The shock to labour supply/wages could be the result of labour market reforms. It could also reflect an increasing awareness amongst European citizens that pension income will be more uncertain in the future. This negative income effect could have contributed to an increase in labour force participation. Under this interpretation, recent developments could be judged as healthy. Slower wage growth could have led to a temporary decline in capital-labour substitution. Once full employment is reached, wage and productivity growth could accelerate again and the economy could go back to a higher growth rate of labour productivity at a higher level of employment. The decline in productivity growth and in capital-labour substitution (i.e. capital deepening) could thus be regarded as a temporary phenomenon.

- An alternative view regards the labour market story as incomplete. According to this view, the data can be explained correctly only if one assumes a negative shock to productivity, either in the form of a decline in the growth rate of TFP or in the form of a positive shock to capital productivity, with the latter shock induced by higher required rates of return for investors. At the macro level a trend decline in TFP could be due to a further increase in the size of the service sector; a reduction in the quality of labour as more low-skilled workers are brought into the labour force; and/or a trend decline in technological advances in traditional manufacturing industries. Also with globalisation and increased international

capital mobility, the higher returns which can be earned outside Europe may exert pressure on capital productivity. Both developments could explain why capital-labour substitution declined.

Both of the above interpretations would obviously provide a different diagnosis for Europe. According to the first view, recent productivity trends are a temporary phenomenon and a healthy indication that labour markets in Europe have become more flexible. The second view is more pessimistic. It regards the productivity slowdown as a continuation of the previous adverse productivity trends, with the recent increase in employment simply having an additional temporary, negative, effect

Graph 3: Breakdown of trend labour productivity into capital deepening and TFP



Source: Commission services.

on productivity. The productivity picture is further complicated by a third possible explanatory factor, namely aggregate demand, with domestic demand over the most recent period being sluggish, triggering a cyclical impact on measured productivity.

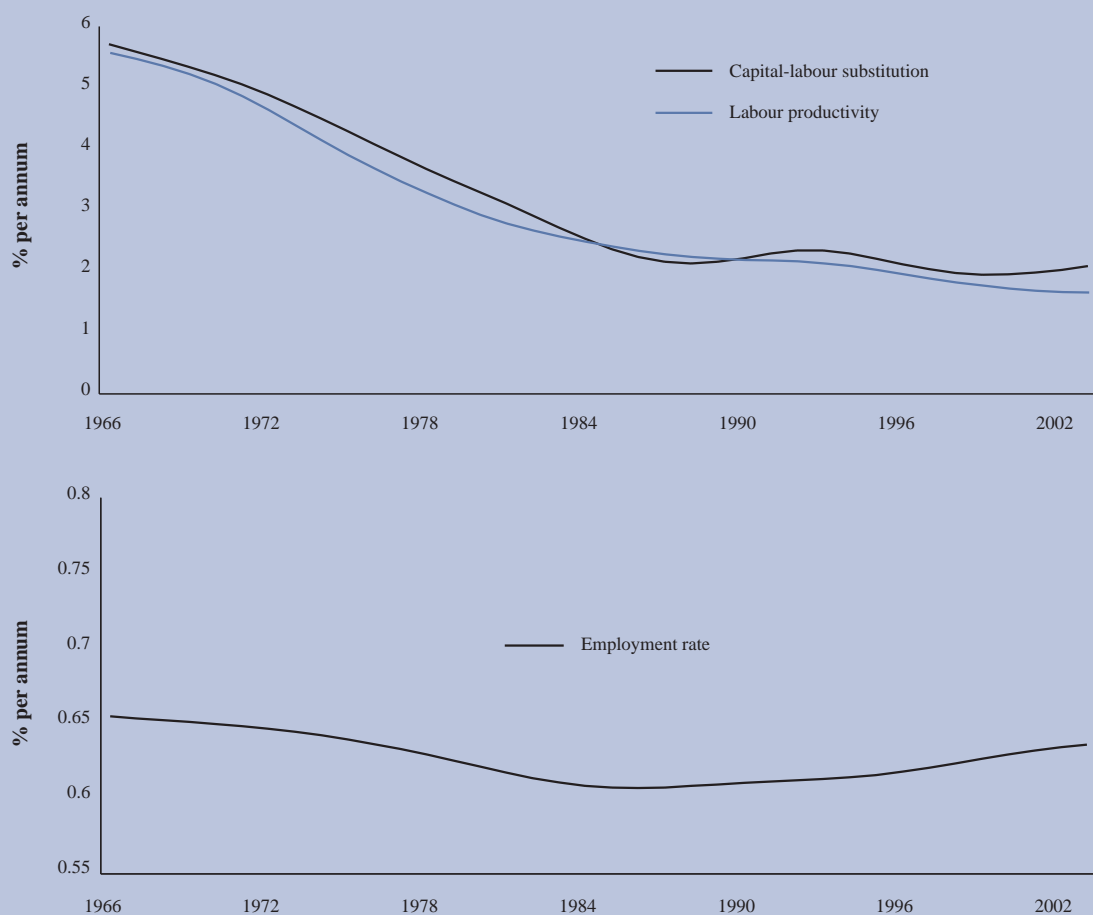
To analyse more rigorously whether the productivity pattern is temporary or more structural, we need to be able to identify the nature of the shocks driving productivity. We use a VAR methodology to analyse the various contributions to the productivity slowdown, coming from the three shock variables: employment, productivity and demand. A VAR analysis is particularly suitable

for this purpose since it allows us to identify the driving forces behind changes in employment and productivity and, in addition, to analyse the temporary versus permanent nature of the effects.

The employment chapter in the present EU review ⁽¹⁾ provides an in-depth examination of the first question in the VAR analysis, namely to what extent the increase in employment can explain the decline in productivity

⁽¹⁾ Chapter 3 contains a technical description of the VAR analysis.

Graph 4: EU labour productivity, capital-labour substitution and employment rate trends



NB: The employment rate is defined relative to the population of working age.
Source: Commission services.

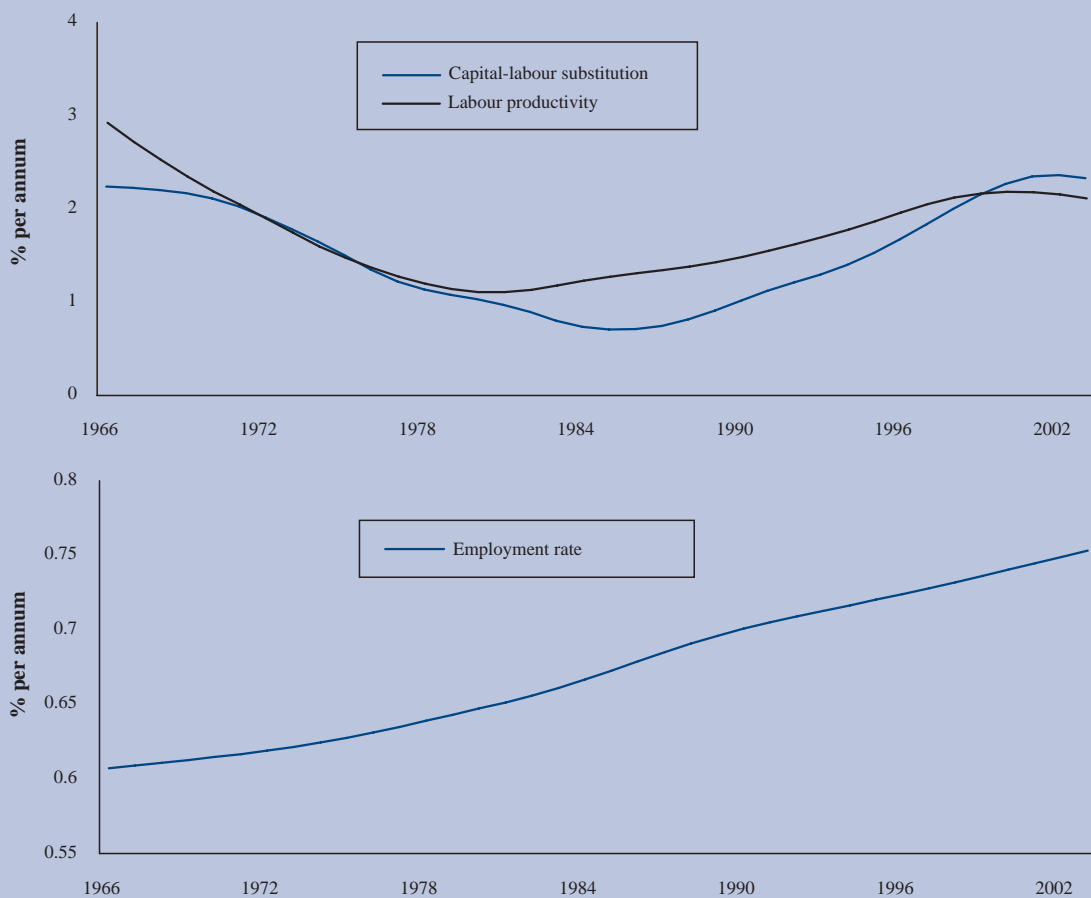
growth. The VAR analysis identifies a sequence of positive employment shocks in the second half of the 1990s which have increased the level of employment by about 5 % in the euro area. The shock driving employment, however, only had a small effect on productivity (Graph 6). According to the estimate, the 5 % increase in employment has reduced the level of productivity by only about 0.75 %. This is about 10 % of the total reduction in productivity growth experienced since the mid-1990s. Hence, employment shocks can only marginally explain the decline in productivity growth ⁽¹⁾.

The second contribution of the VAR model relates to the question of the structural versus temporary nature of the

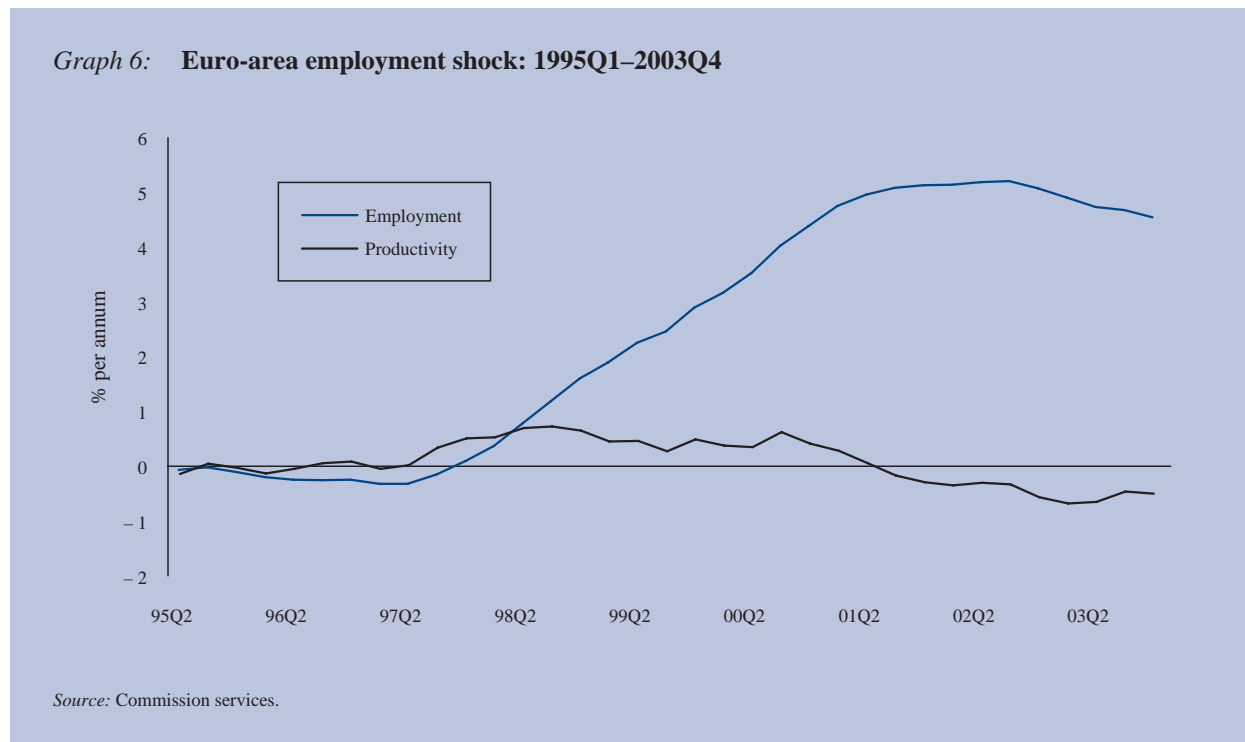
effects. Based on the underlying assumptions on the short-, medium- and long-term impact of the various shocks, the VAR model attributes most of the decline in productivity to a structural trend decline in productivity growth. As can be seen from Graph 7, the autonomous shock to productivity explains a decline in the level of productivity of 5 %, which would translate into an

⁽¹⁾ It should be noted that this VAR estimate of 10 % is at the lower end of the estimates obtained using a range of estimation methods. For example, results from the Commission's Quest model suggest that about 30 % of the reduction in productivity growth could be explained by the employment shock. Also results from growth regressions suggest that about 25 % of the productivity decline is due to the increase in employment.

Graph 5: US labour productivity, capital-labour substitution and employment rate trends



NB: The employment rate is defined relative to the population of working age.
Source: Commission services.



annual average productivity growth rate effect of the order of 0.6 %. This is fully consistent with the growth accounting result given earlier of a decline in TFP of the order of half a percentage point, with TFP considered to be a reflection of the structural component of the productivity trend. Graph 7 also indicates that the autonomous productivity shock is unable to explain the increase in employment. Therefore, an interpretation of both shocks is necessary in order to give a complete picture of the

employment and productivity developments ⁽¹⁾. However, concerning productivity, the overall conclusion from the analysis suggests that the decline in productivity growth is to a large extent structural in nature.

⁽¹⁾ See the employment chapter for a more detailed discussion of the trade-offs between productivity and employment shocks.

Graph 7: Euro-area productivity shock: 1995Q1–2003Q4



Source: Commission services.

3. The structural nature of the EU's productivity problem

The present section extends the analysis from Section 2, in particular its suggestion that the EU has a structural productivity problem, by taking a closer look at sectoral industry-level productivity developments. Two specific issues are examined.

- Firstly, an attempt is made in Section 3.1 to isolate the source of the EU's productivity problems at the sectoral level: are those difficulties confined to the manufacturing, private services or rest of the economy sectors or linked to particularly dynamic specific industries within these broad categories? In addition, by categorising the different industries on the basis of their ICT content into ICT-producing, intensive ICT-using and less-intensive ICT-using industries, the section gives a more detailed insight into the role of ICT in shaping overall EU and US productivity trends. The key question is to what extent Europe's problems reflect an inflexible and outdated industrial structure which has failed to fully exploit the direct and indirect productivity benefits from new, leading edge, technologies such as ICT.
- Secondly, whilst not questioning the overall contribution of ICT to labour productivity trends, Section 3.2 adds to the ongoing debate regarding the relative importance of the different channels (i.e. production, investment and spillover effects) via which ICT impacts on the respective economies. It is contended that a large proportion of the recent literature may be underestimating the direct gains from the production of ICT goods and services in favour of the view that most of the gains emanate from the use of ICT. This debate on the respective contributions of the different ICT transmission channels is important to the policy debate in the final section of this chapter when we discuss a productivity agenda for the EU

and the importance to be attributed to the production and absorption of new technologies.

3.1. A 56-industry breakdown of labour productivity trends

The basis for this industry-level analysis is a 56-industry breakdown of the EU and US economies, which enables us to show the contribution of each of the individual industries to overall labour productivity growth in both areas (i.e. the combined effect of productivity growth in the specific industry and of its share in overall output) ⁽¹⁾. This breakdown is shown in Graph 8 and visualises the productivity dilemma facing the EU by giving a panoramic overview of the contribution of the 56 industries. For ease of exposition the industries are shown as part of the manufacturing, private services and rest of economy (primary industries and public services) sectors.

3.1.1. Overview of all 56 industries (1996–2000)

Graph 8 shows that the EU was doing reasonably well compared with the United States in a wide range of manufacturing and service industries over the second half of the 1990s. However, the problem was that most of these industries were not making big contributions to overall productivity growth, with the graph indicating a contribution of much less than 0.1 % for most of the industries concerned. For example, while Graph 8 shows that the EU's chemical industry contributed more than twice as much to the EU's overall productivity growth rate as did the equivalent US industry, it nevertheless still contributed only 0.07 percentage

⁽¹⁾ For the analysis in this section we use an internationally comparable data set from the Groningen Growth and Development Centre (GGDC). This data set has a 56-industry breakdown for all 15 of the old Member States and for the United States and is essentially an expanded version of the OECD's STAN database.

Graph 8: Contribution of the 56 industries to overall labour productivity growth in the United States and EU-15 (1996–2000)



Sources: Commission services, GGDC.

points to the EU's overall total. This is only one eighth of the contribution of the semiconductor industry to overall US productivity growth. This latter industry in fact contributed nearly a quarter of all US productivity growth over the period 1996–2000. This basic story is replicated right across the 56 industries. In the 37, mainly traditional and medium-tech, industries where the EU equalled or outperformed the United States over the second half of the 1990s, apart from communications ⁽¹⁾, all of the remainder are either low productivity growth industries or do not have a large enough share of EU output to alter the EU's overall productivity performance. In addition, for most of these industries, not only are productivity growth rates low but they declined over the course of the 1990s ⁽²⁾.

3.1.2. Breakdown of 56 industries based on their ICT content

Another way of highlighting the EU's underlying productivity problem is to classify the 56 industries according to their ICT content into ICT-producing, intensive ICT-using and less-intensive ICT-using industries. This has the advantage of firstly isolating the importance of ICT in driving overall productivity growth and secondly this three-way ICT breakdown can also be used as a rough proxy for high-, medium- and low-productivity industries in the EU and United States as a whole. This breakdown is given in Table 1 which indicates that the ICT-producing, manufacturing and intensive ICT-using private services categories are driving the 1996–2000 divergences in EU–US productivity growth rates (see also Graph 9). In fact, these two groups of industries were responsible for virtually all of the acceleration in

US productivity over the second half of the 1990s. It is precisely in these two areas of the economy that the EU fares badly relative to the United States either in terms of the size of the respective industries (i.e. small shares of overall EU output) or by having relatively low productivity growth rates. In addition, as shown in the 2003 review, in terms of explaining EU–US productivity growth differentials over the second half of the 1990s, it turns out that out of the total of 56 industries, just five (semiconductors; communications; wholesale trade; retail trade; and financial services) dominate the overall labour productivity growth patterns and all five are located in the ICT-producing and ICT-using categories. These five specific industries contributed 80 % of the US total productivity growth rate over the 1996–2000 period, compared with a contribution of only 40 % in the case of the EU.

Regarding the less-intensive ICT-using part of the respective economies, the slowdown in the EU's productivity growth rate in both the 'rest of manufacturing', 'rest of services' and 'rest of economy' categories shown in Table 1 is marked over the most recent period. These more traditional industries collectively still account for over 70 % of EU GDP. The United States has also experienced a slowdown in productivity growth in their 'rest of manufacturing' category, whilst showing only marginal changes in the 'rest of services' and the 'rest of economy' categories. In the case of the United States, however, the globalisation-related downturn in its more traditional manufacturing industries and the relatively poor contribution from a range of its low- to medium-tech service industries was offset by strong performances elsewhere in the economy. In particular, the United States has had good performances in the newer, more knowledge-intensive, manufacturing industries such as semiconductors and in a number of its intensive ICT-using service industries. The problem for the EU is that its pattern of declining/expanding industries is very different to that in the United States, with the EU's trend productivity growth rate being pushed downwards by the following.

Firstly, a greater share of its production is concentrated in traditional manufacturing sectors where the EU has in the past been strong in global terms but where competitive conditions are now becoming more difficult due to globalisation.

Secondly, the EU is experiencing a further increase in its share of private services, with below-average growth rates of labour productivity (at least historically), and

⁽¹⁾ Within the ICT-producing sector, communications is an industry where the EU has an undoubted advantage over the United States, is characterised by high productivity growth and has a large share of EU output.

⁽²⁾ An analysis of longer-term trends 1980–2000 in productivity in the EU and United States is also revealing. At the level of the three broad sectors of manufacturing, private services and the rest of economy, the key developments are the following. 1. For manufacturing, the EU is on a long-run downward trend due to its dependence on a range of low- to medium-technology industries which are increasingly exposed to the competitive pressures of globalisation. The United States on the other hand appears to have arrested its 1980s decline and has managed to put itself on a slightly rising trend since the mid-1990s, driven in large part by its global dominance in high-technology industries such as semiconductors and office machinery. 2. More impressive still has been the United States' relative performance in the private services industries. Nearly two thirds of the United States' overall productivity growth rate now emanates from services, compared with as little as one sixth at the beginning of the 1980s. Over the same period the EU's private services industries have been contributing less and less in absolute terms to overall EU labour productivity growth. 3. Finally, the EU is doing better than the United States in the 'rest of economy' sector (i.e. primary industries/public services), but even here the trend is downwards and the contribution of the sector to overall productivity growth is small.

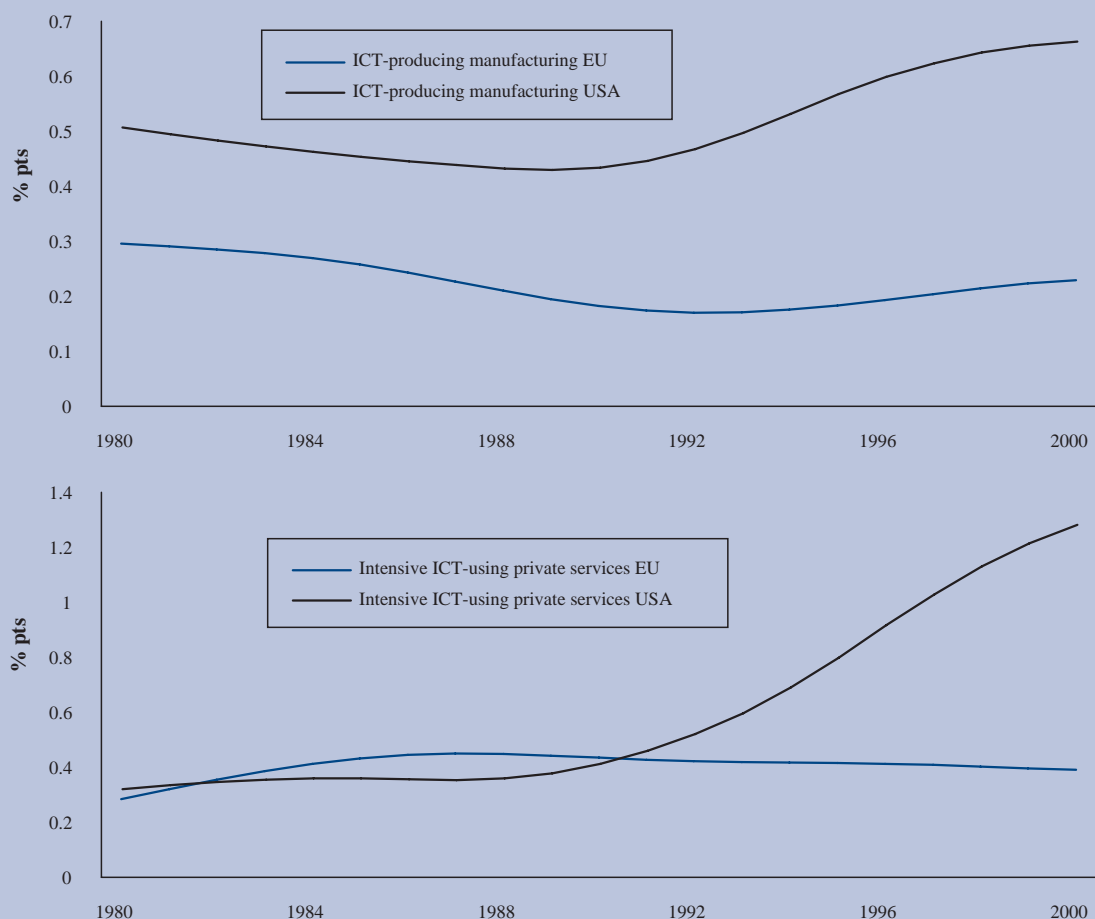
Table 1

Breakdown of total economy into three categories: two ICT categories (ICT-producing plus intensive ICT-using) and one category of less-intensive ICT-using (i.e. more traditional) industries

	Hourly labour productivity (average % change)		Value added share		Contribution to total change in hourly labour productivity	
	1991–95	1996–2000	1991–95	1996–2000	1991–95	1996–2000
Total economy (1 + 2 + 3)						
EU	2.3	1.6	1	1	2.3	1.6
USA	1.1	2.3	1	1	1.1	2.3
1. Manufacturing sector						
EU	3.7	2.6	0.23	0.21	0.9	0.5
USA	3.6	4.6	0.19	0.18	0.7	0.8
1(a) ICT-producing manufacturing industries						
EU	9.6	17.1	0.02	0.01	0.2	0.2
USA	16.4	26.0	0.03	0.03	0.4	0.7
1(b) Intensive ICT-using manufacturing industries						
EU	2.6	2.0	0.07	0.06	0.2	0.1
USA	-0.6	1.4	0.06	0.05	0.0	0.1
1(c) Rest of manufacturing (less-intensive ICT-using)						
EU	3.6	1.6	0.14	0.13	0.5	0.2
USA	2.6	0.6	0.10	0.11	0.3	0.1
2. Private services sector						
EU	1.9	1.4	0.52	0.54	1.0	0.7
USA	1.0	2.7	0.53	0.54	0.5	1.5
2(a) ICT-producing service industries						
EU	4.8	6.8	0.03	0.03	0.2	0.2
USA	2.4	0.8	0.03	0.04	0.1	0.0
2(b) Intensive ICT-using service industries						
EU	1.8	2.1	0.20	0.21	0.4	0.4
USA	1.6	5.3	0.23	0.25	0.4	1.3
2(c) Rest of services (less-intensive ICT-using)						
EU	1.7	0.2	0.29	0.30	0.5	0.1
USA	0.2	0.3	0.27	0.26	0.1	0.1
3. Rest of economy (primary industries + public services, less-intensive ICT-using)						
EU	2.0	1.1	0.25	0.25	0.5	0.3
USA	-0.3	-0.1	0.28	0.27	-0.1	0.0

Sources: Commission services, GGDC.

Graph 9: Contribution to the total change in trend labour productivity per hour from the ICT-producing manufacturing and intensive ICT-using private services



Sources: Commission services, GGDC.

with an additional downward shift in productivity in these industries over the 1990s due to the labour market reforms discussed earlier. It is in these traditional service industries, such as hotels and restaurants, transport, etc., where the productivity-reducing effects of these reforms have been felt most.

Thirdly, unlike in the case of the United States, the productivity contributions from the EU's ICT manufacturing and intensive ICT-using service industries cannot make up for the losses in its more traditional manufacturing and private services sectors.

3.2. Where are the ICT productivity gains coming from?

The analysis in Section 3.1 showed that it was the superior performance of the United States in ICT-producing manufacturing and in ICT-using service industries, such as wholesale and retail trade, which was the source of the diverging EU-US productivity trends since the mid-1990s. While this is the generally accepted view of developments, a number of commentators have been surprised by the fact that the large productivity-enhancing effects of ICT have tended to appear in the hard-to-

measure service industries and not in other well-measured areas of the economy such as manufacturing. While the present analysis is not an attempt to rewrite the conclusions from Section 3.1, it nevertheless tries to rebalance the messages coming out from this work in order to impress on policy-makers that the EU's productivity problems emanate both from the ICT production side as well as from the ICT adoption/using side. Whilst accepting that these measurement issues in the service sector are unlikely to be resolved in the near future, what must be avoided at all costs is that erroneous policy conclusions are drawn given the uncertainties involved.

Productivity developments and the difficulties in disentangling the respective contributions from ICT production and diffusion (capital deepening and spillovers)

A primary source of the acceleration in US productivity growth in the 1990s has been the increasing share of ICT production in the overall output of the US economy allied to the extraordinary TFP gains in this specific industry. A second channel through which ICT has impacted on productivity has been through capital deepening, with the falling prices for ICT equipment leading to sharp increases in ICT investment rates (i.e. diffusion in the narrow sense of the term). While the economy-wide productivity gains from these two ICT transmission channels are both impressive, what has been missing up until now has been evidence that these large ICT investments have been generating productivity gains in those industries actually using this equipment (i.e. diffusion in the wider sense of the term). Given the 'general purpose technology' characteristics of ICT, one would expect to be witnessing these productivity 'spillover' effects from using the technology, with these TFP gains representing a third channel via which ICT can impact on aggregate productivity.

From the analysis in Section 3.1, it would appear that the experience of a small number of intensive ICT-using industries in the United States has provided some evidence that these elusive 'spillover' effects are finally emerging. However, as this section will show, the debate is far from settled with a large degree of controversy still surrounding the size of the productivity contribution coming from these specific ICT-using industries, with Gordon (2003) remaining sceptical whilst Stiroh (2002) and O'Mahony and van Ark (2003) are more optimistic. Attempts to disentangle ICT production, ICT investment and ICT spillover effects on labour productivity growth,

using different methodologies, different levels of aggregation and different data sets arrive at rather heterogeneous conclusions. This makes it difficult not only to locate the precise source of the current productivity divergence between the United States and Europe but it also complicates projections on future productivity growth and policy recommendations. This section reviews the alternative approaches and tries to trace the source of the productivity gains in specific ICT-using service industries, such as wholesale and retail trade, at a higher level of disaggregation. However, it also points to a more fundamental problem, namely how to measure productivity in those service industries which are heavy users of ICT.

Results from the international/regional comparison approach

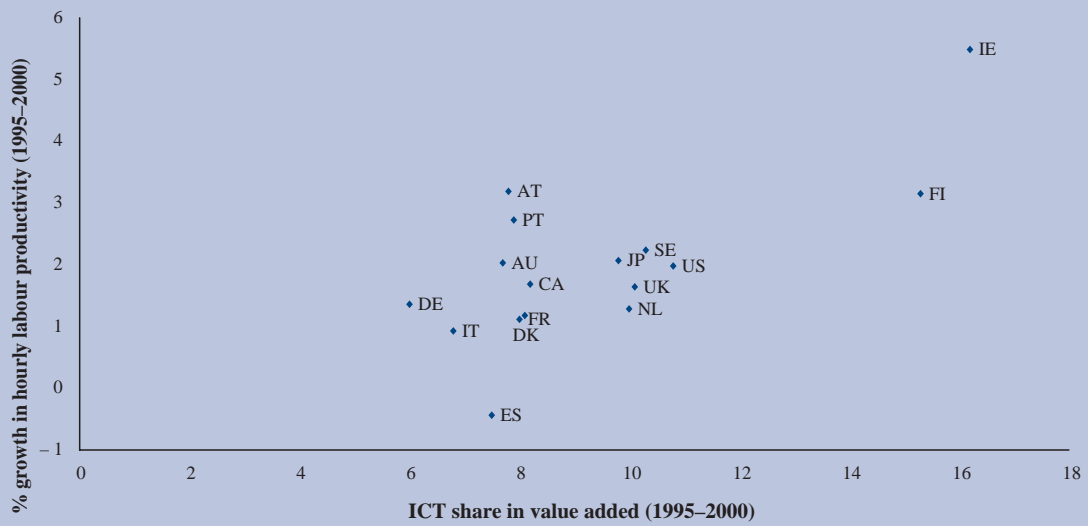
If one looks at international/regional cross-section data, then ICT production rather than ICT use appears to be the dominant source of productivity growth. As can be seen from Graphs 10 and 11, there is a correlation between productivity growth and ICT production in the 1990s but there is little correlation between productivity growth and ICT investment. Consistent with the international data, Daveri and Mascotto (2002) present evidence across US states which suggest that the productivity acceleration mostly occurred in those states specialised in the production of IT goods and services. Based on cross-state econometric regressions over the period 1987–2000 they conclude that '... when states where IT production and non-IT durable manufacturing which are mostly localised are excluded, the remaining states do not exhibit any significant acceleration in productivity. In particular, the association between productivity gains and IT use is weak'.

Results from the growth accounting approach

Growth accounting exercises on the other hand attribute a sizeable fraction (i.e. about half) of the productivity acceleration to the use of ICT. Recent exercises ⁽¹⁾ for the United States estimate that ICT investment has contributed about 0.5 percentage points to US productivity growth, with ICT production contributing another 0.5 percentage points. Other studies, such as Inklaar et al. (2003), suggest a 0.24 percentage point contribution from ICT production and a 0.19 percentage point contribution from ICT investment for an EU-4 aggregate (see Table 2) ⁽²⁾, with higher contributions for the United

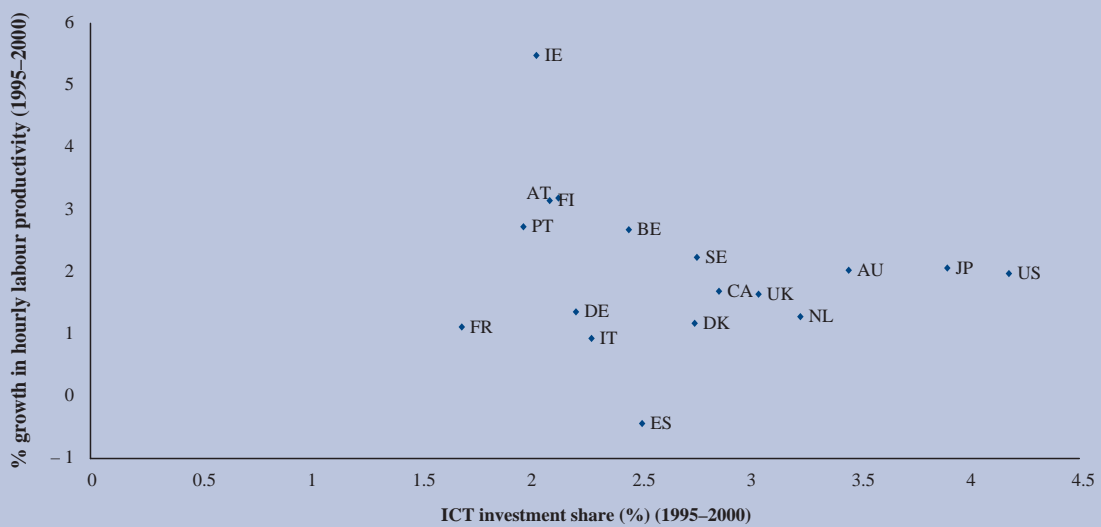
⁽¹⁾ Gordon (2003) quoting an unpublished update to Oliner and Sichel (2002).

Graph 10: Hourly labour productivity growth and ICT production share (1995–2000)



Source: Commission services.

Graph 11: Hourly labour productivity growth and ICT investment share (1995–2000)



Source: Commission services.

States (0.40 percentage points for ICT investment and 0.36 percentage points for ICT production).

As the Inklaar results in Table 2 show, the absolute difference between the United States and the EU in terms of ICT capital deepening is largely due to one specific industry, namely financial services (FS). If one excludes the FS industry, it is striking that the contribution of ICT capital deepening to the change in labour productivity growth (i.e. ICT diffusion in a narrow sense) has been remarkably similar on both sides of the Atlantic. These figures suggest that the EU is catching up with the

United States in terms of the usage/diffusion of ICT in the narrow sense of the term (i.e. in terms of the actual purchases of ICT investment goods and services by the different industries).

However, what Table 2 also shows is that there are big differences between the EU and the United States in terms of the spillover effects from these investments. For example, while the EU and the US wholesale trade (WT) and retail trade (RT) industries have both made similar gains in terms of ICT capital deepening, the United States appears to have reaped substantially more from the use of this capital in the form of much higher TFP gains (i.e. ICT diffusion in the broader sense). It must be emphasised however that these TFP gains occur in a very

(?) The countries are France, Germany, the Netherlands and the United Kingdom.

Table 2

Growth accounting estimates

	Productivity growth differentials (%) (1979–95 versus 1995–2000)	
	USA	EU-4
Labour productivity (1 + 2 + 3 + 4 + 5)	1.25	– 0.27
Contributions to labour productivity growth differential		
1. Labour quality	– 0.07	– 0.09
2. Sectoral employment reallocation effect	0.05	– 0.06
3. ICT capital deepening: total economy	0.40	0.19
3a. ICT-producing industries	0.04	0.03
3b. ICT-using industries	0.29	0.14
• ICT-using manufacturing	0.01	0.01
• Wholesale trade	0.05	0.05
• Retail trade	0.01	0.01
• Financial services	0.17	0.02
• Business services	0.05	0.05
3c. Less-intensive ICT-using industries	0.07	0.03
4. Non-ICT capital deepening: total economy	0.08	– 0.45
5. TFP: total economy	0.79	0.13
5a. ICT-producing industries	0.36	0.24
5b. ICT-using industries	0.83	0.02
• ICT-using manufacturing	0.06	0.00
• Wholesale trade	0.31	– 0.02
• Retail trade	0.28	– 0.03
• Financial services	0.27	0.06
• Business services	– 0.10	0.01
5c. Less-intensive ICT-using industries	– 0.40	– 0.13

NB: In terms of non-ICT capital deepening in WT and RT, only small differences exist between the United States and EU-4 (Germany, France, the Netherlands and the United Kingdom).

Source: Inklaar et al. (2003).

narrow segment of the service sector where productivity is difficult to measure. In other better measured areas such as ICT-using manufacturing, Table 2 shows that the relative TFP gains in the United States are significantly smaller.

One can argue that the above analysis provides evidence of positive spillover effects in the United States, in other words, ICT investment is enabling organisational changes in ICT-using industries. The fact that the TFP accelerations in ICT-using industries are not observed in the EU could be due either to adjustment costs (the EU is in an earlier stage of the transition) or it could be the result of institutional/regulatory constraints in specific industries (e.g. land-use regulations/opening hours in WT and RT; less entry of new establishments/insufficient competition, etc.) which prevents firms from reaping the full benefits of the new technology in EU countries.

There are also two counter-arguments to the US spillover thesis that should be taken into account.

- Gordon (2003) argues that the revival in RT and WT productivity is due to organisational changes unrelated to the use of ICT⁽¹⁾. Microeconomic evidence provided by Foster et al. (2002) shows that productivity growth is strongly linked with new establishments, whilst existing establishments do not experience a productivity gain. This is despite the massive investment in ICT which presumably went into both old and new establishments (e.g. bar code readers have become universal in all retail stores). Gordon consequently speculates that productivity gains in the newly built 'big box' stores may reflect far more than just the use of computers, such as, for example, size effects, better unloading systems, improved storage facilities, and so on.
- A second line of argumentation stresses statistical problems with measuring productivity in WT and RT. Volume measures for WT and RT are calculated using the deflators of the products sold by the WT and RT industries⁽²⁾. This practice could imply that countries where the share of ICT goods

sold to firms and private households is large and where quality improvements are fully taken into account in the price measures may have a larger increase in WT and RT productivity simply because prices in the basket of goods sold are falling more strongly⁽³⁾. If there has been a genuine productivity acceleration, because of the higher use of ICT in WT and RT, one would expect the productivity gains to be evenly distributed across different WT and RT subsectors. If the productivity acceleration can be traced to specific subsectors within the RT and WT industries with a relatively large exposure to ICT, there is a higher likelihood that the acceleration could be predominantly due to measurement issues related to ICT.

- For WT, one observes (Table 3) that the productivity increases are concentrated in the durables sector, and within durables in subsectors with a high ICT concentration such as commercial equipment and electrical and electronic goods. This desegregation suggests therefore that the productivity acceleration is closely linked to the evolution of IT prices, with this evidence underlining the need for an extremely careful interpretation of growth accounting studies using data on WT services.
- In RT (Table 4), two subsectors, electronics and appliance stores and non-store retailers (with a large share of ICT equipment dealers) show high productivity growth rates. However, compared with WT, the productivity acceleration in RT is more widespread across the subsectors. It is difficult nevertheless to assess the extent to which the productivity acceleration in RT can be traced to the use of ICT. A recent paper by Sieling et al. (2001) traces the productivity improvements in various retail sectors to two developments, increased concentration in the industry and ICT investment. In 1987, the 50 largest retail firms accounted for 20 % of all sales but by 1997 that proportion had grown to 26 %. In the case of department stores, labour productivity growth

⁽¹⁾ In the case of financial intermediation, it has been argued by Stiroh (2002), for example, that one should be careful in assuming spillover effects since the productivity effects in financial services have probably been strongly influenced by the stock market bubble.

⁽²⁾ See Ahmad et al. (2004) and Triplett and Bosworth (2000).

⁽³⁾ For example, this means that since the volume of computer sales has increased due to improvements in speed and capacity, a store which sells the same number of computers at the end and at the beginning of the 1990s would record a higher productivity growth rate without any change in the organisation (number of employees and hours worked) of the store. As noted by Triplett and Bosworth (2000), a volume measure for the goods sold by a certain retail sector which combines the increase in quality with the growth in the number of goods, as is the case with hedonically deflated goods, bears little relationship to the actual activities of the store, even though it is the appropriate output measure for that specific good.

Table 3

Productivity in the US wholesale trade (WT) industry

	1988–95			1995–2000			Difference in contribution (1995–2000 versus 1988–95)
	Productivity growth rate (%)	Share of total output in WT	Contrib. to prod. growth rate	Productivity growth rate (%)	Share of total output in WT	Contrib. to prod. growth rate	
Total wholesale	3.04	1.00	3.04	4.03	1.00	4.03	0.99
Durables	4.84	0.46	2.24	5.94	0.48	2.86	0.62
Non-durables	0.32	0.42	0.13	0.75	0.38	0.29	0.15
Electronic markets	4.70	0.12	0.57	6.17	0.14	0.84	0.27
Durables decomposition							
Motor vehicles	2.21	0.11	0.23	3.92	0.11	0.44	0.21
Furniture	3.33	0.02	0.05	1.72	0.02	0.03	– 0.03
Construction	– 2.11	0.02	– 0.05	– 0.36	0.02	– 0.01	0.04
Commercial equipment	13.08	0.07	0.97	13.78	0.08	1.13	0.15
Metals	– 0.31	0.05	– 0.02	– 0.41	0.04	– 0.02	0.00
Electrical and electronic	8.81	0.06	0.50	12.98	0.07	0.93	0.43
Hardware	2.70	0.02	0.04	2.50	0.02	0.04	0.00
Machinery	2.75	0.08	0.22	2.97	0.08	0.24	0.02
Miscellaneous	2.43	0.04	0.09	3.24	0.04	0.13	0.04

NB: The productivity measure is real output divided by total hours.

Source: BLS.

partly reflects shifts away from conventional stores to discount or mass merchandising department stores. In 1987 the latter had a market share of 43 % which increased significantly to 63 % in 1997. With such a shift, productivity gains arise naturally because the latter are to a large extent self-service stores ⁽¹⁾.

Overall assessment of ICT's contribution to productivity growth

Regarding the international/US regional comparison approach, the results on ICT production/diffusion effects

suggest that ICT production rather than ICT use is the dominant source of productivity growth and that the evidence of extraordinary spillover effects associated with ICT investment is still somewhat questionable. Given the EU's relatively small ICT-producing sector, especially on the manufacturing side, this raises important questions as to why the EU has failed to allocate sufficient resources to ICT production.

Regarding the results from growth accounting studies and in particular the gains from ICT diffusion, a closer look at the productivity growth acceleration in the WT and RT industries in the United States, which is commonly used as evidence in favour of positive TFP effects, also casts doubt on the robustness of the ICT investment/productivity link. One should bear in mind that the recent growth accounting studies do not attribute the productivity growth acceleration in the United States relative to the EU to different speeds of ICT investment (i.e. ICT diffusion in a narrow sense) but to an increase in TFP in these industries (ICT diffusion in a broad sense). In WT, the measurement effect could explain a

(1) The composition effect is especially visible with food stores. Grocery stores are by far the largest group within the food stores area. Here, superstores and hypermarkets are replacing conventional grocery stores. In 1988, conventional grocery stores accounted for 43 % of all consumer expenditures for food at home. By 1998, that proportion had fallen to 13 %. The productivity improvements with car dealers can probably be traced to the increased use of computer diagnostic equipment. Productivity growth amongst the non-store retailers (catalogue and mail order houses) was increased by online sales. Based on annual retail trade data by the Census Bureau, e-commerce sales accounted for 0.5 % of total retail sales in 1999, with 77 % of these sales occurring in the non-store retailer industry group.

substantial part of the TFP acceleration in this industry ⁽¹⁾.

In RT, while the effects are more dispersed, there are other factors beyond ICT which could account for the TFP acceleration in the United States, such as larger store size, the increased share of self-service markets and the greater entry of new establishments. It is difficult, however, to establish a clear causal ordering amongst these latter factors.

⁽¹⁾ It is important to keep in mind that the mis-measurement of productivity in the US WT and RT industries is not translated onto the aggregate level. The combined productivity improvement in ICT production plus ICT diffusion is measured correctly, it is only the distribution of the productivity gains across production and diffusion which is questionable. In this context, the present analysis suggests that the contribution from the ICT production side to the acceleration in US labour productivity growth has been underestimated in a lot of the most recent growth accounting studies. In other words, while the size of the EU-US productivity growth gap is still the same, less of this gap is due to the United States' performance in ICT-using industries such as WT and RT and more of it is located in semiconductors and other ICT-producing industries.

Finally, the above discussion on ICT diffusion effects must not be seen as contradicting the correct belief that ICT spillover effects are making a positive contribution to labour productivity growth, or that these gains may be larger in the United States than in the EU because of institutional/regulatory constraints in a number of the EU's Member States. It simply suggests that the US benefits are presently not as high as some commentators estimate when one correctly accounts for non-ICT drivers of productivity change and measurement issues. ICT diffusion in the narrow sense of ICT capital deepening is clearly contributing strongly to productivity growth, whereas the evidence for ICT diffusion in the broader sense of large TFP gains in specific ICT-using industries is still open to some debate. While it is undeniable that given the pervasiveness of ICT in developed economies there are TFP gains related to the use of this general purpose technology. The present section has simply questioned the spectacular nature of those gains in a small number of US service industries.

Table 4

Productivity in the US retail trade (RT) industry

	1988-95			1995-2000			Difference in contribution (1995-2000 versus 1988-95)
	Productivity growth rate (%)	Share of total output in RT	Contrib. to prod. growth rate	Productivity growth rate (%)	Share of total output in RT	Contrib. to prod. growth rate	
Total retail	1.91	1.00	1.91	3.79	1.00	3.79	1.88
Motor vehicles	1.15	0.25	0.28	1.74	0.26	0.46	0.18
Furniture	3.06	0.03	0.10	3.84	0.03	0.11	0.01
Electronics and appliances	10.81	0.02	0.25	15.46	0.03	0.44	0.19
Building materials	1.98	0.09	0.18	3.45	0.09	0.30	0.12
Food and beverages	-0.86	0.20	-0.17	1.56	0.17	0.26	0.44
Health/personal care	0.74	0.04	0.03	3.61	0.05	0.16	0.13
Petrol	2.16	0.08	0.17	2.76	0.08	0.22	0.05
Clothing	4.21	0.06	0.27	4.62	0.06	0.26	0.00
Sports/hobbies	2.80	0.02	0.07	5.66	0.03	0.15	0.08
General merchandise	3.18	0.12	0.39	4.96	0.13	0.65	0.26
Misc. retailers	3.62	0.03	0.10	3.26	0.03	0.11	0.01
Non-store retailers	6.52	0.04	0.27	10.26	0.05	0.51	0.24

NB: The productivity measure is real output divided by total hours.

Source: BLS.

4. Enhancing the EU's productivity performance

The analysis in Section 3 on the contribution to overall productivity growth from ICT production/ICT use has indicated a more general theme, namely the importance to the EU's future productivity performance of an ongoing process of structural change aimed at boosting the production and absorption of new, more knowledge-intensive, technologies. The relative success of this whole process hinges ultimately on the extent to which the Lisbon strategy's objective of creating a more knowledge-driven economic model is realised over the coming years and decades and in particular on the ability of governments to create an environment in which the EU's innovation infrastructure can generate the new skills, ideas and products needed to compete successfully in the global marketplace.

4.1. The knowledge economy must be a central element

With the striking impact of ICT, there has been considerable interest in analysing the effects of investments in knowledge and human capital formation. The empirical growth literature emphasises knowledge and the creation of knowledge via the investment activities of firms, households and the government in both R & D and education as significant drivers for enhancing the level of technology (total factor productivity). Last year's EU economy review indicated the relative potency of knowledge investments (R & D and education) in determining long-run productivity growth rates, with a simulation indicating that a combination of regulatory reform and a substantial increase in EU knowledge production could boost EU potential growth rates by between a half and three quarters of a percentage point annually over a 5–10-year horizon. Investment in education, training and lifelong learning is thus essential to the Union's international competitiveness in knowledge-intensive, innovation sectors, and to sustainable growth and employment. Regarding the United

States, the knowledge-based economy would appear to be more fully entrenched, with Graph 12 suggesting that investments in R & D and education can explain nearly 75 % of the US productivity growth rate over the period 1950–2003 and with the more recent decades accelerating its dependence on more knowledge-intensive forms of investment, such as ICT. According to Jones (2002), the United States' average labour productivity growth rate of 2–2¼ % over this period could only have been generated via a permanent shift of resources into knowledge-production activities and that without such investments US labour productivity growth would have averaged only a third of a percentage point over this period. In other words, over the longer run, these knowledge investments are the key drivers of productivity growth in advanced economies and our future standards of living depend crucially on them.

ICT is a striking example of the importance of knowledge investments

As shown in Section 3, specific knowledge-intensive sectors such as ICT are now crucial to the overall productivity performances of individual countries. ICT in fact is a very good example of the growth in importance of more knowledge-intensive forms of investment, with its share of total investment growing steadily over the last 15–20 years, having now reached a third of overall non-residential gross fixed capital formation in the United States. Within the ICT sector, specific industries such as semiconductors now have overall knowledge investment budgets which are equal in size to their spending on physical investments such as plant and machinery and buildings. Furthermore, ICT investment itself has not only a larger than average 'knowledge' content, in the form of the software and R & D spending needed to generate it, but also an additional knowledge element in that it is also complementary to skilled labour.

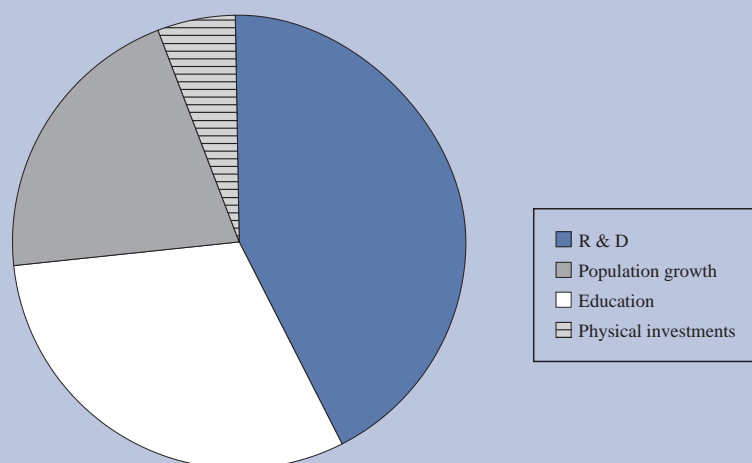
Given ICT's status as a high productivity growth industry and at the same time its potential as a 'general purpose technology', inciting productivity growth in ICT-using industries, it should be a concern to policy-makers that the United States has established, and is retaining, a large global advantage in this pivotal industry. How have the Americans achieved such a dominant position and why have other industrialised countries failed so far to catch up to the technology frontier? With the United States continuing to reap enormous gains from its dominance of the global ICT industry, Europe should be looking at those factors which have allowed this industry to flourish in the United States. Box 1 explores the mix between knowledge investment, government support and market structure that lay behind the United States' success in the ICT area and some of the historical reasons why Europe stayed behind.

4.2. The United States has a superior innovation model

An important question arising from the analysis in Box 1 is the extent to which the example of ICT will be replicated in future high-tech industries. If this is a credible

risk, then the key issue is whether the EU has specific problems in relation to its innovation infrastructure (i.e. in terms of the resources devoted to innovation, the linkages between the various actors in the system, etc.) and whether the United States has specific features/framework conditions which make it more likely to be the location of any future breakthroughs in technology. This is a pertinent question if one accepts the contention of Gordon (2004), amongst others, that the United States' lead in ICT is not an isolated case. The United States holds a comparative or absolute advantage not only in computer hardware, but more broadly in software and in other general purpose technologies, like its initial leadership in the electricity industry and in its exploitation of the internal combustion engine (Gordon, 2004). While some comfort can be taken from the EU's ability in the past to catch up with the United States in the latter technologies, this did not occur without a large restructuring and refocusing of EU industry. In addition, the wider issue is why it is that the United States seems to be systematically better in creating and exploiting new (general purpose) technologies. This requires broadening the discussion beyond ICT to consider why the United States seems to have a better innovation capacity than the EU.

Graph 12: Determinants of US labour productivity growth (1950–2003)



NB: The contributions to productivity growth in the Jones (2002) analysis are calculated by multiplying historical changes (from 1950 to 2003) of R & D, education and capital shares with their respective output elasticities. The relatively small contribution of physical capital to growth is due to the fact that unlike the shares of R & D and educational attainment, the share of physical capital has not changed much over the last 50 years. This is typical of a country (such as the United States) at the technology frontier, with steady-state physical investment levels. For countries, however, in the 'catching-up' phase of their economic development, the productivity contribution attributed to physical investments would be substantially larger. The contribution of population to productivity growth in the Jones analysis comes from an increasing return to scale effects in production. The basic point of the graph is that, since EU-15 is now close to the technology frontier, any additional productivity gains over the coming decades are more likely to be generated from a boost to knowledge investments rather than from changes to our present physical investment-to-GDP ratio.

Sources: Commission services, Jones (2002)

National innovation systems and national innovation capacity

While traditional growth theories explain differences in growth by the expansion in inputs, such as capital and labour, and by the catching-up of countries with lower productivity, modern theories emphasise research inputs and human capital as the key drivers for long-run growth. They stress not only the importance of 'own' innovation but also the capacity to imitate and to absorb externally available know-how. Institutional factors and framework conditions are seen as an important part of the 'innovative system' in which innovative firms operate.

Using the macroeconomic insights from neoclassical and endogenous growth theory, as well as the ideas from the literature on 'national innovation systems', applied economic theorists have synthesised what determines an economy's 'national innovation capacity', defined as the ability of a nation to not only produce new ideas but also to commercialise a flow of innovative technologies over the longer term ⁽¹⁾. From this perspective, a range of factors are deemed to be important for an effective innovation effort.

- *Overall innovation infrastructure.* A sufficiently developed 'supply' side of R & D (as reflected in the amount of R & D carried out or the number of skilled researchers) is a necessary but insufficient condition for successful innovation.
- *Essential framework conditions/flanking policies.* Broader framework conditions are important as well, including a sufficient 'demand' for innovation to reward successful innovators. This requires sophisticated lead users willing to pay for innovations, effective intellectual property right (IPR) schemes, a favourable macroeconomic environment and effective competition in output markets.
- *Interconnectedness of the overall innovation system.* Perhaps the most critical element in the framework is the interconnectedness of the agents in the system, linking the common innovation infrastructure to specific technology clusters. Through networking amongst firms, researchers and governments, the supply of new ideas diffuses throughout the econ-

omy. This requires good industry–science links and well-functioning capital and labour markets, such that the human and financial capital inputs get allocated to their most efficient applications.

4.2.1. Overview of innovation infrastructures in the EU and the United States

The basic differences in the overall innovation infrastructures of the EU and the United States can be summarised as follows.

- *Human resources.* The United States invests a far larger share of GDP in higher education than the EU (2.7 % compared with 1.1 %, with a large proportion of the difference accounted for by the private sector). The United States employs nearly 300 000 more researchers compared with the EU, with the vast majority of the overall total (over 80 %) employed in the business sector, compared with less than 50 % in the EU.
- *Basic R & D expenditure differences at the economy-wide level.* A persistent and growing differential exists in the amount of resources devoted to R & D in the EU and the United States both in terms of the overall research intensity of the respective economies (1.9 % versus 2.8 % of GDP) and in absolute amounts. To put the respective research efforts into context, the absolute gap in the volume of research is roughly USD 110 billion. If one widens the definition of the knowledge economy to also include expenditure on the higher education sector, the United States is investing well over USD 200 billion more annually on its knowledge economy compared with the EU.
- *Basic R & D expenditure differences at the sectoral level.* Compared with the EU, a much larger share of US R & D is carried out by the business as opposed to the government sector. Within the business sector the United States spends substantially more on services compared with the EU, especially in the 'computer and related activities' area. Of the total US R & D effort, roughly a third is devoted to services and two thirds to manufacturing. Regarding the EU, its research efforts continue to be overwhelmingly focused on the manufacturing sector which presently accounts for around 85 % of its overall business sector R & D spending.

⁽¹⁾ See, for example, Furman et al. (2002).

- *Basic R & D expenditure differences at the industry level (technology-specific R & D).* Since no reliable comparative figures exist for a breakdown of service sector R & D activities, the industry-level comparison is restricted to the manufacturing sector. Of the 27 industries which make up the manufacturing sector in the present study (see Graph 8), only eight can be regarded as having an above-average R & D intensity and therefore classified as high-technology industries. The details regarding these eight industries and their aggregation into the two categories of ICT and non-ICT are given in Tables 5 and 6 below, with some supplementary information given in Graph 13.

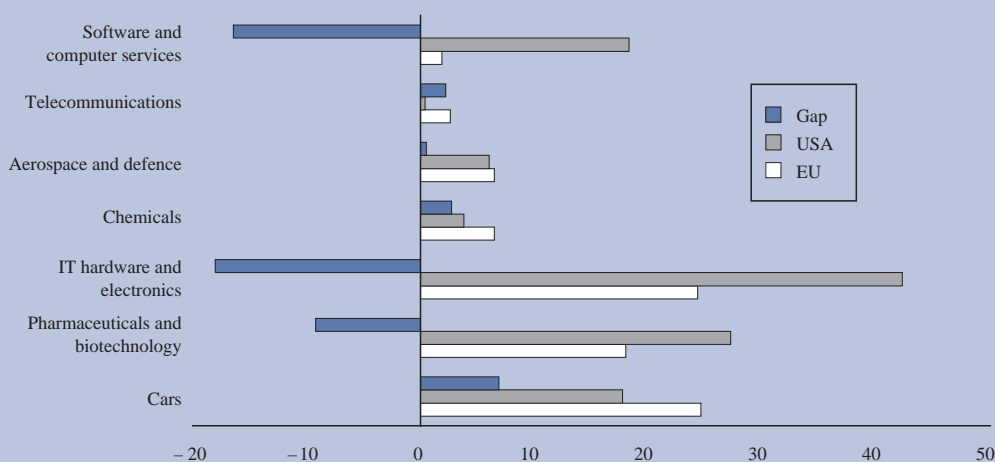
The key points from Tables 5, 6 and Graph 13 are as follows.

Firstly, in terms of overall manufacturing R & D, it is striking how concentrated the EU's efforts are, with two thirds of its overall R & D spending focused on the high-technology sector as a whole compared with 50 % in the United States. In terms of absolute expenditures, however, the United States still retains a sizeable advantage over the EU in terms of overall R & D spending on high-technology industries (i.e. of the order of USD 45 billion annually).

Secondly, while there is no doubt that the EU is focused on high-technology industries (i.e. those industries with above-average R & D intensities), there is a serious doubt that they are focused on the best industries from a high-productivity growth rate perspective. The ideal combination would appear to be industries, such as ICT, which combine both high-technology and high-productivity growth rate characteristics. While one cannot exclude the possibility that there have been other similar 'dual' technologies in the past, it is fairly safe to conclude, in terms of the size of the overall growth rate effect, that the ICT manufacturing industry is remarkable and possibly unique. From this perspective, it is disturbing to note from Table 6 that the United States totally dominates the EU in terms of its research efforts in this area and that this dominance has continued to grow over time.

Thirdly, given that the productivity-enhancing characteristics of ICT were already known in the first half of the 1990s, what is striking from Table 6 is the fact that the United States' dominance in ICT manufacturing was not seriously challenged over the second half of the 1990s. In fact, the United States increased its advantage significantly over this period, with an absolute increase in its ICT R & D investments which was roughly four and a half times greater than the equivalent increase for the EU. Over this period, the EU instead extended its

Graph 13: R & D expenditures by the top 300 international firms by sector: EU-15 and United States (2002)



Source: Commission services.

Table 5

Shares of some specific R & D-intensive manufacturing industries in the total R & D spending of the manufacturing sector (period average, 1996–99)

	EU		USA	
	% share of total manufacturing R & D	Actual expenditure (current PPP, USD)	% share of total manufacturing R & D	Actual expenditure (current PPP, USD)
1. Chemicals	17.4	13 583	9.2	11 307
2. Mechanical engineering	6.8	5 314	2.8	3 441
3. Office machinery	2.4	1 858	6.3	7 739
4. Electrical machinery	3.0	2 338	1.9	2 384
5. Semiconductors/communications	10.6	8 307	9.0	11 067
6. Instruments	4.3	3 331	6.9	8 502
7. Motor vehicles	12.9	10 039	7.3	8 985
8. Aircraft and spacecraft	6.7	5 225	7.0	8 646
Total high-technology industries	64.1	49 995	50.6	62 072
Total manufacturing	100.0	78 048	100.0	122 717

Source: OECD Anberd databank.

Table 6

Splitting high-technology manufacturing R & D spending into ICT and non-ICT

	EU		USA		Specialisation gap indicator for R & D spending, EU-US (*)	
	Actual expenditure (current PPP, USD)		Actual expenditure (current PPP, USD)			
	1991–95	1996–99	1991–95	1996–99	1991–95	1996–99
Total high-technology	44 488	49 996	52 043	62 072	0.855	0.805
• ICT	11 849	13 496	20 125	27 308	0.589	0.494
• Non-ICT	32 639	36 500	31 918	34 764	1.023	1.050

(*) This gap is calculated by dividing the EU figure by that of the United States, with a value of less than 1 indicating that the US R & D expenditure is relatively more concentrated/specialised in a particular sector or industry, with a value in excess of 1 showing the same for the EU. A value of around 1 suggests broad balance.

Source: Commission services.

dominance in the relatively low productivity growth, non-ICT, manufacturing industries which contributed only one twentieth of the productivity gains achieved by the United States from ICT. This is an important point to bear in mind in the context of the Lisbon strategy's objective of an increase in the EU's R & D intensity from 2 % to 3 % over the coming years. On the basis of the above analysis, if this target had been set in 1990 for attainment in 2000, without any specific sectoral focus, and if the EU continued to invest heavily in the more traditional high-technology industries such as cars and chemicals (which it actually did do), it would have gained relatively little in terms of closing the productivity gap with the United States. A sizeable productivity

effect from the additional expenditure would have necessitated a shift in focus to the newer, high-technology, industries such as ICT.

Finally, Graph 13 confirms the broad trends from Tables 5 and 6, indicating on the basis of the R & D expenditures of the top 300 international firms in each individual sector that while the EU may be dominant in low productivity growth, high-technology, industries such as cars and chemicals, the United States is dominant in the high-productivity/high-technology areas of IT hardware and electronics. This US dominance is already worryingly being extended to software and computer services. Graph 13 further allows one to single out

pharmaceuticals and biotechnology from the rest of the chemicals sector. It is again a source of concern to see in the pharmaceuticals and biotechnology part that the United States is leading in terms of R & D expenditures. Within the chemicals sector, an area of traditional strength for the EU, pharmaceuticals and biotechnology is arguably the key productivity growth component for the future.

The most significant issue posed by the above analysis is not so much the differences in the amounts of resources devoted to the knowledge production sector, but the EU's systemic failure to refocus its R & D activities over the 1990s, firstly on established high-productivity growth industries such as ICT, and secondly on potentially high-productivity growth industries in the pharmaceuticals and biotechnology area and in a number of service industries (software and computer-related services).

Building on the analysis of differences in terms of the innovation infrastructure, an attempt is made in Section 4.2.2 to assess the extent to which differences in EU–US productivity growth rates can be linked to differences in the innovation capacities of both areas. While this is not possible at the total economy level, a tentative assessment can be made for the manufacturing sector on the basis of the analysis in the present section of R & D spending in this sector. Since this analysis underlined the dominance of the United States' innovation model, it constitutes a prime candidate for explaining EU–US differences in the productivity growth performances of their respective manufacturing industries.

4.2.2. Can the superiority of the US innovation infrastructure explain EU–US productivity growth differentials in the manufacturing sector?

Beyond the higher expenditures on manufacturing R & D, particularly in the high-productivity growth ICT industries, various links can be made at the industry level which can contribute towards explaining the productivity gap through R & D expenditures. In this context, the two key issues are the following.

- Firstly, has the US economy specialised more in specific high-technology industries which are also the high-productivity growth areas — in other words are the EU–US productivity growth differentials linked to industry specialisation?

- Secondly, within each industry, beyond the effect of differences in spending levels, is the United States getting a higher rate of productivity growth from its R & D spending, in other words, a better leverage out of its R & D into productivity growth which can roughly be equated with a higher rate of return on its R & D expenditures?

While the Economic and Financial Affairs DG's analysis of these two issues, and of their role in explaining the link between R & D spending and EU–US productivity growth differentials, is still in its infancy, a number of interesting conclusions are already emerging.

Firstly, as shown earlier in Section 3, there are large EU–US differences in terms of specialisation (i.e. differences in the size of specific industries as a share of total output). Within the overall high-technology sector, the United States is especially concentrated/specialised in ICT manufacturing, with nearly 15 % of total US manufacturing output coming from these ICT industries compared with only 6 % for the EU. In the non-ICT area, there are no differences between the EU and the United States, with the high-technology industries representing around 34 % of the overall manufacturing output of both areas.

Secondly, since amongst the high-technology industries as a whole, it is ICT which has been shown to have the highest opportunity for productivity growth, it is not surprising to find in Table 6 that the United States' specialisation in these industries, and their realisation of a high-productivity performance, is a key factor in explaining overall EU–US productivity growth differences. In fact the ICT industry totally explains the better performance of the United States' manufacturing sector over the 1990s compared with that of the EU's and it contributes nearly four times more to the United States', economy-wide, productivity growth rate compared with the equivalent sector in the EU. Not only is the productivity gap substantial, there is no evidence of significant catching-up after 1995.

Thirdly, Table 7 presents evidence of EU–US differences regarding 'rates of return' from R & D investments. For specific high-tech manufacturing industries, the gap in productivity growth is considerably higher than the gap in R & D spending, implying a lower rate of return from R & D spending in high-tech industries in the EU compared with the United States. This is entirely due to the ICT high-technology industries.

Table 7

Contribution to growth in productivity from high-technology manufacturing industries (%) (*)

	EU		USA		Specialisation gap indicator *	
	1991–95	1996–2000	1991–95	1996–2000	1991–95	1996–2000
Total high-technology manufacturing sector	0.399	0.352	0.830	0.849	0.48	0.41
• ICT	0.137	0.219	0.603	0.802	0.23	0.27
• Non-ICT	0.262	0.132	0.227	0.047	1.15	2.81

(*) Calculated by dividing the EU figure by the US figure for the respective periods, with a value of less than 1 indicating that the United States is relatively more specialised in a particular sector or industry, with a value in excess of 1 showing the same for the EU. A value of around 1 suggests broad balance.

Source: Commission services.

Table 8

Comparison of EU–US differences in R & D rates of return

	EU–US gap in R & D spending		EU–US gap in productivity growth rates	
	1991–95	1996–99	1991–95	1996–2000
Total high-technology manufacturing sector	0.85	0.81	0.48	0.41
• ICT	0.59	0.49	0.23	0.27
• Non-ICT	1.02	1.05	1.15	2.81

Source: Commission services.

Overall assessment of the EU's innovation infrastructure in the high-technology manufacturing sector

Taking all the caveats in mind of the basic analysis presented, the evidence for the manufacturing sector supports the importance of differences in the innovation system in explaining diverging EU–US productivity growth rates. Within high-technology industries, the specific role of ICT cannot be ignored. ICT-producing industries have the highest productivity growth rates in all of manufacturing (in fact in the total economy). The United States is more specialised in these ICT industries as compared with other high-tech sectors; it has a higher productivity growth rate in these sectors; spends more in total on R & D; and gets a higher rate of return out of its R & D investments. For the non-ICT high-tech industries, the picture is less devastating for the EU, particularly in the second part of the 1990s. There is no difference in specialisation in these industries, nor a productivity disadvantage. The gap in total expenditures on R & D is also minimal. Unfortunately, how-

ever, these industries have far less scope for productivity growth than ICT.

4.3. Reforming the EU's innovation capacity

In terms of policy prescriptions, what do the results in Section 4.2 suggest for the innovation capacity of the EU relative to the United States? While differences in the amount of resources committed are large, it is abundantly clear that in addition to much larger investments in R & D both by the public and the private sector (i.e. the basic innovation infrastructure), there are also other characteristics of the US innovation system which explain its ability to focus on the high-productivity growth areas and to gain a higher rate of return from its knowledge investments. It is these latter features which determine its superior overall innovation capacity and which need to be taken into account in assessing the relative effectiveness of both systems. These features relate to the United States' established capacity to link its common innovation infrastructure to technology-

specific know-how and the generally more favourable environment for innovation in the United States compared with the EU. Gordon (2004) identifies a better connectedness of science and industry with an openly competitive system of private and public universities and government subsidies to universities through peer-reviewed research grants, which result in a higher quality of the research base. Other important framework conditions present in the United States are the advantage of a large, unified market unencumbered by differences in language, customs and standards; a clearer and stronger US intellectual property rights system; more flexible financial markets, making available venture capital finance to innovating firms; and more flexible labour markets, affecting both internal migration and the international immigration of highly skilled people.

The importance of the above features to an effective innovation process may help in explaining a number of specific worrying trends which have emerged in the EU over the 1990s which are suggestive of the need for a radical overhaul of its knowledge creation system. These include the failure in the 1990s, as stressed earlier, to reorient its R & D activities towards the new, high-technology, ICT industries; the increasing proportion of R & D by EU firms which is being done outside the EU (over 40 %); the large and growing brain drain from the EU to the United States on the research side (at present, twice as many EU researchers move to work in the United States compared with the opposite inward flows and, in stock terms, the Research DG estimates that roughly 40 % of US R & D is carried out by EU-trained scientists); and finally the United States' rapidly expanding share of internationally mobile R & D expenditures. This latter point is an important new risk factor given the evidence that such flows are increasing rapidly and that the relative quality of third-level education systems is a key locational determinant for such mobile R & D

flows⁽¹⁾. In overall terms, it is reasonable to conclude that without EU reforms to its innovation system, the present haemorrhaging of R & D spending and of research talent from the Member States is set to continue and with it a large proportion of the EU's future productivity potential.

Given the above worrying EU trends, the fact that the United States' comparative advantage in this area of knowledge production appears to be becoming more entrenched, and that the new knowledge industries are increasingly driving economy-wide productivity trends, the calls for reform at the EU level are becoming more urgent. What can policy-makers do to address the EU's innovation weaknesses? The most important point to stress is that R & D spending is only one of the key elements of a country's knowledge production system — the present analysis has underlined that it is the overall package of elements which matters. Reforms are particularly needed in terms of entry and exit rules (to allow, for example, new innovative firms to come through the system and challenge the incumbents) and in the overall business environment (to improve the 'rates of return' of any additional R & D investments which may be linked to the Lisbon 3 % target). This will require getting the framework conditions right; improving the overall interconnectedness of the innovation system; and ensuring that the common innovation inputs are better aligned on specific technology clusters, where the EU's production structure displays a specialisation.

⁽¹⁾ In this context, it is no accident that the top US regions in terms of knowledge production owe much of their success to the presence of world class educational establishments such as San Francisco's Stanford/Berkeley and Boston's Harvard/MIT. These latter universities have been the key driving forces which have propelled the San Francisco and Boston metropolitan areas respectively into the top two positions in most global knowledge competitiveness, benchmarking exercises.

Box 1: History of ICT

The invention of the point contact transistor at AT&T's Bell Laboratories in the United States in 1947 marked the beginning of a new technology, semiconductors, which has paved the way for the information age. An important feature of this technology is the speed with which micro-processors have become more powerful, leading to a widening in the number of ICT applications. Semiconductors were initially used for hearing aids and in main-frame computers. In the 1950s computers largely replaced mechanical calculators. They were seen as being good in performing complicated and lengthy sets of arithmetical operations. The first leading edge applications were military. The Korean War won IBM the first contract to deliver a computer. In the late 1950s and early 1960s computers began to be used for simple calculations in civilian government agencies (e.g. the Census Bureau) and by the human resource departments of large corporations. The next generation of computers was used for storing and releasing data in real time. This was important for airline reservation processing, insurance companies and for inventory control. The computer surpassed the stage where it was only used as a calculator and became an organising device. In a further step, the invention of the spreadsheet computerised white-collar work in the 1980s. But the domain of computer usage has been widening further. Robots in manufacturing and scanner-based retailing are transforming production and distribution processes. The Internet, which connects computers all over the world, further transforms the way business is conducted. In terms of pure numbers, nominal spending on ICT in the United States rose from about 1 % of GDP in the 1960s to about 2 % in 1980. The share increased further to 3 % in 1990 and reached about 5 to 6 % of GDP in the year 2000. Given the other distinguishing feature of this technology, namely the rapid speed of technical progress in the production of semiconductors, this sector now shows up in the aggregate productivity statistics of those countries which have managed to have a sizeable ICT production sector. The semiconductor and computer industry has been a US-dominated industry since the end of the Second World War and the United States has not given away the lead to other countries though it has faced severe challenges, especially from Japan. The ICT industry has some special features which pose specific challenges for government–industry interactions. The most important characteristics are the following.

- The semiconductor/computer industry is the high-tech industry *par excellence*. It undertakes large amounts of knowledge investment, with R & D shares exceeding hugely the average shares of most other manufacturing industries.
- The sunk cost nature of R & D requires careful thinking about competition and industrial policy regarding the best strategy of combining large R & D efforts with a competitive environment.
- The industry also relies on a stream of well-educated scientists and engineers as well as on the basic research undertaken in national research labs and universities.
- Since ICT has become a general purpose technology (GPT), with the ability to influence the productivity growth rates of ICT-using industries, it is also therefore of strategic interest since the products sold by this industry shape process innovations in other manufacturing and service sectors.

How have the Americans achieved such a dominant position and why have other industrialised countries failed to catch up to the technology frontier? What was the mix between knowledge investment, government support and market structure that created the success in the United States and what were the reasons why Europe stayed behind? The history of ICT in the United States, Japan and Europe will at least provide some tentative answers to these questions. In the United States, early computer technology had a distinctly military focus (Brock, 2003). Japan and Europe in contrast tried to reduce the substantial lead of US companies in commercial markets. However, both regions pursued rather different strategies. Japanese technology policy was based on a system of cooperation and competition amongst diverse groups of firms. In Europe, all bets were usually placed on a single 'national champion, the beneficiary of a steady diet of financial subsidies and preferential procurement policies' (Flamm, 1987). An important factor in the development of the ICT industry has been the level of knowledge investments. The size of R & D spending and government funding in IT shows marked differences between countries. In the early 1970s, total R & D spending in the United States' computer industry was about five to six times larger than the combined efforts in Japan, France and the United Kingdom (Flamm, 1987). In the 1960s and early 1970s, about a third of all R & D spending in the United States was publicly financed, while the French and UK share ranged between 10 and 15 %. The Japanese share of public funding was in between. Thus in contrast to the popular view which saw the United States as the least interventionist amongst the major industrial countries, it must be acknowledged that the United States was strongly supporting industrial investment in technology directly in the formative years of the ICT industry.

Table 9

Determinants of ICT

	United States	Japan	EU
R & D	<p>It is undeniable that in the 1950s, when commercial applications of the new technology were hardly imaginable, the US government was supporting all major computer technology projects. Military projects (such as Whirlwind and SAGE) filled assembly lines and helped to train electronic engineers. Purchases of the US government (not all were military, the Census Bureau also ordered computers) amounted to more than 50 % of total sales in the 1950s. If one includes defence contractors, about 70 % of the computer bill was paid directly or indirectly by the taxpayer. Due to the strong increase in the use of computers for administrative purposes in large corporations, the government's share fell rapidly in the 1960s. However, government purchases remained the largest single factor in sales of new, leading edge, machines (about 40 % until the mid-1980s). The US government's share of funding for computer-related R & D was 75 % in the 1950s, 50 % in the mid-1960s, and 15 % in the late 1970s. With the military build-up in the 1980s, the share increased again to more than 20 %.</p> <p>The United States spends vastly more on ICT research than any other country in the world and it started much earlier. In the 1950s, many of the US computers built were government-financed machines later adapted to the commercial market. The air force's SAGE project alone accounted for billions of dollars in development funds compared with only the tens of millions spent by governments in other countries.</p>	<p>There were four major players in Japan: (1) the Ministry of Trade and Industry (MITI) plus its technical arm, the Electrotechnical Laboratory (ETL); (2) Nippon Telephone and Telegraph (NTT); (3) the Ministry of Education (national universities); (4) industry. The division of labour between these four players and how it has changed over time can briefly be described as follows.</p> <p>1950s: Research is carried out in (1) to (3). Industry adopted the designs which had been developed in the various laboratories.</p> <p>1960s: Erection of trade barriers and the price for foreign admission was access to important technology. The first research cooperation amongst Japanese manufacturers (NEC, Hitachi, Fujitsu) was started and a period of joint government-industry cooperation during all phases of research and early development began.</p> <p>1970s: Dual crisis: (1) IBM system 370 forces other US companies (which were cooperating with Japanese companies) to exit the market; (2) commitment to open Japanese computer market. MITI prescriptions: (1) increase research funding: + 60 % in 1973; (2) consolidate research amongst private firms and promote the survival of the largest and technologically fittest firms.</p> <p>1980s: Steep increase in private R & D funding: like in the United States in the 1960s, with the large expansion in the commercial sales of Japanese computers, the role of private R & D increased (while public funding stayed at a constant nominal level).</p>	<p>The European countries responded to the increasing commercial success of US computer companies in the 1960s (mainly IBM) with the creation and support of national champions. Small firms were encouraged to merge in order to exploit scale economies in research and production. The national champions in the 1960s were ICL in the United Kingdom, CII in France and Siemens in Germany. Research subsidies started relatively late in the 1960s and were not very generous. Especially striking is the UK example. In 1950, the United Kingdom's computer technology matched or even surpassed that of the United States. However, within a decade the lack of financial and technical resources led to a decline. The government tried to stop this decline by creating ICL via mergers of smaller producers.</p> <p>In the 1980s, larger efforts were undertaken to coordinate research at a European level. The Esprit programme amounted to about USD 1.5 billion over a five-year period starting in 1984 (50 % was paid for by the European Communities and the remainder was paid by participating firms). Numerous European firms were cooperating in what was labelled pre-competitive research. A similar programme in telecom research was RACE.</p>

Table 9 (continued)

Determinants of ICT

	United States	Japan	EU
Procurement policies	In the 1950s, purchases of computers by the US government and defence contractors amounted to about 70 % of total sales. In the 1970s, the government's share declined to only about 5 %.	In the 1970s, nearly 100 % of all the computer purchases of the government were Japanese.	Like in other countries, government procurement was used to provide markets for national champions. However, the share of national producers never reached the same levels as in the United States and Japan. This is likely to have been the result of dismal technical performance and not of policy.
Market structure	Vigorous antitrust suits instituted during the 1950s played some role in the rapid diffusion of semiconductor and computer technology from Bell Telephone Laboratories and IBM. Entry and exit into the market played a big role in adapting technologies for commercial use. In the early 1970s, the top five companies were IBM, Texas Instruments, Motorola, Western Electric and Fairchild. None of them was a leader in the 1950s. Top ranked companies in the 1990s such as Microsoft and Intel were not around in the 1970s. However, the US government has also responded to foreign competition by allowing for more cooperation amongst US companies in R & D. In 1984, the joint research and development act was passed by Congress, which encouraged firms to undertake cooperative research (this was likely to have been provoked by Japan's fifth generation computer research programme in 1981). Furthermore, in response to a loss in the United States' market share in the semiconductor industry (the Japanese market share exceeded that of the United States for the first time in 1986), Sematech, a joint research effort of the semiconductor industry, was initiated and supported by the US government. The defence department contributed about USD 100 million per year, about 50 % of the total budget (the project was expected to end in 1997). Reflecting concerns about the national security implications of dependence on foreign sources for the supply of semiconductors, its goal was mainly to improve US semiconductor production technology. That the US government regarded Sematech as a national project can also be seen by the total entry restrictions for the US affiliates of foreign companies. The United States also emphasises industry-university research centres. They have been initiated by the government but also by private companies (Flamm, 1987).	Joint research (in order to avoid duplication and increase productivity) but competition in downstream applications and commercialisation. In the 1970s, the three groups of Japanese computer producers (Fujitsu-Hitachi, Mitsubishi-Oki and NEC-Toshiba) shared development costs but remained in direct competition. MITI coordinated the research cooperation. The government also carefully controlled access to the Japanese market, with MITI attempting to induce US producers to transfer computer technology to Japanese manufacturers.	Because the national champions model was adopted early on, antitrust was not an important issue in the computer industry.

5. Summary of key findings

Structural nature of the EU's productivity downturn is confirmed

The overriding conclusion from the analysis in this chapter is that the former EU-15 group of countries have a structural productivity problem, with this problem mainly located in the four large euro-area Member States which presently account for close to 80 % of the euro area's overall output (two thirds of EU-15). This interpretation of recent productivity trends differs from that of respected commentators such as Olivier Blanchard and the IMF which suggest that the present productivity downturn is temporary, linked to the substantial labour market reforms enacted in many of the EU's Member States throughout the 1990s. In our view these reforms can only explain a small proportion of the deterioration in EU productivity since 1995, with the bulk of the decline due to the EU's outdated and inflexible industrial structure which has been slow to adapt to the intensifying pressures of globalisation and rapid technological change. The EU's productivity problems reflect the combined effect of an excessive focus on low- and medium-technology industries (with declining productivity growth rates and a globalisation-induced contraction in investment levels); an inability to seriously challenge the United States' dominance in large areas of the ICT industry, as reflected in the relatively small size of its ICT production industry; and, finally, its apparent slowness in reaping the productivity-enhancing benefits of ICT in a range of ICT-using industries, although measurement issues severely complicate an assessment of the gains from ICT diffusion⁽¹⁾. The chapter also points to the worrying evidence that the United States is

extending its dominance in ICT production to a range of new, high-technology, areas in pharmaceuticals, biotechnology and computer-related services.

The post-1995 differences in EU–US productivity patterns are fundamentally driven by the United States' superiority in terms of its capacity to produce and absorb new technologies, most notably in the case of ICT

The contrasting productivity experiences of the EU and the United States over the post-1995 period have their origin in the knowledge production sectors of the EU and US economies and in a complex range of institutional factors and framework conditions which determine a country's overall innovation system and ultimately its success in producing and absorbing the latest, leading edge, technologies. The chapter argues strongly that healthy knowledge production and absorption processes are mutually supportive elements of any successful long-run productivity strategy. Evidence is presented which suggests that the United States' overall innovation system is superior to that of the EU's, both in terms of the quality and funding of its knowledge sector and the more favourable framework conditions prevailing. This system has facilitated a substantial restructuring of the US economy since the early 1990s towards a range of knowledge-intensive, high-productivity growth industries which have compensated for the relatively poor productivity performance of its more traditional industries. The inadequacies of the EU's overall innovation system have, in contrast, been cruelly exposed over the same period. Despite the growing evidence of the importance of high productivity growth industries such as ICT, the EU continued to focus its R & D investments throughout the 1990s on relatively low productivity growth areas such as cars and chemicals. The repeated ability of the US innovation system to direct resources towards the newer, high-technology (and often high productivity growth) industries is a reflection of the quality of the interrelationships between the different actors in its innovation system and of an economic and regulatory framework which has the capacity to transform excellence in knowledge creation into a globally competitive industrial structure.

⁽¹⁾ The chapter stresses the need for a critical assessment of the respective roles of ICT production and ICT diffusion in explaining EU–US productivity growth differentials. It suggests that due to measurement issues a higher proportion of the post-1995 acceleration in US productivity should be linked with the production of ICT than is commonly assumed. In terms of diffusion, it stresses that ICT capital deepening (diffusion in the narrow sense) is contributing strongly to US productivity growth but that the evidence for large TFP gains in specific ICT-using industries (diffusion in the broader sense), such as wholesale and retail trade, was still questionable. These latter gains are perhaps more modest when proper account is taken of measurement issues and of the role of a number of important non-ICT productivity drivers in these specific industries.

The systemic inadequacies of the EU's innovation system are highlighted by the experience of the ICT industry, with the history of this industry suggesting that a 'national champions' strategy in high-technology industries is highly problematic

The systemic nature of the EU's productivity problems is highlighted by an analysis of the ICT industry, where a wide range of factors are shown to have contributed to the United States' global dominance. These factors include focused R & D activities; world class research and teaching establishments; defence procurement contracts which nurtured the ICT industry (on the demand side) in its incubation phase in the 1950s and 1960s; and the unique combination of financing mechanisms and a highly competitive domestic marketplace which brought the ICT industry from the knowledge creation phase to the critical diffusion/mass market phase. The history of the ICT industry also suggests that a 'national champions' strategy in high-technology industries is doomed to failure, with a number of interesting questions emerging from the analysis as to the type of optimal competition policy which should be pursued for high-technology industries. The chapter highlights in particular the large price which Europe has paid for its 'national champions' policy in the ICT industry back in the 1960s and 1970s, which contrasted sharply with the strategies adopted by Japan and the United States. In addition, if one looks to the future, and given the changes which have occurred over recent decades, it is safe to conclude that the case for such a 'national champions' policy is becoming more and more tenuous as the new industries of the future will increasingly need to draw on an EU, or even a global, knowledge/talent pool.

Policy conclusions

In terms of policy, the chapter stresses that the EU's innovation system needs to be fundamentally reformed if the EU is to make a decisive shift towards realising the vision of a successful innovation-based, economic model, the broad features of which have been laid out in the Lisbon 2010 agenda. Lisbon is in effect a recognition of the importance of such a model to the EU's long-run economic prospects and of the key role which it must play in responding to the challenges of globalisation and ageing. Creating a successful knowledge-based economy involves both enhancing the EU's capacity to produce and commercialise a flow of world class innovative technologies and creating an environment conducive to the imitation and absorption of externally available know-how.

The success of such a model will be determined not so much by a massive increase in the amount of financial resources devoted to knowledge production (i.e. increased spending on R & D and higher education) but by an acceptance of the need to improve linkages in the innovation system and to make painful changes in many areas of the EU's economic and regulatory environment. More specifically the present study stresses the following.

The systemic nature of the innovation process needs to be recognised and the quality of the interrelationships between the different actors in the system needs to be dramatically improved

Policy-makers need to recognise that the different players in the innovation system, public research institutes, third-level education establishments, SMEs and large firms, are not isolated players but are part of a complex system, with its overall strength driven by the relative efficiency of its different components. While a large number of specific problems can be highlighted in relation to the specific players, the most serious issue is the poor quality of the linkages within the overall system. In addressing this issue of linkages and of the wider problem of an underperforming EU research sector, some politically sensitive areas will need to be examined at the national and EU levels, in other words, the principle of an excellence/meritocratic-based system for awarding research funds; greater university autonomy, in financial as well as academic terms; a change of culture towards the commercialisation of research via closer university/business sector links; and the need to develop and nurture centres of excellence and leading edge technology clusters.

The public and private sectors each play important, mutually supportive, roles in determining a country's innovation capacity and each must assume its responsibilities

Governments have crucial direct and indirect roles to play in the innovation process, directly in the form of financial support for human capital development ⁽¹⁾

(1) Investment in education, training and lifelong learning is essential to the Union's international competitiveness in knowledge-intensive, innovation sectors, and to sustainable growth and employment. Investment in education in its widest definition, including non-formal and tacit learning, is, together with technological advance, the driving force of dynamic, innovative growth, restructuring towards higher value added production, and the generation of a general culture of entrepreneurship. The United States invests a far larger share of GDP in higher education than the EU (2.7 % compared with 1.1 %, with a large proportion of the difference accounted for by the private sector) and has developed a far more effective system of linkages with the world of innovation.

and for the public innovation system and, more importantly, indirectly in terms of shaping the macroeconomic fundamentals (low and stable inflation; moderate tax burdens on labour and capital; trade openness) and providing adequate framework conditions for the private sector to enhance productivity via well-functioning product, labour and capital markets⁽¹⁾. The private sector, for its part, is the ultimate source of productivity growth in an economy, with its overall performance determined by the success of the public sector's policies in creating a competitive, dynamic, business environment and by its own ability to use its labour and capital resources to create an industrial structure capable of competing successfully in both the domestic and global marketplaces.

Industry-specific framework conditions need to be taken into account due to the complicated relationship between competition and innovation

While competition is a crucial determinant of productivity growth, acting as a powerful incentive for firms to continuously enhance their underlying performance via process or product innovations, there is nevertheless a need to recognise the complicated non-linear relationship between innovation and competition. This relationship may in certain cases favour oligopolistic competition between a few large firms in some industries or stronger competition among many small players in others, as the optimal market structure for boosting the innovation process in the respective industries. Due to this non-linear relationship, it is incumbent on policy-makers to take industry-specific circumstances into account when assessing the precise link between competition and productivity. Product market conditions (e.g. possibilities for product differentiation) and the characteristics of specific technologies (e.g. Is it a radical or incremental innovation? Are there network externalities? Are there economies of scale in R & D?) is what ultimately determines the industry-specific relationship between market concentration (i.e. the degree of competition) and R & D intensity.

⁽¹⁾ The European research area launched in 2000 and the 'Investing in research action plan (2003)' address some of the wider framework conditions which impact on private R & D investment, for example intellectual property rights; science and technology human resources; access to venture capital markets; product market regulations; 'technological platforms'; with a view to both initiating a process of structural change towards high-tech sectors, and supporting the internal specialisation of traditional industries towards higher R & D intensity and higher-quality products. These measures all aim at influencing the specialisation of European industries towards high-tech sectors and products (see European Commission, 2003).

Market entry and exit rules are crucial to an effective innovation process in rapidly changing industries

The example of the ICT industry highlights the need for policy-makers to promote entrepreneurship and a healthy process of 'creative destruction'. Entry and exit rules play an important role in boosting productivity by putting pressure on incumbent firms to innovate and by supporting market experimentation. This experimentation role is particularly important in industries where the general purpose technologies being used are changing rapidly such as in the production and use of ICT. In these industries the evidence is clear that product market regulations that facilitate the easy entry and exit of firms have contributed enormously to the diffusion of innovations in these industries.

Concluding remarks

The present analysis has highlighted the need for the EU to shift the emphasis in its present economic model more towards innovation. This shift in our view is necessitated by the increasing competitive pressures of globalisation, by the future challenges of ageing populations and by the fact that many of the EU's Member States are close to the technology frontier. Of these factors, the one of most immediate concern to productivity patterns is undoubtedly globalisation, with the growing interconnectedness of the world's economy already driving up the pace of technological progress, intensifying competitive pressures and magnifying the gains from excellence, with the gains being reaped by the United States' global dominance in the ICT industry being a good example of the latter. While world trade volumes have been rising steadily since the 1950s, what has changed recently is the nature and scale of the globalisation phenomenon, with an increasing focus on trade in services and on capital movements in the form of FDI, with, for example, the stock of FDI as a percentage of world GDP tripling since the mid-1980s.

This dramatic intensification of the globalisation process is already transforming the economic structures of the developed and developing worlds, with India emerging as a global power in services, China consolidating its position in manufacturing and with the developed world as a whole searching for an appropriate response. Many countries in the developed world have recognised the seismic nature of the change and are responding positively by embracing an open-economy, innovation-based, model which emphasises the importance of world

class educational establishments; higher levels of, excellence-driven and better targeted, R & D; more market-based financing systems; and more flexible regulatory and institutional frameworks delivering a more dynamic and competitive business environment. Others are responding in an inappropriate manner by attempting to cling to the belief that our present economic problems are temporary and that the magnitude of the changes wrought by globalisation will avoid the need for funda-

mental reforms. In this context, the collective challenge for EU governments is to embrace the reality of a rapidly changing global marketplace and of the structural changes which it inevitably provokes. While Lisbon is a manifestation of the collective desire for change, implementation of the needed reforms will be the litmus test of whether the future will witness a substantial recovery in the EU's productivity fortunes or will confirm the EU's ongoing decline as a global economic power.

6. References

- Ahmad, N., F. Lequiller, P. Marianna, D. Pilat, P. Schreyer and A. Wölfl (2004), 'Comparing labour productivity growth in the OECD area: the role of measurement', paper presented at the Banque de France, CEPII and IFO Workshop, Paris.
- Brock, G. W. (2003), *The second information revolution*, Harvard University Press.
- Daveri, F. and A. Mascotto (2002), 'The IT revolution across the US States', *IGIER working paper*, No 226.
- European Commission (2003), *Investing in research: an action plan for Europe*.
- Flamm, K. (1987), *Targeting the computer, government support and international competition*, The Brookings Institution, Washington, DC.
- Foster, L., J. Haltiwanger and C. J. Krizan (2002), 'The link between aggregate and micro productivity growth: evidence from retail trade', *NBER working paper*, No 9120.
- Furman, J., M. Porter and S. Stern (2002), 'The determinants of national innovation capacity', *Research policy*, pp. 899–934.
- Gordon, R. (2003), 'High-tech innovation and productivity growth: Does supply create its own demand?', *NBER working paper*, No 9437.
- Gordon, R. (2004), 'Why was Europe left at the station when America's productivity locomotive departed?', *CEPR discussion paper*, No 4416.
- Inklaar, R., M. O'Mahony and M. Timmer (2003), 'ICT and Europe's productivity performance: industry level growth account comparisons with the United States', Groningen Growth and Development Centre, Research Memorandum, GD-68.
- Jones, C. I. (2002), 'Sources of US economic growth in a world of ideas', *American economic review*, Vol. 92, pp. 220–239.
- OECD (2003), *The sources of economic growth in OECD countries*.
- OECD (2004), *Understanding economic growth*, Paris.
- Oliner, S. D. and D. E. Sichel (2002), 'Information technology and productivity: Where are we now and where are we going?', *Federal Reserve Bank of Atlanta economic review*, third quarter.
- O'Mahony, M. and B. van Ark (2003), 'EU productivity and competitiveness: an industry perspective', study prepared for the Directorate-General for Enterprise.
- Sieling, M., B. Friedman and M. Dumas (2001), 'Labour productivity in the retail trade industry, 1987–99', *Monthly labour review*, pp. 3–14.
- Stern, S., M. E. Porter and J. Furman (2000), 'The determinants of national innovative capacity', *NBER working paper*, No 7876.
- Stiroh, K. (2002), 'Are ICT spillovers driving the new economy', *Review of income and wealth*, 48, No 1.
- Triplett, J. and B. Bosworth (2000), 'Productivity in the services sector in the international economy', Stern, R. M. (ed.), University of Michigan Press.

Annex

Productivity measurement issues

The IMF in its recently released Article IV report on euro-area policies maintained that the euro area did not have a productivity problem since, according to its estimates, hourly productivity was higher than in the United States and all of the differences in per capita incomes were due solely to the lower number of hours worked by euro-area workers. On the basis of Eurostat's structural indicators, however, a completely different picture emerges, with Eurostat's productivity measure suggesting that 45 % of the gap in living standards between the euro area and the United States is due to lower labour productivity per hour, with the remaining 55 % an hours worked issue. To complicate matters even more, the equivalent OECD estimates suggest a position which roughly lies between that of Eurostat and the IMF, namely that the EU has a productivity problem but that it is not as severe as suggested by Eurostat. The OECD figures roughly coincide with those of the Economic and Financial Affairs DG's own analysis. This ongoing issue of conflicting measurements of the EU-US productivity gap (or the lack of it) is fundamental to the present policy debate and the relative emphasis to be placed on the employment or productivity aspects of the Lisbon strategy.

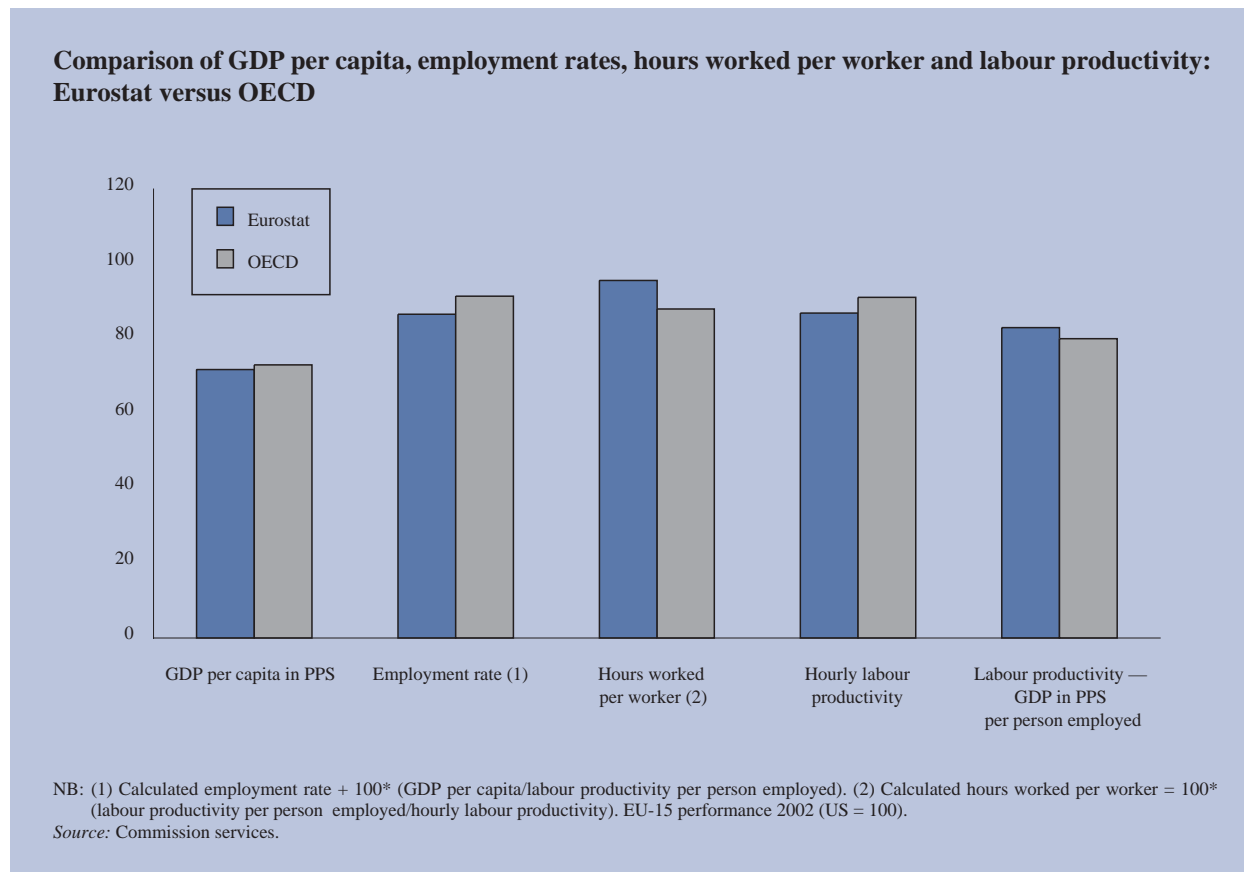
Overview of the current situation and the extent of the problems. The graph shows the extent of the problems to be resolved on the basis of the Eurostat and OECD estimates (comparable IMF data are not available). While there are some differences in terms of GDP per capita and the per person employed productivity measures, it is very clear that the real source of the differences lies in the hours worked calculations and the associated hourly labour productivity figures.

Short- and long-run solutions. There seems to be only one long-term durable solution to these ongoing productivity measurement problems, and that is for all of the

interested parties, most notably Eurostat, the OECD and the IMF, to discuss the different methodologies which they employ for calculating the various input series. This, in fact, is what is happening at the moment, with Eurostat and the OECD actively discussing the various issues. It is hoped that a final long-run resolution to these problems can be forthcoming before the end of 2004.

Regarding possible short-run solutions, the Economic and Financial Affairs DG decided that, given the uncertainties involved, it was very important to have its own internally produced productivity series for analytical purposes.

Following an assessment of the strengths and weaknesses of the various statistical sources, the most internally consistent source was deemed to be the OECD's labour force statistics databank, which has internationally comparable figures for hours worked and employment for both the EU's Member States as well as for the United States. The Economic and Financial Affairs DG is satisfied that the derived series constitute an acceptable interim solution, with the absolute levels for the different series and their evolution over time indicating a plausible pattern. These derived series, not surprisingly, are very similar to those of the OECD. Once convergence has been reached in the discussions between Eurostat and the OECD regarding the best input series to be utilised, the Economic and Financial Affairs DG will adjust its own methodology to make it fully consistent. According to the Economic and Financial Affairs DG's staff who are participating as observers to the Eurostat/OECD discussions, it appears that the final solution will not differ dramatically from the present Economic and Financial Affairs DG's estimates. In fact, in terms of productivity levels, the EU-15 estimate is likely to lie between the present



OECD and Eurostat estimates ⁽¹⁾. Since the mid-point estimate looks likely to be the basis of a final consen-

⁽¹⁾ It has been tentatively agreed that the OECD, for the purpose of productivity measurement, will move from the labour force framework to the national accounts. Eurostat will align its basic figures for the United States with those from the OECD, with the OECD in turn converging towards Eurostat's figures for the individual EU Member States. Eurostat, in a provisional assessment following the discussions with the OECD, now estimates that EU-15's hourly labour productivity relative to that of the United States was 88.5 in 2002 (compared with Eurostat's previous estimate of 86.7 and the OECD's estimate of 91).

sus, the IMF's viewpoint that EU-15 does not have a productivity problem (and consequently that it should focus its Lisbon agenda solely on the employment front) will not be supported by the underlying data. This IMF position, it should be stressed, only applies to productivity levels, with the IMF also accepting that there has been a significant deterioration in the EU's relative position over recent years due to much lower EU productivity growth rates compared with those of the United States.

Chapter 5

The link between product market reforms and productivity:
direct and indirect impacts

Summary

Does the lack of product market reforms have some connection with Europe's poor productivity record?

This question is relevant given the central role played by these reforms in the Lisbon strategy. In order to try to answer this question, this chapter examines to what extent and through which channels product market reforms can have an impact on productivity developments. Thereafter, it identifies the areas of product market reforms where the EU significantly lags behind the United States. This analysis allows some conclusions to be drawn on the most pressing product market reforms needed to improve the EU productivity performance.

Product market reforms play a central role in the Lisbon strategy as they improve the framework conditions in which business operates.

In the year 2000, the EU decided in Lisbon on the strategic economic goal of becoming the most competitive and dynamic knowledge-based economy with sustainable economic growth and greater social cohesion by 2010. To achieve this goal, the EU set a strategy for delivering stronger growth, known as the Lisbon agenda. A major aim of the Lisbon agenda is to increase GDP per capita and to boost productivity. Well-designed product market reforms can contribute to this objective. The way product markets are regulated has an important impact on the degree of competition in the market, the scope and the size of the market and therewith on the size and the structure of economic activity in goods and services. The existing regulations are often a heritage of the past. Therefore, the framework conditions in which business operates may not always be optimal in terms of today's circumstances and challenges. As a consequence, they may act as a brake rather than as a spur on economic activity and stifle initiative rather than encourage it. That is why product market reforms, by improving these framework conditions, can help to unleash a hidden potential in the economy thereby spurring productivity growth and increasing welfare.

Product market reforms have direct and indirect impacts on productivity and the latter operate through three main channels.

The direct impacts occur through the decrease in costs of doing business and through the removal of barriers to penetrate new markets. However, the change in the framework conditions which improves the functioning of product markets has also indirect effects on productivity. These indirect effects operate through three main channels, namely a reduction in mark-ups and a reallocation of scarce resources (allocative efficiency); an improvement in the utilisation of the production factors by firms (productive efficiency); and an incentive for firms to innovate and to move to the modern technology frontier (dynamic efficiency).

Gains through allocative and productive efficiency represent one-off changes to the level of productivity and output and accrue relatively rapidly but product market reforms may also result in dynamic efficiency. The effects from this third channel tend to accrue over a longer period of time. But improvements in such dynamic efficiency gains potentially have a much larger impact on productivity. Successful innovations should eventually raise the level and growth rate of total factor productivity in the long term but this may take some time to accrue.

Empirical evidence shows that a large part of the impact of product market reforms on productivity is through indirect effects.

Empirical studies have shown that the net effects of the direct impacts on productivity tend to be small. However, a number of studies have estimated much higher impacts on productivity as a result of product market reforms. This suggests that a large part of the impact on productivity is through indirect effects.

Product market reforms reduce the economic rents in the economy and promote business dynamism.

Studies confirm that product market reforms that ease entry, reduce trade barriers, remove price controls and

reduce public involvement in production, negatively affect the average level of economic rents in the economy. Product market regulations also stand out as having a substantial impact on the levels of new entry by businesses. Studies found that overly complicated licence and permit systems or badly designed tax systems discourage the creation of new enterprises. The direct effect of free entry and exit can be decomposed into two effects. First, internal restructuring (also called ‘within effect’) refers to productivity growth of individual firms in the industry via factors internal to the firm such as organisational change, new technologies, or reallocation of inputs. Second, external restructuring represents a reallocation of resources among firms via a process of exit of least efficient firms and/or via a shift in market shares towards most efficient firms. Most studies point to large within effects. However, in high-tech sectors where productivity gains are the most important, it is the new firms that make the most significant contribution to productivity growth.

Product market reforms can stimulate innovation but their effects take longer to materialise. The relationship between product market reforms and dynamic efficiency is more complex as there is increasing evidence of an inverted U-shaped relationship between innovation and competition. The direct link between competition and dynamic efficiency — measured by productivity growth — seems to be clearer with several studies showing a significant positive effect, especially thanks to the process of entry and exit of firms. However, competition seems to deliver its full effects on dynamic efficiency with long lags and the literature underlines differential effects of innovation on productivity growth depending on the distance to the technological frontier: the closer to the technological frontier, the more positive the effects.

Medium- to long-term gains in productivity due to product market reforms could be substantial. Several studies that have analysed the potential gains of adopting US-level product market reforms show substantial potential GDP and/or productivity increase in the long term. In the short term, the effect of increased competition is a boost in employment, which puts less productive workers into jobs. Therefore, the immediate impact on productivity level and growth is at best small because the direct effect of product market reforms (an increase in productivity thanks to a decrease in costs) is partly cancelled out by the integration of less productive workers into the job market. However, although this eventually decreases average labour productivity, it still

remains that the impact on standards of living is unambiguously positive. There is also evidence that long-term gains could be large. Some studies show that reforms facilitating market entry and raising the level of competition on goods and services markets could result in productivity gains of between 2 and 4 %.

The EU has already undertaken profound product market reforms with the ‘internal market strategy’.

The next question is which product market reforms are the most pressing to improve the productivity performance of the European Union. While further work is necessary to investigate the relative importance of the three channels and to analyse — possibly at sectoral level — the links between the gap in productivity and the gap in product market reforms, there are already interesting conclusions which emerge from a comparison between the European Union and the United States. The European Union has already initiated profound reforms, in particular with the internal market. The European Union is open to international competition and its network industries are liberalised to a degree that equals if not exceeds the United States. The ‘strategy for Europe’s internal market’, launched in the autumn of 1999, should be seen as a deepening of the single market programme, which aimed at the elimination of all barriers to the free circulation of goods, services, capital and persons by the end of 1992. This new internal market strategy should contribute to deepening market integration and improving the regulatory environment for business.

Further product market reforms should mainly aim at promoting business dynamism and pursuing integration as these are the areas where Europe lags behind the United States. Europe’s backwardness in product market reforms seems to be concentrated in measures that promote entry and exit of firms and in a lower degree of intra-State trade integration. Also, evidence of backwardness in product market reforms in the EU is the apparently higher costs of complying with regulation than in the United States, although European companies do not perceive regulations as more time-consuming than US companies do. State involvement in the economy is higher in Europe but the consequences of this are debatable. Furthermore, a lack of flexibility in labour markets and to some extent more regulations on credit — two issues not reviewed here — may also explain a sizeable share of the US–EU gap in productivity.

In the context of the mid-term review of the Lisbon strategy, this analysis can contribute to the choice of

priorities for reforms in the area of product markets. We conclude that reforms to ease entry and exit are important. These should go beyond measures to reduce time and cost to start up a company and should include

reforms promoting Europe as an attractive and easy place to do business. Similarly, making sure that the internal market is working at full capacity should be a clear objective for the Union.

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1. Introduction

In the year 2000, the EU decided in Lisbon on the strategic economic goal of becoming the most competitive and dynamic knowledge-based economy with sustainable economic growth, more and better jobs and greater social cohesion by 2010. To achieve this goal, the EU set a strategy for delivering stronger growth, known as the Lisbon agenda. A major aim of the Lisbon agenda is to increase GDP per capita and to boost productivity. Product market reforms play a central role in this agenda because they are expected to improve the framework conditions for business.

Studies by the European Commission ⁽¹⁾ and the IMF (2003) indicate that reforms facilitating market entry and raising the level of competition on goods and services markets could result in productivity gains of between 2 and 4 %. The way in which product markets are regulated has an important impact on the degree of competition in the market, the scope and the size of the market and therewith on the size and the structure of economic activity in goods and services. Regulations may act as a brake rather than as a spur on economic activity and stifle initiative rather than encourage it. That is why product market reforms, by improving the framework conditions, can help to unleash the potential in the economy thereby spurring productivity growth and increasing welfare.

This chapter aims to analyse to what extent and through which channels product market reforms could have an impact on productivity performance ⁽²⁾. Indeed, product market reforms have direct effects on productivity developments because they decrease the costs of doing business and remove barriers to penetrate new markets.

⁽¹⁾ See Chapter 2 in ‘The EU economy: 2002 review’ and Chapter 2 in ‘The EU economy: 2003 review’.

⁽²⁾ At the same time, interactions between reforms in the product market and in the labour market are likely to impact on employment and need to be taken into account. In addition, investment in human capital is also potentially important for productivity. Those interactions are not considered here as this chapter focuses on productivity issues.

However, the change in the framework conditions that improves the functioning of product markets has also indirect effects on productivity. These indirect effects operate through three main transmission channels, namely a reduction in mark-ups and a reallocation of scarce resources (allocative efficiency); an improvement in the utilisation of the production factors by firms (productive efficiency); and an incentive for firms to innovate and to move to the modern technology frontier (dynamic efficiency).

One of the main objectives of this chapter is to discuss these indirect links between product market reforms and productivity. To that end, Section 2 starts by explaining how to define product market reforms and to measure product market reforms. Section 3 provides the theoretical framework for our analysis and describes the three transmission channels through which product market reforms can influence productivity. Section 4 reviews the empirical literature. This empirical evidence shows that these indirect effects are potentially larger than the direct effects.

The next question relates to which product market reforms are the most pressing to improve the productivity performance of the European Union. While further work is necessary to investigate the relative importance of the three channels and to analyse — possibly at sectoral level ⁽³⁾ — the links between the gap in productivity and the gap in product market reforms, interesting conclusions already emerge from a comparison of the degree of product market rigidities between the European Union and the United States. This comparison is made in Section 5. Section 6 concludes by drawing some policy implications.

⁽³⁾ Because of data availability constraints, this chapter only looks at economy-wide regulations. Further studies should look at whether these regulations could — maybe through interactions with other variables — have more influence on some specific sectors and therefore explain sectoral differences in the productivity gap between the EU and the United States.

2. Definition and measurement of product market reforms

Product market reforms are microeconomic reforms that aim to improve the framework conditions in which business operates. Four main types of measures may be undertaken to reform product markets:

- first, measures to open up markets (goods and services) that were previously sheltered from competition from abroad by tariff barriers (trade openness) or legal barriers (liberalisation);
- second, measures to open up markets that were previously sheltered from competition from newcomers — whatever their origin — because of stringent regulations on entry, such as permits and licences, or non-tariff barriers, such as specific national regulations (deregulation);
- third, measures to create a more business-friendly environment, such as the reduction of time and costs to set up a new company or appropriate levels and systems of taxation;
- fourth, measures that seek to reduce the State's involvement in the economy, since this is likely to disturb well-functioning markets (ad hoc State aid, subsidies and State-owned firms competing with private firms).

The implementation of the single market programme intended to abolish all barriers to the free movement of goods, services, persons and capital within the European Union by the end of 1992. This programme constitutes the most recent comprehensive exercise of product market reform. The 1988 Cecchini report considered that the economic gains from the completion of the internal market would stem from more intense competition and economies of scale. The 'strategy for Europe's internal market', launched in the autumn of 1999, should be seen as a deepening of the single market programme. This internal market strategy should contribute to furthering market integration and improving the regulatory environment for business.

Major reforms that have affected European product markets include measures taken within this new internal market strategy, such as removal of remaining barriers to integration of goods and services, liberalisation and regulatory reform in network industries, reduction in State aid, reforms of competition policy, simplification of regulations to set up a company, and so forth. However, there is relatively little direct information available on the scale and scope of these reforms across countries. Consequently, the computation of a reliable summary indicator of product market reforms in the EU is difficult and only economy-wide indicators of specific product market reforms or indicators of reforms implemented in specific industries are available.

3. The three transmission channels

Product market reforms have direct and indirect effects on productivity. This chapter does not discuss the direct impacts that occur through the decrease in costs of doing business and through the removal of barriers to penetrate new markets. Product market reforms have also indirect effects on productivity. Theoretical models suggest that reforms that liberalise or improve the functioning of markets can positively affect productivity through three different channels that this section discusses: a reallocation of scarce resources (allocative efficiency), an improvement in the utilisation of the production factors by firms (productive efficiency) and an incentive for firms to innovate to move to the modern technology frontier (dynamic efficiency). This typology however gives a simplified picture of the reality because it ignores the possible interactions between the three channels. For example, entries can have a negative effect on mark-ups and a positive effect on innovation. Likewise, innovation can increase the pressures of competition in a market.

3.1. Allocative efficiency

Product market reforms increase the number of competitors or the threat of entry of new competitors, leading to more competitive markets. By increasing the contestability of markets and by reducing incumbents' market power, this induces firms to set prices closer to marginal costs. As a consequence, mark-ups tend to decrease while the allocation of both inputs (labour and capital) and goods is more efficient, in other words, the allocation of resources is made so that consumer wants and needs are met in a better way than they were in the previous period. More product market competition can also lead to increased allocative efficiency as less productive firms exit and market share moves from less productive to more productive firms.

Theoretical models that focus on the reallocation effects of liberalisation generally consider that the latter has a

positive impact on economic performance. For instance, Melitz (2003) specified a model with imperfect competition and heterogeneous firms in which opening to trade leads to a reallocation of resources towards more productive firms within industries. Low-productivity firms exit, high-productivity firms expand in the domestic market and some enter the export market. This leads to an increase in aggregate productivity, even when there is no productivity growth within the firms.

However, it is not always the case that a rise in competition would lead to increased allocative efficiency. For example, Vickers (1995) points out that an increase in competition through more aggressive interactions between firms could increase industry concentration in the medium term since more aggressive firm behaviour first reallocates profits from inefficient firms to more efficient ones (reallocation effect) and subsequently drives out inefficient firms (selection effect). This thereby raises industry concentration and mark-ups, but this model implies that market entry is not possible for new competitors, and so does not present the whole picture.

Blanchard and Giavazzi (2001) show the importance of market entry — or more precisely the importance of market contestability — as a stimulus for competitive pressures and economic performance. In a model in which firm and employee productivity is fixed, and in which labour is the only factor of production, they consider the impact of product market regulations. In their model, deregulation of product markets can take the form of either increased substitutability between goods or a reduction in entry costs. In the short run, increased substitutability between goods leads to lower mark-ups, reduced unemployment and higher real wages. In the long term, the same results occur only if deregulation leads to a reduction in barriers to entry. If this is not the case, then firms exit because of lower level of rents and, as a result, mark-ups, unemployment and real wages return towards their original

levels. In this framework, liberalisation through the ease of firm/market entry is thus a major determinant of the effectiveness of product market reforms aimed at stimulating competition.

However, the welfare gains achieved by increasing allocative efficiency are not by themselves likely to be very large ⁽¹⁾. Allocative efficiency gains mainly impact indirectly on economic performance by inciting firms to improve their productive efficiency and to enhance efforts to innovate and speed up diffusion of innovation, but this is still a debated issue in the literature.

3.2. Productive efficiency

Productive efficiency is the capacity for any given firm to allocate its resources in such a way that makes it possible to reduce or eliminate the under-utilisation of its production factors, that is, capital and labour ⁽²⁾. Productive efficiency and productivity are not identical concepts but they are interrelated ⁽³⁾. A decrease in productive inefficiency could be associated with an increase in productivity ⁽⁴⁾. Productive or technical efficiency gains come from the introduction of new or better production methods within the firm, and this could lead to increased productivity.

The main impact of higher product market competition on productive efficiency that the literature emphasises is the incentive effect on managers and workers to reduce slack, trim fat and structure the workplace more efficiently ⁽⁵⁾. Principal-agent models under information asymmetry generally assume that managers and workers can partially capture monopoly rents to a monopolistic firm in the form of managerial slack, in other words, lack of effort. By giving more incentives to increase managerial efforts and improve efficiency, competitive pressures may reduce slack and discipline firms into efficient operation ⁽⁶⁾. Incentives to improve productive efficiency could arise through different channels ⁽⁷⁾.

- Competition reduces information asymmetry and creates greater opportunities to compare performance. This makes it easier for the shareholders to monitor managers and hence reduces slack.
- In highly competitive markets where price elasticity of demand is high, cost-reducing productivity improvements are likely to generate large increases in market shares and profit.
- The probability of bankruptcy is likely to be higher in a more competitive environment. Consequently, managers have an incentive to step up their efforts to avoid such a failure.
- Competition may also influence the effort of workers, as they are likely to capture a part of product market rents in the form of slack or higher wages. Therefore, there is a direct link between the degree of competition and the level of workers' efforts ⁽⁸⁾.

3.3. Dynamic efficiency

Gains through allocative and productive efficiency represent one-off changes to the level of productivity and output and accrue relatively rapidly, in other words, in the short run. However, an increase in competition may also act as a stimulus for firms to develop product and process innovations and hence to speed up the move to the modern technology frontier. Improvements in such dynamic efficiency gains potentially have a much larger impact on productivity but are also likely to take much longer to accrue, that is, successful innovations will eventually raise the level and growth rate of total factor productivity in the long run ⁽⁹⁾. However, the link between competition and innovation is a debated issue in the theoretical literature.

On the one hand, in line with the Schumpeterian view of market power and innovation, the early endogenous growth and industrial organisation literature ⁽¹⁰⁾ suggests that increased product market competition leads to reduced innovative activity, as more competition reduces the monopoly rents that reward successful innovators. However, this literature was based on the assumption that innovation was made by outsiders or by

⁽¹⁾ See Harberger (1954), Leibenstein (1966) and Scherer and Ross (1990).

⁽²⁾ See Pilat (1996).

⁽³⁾ See Sharpe (1995).

⁽⁴⁾ See Pilat (1996).

⁽⁵⁾ See Griffith and Harrison (2004).

⁽⁶⁾ See Ahn (2001).

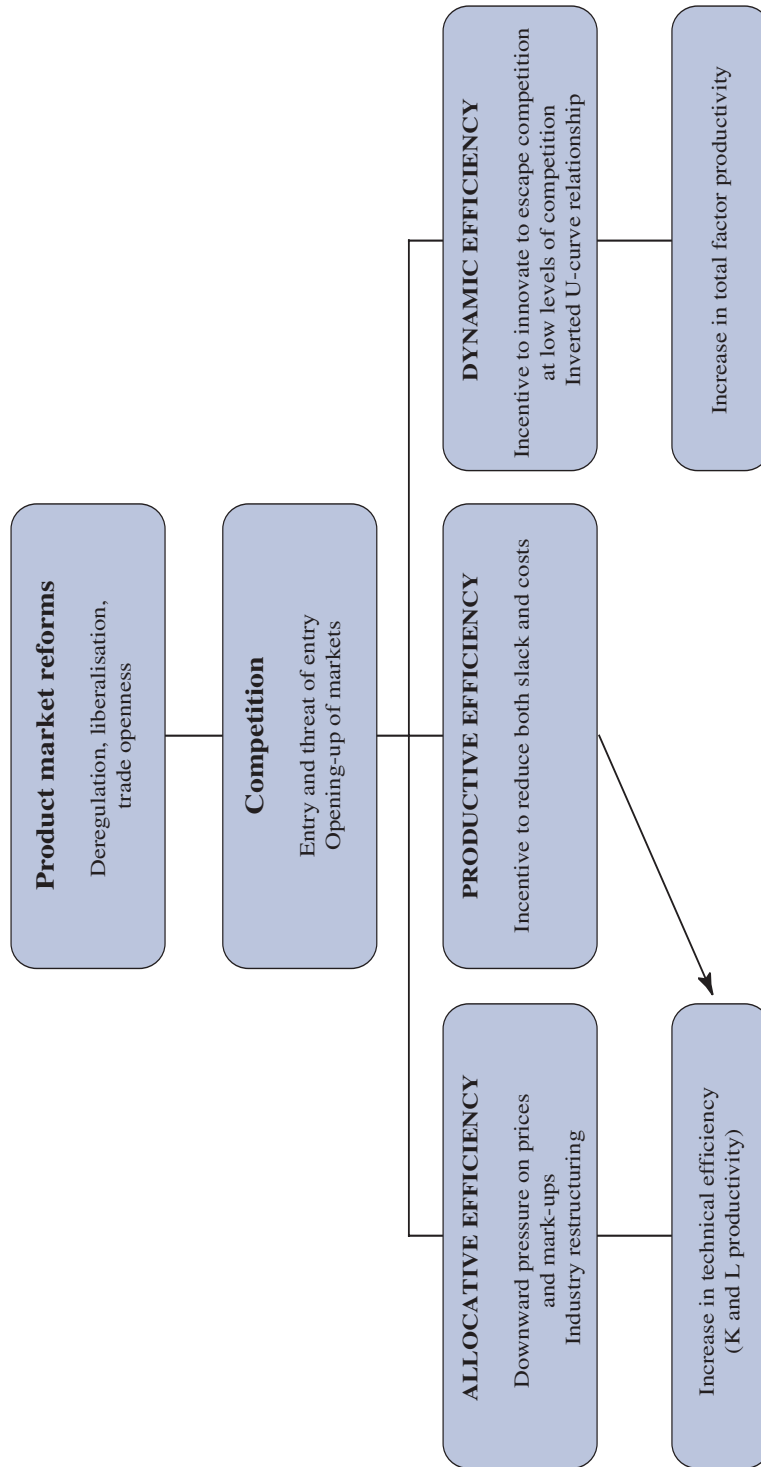
⁽⁷⁾ See Winston (1993), Meyer and Vickers (1997), Nickell et al. (1997) and Aghion and Howitt (1998).

⁽⁸⁾ See Nickell (1996).

⁽⁹⁾ See Ahn (2002) and Griffith and Harrison (2004).

⁽¹⁰⁾ Dasgupta and Stiglitz (1980), Romer (1990) or Aghion and Howitt (1992).

Theoretical framework describing the indirect effects of product market reforms on productivity



new entrants competing against incumbents with conventional technology. They also assumed that the payoff of innovation was equal to the post-innovation rent (while the pre-innovation rent was zero).

On the other hand, new endogenous growth models ⁽¹⁾ extend the basic Schumpeterian models by allowing incumbent firms to innovate and by assuming that innovation incentives mainly depend on the difference between the post-innovation and the pre-innovation rents. These models predict that more product market competition could foster innovation. Aghion and Howitt (1998) offer two theoretical cases where competition is indeed conducive to innovation.

- Intensified product market competition could force managers to speed up the adoption of new technologies to avoid loss of control and/or bankruptcy. Indeed, if successful innovators that introduce new technology lead to a gain in market shares because of more efficient production processes, they would be able to replace the firms that produce with old technology. The latter are thus forced to innovate themselves in order to survive ⁽²⁾.
- In ‘neck-and-neck’ industries, in other words, in industries in which oligopolistic firms face similar production costs, product market competition could create a large incentive to innovate. This is because intense competition increases each firm’s incentive to reduce its production costs through the acquisition of a technological lead over its rivals. Competition may also increase the incentive of each firm to innovate to escape competition, for instance if innovation translates into more sophisticated and differentiated products.

In these models, the link between competition and innovation does not remain unambiguous as this link is prone to be positive in ‘neck-and-neck’ industries whereas it is prone to be negative in less ‘neck-and-neck’ or more ‘product-differentiated’ industries. In the latter type of industries, more competition may reduce innovation as more competition reduces the monopoly rents that reward successful innovators (Schumpeterian effect). Moreover, by increasing innovation incentives in ‘neck-and-neck’ industries more than in ‘product-

differentiated’ industries, this will tend to reduce the fraction of ‘neck-and-neck’ industries in the economy in equilibrium. This effect reinforces the Schumpeterian effect in inducing a negative correlation between product market competition and aggregate productivity growth or aggregate rate of innovations ⁽³⁾.

New endogenous growth models allow incumbent firms to innovate and assume that innovation incentives depend on the difference between post-innovation and pre-innovation rents. Aghion et al. (2003a) show that, when entry is introduced into such models, the effect of an increase in competition through (the treat of) entry depends on the country, industry or firm’s distance to the world technological frontier. In countries that are close to the world technological frontier, fostering entry or competition will increase incumbents’ incentives to innovate in order to escape potential entrants or new competitors. However, in countries or industries lagging far behind the world technological frontier, higher entry or higher competition tends to discourage incumbents from innovating. This model thus suggests that the overall impact of trade liberalisation will depend on the current state of technology in the country or the industry. However, in the long run, trade liberalisation will increase the overall average growth rate because in equilibrium there will be more industries where the effect is positive.

Finally, work by Aghion et al. (2002) suggests that the relationship between competition and innovation may be of a non-linear nature, with both very high and very low levels of product market competition providing lower incentives to innovation. Using a Schumpeterian growth model in which firms innovate step by step (i.e. a laggard firm must first innovate to catch up with the technological leader before becoming itself a leader in the future), where both technological leaders and their followers engage in R & D activities, and where competition may increase the incremental profit from innovating while reducing innovation incentives for laggards, these authors indeed predict that the relationship between competition and innovation is an inverted U-shape, in other words, the escape competition effect dominates for low initial levels of competition, whereas the Schumpeterian effect dominates at higher levels of competition.

⁽¹⁾ Such as the ones developed by Aghion et al. (1997), Aghion and Howitt (1998) or Aghion et al. (2001).

⁽²⁾ See Ahn (2002).

⁽³⁾ See Aghion et al. (2002).

To sum up, the new endogenous growth models predict that the link between competition and innovation may be positive or negative depending on the initial state of competition ('neck-and-neck' industries versus 'prod-

uct-differentiated' industries and more generally low level of competition versus high degree of competition) and on the country, industry or firm's initial distance to the world technological frontier.

4. Empirical evidence on the indirect links between product market reforms and productivity

This section presents a survey of recent empirical work analysing the indirect links between product market reforms and productivity. Drawing on the theoretical framework presented in Section 2, this section makes a distinction between the three transmission channels of the effects of product market reforms, namely allocative efficiency, productive efficiency and dynamic efficiency.

4.1. Product market reforms and allocative efficiency

By increasing competition, product market reforms have two main effects on allocative efficiency. First, they weaken the market power of firms, leading to a reduction in monopoly rents or mark-ups. Second, they facilitate market entry of new firms and this may lead to some restructuring process, with market exit by the least efficient firms. As some incumbent firms tend to be less productive than their more profitable new competitors, their exit from the market raises the average productivity in the sector.

4.1.1. Product market reforms and mark-ups

The mark-up is defined as the price over marginal cost ratio. A mark-up ratio exceeding unity is an indication of the existence of market power enabling firms to set prices above marginal costs and thereby to achieve monopoly rents ⁽¹⁾.

Most empirical studies that aimed to test the links between the degree of market opening and/or the degree of competition, on the one hand, and the profitability level of firms, on the other hand, have found — since the pioneering works of Bain (1951, 1956) — a negative

relation between these two variables, therefore confirming the theoretical analysis ⁽²⁾. Jacquemin and Sapir (1991), for instance, showed that the European national industrial sectors that were protected from intra-EU competition by important non-tariff barriers benefited in the early 1980s from abnormally high profitability levels. More recently, Oliveira Martins et al. (1996) did not find any correlation between the degree of market concentration and the level of mark-ups but identified a significant negative correlation between the latter and the entry rates in a market. The European Commission (1996) also showed that the implementation of the SMP led to an increase in competitive pressures in the manufacturing industry, resulting, in particular, in reductions in the price–cost margins. Griffith and Harrison (2004) estimated the relationship between product market reforms and the level of economic rents. They found that reforms that ease entry barriers to trade, remove price controls and reduce public involvement in production negatively affect the average level of economic rents in the economy.

However, if high profit levels can be interpreted as a consequence of low competitive pressures, in contrast they can also result from efficient behaviour of firms (Ahn, 2002) ⁽³⁾. As the effects of competition on the

⁽¹⁾ See Oliveira Martins et al. (1996) and Konings et al. (2001).

⁽²⁾ See Schmalensee (1989).

⁽³⁾ For instance, Demsetz (1974) considers that high profit levels within an industry can be explained by good performances of firms, i.e. their ability — mainly for the largest firms — to produce at low costs. More generally, an increase in competition may have effects on both prices and costs, and therefore the mark-up may remain stable although prices may fall. Geroski et al. (1996) show in particular that this is likely to occur because incumbent firms have excess costs — such as managerial slack or rent sharing with the workforce — that can be reduced to compensate for lower prices. This latter argument could be a good explanation for the paradox mentioned by Konings et al. (2001) concerning the levels of mark-ups in the Dutch manufacturing sectors facing high import rates. The authors found mark-ups to be higher in these sectors than in sectors where import rates were low. Indeed, if the intensity of competition results in a fall in costs larger than the fall in prices, then the profit margin increases.

mark-up ratio may be ambiguous, its evolution over time has to be analysed simultaneously with the evolution of its two components, namely prices and unit costs⁽¹⁾. Applying this methodology for analysing what impact the implementation of the single market programme has had on mark-ups in the European manufacturing industry, Sauner-Leroy (2003) finds evidence that profit margins of EU firms in the early 1990s declined in line with a decrease in real prices and that this phenomenon could be at least partly attributable to increased competition stemming from intra-EU imports, thus indicating the realisation of allocative efficiency gains induced by the intra-EU trade liberalisation.

4.1.2. Product market reforms and market entry and exit

Several factors explain entry and exit of firms. Among those, product market regulations stand out as having substantial impact on the entry rate of businesses. Brandt (2004) found that overly complicated licence and permit systems discourage the creation of new enterprises.

Among product market reforms, differences in corporate tax systems across Europe can act as a key obstacle to cross-border activities in Europe. Studies suggest a high compliance cost related to the lack of coordination of tax and accounting systems in Europe⁽²⁾. Besides these direct compliance costs, tax systems are known for having a large impact on entrepreneurship and on innovation activities, either through the general tax framework or through targeted tax policies⁽³⁾. The effect of taxation on entry is tricky to apprehend because entrepreneurs have the possibility to be self-employed or to incorporate⁽⁴⁾, therefore involving decisions based on both the personal and corporate income tax systems. In addition, not only the level but also the progressivity of some tax systems and the relative difficulties to carry over losses across tax periods⁽⁵⁾ imply that decisions related to entrepreneurship also depend on the forecast level and distribution of earnings. Other types of taxation also matter such as capital gains tax-

ation that has an effect on the level of venture capital supplied to entrepreneurs⁽⁶⁾. Finally, targeted tax measures — be they in terms of tax credits, specific depreciation rules, reduced taxation or preferential exemptions — have a large impact on entrepreneurial activities⁽⁷⁾.

Generally, studies analysing the impact of product market reforms on economic performance through the process of entry and exit focus for a large part on the link with productivity. Empirical studies generally find a positive link between the two indicators. One can decompose the direct impact of free entry and exit into several effects. First, internal restructuring (‘within effect’) refers to productivity growth of individual firms in the industry via factors internal to the firm such as organisational change, new technologies, or reallocation of inputs. Second, external restructuring represents a reallocation of resources among firms via a process of creative destruction with exit of least efficient firms or via a shift in market shares towards most efficient firms. Barnes et al. (2001) find substantial within effects for the OECD. Baily et al. (1992) find similar results for the US manufacturing firms between 1972 and 1988, and so do Griliches and Regev (1995) for the Israeli industry over 1979–88.

Nicoletti and Scarpetta (2003) also demonstrate significant links between product market policies and productivity performance, with entry liberalisation leading to productivity gains in all of the countries considered regardless of their position in terms of technology adoption. They also found evidence of a twofold effect of entry liberalisation that release their effects over a 10-year time horizon. First, entry liberalisation in the service industries is estimated to boost annual multi-factor productivity growth in the overall business sector. Second, an indirect (and positive) effect of the removal of trade and administrative barriers to entry was found. The intensity of the effect depends on the technology gap that some countries accumulated in heavily regulated manufacturing industries.

In conclusion, studies indicate a significant effect of market entry on allocative efficiency.

⁽¹⁾ See Bils (1987) and Machin and Van Reenen (1993).

⁽²⁾ See European Commission (2001b) and European Commission (2004b).

⁽³⁾ See Gentry and Hubbard (2004).

⁽⁴⁾ In some cases, incorporation can be made so that entrepreneurs still face personal income taxes. The design of tax rules will also have an impact on productivity through its incentives. This is, for example, the case for the taxation of performance-related pay systems, such as stock options or bonuses.

⁽⁵⁾ Leading in some cases to ‘success taxes’ because losses do not lead to negative taxes. Therefore, successful companies usually face higher effective taxation than unsuccessful ones.

⁽⁶⁾ Sizeable collateral damage of a lower supply of venture capital is the decrease in managerial advice that usually accompanies capital invested in risky activities. See Keuschnigg and Nielsen (2000).

⁽⁷⁾ See Cullen and Gordon (2002). In addition, the effect of tax systems on foreign direct investment is well-established, adding foreign competitors to the level of entry (see, for example, Clark, 2002).

4.2. Product market reforms and productive efficiency

Studies analysing the links between product market reforms and productive efficiency are also relatively scarce, maybe because productive efficiency is difficult to measure as it depends on various factors, some of them not being observable such as, for instance, organisational changes within companies ⁽¹⁾.

Empirical works that have already been done on this issue mostly include studies focusing on the relationship between competition and productive efficiency, and not specifically on the relationship between product market reforms and productive efficiency. Nevertheless, one can argue that as product market reforms tend to increase competition, the conclusions drawn from empirical work linking competition and productive efficiency are also valid for the analysis of the links between product market reforms and productive efficiency. Caves and Barton (1990), Caves et al. (1992) and Green and Mayes (1991) used frontier production function techniques to compute efficiency indices and to relate them to competition variables. They found that, above a certain threshold, increases in market concentration (i.e. decreases in competition) tend to be associated with reductions in technical efficiency.

These results are consistent with the ones found in studies focusing on product market reforms. Griffith (2001), for instance, shows that the increase in product market competition brought about by the implementation of the SMP led to an increase in overall levels of efficiency, but that these efficiency gains occurred more particularly in firms where management and ownership were separated (principal-agents type of firms), suggesting then that product market competition can play an important role in reducing agency costs ⁽²⁾. Sauner-Leroy (2003) also shows that the rise in competition induced by the implementation of the single market programme led EU manufacturing firms to increase their productive efficiency to compensate for lower prices and profit margins.

⁽¹⁾ See Sauner-Leroy (2003).

⁽²⁾ Agency costs may be defined as costs induced by decisions taken by managers with the view to increasing their personal gratification or to reaching their own personal objectives (use of 'free cash-flow') instead of being taken in order to maximise the net present value of the firm. Agency costs may also stem from the existence of managerial or organisational slack translating into a misuse of human resources.

To summarise, there is evidence that competition and product market reform act as a stimulus for firms to increase productive efficiency. However, the empirical work on this specific issue remains relatively scarce.

4.3. Product market reforms and dynamic efficiency

The empirical literature on the link between product market competition and innovation has so far been relatively sparse and inconclusive. The reasons lie in the poor availability of comprehensive time-series of product market indicators, in a 'still-in-progress' theoretical framework, and in the difficulties of measuring dynamic efficiency given that it takes time to deliver its full effects and that innovation is difficult to measure.

As surveyed by Ahn (2002, p. 15), studies on the relationship between market power and innovation lead to mixed results. For example, some studies show that companies' size has no significant effects on innovation whilst other studies point to either a positive relationship between concentration and innovation, or an inverted U-shaped relationship, or simply no effects when controlling for industry differences. Apparently, measurement and modelling issues blur empirical results as good proxies for innovation are difficult to find and regression methods fail to take into account 'bounds' effects between R & D intensity and concentration ⁽³⁾. Acs and Audretsch (1987) found that different types of industries would produce innovative advantage for different sizes of industries. Small companies have innovative advantages in highly-innovative and highly-skilled intensive sectors whereas large companies enjoy this advantage in more concentrated and capital-intensive industries. Using firm-level UK data, Blundell et al. (1999) found that firms with a higher market share innovated more but that at the industry level, more competitive industries were more innovative. Therefore, aggregate competition leads to more innovation but within the competitive industries dominant firms innovate more often. One difficulty is the possible endogeneity of market structure as it may itself be the result of innovation. In addition, although affecting R & D investment, regulations do not

⁽³⁾ The 'bounds approach' has been developed by Sutton (2002). He looks at the determinants of market concentration and finds lower bounds for concentration. His work attempted to connect the analysis of concentration with the identification of the intensity of price competition and the level of endogenous sunk costs as the key determinants. For example, R & D can allow firms to differentiate their products and therefore more R & D can lead to less concentration.

seem to be its main driver — some forms of protection could even be beneficial for risky R & D activities — and market size and education appear to be more pronounced determinants ⁽¹⁾.

There is, however, increasing evidence of an inverted U-shaped relationship between competition and R & D or innovation, as predicted by most recent models (Aghion et al. 2002). Griffith and Harrison (2004) looked at the link between microeconomic reforms in product markets on macroeconomic performance through their effects on mark-ups. The authors use a two-step approach to link product market reforms and macroeconomic performance. They first identify the link between indicators of product market reforms and economic rents measured by mark-ups. In a second step, they use the predicted mark-up to assess the effect on macroeconomic variables. The authors relate R & D expenditures with the predicted mark-up from the first regression (indirect effect), its squared value, and policy indicators (direct effect). Their results suggest a non-linear relationship between competition and the levels of R & D expenditure. However, they find an inverted U-shaped relationship between mark-ups and R & D that only turns downwards at high levels of regulations. Direct effects of regulation appear to be stronger — although with a negative sign.

The direct link between competition and dynamic efficiency as measured by productivity growth rates seems to be clearer. Nickell (1996) found a positive impact of competition on firm-level TFP growth and Disney et al. (2000) found that competition is an important determinant of internal restructuring, which in turn has an impact on TFP growth. In terms of relative importance, the authors distinguish between ‘internal’ restructuring (i.e. new technology and organisational change) and ‘external’ restructuring (i.e. entry of efficient firms and exit of least efficient ones) and find that ‘external restructuring’ accounts for 90 % of TFP growth. Griffith and Harrison (2004) also find a non-linear relationship between competition and the growth rate of labour productivity or total factor productivity. When looking at the evolution of competition and the indicators of macroeconomic performance within countries, the authors find a negative relationship (i.e. more competition decreases performance). However, this finding has to be balanced by possible measurement errors and lag effects. Indeed, when comparing across countries the authors find the expected positive relationship (i.e. countries with more competition have better performance) ⁽²⁾. Several studies also found a significant elasticity of R & D to tax credit, even more so in the long term ⁽³⁾.

⁽¹⁾ See ‘The EU economy: 2003 review’, Chapter 2. One important determinant of innovation is skills and education as suggested by Rao et al. (2002) and Aghion and Cohen (2004). Griffith and Simpson (2003) found that foreign-owned manufacturing firms in Great Britain have higher levels of labour productivity and investment per employee. Their results suggest that the higher proportion of skilled workers in foreign-owned industries matches differences in labour productivity.

⁽²⁾ Technically, the difference between the two techniques relates to the presence or not of ‘country fixed effects’ variables that are there to capture country-specific features which are not observable but may explain better performance. The authors do not just look across countries because there is always a theoretical risk that country-specific non-observable features other than the level of competition may impact on macroeconomic performance and that this impact could be wrongly attributed to the level of competition.

⁽³⁾ See European Commission (2002a) for a discussion.

Table 1

Summary of the main empirical results

Channel	Main empirical results
Allocative efficiency	<ul style="list-style-type: none"> • Product market reforms usually reduce economic rents (mark-ups). • Product market reforms have substantial impact on entry. • Productivity gains are mainly due to reorganisation within the firm, except in high-tech industries where new firms contribute the most to productivity gains.
Productive efficiency	<ul style="list-style-type: none"> • Increase in competition is associated with increase in technical efficiency. • Product market competition reduces agency costs.
Dynamic efficiency	<ul style="list-style-type: none"> • Evidence of an inverted U-shaped relationship between innovation and competition. • More competition usually leads to TFP growth but with long lags. • Creative destruction accounts for most of the increase in TFP growth rates. • Distance to technological frontier matters.

Source: Commission services.

A positive effect of innovation on dynamic efficiency finds additional empirical support. Rao et al. (2001) find a strong correlation between innovation and TFP growth in Canadian manufacturing industries. The R & D output elasticity could, however, depend on sectors. Looking at manufacturing firms in Taiwan, Wang and Tsai (2003) found that whilst average output elasticity stood at 18, this effect was larger in high-tech firms. In addition, the effects of R & D on TFP performance may appear with long lags and investment in ICT could even be associated with lower TFP in the short run as resources and energy are diverted to reorganisation and learning as suggested by Basu et al. (2003).

Recently, the literature has underlined differential effects of innovation on productivity growth depending on the distance to the technological frontier. As mentioned earlier, Nicoletti and Scarpetta (2003) use an endogenous growth model to integrate productivity growth and catch-up so that product market regulations will both directly and indirectly (through interacting them with the distance to the technological frontier) impact on TFP growth. They found a positive impact of entry on TFP growth, especially in services.

These gains seem to be larger the further an economy lies away from the technological frontier. Aghion et al. (2003b) looked at the effects of reforms on trade in India and found the opposite effect. The authors found that Indian states that were close to the technological frontier and had liberalised labour markets enjoyed a positive impact of trade liberalisation on growth, whilst the opposite holds for Indian states that lay far from this frontier.

Finally, R & D expenditures have an impact on productivity through two channels: innovation and imitation of others' discoveries⁽¹⁾. The diversity of these findings suggests that, although positive, the impact of competition on innovation and productivity takes complex forms.

4.4. Direct and indirect effects of product market reforms

'The EU economy: 2003 review' (Chapter 2) identified the regulatory environment as a key determinant of capital deepening⁽²⁾, indicating an impact on productivity

levels. It was estimated that the implied change of moving to US levels of regulation would suggest a long-run productivity effect of about 5 % (i.e. 0.15 % on the long-run growth rate of productivity). These gains were mostly static and occurred through increased investment. This year, the chapter 'The Lisbon strategy and the EU's structural productivity problem' shows that the direct effects of deregulation on productivity are relatively weak. The results show that deregulation could lead to a meagre 0.15 % increase in the rate of productivity growth. This should be compared with a 0.05 percentage point effect of a 1 % increase in investment, a 0.60 percentage point effect of a permanent 1 % increase in R & D spending, and a 0.45 percentage point effect of a permanent one-year increase in average education levels of the labour force. However, by looking at the effect of R & D on productivity, the analysis in some way sheds light on the possible indirect effects which arise from product market reforms on total factor productivity.

In particular, the chapter acknowledges additional dynamic effects of product market reforms and stresses in particular the role of knowledge production in the EU's structural productivity problems. Other exercises which have attempted to take these indirect effects into account find indeed large indirect effects of product market reforms. Some of these results are presented hereafter.

In 2002, 'The EU economy: 2002 review' (Chapter 2) presented a scenario with labour and product market reforms that included a reduction in the NAIRU by 1.5 %, a reduction in price mark-ups by 0.5 percentage points (pp) and an increase in the total factor productivity level of 1 %. This 'big bang' scenario is in line with the observed effects of recent labour and product market reforms. That experiment led to an increase in GDP of about 4 % and an acceleration of output growth by about 0.5 percentage points annually over seven or eight years. Using the same framework but restricting it to product market reforms, Dierx et al. (2004b) found a medium-term increase in GDP relative to its baseline level of about 2 % and an acceleration of output growth by almost a quarter of a percentage point annually over a period of seven to eight years.

In its report *World economic outlook 2003*, the IMF (2003) simulated the impact of closing the gap with the United States in terms of labour and product market reforms, which points to a potential 10 % GDP increase.

⁽¹⁾ See Griffith et al. (2000).

⁽²⁾ Needless to say, it also influences technical progress.

If we focus on product market reforms only, the message of the IMF is that the long-run effects of more competition-friendly policies on product markets in the euro area would be substantial with GDP increasing by 4.3 % in the long run (along with a consumption increase of 3.4 % and an increase in investment of 12.1 %).

Using a similar methodology, Bayoumi et al. (2004) find an even larger value of an increase in GDP of 8.6 % if product market reforms lead to a mark-up similar to the US level. The gain goes up to 12.4 % of GDP if labour

market reforms are added. As a comparison, the European Commission (2002b) finds a combined effect of the single market programme of 1.8 % of GDP after 10 years. Although comparing the results is made difficult because of differences in methodologies, the outcome suggests substantial benefits.

These results suggest that while deregulation directly affects productivity, its real potential effects may lie in indirect effects via the three channels that we have identified.

Table 2

Estimates of the quantitative effect of product market reforms

	Initial channels	Size	Timing	Additional GDP
EU	TFP increase	+ 0.5 % level		
	Price mark-up decrease with SMP	- 0.9 pp for economy as a whole	10 years of SMP	Combined effect of SMP is 1.8 %
	Price mark-up decrease in network industries	- 0.5 pp for economy as a whole		
Dierx, Pichelmann and Röger	TFP increase Price mark-up decrease in network industries	+ 1 % level - 0.5 pp for economy as a whole	Seven to eight years	+ 2 %
IMF	Price mark-up decrease	- 10 pp for economy	Long term (not specified)	+ 4.3 % in long run
Bayoumi et al.	Product market reforms in the form of lower mark-up	Euro mark-up goes from 1.35 to the US level of 1.23	Long term (steady state)	+ 8.6 % in long run

Sources: European commission (2002b), Dierx et al. (2004b), IMF (2003), Bayoumi et al. (2004).

5. Is the EU lagging significantly behind the United States in terms of product market reforms?

The indirect effects of product market reforms on productivity operate through a reduction in mark-up, an increase in entry rate, an improvement in the efficiency with which firms are managed and a stimulus for firms to innovate. These indirect effects appear to be potentially much higher than the direct effects. The next question is which product market reforms are the most pressing to improve the productivity performance of the European Union, in particular in relation to the United States. To answer this question, we need to investigate the relative importance of the three transmission channels and to identify the areas where the EU is significantly lagging behind the United States. While further work, in other words, the construction of a model putting together the three channels and analysing their interactions, is necessary to address the first issue, some interesting conclusions can already be drawn regarding the second issue.

To that end, we have compared indicators of product market reforms in the EU and the United States so as to assess whether differences in performance originate from differences in the economic framework. It is an established fact that the EU is lagging behind the United States in terms of GDP per capita. A common perception is one of the United States enjoying large economic freedom whilst the EU is stuck in its red tape and heavy regulations. This argument fails to take into account the fact that the European Union has initiated profound reforms (see Section 1) and that the United States still has several segments of its economy that are regulated and sheltered from competition. The first step is to have summary indicators of product market reforms and the second is to analyse to what extent they

differ in EU-15 ⁽¹⁾ and the United States. Then, one should look at the potential gains of reforms in Europe.

5.1. Measurement of product market reforms in the EU and the United States

Summary indicators of product market reforms are provided by three main sources ⁽²⁾.

- First, the OECD database on regulatory reforms contains indicators of economy-wide regulation (e.g. State control), of industry-level regulation (e.g. barriers to trade in manufacturing), and of regulatory reforms (e.g. trade liberalisation). These indicators date from around 1998 and the OECD launched a project aimed at updating them by October 2004.
- Second, composite indicators are also available from the Fraser Institute. They refer to business regulations and identify the extent to which regulatory restraints and bureaucratic procedures limit competition and the operation of markets. In addition, the Fraser Institute provides indicators on the freedom to trade with foreigners and on the State's involvement in the economy. The latest available report contains data for 2002.

⁽¹⁾ There are various reasons to focus on EU-15 and not on new Member States. For example, most empirical results in the literature focus on EU-15. The same goes for the estimates, which may depict the relationship between product market reforms and productivity in an institutional and policy framework that is different from those of the new Member States.

⁽²⁾ The structural indicators produced by the European Commission do not provide per se regulatory indicators but rather performance indicators such as prices or market share of incumbents.

- Finally, the World Bank's database 'Doing business' provides indicators on the cost of doing business by identifying specific regulations that enhance or constrain business investment, productivity, and growth.

On the basis of information gathered by these three sources, four main categories of indicators can be used to measure and compare the intensity of product market reforms across countries: ease of starting a new business, trade openness, State involvement in the economy and administrative burden on business.

5.2. Taking stock of product market reforms in the United States and the EU

To compare the United States and the European Union, it is convenient to start with the Fraser indicator on general economic freedom ⁽¹⁾. This indicator indeed gathers information about five major areas: combining regulations in product, labour and capital markets, legal structures and security of property rights, involvement of government in the economy, access to sound money, and freedom of trade.

In 2002 — the most recent available data — the United States ⁽²⁾ was above all European Union Member States with a value of 8.2 — at par with the United Kingdom. Our computed GDP-weighted average for EU-15 stood at 7.3 (see Graph 1) ⁽³⁾.

⁽¹⁾ The OECD indicator probably encompasses many more aspects of regulation but it dates from 1998 and is often a 'one-shot' measure.

⁽²⁾ Worldwide, the United States came third behind Hong Kong and Singapore. It is at par with New Zealand, Switzerland and the United Kingdom.

⁽³⁾ Although new Member States generally displayed lower scores, the EU-25 GDP-weighted average came close to the old Member States' value because of the low share of new Member States in total EU GDP. The same goes for most indicators.

Although a comparison in time is difficult because of changes in definitions and in the number of sub-indicators used to create the composite index, globally, the main result is that economic freedom constantly appears to be higher in the United States than in the EU-15 whatever the period considered.

Interestingly, when looking in more detail at the indicators, the difference between the EU and the United States is strongest in terms of the degree of involvement of the State in the economy, with the EU also trailing the United States in terms of regulations of credit, labour and business. By contrast, the EU is close to the United States in the field of access to sound money (which mainly includes indicators of financial stability) and legal issues, and slightly leads the United States when it comes to freedom of international exchanges. Since 1990, the main evolution has been a decrease of the indicator of the size of the government for EU-15 compensated by increased freedom of exchange with foreigners. The general index of regulation has slightly improved on both sides of the Atlantic, although by less in Europe (see Table 3).

Among regulations, differences in labour markets' flexibility are the most glaring, with all EU economies lagging behind the United States. In particular, the low German score burdens the EU-weighted average. Product market regulations on businesses also appear to be higher on the old continent, as regulations on businesses are lower in the United States than in any European Member States, bar Finland and Sweden.

Looking in more depth at countries, we have plotted the labour market regulation index and the business regulations index for 2002 (see Graph 2). The presumption is that one would see two types of countries: low regulated ones and heavily regulated ones in both labour and business regulations. The plot reveals a more complicated

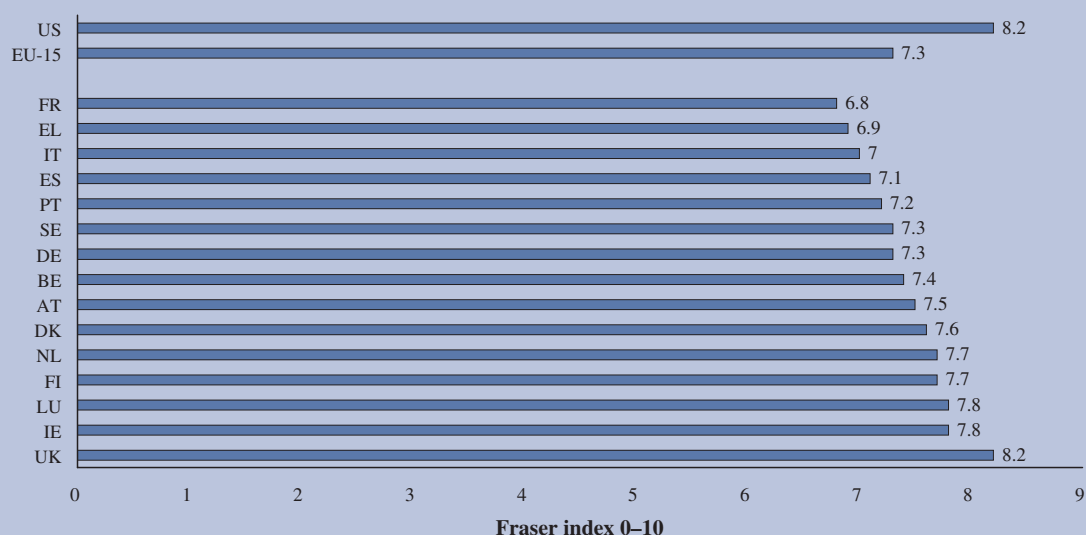
Table 3

Components of the economic freedom indicator

2002	General economic freedom	Of which I. Size of government	Of which II. Legal structure and security of property rights	Of which III. Access to sound money	Of which IV. Freedom of exchange with foreigners
United States	8.2	7.4	8.2	9.8	7.8
Average EU-15	7.3	4.6	8.1	9.6	8.2

Source: Fraser Institute. The indicators range from 0 to 10, a higher value indicating a better score. EU-15 is the GDP-weighted value.

Graph 1: General economic freedom, 2002



Source: Fraser Institute.

story because the levels of labour and business regulations come out as not correlated ⁽¹⁾. The first interesting, albeit unsurprising, finding is that the United States, unlike most EU countries, achieves a high performance in both indicators. To regroup countries, we carried out a hierarchical cluster analysis ⁽²⁾. Being the closest to the United States, Luxembourg and the United Kingdom succeed in achieving relatively high performances on both indicators. At the other extremity, the cluster composed of Greece, Italy and, to some extent, Belgium ⁽³⁾ and Portugal shows poor

performance in both labour and business regulations. In the middle range, two groups emerge.

The first one is composed of France, Ireland, the Netherlands, and Spain. It achieves good results in labour regulations and average performance in business regulations ⁽⁴⁾.

The second group achieves good if not superior performance in business regulations but generally shows average to poor performance in labour regulations. It is composed of Austria, Denmark, Finland, and Sweden. Finally, Germany stands out as an outlier with relatively good performance in business regulations but has labour markets which are too inflexible. Given its weight in EU GDP, its unsatisfactory performance bears on the overall EU index.

To investigate further those differences, we have regrouped indicators within the four categories of product market reforms identified in Section 2.

⁽¹⁾ Both the Spearman and Pearson tests fail to reject the null hypothesis of no correlation. However, when one takes Austria, Germany, Finland and Sweden out of the sample, the correlation appears highly positive and strongly significant. The same result is valid when taking the OECD indicator (for 1998). Further investigations should be made with regard to differences in the labour market index. The OECD index seems to focus more on hiring and firing issues, whilst the Fraser index looks in addition at minimum wages, collective bargaining, and unemployment benefits issues.

⁽²⁾ Based on Ward's minimum variance method. We arbitrarily stopped the clustering procedure at five clusters, whose regrouping still explains 80.6 % of the original variance. Technically, the distance between two clusters is the ANOVA sum of squares between the two clusters added up over all the variables. At each generation, the within-cluster sum of squares is minimised over all partitions obtainable by merging two clusters from the previous generation.

⁽³⁾ The relatively poor performance of Belgium in the index of business regulations mainly stems from a poor performance in the ease of starting a new business.

⁽⁴⁾ France seems to obtain a good score in labour market regulations thanks to a relatively decentralised wage-bargaining system.

Graph 2: Labour and business regulations, 2002



Source: Fraser Institute.

Table 4

Regulation indices

2002	Regulation of credit	Regulation of labour	Regulation of business
United States	9.2	7.3	6.7
Average EU-15	8.3	4.4	5.8

Source: Fraser Institute. The indicators range from 0 to 10, a higher value indicating lower regulation. EU-15 is the GDP-weighted value.

5.2.1. Trade openness and legal barriers

Based on this indicator, the EU appears to be a slightly more open economy than the United States. Most of the difference seems, however, to come from differences in taxes on trade and hidden import barriers, whilst the cost of importing is slightly lower in the United States. Indicators of freedom of exchange have remained fairly stable since 1990, with most pronounced increases for the new Member States. In addition, most EU Member States show very close values when it comes to the sub-indicators. However, the Fraser values reflect international trade and tell nothing about trade integration within the EU and the United States. Trade integration among Member States was one of the first aims of the European Union with the creation of a customs union

and, subsequently, the creation of a single market and a common currency area. Between 1999 and 2002, intra-EU export trade in products for the 15 Member States varied between 15.7 and 17.3 % of GDP. Similar data for the intra-state trade in the United States are not directly available. However, using recent 2001 data for exports of manufactured goods from manufacturing establishments per state ⁽¹⁾ (US Department of Commerce and

(1) Note that in this case, the definition of 'manufacturing shipments' includes what the Census Bureau calls inter-plant transfers. This is the value of goods shipped to another establishment owned by the same company even if no explicit sale occurs due to the common ownership. The Census Bureau asks respondents specifically to include an estimate of the market value of such shipments in their value of total shipments. Note also that the value at the plant does not include transportation or trade margins (purchasers' prices less producer prices).

US Census Bureau, 2004), we subtract the value of direct manufactured exports from the value of all manufacturers' shipments to get intra-state US exports of manufacturing product instead. We then divide this value by US GDP.

The aggregate value for the United States stands at 34.0 %. For comparison purposes, we computed the 2001 EU-15 intra-EU exports of manufactured products as a percentage of GDP. Its value stood at 16.6 % in 2001. Globally and with all the necessary caution ⁽¹⁾, this result suggests that, even when correcting for measurement errors, the United States appears to be a more integrated trade area than the EU.

5.2.2. Regulations on entry

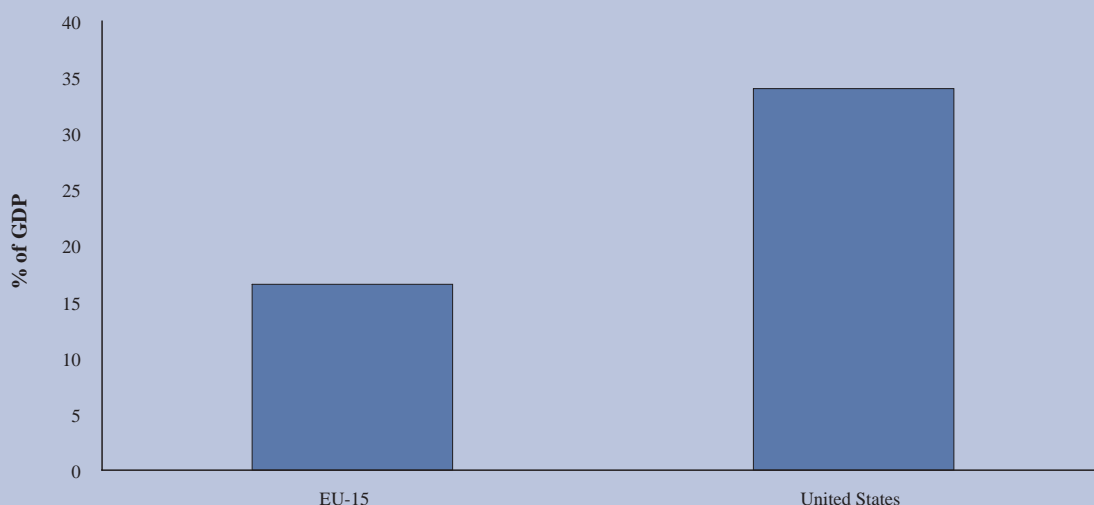
Free entry and exit of firms is a key element for the process of enabling the reallocation of resources towards the most productive sectors and firms, forcing companies to reach more efficient ways of doing business and giving incentives to firms to innovate. Tight

regulations to create a business, numerous and lengthy procedures to set up a company, or high costs to start an economic activity are deterrents to entrepreneurship and end up to be de facto regulatory protection for incumbent companies. Obstacles to the set-up of new businesses appear to be relatively high in the EU, despite the fact that Denmark, Finland, Ireland, Luxembourg, Sweden and the United Kingdom have indices that come close to or are higher than the US value. This result is extremely important because the economic literature suggests that potential competition is a necessary condition for the channels between product market reforms and productivity to work.

The Fraser indicator assesses the situation in 2002. In the course of the Lisbon strategy, many if not all Member States have initiated important reforms to promote entrepreneurship. The World Bank provides more recent and complementary data in this respect. The indicator lists all procedures legally required to operate a limited liability company (see Table 7). It indicates that, although the number of procedures may have declined, their duration and cost remain substantially larger than in the United States for most EU Member States.

⁽¹⁾ Notably, the level of desegregation can bias the results, the data sources and methodologies differ and this analysis is only made for 2001.

Graph 3: Intra-trade in manufactured products (intra-exports as a % of GDP, 2001)



Source: Commission services.

In addition, the World Bank provides indications on the time and cost necessary to close a business (see Table 8). The swift and inexpensive death of inefficient businesses is also important to increase overall productivity. Despite shorter procedures, the cost of closing a business in Europe remains higher than in the United States. In addition, with the exception of Finland, the Netherlands, Belgium and Ireland, the European insolvency systems lack efficiency in terms of cost, time, priority of claims, and outcome achieved. The Fraser indicators on obstacles to new businesses are difficult to compare over time because their definition has changed, leading to jumps in the data. Looking at data for 2002, we link the indicators of ‘ease of starting a new business’ and ‘administrative obstacles to starting a new business’⁽¹⁾.

Unsurprisingly, both indicators are highly correlated and contain similar information (see Graph 4). When pro-

ceeding with the clustering procedure⁽²⁾, one can identify Finland as a front-runner that displays obstacles to entrepreneurship that are as low if not lower than the United States.

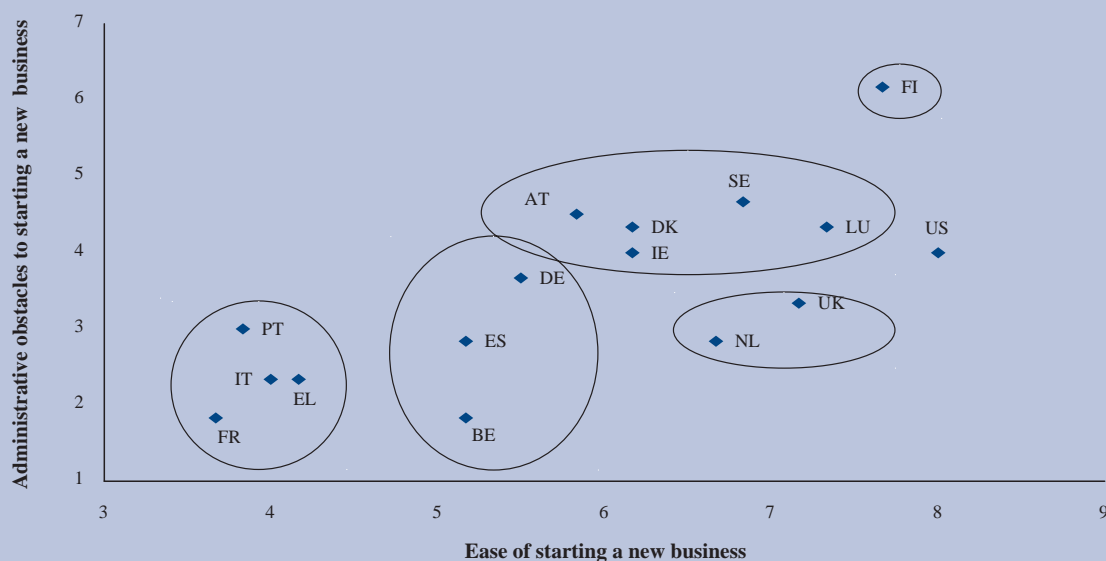
The second group encompasses Austria, Denmark, Ireland, Luxembourg, and Sweden, and shows a relative ease of starting a new business with few perceived administrative obstacles. The third group, made up of the Netherlands and the United Kingdom, exhibits an equal perceived ease of starting a business but more perceived administrative obstacles⁽³⁾. As ‘average’ performers, Belgium, Germany, and Spain show indicators that are close to the EU-15 average with Germany slightly better and the other two doing more poorly. Finally, the fifth group exposes a strong unease to start up a new company and very high administrative burden related to this issue. It consists of France, Greece, Italy, and Portugal.

⁽¹⁾ Both indicators are taken from the global competitiveness report. They represent the businesses’ assessment of whether starting a new business is generally easy and whether administrative procedures are an important obstacle to starting a new business, respectively.

⁽²⁾ We arbitrarily identify five clusters, whose regrouping still explains 84.2 % of the original variance.

⁽³⁾ Graphically, groups 2 and 3 seem to be good candidates for a regrouping under a label ‘medium-high’ performers. However, formally, the cluster analysis would favour first a regrouping of groups 4 and 5 with a slightly lower share of the explained original variance.

Graph 4: Obstacles to entrepreneurship, 2002



Source: Fraser Institute.

5.2.3. Business-friendly environment

Besides indicators on the ease to set up a new business, the index of regulations on business includes an indicator on the time spent with bureaucracy, one on price control and another one on irregular payments to officials. On average, and contrary to common belief, the time spent with bureaucracy in the European Union appears to be just slightly higher than in the United States. Although the Fraser indicators come out to be very close for all Member States, the analysis reveals that Spanish, Belgian, Italian, Luxembourgish, and Swedish companies are those for which senior management spend the least time dealing with government bureaucracy.

As in the case of several other indicators, the results should be viewed with caution as they are based on businesses' perception ⁽¹⁾ — which can vary with business culture — but they give an interesting indication that bureaucracy might not be the key explanatory variable of the gap between the United States and Europe ⁽²⁾. The results seem to be somewhat confirmed by the World Bank indicator on enforcing contracts which looks at the procedures necessary to recover a debt and shows a similar number of procedures in Europe and the United States combined with a longer duration in the United States. The cost and, to some extent, the complexity of the procedure seem, however, lower in the United States.

Price control is usually used to protect citizens from large price increases on basic products that are deemed necessary. However, price control can sometimes be interpreted by producers as 'lines in the sand' and they could tacitly agree to sell at the maximum price although they would be able to supply at a lower price ⁽³⁾. As one believes that price controls have a distortionary impact on economies, the higher degree in Europe comes as bad news. Irregular payments to officials (as well as the size of the underground economy) are equally bad for productivity because they bias competition. Productive firms may be driven out by less productive ones simply because they do not compete on the same level of the playing field. The Fraser indicator does not indicate a significant difference between the EU average and the US level for irregular payments to officials.

A business-friendly environment also encompasses a level playing field for competitors and sound and certain rules of law. Competition policy plays an important role in this respect. Although the EU and US competition laws have many common features, some commentators have remarked on apparent differences in the underlying philosophies, which allegedly have a significant influence on the outcomes of competition cases. For example, the US authorities are said to be more concerned with the efficiency effects of business practices or mergers, whereas the EU's approach places greater emphasis on market structures and the impact on competitors.

⁽¹⁾ In addition, time spent with bureaucracy could conceptually be beneficial if this allows public authorities to make better decisions and actions, for example because of better information.

⁽²⁾ To be fair, the indicators on regulation of entry and administrative burden are purely describing the domestic situation. They do not measure the difficulties of creating a business in another EU Member State, nor of dealing with an EU foreign administration.

⁽³⁾ See European Commission (2001a).

Table 5

Components of the freedom of exchange with foreigners indicator

2002	Freedom of exchange with foreigners	Of which	Of which	Of which	Regulatory	Regulatory
		I.	II.	III.	barriers of which:	barriers of which:
		Restrictions on capital markets	Taxes on internat. trade	Regulatory trade barriers	III.a. Hidden import barriers	III.b. Cost of importing
United States	7.8	8.4	8.1	8.2	6.8	9.6
Average EU-15	8.2	8.7	9.0	8.6	7.8	9.3
Best EU-15	9.0 (IE)	9.6 (LU)	9.1 (EL, LU)	9.5 (FI)	9.3 (FI)	9.9 (LU)
Worst EU-15	7.4 (EL)	7.2 (PT)	9.0 (all others)	7.8 (IT)	6.7 (IT)	9.0 (IT)

Source: Fraser Institute. Range: 0 to 10 from most restrictive to least restrictive. Hidden import barriers originate from the global competitiveness report published by the World Economic Forum. The cost of importing is defined as the combined effect of import tariffs, licence fees, bank fees, and the time required for administrative red tape which raises costs of importing equipment and shares the same source. EU-15 is the GDP-weighted value.

Table 6

Obstacles to entrepreneurship

2002	Regulation on business	Administrative obstacles for new businesses	Ease of starting a new business
United States	6.7	4.0	8.0
Average EU-15	6.0	3.0	5.3
Best EU-15	7.5 (FI)	6.2 (FI)	7.7 (FI)
Worst EU-15	4.9 (EL, IT)	1.8 (BE, FR)	3.7 (FR)

Source: Fraser Institute. Range: 0 to 10 from heaviest regulation to lowest regulation.

Table 7

Starting a business

Starting a business (January 2004)	Number of procedures	Duration (days)	Cost (*)	Min. capital (*)
United States	5	5	0.6	0.0
Average EU-14	7	31	10.0	39.0
Best EU-14	3 (FI)	4 (DK)	0.0 (DK)	0.0 (IE,UK)
Worst EU-14	13 (EL)	108 (ES)	23.3 (IT)	135.2 (EL)

(*) % GNI per capita.

Source: World Bank (methodology adapted from Djankov et al., 2002). EU-14 (EU-15 minus LU). EU values are non-weighted averages.

Table 8

Closing a business

Closing a business (January 2003)	Actual time (years)	Actual cost (% of estate)	Goals-of-insolvency index (*)
United States	3.0	4.0	88.0
Average EU-14	1.8	8.9	73.0
Best EU-14	0.4 (IE)	1.0 (FI, NL)	99.0 (FI)
Worst EU-14	4.2 (DK)	18.0 (AT, FR, IT)	42.0 (EL)

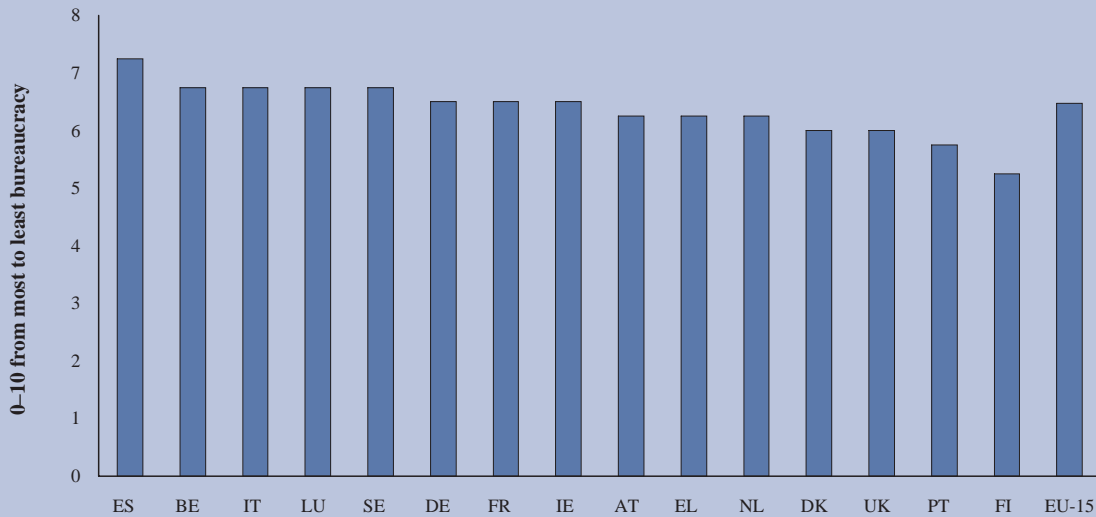
(*) 'The goals-of-insolvency ratio documents the success in reaching the three goals of insolvency, as stated in Hart (1999). It is calculated as the simple average of the cost of insolvency (rescaled from 0 to 100, where higher scores indicate less cost), time of insolvency (rescaled from 0 to 100, where higher scores indicate less time), the observance of absolute priority of claims, and the efficient outcome achieved. The total goals-of-insolvency index ranges from 0 to 100: a score of 100 on the index means perfect efficiency (Finland, Norway, and Singapore have 99), a 0 means that the insolvency system does not function at all' (Source: World Bank).

Source: World Bank (methodology adapted from Djankov et al., 2003b). EU-14 (EU-15 minus LU). EU values are non-weighted averages.

However, recent reforms in the EU, particularly with regard to agreements between companies, are likely to reduce some of the differences. For example, it is probably true that, in the past, the European Commission devoted too much effort to policing relatively innocuous agreements and not enough to detecting and breaking up

hardcore cartels. A series of radical legislative changes enacted since 1999 are designed to enable the Commission to redirect resources to the most serious problems and to introduce a more economics-based approach to competition policy. It remains to be seen what impact these changes will have.

Graph 5: Time spent with bureaucracy, 2002



Source: Fraser Institute.

As far as State aid is concerned, the EU exercises a control over the Member States that has no equivalent in the United States. One result of this is that there is much more transparency about aid expenditure in the EU. Another outcome is that competition between Member States and regions to attract investment is strictly disciplined in the EU, whereas states and local authorities are engaged in an escalating subsidy war in the United States, the overall effect of which is probably welfare-reducing. On the other hand, national authorities in the EU seem to be much more willing than authorities in the United States to give financial support to ailing firms or sectors, while US authorities are more likely to take a forward-looking approach, targeting firms with good growth prospects.

Finally, corporate tax levels in the United States do not seem to be lower than in the EU. One main difference between the EU and the United States may be the additional cost for European companies having cross-border activities of dealing with 25 different accounting and tax systems. Recent surveys show that companies face important problem and compliance costs related to transfer pricing issues and refund of VAT across Member States.

5.2.4. State involvement in the economy

The last category of product market reforms concerns those reforms aiming at reducing State involvement in the economy. All indicators, be they government consumption, the level of transfer and subsidies, the level of taxes, or the size of State participation in enterprises point to a smaller government intervention in the United States than in Europe (see Table 11). It is nevertheless difficult to univocally depict all governmental intervention with economic distortions. The indicators do not pick up efficiency issues, social preferences, differences in the organisation of the welfare state, or the extent to which government intervention tries to fix market failures.

5.2.5. Liberalisation of network industries

Finally, comparing the liberalisation process of network industries in the EU and the United States brings interesting insights. This analysis is not based on a summary indicator but on an analysis of the changes in the regulatory framework observed in the EU and the United States. Network industries make up an important share of the economy with around 5 % of total employment in both the EU

and the United States. In addition, they provide services that are economically and socially important to households and business users. In Europe, large productivity gains have accompanied the liberalisation of network industries (European Commission, 2004a). By comparing

the degree of liberalisation of network industries in the EU and the United States (see annex), it appears that network industries in the EU are liberalised to a degree similar — if not superior — to that in the United States, in particular in the energy and postal services.

Table 9

Regulation on business and sub-indicators

2002	Regulation on business	Price control	Time spent with bureaucracy	Irregular payments to government officials
United States	6.7	7.0	6.8	8.0
Average EU-15	6.0	6.3	6.5	8.0
Best EU-15	7.5 (FI)	9.0 (FI)	7.3 (ES)	9.5 (DK)
Worst EU-15	4.9 (EL, IT)	5.0 (BE, IT)	5.3 (FI)	5.9 (EL)

NB: EU-15 is the GDP-weighted value.

Source: Fraser Institute. Range: 0 to 10 from heaviest regulation to lowest regulation.

Table 10

Enforcing contracts

Enforcing contracts (January 2003)	Number of procedures	Duration (days)	Cost (% GNI per capita)	Procedural complexity index
United States	17.0	365.0	0.4	46.0
Average EU-14	19.0	225.0	5.9	55.0
Best EU-14	12.0 (UK)	39.0 (NL)	0.5 (NL, UK)	36.0 (UK)
Worst EU-14	27.0 (BE)	645.0 (IT)	15.8 (FI)	83.0 (ES)

NB: The procedural complexity index varies from 0 to 100, with higher values indicating more procedural complexity in enforcing a contract. This index measures substantive and procedural statutory intervention in civil cases in the courts.

Source: World Bank (methodology adapted from Djankov et al., 2003a). EU-14 (EU-15 minus LU).

Table 11

Size of government

2002	Size of government	Government consumption	Transfer and subsidies	Government enterprises and investment	Top marginal income tax rate
United States	7.4	5.5	6.7	10.0	7.5
Average EU-15	4.6	4.1	4.2	6.8	3.5
Best EU-15	6.8 (UK)	6.2 (EL)	6.3 (UK)	10.0 (AT, BE, DK, IE, NL, UK)	6.0 (UK)
Worst EU-15	2.8 (FR)	1.0 (SE)	2.3 (DE)	4.0 (ES, FR)	0.5 (DK)

NB: EU-15 is the GDP-weighted value.

Source: Fraser Institute. Range: 0 to 10 from highest to lowest involvement.

6. Policy implications

The previous section showed that the backwardness of Europe in product market reforms seems to be concentrated in measures that promote entry and exit of firms and in a lower degree of trade integration. The European Union is open to international competition and its network industries are liberalised to a degree that equals if not exceeds the United States. If European companies do not perceive regulations as more time-consuming than US companies do, their cost seems to be higher. Finally, State involvement in the economy is higher in Europe but the consequences of this are debatable. Obviously, a lack of flexibility in labour markets and to some extent more regulations on credit — two issues not reviewed here — may also explain a sizeable share of the US–EU gap in productivity ⁽¹⁾.

Europe's poor performance in promoting business dynamism may actually well explain its lower productivity as the theoretical and empirical findings have shown entry and exit of firms as an important if not necessary condi-

tion for product market reforms to deliver their full effects via the three channels. The relatively poor performance of the EU in terms of trade integration could seem at first more surprising given the efforts made to create an internal market.

However, despite its many successes, the internal market is not functioning as it should and some key indicators of internal market integration (such as growth in trade amongst the euro-area Member States and price convergence) show that progress has stalled. Similarly, recent internal market scoreboards have highlighted an increase in the transposition deficit of internal market directives and substantial delays in the transposition of these directives into national legislation.

In the context of the mid-term review of the Lisbon strategy, our analysis can contribute to the choice of priorities for reforms in the area of product markets. We conclude that reforms to ease entry and exit are important. These should go beyond measures to reduce time and cost to start up a company and should include reforms making Europe an attractive place to do business. Similarly, making sure that the internal market is working at full capacity should be a clear objective for the Union.

⁽¹⁾ We do not review here other explanations such as management practices, IT spending, innovation, education, etc. See Lewis (2004), Lewis et al. (2002), Dorgan and Dowdy (2002) and McKinsey Global Institute (2001) for some of these issues. For example, there are indications that relative 'management scores' match relative total factor productivity levels.

7. References

- Acs, Z. J. and B. D. Audretsch (1987), 'Innovation, market structure and firm size', *Review of economics and statistics*, 69, pp. 567–575.
- Aghion, P. and E. Cohen (2004), 'Education et croissance', rapport pour le Conseil d'analyse économique, Paris.
- Aghion, P. and P. Howitt (1992), 'A model of growth through creative destruction', *Econometrica*, 60, pp. 323–351.
- Aghion, P. and P. Howitt (1998), *Endogenous growth theory*, MIT Press, Cambridge and London.
- Aghion, P., C. Harris and J. Vickers (1997), 'Competition and growth with step-by-step innovation: an example', *European economic review, Papers and proceedings*, pp. 771–782.
- Aghion, P., C. Harris, P. Howitt and J. Vickers (2001), 'Competition, imitation and growth with step-by-step innovation', *Review of economic studies*, Vol. 68, pp. 467–492.
- Aghion, P., N. Bloom, R. Blundell, R. Griffith and P. Howitt (2002), 'Competition and innovation: an inverted U relationship', *NBER working paper*, No 9269, October 2002.
- Aghion, P., R. Blundell, R. Griffith, P. Howitt and S. Prantl (2003a), 'Firm entry and growth: theory and micro evidence', mimeo.
- Aghion, P., R. Burgess, S. Redding and F. Bilizotti (2003b), 'The unequal effects of liberalisation: theory and evidence from India', mimeo, <http://econ.lse.ac.uk/staff/rburgess/wp/abr2031002.pdf>.
- Ahn, S. (2001), 'Firm dynamics and productivity growth: a review of micro evidence from OECD countries', *OECD Economics Department working paper*, No 297.
- Ahn, S. (2002), 'Competition, innovation and productivity growth: a review of theory and evidence', *OECD Economics Department working paper*, No 317.
- Baily, M. N., C. Hulten and D. Campbell (1992), 'Productivity dynamics in manufacturing plants', *Brookings papers on economic activity: Microeconomics*, pp. 187–267.
- Bain, J. S. (1951), 'Relation of profit rate to industry concentration: American manufacturing 1936–40', *Quarterly journal of economics*, 65, pp. 293–324.
- Bain, J. S. (1956), *Barriers to new competition*, Harvard University Press, Cambridge, MA.
- Barnes, M., J. Haskell, and M. Maliranta (2001), 'The sources of productivity growth: micro-level evidence for the OECD', paper presented at the OECD workshop on firm-level statistics, OECD, November 2001, Paris.
- Basu, S., J. G. Fernald, N. Oulton and S. Srinivasan (2003), 'The case of missing productivity growth: or, does information technology explain why productivity accelerated in the United States but not in the United Kingdom?', *NBER working paper*, No 10010, Cambridge, MA.
- Bayoumi, T., D. Laxton and P. Pesenti (2004), 'Benefits and spillovers of greater competition in Europe: a macroeconomic assessment', *European Central Bank working paper series*, No 341.
- Bils, M. (1987), 'The cyclical behaviour of marginal cost and price', *American economic review*, Vol. 77, pp. 838–885.

- Blanchard, O. J. and F. Giavazzi (2001), 'Macroeconomic effects of regulation and deregulation in goods and labour markets', *MIT Department of Economics research paper series*, No 01–02, January 2002.
- Blundell, R. W., R. Griffith and J. Van Reenen (1999), 'Market share, market value and innovation in a panel of British manufacturing firms', *Review of economic studies*, No 66, pp. 529–554.
- Brandt, N. (2004), 'Business dynamics, regulation and performance', *OECD STI working papers*, No 2004/3.
- Caves, R. E. and D. R. Barton (1990), *Efficiency in US manufacturing industries*, MIT Press, Cambridge, MA.
- Caves, R. E. et al. (1992), *Industrial efficiency in six nations*, MIT Press, Cambridge, MA.
- Clark, S. (2002), 'Corporate tax incentives for foreign direct investment', paper presented at the OECD Global Forum on International Investment, Shanghai, 5–6 December 2002.
- Cullen, J. B. and R. H. Gordon (2002), 'Taxes and entrepreneurial activity: theory and evidence for the US', *NBER working paper*, No 9015.
- Dasgupta, P. and J. Stiglitz (1980), 'Industrial structure and the nature of innovative activity', *Economic journal*, 90, pp. 266–293.
- Demsetz, H. (1974), 'Two systems of belief about monopoly', in Goldschmid, H. J., H. M. Mann and J. F. Weston (eds), *Industrial concentration: the new learning*, Little, Brown, MA.
- Dierx, A., F. Ilzkovitz and S. Khalid (2004a), 'European integration and the functioning of product markets: selected issues', in *European integration and the functioning of product markets*, Edward Elgar (forthcoming).
- Dierx, A., K. Pichelmann and W. Röger (2004b), 'Product market reforms and macroeconomic performance in the European Union', in Dierx, A., F. Ilzkovitz and Sekkat (eds), *European integration and the functioning of product markets*, Edward Elgar (forthcoming).
- Disney, R. F., J. Haskel and Y. Heden (2000), 'Restructuring and productivity growth in UK manufacturing', *CEPR discussion paper*, No 2463.
- Djankov, S., R. La Porta, F. Lopez-de-Silanes and A. Shleifer (2002), 'The regulation of entry', *Quarterly journal of economics*, Vol. 117, pp. 1–37.
- Djankov, S., R. La Porta, F. Lopez-de-Silanes and A. Shleifer (2003a), 'Courts', *Quarterly journal of economics*, May 2003.
- Djankov, S., O. Hart, T. Nenova and A. Shleifer (2003b), 'Efficiency in bankruptcy', Harvard University, *Department of Economics working paper*.
- Dorgan, S. and J. Dowdy (2002), 'How good management raises productivity', *The McKinsey quarterly*, 2002, No 4.
- European Commission (1996), 'Economic evaluation of the internal market', *European Economy*, Reports and studies, No 4.
- European Commission (2001a), 'Price levels and price dispersion in the EU', *European Economy*, Supplement A, No 7, July 2001.
- European Commission (2001b), 'Company taxation in the internal market', COM(2001) 582 final.
- European Commission (2002a), 'Corporation tax and innovation', *Innovation papers*, No 19.
- European Commission (2002b), *The internal market — 10 years without frontiers*.
- European Commission (2004a), 'Horizontal evaluation of the performance of network industries providing services of general economic interest: 2004 report', *Commission Staff working paper*, SEC(2004) 866, June 2004.
- European Commission (2004b), 'European tax survey', SEC(2004) 1128, September 2004.
- Fraser Institute (2004), 'Economic freedom of the world', *2004 Annual Report*.
- Gentry, W. M. and R. G. Hubbard (2004), 'Success taxes, entrepreneurial entry, and innovation', *NBER working paper*, No 10551, June 2004.
- Geroski, P., P. Gregg and J. Van Reenen (1996), 'Market imperfections and employment', *OECD economic studies*, No 26, I, pp. 117–156.

- Green, A. and D. G. Mayes (1991), 'Technical efficiency in manufacturing industries', *Economic journal*, 101, pp. 523–538.
- Griffith, R. (2001), 'Product market competition, efficiency and agency costs: an empirical analysis', Institute for Fiscal Studies, working paper, 01/12, June.
- Griffith, R. and R. Harrison (2004), 'The link between product market reform and macroeconomic performance', *Economic paper*, No 209, European Commission.
- Griffith, R. and H. Simpson (2003), 'Characteristics of foreign-owned firms in British manufacturing', *NBER working paper*, No 9573, Cambridge, MA.
- Griffith, R., S. Redding and J. Van Reenen (2000), 'Mapping the two faces of R & D: productivity growth in a panel of OECD studies', *IFS working paper*, No 02/00.
- Griliches, Z. and H. Regev (1995), *Journal of econometrics*, Vol. 65, No 1, pp. 175–203.
- Harberger, A. C. (1954), 'Monopoly and resource allocation', *American economic review*, Vol. 44, No 2, pp. 77–87.
- Hart, O. (1983), 'The market as an incentive mechanism', *Bell journal of economics*, 14, pp. 336–382.
- Hart, O. (1999), 'Different approaches to bankruptcy', paper presented at the Annual World Bank Conference on Development Economics, Paris.
- International Monetary Fund (2003), 'Unemployment and labour market institutions: why reforms pay off', *IMF world economic outlook*, Chapter 4.
- Jacquemin, A. and A. Sapir (1991), 'Competition and imports in the European market', in Winters, L. A. and A. J. Venables (eds), *European integration: trade and industry*, Cambridge University Press, Cambridge.
- Keuschnigg, C. and S. B. Nielsen (2000), 'Tax policy, venture capital and entrepreneurship', *CEPR discussion papers*, No 2626.
- Konings, J., P. Van Cayseele and F. Warzynski (2001), 'The dynamics of industrial mark-ups in two small open economies: Does national competition policy matter?', *International journal of industrial organisation*, 19, pp. 841–859.
- Leibenstein, H. (1966), 'Allocative efficiency versus X-efficiency', *American economic review*, 56, pp. 392–415.
- Lewis, W. (2004), 'The power of productivity', *The McKinsey quarterly*, 2004, No 2.
- Lewis, W. et al. (2002), 'What is right with the US economy', *The McKinsey quarterly*, 2002, No 1.
- Machin, S. and J. Van Reenen (1993), 'Profit margins and the business cycle: Evidence from UK manufacturing firms', *Journal of industrial economics*, Vol. 41, No 1, March 1993.
- McKinsey Global Institute (2001), *US productivity growth: understanding the contribution of information technology relative to other factors*, Washington, DC, October 2001.
- Melitz, M. (2003), 'The impact of trade on intra-industry reallocations and aggregate industry productivity', Harvard, mimeo, forthcoming in *Econometrica*.
- Meyer, M. A. and J. Vickers (1997), 'Performance comparisons and dynamic incentives', *Journal of political economy*, 105(3), pp. 547–581.
- Nickell, S. J. (1996), 'Competition and corporate performance', *Journal of political economy*, Vol. 104, No 4, pp. 724–746.
- Nickell, S. J., S. Wadhvani and M. Wall (1992), 'Productivity growth in UK companies, 1975–86', *European economic review*, 36, pp. 1055–1091.
- Nickell, S. J., D. Nicolitsas and N. Dryden (1997), 'What makes firms perform well', *European economic review*, 41, pp. 783–796.
- Nicoletti, G. and S. Scarpetta (2003), 'Regulation, productivity and growth: OECD evidence', *Economic policy*, Vol. 18, No 1, April 2003, pp. 9–72(64).
- Oliveira Martins, J., S. Scarpetta and D. Pilat (1996), 'Mark-up ratios in manufacturing industries — Estimates for 14 OECD countries', *OECD Economics Department working paper*, No 162, Paris.

- Organisation for Economic Cooperation and Development (2001), 'Measuring productivity', *OECD manual*, Paris.
- Organisation for Economic Cooperation and Development (2002), 'Productivity and innovation: the impact of product and labour market policies', *OECD economic outlook*, No 71, Chapter 7.
- Organisation for Economic Cooperation and Development (2004a), *Understanding economic growth*.
- Organisation for Economic Cooperation and Development (2004b), *OECD economic surveys: United States*, Paris.
- Pilat, D. (1996), 'Competition, productivity and efficiency', *OECD economic studies*, No 27, Paris.
- Rao, S., A. Ahmad, W. Horsman and P. Kapstein-Russell (2001), 'The importance of innovation for productivity', *International productivity monitor*, No 2, spring 2001.
- Rao, S., T. Jianmin and W. Wang (2002), 'The importance of skills for innovation and productivity', *International productivity monitor*, No 4, spring 2002.
- Romer, P. M. (1990), 'Endogenous technological change', *Journal of political economy*, Vol. 98, pp. 71–102.
- Sauner-Leroy, J.-B. (2003), 'The impact of the implementation of the single market programme on productive efficiency and on mark-ups in the European Union manufacturing industry', European Commission Directorate-General for Economic and Financial Affairs, *Economic papers*, No 192.
- Scherer, F. and D. Ross (1990), *Industrial market structure and economic performance*, third edition, Houghton Mifflin, Boston.
- Schmalensee, R. (1989), 'Studies of structure and performance', in Schmalensee, R. and R. Willig (eds), *Handbooks of industrial organisation*, Vol. 2, Elsevier Science Publishers, Amsterdam, North Holland.
- Sharpe, A. (1995), 'Productivity concepts, trends and prospects: an overview', *Review of economic performance and social progress*, Vol. 2.
- Sutton, J. (2002), 'Market structure: the bounds approach', mimeo, http://personal.lse.ac.uk/sutton/market_structure_bounds_sutton.pdf.
- US Bureau of Transportation Statistics (2004), *Commodity flow survey*, <http://www.bts.gov/ntda/cfs/prod.html>.
- US Department of Commerce and US Census Bureau (2004), *Exports from manufacturing establishments: 2001*, July 2004.
- US Energy Information Administration (2004), <http://www.eia.doe.org>.
- Vickers, J. (1995), 'Concepts of competition', *Oxford economic papers*, p. 47.
- Wang, J.-C. and K.-H. Tsai (2003), 'Productivity growth and R & D expenditure in Taiwan's manufacturing firms', *NBER working paper*, No 9724, Cambridge, MA.
- Winston, C. (1993), 'Economic deregulation: days of reckoning for microeconomists', *Journal of economic literature*, Vol. 31, September, pp. 1263–1289.
- World Bank (2004), *Doing business indicators*, <http://rru.worldbank.org/doingbusiness/>.

Annex

A comparison of the degree of liberalisation of network industries in the EU and the United States

The liberalisation of the telecommunications industry in the United States really started with the break-up of AT&T in 1984. The 1996 telecommunications act removed all barriers to competition across the various telecommunications segments and set up the Federal Communications Commission (FCC) as regulator with the powers to deregulate further if regulation is deemed unnecessary for competition and consumer protection. At the end of 2003, 75 % of the United States' zip codes, covering 96 % of the US population, had the choice of supplier. In contrast, Europe liberalised its telecommunications industry in 1998 and, in 2000, an EU regulation ordered the unbundling of the local loop. Alternative providers are available in all old Member States, although in the great majority of EU countries there are no more than three to four large competing players for public voice telephony. In addition, the development of local loop unbundling is still rather unbalanced across countries.

Since 1 July 2004, freedom of choice of energy supplier has been available to all professional users in the European Union with all consumers to follow in 2007. Currently, seven Member States have already fully liberalised their electricity and six have done so in gas. In the United States ⁽¹⁾, the 1978 public utility regulatory policies act opened the way to deregulation of electricity and opened wholesale trade to competition. As of February 2003, 23 US states and the District of Columbia have passed legislation to open up their retail electricity market to competition.

In gas, as of January 2004, five states and the District of Columbia have allowed all residential consumers to choose their supplier. Eight other states have begun state-wide unbundling programmes and another eight have partial or pilot programmes. Therefore, less than half of the US states have opened up household consumption to competition in energy sectors, even if the most populated states are usually liberalised.

In air transport, the 1978 airline deregulation act liberalised the sector in the United States. The air transport sector in the European Union was liberalised in three successive stages. In 1987, a first package of measures started to relax the established rules. For example, it limited the right of governments to object to the introduction of new fares. In June 1990, a second 'package' of measures allowed greater flexibility over the setting of fares and capacity-sharing, extended the right of an airline of one country to carry traffic to and from third countries en route and opened up the right to carry traffic to and from the home State to all Community carriers. These measures, which were initially limited to passengers, were extended to freight in 1990. The third package adopted in 1992 gradually introduced freedom to provide services within the European Union and led in April 1997 to the freedom to provide cabotage ⁽²⁾. Since April 1997, unconditional access to all domestic markets has been granted to all airlines in the European Union.

⁽¹⁾ US Energy Information Agency.

⁽²⁾ The right for an airline of one Member State to operate a route within another Member State.

The 1970 postal reorganisation act created the United States Postal Service. The current law is unclear but in practice the USPS has a monopoly on all mail that is not priority mail, expedited mail, mailgrams, international mail or parcel post. In contrast, the European Union opened in 2003 the postal markets for mail weighing more than 100 grams or costing more than three times

the price of a standard letter and all cross-border mail. Beginning in 2006, the market will be further liberalised to allow for competition for all mail weighing more than 50 grams or costing more than two and a half times the cost of a standard letter. After that, the European Parliament will initiate a review of the feasibility of opening the entire postal market to competition by 2009.

Chapter 6

Protecting the environment and economic growth: trade-off or growth-enhancing structural adjustment?

Summary

While environmental sustainability is an integral part of the Lisbon strategy, **protection of the environment and economic growth are often seen as competing aims**. Proponents of tighter environmental regulation challenge this view. They highlight the financial benefits of increased eco-efficiency and the emergence of a European eco-industry with millions of jobs together with the need to improve how we protect public health and manage natural resources. European industry and business, meanwhile, often claim that tightened European environmental regulation is hampering their growth, undermining their international competitiveness, and destroying jobs, and will force them to eventually relocate their activities to emerging market economies outside the EU.

This chapter tries to shed some light on this controversy by identifying and analysing mechanisms and driving forces that could work in one direction or the other, by looking for empirical evidence for or against the above claims, and by coming up with some recommendations for better policy-making.

The controversy surrounding environmental policy has, perhaps surprisingly, arisen not so much from the issue of conserving non-renewable commodities such as fossil fuels or industrial metals, but from **the increasing scarcity or overuse of renewable natural resources**, causing problems such as water and air pollution, or damage to global commons such as the atmosphere or the ozone layer. This apparent paradox reflects the fact that, while functioning markets exist for the non-renewable commodities, there are typically no markets for environmental commons. This has not posed a problem in the past, since there was an abundance of natural resources. However, due to rising demand linked to growing populations, industrialisation based on the burning of fossil fuels and the associated pollution, and new insights into the cause–effect relationship between pollution and public health, it has **become necessary to find ways of managing these ‘goods’ efficiently**.

Normally, rising scarcity tends to move goods up a ‘property-rights hierarchy’, that is, free goods are first made subject to a common-property regime, and then, eventually, turned into private goods. **Environmental policy aims at putting environmental resources such as land, water, air, the atmosphere and specific habitats under a common-property regime**, with clear and enforceable rules. The tools at the environmental policy-maker’s disposal are various forms of restriction on activity: access to these resources may be limited (for example, by placing limit values on emissions), or their use may be limited (by restricting the kind of activities allowed in natural habitats or drinking-water reservoirs) or made subject to specific conditions (such as paying a tax or an environmental levy or the obligation to clean or recycle them after use).

The theory of the property-rights hierarchy has been borne out in practice. Rising incomes and rising pollution have brought with them a rising demand for environmental protection (policies). **Market forces themselves have led to a reduction in the pollution intensity of economic activity in Europe**, both because of the dynamic growth of the ‘cleaner’ service sector, and because the private rates of return for local and regional pollution are closer to social rates than for global commons. However, **strong policy action has nevertheless been needed to decouple economic activity and emission levels**. These policies have been most successful in the context of ambient air pollution and acidification, while progress still needs to be made on cutting back greenhouse gas emissions.

There is **no evidence to support the assertion that this decoupling has been achieved by exporting pollution through large-scale delocalisation**, as this process tends to be determined by factors other than environmental legislation. Moreover, the environmental ambitions of emerging market economies such as China are also rising, and standards seem to be converging glo-

bally, suggesting that ‘pollution havens’ are at most a temporary phenomenon.

While demand for environmental protection is growing, it comes at a cost. The **costs and benefits of taking action or not must therefore be estimated** when environmental legislation is being drafted. However, it is rare for the costs and benefits — particularly the benefits — that actually materialise to be assessed after the policy has been implemented. Where they are, it appears that **costs tend to be overestimated**, possibly owing to both asymmetric information and a tendency to underestimate innovation and progress in abatement technologies. That said, **spending on environmental protection** — estimated by Eurostat at about 1.5 % of GDP in the late 1990s — **does divert the resources of regulated industries** from their core business. Typically, it makes their production more capital intensive and more expensive, with a negative knock-on effect on the productivity of other production factors, and on demand. If competitors do not have to comply with similar policy constraints, this spending also worsens the (international) competitiveness of the industries affected.

On the plus side, gradual but credible long-term **tightening of environmental standards and ambitions helps to establish new markets for environmental technologies** — both abatement and clean technologies. It is estimated that spending on environmental protection

accounts for two million jobs in EU-15, or about 1.2 % of total employment.

In addition, **environmental policies cause an adjustment of economic structures**, mainly by changing the property-rights regimes for natural resources. The price (in the widest sense of the word) of using environmental resources and of exposing the public to health risks should thus be brought closer into line with the social cost, with the consequence that pollution and risks to public health should decline, and GDP become less pollution intensive. Polluting industries will thus be held in check while cleaner industries will be boosted, and the **net effects on welfare** — though not necessarily on economic activity as measured in national accounts statistics — **should be largely positive**.

However, this adjustment comes at the price of friction between regulated industries, their suppliers and their customers, which could offset potential welfare gains. **A cost-effective environmental policy should aim to minimise the costs incurred in achieving an environmental objective** by taking into account this kind of friction, the dynamic character of adjustment needs, and the huge uncertainties surrounding cost and benefit estimates in the absence of well-functioning markets. In this way, it could contribute to significantly relaxing the potential trade-off between environmental protection and economic growth, and support welfare-enhancing structural adjustment.

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1. Introduction

There is probably a fairly broad consensus that, in the long term, high material living standards and high levels of environmental quality and public health are mutually consistent, if not interdependent, goals. However, at least in the short to medium term, environmental policy and economic growth are often portrayed as being in conflict with one another. That is, an increase in economic activity is seen as being inevitably bad for the environment, while environmental policy is regarded as imposing a drag on growth.

This chapter sets out to examine the validity of this perception: is it true that environmental quality and economic growth are competing goals, or can environmental policy lead to more efficient use of scarce resources, so fostering growth-enhancing structural adjustment of the economy? The focus of the following pages is not on whether environmental policy is successful in delivering its objectives of improvements in the environment and public health — in a sense, these are taken as given — but on the rather narrower issue of the costs and benefits to the economy of environmental policies.

The chapter draws on theory and empirical evidence, where the latter is available. However, one of the conclusions is that there is an acute lack of data, both on the impacts of environmental policy on economic growth,

and on the degree to which environmental damage may hamper economic activity. This lack of data, often due to the absence of market transactions in these fields, is a severe barrier to integrating environmental and economic policies. In particular, the absence of figures on the effect of environmental damage on economic activity makes it difficult, if not impossible, to identify the scope for ‘win-win’ measures.

The structure of the chapter is as follows. As a preliminary to the main theme of the chapter, the question of why — or whether — we need environmental policy is discussed. From this basis, the scope for both synergies and trade-offs between environmental quality and economic growth is considered. The next part of the chapter in a sense reverses the direction of causality by looking at the relationship between economic activity and changes in pollution, drawing on the ‘environmental Kuznets curve’ literature. The final part of the chapter, in line with the overall theme of this year’s review, looks at the possible contribution of environmental policy to improving the short- and medium-term framework conditions for growth. It examines how environmental policy causes costs and benefits for business, and suggests how policy should be designed to minimise the former and maximise the latter, without compromising the environmental objectives of the policy.

Box 1: 'Growth' and 'welfare'

Throughout this chapter the terms 'growth' or 'economic growth' are used in the sense of 'changes in real gross domestic product (GDP)'. Although standard economic theory deals more with 'welfare', and changes in real GDP do not necessarily correlate perfectly with changes in national well-being, or welfare, a focus on the narrower concept of economic growth has been taken for two reasons.

A first, pragmatic, reason is that no comprehensive measure of welfare exists. Attempts to measure and compare the relative contributions of environmental quality and production of marketed goods and services quickly run into problems of 'incommensurability'. That is, different units are used to measure changes in environmental quality and changes in market output of goods and services. The fundamental underlying difficulty is that aggregates such as GDP derived from the national accounts are mainly based on transactions that take place in the market. The perceived need for an alternative measure, such as a 'green' GDP, arises precisely because markets for environmental resources do not generally exist.

Although considerable work has been undertaken to link uses of environmental resources with national accounts (see, for example, Schoer et al. (2001) or Eurostat (2001b)), this does not yield a single, integrated measure of 'welfare'. Indeed, as noted in the joint UN/EC/IMF/OECD/WB manual of integrated environmental and economic accounting, these integrated approaches are themselves open to criticism on the grounds that they fail to take adequate account of other dimensions of welfare, in particular its social dimension.

A second reason for using the conventional, albeit flawed, concept of growth in GDP is that trying to replace it with an overall measure of welfare would have fudged the issues the chapter tries to address. The aim here is not to assess whether environmental policy contributes to overall welfare — it is taken for granted that this is so — but whether and to what extent the pursuit of enhancements in environmental quality has been brought at the expense of improvements in GDP. This is a crucial question, given the Lisbon strategy's aims of seeking simultaneous improvements in economic, environmental and social well-being.

2. (Why) do we need environmental policy?

Views about the interaction between environmental policy and economic growth frequently fall into two camps.

2.1. Renewable and non-renewable resources

On one side, there are those who point to the finite nature of many of the earth's natural resources on which much economic activity depends, the seemingly inexorable rise in human consumption of those resources, and consequent inevitable shortages. Ever-increasing rates of exploitation of natural resources could lead to the depletion of non-renewable resources such as oil or industrial metals, to high levels of biodiversity loss and a subsequent reduction in the quality of life, as this also depends on the natural environment and species diversity (Balmford et al. (2002)). The unsustainable 'footprint' of economic activity would first lead to sharply rising input prices, and ultimately to the depletion of crucial inputs, pushing substitution costs to unaffordably high levels. This could have significant impacts on growth, both in developed but even more so in developing countries. Even wars for access to limited resources (water, oil and so on) could be expected.

This type of 'doomsday' standpoint achieved particular prominence with the publication by the Club of Rome of *The limits to growth* (Meadows et al. (1972)). They predicted that if the then current trends in population, industrialisation, pollution, food production and resource depletion were to continue unchanged, then, within the following 100 years, 'the most probable result will be a rather sudden and uncontrollable decline in both population and industrial capacity'.

Brundtland et al. in *Our common future* (1987), while not making dramatic predictions of this sort, highlighted the implications for world energy consumption of the combination of a rising world population with the need to achieve much higher living standards of the populations of poorer countries.

The recent rise in oil prices has revived fears of looming shortages ⁽¹⁾, even if it is generally accepted that part of the price rise reflected a perceived increase in the risk of supply disruptions due to heightened political tension in the Middle East and other parts of the world. A period of sustained, rapid commodity price increases would tend to strengthen the arguments of those who argue that our societies are developing along fundamentally unsustainable paths.

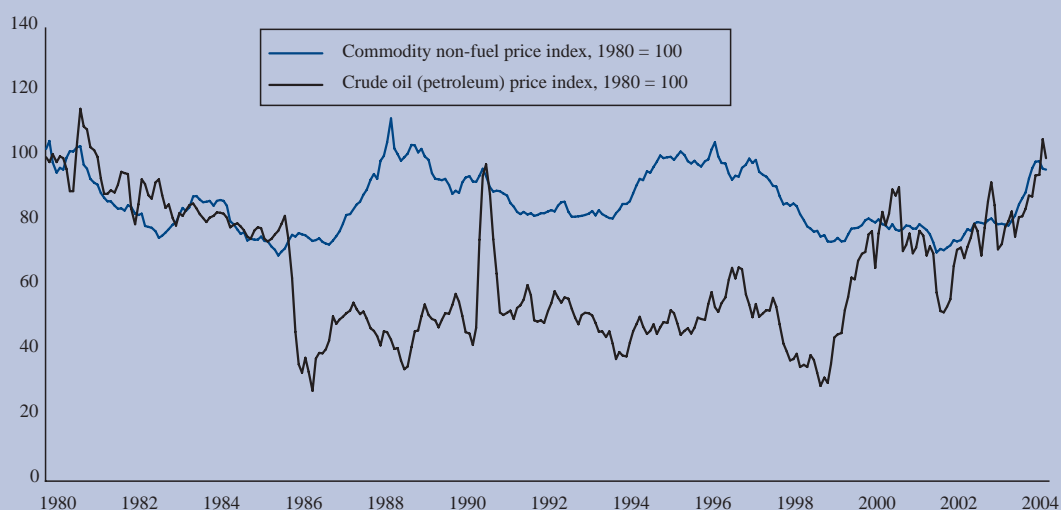
Others take a more optimistic view. While acknowledging that natural resources such as fossil fuels and minerals are indeed finite, they foresee considerable potential for society to adapt to possible future shortages through innovation and technical progress. This view rests in part on historical evidence of huge improvements in the efficiency of resource use; for example, the efficiency by which the energy in coal is converted to steam has increased over time by a factor of 25 ⁽²⁾.

From this perspective, increases in the prices of what we today regard as essential raw materials will act as a stimulus to resource-saving innovation. Moreover, seen in a longer-term perspective, as in Graph 1, the case can be made that recent rises in commodity prices have done little more than return them to their levels of quarter of a century ago: neither the level of prices, the scale nor the speed of the recent increases look particularly exceptional.

Optimists also assume that what holds for commodities might also hold for other kinds of environmental pressures. Lomborg (2001) may be regarded as a recent example of this outlook, according to which far from leading inevitably to environmental (and, ultimately, economic) disaster, economic growth has generally been associated with declining, not increasing, levels of environmental damage.

⁽¹⁾ See, for example, 'The end of cheap oil', *National geographic*, June 2004.
⁽²⁾ Shell International (2001).

Graph 1: Commodity prices, 1980–2004



Source: IMF.

These optimistic interpretations tend to leave unanswered the question of the extent to which current prices reflect both the needs of the present and those of future generations. They also overlook the question of those resources for which no markets exist. Dasgupta and Heal (1979) show that, in general, markets will allocate non-renewable resources efficiently over time only under quite restrictive conditions.

To date, the targets of environmental policy-makers, perhaps to the surprise of some, tend to support the optimists: preserving non-renewable resources has not been the main driver of environmental policy⁽¹⁾. In fact, contrary to what one might expect, the most pressing environmental issues are human health and environmental problems caused by overuse (in terms of overstressing the carrying and recovery capacity) of renewable resources: air and water pollution, climate change and biodiversity loss (see Box 2, ‘The priorities of environmental policy’). As argued below, this apparent paradox

⁽¹⁾ As an example, the European Commission is currently developing a ‘thematic strategy’ on natural resources which is expected to focus on the environmental impacts of using non-renewable resources like metals and minerals, rather than on their possible scarcity. See European Commission (2003c).

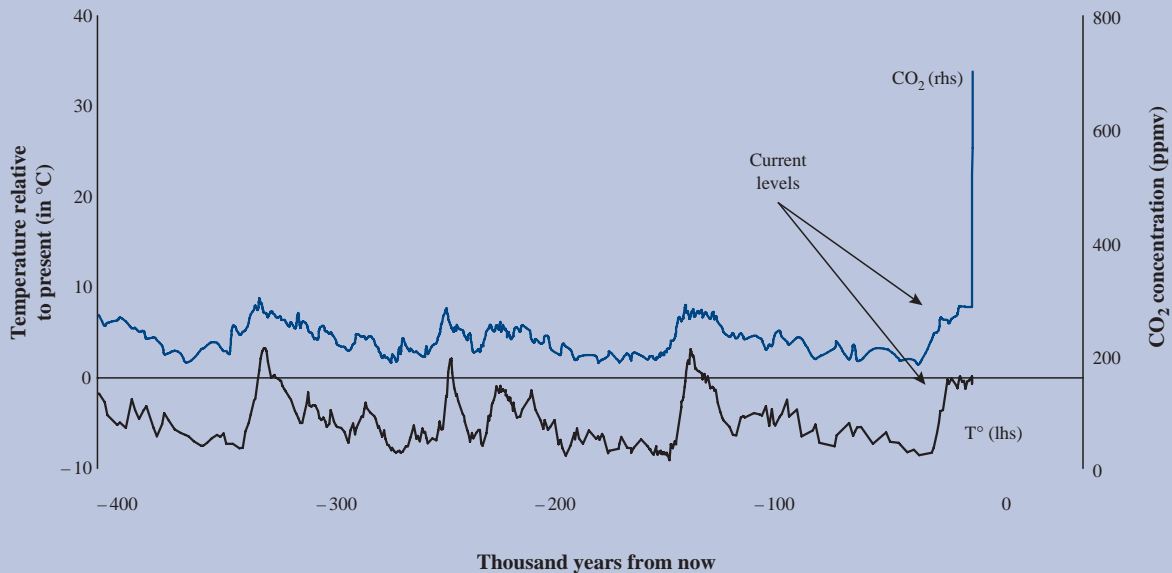
of relative shortage of renewable resources and relative abundance of non-renewable resources can be explained in terms of the presence or absence of enforceable property rights.

The problem of climate change is a particularly forceful example of the contrast between relative abundance of non-renewable resources and relative shortage of renewable ones.

According to the Intergovernmental Panel on Climate Change (IPCC), increased atmospheric concentrations of greenhouse gases — mainly due to emissions of carbon dioxide from the burning of fossil fuels — are likely to be warming the earth’s atmosphere, thus affecting the climate⁽²⁾. The likely impacts include more extreme weather conditions, with an increased risk of heatwaves, droughts and floods and their associated damage. In the longer term, global warming could cause — besides a general rise in sea levels — severe shocks such as shutting down or substantially weakening the Gulf Stream. This would give much of Europe a less temperate

⁽²⁾ For this paragraph, see IPCC (2001a, b, c).

Graph 2: Long-term trends in CO₂ concentrations and global temperatures



Sources: IPCC (2001a, b, c), Jouzel et al. (1987, 1993, 1996).

climate, with significant impacts for economic activity. Yet cumulative emissions of carbon dioxide from the middle of the 19th century to date — that are already judged to be causing climate change — result from the burning of no more than 6 % of the world's estimated total fossil fuel resources. Thus, the problem for environmental policy is not that we are running out of a non-renewable resource — fossil fuel — but that we are overstretching the capacity of the earth's atmosphere, a renewable resource.

2.2. Inappropriately defined property rights

The superiority of a market economy over other forms of economic organisation — in terms of the ability to deliver high and rising levels of material comfort to people — is based in part on well-defined, enforceable and tradable property rights, which in turn requires the existence of effective public institutions. Enforceable property rights enable owners of resources to use them to produce goods and services for sale to willing buyers; when property rights are tradable, they may be bought and sold for the benefit of both buyer and seller.

However, there are frequently no property rights for environmental resources such as air and water. When this is so, they can be used free of charge and in unlimited quantities as a dump for waste by-products of human and economic activity. Similarly, there are typically no property rights — and hence no markets — for maintaining biodiversity, so individual decisions on land use, for example, are unlikely to take account of the wider social and economic benefits that may flow from a higher level of species diversity. The lack of markets for environmental resources thus gives rise to a difference between the private benefits of their use and the benefits to society at large. Action to reduce these gaps, or 'externalities', between private and societal benefits (so-called because the effects of individual action on the wider society are not 'internalised' in prices) will therefore potentially be beneficial for the overall well-being of society.

As long as environmental resources were abundantly available, the lack of enforceable property rights was not really an issue and could be largely neglected. However, rising demand for natural resources due to growing populations, industrialisation based on the burning of fossil fuels and the associated pollution, new insights into

Box 2: The priorities of environmental policy

Traditionally, environmental policies have dealt with three core issues: (1) threats to public and occupational health, where the environment (mainly water and air) is the medium transporting the cause of disease or health risks, so that tighter air quality or water quality standards could help to significantly reduce these risks; (2) biodiversity issues, such as natural equilibria, food chains, or existence values of rare species or the gene pool, especially in largely unexplored biotopes, such as deep seas or tropical rain forests; and (3) the overuse of natural resources, such as commodities, fish stocks, global commons (tropical rain forests or the atmosphere and the ozone layer).

Historically, the first of these — concern over the public health impacts of pollution — has been the main driver of environmental policy. The existence of a relationship between polluted air and water and adverse health impacts has been recognised for a long time ⁽¹⁾, even if the precise nature of the cause–effect links and their scale remains uncertain in some respects. First policy reactions (at local level) to this insight typically took the form of action to establish waste-water collection systems and protect drinking-water reservoirs; later, policies to improve air quality and reduce exposure to potentially harmful substances complemented efforts to protect citizens and workers against the negative fall-out from human activities.

⁽¹⁾ Lomborg (2001) reports that a first attempt to ban coal burning in the United Kingdom was made in the 14th century!

A more modern, but still long-standing additional rationale for environmental policy, such as the policy combating acid rain, has been to reduce the impact of pollution — particularly air pollution — on buildings and crops. More recently, as the scale and scope of human activity have continued to expand, issues relating to preserving the global commons — climate change, the ozone layer, biodiversity, for example — have become prominent. Here, too, part of the rationale for policy action is motivated by fears of the negative feedback from human activity to public health and economic activity: a significant acceleration in the rate of climate change could have adverse impacts on human health by expanding the range of infectious diseases such as malaria, for example. However, most concerns with respect to climate change are related to its potentially dramatic effects on economic activities.

Notwithstanding the broadening of the range of issues tackled by environmental policy, protecting human health remains a key factor, not least because improvements in knowledge highlight previously unknown sources of harm. For example, most of the outstanding health problems due to air pollution are now believed to be caused by very fine particulate matter, emissions of which are not directly regulated at EU level.

cause–effect relationships (that is, the link between pollution and public health threats), better knowledge about how ecosystems function, their potential fragility and the services they provide and increasing awareness of the limits of current knowledge have led to the need to change how these ‘goods’ should be managed.

Normally, rising scarcity tends to move goods up a ‘property-rights hierarchy’. That is, free goods are first turned into goods falling under a common-property regime, before they eventually turn into private goods. However, for this to happen property rights must first be defined and assigned, and then they must become enforceable, normally with the help of both the institutional and legal framework, and technical exclusion mechanisms.

In the case of some natural resources the problem may be that while property rights exist, they are not adequately defined and/or enforceable or enforced, leading to an overuse of these resources. The management of fish populations in (inter)national waters may serve as an example of this. For example, the decline in fish stocks in European waters is not because it was not possible to establish ownership of fish but because the fishery quotas which Member States agreed upon have often been too high (if measured against scientific advice) to avoid overexploitation of these resources, and they are often monitored in an insufficient way. There is a striking contrast between the threat to the continued existence of some types of fish — in principle a renewable resource — and the continuing availability of non-renewable resources such as precious metals, for which exclusive property rights have been established.

The same contrast between the relative abundance of fossil fuels and the relative scarcity of the atmosphere has already been highlighted in the context of climate change. The link to the presence or absence of well-defined property rights should be immediately apparent. Indeed, it is noteworthy that the first significant global attempt to address climate change — the Kyoto Protocol — limited developed countries' access to the global commons of the atmosphere by placing a cap on their greenhouse gas

emissions. It is equally noteworthy that subsequent problems in implementing the protocol (in particular, the withdrawal of the United States) are related to both dissatisfaction with the size of the limits on emissions (that is, the volume of property rights allocated), the fact that access to the atmosphere remains unrestricted for some large emitters (so that for these emitters the atmosphere remains a global commons), and the absence of mechanisms to enforce the agreement.

3. How pollution and environmental policy affect the economy

3.1. The mechanisms

The output of any economy depends on both the quantity of inputs it uses and the efficiency with which these inputs are used: typically, the greater the quantity of inputs and the more efficient the use of these inputs, the greater the amount of output.

Most forms of production also generate pollution. That is, on top of the primary output produced for the market, they also produce waste, a public ill, in the form of air or water pollution, or other forms of liquid or solid waste, which are typically released into the environment (air, water, soil), unless waste-management systems have been put in place. In the latter case, these systems themselves contribute to economic activity, and their value added enters national accounts statistics. Indeed, services such as waste-water management or municipal waste collection and treatment have turned into important service providers with an annual turnover (in 1999) of EUR 48 billion each ⁽¹⁾.

Environmental policy usually aims to prevent, reduce or at least manage better such waste streams. Pollution damages the natural environment, but may also affect the amount and quality of the inputs available to be used for production. Indeed, as already observed, one of the main drivers of environmental policy is the effect of pollution on human health. This gives rise to economic costs in the form of higher healthcare spending and reduced labour supply. Pollution also affects natural resources such as soil and water, reducing their productivity, and requiring significant resources to be spent on their remediation.

However, reducing the emissions that cause pollution and environmental damage may imply diverting

resources from production of goods and services demanded by market actors (such as power steering or air-conditioning in cars) to pollution abatement activities (such as catalytic converters), that is, the production of goods and services imposed on market actors ⁽²⁾. If this is the case, there may be a trade-off between providing goods and services to clean up the environment and producing economic goods and services requested by pure market considerations.

Any given policy proposal is likely to give rise to both these effects. That is, cutting back on emissions is likely to require that resources are allocated to abatement, thereby reducing the level of the primary economic output of the regulated sector, while the improvement in environmental quality that results from lower emission levels may enhance the availability and productivity of resource inputs. The issue then is which of these effects is the larger, that is, whether the fall in output in the regulated sector (and in up- and downstream industries) due to reducing emissions is offset by the rise in output in pollution abatement industries and in the rest of the economy due to lower levels of pollution.

These competing effects on output of reducing emissions and reducing pollution levels help to explain some of the controversy about the impact of environmental policy on economic output. If those who have to incur the cost of reducing emissions are not the same as those who benefit from lower levels of pollution (as will very often be the case), then it will not be surprising if the two groups have differing views about the desirability of action to reduce

⁽¹⁾ Eurostat (2001a).

⁽²⁾ This is not the only shift. To assess the economy-wide impact it is necessary to take account of the substitution and income effects triggered by a given policy measure. Increased energy taxation, for example, will induce companies to substitute other factors of production for energy, and less energy-intensive products will constitute a larger share of final goods. This will entail transfers of income within the economy beyond those set out here.

emissions. Moreover, as in all likelihood the members of the group of those potentially negatively affected by tightened regulation will individually lose much more than the individuals of society at large, they will articulate their opposition much more loudly and visibly than the individuals who benefit.

The time dimension may also be relevant: the sequence of events that results from implementing an environmental policy measure is that first emissions are reduced, so output falls, and then the positive effects of reduced pollution levels materialise, so output rises. In other words, benefits occur later than costs. So if different interest groups have differing views (explicit or implicit) about the appropriate discount rate, this may be enough to lead them to opposing conclusions about whether the measure is good or bad for the economy. Differences in the timing of costs and benefits are especially relevant in dealing with problems such as air pollution and climate change. The benefits of action taken now in these areas may only be felt many years or even decades in the future.

Further scope for debate comes from our imperfect understanding of both the exact nature of the ‘dose-response’ function, that is, the relationship between emissions, levels of pollution and adverse environmental and health impacts. Although it may be possible to forecast the costs of action to reduce emissions reasonably precisely, there may be considerable uncertainty about the scale of the benefits. This opens another avenue for disagreements about the net impact of environmental policy on the economy.

3.2. The valuation problem

As well as these issues of the distribution of costs and benefits between different economic agents, the timing of these costs and benefits and their extent, a further major source of potential uncertainty and disagreement arises precisely because of the lack of markets for many of the benefits of environmental policy, such as increased life expectancy, improved health in general, or maintaining biodiversity. A number of techniques have been devised to value these benefits, to provide input to policy-making.

- *Damage function/dose-response:* Based on scientific knowledge, a relationship is established between the observed environmental pressure (for example, particulate emissions or noise) and the

observed impact (for example, increased morbidity or mortality). It is only with respect to the latter that a monetary valuation is attempted. However, the monetary valuation is limited to the costs that are visible in the market (hospital costs, labour productivity, and so on). In practice, a damage function approach can therefore often be expected to underestimate the welfare costs of a given externality. On the other hand, it might be particularly suitable in cases where people are unaware of a certain dose-response relationship and would therefore not have well-established preferences.

- *Avoidance costs:* This frequently used technique takes the costs of measures to reduce externalities as an approximation of their benefits. The main advantage of this approach is that avoidance costs are comparatively easy to establish, as the costs of end-of-pipe technologies (like catalytic converters) or other defensive expenditure (such as double-glazing for sound-proofing) are usually well known. The main disadvantage is the risk of circular reasoning when one would like to establish policy priorities in the first place.
- *Hedonic pricing:* This method tries to estimate how the prices of otherwise similar goods are affected by differences in their environmental characteristics. For example, differences in the prices of houses in quiet and noisy streets may be used to place a value on measures to reduce noise pollution. This method can only be used to value impacts of which people are aware.
- *Contingent valuation/stated preferences:* Individuals are questioned about how much they feel their well-being is affected by a particular environmental issue. The approach may be based on ‘willingness to pay’, that is, determining how much people would pay to avoid or reduce a particular externality, or on ‘willingness to accept’, that is, the amount of compensation people would require in return for a deterioration in the environment. Which of the concepts is more appropriate is likely to depend on the (explicit or implicit) allocation of property rights.

The contingent valuation/stated preference approach tends to be more costly than the others because it requires information from individuals, obtained through interviews or questionnaires. Offsetting this disadvantage, it gives more complete estimates of the impact of

environmental damage on well-being, because it is able to capture 'quality of life' aspects that some of the other methods do not. For this reason, it is often regarded as the preferred, or 'first best' way to value environmental externalities for which there are no markets ⁽¹⁾. However, this approach has to be carefully applied, as answers to questionnaires may differ significantly from actual behaviour once it comes to implementing a willingness to pay or to accept.

Placing a value on human health or species diversity may be considered by some to be morally offensive, but is necessary if the costs and benefits of implementing or not implementing a particular policy action are to be analysed in a rational way. Given an estimate of the expected costs of a measure, a decision to proceed or not to proceed with it places an implicit floor or ceiling respectively on the value attached to its benefits. The techniques outlined above for making this implicit valuation explicit do not aim to exercise an ethical judgment, but rather to facilitate rational policy debate.

Examples

Pretty et al. (2000) undertook an assessment of total external environmental and health costs of agriculture in the United Kingdom. Their approach was close to the 'damage costs' method. Wherever possible, they valued externalities based on the financial costs they imposed, thereby aiming to overcome uncertainties in valuing non-marketed goods and services such as landscape or biodiversity. This approach yielded an estimate of total annual external costs of UK agriculture of GBP 2.3 billion in 1996, equivalent to 89 % of average net farm income for the 1990s.

Pretty et al. claim these estimates are likely to be conservative. For example, agriculture's negative impact on biodiversity is estimated based on the cost of plans to return species and habitats to acceptable levels for society (after taking account of impacts of other sectors on biodiversity), but this does not adequately include non-use values of biodiversity; external costs due to chronic health effects of pesticide use are excluded due to uncertainty in current scientific knowledge. On the other hand, their estimates do not take account of possible positive externalities of agriculture, such as landscape and amenity values or carbon sequestration.

An example of the costs to the economy of air pollution is given by Sommer et al. (1999), who report the results of an assessment of the health and related economic impacts of air pollution in Austria, France and Switzerland. They find that some 40 000 deaths per year, or 6 % of all deaths in these countries, are attributable to air pollution. In addition, air pollution causes large numbers of additional cases of chronic bronchitis and asthma attacks, giving rise to over 28 million 'restricted activity days' per year among the adult population (aged 20 and over) in the three countries. Road traffic was identified as the major source of air pollution causing these impacts.

The authors tried to give an economic value to these impacts in two ways, by estimating the value of the lost production or income due to premature death or ill health, and by estimating 'willingness to pay' to reduce the risk of death or illness due to air pollution. As already noted, the latter is generally considered to be the appropriate way to measure the cost to society of death and illness, because in addition to the cost of lost production or income, this method includes intangible factors such as pain and suffering.

The first approach gave an estimate of EUR 6.5 billion (in 1996 prices). This excludes the cost of 'restricted activity days' because of a lack of precision in how this impact was defined. The authors indicate that including production losses due to 'restricted activity days' could add about EUR 1 billion to their estimate. The willingness-to-pay approach gives much higher values, with total air pollution-related costs in the three countries estimated at EUR 50 billion, equivalent to the order of 3 % of GDP.

A recent report on the costs and benefits of Natura 2000 sites in Scotland throws particular light on how different methods of valuing environmental assets can yield completely opposing cost-benefit ratios ⁽²⁾. Designating an area as a Natura 2000 site implies costs such as the costs of managing and maintaining the site and opportunity costs in terms of restrictions on the economic activities that may be undertaken on the protected area. Benefits from classification as a Natura 2000 site include direct use values — essentially related to tourism — and non-use values, reflecting individual willingness to pay for the continued existence of natural resources.

⁽¹⁾ See European Commission (1995).

⁽²⁾ See Jacobs (2004). Natura 2000 is an EU-wide network of nature conservation sites.

When both use and non-use benefits were taken into consideration, the report estimated that the ratio of benefits to costs of designating areas as Natura 2000 sites in Scotland was about seven to one, so that the policy represents good value from the perspective of society at large. However, almost all of the benefits relate to non-use values, so that from the narrower perspective of the impact on economic activity, the policy has negative impacts. If these non-use values are excluded, the ratio of benefits to costs is considerably less than one.

In circumstances such as these, the higher the value a society attaches to intangible or non-traded benefits,

the more willing it will be to trade economic growth for environmental quality. As individuals and groups in society will have different views about the importance of issues such as nature conservation, whether because of incomplete information or because they are differently affected (that is, potential losers or winners), or for other reasons, this offers another reason for disagreements about the right level of ambition of environmental policy. Differences of opinion about the desirability of environmental policy may arise as much from differences in value systems as from disagreements about its physical effects.

4. Growth and the environment — the Kuznets curve

It is a widely observed phenomenon that as economies grow over time, emissions of many pollutants first grow, and then decline. This stylised fact is illustrated in Graph 3. First to be addressed are local pollution problems, such as lack of access to safe drinking water. Next to be tackled as incomes rise are regional problems, such as pollution due to sulphur dioxide (acid rain, for example). The last to be dealt with (successfully?) are global pollutants, of which greenhouse gases are a notable example.

Questions to be answered in this context are: (1) how far these stylised trends are matched by empirical evidence (for the EU); (2) what drives this differentiated decoupling of economic growth and pollution; and (3) whether a price has been paid for this decoupling in the form of forgone economic growth and delocalisation of industries. This section and the next try to at least partially answer these questions.

4.1. Some evidence ⁽¹⁾

Typical local pollutants are water pollution, solid waste streams and local air pollution due to the dirty burning of fossil fuels. While waste-water and solid waste streams have not really declined over time, their management has significantly improved over the past century, and nowadays private households or enterprises not connected to solid waste and waste-water collection and treatment networks are the exception and no longer the rule in the EU. Indeed, initially, such waste was only collected and then disposed of in rivers. Later it was treated before being released into rivers.

Local air quality has also improved dramatically over the last seven decades, both as a result of less dirty burning of

fossil fuels and tendencies to export pollution outside the local jurisdictions where it is generated: wherever it was possible (at low costs) — as in the case of large combustion plants by fitting them with higher smokestacks — local air pollution was ‘exported’, turning it into regional or even trans-boundary pollution. However, the price of a policy aiming at a ‘blue sky’ over the regions with large heavy industry in western Europe was environmental damage such as acid rain and ‘dead lakes’ in Scandinavia, highlighting the international dimension of environmental pollution to the general public for the first time.

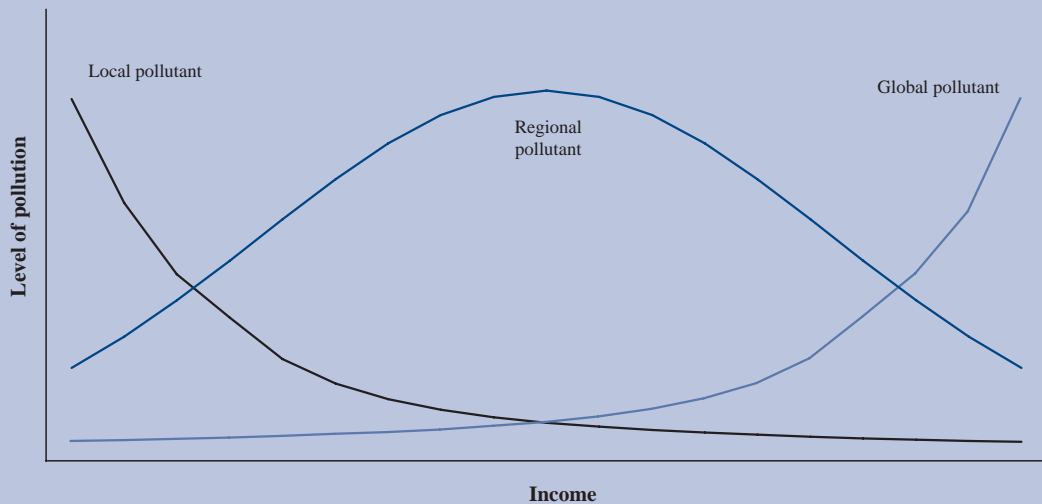
As regards regional and global pollution, Graph 4 allows the broad validity of this sequence to be assessed for EU-15, for sulphur oxides, nitrogen oxides and carbon dioxide emissions from energy. The graph shows three distinct patterns: sulphur oxide emissions have fallen throughout the period, so that they are now less than one fifth of their levels in the early 1980s; emissions of nitrogen oxides did not start to fall until around 1990, since when they too have shown a steady decline; finally, emissions of carbon dioxide from energy use, a typical global pollutant, show no sign as yet of declining.

The graphs lend support to the hypothesis that the priority attached to tackling different types of pollution changes as income rises. They show a clear absolute decoupling of local and regional levels of pollution from GDP levels. However, decoupling for the global pollutant, carbon dioxide, has so far occurred only in relative terms, that is, absolute emissions are not falling dramatically as for the other pollutants, but have remained rather stable over the last two decades.

In the early 1980s, emissions of sulphur oxides came predominantly from stationary sources, such as fossil fuel power plants, and were a significant source of local pollution. Pollutants whose causes and effects are mainly local may be tackled first as almost all the bene-

⁽¹⁾ For a more complete discussion of trends in pollution in the European Community, see ‘The EU economy: 2000 review’, Chapter 4.

Graph 3: Stylised relationship between economic growth and different types of pollution



Source: Based on World Bank (1992).

fits of action accrue to the members of local communities, and as the latter are able to agree appropriate solutions among themselves than more heterogeneous bigger communities. Compared with sulphur oxides, a greater share of nitrogen oxide emissions comes from transport. Pollutants which are emitted from a larger number of sources, and whose effects are widespread, require national action: this requires mobilising and coordinating greater amounts of administrative resources, and takes longer to organise. Finally, carbon dioxide is the major greenhouse gas contributing to human-induced climate change. Such pollutants with global effects cannot be effectively tackled in the absence of global cooperation, so their volume may continue to rise with rising income, possibly until long after trends in local and national pollutants have turned downwards ⁽¹⁾.

4.2. The driving forces behind decoupling

The bell-shaped relationship between growth and pollution has been called the ‘environmental Kuznets curve’,

following Kuznets’s observation (1955) that rising per capita incomes were associated with an initial increase in inequality and a subsequent decline. The cause of this relationship between growth and the environment is a crucial issue: what is the ‘transmission mechanism’ from higher levels of output to lower levels of pollution?

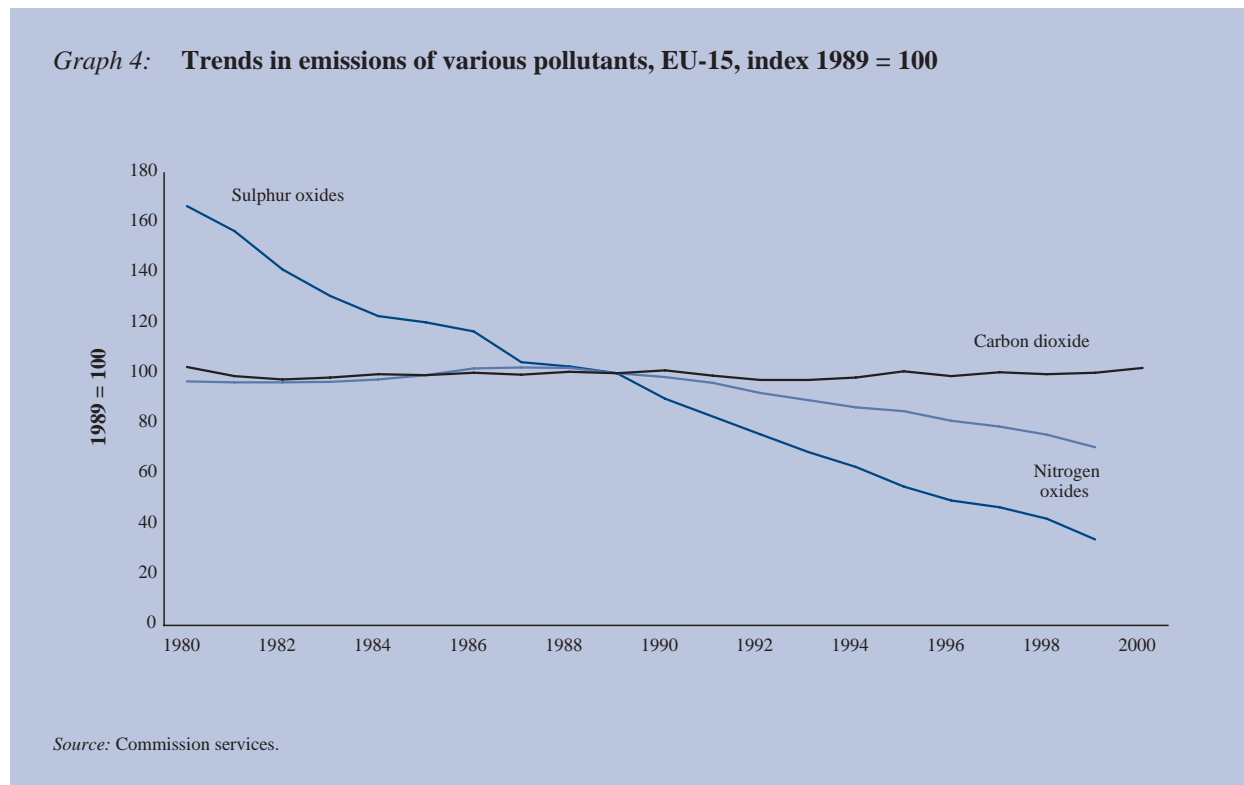
It may be helpful to distinguish between market-driven and policy-driven mechanisms when trying to explain the driving forces behind the relative and absolute decoupling of pollution trends from economic growth. The first might shed some light on why there has occurred a relative decoupling of economic activity and pollution, while the second might be necessary to explain the evidence of absolute decoupling and reduced environmental pressure from certain pollutants.

Market mechanisms

Market-driven changes in economic structures, including the pollution intensity of an economy, are determined by factor endowments, relative prices, competition and innovation, rates of return, market saturation, and so on.

⁽¹⁾ See also World Bank (1992) and European Commission (1994).

Graph 4: Trends in emissions of various pollutants, EU-15, index 1989 = 100



The change in the relative importance of the three sectors agriculture, industry and services over the last centuries — the change itself driven by changing factor endowments, technological progress, market saturation and changing needs of the population — is definitely the most important force behind the changing pollution intensity of economies: with the emergence and rapid growth of dirty heavy industries and industrialisation, the pollution intensity typically skyrockets, and the emergence and rapid growth of the cleaner service sector then reverses this trend.

The role of factor endowments is, for example, highlighted by Copeland and Taylor (2004). According to them, if output is made up of a ‘dirty’ good X (industry) and a ‘clean’ good Y (services), it is a simple matter to decompose the level of emissions of any pollutant z in the form of an identity:

$$z = Q * S * e,$$

where Q is the level of output, S is the share of the ‘dirty’ good X in total output, and e is the level of emissions produced by one unit of X. Changes in the level of pollution

are then determined by changes in output, the share of the ‘dirty’ good in output, and the emissions intensity of the ‘dirty’ good.

It is immediately obvious from this identity for z that a ‘neutral’ increase in output, leaving S and e unchanged, will lead to a rise in pollution, and, equally, that a fall in z that leaves S and e unchanged must lead to a fall in output. Less obviously, Copeland and Taylor show that, if growth occurs due to an increase in the supply of the factor used intensively in the production of the ‘clean’ good, pollution levels will fall. This is a consequence of the Rybczynski effect in a two-good model, whereby an increase in the supply of one factor leads to a rise in the output of the good that is produced using that factor intensively, and an absolute fall in the output of the other good.

However, the assertion by Copeland and Taylor that the Rybczynski effect shows that ‘a strong policy response to income gains is not necessary for pollution to fall with growth’ is surely of little relevance in the real world. Altering the model slightly, so that output is made up of a ‘high pollution’ good X and a ‘low pollution’ good Y,

is enough to make the impact of higher output of Y on pollution indeterminate. Moreover, observed growth patterns both in the EU as well as in other industrialised and developing countries do not generally support the contention that higher output in one sector is accompanied by absolute falls in output in others. An increasing share of 'clean' services relative to 'dirty' industry in an economy in which both sectors are growing will produce a fall in pollution per unit of output, not necessarily an absolute decline in pollution levels.

In varying this theme and focusing on labour supply and relative prices, the same mechanism would have worked when, as a result of the emerging 'clean' service sector with its 'clean' jobs, demand for jobs in the service sector would increase, while demand for jobs in the 'dirty' industry would decline. Then industry would — unless it replaced labour by capital — either have to pay a supplement or to invest in abatement technologies so as to make jobs 'cleaner' and less dangerous. In both cases, production costs in industry would rise relative to costs in the service sector, and its share in GDP would decline, leading to a fall in the pollution intensity of the economy. A similar mechanism would be triggered if labour demand shifted due to new insights in dose-response functions so that workers became more aware of the risks in dirty and dangerous industries.

An alternative mechanism through which growth may lead to lower emissions — without policy intervention — is if there are increasing returns to scale in pollution abatement. Andreoni and Levinson (1998) develop a model in which the relationship between pollution and output is monotonically increasing, U-shaped, or bell-shaped, depending on whether abatement shows constant, declining, or increasing returns to scale, respectively.

In their model, abatement is undertaken by individuals because pollution lowers their utility. In consequence, as of a certain point in income and pollution, the rate of return on increasing traditional output combined with an increase in pollution turns negative and makes pollution abatement rewarding. However, in such a scenario individual abatement efforts take no account of externalities (except to the extent that individual utility is enhanced by concern for the welfare of others). Consequently, even if there are increasing returns to scale in pollution abatement, the break-even point for pollution abatement would remain higher than that which would have resulted had total social costs and benefits been taken on

board, implying that pollution will remain at a socially inefficient level.

Environmental policies

A plausible explanation for the relationship shown by the Kuznets curve is that at low levels of income, increased consumption of material goods is valued more than environmental quality, so that the utility gain from consumption is greater than the loss of utility due to a deteriorating environment; as consumption levels rise, further increments produce ever-smaller gains in utility, so there is a willingness to trade off a slower increase in material consumption against welfare-enhancing improvements in environmental quality. Because of the presence of externalities, uncoordinated action by individuals will have at best limited effect, so this willingness can only be fully realised by policy intervention.

One possible policy-driven cause of the environmental Kuznets curve is a 'pollution haven' effect or 'race to the bottom', that is, a relocation of dirty industries to third countries in response to tightened environmental policies. The reasoning behind this is that as incomes rise, demand for a cleaner environment increases, but so does demand for goods and services that give rise to pollution: wealthier people want more spacious and better heated houses, more energy-consuming domestic appliances, bigger and more powerful cars, and so on. A possible explanation for the simultaneous increase in incomes and environmental quality is then that the demand for a cleaner environment is met by regulation. This raises the costs of polluting firms, who relocate abroad to remain competitive (this line of argument is the environmental equivalent of 'social dumping').

If correct, this explanation for the environmental Kuznets curve implies a clear trade-off between growth and the environment, certainly in the short term as the economy adjusts to the effects of the regulation. In the longer term, since pollution generally tends to be associated with more capital-intensive industries, the implication could be a shift towards less capital-intensive activities with adverse consequences for labour productivity. In addition, this would imply that the environmental Kuznets curve will not persist into the long term: as poorer countries get richer, they too will impose tighter environmental regulation, so that at some stage, outsourcing of pollution cannot continue.

In order to check the appropriateness of this explanation, evidence must be found for both the existence of significant pollution havens and the importance of international differentials in environmental standards for location decisions of large-scale investors. Unsurprisingly, the mechanisms described here have been quite extensively examined. The typical approach is to examine the relationship between trade and investment flows and differences in environmental regulation. In one of the most widely cited references, Jaffe et al. (1995) concluded that there was little evidence to support the argument that increasing environmental regulation had led to significant changes in US net exports, or to relocation of US manufacturing. They also found no evidence that environmental regulation stimulated innovation and international competitiveness. Similarly, Leonard (1988) found that lax environmental standards had not been successful in attracting foreign direct investment.

Copeland and Taylor (2004) offer a less sanguine view. They argue that the earlier studies on which Jaffe et al. based their conclusions failed to take adequate account of other differences — notably, factor endowments — between countries that influence trade flows (although these differences were mentioned as possible explanations for the absence of a measured effect of environmental policies). They quote more recent work that explicitly accounts for these factors, showing that tighter environmental policy does have a negative influence on the production of polluting goods, but, in line with the earlier work, confirms that these other factors remain the main determinants of trade and investment flows. In short, according to them, there is a pollution haven effect, but it is too small to explain the existence of the environmental Kuznets curve.

The implications of these results would be that if developing countries ‘catch up’ with developed countries, so that differences in factor endowments narrow, the influence of differences in environmental policies on trade and investment will become more important.

Offsetting this, as developing countries catch up with developed countries, differences in environmental regulation may narrow as well, so that differences may only be temporary and more a result of delayed industrialisation than the result of an active ‘environmental dumping’ policy. Indeed, a recent study undertaken for the European Commission comparing EU air pollution policies and legislation with other countries such as the United

States and Japan, but also China, show converging air quality limits over time ⁽¹⁾.

Accentuating this more optimistic outlook, Dasgupta et al. (2002) argue that developed country firms operating in developing countries typically do so to higher environmental standards than domestic firms, because they might simply export their cleaner technology and production methods to these countries to benefit from economies of scale and scope, because of pressure from activists in their home markets ⁽²⁾, or because they might anticipate tighter environmental legislation in these countries. Moreover, this cleaner technology might also be more efficient. This serves to highlight the role of innovation in easing any trade-off between growth and the environment. In addition, it provides a channel through which globalisation and trade liberalisation, by making advanced technologies more accessible, may facilitate less polluting economic growth, and so ease any trade-off between growth and the environment.

With respect to the EU, Scherp and Suardi (1997) find no evidence for a significant export of pollution triggered by a relocation of polluting European industries to developing or other third countries. When ranking individual industries according to the pollution content of their production processes and analysing their trade performance, they find no evidence that the international specialisation of EU industries has shifted away from relatively pollution-intensive goods towards cleaner ones. Moreover, developments in overall trade with less developed and developing countries have been found to be rather similar to those in trade with developed countries. They explicitly emphasise the large and increasing net exports of the EU’s chemical industry — one of the sectors with the highest pollution abatement costs — as a representative example in this context. On the other hand, trade with seven newly industrialised economies in East Asia — which has also been increasing in both value and as a share of total extra-EU trade — has been increasingly characterised by EU imports of mainly clean manufactured goods, while pollution-intensive products have had more weight in EU exports to that region.

All in all, the existence of the environmental Kuznets curve is not evidence that growth does not harm the

⁽¹⁾ See Watkiss et al. (2004).

⁽²⁾ Legrain (2003) makes a similar point in relation to employment conditions.

environment: decomposing the level of pollution into components due to the scale of output, its composition, and production techniques shows that, other things equal, an increase in output will lead to higher levels of pollution. Ultimately, absolute decoupling of economic growth and environmental pressure seems to require

active environmental policies. Markets themselves will only remedy parts of environmental pressures, in line with private instead of social rates of return. However, the more environmental policies succeed in internalising environmental externalities in investment decisions, the more private and social rates of return will converge.

5. Effects of environmental policy on European business

This section discusses the mechanisms through which environmental policy gives rise to costs and benefits for businesses in Europe and gives some indication of their order of magnitude, where this is possible. The section focuses on effects showing up in economic statistics such as national accounts, and neglects the broader welfare effects mentioned above.

A widespread starting point in environmental policy is the ‘polluter pays principle’, implying that those who wish to use the environment as a dump for their pollution need to buy the ‘right’ to do so. However, Coase (1960) showed that, as long as the numbers of polluters and victims of pollution are both small, so that there are no transaction costs involved in trading property rights, from the perspective of economic efficiency it makes no difference whether property rights in the environment are assigned to polluters or victims. If polluters receive the rights to pollute, they will be willing to sell part of these rights to victims and reduce their output (and pollution) if they receive a price reflecting the value to them of this forgone output; if victims receive the rights to a clean environment, polluters will be willing to buy part of these rights at a price that reflects the value to them of the resulting increase in output. While the outcome in each case will be the same from the point of view of economic efficiency and the environment, the issue of who receives the rights clearly has significant issues for income distribution.

In practice, environmental pollution only rarely respects the ‘small numbers’ conditions necessary for the ‘Coase theorem’ to offer a complete solution to environmental problems, so that other forms of policy intervention are necessary. Despite the evidence that absence of (tradable) property rights and the consequent lack of markets for environmental goods and services are at the root of environmental problems, policy-makers have generally been reluctant to apply what to economists appears

to be the obvious remedy, that is, to create and assign enforceable, tradable property rights, and use market forces to address the issues. This may be because of a perception that market forces are to blame for environmental degradation, and that therefore the appropriate response is to restrict their functioning in some way.

Indeed, whether or not environmental policy makes use of markets to achieve its aims, the main instruments in the environmental policy-maker’s tool box are various forms of restriction on activity in the form of constraints on the exercise of previously unrestricted (implicit) property rights. That is, resources — land, water, air, the climate, specific habitats, and so forth — are put under a different regime which limits access to them (for example, limit values for emissions), limits their use (such as the kinds of activities which are allowed in natural habitats or drinking-water reservoirs) or makes it subject to specific conditions (such as paying a tax or an environmental levy or the obligation to clean or recycle them after use).

These restrictions may be introduced through regulation that prescribes certain categories of production technique (‘best available technology’), or proscribes some types of output (genetically modified organisms). Environmental regulation may also take the form of taxation to discourage some activities (example: taxes on landfilling in some Member States) or subsidies to encourage others (example: subsidies for renewable energies). Negotiated agreements (also called ‘voluntary agreements’) with industry have also been used to try to tackle environmental problems, though concerns remain about their real impact⁽¹⁾. Finally, ‘cap-and-trade’ schemes seem to be becoming more attractive to policy-makers. The European Community has recently

⁽¹⁾ See OECD (2003).

launched a large-scale ‘cap-and-trade’ scheme to help it to meet its obligation under the Kyoto Protocol to reduce greenhouse gas emissions. Each of these instruments will give rise to various types of costs and benefits for different industrial sectors.

Creating and assigning explicit property rights and introducing new regimes to manage environmental resources should make polluting products and/or production processes more expensive. Alternatively, environmental policy prescribes cleaner products and/or production which come at a higher price. Depending on the market structure (competition, price elasticity of demand), this makes regulated products more expensive for end-users and/or production less profitable. Both result in demand and production shifting towards less polluting products and production processes. This is an accepted purpose of environmental policy.

The costs of environmental policies ultimately fall on consumers, who face higher prices. However, consumers also benefit from environmental policies in the form of improvements to their health or improved amenity. Within the business sector, costs thus fall on those using production methods that generate greater amounts of pollution, or who produce products the use of which generates pollution. Benefits accrue to businesses that produce pollution abatement equipment or goods whose use generates little or less pollution.

5.1. Costs of environmental policies

Environmental policies create costs for industry through three channels:

- by changing the availability and price of inputs, such as the non-availability of certain dangerous substances or higher energy prices;
- by placing restrictions and additional burdens on the production process, such as limit values for emissions or risk-management provisions to reduce occupational health risks;
- by affecting the availability, performance and price of outputs, such as fuel efficiency of cars, design features to facilitate better waste management, or banning or taxing certain products that could be harmful for the environment or human health.

The first two channels mainly burden European producers, negatively affecting their cost competitiveness on European and on third-country markets if non-European producers do not face similar constraints. The third channel imposes the same obligations on European and non-European producers on European markets. However, it might affect the competitiveness of European producers on third-country markets.

Static estimates of resource costs

Recent years have seen the adoption of a considerable volume of environmental legislation. Table 1 shows the European Commission’s *ex ante* estimates of the annual costs of complying with some of the more important elements of this legislation, taking account of significant amendments adopted by the Council and European Parliament (¹).

Although these estimates have been compiled at different times and for different compliance periods, so that they cannot be added together to give a figure for cumulative compliance costs, they nonetheless suggest that these policies will represent a non-trivial cost to the targeted sectors. At the level of the whole economy, the direct costs of the legislation identified above would be of the order of 0.2 % of GDP. Experience and the work of Morgenstern et al. (1998) discussed below give some grounds to expect that the actual costs may turn out to be smaller than this. In particular, there may be room for economies of scope in reducing different types of air pollutants, and in reducing air pollutants and limiting emissions of greenhouse gases.

Eurostat (2001a) estimated ‘end-of-pipe’ investment by industry (excluding spending by firms specialised in providing environmental services) at about EUR 7.2 billion in 1998. A study by Ecotec (2002) for the European Commission found that in 1999 operating expenditure relating to air pollution control amounted to some EUR 7.4 billion and accounted for 30 000 jobs. It seems reasonable to assume that these figures indicate that resources were being diverted within companies from producing marketable goods and services to reducing pollution.

Data on pollution abatement and control expenditure (PAC) are collected jointly by Eurostat and the OECD.

⁽¹⁾ Other examples of cost and benefit estimations of EU environmental legislation can be found in ‘The EU economy: 2000 review’, Chapter 4.

Table 1

Estimated *ex ante* annual costs of various categories of European environmental legislation (EU-15)

Category	Estimated cost (billion EUR)
Air quality and acidification	8.9–15.3
Climate change (fuel quality plus sectors covered by emissions trading)	3.2
Waste	1.4–1.9
Product safety	0.3–0.5
Environmental liability	0.9–2.3

Source: The data are derived from the explanatory memoranda and impact assessments accompanying the proposals, taking account where possible of significant differences between the Commission's proposals and the legislation actually adopted by the Council and European Parliament. The proposals/directives included under each category are: for air quality and acidification, the first, second and third 'daughter directives' setting limit values for various pollutants, and proposals on large combustion plants, national emission ceilings, and volatile organic compounds; for climate change, the emissions trading directive including Kyoto project mechanisms, and low-sulphur fuels to enable CO₂ reductions from transport; for waste, proposals relating to waste electrical and electronic equipment, end of life vehicles, and packaging; for product safety, proposal to restrict hazardous substances, and REACH (the cost of REACH has been spread over the 11 years over which testing is expected to take place to derive the figure in the table).

These data need to be interpreted with caution, but nevertheless give an indication of the scale of the direct economic impact of environmental policy. Eurostat estimates that total environmental protection expenditure in EU-15 in 1998 was about EUR 120 billion, or about 1.5 % of GDP. Of this, some 28 %, or about EUR 32 billion, was funded directly by industry. The OECD (2004) suggests that environmental protection costs are 'likely to be equal to around 2 % of GDP in countries that have set comparatively demanding standards'. All in all, spending on environmental protection appears to be at roughly the same level in the EU, the United States and Japan.

According to the Eurostat data, about one third of environmental protection expenditure by industry in the late 1990s was for investment. Most investment spending by industry was in 'end-of-pipe' equipment rather than on integrated, process-oriented investments. However, Eurostat points out that the latter type of investment spending — that is, investment that integrates pollution prevention into the production process rather than reducing or cleaning emissions after they have been generated — may be underestimated, as it is not always possible to distinguish the 'environmental' component of such investments. The crucial difference from an economic perspective between 'end-of-pipe' and integrated, process-oriented investments is that the former are unlikely to lead to efficiency or productivity gains, as they are an 'add-on' to the firm's production process. Integrated investments, in contrast, are likely to imply a shift to cleaner, more energy-efficient technology, enabling the firm to offset at least part of the cost of complying with environmental regulation.

In total, investments in environmental protection represented about 4 % of industry gross fixed capital formation on average, with the share rising to 20 % or more in some branches and countries (see Table 2). The large number of 'outliers' in the data limits their analytical value, as does the lack of time-series. It is not possible to judge whether the variability within and between sectors and countries is representative of the impact of environmental policy on investment spending in different industrial branches and countries. However, it seems unlikely that any difference in policy could explain the range observed for refineries in different countries, for example. A more likely explanation is that the differences are due to differences in the timing of investments.

None of these figures distinguishes spending induced by regulation from other environmental spending. However, it may be reasonable to assume that the overwhelming majority of spending by industry is related to the need to comply with environmental laws.

Unfortunately, comprehensive data on the interaction between the environment, environmental policy and economic performance are not available. Although European environmental policies are usually supported by *ex ante* assessments of costs and benefits, *ex post* policy evaluations are generally notable for their absence.

Dynamic effects

In firms that are operating efficiently before the policy takes effect — that is, producing as much output as possible from the inputs they use — the immediate effects

Table 2

Environmental protection investments as a share of gross fixed capital formation in different branches of industry, various countries and years

	BE 1996	NL 1997	AT 1998	PT 1997	FI 1998	UK 1997
Mining and quarrying	1.0	3.7	7.6	2.8	4.9	0.3
Food, beverages	3.3	3.0	6.0	1.7	4.1	3.4
Textiles, leather	1.8	2.8	3.3	0.9	2.2	0.9
Wood, wood products	1.6	3.3	19.2	2.7	1.9	34.0
Pulp, paper, printing	1.9	2.1	6.5	6.6	7.1	5.8
Refineries	15.1	22.1	0.0	18.9	12.5	2.8
Chemicals, rubber	3.9	8.6	5.8	1.5	2.6	9.6
Non-metallic mineral	7.0	5.1	6.2	3.1	1.2	29.7
Other manufacturing	5.0	2.7	4.2	1.1	3.0	2.4
Electricity, gas and water	2.6	1.0	0.7	5.0	0.6	1.0
All industry	3.9	5.8	4.7	4.2	3.7	3.5

Source: Commission services.

of the spending it induces will thus be a decline in productivity as resources are moved from producing output towards pollution abatement and control. However, the assumption that firms are operating efficiently and that (environmental) regulation must therefore inevitably lead to productivity declines is a very strong one. In practice, a variety of ‘principal-agent’ problems (see Box 3) may mean that firms do not always operate at maximum efficiency.

Moreover, even when firms are trying to maximise profits, the notion of bounded rationality offers a mechanism through which regulation can spur cost-reducing innovation. Simon (1956) argues that firms have to make their decisions based on incomplete information, or on imperfect understanding of the information available to them. In this framework, the effect of regulation is to change the information available to firms. Compared with the previous situation, generating pollution now has a cost. In trying to reduce this cost, firms may find ways of reducing the level of inputs, using them more efficiently, or using cleaner inputs, all of which offer the potential for cost savings.

Accordingly, once one departs from a static, full information competitive equilibrium, the notion that innovation can cut the costs of regulation hardly represents a significant departure from conventional economic analysis. It is in this context that Porter and van der Linde criticise existing regulation for failing to stimulate inno-

vation, and develop a set of recommendations to ensure that future environmental regulation is designed to give firms as much scope as possible to innovate as a way of cutting compliance costs.

If environmental — or other — regulation succeeds in highlighting inefficiencies in the firm’s production process, it may yield benefits, even in the regulated firms. The scope for this depends in part on the details of the particular regulation. For example, firms will face additional costs if the measure requires process-oriented investment that makes existing equipment obsolete before the end of its useful life because it cannot be adapted to the needs of the new policy measure. To calculate the costs of the policy in such cases one ideally needs to distinguish the gross costs of this new investment from its net costs, that is, the value of the prematurely depreciated equipment and the costs of the parts of the new equipment that serve no other but the new environmental purpose.

The direct resource costs of complying with environmental policy measures (as with all forms of regulation) will in all likelihood give rise to secondary effects by affecting productivity, profitability, prices, demand dynamics, innovation and investment decisions of the affected businesses. As an example, fitting flue gas desulphurisation units to clean the emissions of power plants can reduce the efficiency of the plant, increasing

Box 3: Environmental regulation and innovation: the Porter hypothesis

In a short article in *Scientific American*, Porter (1991) challenged the 'conventional wisdom' of an inevitable trade-off between growth and the environment, arguing that 'the conflict between environmental protection and economic competitiveness is a false dichotomy'. Subsequent articles with van der Linde (Porter and van der Linde, 1995a, b) developed this 'Porter hypothesis', as it has come to be known, and generated considerable interest and controversy.

Porter and van der Linde's basic thesis is that regulation can stimulate innovation that reduces the costs of complying with it: 'properly designed environmental standards can trigger innovation that may partially or more than fully offset the costs of complying with them'. It is not immediately obvious why this somewhat innocuous claim should have generated so much attention, particularly as it is widely recognised in the field of industrial economics that there are a number of reasons why firms will not always maximise profits in practice.

Possible explanations include 'satisficing' (Simon, 1979), and 'X-inefficiency' (Leibenstein, 1966), which may be regarded as particular examples of a wider class of 'principal-agent' problems⁽¹⁾. Because owners of firms find it difficult to fully control the activities of their managers, as long as firms are earning an acceptable rate of profit for their owners, managers may be free to pursue other goals than maximising profits: 'satisficing' on the part of owners may give rise to 'X-inefficient' behaviour on the part of managers. An environmental regulation that raises the cost of pollution creates a new set of conditions. In trying to reduce compliance costs and restore profits to a 'satisfactory' level, it is possible that firms may discover other potential savings. However, that this cost saving actually materialises cannot, of course, be taken for granted.

⁽¹⁾ See also Leibenstein (1978) and Stigler (1976).

the amount of fuel input needed to generate a given amount of power output⁽¹⁾.

The secondary effects also depend to a large extent on how the affected businesses finance their compliance costs (additional borrowing on capital markets, price increases, cuts in dividends, cost savings by cutting R & D spending, etc.), and market structures (price elasticity of demand, international competition, etc.).

The relationship between direct and indirect costs is not at all straightforward. For example, if the firm redirects its research budget towards innovations that could lower the long-term cost of complying with an environmental regulation, this may simultaneously reduce direct costs (compliance costs are lower) while increasing or decreasing indirect costs (the environmentally-induced innovations may generate smaller or bigger profits for the firm than the innovations that might have been made if R & D spending had not been refocused). Similarly, in the extreme case in which a firm were to close as a direct

consequence of environmental regulation (though evidence that this has taken place is non-existent), recorded direct costs would be zero, but indirect costs could be substantial.

Ex post estimates

In an analysis of US data, Morgenstern et al. (1998) found that production costs actually rose by less than the amount of compliance expenditures reported by firms: for every dollar of reported environmental expenditure, overall production costs rose by 82 cents. In other words, the economic costs of environmental regulation are less than the direct costs. The authors hypothesise that this is because of complementarities between the production of goods and services and pollution control: 'the costs of jointly producing conventional output and a cleaner environment may be lower than if each were produced separately'. For example, it may be cheaper to reduce air pollution by replacing a coal-fired generation plant with a more energy-efficient gas-fired plant, rather than keeping the coal-fired station in operation and fitting pollution control equipment to 'scrub' the emissions after they have been produced.

⁽¹⁾ See Stockholm Environment Institute (1999).

If correct, this interpretation reinforces the arguments in favour of regulation that encourages integrated approaches to pollution abatement, rather than ‘end-of-pipe’ solutions. It may also be that there are ‘economies of scope’ in pollution abatement. That is, reducing one pollutant may also contribute to reducing others. This seems particularly likely to be the case for actions to reduce the wide range of atmospheric pollution associated with burning fossil fuels.

Morgenstern et al.’s results differ from some earlier research that showed indirect effects considerably higher than the direct compliance costs. The authors argue that these earlier results failed to take adequate account of differences between plants in terms of how they are affected by regulation and able to react to it, and assume that factor inputs are fixed. Indeed, taking an alternative modelling approach that ignores these differences, they get results that are broadly consistent with the other studies.

Haq et al. (2001) highlight the role of unanticipated innovation in reducing the expected costs of a number of environmental regulations, based on a study from the Stockholm Environment Institute (SEI) (1999). The phasing-out of ozone-depleting substances (largely chlorofluorocarbons — CFCs) under the Montreal Protocol was forecast (mainly by industry) to lead to large-scale redundancy of existing equipment and a corresponding need for high levels of investment in replacement capital. At its peak, the market for CFCs was worth over USD 2 billion, and it was expected that the main replacement substances might be up to 10 times more costly. In the event, costs of the phase-out have been much less than anticipated, both because the direct replacements have been cheaper to produce than expected, and because of innovation that reduced the need for their use.

In the case of the European Auto-Oil programme to reduce emissions from road transport, in the mid-1990s it was estimated that meeting the Euro IV standard for cars would require advanced catalyst technology costing at least EUR 100–175 per car; this estimate was itself lower than earlier figures. More recent estimates suggest that fine-tuning existing technology can meet the standard for at most half this cost.

A recent review of EU air pollution policies carried out for the European Commission (Enterprise DG) concluded that there was very limited evidence for there

being significant competitiveness effects due to European air pollution legislation ⁽¹⁾. The main reasons they give for the lack of impact are:

- broad similarity in the stringency of environmental legislation across major industrialised economies;
- technological progress offsetting cost increases due to environmental legislation;
- the relative lack of importance of environmental legislation relative to other factors influencing location decisions, such as cost of labour, access to inputs and markets, and overall economic and political stability

Porter and van der Linde (1995a, b) give evidence from a number of case studies showing how innovative responses to environmental constraints saved firms money. In a slightly different vein, Harrington et al. (1999) compared *ex ante* and *ex post* estimates of the cost of a sample of 25 environmental regulations in the United States, and found some tendency for actual compliance costs to be lower than forecast costs. The reasons the authors identified for this tendency towards overestimating costs included changes in the regulation after the *ex ante* analysis had been undertaken, using maximum cost estimates, overestimating the amount of emission reduction, and, ‘in numerous instances’, unanticipated technological innovation.

Moreover, all the regulations based on economic incentives either overestimated the cost or underestimated the quantity of emission reductions. In other words, market-based approaches produced greater environmental benefits at lower cost. However, Harrington et al. do not report any examples of regulation giving rise to negative costs to the regulated firms, as the Porter hypothesis might imply.

A recent OECD review noted that the failure of countries to systematically analyse costs and benefits made it difficult to assess the overall welfare implications of environmental policy measures. However, based on the evidence from OECD member countries, it appeared that air pollution policies delivered benefits significantly greater than the marginal abatement costs, whereas there were doubts as to whether current programmes for greenhouse

⁽¹⁾ See Watkiss et al. (2004).

gas emissions, waste management and water pollution had ‘delivered benefits at the margin that are commensurate with costs’ ⁽¹⁾.

Overall, these results suggest that the trade-off between environmental policy and economic growth may not be particularly severe. However, they do not provide grounds to argue that there is no trade-off: the seeming absence of any substantial impact of environmental policies on economic growth to date does not mean that one can ignore its potential effects.

5.2. Benefits of environmental policy to business

Much of the money spent on environmental protection by sectors that have to comply with environmental regulations is paid to firms providing environmental goods and services, which thus benefit from environmental policy. These firms might be part of the regulated sector, such as the providers of catalytic converters for passenger cars, or they might belong to other sectors, such as the providers of scrubbers for large combustion plants. According to Eurostat (2002), about 40 % of current spending on environmental protection by industry goes to purchase environmental services from other organisations, whether public or private: this is particularly the case for waste and waste-water treatment.

This implies that most current spending on environmental protection takes place ‘in-house’, that is, in the firms that are subject to environmental regulation. As discussed above, this spending diverts resources from the main activities of these firms and reduces their output. However, this money does not go up in smoke, as it were, but is instead spent in a different way than previously. The effect of the policy is to oblige firms to transfer resources from one type of activity — production of marketed goods and services — to another — pollution abatement. Taking account of this ‘in-house’ spending, Ecotec (2002) found that spending on environmental protection accounted for two million jobs in EU-15.

As environmental policy directly or indirectly raises the price of polluting, firms who use less polluting resources or produce less polluting products benefit as demand shifts towards their output. Benefits also accrue to firms who use previously polluted resources as inputs for their

production: reducing water pollution benefits activities that require clean water. Just as environmental regulation may reduce the productivity of firms in the regulated sectors, it may increase the productivity of firms elsewhere in the economy.

Moreover, entire industries, such as the manufacture of wind turbines or photovoltaic cells for solar energy, have in large part been created by environmental policies: Ecotec estimated that spending on renewable energy plant was roughly EUR 5 billion in 1999 in EU-15. It also found that EU-15 had a trade surplus in environmental goods and services of a similar order of magnitude. This is consistent with one interpretation of the Porter hypothesis, that regulation can generate international competitive advantage by giving firms and the economy a ‘first mover’ advantage, notably in environmental technology.

However, as Porter and van der Linde point out, environmental regulation will not necessarily give rise to a first mover advantage. Whether for regulated firms, or for firms supplying environmental technologies, an early mover advantage only arises if ‘national environmental standards anticipate and are consistent with international trends in environmental protection, rather than break with them’. In other words, taking the lead in deploying renewable energies will not yield international competitive advantage if other countries do not follow suit. In this respect, it is noteworthy that Ecotec found that EU-15 had a deficit of EUR 0.2 billion in trade in photovoltaic products: the economic rationale for promoting solar energy in northern Europe is not immediately apparent.

Even when other countries do adopt similar regulation, the regulated sector will not necessarily be better off than it was before being regulated. The ‘first mover’ advantage enables the sector to comply at lower cost than its competitors in other countries. But if the (partial) pass-through of compliance costs leads to lower overall demand for the sector’s output, the result of the first mover advantage may be that firms secure a larger share of a smaller market, so that the net impact on output and profits is ambiguous: ‘first mover’ advantage does not necessarily imply faster growth than would have occurred in the absence of regulation. In the particular case of renewable energies, the industry’s development has come at the cost of higher prices for electricity than would otherwise have been the case and, presumably, reduced demand for investment in conventional electricity-generating technologies.

⁽¹⁾ See OECD (2004).

Benefits to business may also result if environmental regulation induces changes in firms' behaviour, particularly in the longer term. As already described, this depends on the ability of the regulation to draw owners' and/or managers' attention to various types of inefficiencies in the way firms operated before the measure took effect. Better resource use could be triggered if the need to reduce pollution focuses company attention on using its inputs more efficiently. This could induce positive effects on innovation, as well-designed regulatory instruments generally enable companies to seek innovative solutions that otherwise would remain unexplored.

At an aggregate level, the output of the European manufacturing industry increased by 29 % from 1985 to 1999, while energy consumption was unchanged. This improvement took place at a time of falling real energy prices. Several factors explain this improved performance. Structural change in the manufacturing industry has probably been towards less energy-intensive activities, while there have also been improvements in the energy efficiency of particular manufacturing processes. Some of this change would have occurred anyway, but part of it is likely to be due to the impact of regulation, including higher energy taxes that partly offset falls in energy costs ⁽¹⁾.

Over the longer term, the positive impacts on human health — often the main driver for environmental policy — should have wider economic benefits, both in the form of reduced health spending, and also by contributing to a workforce that is more productive (because healthier) and larger (and therefore cheaper). In a study focusing exclusively on this issue, Holland et al. (1999) estimated that in the case of EU policies to limit air pollution, the benefits of improved worker health, in terms of reduced levels of absence from work, would be of the order of 10 % of abatement costs over the period 1996–2010 ⁽²⁾.

5.3. Overall impact

Econometric studies using a production function framework (see Box 4) generally find significant (though not always very large) negative impacts of regulation, mainly on the productivity of the regulated industry ⁽³⁾.

It must be kept in mind that production theory focuses on the microeconomic effects, taking into account the optimal behaviour of individual firms. It does not capture possible externalities, offsetting dynamic effects through technological innovations, or more general welfare effects. For example, increased environmental quality could increase the health of workers which increases the efficiency of labour ⁽⁴⁾. Another offsetting effect not directly modelled in this framework is a possible link between the levels of abatement costs on the rate of innovation. Some recent papers dealing with the direction of technological change suggest that it is optimal for firms to concentrate innovative activities on economising on those factors whose relative price rises more strongly ⁽⁵⁾. This argument is used to explain why technical progress in industrial economies tends to be labour saving and not capital saving. In consequence, if economic agents expect prices for environmental resources to rise more than prices of other factors, innovative activities would be channelled towards economising on this factor.

While it is possible that environmental policy acts as a drag on growth in the regulated industries, it is also possible that — as outlined in Section 3 — the effect is to accelerate growth by improving the supply of inputs. If the health effects of pollution are adversely affecting labour supply, or the quality of natural resource inputs is being damaged, environmental policy that successfully tackles these problems will be beneficial for economic activity. Some recent papers show that the positive welfare effects of improved health conditions can be large ⁽⁶⁾.

Evidence on the crowding-out of dirty industries to pollution havens in third countries seems to be very shaky and not at all convincing. This might not come as a surprise given that other factors normally drive decisions of investment locations, and given the convergence of environmental standards around the world, including developing countries.

The data and case studies above give some indication of the scale and nature of the impacts of environmental policy on economic activity, but do not allow any clear picture to be formed of its overall economic effects. So far, no comprehensive attempt appears to have been made to measure *ex post* the economic impacts of environmental

⁽¹⁾ See European Commission (2002).

⁽²⁾ The study did not attempt to estimate the wider health and environmental benefits of the policies.

⁽³⁾ See, for example, Gray and Shadbegian (2002).

⁽⁴⁾ See, for example, Bloom et al. (2001).

⁽⁵⁾ See, for example, Acemoglu (2003).

⁽⁶⁾ See, for example, Nordhaus (2002).

policy in Europe. However, the United States Environmental Protection Agency has tried to estimate the costs and benefits of the clean air act ⁽¹⁾. The results of this exercise, although the details are clearly valid only for the United States, may nevertheless give some broad indication of the likely order of magnitude of impacts of European policies, as air quality standards in European and US legislation are broadly similar ⁽²⁾.

Overall, the EPA found that the benefits of the clean air act were substantially greater than the costs, mainly due to increased life expectancy. Over the 1970–90 period, the central estimate of benefits was USD 22 trillion in 1990 US dollars, while direct compliance costs over the same period were USD 0.5 trillion. By far the largest component of the benefits — close to 90 % — was due to increased life expectancy because of reduced exposure to particulate matter and lead. Although there are consider-

able uncertainties about these figures — and the estimate of costs does not include indirect costs — the EPA concludes that it is extremely unlikely that these uncertainties could overturn the favourable cost–benefit ratio.

The EPA used a macroeconomic model to estimate the overall impact of the clean air act on economic activity. It found that it had reduced the rate of growth of GNP by 0.05 % on average from 1973 to 1990, so that by 1990 GNP was approximately 1 % — USD 55 billion — lower than it would have been in the absence of the policy. This was due to slower rates of capital accumulation and productivity growth. It should be noted, however, that the model was unable to capture feedback effects of improved health in terms of reduced medical expenditure and improved worker productivity. Over the entire period considered, aggregate macroeconomic costs were estimated at USD 1 trillion (in discounted 1990 dollars), that is, approximately twice the direct compliance costs, and less than 5 % of the estimated welfare benefits.

⁽¹⁾ US EPA (1997).

⁽²⁾ See Watkiss et al. (2004).

Box 4: The treatment of environmental resources and policies in neoclassical production functions

A standard tool for macroeconomic analysis is the neoclassical production function which relates total output (Y) of a certain industry to a comprehensive list of inputs. At an industry level one can distinguish between labour (L), capital (K), energy (E), raw materials (R) and intermediate inputs (M , goods and services supplied by other sectors (both domestic and foreign)) as factors of production. Obviously, the level of disaggregation of these individual input categories depends on data availability. For example, energy could be further disaggregated into different types of energy. However, environmental resources enter such production functions only in so far as they are raw materials or energy inputs. In its most general form a production function can be written as follows:

$$Y = F(L, K, E, R, M)TFP \quad (i)$$

For empirical analysis specific functional forms must be chosen. For simplicity we assume a Cobb–Douglas specification:

$$Y = L^\alpha K^\beta E^\gamma R^\eta M^\nu TFP \quad (ii)$$

where, $\alpha, \beta, \gamma, \eta, \nu$ represent a kind of marginal productivities or, more correct, the output elasticities of the respective factors of production (labour (L), capital (K), energy (E), natural resources (R) and intermediate inputs (M)) and total factor productivity (TFP) summarises the level of efficiency of production. TFP can itself be a function of various underlying factors such as the human capital endowment, the level of knowledge generated by national innovation systems (universities, research laboratories) or diffusion of knowledge. It can also be influenced by institutional factors ⁽¹⁾.

Environmental regulation can affect TFP in the standard production function framework both when it materialises as an increase in the price for a specific input, such as

energy and when it materialises as a regulation requiring end-of-pipe technologies.

In case of energy tax the relative price of energy with respect to output increases. Assuming that the firm behaves optimally, the demand for energy is given by a first order condition of a cost minimisation problem from which a new demand function for energy can be derived. Substituting the optimality condition into the production function establishes a direct link between Y and the tax rate on energy. In the Cobb–Douglas case the output loss in the regulated industry of an increase in the price of energy is proportional to the output elasticity of energy ⁽²⁾. In general, this is an underestimate of the total output effect of the energy tax since an increase in the price of energy and the subsequent reduction of its use are predicted to be associated with a fall in the marginal product of all other factors of production by standard production theory. The degree to which the use of other factors is reduced depends on the degree of factor price rigidity of the other factors.

Similarly, the need for investing in additional end-of pipe technologies imposed upon sectors by tightened environmental regulation would show up in the production function as the need to increase the amount of intermediate inputs M , without being able to correspondingly increase the output Y , so that the output elasticity ν of this input declines. Eventually, the degree of output decline in the regulated sector will then depend on the price elasticity of demand for this output. The output increase in the sector producing the abatement technology is given by the increase in M .

⁽¹⁾ See, for example, 'The EU economy: 2003 review', Chapter 2, for an empirical analysis of TFP at the aggregate level.

⁽²⁾ In general, the output loss also depends on the elasticity of substitution between individual factors. This is hidden in the Cobb–Douglas specification because the elasticity of substitution is one in this case.

6. Implications for regulation — finding the right balance

This section aims to identify the conditions under which environmental regulation can relax the potential trade-off with economic growth for the regulated sectors, and contribute to growth-enhancing structural adjustment. The key to achieving such a result lies in minimising the impact of regulation on costs for the regulated sector (without compromising on environmental and public health objectives), and in stimulating innovation and adjusting price signals to new demand–supply trends instead of working as a drag on economic growth.

That this is possible is shown by Porter and van der Linde (1995a, b). They do not aim to show that there is no trade-off between environmental protection and economic growth. Rather, by showing that environmental regulation can be designed to allow firms to comply in innovative ways that enable them to generate a competitive advantage, they seek to end the stalemate between regulators and firms that, in their view, unnecessarily exacerbates the trade-off between the environment and growth ⁽¹⁾. They urge regulators to design regulations in ways that stimulate innovation, and call on companies to discard their adversarial mind-set. In so doing, they highlight the importance of good policy design in reducing trade-offs.

A recent Commission staff working paper set out a number of useful guidelines for designing environmental policy so as to minimise any unavoidable trade-offs between environmental and economic policy goals ⁽²⁾.

- *Market-based proportionality*: Policies should intervene as little as possible in the functioning of

market mechanisms. Instead, they should try to exploit as much as possible the driving forces embedded in market transactions by giving actors incentives to achieve the environmental objectives at lower cost and by better synchronising investment requirements of regulation with company investment plans.

- *Include a ‘safety margin’*: Although from a theoretical perspective a policy is optimal when marginal benefits equal marginal costs (that is, the cost of achieving additional reductions in pollution would be greater than the benefit of those reductions), uncertainty about the precise level of benefits and regulatory prudence point to a need to include a ‘safety margin’ in the level of ambition of the policy. A serious sensitivity analysis in the context of an *ex ante* impact assessment should give some guidance in this respect. This might be regarded as the economist’s equivalent of the environmentalist’s ‘precautionary principle’.

There are two important qualifications to this cautious approach. The first is the possibility that prior estimates of costs may be higher than actual compliance costs, as suggested in the review by Harrington et al. already discussed. This may be because up-front regulatory cost estimates depend to a large extent on information from those who are targeted by the regulation, who have an obvious incentive to overestimate its costs.

A second issue relates to the potential for regulation to stimulate cost-saving innovation. Porter and van der Linde (1995b) argue for strict, rather than lax regulation, on the grounds that incremental tightening of regulatory standards will only lead to incremental responses from industry. They argue that if regulation is to spur innovation, it must be stringent, so that incremental or marginal changes to current techniques are

⁽¹⁾ Schmalensee (1993) makes a similar point: ‘[Porter’s message to the business community] appears to be that the social and political demand for environmental protection is unlikely to diminish and that ‘Just say no!’ is unlikely to be the profit-maximising response strategy...’.

⁽²⁾ See European Commission (2004).

not feasible ways of complying. This appears to be rather a high-risk approach to regulatory design, as any such proposal could hardly pass an up-front cost–benefit analysis. Minimum conditions necessary for such ‘leap in the dark’ policy approaches must surely be a relatively long timeframe for meeting the ultimate policy objective, that is, a gradual but credible and predictable tightening of regulation, and a commitment to review progress regularly. This seems to be important for the regulated sector and for the industries providing abatement technologies and services.

- *Cost-effectiveness:* Policies should be designed and implemented so that they can achieve their environmental aim at least cost. In principle this implies using market-based approaches or differentiated regulation that makes best use of information available at the level of enterprises and that takes adequate account of the investment cycle and abatement costs that are faced by specific sectors.
- *Regulation should be as simple as possible, but no simpler:* Companies should be clear about what they have to do to comply with legislation. Unnecessarily complicated reporting and regulatory oversight should be avoided. However, the simplicity of regulation must not negatively affect either its proportionality or its (cost-)effectiveness.
- *A stable policy framework:* Policies should try to avoid sudden surprise movements that make large parts of the existing capital stock prematurely obsolete and overstretch the adjustment capacities of targeted industries. Instead, environmental standards should be implemented gradually but credibly. This implies that regulation should aim to enable industry to incorporate environmental policy requirements into its investment decisions. The immediate losers — owners of capital and labour in the regulated sectors — should be given adequate time to adjust.

These principles point to a clear preference for market-based regulatory approaches that set the standard that firms have to reach, but leave it up to firms as to how they reach it. This is in contrast to more widespread regulatory approaches that prescribe what firms have to do to comply. More recent Community environmental legislation (such as in the context of the European acidification strategy or the national emissions ceilings directive) often tries to take account of economic constraints such

as investment cycles, abatement technologies available, and so on. However, a significant part of environmental protection spending continues to be on end-of-pipe investments.

On the one hand, this may suggest that regulation continues to be overly prescriptive. An alternative possibility is that end-of-pipe solutions are more cost-effective, given the currently available technologies. If it is the case that end-of-pipe solutions are cheapest, then, again, a number of conflicting interpretations are possible. It may be that regulations are too ambitious, or that they do not give companies enough time to adapt. Alternatively, in line with the arguments of Porter and van der Linde, it could be that regulation is not ambitious enough, so that it fails to encourage more innovative approaches to pollution abatement. A further possible explanation is that end-of-pipe solutions may have been an appropriate way to address relatively straightforward issues such as pollution from large point sources, but that as the problems tackled by environmental policy become more complex and diffuse, greater recourse to market-based instruments will be necessary.

The preference for flexible, market-based approaches over traditional regulation arises because the latter generally is unable to take account of the specificities of individual firms, and for this reason will generally not be the lowest-cost solution. Unlike market-based approaches, prescriptive regulation does not give firms incentives to outperform whatever standard is set for them. Nevertheless, this may be the preferred choice when it is necessary to avoid ‘hot spots’ of local pollution, or when it is imperative that a particular objective be exactly met.

Without compromising on environmental effectiveness, market-based instruments will in many situations be cheaper than alternative regulatory approaches. This is because market-based instruments offer firms greater flexibility, and give them incentives to devise new, cleaner production techniques that reduce the cost of meeting environmental targets. To be effective in reducing pollution at low cost relative to other possibilities, market-based instruments require price-sensitive markets. However, even when markets are inelastic, market-based instruments can be expected to be more economically efficient than alternative forms of regulation as a way to achieve a particular environmental policy target.

The forthcoming European Community greenhouse gas emissions trading scheme is a flagship for the use of market-based approaches to addressing environmental problems. From 1 January 2005, electricity generators and the more energy-intensive sectors of manufacturing industry will face an aggregate ceiling on their emissions of carbon dioxide, the main greenhouse gas. Emission allowances have been allocated to the operators of individual plants, who will have to surrender a quantity of allowances each year matching their actual emissions. Allowances may be traded on a Community-wide market, giving incentives to operators to find low-cost ways of reducing emissions: operators who reduce their emissions below the level of their allocation may sell their 'spare' allowances to operators who have fewer allowances than they need.

Recent analysis estimates the annual compliance costs for the sectors covered by the Community emissions trading scheme to be EUR 2.2 billion in the first Kyoto Protocol commitment period (2008–12), based on an allowance price of about EUR 13 per tonne of carbon dioxide ⁽¹⁾. Some ways to reduce emissions, such as substituting biofuels for conventional energy sources, give rise to abatement costs of over EUR 100 per tonne of

carbon dioxide, so it is clear that the emissions trading scheme has the potential to lower abatement costs by several billion euro compared with some alternatives ⁽²⁾.

Despite their advantages over 'traditional' regulation, market-based instruments face obstacles in practice, not least because they make the price of pollution more transparent. This makes the costs of implementation clearer, and draws attention to the changes in income distribution that will result. EU Member States are increasingly using environmental taxes and charges, including ecological tax reforms, in which environmental tax revenues are used to reduce other, more distorting taxes. At Community level, however, the requirement that fiscal measures be adopted unanimously by the Council is an extra obstacle, making the Commission reluctant even to table such proposals ⁽³⁾. These obstacles make it all the more important that regulatory proposals are based on a thorough assessment of their impacts, so that any trade-offs between competing environmental and economic policy objectives can be identified.

⁽¹⁾ European Commission (2003b). In late July 2004, the market price was less than EUR 10 per tonne of carbon dioxide.

⁽²⁾ Notwithstanding their high cost, these alternatives may make a contribution to other policy objectives, such as security of energy supplies.

⁽³⁾ The 2003 directive on energy taxation was only adopted after many years of negotiations, and did not require significant changes to tax levels in several Member States. Nevertheless, the directive provides a common framework for taxing energy products in the EU and in this way may offer a basis for future environmentally-related tax adjustments.

7. Conclusions

This chapter has examined how environmental regulation could enhance the overall efficiency of the economy and therefore encourage economic growth. Explicitly or implicitly, environmental regulation takes the form of defining and assigning or reassigning property rights. This is comparable to taking away or reducing a 'subsidy' from a sector (polluter) that is 'financed' by others (victims). This corrects a distortion in relative prices, suggesting that, implemented appropriately, environmental protection can be beneficial for the environment and the economy.

However, what might be good for the economy might not necessarily show up in higher economic growth but 'only' in higher welfare. The benefits of nature protection, for example, may or may not show up in terms of higher levels of economic activity, though the costs will certainly fall on the economy. In such cases, although the policy may yield benefits for society as a whole, there is a trade-off between environmental policy and economic growth as measured in national accounts. The aim should then be to ensure that the regulation is cost-effective so that it internalises the costs of pollution while minimising negative economic or social implications for the regulated sectors and their customers.

The discussion above of the determinants of the environmental Kuznets curve provides additional insight into the relationship between environmental policy and eco-

nomic activity. In the absence of technological progress and/or changes in the composition of output, economic growth will lead to higher levels of pollution. As the purpose of environmental policy is presumably neither to slow growth nor to reduce the output of particular sectors, it is important that it allows maximum scope for innovative technological solutions to environmental problems.

As regards the overall impacts of environmental policy on economic growth, an acute lack of data means that no firm conclusions can be drawn. Comparison with the effects of the clean air act in the United States suggests that the impacts to date may have been modest, and in any event substantially outweighed by the wider environmental and social benefits.

Nevertheless, given the aim of the Lisbon strategy to make simultaneous progress towards economic, environmental and social objectives, this lack of information about the interaction between environmental policy and the economy is a serious drawback. Priority should be given to filling this gap in our knowledge by carrying out systematic *ex post* analyses of the (economic) impact of Community environmental policies. This will provide much-needed information about the scale of trade-offs that have been made in the past, and will help policy-makers to design future interventions so as to maximise the potential for 'win-win' outcomes.

8. References

- Acemoglu, D. (2003), 'Directed technical change', *Journal of the European Economic Association*, 2003.
- Andreoni, J. and A. Levinson (1998), 'The simple analytics of the environmental Kuznets curve', *NBER working paper*, No 6739.
- Balmford, A. et al. (2002), 'Economic reasons for conserving wild nature', *Science*, Vol. 297.
- Bloom, D. E., D. Canning and J. Sevilla (2001), 'The effects of health on economic growth: theory and evidence', *NBER working paper*, No 8587.
- Brundtland, G. (ed.) (1987), *Our common future*, World Commission on Environment and Development, Oxford University Press, Oxford.
- Coase, R. (1960), 'The problem of social cost', *Journal of law and economics*.
- Copeland, B. and M. Taylor (2004), 'Trade, growth and the environment', *Journal of economic literature*, Vol. XLII.
- Dasgupta, P. S. and G. M. Heal (1979), *Economic theory and exhaustible resources*, Cambridge University Press.
- Dasgupta, S., B. Laplante, H. Wang and D. Wheeler (2002), 'Confronting the environmental Kuznets curve', *Journal of economic perspectives*, Vol. 16, No 1.
- Ecotec for the European Commission, Environment DG (2002), 'Analysis of the EU eco-industries, their employment and export potential'.
- European Commission (1994), 'Economic growth and the environment: some implications for economic policy-making', COM(94) 465 final.
- European Commission (1995), 'Towards fair and efficient pricing in transport — Policy options for internalising the external costs of transport in the European Union', COM(95) 691.
- European Commission (2002), 'European competitiveness report (2002)', Commission staff working paper, SEC(2002) 528.
- European Commission (2003a), 'Proposal for a directive of the European Parliament and Council amending the directive establishing a scheme for greenhouse gas emission allowance trading within the Community, in respect of the Kyoto Protocol's project mechanisms', COM(2003) 403 final.
- European Commission (2003b), 'Extended impact assessment on the directive of the European Parliament and Council amending the directive establishing a scheme for greenhouse gas emission allowance trading within the Community, in respect of the Kyoto Protocol's project mechanisms', SEC(2003) 785.
- European Commission (2003c), 'Towards a thematic strategy on the sustainable use of natural resources', COM(2003) 572 final.
- European Commission (2004), 'The effects of European environmental policy on European business and its competitiveness — a framework for analysis', SEC(2004) 769.
- Eurostat (2001a), 'Environmental protection expenditure in Europe', data 1990–99, detailed tables.
- Eurostat (2001b), *NAMEAs for air emissions*.
- Eurostat (2002), 'Environmental protection expenditure by industry in the European Union', *Statistics in focus*, 14/2002.

- Gray, W. B. and R. J. Shadbegian (2002), 'Pollution abatement costs, regulation and plant level productivity', in Gray, W. B. (ed.) *The economic costs and consequences of environmental regulation*, Ashgate Publications.
- Haq, G. et al. (2001), 'Determining the costs to industry of environmental regulation', *European environment*, Vol. 11.
- Harrington, W., R. Morgenstern and P. Nelson (1999), 'On the accuracy of regulatory cost estimates', *Resources for the future discussion paper*, No 99-18.
- Holland, M. R., H. Jones, R. Boyd, A. Hunt and A. Markandya (1999), 'Environment, competitiveness and health', AEA Technology/Metroeconomica for the European Commission (Institute for Prospective Technological Studies).
- Intergovernmental Panel on Climate Change (2001a), 'Climate change 2001: The scientific basis', *Technical summary*.
- Intergovernmental Panel on Climate Change (2001b), 'Climate change 2001: Impacts, adaptation and vulnerability', *Technical summary*.
- Intergovernmental Panel on Climate Change (2001c), 'Climate change 2001: Mitigation', *Technical summary*.
- Jacobs (2004), 'An economic assessment of the costs and benefits of Natura 2000 sites in Scotland', *Environment Group research report*, 2004/05, Scottish Executive.
- Jaffe, A., S. Peterson, P. Portney and R. Stavins (1995), 'Environmental regulation and the competitiveness of US manufacturing: What does the evidence tell us?', *Journal of economic literature*, Vol. XXXIII.
- Jouzel, J., C. Lorius, J. R. Petit, C. Genthon, N. I. Barkov, V. M. Kotlyakov and V. M. Petrov (1987), 'Vostok ice core: a continuous isotope temperature record over the last climatic cycle (160 000 years)', *Nature*, 329, pp. 403–408.
- Jouzel, J., N. I. Barkov, J. M. Barnola, M. Bender, J. Chappellaz, C. Genthon, V. M. Kotlyakov, V. Lipenkov, C. Lorius, J. R. Petit, D. Raynaud, G. Raisbeck, C. Ritz, T. Sowers, M. Stievenard, F. Yiou and P. Yiou (1993), 'Extending the Vostok ice-core record of palaeoclimate to the penultimate glacial period', *Nature*, 364, pp. 407–12.
- Jouzel, J., C. Waelbroeck, B. Malaize, M. Bender, J. R. Petit, M. Stievenard, N. I. Barkov, J. M. Barnola, T. King, V. M. Kotlyakov, V. Lipenkov, C. Lorius, D. Raynaud, C. Ritz and T. Sowers (1996), 'Climatic interpretation of the recently extended Vostok ice records', *Climate dynamics*, Vol. 12, pp. 513–521.
- Kuznets, S. (1955), 'Economic growth and income inequality', *American economic review*, Vol. XLV, No 1.
- Legrain, P. (2003), *Open world: the truth about globalisation*.
- Leibenstein, H. (1966), 'Allocative efficiency versus X-efficiency', *American economic review*, Vol. 56.
- Leibenstein, H. (1978), 'X-inefficiency Xists — Reply to an Xorcist', *American economic review*, Vol. 68.
- Leonard, H. J. (1988), *Pollution and the struggle for the world product. Multinational corporation, environment, and international comparative advantage*, Cambridge University Press, Cambridge, United States.
- Lomborg, B. (2001), *The skeptical environmentalist*, Cambridge University Press.
- Meadows, D. H., D. L. Meadows, J. Randers and W. Behrens III (1972), *The limits to growth*, Earth Island Ltd.
- Morgenstern, R., W. Pizer and J. S. Shih (1998), 'The cost of environmental protection', *Resources for the future discussion paper*, No 98-36.
- National geographic* (2004), 'The end of cheap oil', June 2004.
- Nordhaus, W. D. (2002), 'The health of nations: The contribution of improved health to living standards', *NBER working paper*, 2002.
- OECD (2003), *Voluntary approaches for environmental policy: effectiveness, efficiency and usage in policy-mixes*.

- OECD (2004), *Integrating concerns for sustainable development in the policy process: synthesis of the EDRC peer reviews*.
- Petit, J. R., J. Jouzel, D. Raynaud, N. I. Barkov, J.-M. Barnola, I. Basile, M. Bender, J. Chappellaz, M. Davis, G. Delayque, M. Delmotte, V. M. Kotlyakov, M. Legrand, V. Lipenkov, C. Lorius, L. Pepin, C. Ritz, E. Saltzman and M. Stievenard (1999), 'Climate and atmospheric history of the past 420 000 years from the Vostok ice core, Antarctica', *Nature*, 399, pp. 429–436.
- Porter, M. (1991), 'America's green strategy', *Scientific American*.
- Porter, M. and C. van der Linde (1995a), 'Toward a new conception of the environment–competitiveness relationship', *Journal of economic perspectives*, Vol. 9, No 4.
- Porter, M. and C. van der Linde (1995b), 'Green and competitive: ending the stalemate', *Harvard business review*.
- Pretty, J. N., C. Brett, D. Gee, R. E. Hine, C. F. Mason, J. I. L. Morison, H. Raven, M. D. Rayment and G. van der Bijl (2000), 'An assessment of the total external costs of UK agriculture', *Agricultural systems*, Vol. 65.
- Scherp, J. and M. Suardi (1997), 'Trade and environment', in European Commission (ed.) 'The European Union as a world trading partner', *European Economy, Reports and studies*, No 3.
- Schmalensee, R. (1993), 'The costs of environmental protection', *Massachusetts Institute of Technology Centre for Energy and Environmental Policy Research working paper*, No 93/015.
- Schoer, K., C. Flachmann, A. Heinze, D. Schäfer and B. Waldmüller (2001), 'Bericht des statistischen Bundesamtes zu den umweltökonomischen Gesamtrechnungen (UGR)' (Environmental Economic Accounting in Germany 2001).
- Shell International (2001), *Energy needs, choices and possibilities — Scenarios to 2050*.
- Simon, H. (1956), 'Rational choice and the structure of the environment', *Psychological review*.
- Simon, H. (1979), 'Rational decision-making in business organisations', *American economic review*, Vol. 69.
- Sommer, H., R. Seethaler, O. Chanel, M. Herry, S. Masson and J.-C. Vergnaud (1999), *Health costs due to road traffic-related air pollution*, World Health Organisation.
- Stigler, G. (1976), 'The Xistence of X-efficiency', *American economic review*, Vol. 66, No 1.
- Stockholm Environment Institute (1999) for the Swedish Environment Ministry, 'Costs and strategies presented by industry during the negotiation of environmental regulations'.
- United Nations, European Commission, International Monetary Fund, Organisation for Economic Cooperation and Development and World Bank (2003), *Integrated environmental and economic accounting*.
- United States Environmental Protection Agency (1997), *The benefits and costs of the clean air act, 1970 to 1990*.
- Watkiss, P., D. Forster, A. Hunt, A. Smith and T. Taylor (2004), 'A comparison of EU air quality pollution policies and legislation with other countries', AEA Technology Environment and Metroeconomica for the European Commission (Enterprise DG).
- World Bank (1992), *World development report 1992: Development and the environment*.

Chapter 7

Ongoing issues in EU economic surveillance

Summary

Article 99 of the EC Treaty instructs the Council to monitor economic developments in the Member States and in the Community on the basis of reports submitted by the Commission. In the context of this economic surveillance, the Economic and Financial Affairs DG prepares a number of background studies that are relevant for a broader audience; the aim of this chapter on ongoing issues in economic surveillance is to present the results of this analysis in an easily accessible format.

The introduction to this year's chapter offers a definition of economic governance, a term that has assumed a growing importance in recent debates on economic pol-

icy in the EU, but which is difficult to pin down conceptually. The main body of the chapter deals with policy issues that are relevant to economic governance and surveillance. It gives a broad overview of the draft Treaty establishing a Constitution for Europe and discusses ways in which it strengthens economic governance in the EU. The discussion then moves onto education and its significant but changing impact on economic growth in the coming decades, as the educational profile of the workforce evolves. The chapter concludes with a discussion of structural indicators and macroeconomic statistics in the EU, both of which are critical for the effectiveness and transparency of economic surveillance.

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1. Introduction

In the course of its deliberations on Europe's institutional and political framework, the European Convention set up a working group on economic governance to discuss the case for further cooperation in the economic and financial field following the launch of the euro in January 1999. The working group distinguished between three broad strands of economic governance in the EU. The first is monetary policy, which in the euro area is the exclusive competence of the European Central Bank (ECB). The second strand concerns the narrowly defined rules that Article 104 of the Treaty and the Stability and Growth Pact impose on net government lending and public debt in EU Member States. The third strand focuses on the wider economic policy-mix including the pursuit of sound public finances and supply-side reform in factor and product markets. Although Member States retain primary responsibility for such measures, Article 99 calls on the Council of Ministers to issue broad economic policy guidelines (BEPGs) concerning Member States' economic policies with a view to achieving, *inter alia*, sustainable and non-inflationary growth and the smooth functioning of economic and monetary union (EMU).

In March 2000 the European Council introduced an ambitious agenda for economic reform — known as the Lisbon strategy — that is designed to make the EU 'the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion' by 2010. At the same time, the European Council recognised the central role of the BEPGs as an instrument of economic governance. In this regard it called for the BEPGs to 'focus increasingly on the medium- and long-term implications of structural policies and on reforms aimed at promoting economic growth potential, employment and social cohesion, as well as on the transition towards a knowledge-based economy'.

The use of the term economic governance in the European Convention rather than more established terms like economic policy coordination, economic cooperation

and *gouvernement économique* is noteworthy ⁽¹⁾. On the one hand, economic governance has much the same meaning as these other terms. At its base, economic governance concerns the institutions, rules and procedures that govern the conduct of economic policies in the EU in the light of the increased interdependence that comes from the completion of the internal market, the exercise of common policies and the launch of the euro.

On the other hand, the concept of economic governance goes beyond terms like economic policy coordination, economic cooperation and *gouvernement économique* by recognising the need for accountability, transparency and responsibility in relation to the conduct of economic policies in the EU. In this sense, the idea of economic governance reflects the broader debate on EU governance that followed the publication of the European Commission's White Paper on this subject in 2001 ⁽²⁾.

In this White Paper, the European Commission recognised the need to bring policy-making in the EU 'closer to the European citizens' and to address the perceived democratic deficit in EU institutions. This principle has been formally recognised under Article 49 of the Treaty establishing a Constitution for Europe, which calls on the EU's institutions to 'promote good governance'.

When the idea of good governance is applied to the economic domain, it expresses two key ideas. The first is that there should be transparency over Member States' rights and responsibilities concerning economic policies. From this perspective, the usage of the term economic governance is designed to allay concerns that EMU will lead to a progressive transfer of competence in the field of economic policy to the EU level. It does so by reinforcing the institutional asymmetry of EMU, according

⁽¹⁾ For a discussion of economic policy coordination and cooperation, see Mooslechner and Schürz (2001). See Dyson (2000) for a discussion of *gouvernement économique*.

⁽²⁾ See European Commission (2001a).

to which euro-area monetary policy is formulated by the European Central Bank while primary responsibility for economic policies — including fiscal policy and supply-side reform — rests with the Member States.

The second aspect of good economic governance concerns the need to ensure that economic policy in the EU is conducted in an accountable manner. The concept of accountability here has a twofold meaning. On the one hand, it states that EU institutions should be held accountable for their involvement in the formulation and implementation of economic policies. On the other hand, it refers to the fact that Member States should be held accountable to one another. This follows from Article 99 which states that Member States should treat economic policy ‘as a matter of common concern’.

This chapter, which is a new addition to the EU economy review, discusses some special topics related to the surveillance of economic policies in the EU. In view of the description above, this discussion will touch upon matters relating to economic governance and the wider economic policy-mix.

This inaugural discussion focuses on four topics that are of direct relevance to the EU economy and which reflect the broad scope of economic surveillance. The second section provides a broad overview of the new constitutional treaty and considers its likely impact on economic governance in the EU. The third section turns to the EU labour market and examines the impact of education on economic growth. The fourth and fifth sections focus on the informational requirements of economic surveillance in the EU. The former concentrates on the development of structural indicators in the context of the Lisbon strategy and their contribution to reform efforts. The latter looks at the progress achieved in relation to macroeconomic statistics since the launch of EMU and identifies future challenges.

The second section of this chapter looks at the implications of the Treaty establishing a Constitution for Europe for economic governance in the EU. In addition to introducing greater transparency, accountability and democracy in EU policy-making in general, the Constitution strengthens economic governance in a number of key respects. First, there will be greater scope for the Council of Ministers for Economic and Financial Affairs (Ecofin) to take decisions relating to the sole votes of the euro area, for instance in relation to the part of the BEPGs concerning the euro area in general. Second, the

Constitution includes a protocol on the informal Eurogroup that formalises the Commission’s involvement in Eurogroup meetings and allows members to nominate a Eurogroup President for a period of 2.5 years. Third, the impartiality of multilateral surveillance has been strengthened by giving the Commission the right to issue direct warnings against Member States whose economic policies are either inconsistent with the BEPGs, or otherwise risk jeopardising the proper functioning of EMU.

The importance of education for economic surveillance in the EU was recognised at the Lisbon European Council in March 2000 when the Heads of State or Government adopted the goal of halving the number of 18- to 24-year-olds with only lower-secondary level education who are not in further education and training by 2010. Existing studies suggest that education has been a key driver of economic growth in the past, but that its impact will change as the educational profile of the workforce evolves. Section 3 presents projections of educational attainment — by which is meant average effective years of schooling — for EU Member States over the next 50 years. In so doing it builds on the study ‘Education, training and growth’ in ‘The EU economy: 2003 review’. The results of this update are that the average years of schooling will increase by around 0.6 years in the coming decade as compared with a rate of 0.8 over the past eight years. It follows that while educational attainment will continue to be a driver of economic growth in the EU, the magnitude of this impact will gradually fall. Moreover, there is likely to be considerable variation between Member States owing to the variance in the scope for increased educational attainment and also the different estimated rates of return. From an economic surveillance perspective, this changing impact of education on economic growth underlines the importance of ensuring quality education at both the secondary and tertiary levels, for example by targeting reduced drop-out rates from universities.

At the Lisbon European Council in March 2000, the Heads of State or Government invited the Commission to draw up an annual synthesis report on the basis of structural indicators. Since this time, the Commission’s database on structural indicators has grown to 117 indicators, covering five main areas: general economic background, employment, innovation and research, economic reform, social cohesion and environment. In October 2003, the Commission proposed a shortlist of 14 indicators, which in keeping with the principle of streamlining will be revised every three years or in the

intervening years to take new policy priorities into account only. Section 4 of this chapter argues that the structural indicators are a useful tool for monitoring structural reforms undertaken by the Member States and an important guarantee of consistency between different policy messages. The contribution of the structural indicators to economic surveillance could be strengthened, it is argued, by placing greater emphasis on country rankings and by promoting a more in-depth analysis of reform implementation and its impact on economic performance.

The production of high-quality, reliable and timely macroeconomic statistics is, it is argued in Section 5, essential for successful economic surveillance in the EU. If this condition does not hold, then it will jeopardise the conduct of monetary policy in the euro area and make it harder both to assess compliance with EMU's budgetary rules and to identify common challenges for Member States' economies. A report by the Monetary

Committee in 1998 on information requirements for EMU concluded that there were a number of deficiencies in the EU's macroeconomic statistics in relation to, for example, money growth, banking, the financial markets, the balance of payments and (most importantly) price statistics. This paved the way for the launch of an EMU action plan in 2000, which included targets for the production of national data to permit the timely compilation of reliable key statistics for the euro area and the EU, with at least 80 % coverage of Member States' data. After four years, it is commonly agreed that euro-area statistics have improved considerably both in scope and timeliness. Key achievements in this regard include the production of improved quarterly national accounts, quarterly government statistics and short-term business indicators. This progress notwithstanding, the evolution of economic surveillance will require further improvements in relation to, *inter alia*, hourly working data, statistical indicators for the services economy and the balance of payments.

2. The draft Treaty establishing a Constitution for Europe: strengthening economic governance in the EU

Coming only a few weeks after the Union's biggest ever enlargement, the agreement of the Heads of State or Government on the constitutional treaty marked a critical juncture for European integration. The Constitution — which is now subject to ratification by the Member States — is not a revolution, but neither is it a mere consolidation of the Union's current legal architecture. Above all it is designed as a means to define the competences of the Union, simplify its policy instruments, and improve the democratic legitimacy, transparency and efficiency of its working methods.

The elaboration of a Constitution was entrusted to a Convention in which representatives of national parliaments, the European Parliament, the national governments and the Commission discussed the future of the Union. The Intergovernmental Conference (IGC) that gave its final agreement on 18 June 2004 has largely taken on board the Convention's proposals.

This section examines the key developments in the Constitution from the point of view of economic governance. Since the Constitution has considerably amended and improved the Union's overall legal and institutional framework, Section 2.1 provides a general overview of the main changes in this area compared with the present treaties. The relevance of these new elements for economic governance in the EU is then briefly discussed.

Section 2.2 focuses on economic governance proper and on the various enhancements proposed by the constitutional treaty. It focuses in particular on measures which strengthen and streamline decision-making in the euro area, including those which bolster the Commission's role in multilateral surveillance.

Section 2.3 summarises the Commission's position during the negotiations at the Convention and the subsequent IGC and compares the final text of the Constitution with the Commission's overall stance. The final section concludes.

2.1. General implications of the constitutional treaty

2.1.1. The Constitution becomes the Union's single foundation

Europe has been built in stages and is based on different treaties that have been concluded over time. This is one of the reasons why the European construction is sometimes difficult to understand. From now on, the 'European Union' will replace the present 'European Communities' and the 'European Union'. The three 'pillars' will be merged, even though special procedures in the fields of foreign policy, security and defence are maintained. The EU and EC Treaties, as well as all the treaties amending and supplementing them, will be replaced by the 'Treaty establishing a Constitution for Europe'.

The Constitution integrates the Charter for Fundamental Rights, becoming Chapter II of the Constitution ⁽¹⁾, and moreover clearly acknowledges the Union's values and objectives as well as the principles underlying the relationship between the Union and its Member States. It also contains a clearer presentation of the distribution of competences and a simplified set of legal instruments and procedures.

⁽¹⁾ This refers to the text of the Constitution as adopted in June 2004 by the IGC and which contains four chapters. The final version of the text will not contain any subdivisions and articles will be numbered consecutively.

In legal terms, however, the Constitution remains a treaty. Therefore, it will enter into force only after all Member States have ratified it, which implies popular consultations in some of them. It should be noted that any modification of the Constitution at a later stage will require the unanimous agreement of the Member States and, in principle, ratification by all. For some modifications, however — for example, with regard to the extension of the scope of qualified majority voting (QMV) — a unanimous decision by the European Council will suffice, although the possibility will exist for just one national parliament to block the decision of the European Council and thus to prevent the switch to qualified majority voting and/or co-decision.

2.1.2. A revised institutional framework

The Convention made a particular effort to reform and clarify the EU's institutional framework, notably as regards the respective roles of the European Parliament, the Council and the Commission and this achievement has been largely confirmed by the IGC.

The Constitution recognises the different competences of the Commission, including its near monopoly of legislative initiative, its executive function and its role as external representative of the Union, except in the field of common foreign and security policy. It extends very substantially the scope of the co-decision procedure, which, significantly, will henceforth be called the legislative procedure (95 % of European laws will be adopted jointly by the Parliament and the Council). This generalised recourse to co-decision obviously constitutes a significant enhancement of the Parliament's involvement in the EU's legislative process.

The main institutional innovation is the creation of the post of Union Minister for Foreign Affairs, who will be responsible for the representation of the Union on the international scene. This function will merge the present tasks of the High Representative for the common foreign and security policy with those of the Commissioner for External Relations. The Minister for Foreign Affairs will thus be mandated by the Council for common foreign and security policy and he (or she) will chair the External Relations Council. At the same time, the Minister for Foreign Affairs will be a full member of the Commission and as such in charge of the Commission's responsibilities in the field of external relations as well as of the coordination of the other aspects of the Union's external action.

The Constitution establishes the European Council as an institution, distinct from the Council. The European Council will be chaired by a President, with limited powers, appointed for a period of two and a half years. On the other hand, and in contrast to what had been proposed by the Convention, the system of twice-yearly rotation among the Member States of the presidency of the different Council formations (with the exception of the External Relations Council) will be maintained, although within a 'team presidency' of three countries. This system will be able to evolve in the future since it can be altered by the European Council acting by qualified majority.

In relation to EMU, the Constitution establishes the European Central Bank as an institution, while preserving its legal personality and independence vis-à-vis the other institutions and the Member States. It moreover recognises the important role of the Eurogroup in a separate protocol, which notably provides for the appointment of a President for a period of two and a half years. Both issues will be further discussed in Section 2.3.

As to the composition of the institutions, the IGC finally decided to raise the maximum number of seats in the European Parliament to 750. These seats will be allocated to the Member States according to the principle of 'degressive proportionality', with a minimum of six and a maximum of 96 seats. The precise number of seats attributed to each Member State will be decided before the European elections in 2009. The IGC decided to maintain the current composition of the Commission — one Commissioner per Member State — until 2014. From then on, the Commission will comprise a number of Commissioners corresponding to two thirds of the number of Member States. The members of the Commission will be chosen according to a system based on equal rotation among the Member States, which had been already decided by the Nice Treaty.

The definition of qualified majority for decision-making in the Council proved to be one of the more vexing questions that the IGC had to deal with. As proposed by the Convention, the Council will henceforth decide on the basis of the double majority of the Member States and of the people. The IGC nonetheless decided to raise the thresholds: instead of the majority of Member States representing 60 % of the population, the IGC decided that a qualified majority will require the support of 55 % of the Member States representing 65 % of the population. This definition is accompanied by two further elements.

First, in order to avoid a situation in which only three (large) Member States could block a Council decision due to an increase in the population threshold, a blocking minority needs to comprise at least four Member States. Moreover, a number of Council members representing at least three quarters of a blocking minority, whether at the level of Member States or the level of population, can demand that a vote is postponed and that discussions continue for a reasonable time in order to reach a broader basis of consensus within the Council.

2.1.3. A limited number of EU policies have been revised

As opposed to, for example, the Single European Act or the Maastricht Treaty, the Constitution does not extend the Union's competences considerably. Neither does it modernise all the Union's policies since the content of most provisions that govern these policies remains unchanged.

However, the Constitution significantly updates provisions in the field of justice and home affairs, in order to facilitate and improve the establishment of the area of freedom, security and justice. In fact, the Community method will from now on apply to all the areas in question. Moreover, they will fall to a large extent within the scope of qualified majority voting. Nevertheless, the Constitution retains or introduces some special features in these areas, namely in the area of judicial cooperation in criminal matters and in the area of police cooperation.

The provisions regarding external relations have been rewritten, but, in essence, the distinction between common foreign and security policy and the other aspects of EU external action still determines the respective roles of the institutions and the procedures that apply. Nevertheless, the creation of the post of Union Minister for Foreign Affairs, with the task of developing mutual confidence among Member States in order to achieve a truly common and European stance in external affairs, undoubtedly strengthens the Union's role in world affairs, in all areas. Moreover, the possibility of providing additional ways for the Member States to cooperate more closely in the field of defence will underpin the credibility of the Union's foreign policy.

Amendments were also introduced in the area of economic governance, as further detailed in the next section. It should be noted that unanimity is retained in the field of taxation and, partially, in the field of social policy and

common foreign and security policy. Although 'passerelles' allow a unanimous decision that henceforth qualified majority will apply in a given area, it remains to be seen whether the existence of such clauses will be sufficient to maintain the Union's capacity to act. Moreover, the future development of the Union means that account must be taken of the fact that laws on own resources and the financial perspectives must be adopted unanimously, as must revisions of the Constitution itself.

2.1.4. A system marked by increased democracy and transparency

The Constitution introduces, or confirms in a fundamental text, an important number of provisions to deliver more democratic, transparent and controllable EU institutions that are closer to the citizen. For example, the Constitution provides citizens with the right to invite the Commission to submit an appropriate proposal to the legislator, if they manage to collect one million signatures in a significant number of Member States. The proceedings of the Council, when exercising its legislative function, are to be open to the public. National parliaments are to be informed about all new initiatives from the Commission and, if one third of them consider that a proposal does not comply with the principle of subsidiarity, the Commission must review its proposal. New provisions on participatory democracy and good governance have acquired constitutional status.

2.1.5. Impact on economic governance

All EU policy areas will benefit — to varying extents — from the strengthening of the EU's institutional architecture. In the field of economic governance, the introduction of the Eurogroup (and its President) deserves to be mentioned and forms part of a general tendency towards reinforcing the euro area's governance.

As far as the Council is concerned, the 'double ceiling' definition of qualified majority constitutes a major improvement over the existing provisions in the Nice Treaty and will contribute towards facilitating effective decision-making.

While Parliament has managed to increase its involvement in virtually all EU policy areas, its role under the EMU chapter, which is characterised by strong Member State and Council involvement in the economic domain and sole ECB competence in the monetary field, remains broadly unchanged.

2.2. Specific implications of the constitutional treaty for economic governance

2.2.1. General

In view of its mandate extended by the Laeken European Council, the Convention (and the subsequent IGC) focused on the European Union's legal and institutional framework (see Section 2.1), which are described in Parts I and IV of the Constitution. The provisions covering the different EU policy areas were mostly taken over unchanged (see Part III of the Constitution).

Economic governance constitutes one of the few EU policy areas that was discussed in depth. Shortly after the Convention on the Future of Europe started its activities, it decided that one of its 11 working groups would be in charge of examining economic governance issues with a view to presenting proposals to the Convention's plenary. The group was composed of 34 Convention members and chaired by Mr Klaus Hänsch, former President of the European Parliament. The Hänsch group recognised the need for strengthening economic policy coordination, while considering that EMU's monetary 'pillar' functioned in an appropriate manner and did therefore not require major revision. The report adopted in October 2002 by the group helped to shape the Convention's stance as regards EMU-related issues, and many of its recommendations were eventually taken up by the Convention in the constitutional treaty.

2.2.2. The role of the Ecofin Council

During both the Convention and the IGC, the Ecofin Council proved to be active in trying to reach consensus concerning most issues under discussion and in attempting to get its views across, first in the Convention and later in the IGC. The Constitution was frequently on the agenda for lunchtime discussions between Ecofin members, while the Economic and Financial Committee (EFC) was invited to carry out all preparatory work and to achieve as broad a consensus as possible on all open items. Already in May 2002, the EFC was asked to prepare a first issues paper and the Committee was subsequently invited to discuss outstanding issues on a regular basis and to elaborate compromise proposals. As Ecofin's formal positions repeatedly met with resistance on the part of foreign affairs ministers who were formally in charge of presenting Member States' positions in the relevant committees, it gradually moved towards

exercising its influence through national channels, although it should be acknowledged that some countries appeared to be more systematic than others in conveying commonly agreed Ecofin positions as national positions.

2.2.3. Progress achieved

Alongside the general provisions detailed in Section 2.1, the Constitution has managed to achieve meaningful progress in the area of economic governance. First of all: (i) the capacity of the euro area to decide and act autonomously has been significantly enhanced in most areas, thereby reflecting the need for close policy coordination among Member States sharing the same currency. In other areas, (ii) it has recognised the need to strengthen the Commission's involvement in multilateral surveillance. Finally, (iii) it has updated and simplified a significant number of EMU-related provisions contained in the current Treaty.

(i) Reinforced decision-making within the euro area

The present EU Treaty already excludes the voting rights of the Council representatives of the non-participating Member States in a number of areas, notably when decisions are taken which solely concern euro-area Member States, such as the issue of euro banknotes and coins, the adoption of ECB acts, the nomination of the members of the ECB's Executive Board, the adoption of decisions relating to the euro's exchange rate policy, the imposition of sanctions under the excessive deficit procedure, and so on.

The Constitution significantly extends the scope of Ecofin decision-making based on the sole votes of euro-area Member States. For example, the part of the BEPGs concerning the euro area in general (as opposed to the different country sections dedicated to the individual euro-area Member States) will henceforth be adopted by the votes of euro-area Member States only.

More importantly, this approach has also been extended to a significant number of Council decisions which are applicable to all EU Member States. This evolution reflects the evident need for stronger economic policy coordination between participating Member States, since the euro-area countries are more directly and significantly affected by policy deviations (such as excessive deficit situations) arising in other euro-area countries. The Constitution therefore provides that Council recommendations (or early warnings) in the context of the multilateral surveillance framework, Council opin-

ions on stability programmes, and decisions on the existence of excessive deficits as well as Council recommendations with a view to bringing that situation to an end within a given period should be adopted by the votes of euro-area Member States only when they relate to participating Member States. At the same time, the Constitution establishes a clear asymmetry in the EU's decision-making rules, since euro-area Member States will continue to vote on any such decision relating to countries that do not belong to the euro area.

Euro-area Member States also receive a more direct say in decisions on future entries into the euro area. While the final decision on the abrogation of the derogation of a non-participating country will be taken by all Member States (as is the case at present), the Council will only be able to adopt such decisions on the basis of a prior recommendation adopted by the euro-area Member States. The abrogation procedure itself continues to be initiated on the basis of a Commission proposal.

The Constitution includes a specific protocol on the informal Eurogroup, which *inter alia* indicates that the Commission will participate in the Eurogroup as well as in the preparatory meetings (the Commission's current status is less clear since the Luxembourg conclusions of December 1997 indicate that it is only 'invited' to the meetings). The protocol moreover specifies that the Eurogroup will nominate a President for a period of 2.5 years. While the content of the protocol does not introduce major changes compared with current practices, it marks an important and logical step towards confirming the role of the Eurogroup as a key player in the euro area's decision-making process by embedding it in the Union's legal and institutional architecture.

(ii) Stronger powers for the Commission to monitor the observance of the rules

The Constitution strengthens the Commission's role as independent 'referee' in relation to economic governance in several key respects. In the context of multilateral surveillance, the Commission will have the possibility to issue a 'direct' (i.e. without the endorsement of the Council) warning to Member States whose economic policies are either inconsistent with the BEPGs, or otherwise risk jeopardising the proper functioning of EMU (e.g. a significant budgetary deviation justifying an early warning).

The current possibility for the Council to issue similar recommendations (on the basis of a Commission recommendation) remains in place. In essence, it will thus be for the Commission to decide on a case-by-case basis whether it issues a 'direct' warning or whether it prefers to involve the Council. The Constitution moreover provides that such Council recommendations (including early warnings under the SGP) will be adopted without the vote of the Member State concerned. Under the present rules, this Member State is indeed judge and defendant at the same time, and the change of practice introduced by the Constitution will help to strengthen the impartiality of multilateral surveillance. In doing so, the Constitution moreover removes the existing bias in favour of large Member States, since under current arrangements the latter can constitute a blocking minority more easily than the smaller countries because of their larger voting weight.

Under the excessive deficit procedure, Council decisions on the existence of a deficit will henceforth be based on a Commission proposal as opposed to a mere recommendation. This amendment facilitates the adoption process since the voting threshold will be lowered and will thus be easier to reach. In addition, the Council will take its decision without the vote of the Member State concerned.

(iii) Streamlined and simplified decision-making procedures

The EMU chapter is probably one of the few parts of the EU Treaty which has not been amended since the signature of the Maastricht Treaty, notably in order to avoid the launching of counterproductive discussions and debates which could have endangered the preparations for the introduction of the euro.

As a consequence, the EMU chapter contains a large number of provisions that are obsolete. This applies to most of the transitional provisions (the transition from Stage II to Stage III, the establishment of the ECB, the winding-up of the EMI, etc.) which are no longer relevant now that the single currency has been introduced. Other provisions are no longer up to date (e.g. during earlier revisions of the Treaty, the coordination procedure has been systematically replaced by the co-decision procedure in all other parts of the Treaty).

In other areas, the Constitution has simplified decision-making rules by transforming the unanimity requirement into qualified majority (nomination of the members of the ECB's Executive Board) or by establishing a specific legal base providing for decision-making by QMV (granting of macrofinancial assistance to third countries) instead of Article 308 of the EU Treaty which requires unanimity.

Other EMU-related issues

One of the most controversial issues during the Convention concerned the formulation in Chapter I of the Constitution of the EU's competence in the area of economic policy coordination. While the Convention decided to adopt a neutral wording that merely constitutes a factual description of the present situation⁽¹⁾, and which was therefore also supported by the Commission, this draft text became the object of intensive (and eventually successful) lobbying on behalf of a few countries that strongly argued in favour of reverting to wording coming much closer to the sibylline provisions of the Maastricht Treaty⁽²⁾. The practical consequences of this fight over words are minimal, however, since Article I-11(6) provides that the provisions of Part III of the Constitution shall determine the scope of and arrangements for exercising the Union's competences.

While monetary policy was left largely unaltered by the Convention and the IGC, the Convention decided to amend the ECB's current status as a *sui generis* institution (Article 8 of the EU Treaty) and to include it in the list of EU institutions listed in the Constitution's institutional title. The term 'Eurosystem' moreover appears for the first time in the Treaty. These changes are however not expected to have material consequences for the functioning of the ECB and ESCB. For its part, the ECB judges that the Constitution preserves its 'special

features' of independence, legal personality, and regulatory powers⁽³⁾.

The possibility of introducing a more broadly defined enabling clause⁽⁴⁾, which would allow for a comprehensive reform of the governance of the ECB in the light of enlargement, was raised during the IGC and strongly supported by the Commission. This amendment formed part of the compromise package tabled by the Italian Presidency in December 2003, but was eventually not taken up in the Constitution agreed in June 2004. The IGC, however, agreed that the members of the ECB's Executive Board should henceforth be nominated by qualified majority and no longer unanimously, a useful move which, if implemented earlier, would have helped to avoid protracted and acrimonious discussions in May 1998 over the nomination of the first ECB President and the duration of his mandate.

2.3. The Commission's proposals in the area of economic governance

In assessing the impact of the Constitution on economic governance, it is useful to recall the Commission's proposals in relation to this domain during the Convention. The Commission issued two communications⁽⁵⁾ to the Convention in which its position on the different institutional and policy issues, including economic governance, was set out in detail⁽⁶⁾. While the experience gained with the EMU framework established by the Maastricht Treaty is still relatively short, the Commission nevertheless considered that some lessons could be drawn and that scope for improvement exists in several respects.

(1) Art. I-11(3): 'The Union shall have competence to promote and coordinate the economic and employment policies of the Member States.' Art. I-14(1): 'The Union shall adopt measures to ensure coordination of the economic policies of the Member States, in particular by adopting broad guidelines for these policies. The Member States shall coordinate their economic policies within the Union.' Art. I-14(2): 'Specific provisions shall apply to those Member States which have adopted the euro.'

(2) Art. I-11(3): 'The Member States shall coordinate their economic and employment policies within arrangements as determined by Part III, which the Union shall have competence to provide.'

Art. I-14(1): 'The Member States shall coordinate their economic policies within the Union. To this end, the Council shall adopt measures, in particular broad guidelines for these policies. Specific provisions shall apply to those Member States whose currency is the euro.'

(3) See ECB (2004).

(4) The present enabling clause (Article 10(6) ESCB/ECB) already allows for limited revisions to the decision-making rules of the ECB's Governing Council. It was used as a legal basis for amending Article 10(2) ESCB/ECB and introducing a three-group 'rotation' model of the voting rights in the Governing Council, once the number of euro-area Member States exceeds a certain number.

(5) COM(2002) 247 of 22 May 2002 and COM(2002) 728 of 5 December 2002. Moreover, a draft Treaty (known as Penelope) was released in December 2002. This document was not endorsed by the Commission as such, but issued as a 'feasibility study' under the authority of the President and Messrs Barnier and Vitorino.

(6) The European Economic and Social Committee (2002) also presented a report on economic governance. As regards the European Parliament, a draft report 'on the development of and new prospects for the European economic union' was prepared for discussion in Parliament's EMAC committee, but never made its way to the plenary since the Committee rejected the report.

2.3.1. Strengthening the EU dimension of economic governance

Firstly, a key message in the Commission's contribution to the Convention was that the Community dimension of the EU's economic governance process needs to be reinforced so as to ensure a harmonious interaction of national economic policies. The need for further progress is particularly apparent with respect to the BEPGs which constitute the Community's overarching instrument for economic policy coordination. In the present framework, the negotiation and adoption of the guidelines are largely in the hands of the Council and the Member States, since the possibility for the Commission to influence the final outcome is very limited once it has initiated the adoption process by tabling the draft BEPGs. In view of this fact, the Commission made the case for basing draft BEPGs and associated surveillance measures on Commission proposals (as is the case in most other EU policy areas) rather than on Commission recommendations. This would bring a greater degree of impartiality to multilateral surveillance as well as taking greater account of the Community interest when preparing guidelines concerning economic policy.

2.3.2. Strengthening economic governance within the euro area

Secondly, the Commission proposed to strengthen the euro area's decision-making capacity. The Eurogroup already allows euro-area finance ministers, the Commission and the ECB to exchange views on an informal basis on all issues of common interest. It does not, however, have any decision-making powers since all formal decisions can only be taken at Council level. Moreover, the functioning of the informal Eurogroup, which operates on a more or less intergovernmental basis, does not properly reflect the European Union's governance principles, notably in terms of interinstitutional interactions. The Eurogroup therefore only constitutes a partial and temporary response to the need for closer policy coordination.

The Commission therefore advocated the creation of a genuine Ecofin Council of the euro area, in which only the ministers of the participating countries would be represented. This step is all the more relevant following the latest enlargement, since the euro-area ministers currently represent less than half (12 out of 25) of the total number of Ecofin representatives.

2.3.3. Making sure that the euro area is properly represented outside the EU

Finally, the Commission argued in the Convention that the euro area's influence on the international scene should be commensurate with its economic and commercial weight. This is unfortunately not the case under existing arrangements, notably because the euro area is not properly represented in the relevant international institutions and forums, such as the IMF, the G7, and so on. While the parties most directly concerned recognise that the current situation is unsatisfactory, no meaningful progress has been achieved since the introduction of the euro in 1999. In addition, the conclusions adopted on this issue by the Vienna European Council in December 1998 are not being applied. The Commission therefore invited the Convention to contribute towards unlocking the present stalemate. The Commission moreover considered that it is institutionally well placed to be put in charge of the euro area's external representation, as it already takes on this role in many other prominent EU policy areas.

2.3.4. Assessment

Being represented in both the Convention and in the IGC, respectively as a member and an observer, the Commission was in a position to actively defend its views throughout the revision process of the current treaties and to influence the final text of the Constitution, albeit with varying degrees of success. In respect of the necessary strengthening of the EU dimension of the economic governance framework, the Constitution extends the use of Commission proposals as opposed to recommendations only in relation to the existence of excessive deficits. In spite of this fact, several improvements in the surveillance area deserve to be mentioned such as the possibility for the Commission to issue a 'direct' surveillance warning, or the exclusion of the Member State concerned from the decision-making process on surveillance decisions.

The euro area's capacity to decide and to act autonomously was also significantly enhanced, since virtually all decisions relating to the euro area or to the participating Member States, particularly in the policy surveillance area, will henceforth be in the hands of the sole participating countries, as already detailed in Section 2.3.2 above. The Constitution stops short of establishing a genuine Ecofin Council for the euro area, but it further emphasises the role and importance of the Eurogroup in a separate protocol, and establishes the

function of a Eurogroup President to be appointed for a period of 2.5 years.

Finally, in respect of the euro area's external representation, neither the Constitution nor the IGC achieved any material progress, despite the fact that both recognised the importance of this matter.

2.4. Conclusion

Now that a political agreement has been reached on the content of the Constitution, the text is being finalised for official signature in Rome on 31 October 2004. This is

also the starting date for the ratification process in all 25 Member States.

The Commission has indicated that it wholeheartedly welcomes the new Constitution, which constitutes a significant improvement of the present treaties. This conclusion also applies in the field of economic governance, since the various changes discussed above, while recognising that many of them are relatively minor when considered individually, constitute a major improvement when assessed on a collective basis and pave the way for the future strengthening of economic governance in the EU.

3. Education and growth

Education is attracting growing interest from economic policy-makers, including at the EU level for two key reasons. Firstly, the best available economic evidence suggests that rising educational attainment is an important influence on economic growth ⁽¹⁾. Secondly, education accounts for a sizeable share — around 11 % in the EU as a whole — of public expenditure.

This section builds on the analysis of ‘The EU economy: 2003 review’ that was presented in the chapter ‘Education, training and growth’. The chapter reviewed the impact of education on growth, and examined the likely evolution of educational attainment. Attainment is defined as the successful completion of a given level of education and is usually measured in effective years of schooling — the sum of the standard lengths of studies successfully completed. The chapter concluded that average years of schooling in the EU were set to rise by a baseline rate of around 0.65 over the next 10 years.

The present section extends the analysis to the individual Member State level, thus allowing for an investigation of cross-country differences ⁽²⁾. It presents a simple methodology for estimating years of schooling on the basis of labour force survey data and presents attainment projections for 10 and 50 years ahead.

The section restricts itself to education — including pre-primary, lower-secondary, upper-secondary and tertiary education, but not including continuing vocational training or workplace training. Training merits separate treatment in its own right, but the main reasons for excluding it here are: firstly, it is difficult to compare with formal education in terms of years of schooling; secondly, since employers and individuals pay a large share of the costs, the implications for public finances are relatively lim-

ited; and, thirdly, the available data allow at best a very partial coverage ⁽³⁾.

The section is structured as follows. Section 3.1 introduces the methodology employed and presents projections for educational attainment in 2012 and 2052 under the assumption that enrolment in secondary and tertiary education will remain constant. Section 3.2 relaxes this assumption and considers how enrolment rates might evolve in the coming years. Section 3.3 incorporates the assumption of increasing enrolment into the projections of educational attainment. Section 3.4 concludes by considering the likely effects of these educational attainment projections on economic growth.

3.1. Constant enrolment

The first step in this study is to establish a baseline concerning what would happen to average years of schooling in the 25–64-year-old population if enrolment remained fixed at 2002 levels, given the expected demographic developments. Under constant enrolment rates, the current age profile of attainment largely determines any future increase in attainment. In other words, in countries where younger workers are much better educated than older workers, average attainment will automatically increase as older workers retire. In countries where older workers are almost as well-educated as their younger counterparts, this effect will be much smaller.

The approach here is, firstly, to use labour force survey (LFS) data to estimate average years of schooling in 10-year age groups. These estimates are then used to project the future increase in years of schooling due to replacement of older workers by better-educated younger ones,

⁽¹⁾ See de la Fuente and Ciccone (2002) and de la Fuente (2003).

⁽²⁾ The Member States that joined the European Union in May 2004 are not covered in this section mainly because the available data do not extend far back enough for these countries. However, it should be straightforward, given the necessary information, to extend the exercise to 25 Member States.

⁽³⁾ A recent study by Coulombe et al. (2004) suggests that the causal links between investment in education and growth may have been weakened by the use of diplomas and degrees as proxies for skills that increase productivity. These results underline the importance to the knowledge economy of promoting ‘competences’ (functional literacy) and of lifelong and lifewide learning.

Table 1

Years of schooling by age group, 2002

	15–24	25–34	35–44	45–54	55–64	25–64
Belgium	10.2	12.2	11.5	10.8	10.0	11.2
Denmark	9.3	13.0	12.6	12.6	12.1	12.6
Germany	9.4	12.7	12.9	12.7	12.2	12.7
Greece	10.1	11.8	11.1	10.1	9.2	10.6
Spain	9.7	11.0	9.9	8.8	7.8	9.6
France	10.0	12.0	11.1	10.5	9.8	10.9
Ireland	10.4	12.1	11.2	10.4	9.6	11.0
Italy	9.3	10.8	10.1	9.4	8.3	9.7
Netherlands	10.0	12.4	12.1	11.6	11.0	11.8
Austria	9.9	12.5	12.4	11.8	11.1	12.0
Portugal	8.5	9.2	8.3	7.9	7.5	8.3
Finland	9.8	12.8	12.6	11.8	10.7	12.0
Sweden	10.2	12.5	12.2	11.8	11.2	12.0
United Kingdom	11.7	12.5	12.3	11.8	11.2	12.1
EU-14	9.9	11.9	11.5	10.9	10.2	11.2

NB: EU-14 excludes Luxembourg.

Source: Commission services.

and, secondly, due to current enrolment. Even assuming that enrolment rates are fixed, years of schooling will still increase when people currently enrolled receive their qualification.

In principle, an easier approach would be to use available data on enrolment by age, and to infer future stocks of attainment from current flows of enrolment. In practice, however, it is difficult to establish a clear link between the data on enrolment (from administrative sources) and the data on attainment (usually from LFS or censuses) ⁽¹⁾.

The advantage of using the LFS data is that they are available on a comparable basis for all countries. The disadvantage is that the estimates, particularly since they rely on splitting the sample up into 10-year age groups, are subject to sample error. In addition, the allowance made for increased attainment due to current enrolment is very imprecise. Thus, estimates based on detailed

national sources may produce slightly different results and, accordingly, the results presented here should be seen as indicative of cross-country differences rather than precise estimates of the situation in each country.

Average years of schooling are estimated by multiplying the highest level of education achieved by the standard number of years it takes to reach that level ⁽²⁾. The broad classification of educational attainment in the LFS — low, medium and high, corresponding to ISCED ⁽³⁾ 1997 levels 0–2, 3–4 and 5–6 respectively — is employed in order to obtain estimates for most EU countries going back 10 years ⁽⁴⁾. In a few cases where the data do not extend back to 1992, linear extrapolation is used.

Table 1 shows estimated years of schooling by age group. Average attainment is highest in the 25–34 age group and, as would be expected, declines thereafter with age. Country differences are striking: attainment ranges from just over eight years in Portugal to almost 13 years in Germany. Here a word of caution is in

⁽¹⁾ Complications include: the time lag between enrolment and attainment (the latter being measured by the highest qualification achieved, not the number of years actually spent in school or college); drop-outs, repeat years and part-time studies, which mean that the average year of enrolment results in less than a year of average attainment; and inconsistencies between the (administrative) enrolment data and estimates of attainment based on surveys or censuses.

⁽²⁾ The latter is obtained from de la Fuente and Doménech (2001).

⁽³⁾ International Standard Classification of Education, developed by the UN.

⁽⁴⁾ LFS data on attainment by the finer ISCED 1997 classification are available for a few recent years only. In any case, as noted in European Commission (2003a), the estimate of average years of schooling for 2002, at least for the EU as a whole, is similar using either the broader or finer classification.

order, since education systems in different countries are not fully comparable. The tables cannot take into account the fact that attainment is higher in some countries in part because courses last longer, while it is debatable whether the quality of outcomes increases in proportion with the length of studies. The age profile of attainment ranges from a steep incline in the case of Spain — where attainment of 25–34-year-olds is over three years higher than that of 55–64-year-olds — to almost a plateau in Germany.

Based on these data, the following rough projections of average years of schooling in 2012 are made.

- For a lower bound, it is assumed that 15–24-year-olds in 2002 will reach the same level of attainment as 25–34-year-olds in 2002, and that the older groups will remain at 2002 levels of attainment. Thus, 45–54-year-olds in 2012, for example, would have the same level of attainment as 35–44-year-olds in 2002. This misses the impact of, for example, a 26-year-old who is currently enrolled for a university degree but is yet to graduate.
- For an upper bound, it is assumed that attainment will rise in each age group in the same proportion as it did between 1992 and 2002. Thus, for example, attainment of 35–44-year-olds in 2012 is estimated by: attainment of 35–44-year-olds in 2002 x (attainment of 45–54-year-olds in 2002/attainment of 35–44-year-olds in 1992) ⁽¹⁾. This includes not only the impact of current enrolment but also the increase in enrolment rates between 1992 and 2002.
- The rough projections reported below are the mid-points between the lower- and upper-bound estimates. The difference between the mid-point and the lower bound is thus, in effect, taken to reflect the impact of current enrolment on attainment. The long-run estimates (for 2052 and beyond) take the 2012 result for 25–34-year-olds and add to this the estimated increase in attainment due to current enrolment for older groups. Thus the long-run

⁽¹⁾ It turns out that, for a few combinations of countries and age groups (especially the 15–24 age group), estimated attainment in 2002 is actually slightly lower than estimated attainment in 1992, which means that the ‘upper bound’ is below the ‘lower bound’. This is puzzling given the available evidence on enrolment, which suggests that participation especially in tertiary education rose during the 1990s. Moreover, educational reforms in recent years have, if anything, aimed to reduce course durations and drop-out rates. In these cases, the upper-bound estimate was constrained to the lower-bound one.

attainment profile under constant enrolment is slightly increasing with age. Table 2 presents projected years of schooling under constant enrolment. Population figures are taken from Eurostat’s baseline population projections for 2010 and 2050. These results differ slightly from those presented in ‘The EU economy: 2003 review’, mainly because of a correction to the data for the United Kingdom ⁽²⁾.

Table 2

Projected years of schooling in the 25–64-year-old population with constant enrolment

	2002	2012	2052
BE	11.2	11.7	12.3
DK	12.6	12.8	13.0
DE	12.7	12.8	12.7
EL	10.6	11.3	12.1
ES	9.6	10.6	11.9
FR	10.9	11.4	12.1
IE	11.0	11.8	12.8
IT	9.7	10.4	11.1
NL	11.8	12.1	12.4
AT	12.0	12.6	13.1
PT	8.3	8.8	9.4
FI	12.0	12.8	13.7
SE	12.0	12.3	12.8
UK	12.1	12.4	12.9
EU-14	11.2	11.7	12.2

NB: EU-14 excludes Luxembourg.

Source: Commission services.

3.2. Increased enrolment

Of course, the assumption that enrolment patterns will remain constant is moot. Table 3 provides indicators of current enrolment in upper-secondary and tertiary education. As discussed in ‘The EU economy: 2003 review’, there are a number of reasons to expect enrolment to increase in the coming years.

⁽²⁾ The data for the United Kingdom are corrected for a break in the series around 1997, which appears to be due to the United Kingdom’s decision to count success in the GCSE exams (General Certificate of Secondary Education, which pupils usually sit at age 16 shortly after the end of compulsory schooling) as upper-secondary attainment. The data reported respect that decision, but adjust the earlier part of the series accordingly. This means that the increase in attainment over the decade 1992–2002 in the United Kingdom is considerably less than it first appears from the raw data. This has a significant impact, reducing the apparent 1992–2002 increase in years of schooling in the United Kingdom by 1.2 years and in the EU as a whole by 0.17.

First, average years of schooling in the 25–64-year-old population have been growing at a roughly constant rate of 0.8 per decade in the EU as a whole since the 1960s.

Second, policy-makers (at both EU and national levels) have established explicit targets for increased enrolment and/or attainment at upper-secondary and tertiary levels.

Nevertheless, one should not necessarily expect enrolment to continue to grow indefinitely. In some countries, upper-secondary education (up to the age of 18) is already compulsory and therefore near-universal. In tertiary education, the position of the United States suggests some scope for further increases in participation in most EU countries. Beyond this, however, it is unclear whether tertiary participation will become saturated, or whether it can continue to grow.

This section focuses on upper-secondary and tertiary education, since this is where most of the scope for increased enrolment lies. We do not include pre-school education or most of adult education and training here. Although empirical evidence suggests that early child-care and education have a positive impact on cognitive

abilities, this may be regarded as an influence on the quality of learning rather than something to classify as part of formal education. Clearly, adult education and training merits a separate discussion in its own right. However, adult education that leads to a formal educational qualification (in the ISCED classification) is included in the data on years of schooling and, implicitly, in the benchmarks discussed below.

Third, even if these areas were included, the impact on average years of schooling would be relatively small compared with increased upper-secondary and tertiary enrolment⁽¹⁾. In the case of pre-school education, it takes more than 20 years for this to have any impact on average schooling in the 25–64-year-old workforce. The impact of reaching the EU Education Council benchmark for increased adult education and training (12.5 % of 25–64-year-olds participating at any given time by 2010) would be larger, though progress towards this target has been slow thus far.

⁽¹⁾ See 'The EU economy: 2003 review', Chapter 3, Table 7.

Table 3

Indicators of participation in upper-secondary and tertiary education

	Upper-secondary (2002) % of 18–24-year-olds qualified or in further training	Tertiary (2001) Enrolment as % of 20–29-year-old population
BE	87.60	27.40
DK	91.60	27.20
DE	87.40	21.80
EL	83.90	30.10
ES	71.00	28.00
FR	86.60	26.00
IE	85.30	26.00
IT	75.70	22.50
NL	85.00	24.40
LU	83.00	4.04
AT	90.50	26.20
PT	54.50	24.20
FI	90.10	44.00
SE	89.60	32.50
UK	82.30	26.70
EU-15	81.50	25.40
US	n/a	36.60

NB: Tertiary participation is low in Luxembourg because most students study abroad.

Source: Commission services.

Projecting enrolment in tertiary education is inevitably a tentative exercise. One might imagine that it will follow a similar path to that of enrolment in primary and secondary education, approaching universality in the long run. On the other hand, some commentators have raised concerns about ‘over-education’, some even predicting that tertiary enrolment may fall towards what they consider more reasonable levels ⁽¹⁾. This would suggest saturation of tertiary enrolment well below universality.

Another issue is how to specify the enrolment rate and in particular its denominator. Here, we express (gross) tertiary enrolment as total enrolment in tertiary studies divided by the population aged 20–29 in all countries. It should then be clear that, if two countries have the same tertiary enrolment rate but degree courses are longer in country A than in country B, then the share of people who graduate from tertiary education is lower in country A than in country B.

Over long periods of time, enrolment rates may be observed to follow an S-shaped adoption curve similar to that which characterises the diffusion of many goods and services. A curve for US data is estimated (since this is the country with the highest tertiary enrolment rate for which a sufficiently long series is available), imposing a maximum enrolment rate of 50 % (compared with an actual rate of 38.6 % in 2000) ⁽²⁾. The estimated relationship between enrolment rate and time (shown in Graph 1) is then used to project tertiary enrolment in the EU, given data on enrolment rates in 2001.

This implies that tertiary enrolment for the EU as a whole would rise from 25.4 % of the 20–29-year-old population in 2000 to 30.7 % in 2010. It could be argued that, given widespread recognition of the importance of tertiary education for the knowledge-based economy, and the presence of national-level targets for more substantial increases in enrolment in a number of Member States, a more ambitious benchmark for 2010 would be appropriate. If such targets are considered plausible, then the estimates of increased attainment presented here should be regarded as conservative.

In upper-secondary education, the natural assumption is 100 % attainment in the long term. Upper-secondary education is already compulsory and near-universal in some EU Member States. For simplicity, a similar curve to that used for tertiary education is assumed, with the implication that enrolment rates follow a concave path (increasing at a decreasing rate) towards the long-run maximum.

The age range 18–24 is used for comparison with the Lisbon target to halve the number of 18–24-year-olds with below upper-secondary level education who are not in further education or training by 2010. In 2000, around 19.4 % of 18–24-year-olds were in this position ⁽³⁾. A liberal interpretation would be for an additional 9.7 % of 18–24-year-olds to reach upper-secondary attainment by 2010 (in practice, it could be less than 9.7 %, since the target refers to enrolment and not all of those enrolled will necessarily graduate). In that case, the EU-15 enrolment rate would reach 90.3 % in 2010, which is significantly above the 87.8 % shown in Table 4 below. Thus, again, the present scenario may be regarded as slightly on the conservative side compared with publicly announced targets.

Table 4 summarises the benchmarks for increased enrolment in both upper-secondary and tertiary education. These are not to be regarded as forecasts, but rather as ‘plausible benchmarks’, with a view to judging what might happen to economic growth and public spending on education if enrolment continued to increase. What actually happens in individual Member States will depend on precise policy measures. For example, a country might see a sharper increase in upper-secondary enrolment if it decided to make upper-secondary education compulsory; or tertiary enrolment might rise by much less if spending on higher education was capped.

3.3. The impact of increased enrolment on average attainment

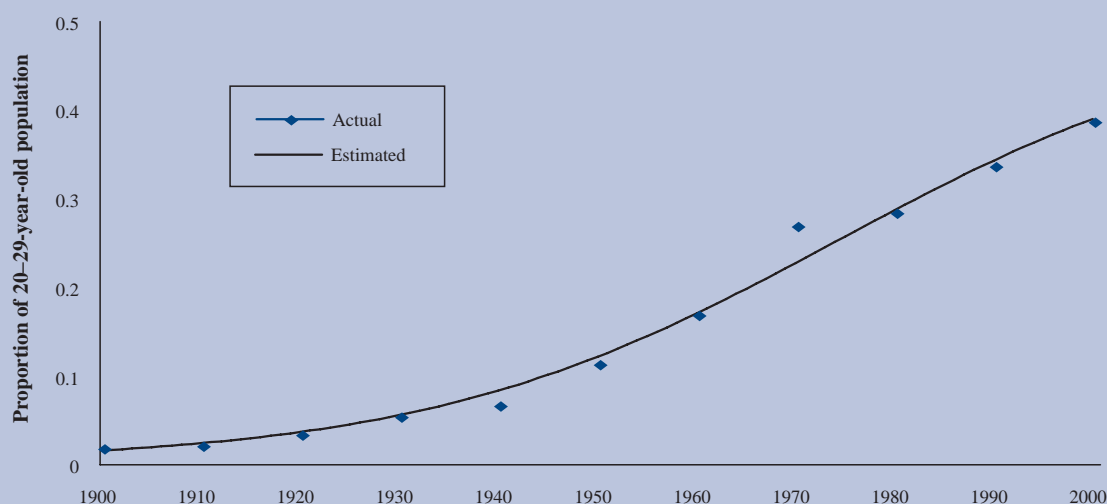
In order to determine the potential impact of increased enrolment on economic growth the benchmarks must be expressed in terms of increased years of schooling. This is straightforward in the case of upper-secondary education, since the chosen benchmark is already in terms of attainment. In the case of tertiary education, allowance

⁽¹⁾ See, for instance, Krugman (1996).

⁽²⁾ A 50 % rate would imply that, if only 20–29-year-olds attended university and degrees lasted for five years, then in the long run 100 % of the population aged 30 and above would graduate (assuming no drop-outs, repeat years or part-time studies). In practice, since some under-20-year-olds and over-29-year-olds are enrolled, and many people study for longer than five years, the long-run share of graduates will be well below 100 %.

⁽³⁾ By 2003, this had fallen to an estimated 18.0 %. See Eurostat structural indicators (described in this chapter’s Section 4).

Graph 1: US enrolment in degree-granting institutions, 1900–2000



NB: A logistic specification was used to capture the S-shape: $y = \frac{y_{max}}{1 + e^{at+b}}$ where y is the enrolment rate, y_{max} is the maximum enrolment rate (in this case 0.5, or 50 % of the 20–29-year-old population), t is time in years (0 = 1900) and a and b are parameters. This was estimated by OLS with dependent variable $\hat{y} = \ln\left[\frac{y_{max}}{y} - 1\right]$. The estimated curve was then used to project future enrolment rates given today's enrolment rate.

Sources: Commission services, US Department of Education, Census Bureau, Commission services.

Table 4

Benchmarks for increased enrolment, 2010 and 2050

	Tertiary level Enrolment as a % of the population aged 20–29				Upper-secondary level % of 18–24-year-olds with upper-secondary level or in further studies			
	2000	2010	2030	2050	2000	2010	2030	2050
BE	27.1	32.8	41.6	46.4	87.5	91.9	96.7	98.7
DK	26.6	32.4	41.4	46.3	88.4	92.5	97.0	98.8
DE	21.5	27.4	38.0	44.6	85.1	90.2	96.0	98.4
EL	26.6	32.4	41.4	46.3	82.9	88.7	95.3	98.2
ES	27.7	33.4	42.0	46.6	71.2	80.0	91.2	96.5
FR	25.7	31.5	40.8	46.0	86.7	91.3	96.5	98.6
IE	24.9	30.8	40.3	45.8	83.6	89.2	95.6	98.3
IT	22.2	28.2	38.6	44.9	74.7	82.7	92.6	97.0
LU	4.2	6.5	14.0	25.2	83.2	88.9	95.4	98.2
NL	23.4	29.4	39.4	45.3	84.5	89.8	95.8	98.4
AT	25.3	31.1	40.6	45.9	89.8	93.4	97.4	99.0
PT	23.2	29.1	39.2	45.2	57.1	68.3	84.9	93.6
FI	42.7	45.2	48.0	49.2	91.1	94.3	97.7	99.1
SE	31.3	36.5	43.8	47.4	92.3	95.1	98.1	99.2
UK	26.2	32.0	41.1	46.2	81.7	87.8	95.0	98.0
EU-15	24.9	30.7	40.2	45.7	80.6	87.8	94.8	97.9

NB: Tertiary enrolment projections based on convergence to a long-run maximum of 50 % along a curve estimated on US data; upper-secondary projections based on convergence to 100 % along a similar logistic curve.

Source: Commission services.

must be made for high drop-out rates and study durations beyond (or below) the standard length, which mean that years of enrolment are significantly higher than years of attainment in some cases.

The available data suggest that drop-out rates in tertiary education vary considerably among countries and in some cases are very high. Figures reported in the OECD's *Education at a glance* publication, for instance, suggest that in a couple of countries more than half of those who begin a tertiary programme fail to graduate ⁽¹⁾.

If enrolment were constant over time and all students remained enrolled for the same number of years, the relationship between the number of graduates and the number enrolled in a given year could be expressed as:

$$G_t = \frac{1}{l} E_t (1 - d),$$

where G_t is the number of graduates in year t , l is the length of the course, E_t is the number of students enrolled in year t and d is the 'drop-out rate' in years (i.e. the share of years of enrolment that do not result in a year of attainment, which is the variable of interest for present purposes).

If enrolment is growing, then a relatively large share of students is in the earlier years of study. In this case, l in

⁽¹⁾ OECD (2003), p. 52.

the above formula may be replaced by:

$$\sum_{i=1}^{l-1} (1+g)^i,$$

where g is the (constant) annual rate of growth of enrolment.

Applying this formula to the 2001 Eurostat figures on enrolment and graduates in tertiary education as a whole, and taking de la Fuente and Doménech's figures on duration of full-length tertiary courses for l , the following results for d can be obtained (figures from the previous three years are used to estimate g) ⁽²⁾.

'Drop-out rates' for tertiary education thus inferred are then multiplied by the increase in enrolment to give increased attainment in tertiary education.

⁽²⁾ It must be stressed that d here is not the same as the OECD indicator, which compares the number of graduates with the number of entrants in the typical year of entry. A high level of d may result not only from drop-outs in this sense, but also from studies lasting longer than the standard number of years. For example, if a student takes six years to complete a degree, but the standard length — for the purpose of estimating years of schooling — is four years, then this represents a 'drop-out' of two years out of six, or 33%. The negative estimates of d in some countries may be partly explained by average degree courses being shorter than the standard lengths (taken from de la Fuente and Doménech, 2001) used to estimate years of schooling. It should also be noted that, although these figures are from the same statistical source, there may still be inconsistencies between numbers enrolled and numbers graduating, as well as cross-country differences in data collection and so forth.

Table 5

Tertiary duration and 'drop-outs'

	d (%)	Years
BE	20	4
DK	17	4
DE	n/a	n/a
EL	14	4
ES	10	5
FR	-7	4
IE	-10	4
IT	33	5
NL	-2	5
AT	57	4
PT	35	4
FI	30	5
SE	50	4
UK	-21	4
EU average	14	4.4

NB: EU average is weighted by enrolment.

Source: Commission services.

The estimated increases in attainment in each age group must then be translated into increases in average attainment in the 25–64-year-old labour force. For the purpose of this calculation, we assume that attainment or enrolment rates rise gradually along the path assumed in the S-shaped projections.

We now turn to the main results, presented in the following table ⁽¹⁾.

These results suggest that average educational attainment among 25–64-year-olds is set to continue increasing in the EU as a whole, though at a declining rate compared with previous decades. The intuition that increased average attainment over the next 10 years is dominated by the replacement of older workers with better-educated younger counterparts is confirmed. The impact of further increases in upper-secondary and tertiary enrolment on average attainment among 25–64-year-olds is limited in the first decade (also partly because most of those in the

relevant age groups are below the age of 25). In the longer term, however, the potential for further increases in average educational attainment clearly depends on increasing enrolment, especially in tertiary education.

Cross-country differences are striking. Over the next decade, the projected increase in average attainment in Germany is less than one fifth what it is in Spain. It may be worth recalling the main reasons for these differences.

- *Cohort effects:* If a country has experienced a rapid increase in enrolment in recent decades, so that young people's attainment is much higher than that of older working-age people, then the predetermined increase in average attainment is correspondingly high. This is mostly the case in countries where attainment is relatively low (though the same is true for Finland where, despite high average attainment, enrolment of young people has increased rapidly).
- *Scope for further increases in enrolment:* The methodology for the projections assumes that countries converge to long-run (i.e. beyond 2050) maximum enrolment rates, so that those with relatively low rates to begin with have greater scope for further increases.

⁽¹⁾ The results for the EU as a whole differ slightly from those presented in 'The EU economy: 2003 review' on account of the correction to the UK data (described above) and the fact that the benchmarks for increased enrolment here are less ambitious. The estimated increase in attainment with constant enrolment between 2002 and 2012 or 2052 derived in Section 3.1 is taken to be equal to the increase between 2000 and 2010 or 2050.

Table 6

Projected effective years of schooling in the 25–64-year-old population

	Increase with constant enrolment			Increase due to upper-secondary		Increase due to tertiary		Total attainment (increase since 2000)			
	2000	2010	2050	2010	2050	2010	2050	2010		2050	
BE	11.1	0.5	1.1	0.01	0.26	0.06	1.06	11.6	(0.6)	13.5	(2.4)
DK	12.5	0.2	0.4	0.02	0.32	0.06	1.12	12.9	(0.3)	14.4	(1.9)
DE	12.6	0.1	0.1	0.02	0.30	0.04	0.87	12.8	(0.2)	13.9	(1.3)
EL	10.5	0.8	1.5	0.02	0.35	0.07	1.16	11.3	(0.9)	13.5	(3.0)
ES	9.4	1.0	2.2	0.04	0.74	0.07	1.16	10.5	(1.1)	13.5	(4.1)
FR	10.8	0.5	1.2	0.02	0.27	0.08	1.49	11.4	(0.6)	13.7	(2.9)
IE	10.7	0.8	1.8	0.02	0.34	0.11	1.57	11.7	(0.9)	14.4	(3.7)
IT	9.8	0.6	1.3	0.04	0.82	0.05	0.98	10.5	(0.7)	12.9	(3.1)
LU						0.02	0.85				
NL	11.7	0.3	0.6	0.01	0.21	0.07	1.49	12.1	(0.4)	14.1	(2.3)
AT	11.9	0.6	1.1	0.02	0.28	0.03	0.59	12.5	(0.6)	13.9	(2.0)
PT	8.3	0.5	1.1	0.05	1.05	0.05	0.97	8.8	(0.6)	11.4	(3.1)
FI	11.9	0.8	1.7	0.01	0.19	0.02	0.34	12.8	(0.8)	14.2	(2.3)
SE	11.9	0.4	0.8	0.01	0.16	0.03	0.57	12.3	(0.4)	13.4	(1.5)
UK	12.0	0.4	0.8	0.02	0.37	0.09	1.64	12.5	(0.5)	14.8	(2.9)
EU-15	11.1	0.5	1.1	0.02	0.43	0.06	1.19	11.7	(0.6)	13.8	(2.7)

Source: Commission services.

- *Length of upper-secondary studies:* The benchmarks here refer to the number of people completing upper-secondary education (long-run maximum of 100 %), so the impact on effective years of schooling is higher in countries where the standard length of upper-secondary studies is longer ⁽¹⁾. The standard length is three or four years in most countries, except Italy (five years) and the Netherlands (two years).
- *Enrolment/attainment ratio in tertiary education:* In tertiary education, the benchmark refers to the share of people enrolled. This implies a trade-off between the length of studies and the number of graduates. The effect of increased enrolment on effective years of schooling is lower in countries where the number of years enrolled is significantly higher than the standard length of studies needed to achieve a degree (owing to a high drop-out rate or repeat years, for example). This effect also partly explains the relatively large impact of increased tertiary enrolment in France, Ireland, the Netherlands and the United Kingdom, where the available data indicate that the average time taken to successfully complete studies is shorter than the standard length given in de la Fuente and Doménech (2001).

The pure demographic effect of a falling share of young people in the population has a small impact for the EU as a whole during this period. For example, the increase in average attainment due to higher tertiary enrolment by 2050 would be 1.22 years instead of 1.19 years if, all other things being equal, the structure of the population remained as it was in 2000. The demographic effect makes very little difference to cross-country comparisons.

As regards the different areas of the education system, the results suggest that increased upper-secondary enrolment may still have a significant contribution to make to raising average educational attainment. In most cases, however, the potential contribution of tertiary education far outweighs that of upper-secondary, with the notable exception of Portugal.

⁽¹⁾ The standard length of upper-secondary studies is taken from de la Fuente and Doménech (2001).

3.4. Conclusions: the possible impact of increased attainment on growth

If the findings of recent research on the link between education and growth were taken at face value, then the results presented here would have significant implications for growth potential in EU-15 as a whole and for cross-country differences. **If** one extra year of schooling in the labour force aged 25–64 leads to an increase in GDP of around 6 % and **if** the assumptions behind the attainment projections hold, then the main results could be summarised as follows.

In the EU as a whole the contribution of education to growth looks set to decline. The projections suggest that average years of schooling will increase by around 0.6 years in the coming decade, compared with 0.8 per decade over the past 40 years. This implies that the contribution of education to rising GDP in the EU as a whole would fall from almost 0.5 percentage points of GDP per year in recent decades to 0.35 percentage points up to 2010, and falling slightly further thereafter. This varies a great deal between countries, owing mainly to variance in the scope for increased attainment, but also to different estimated rates of return. Table 7 sums up the implications for growth, using the de la Fuente (2003) estimates of raw macroeconomic returns to schooling in individual EU countries.

There is a negative correlation between the projected increase in attainment and GDP per capita, which is consistent with the presumed role of education in economic catch-up. This is not surprising since current attainment is clearly linked to GDP (with causality almost certainly running in both directions), while long-term upper bounds on average attainment are imposed in the projections. Apparent outliers include Ireland (a greater projected increase in average attainment than expected given current GDP), Greece and Portugal (both with a lower projected increase in average attainment than would be expected on the basis of cross-country differences).

Since the ‘ifs’ mentioned at the beginning of this section are big ones, it is instructive to recap the essential caveats which suggest that these results should be interpreted with caution, and in any event as projections based on strong assumptions rather than forecasts.

Table 7

Possible impact of increased attainment on GDP

	Projected increase in attainment (years)		Macro return (1990 data)	Implied annual % increase in GDP	
	2010	2050		2010	2050
BE	0.57	2.40	5.82	0.33	0.26
DK	0.32	1.88	5.00	0.16	0.18
DE	0.19	1.27	4.53	0.08	0.11
EL	0.86	2.98	7.42	0.62	0.40
ES	1.07	4.14	8.27	0.85	0.59
FR	0.60	2.93	5.62	0.33	0.31
IE	0.92	3.69	6.24	0.56	0.42
IT	0.71	3.13	7.30	0.51	0.41
NL	0.38	2.32	5.36	0.20	0.24
AT	0.64	1.98	5.19	0.33	0.20
PT	0.57	3.12	9.16	0.51	0.50
FI	0.83	2.26	5.35	0.44	0.23
SE	0.41	1.53	5.53	0.22	0.16
UK	0.49	2.85	5.58	0.27	0.30
EU	0.58	2.68	6.17	0.35	0.31

NB: Implied annual increase in GDP is calculated as the compound annual growth rate required to yield the implied increase in the level of GDP by 2010 or 2050.

Sources: Commission services and de la Fuente (2003) for macro returns.

- The future impact of education on growth depends on quality and efficiency, as well as quantity. Evidence suggests that an improvement in the quality of school education of one standard deviation could in fact have a larger effect than an extra year of schooling ⁽¹⁾. At tertiary level, effective years of schooling could be increased without even raising enrolment by reducing the number of drop-outs and excess years of study ⁽²⁾.
- The absolute level of average attainment (as opposed to changes in average attainment) may be relevant to growth, perhaps especially when it comes to extending the frontier of technical progress. In that case, countries like Germany may still enjoy advantages.
- On the other hand, there are some reasons to fear that a macroeconomic return of around 6 % — i.e. an extra year of schooling raises aggregate productivity by 6 % — may be optimistic for the future. These include the possibility of slower technical progress, and the possibility of diminishing returns to further increases in tertiary enrolment.
- The difference between estimated rates of return in different countries depends on the assumed form of the aggregate production function — in the case of de la Fuente's estimates, returns are in fact constrained to diminish as years of schooling increase, so that countries with high current attainment have relatively low returns by assumption.
- The attainment projections for individual Member States should be seen as tentative, given the underlying data and methodology, and because of the inevitable degree of arbitrariness in establishing benchmarks for increased enrolment.
- The projection methodology effectively sets an upper bound on tertiary enrolment that may not strictly apply in practice. Some countries (Finland in particular) have increased enrolment by more than might be expected according to this methodology. Adult education and training could also contribute to raising effective attainment.

⁽¹⁾ See Hanushek and Kimko (2000).

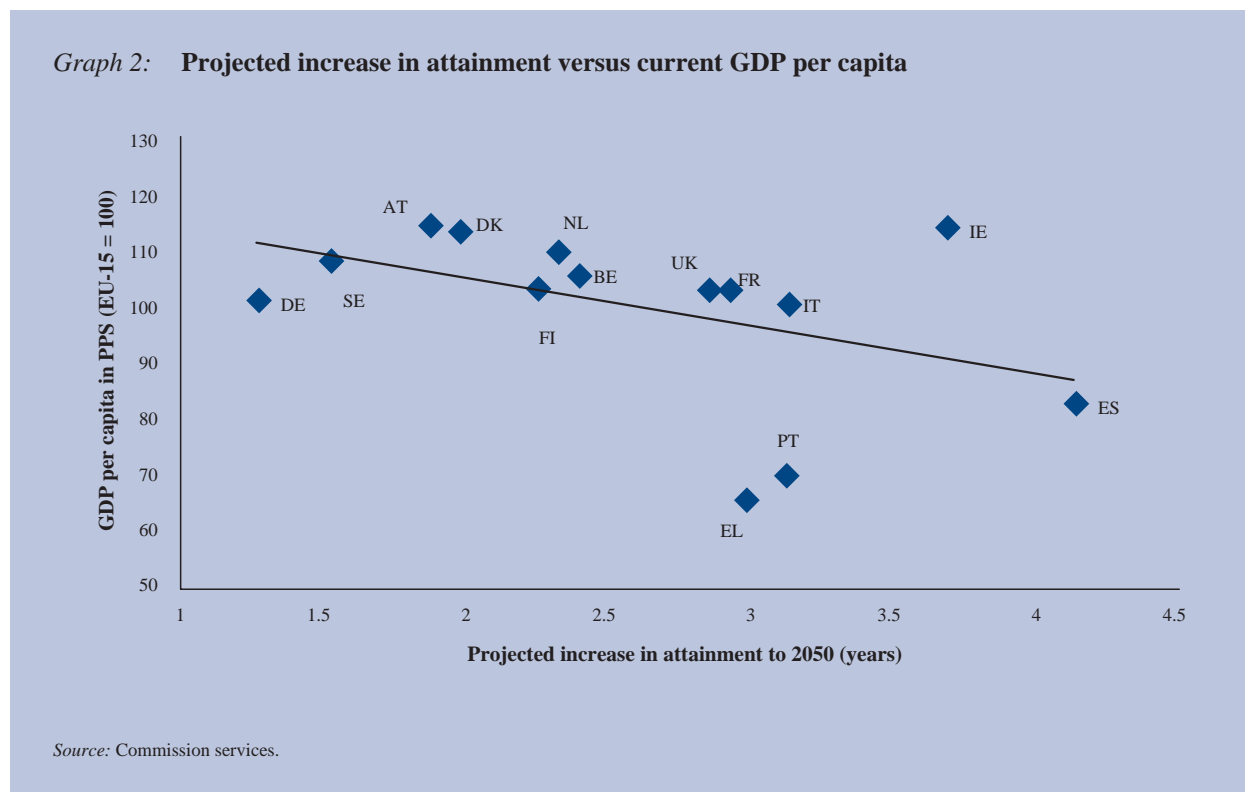
⁽²⁾ For a discussion of the importance of quality and an introduction to the non-monetary outcomes of investing in education, including the issue of equity, see OECD (2002).

- In the shorter term, the projections might be seen as slightly conservative compared with publicly announced targets for increased upper-secondary and, in some countries, tertiary participation.

Despite all these caveats, the basic results have a ring of truth about them. There is quite strong evidence that the change in educational attainment over time is important for growth, and the scope for further increases in average years of schooling clearly varies a good deal among coun-

tries. Nevertheless, some of the caveats may be important in the context of education and training policies: for example, greater attention to quality and efficiency may be required in some countries, or the design of policies and reforms may need to take into account a country's position relative to the forefront of technical progress ⁽¹⁾.

⁽¹⁾ See Aghion and Cohen (2004).



4. Development of the structural indicators

4.1. Background

As requested by the Lisbon European Council, the assessment of progress towards the Lisbon objectives in the annual spring report is based on a list of structural indicators to be agreed between the Commission and Council ⁽¹⁾. Since the first proposal by the Commission in 2000, the indicators' database has evolved considerably. In order to make it easier to present the policy messages and the Member States' positions relative to the key Lisbon targets, the Commission ⁽²⁾ proposed a shortlist of 14 headline indicators in October 2003 ⁽³⁾. The comprehensive database (117 indicators), which covers five main areas: general economic background, employment, innovation and research, economic reform, social cohesion and environment, continues to be released on the publicly accessible Eurostat structural indicators website ⁽⁴⁾.

This section aims at presenting the structural indicators (SI) as an instrument of economic surveillance contributing to the assessment of progress of EU countries towards the Lisbon objectives. The remainder of this section is organised as follows. The principles and evolution of the SI database are first reviewed. The most recent development is the creation of the shortlist of structural indicators in 2003. A robustness analysis of the progress assessments based on both the shortlist and the comprehensive database is also included ⁽⁵⁾. The third part is dedicated to the role of the SI in the Lisbon

strategy. Finally, the current use of the SI is critically assessed from different angles: the method used to select the indicators; the relevance of the list; the effectiveness of the indicators as part of the governance system; and the use of indicators for country ranking. As far as the last is concerned, possible methods for constructing rankings are briefly discussed as well.

4.2. Principles and evolution of the structural indicators database

The choice of indicators reflects the overall objective of the Lisbon strategy, which is for the EU to become 'the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion'. This overall objective can be represented by a welfare function reflecting the idea that aggregate welfare in the EU depends on economic, environmental and social factors. The different structural indicators selected reflect policy action or performance in these three domains.

In addition, the structural indicators in the list have to fulfil a number of more specific selection criteria. The indicators have to: (1) be easy to read and understand; (2) be policy relevant; (3) be mutually consistent; (4) be available in a timely fashion; (5) be available for most, if not all, Member States; (6) be comparable between these countries, and as far as possible with other countries; (7) be selected from reliable sources; and (8) not impose too large a burden on statistical institutes and respondents.

In practice, the development of the structural indicators database (and shortlist) is the result of interactions between the Commission and the Council. The Commission proposes a set of indicators which is agreed, in turn, by the Council. In the past, the selection method relied

⁽¹⁾ The Presidency conclusions of the Lisbon European Council (23–24 March 2000) indeed state (paragraph 36): 'The European Council invites the Commission to draw up an annual synthesis report on progress on the basis of structural indicators to be agreed relating to employment, innovation, economic reform and social cohesion.' The sustainable development objectives were added at the Gothenburg Council in June 2001.

⁽²⁾ European Commission (2003b).

⁽³⁾ This shortlist was slightly amended following discussions with the Council in 2003.

⁽⁴⁾ <http://europa.eu.int/comm/eurostat/structuralindicators>.

⁽⁵⁾ The robustness analysis is conducted in collaboration with the JRC of Ispra.

Box 1: The shortlist of structural indicators

The list of indicators is balanced to reflect the importance that European Councils at Lisbon and Gothenburg placed on the domains of employment, innovation and research, economic reform, social cohesion and the environment.

1. GDP per capita in PPS (general economic background)
2. Labour productivity (general economic background)
3. Employment rate (*) (employment)
4. Employment rate of older workers (*) (employment)
5. Educational attainment (20–24) (*) (innovation and research)
6. Research and development expenditure (innovation and research)
7. Comparative price levels (economic reform)
8. Business investment (economic reform)
9. At-risk-of-poverty rate (*) (social cohesion)
10. Long-term unemployment rate (*) (social cohesion)
11. Dispersion of regional employment rates (*) (social cohesion)
12. Greenhouse gas emissions (environment)
13. Energy intensity of the economy (environment)
14. Volume of freight transport (environment)

(*) Indicators disaggregated by gender.

on compromises that expanded the database often at the expense of the underlying economic rationale ⁽¹⁾.

Over the years, the number of indicators has tended to increase thus making it more difficult to draw a clear picture of progress towards the Lisbon objectives. In order to refocus the policy debate, the Commission proposed in 2003 (COM(2003) 585 final) a shortlist of only 14 SI, in combination with a publicly accessible database and website containing the longer list. The final shortlist approved by the European Council in December 2003 settles the current framework for the SI analysis. In accordance with the principle of streamlining documents and policies, it was agreed that this shortlist would be revised every three years only, although it could be modified in intermediate years in order to take new policy priorities into account.

The shortlist of indicators has several advantages. First, it makes it easier to present a clear picture of the Member States' relative positions with respect to the most important Lisbon targets. Second, the shortlist includes well-known and easy-to-understand indicators.

Third, the shortlist of indicators has a better logic, thus reinforcing the economic foundations of the policy messages drawn from the progress assessment. Fourth, agreeing the list of indicators every three years fits with the streamlined procedure for the broad economic policy guidelines, the employment guidelines and the internal market strategy. Hence, the stability of the shortlist is of crucial importance to make comparisons over time possible. As structural issues develop only slowly over time and as several of the indicators are key Lisbon targets, it is wise not to revise the list too frequently.

Moreover and probably more importantly, the assessment based on the shortlist has been shown to be relatively robust. Robustness analysis conducted by the Joint Research Centre (Ispra) for EU-15 confirms the overall consistency between the ranking obtained with the shortlist and the database, thereby reducing the risk of a partial or biased analysis when displaying the performances

⁽¹⁾ The first Commission (2000) communication following the Lisbon Council put forward a list of 27 key indicators, which became 35 after agreement with the Council. The Stockholm Council in March 2001 and the Gothenburg Council in June 2001 called for new indicators in the fields of social inclusion and sustainable development, respectively. In response to this request, the Commission proposed a new list of 36 indicators (European Commission, 2001b), which became 42 after approval by the Council (expanding to 117 indicators when all sub-indicators are taken into account).

(levels) and progress assessment for the 14 headline indicators ⁽¹⁾. In particular, leaders and laggards can be identified in a robust way.

4.3. Role of the structural indicators in the Lisbon strategy

The economic policy coordination serving the Lisbon strategy is organised in three stages. First, the main decisions are taken and economic policy orientations are agreed at the annual spring Council. A report prepared by the Commission, the so-called spring report, is used to guide the decisions of the Heads of State or Government. Second, those decisions are translated into policy recommendations in the broad economic policy guidelines (BEPGs), the employment guidelines (EGs) and the internal market strategy (IMS). Finally, the implementation package (three implementation reports (IRs), one for each of the BEPGs, EGs and IMS) and the spring report assesses whether these policy recommendations have been implemented. Two instruments of governance contribute to the implementation of the Lisbon strategy: the BEPGs and the open method of coordination (OMC).

The structural indicators are mainly used in the spring report to provide an assessment of the Member States' performance towards the main Lisbon targets. They are also used in other Commission and Council reports such as the BEPGs. The structural indicators are a useful tool of the policy coordination, as they provide valuable information about the steps already taken by national governments to achieve the Lisbon targets.

The success of this policy coordination instrument in assessing Member States' policies and in measuring their performance depends on two main factors.

- The structural indicators should increase the capacity to correctly monitor national performances in the most relevant areas and establish a benchmark for the Member States that is as accurate as possible.
- The assessment exercise should help to identify the areas where Member States lag behind and where further reform effort is necessary; eventually it

should aim at encouraging Member States to significantly step up the pace of structural reforms.

In addition, it is important to take into account the different starting positions across Member States to provide encouragement to those which have undertaken difficult reforms, when using, presenting and interpreting the structural indicators. Therefore, there has been an increasing focus on measuring both the level as well as the progress (growth rates) in Member States' performance. The statistical annex of the spring report illustrates the use made of the structural indicators. In particular, Tables 15 and 16 of the spring report (2004) present an assessment of the EU's and Member States' performance in terms of levels and progress made since Lisbon.

4.4. Critical assessment

The structural indicators have been successful in several ways. They have been used in the Commission's spring reports and in the BEPGs, as well as in other Commission documents to provide statistical support for policy messages and to measure progress towards the Lisbon objectives. Being used in different processes, the structural indicators database is a guarantee for consistency between policy messages. The structural indicators have also attracted a lot of outside attention being one of Eurostat's most popular websites.

However, the indicators have also been subject to a lot of criticism focusing on, amongst other issues, the basic rationale underlying the choice and the selection method of indicators, the relevance of the list and its focus on policy versus performance indicators, the lack of effectiveness of the indicators as a tool to bring about policy change, and the use of the indicators for country rankings (including a brief presentation of country ranking methods in Box 3). These different points of criticism are considered in somewhat more detail below.

4.4.1. Method used to select the indicators

The basic rationale underlying the choice of indicators has become less clear as the requirement to reach agreement between the Commission and Council on the structural indicators necessitated the finding of a compromise solution. The choice of indicators has been based on discussions on the relative merit of individual indicators rather than on the consistency of the indicator set as a whole. The yearly revision of the database also leads to continuous addition of new indicators that dilute the

⁽¹⁾ The same conclusion holds to some extent for the new Member States. For some of these countries discrepancies exist due to different reasons (problems of data availability and quality, as well as strongly changing economies). This makes the use of the shortlist for these countries a bit less effective as a summary of the long list, at present.

Box 2: Consistency analysis between the shortlist and structural indicators database

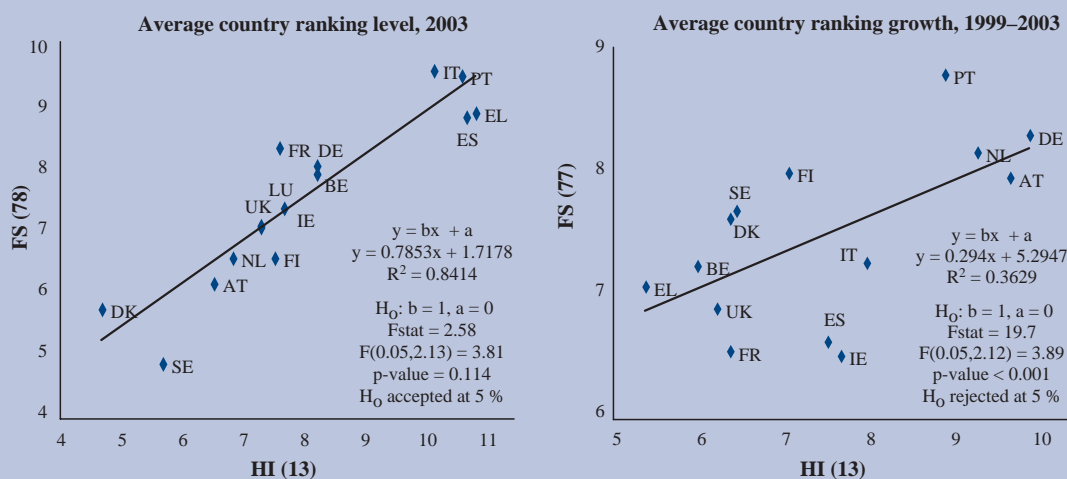
This analysis demonstrates that inferences based on the shortlist of 14 headline indicators corroborate assessment that is based on the comprehensive database. This analysis of robustness is done in terms of average country rankings across the indicators ⁽¹⁾. The study is carried out both for levels and growth rates. Levels are analysed for the years 1999, 2000, 2001, 2002 and 2003. Growth rates are considered over the period 1999–2003. Two statistical tests are carried out to establish whether the average country rankings obtained with the shortlist are statistically equivalent to the average country rankings obtained with the full set. For more details, see Tarantola et al. (2004).

Based on the average rankings for country *i*, obtained from the shortlist (denoted by X_i) and full list (denoted by Y_i), the following F-test is performed: a linear relationship

$Y_i = a + b X_i + e_i$ between X_i and Y_i is assumed and the hypothesis $H_0: a = 0, b = 1$ is tested by F-statistics, which under the null hypothesis follows an $F_{2,n-2}$ distribution. The F-statistics are presented in the first table below together with their p-values and information whether the hypothesis H_0 can be rejected or accepted at 5 % level. The graphs illustrate the result for both the level in 2003 and the average growth 1999–2003 ⁽²⁾.

The test described above is used for all countries jointly. The hypothesis about equality of the average rankings is accepted at 5 % except for the growth analysis and for the year 2000. On the whole, it is possible to identify clusters of countries that are robust. The assessment based on the full set of indicators and the shortlist, in terms of average ranking, is therefore quite consistent and robust for the countries of EU-15.

Consistency between full set of indicators and headline indicators



NB: HI and FS represent the average ranking for, respectively headline indicators and full set of indicators. The number in brackets represents the number of indicators used for the analysis. HI (13) includes all headline indicators except the dispersion of regional employment rates, due to missing data. The lower the value on the axes, the higher the ranking.

Source: Commission services.

⁽¹⁾ The average rankings are computed by, for each country, averaging the rankings obtained for each indicator.

⁽²⁾ This F-statistic is defined as $F = \frac{(N-2)(R_1 - R)}{2R}$, where, $R = \sum_{i=1}^N (Y_i - \hat{a} - \hat{b}X_i)^2$ and $R_1 = \sum_{i=1}^N (Y_i - X_i)^2$, \hat{a}, \hat{b} are OLS estimates based on sample $(X_i, Y_i), i = 1, \dots, N$.

(Continued on the next page)

Box 2 (continued)

Consistency analysis between the headline indicators and full set of indicators

	Indicators for full set	y = a + b x		H ₀ that a = 0 and b = 1		
		Coefficients (a, b)	R ²	Fstat	p-value	H ₀ at 5 %
Level 1999	68	1.83 + 0.77 x	0.83	3.11	0.082	accepted
Level 2000	70	2.15 + 0.73 x	0.88	6.35	0.012	rejected
Level 2001	74	1.54 + 0.81 x	0.89	2.98	0.086	accepted
Level 2002	78	1.63 + 0.80 x	0.85	2.49	0.121	accepted
Level 2003	78	1.72 + 0.79 x	0.84	2.58	0.114	accepted
Average growth, 1999–2003	77	5.29 + 0.29 x	0.36	19.7	< 0.001	rejected

NB: Critical value for the level estimates is F(0.05, 2.13) = 3.81, for the growth estimate F(0.05, 2.12) = 3.89.

A further test is to identify countries for which the average ranking is statistically different across the two sets of indicators ⁽³⁾. The shaded cells in the table below indicate that the average rankings obtained on the basis of the shortlist and on the basis of the full set of indicators are significantly

different from each other. This test confirms the previous graphical analysis. The robustness of the shortlist is however lower for countries such as Denmark, Spain, France and Greece.

T-test: level in five years and growth over 1999–2003, EU-15 ⁽⁴⁾

	T _i statistics for two-sided test (at 5% critical value)					
	Levels					Growth 1999–2003
	1999	2000	2001	2002	2003	
AT	-0.92	-0.60	-0.23	-0.10	0.07	1.52
BE	-0.55	-0.47	-0.56	-0.34	-0.35	-1.10
DE	-1.14	-0.76	-0.14	0.04	-0.20	1.39
DK	-0.60	-0.81	-0.80	-1.08	-1.13	-0.94
ES	0.77	0.89	0.60	0.85	0.94	0.71
FI	0.87	0.51	0.48	0.63	0.48	-0.83
FR	-0.78	-0.41	-0.72	-1.54	-1.49	-0.19
EL	0.98	1.14	0.71	0.64	0.87	-1.28
IE	0.04	0.02	-0.32	0.11	-0.11	0.82
IT	0.06	0.32	0.28	-0.05	-0.21	0.58
LU		-0.63	-0.70	-0.32	-0.15	
NL	0.44	0.24	0.39	-0.06	-0.08	1.04
PT	0.15	0.18	0.36	0.31	0.26	0.07
SE	0.15	0.18	0.54	0.62	0.55	-1.08
UK	0.13	-0.08	-0.14	-0.26	-0.15	-0.68
5 % critical value	0.83	0.83	0.83	0.83	0.83	0.83

⁽³⁾ Such identification is possible via the two-sample t-test, which is more severe than the previous one. The test is conducted for each country independently. X_i represents the average ranking of country i over the shortlist and Y_i represents the average ranking of country i over the full set of indicators. Denoted further by $S_{x,i}$, $S_{y,i}$ their corresponding standard deviations and by x and y the number of indicators in the shortlist and the full set. Under the null hypothesis $X_i = Y_i$, the test is defined as follows:

$$T_i = \frac{X_i - Y_i}{\sqrt{(x-1)S_{x,i}^2 + (y-1)S_{y,i}^2}} \sqrt{\frac{xy(x+y-2)}{x+y}}, \text{ which follows } t \text{ distribution with } (x+y-2) \text{ degrees of freedom.}$$

⁽⁴⁾ Luxembourg is not included.

potential influence of each indicator on monitoring and policy analysis.

There is an agreement that the shortlist established in 2003 would be revised every three years only. The 14 headline indicators provide a good and manageable set of indicators that should help to attract and increase public awareness of structural reforms. In the face of the considerable size of the comprehensive database and according to the principle of streamlining, it is important to resist the temptation for more frequent changes or extension. Following completion of the mid-term review of the Lisbon strategy, a revision of the shortlist could be envisaged, in order to better reflect the priorities for action during the second half of the decade. However, if it is decided to leave the overall objectives of the Lisbon strategy in place, then, according to the principle of streamlining, the shortlist should remain constant.

4.4.2. Relevance of the list: policy or performance indicators?

One can take a rather critical stance with respect to the indicators' reflection of reality. Are the indicators successful in measuring the progress in terms of reforms implemented? There has been a gradual shift in emphasis from an 'input indicators' approach (i.e. policy measures taken, progress with respect to the reform agenda) to an 'output indicators' approach (i.e. picture of the actual performances). While the latter is more in line with the conclusions of the Lisbon European Council, the former may be more effective in bringing about policy reform. As such, the 'input indicator' could help to improve the peer pressure and the efficiency of the structural indicators as an economic policy coordination instrument. A drawback of the 'input indicator' is that the link between policies and performances is not always straightforward. Many external factors, including the business cycle, intervene. This criticism also applies to the 'output indicator' where the performances measured are not necessarily due to efficient economic reforms but could be due to favourable economic conditions.

The choice of the benchmarks and the reference to the US model can also be questioned. Some of the structural differences observed between the United States and Europe may result from strongly different social preferences ⁽¹⁾.

⁽¹⁾ For recent contributions to this debate, see Blanchard (2004) and Gordon (2004).

4.4.3. Effectiveness of the indicators as part of the governance system

One major criticism is related to the effectiveness of structural indicators in assessing the implementation of policy measures and as a tool to bring about policy change. There are two (complementary) approaches to this issue.

First, the structural indicators, particularly the shortlist, are used to give a synthetic view of the performance of the Member States. But the rather descriptive analysis based on the 14 headline indicators needs to be supplemented by a more in-depth analysis in order to provide a reasonable and more comprehensive picture of reform implementation and their effectiveness in improving performances. More sophisticated analytical tools may be needed to better understand the effects of reform as well as the interactions and trade-offs between different reforms undertaken. Provided the structural reform assessment is underpinned by a sound and thorough analysis, possibly including a specific analytical framework that would have unanimous support, the credibility (and hence the desirability) of the whole Lisbon strategy would increase. Eventually, the support for (sometimes painful) structural reform would also increase.

Second, producing and clearly conveying convincing evidence to the public is a major challenge. Against the background of decreasing public support for structural reforms, some reflection is necessary on a new dissemination instrument that would increase public awareness of the potential benefits of such reforms. Improving the communication of the Lisbon strategy and increasing public awareness are a first step in bringing about policy change. The shortlist is a good candidate as a 'marketing instrument' to draw the attention of the public. As a corollary, the shortlist could even be shorter than the current one and, accordingly, only reflect main priorities. Next to an in-depth analysis, the shortlist of indicators could therefore be designed as a powerful communication device, which would contribute to the transparency of the Lisbon strategy.

4.4.4. The use of the indicators for country rankings

The success of Lisbon depends on the effectiveness of peer pressure and the benchmarking of best practices amongst countries. So far, it has not proven to be very successful. Along the lines of the previous section, a possible candidate for a communication instrument that could further simplify and highlight the policy messages is the country ranking.

The communication potential of the ranking method is illustrated by the numerous country rankings produced by other national or international institutions, think-tanks and the like (*Financial Times*, World Economic Forum, UNICE, the OECD, *The Economist*). There is an obvious demand for this kind of popularisation instrument. However, although the indicators have not been used in a mechanical way, there has been fierce opposition against the inclusion of country rankings in the Commission and Council reports, particularly from the countries that perform relatively poorly.

There are pros and cons to the use of country rankings. As mentioned above, the major advantage of the ranking method is its communication potential. Moreover, since the rankings are computed anyway by other actors, there is a strong case for the Commission and the Member States to do it themselves. However, arguably, rankings only display a factual view limited to the 14 headline indicators without guarantee that the rankings would convince Member States to undertake the necessary reforms. Nevertheless, there exist several methodologies to construct country rankings and, in general, they have proven to be quite robust, especially for leaders and laggards, whose rankings tend to be more robust than those of the countries in the middle. It is also interesting to note that the results obtained by calculating the average ranking of countries are corroborated by those of these more sophisticated methods. Some of these methodologies are illustrated below in Box 3. In particular, the results of the benefit-of-the-doubt method are worth highlighting. In those cases where some countries could argue that the weights used penalise their revealed performance, the method shows that using the most favourable weights for a given country does not change significantly the results. This is particu-

larly relevant for the poor performers which are more likely to complain about country rankings. The results prove that the poorest performers remain poor performers even if the most favourable weights for them are used.

4.5. Conclusion

This section reviews the structural indicators and their role in the progress assessment of EU countries towards the Lisbon objectives.

The structural indicators are a useful tool of policy coordination, which are used in various Commission and Council reports. They contribute to the monitoring of structural reforms undertaken by the Member States. The structural indicators database is therefore a guarantee for consistency between policy messages. In addition, the regular use of a shortlist of headline indicators, as a complement to the entire database, has proven to be a reliable tool. Robustness analysis ascertains that the assessment of countries' performances with respect to the Lisbon objectives made on the basis of the shortlist and of the entire database is relatively consistent and robust.

However, against the background of EU-15 (and EU-25) falling short of the Lisbon agenda, some reflection remains necessary on the structural indicators as a peer pressure device. This section has considered some of these shortcomings and provided some suggestions for improvements. One possibility is the technique of the country rankings. Although they constitute an attractive communication device, the rankings cannot guarantee that Member States will carry out the necessary reforms. Nevertheless, it is clear that the rankings alone are not sufficient and that they should be accompanied by in-depth analysis.

Box 3: Illustration of alternative methods for country rankings

The Joint Research Centre (Ispra) ⁽¹⁾ has computed country rankings based on the shortlist of structural indicators by using different tried and tested statistical techniques, among which two of composite indices. Overall, the country rankings appear quite consistent regardless of the techniques used. As far as the graphs below are concerned, the rankings corroborate the synthesis analysis made in the 2004

spring report (Section 2.5). This analysis enabled a distinction to be made between Member States with relatively good overall achievement to date (among others the Nordic countries) and those that are performing relatively poorly (southern Europe). Similarly, this approach allowed an identification of the countries that have made rather good progress towards the Lisbon objectives (Greece) from the ones that have been rather disappointing (Germany, Austria, the Netherlands and Portugal).

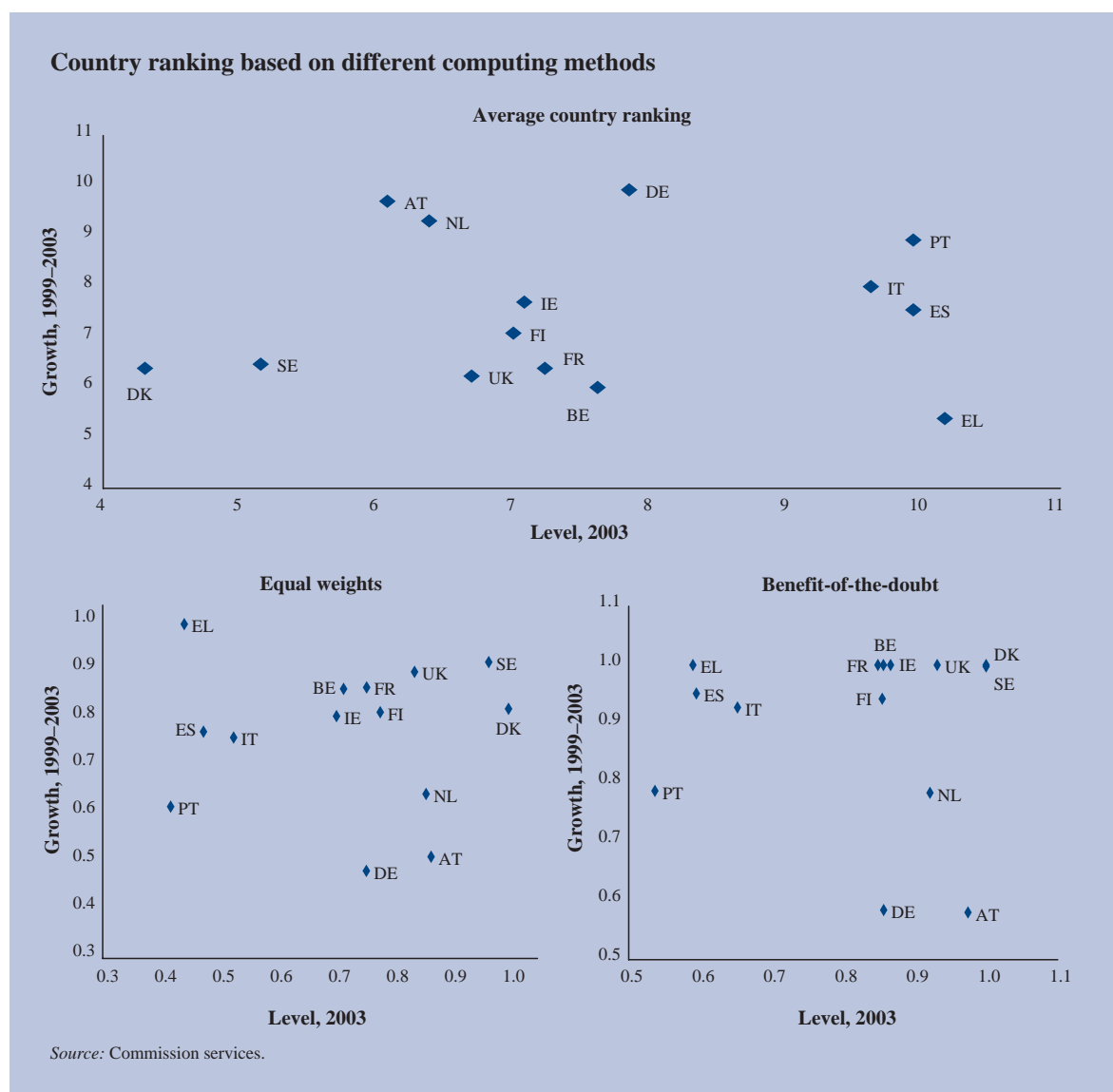
⁽¹⁾ See Tarantola et al. (2004).

(Continued on the next page)

Box 3 (continued)

For all the graphs included below, the performances in terms of levels (year 2003) are displayed on the horizontal axis while the progress (measured in growth rates) is plotted vertically. The clusters of the leaders and laggards can be observed in the top right-hand and bottom left-hand corners respectively. The graph on top displays the average rankings of 2003 level versus 1999–2003 growth. The composite indices as given by the equal weighting method (EW) and the benefit-of-the-doubt method (BoD) are presented in the two bottom graphs.

The EW method computes a synthetic index by using equal weights for each of the indicators included in the index. The BoD procedure calculates a synthetic index for a given country by using the best set of weights, which maximises the index for that country with respect to the best-performing country using the same set of weights. The same procedure is followed for each country. Weights are therefore country-dependent. To put it simply, this weighting scheme provides the best possible ranking for each country individually. Nevertheless, in general, even though this method provides the best weights combination possible, some countries' clusters (leaders and laggards) still appear.



5. Improvements in European economic statistics under EMU

It is widely acknowledged that modern democracies can only function efficiently if policy-makers and the public at large are well informed about economic and social developments. High-quality, reliable and timely statistics are clearly required for the development and evaluation of appropriate economic policies. In recent years, the creation of monetary union, with a single and independent monetary policy and decentralised but coordinated fiscal policies, has increased the need to make greater progress in the availability of statistics, improving and harmonising the methodologies used to draw up euro-area statistics and indicators. This is alongside the ongoing, more general need to continue to improve EU statistics.

This section reviews the progress that has been made in improving the quality of euro-area macroeconomic statistics in response to a number of Commission and Council initiatives (a full timetable is shown in Table 8). A later section provides a separate review of the structural indicators which are used to measure progress against the Lisbon economic reform goals for all EU Member States.

This section firstly reviews progress made in response to a report by the Economic and Financial Committee (EFC) on information requirements in EMU endorsed by the Ecofin Council in January 1999 ⁽¹⁾, and the joint action plan on EMU statistics ⁽²⁾ which responded to this report and was endorsed by the Ecofin Council in September 2000.

The section then considers the response to concerns put forward at the Barcelona European Council in March 2002 regarding the need to improve European economic statistics. This includes the development of a set of principal European economic indicators and agreement on a code of best practice on the compilation and reporting of budgetary data. It concludes by taking a forward look at initiatives in place to deliver further quality improvements ⁽³⁾.

⁽¹⁾ See Monetary Committee (1998).

⁽²⁾ See European Commission (1999).

⁽³⁾ For an alternative account of developments in economic statistics for the euro area between 1991 and 1993, see ECB (2003).

Table 8

Summary of initiatives

11/1998	Monetary Committee produces first report on information requirements in EMU.
01/1999	Transition to third stage of EMU, Ecofin Council endorses report of the Monetary Committee (now EFC).
06/2000	Ecofin Council endorses a second progress report and invites the ECB and the Commission (Eurostat) to establish an EMU action plan where urgent progress should be made.
09/2000	Ecofin Council endorses EMU action plan.
11/2001	Ecofin Council endorses third and fourth progress reports.
03/2002	Barcelona Council invites Commission and Council to present a comprehensive report on euro-area statistics for spring European Council 2003.
11/2002	Commission publishes communications on 'the need and means to upgrade the quality of budget statistics' and 'Towards improved methodologies for euro zone statistics and indicators'.
02/2003	Ecofin Council endorses fifth progress report. Approves a code of best practice on the reporting of budgetary statistics. Approves the comprehensive report on euro-area statistics, and transmits it to the spring European Council 2003.
06/2004	Ecofin Council endorses final EFC progress report and makes recommendations for further improvements.

Source: Commission services.

5.1. The need for improved statistics under EMU

The availability of high-quality statistics in the euro area is essential to the conduct of monetary policy and the coordination of economic and, in particular, fiscal policies. The EFC's original report in December 1998 recognised that statistics for the euro area were somewhat underdeveloped and that the operation of the single monetary policy would require extensive and improved information on areas including money growth, banking, financial market statistics, financial accounts and balance-of-payments statistics, including the international investment position. Most importantly, price statistics, including the harmonised index of consumer prices would be required for the successful operation of the policy. The report acknowledged that the ECB's main interests would lie with developments in the euro area as a whole, but also noted that detailed complementary information on developments at Member State level would be valuable if developments in the euro area and the effects of the single monetary policy were to be adequately assessed.

Member States retain responsibility for economic policy including budgetary policy in EMU. However, for the proper functioning of EMU, it is important that their policies be mutually consistent and appropriate in the light of the single monetary policy. The Stability and Growth Pact (SGP) and the excessive deficit procedure (EDP) ensure that budgetary discipline in the EU is examined on the basis of two quantitative criteria for the government deficit and debt level. Therefore, the availability of quality statistical data is crucial to ensure adequate implementation of the agreed budgetary surveillance framework and effective coordination of budgetary policies. Non-reliable statistics may lead to the wrong policy decision at national and European level, to an inefficient coordination of economic policies, and put the credibility of procedures and institutions at risk.

5.2. Attributes of high-quality statistics

It is important that the compilation of the statistics be both free, and perceived to be free, from political interference. The general public needs to be able to trust that official statistics do not serve any other interest than providing the best possible information on the state of affairs.

The EFC report also noted the need for cooperation between different agencies involved in gathering statistics. At the national level, there are two main groups of data producers. National central banks are mainly in charge of statistics on monetary aggregates, financial transactions and balance sheets, and balance-of-payments statistics, whilst national statistical offices generally deal with most other statistics. In several countries, Ministries of Finance also have major responsibilities in the compilation of budgetary data. At the European level, their respective counterparts are the ECB and Eurostat (the Statistical Office of the European Communities).

Thus for the purposes of economic and monetary policy-making, the EFC report argued that it is important to have a methodologically sound and consistent information system that produces relevant information in a timely fashion. The system needs to facilitate the interpretation of data as well as the assessment of the significance of any new information that becomes available. Sound and comprehensive statistical information reduces uncertainties and thereby the risk of confusion and instability in the markets.

Nevertheless, it was recognised that requirements put on statistical data, notably as to detail, frequency, and timeliness, vary between users, depending on the specific purpose. This points to an obvious trade-off in data production between the speed and level of detail and accuracy.

5.3. Priority areas for improvement, as identified in 1998

The EFC report recognised that major improvements in statistics had already taken place during the 1990s. In particular, the Council decision in June 1996 to replace the European system of integrated economic accounts (ESA 79) with the new and more comprehensive European system of national and regional accounts (ESA 95) ⁽¹⁾ had introduced major improvements and extended coverage. It obliged Member States to report national accounts data from April 1999 onwards within a well-defined time schedule on both an annual and, for some main aggregates, a quarterly basis. In addition, Council and Commission regulations on the HICP had led to the production of high-quality indices since 1997

⁽¹⁾ Council Regulation (EC) No 2223/96 of 25 June 1996 on the European system of national and regional accounts in the Community.

and, since autumn 2001, the provision of an advanced estimate for total HICP growth for the euro area at the end of the current month. Agreements had also been made that were expected to lead to improvements in the quality of short-term economic statistics and of constant price GDP estimates.

However, the report noted that for the purposes of economic policy, quarterly national accounts are the core statistical information system and should therefore be developed further. Given the long lead in times in improving the production of statistics, it was also clear that EU members that are not participating in the third stage of EMU should fully engage in steps to improve euro-area statistics, in anticipation of their eventual joining.

The report urged for rapid progress in a number of areas.

Public finances

As discussed, it has always been clear that the achievement and maintenance of public finances is of central importance in all Member States and to the success of EMU. Comprehensive information on public finances decisions are therefore crucial to implementing the provisions of the SGP and EDP.

The report stressed the importance of a shift to producing quarterly national accounts for the general government sector. Comparable and timely information on budgetary indicators, including tax revenue, social security contributions and the borrowing requirement would also provide useful indications for the monitoring of budgetary developments.

Labour market

The EFC report observed that cross-country comparisons of the labour market and of labour costs will demand more attention in EMU. This is because in EMU the link between labour cost developments and employment is strengthened, since there is no longer any possibility of regaining competitiveness between Member States through the adjustment of nominal exchange rates.

Given the importance of wage inflation within overall inflation, information on labour market developments and labour costs should, ideally, be consistent with, or

even integrated into, the national accounts. The report argued that further progress was required on producing quarterly statistics on the compensation of employees and costs per unit of labour or per unit of production. In addition, it was considered important to implement the labour force survey providing quarterly results on employment and unemployment by 2000 at the latest.

Short-term business indicators

The EFC report stressed that short-term business indicators are essential for assessing developments in the economy, notably its position in the cycle. Short-term business indicators can supplement national accounts by providing early data on output, demand and prices. Such data will clearly be important for the surveillance tasks of the Commission and for the ECB in assessing economic developments and in deciding on the monetary policy stance to be taken in response.

The Council's adoption of a regulation in May 1998 regarding short-term indicators was viewed as a major step in improving the quality and speeding up the production of short-term quantitative indicators; although a number of Member States had negotiated derogations that threatened to reduce the regulation's impact in the short to medium term. It was also hoped that qualitative short-term indicators, regarding business and consumer confidence, would be produced to complement the quantitative indicators.

Balance of payments and trade

The EFC report considered that the creation of EMU would add considerably to the difficulty in measuring trade and financial flows within the euro area. The creation of the single market had already led to a lowering of quality; regarding intra-trade statistics, for example, huge statistical discrepancies had emerged between dispatches and arrivals.

However, the Committee considered that intra-EU trade data contained more detail than was necessary for the coordination of economic policy. For policy coordination purposes it was considered sufficient to collect only quarterly information and for a smaller number of product categories. The Committee recommended that the present intra-State system be simplified and other methods explored to arrive at a suitable output, while reducing costs.

5.4. Improvements made in response to the EMU action plan

Having endorsed the EFC report on information requirements in EMU, the Ecofin Council invited the Commission, in close cooperation with the ECB, to establish an action plan on EMU statistical requirements in order to address the deficiencies outlined in the report. The first action plan was endorsed by the Ecofin Council in September 2000. It set a target for the production of national data, to permit the timely compilation of reliable key statistics for the euro area and the EU, with at least 80 % coverage of Member States' data.

The EFC made an assessment of progress made since their 1999 report in May 2004 ⁽¹⁾, a summary of which is provided in Table 9. It concluded that, overall, substantial improvements have been made to economic statistics, both for euro-area aggregates as well as for the national components. Particularly strong progress has been made regarding the availability, coverage and timeliness of quarterly national accounts, quarterly government finance statistics and short-term business indicators. However, they also concluded that more progress is still needed, particularly regarding labour statistics, where the process has not yet yielded the expected results and more efforts are needed. The EFC made more detailed comments on the specific areas of the action plan.

Quarterly national accounts (main aggregates)

The EFC considered the provision of national data to have improved, with most countries now complying with the 70-day deadline set by the EMU action plan. Nevertheless, there are still gaps for several countries and variables that affect euro-area aggregates.

Since May 2003, Eurostat has published GDP flash estimates for the EU and euro area after 45 days. At around the same time flash estimates are available for Germany, France, Italy, the Netherlands, Greece, Finland and, before that date, for Belgium and the United Kingdom. Spain and Sweden are planning to move to the 45-day target.

⁽¹⁾ Economic and Financial Committee (2004).

Quarterly euro-area aggregates are published in two main releases with a coverage of well above 80 % of the euro area. The output and expenditure side is released after about 65 days. The release of the remaining variables, in particular all income variables, however, is still only possible after around 105 days, over a month after the action plan target.

Quarterly public finance statistics

The EFC concluded that the EMU action plan has stimulated the process of compiling quarterly public finance statistics covering comprehensive data on government revenue and expenditure, financial transactions and balance sheets as well as EDP debt.

A regulation ⁽²⁾, covering quarterly data on taxes, social contributions and social benefits, has been successfully implemented; with a set of back data starting in 1991 provided in July 2002.

Similarly, a regulation ⁽³⁾, covering the remaining categories of revenue, expenditure and net lending/net borrowing, was enacted in June 2002 and data became available in September 2002. However, in line with an agreement laid down in the Council minutes to ensure quality, the national data are subject to a trial period, ending in 2005 at the latest. Until then, they are confidential unless made public by the Member States. Most of the countries are submitting the entire set of variables within 90–100 days.

Quarterly financial transactions and balance sheets for central government and social security funds have been provided by all Member States, although the coverage needs to be further improved. Several Member States have also voluntarily transmitted quarterly data for other subsectors of general government. The next step towards a full set of quarterly financial accounts for the government sector is the implementation of the recently adopted regulation on quarterly financial accounts for general government ⁽⁴⁾. In particular, Germany, Greece and France have to make an effort in order to comply with the action plan targets set in this area.

⁽²⁾ Short-term public finance statistics regulation. Regulation (EC) No 264/2000 of 3 February 2000, OJ L 29 of 4 February 2000, p. 4.

⁽³⁾ Regulation on quarterly non-financial accounts of government. Regulation (EC) No 1221/2002 of 10 June 2002, OJ L 179 of 9 July 2002, p. 1.

⁽⁴⁾ European Parliament and Council Regulation (EC) No 501/2004 of 10 March 2004, OJ L 81 of 19 March 2004, p. 1.

Labour market statistics

The EMU action plan required improvements to data on employment, hours worked, the labour force and labour cost statistics. This remains the area where least progress has been made in terms of European aggregates. Yet the legal instruments requested by the action plan have been adopted and are expected to yield significant results by 2006.

From 2004, quarterly ESA 95 data for hours worked have to be transmitted by all countries except Austria and Portugal (which have a derogation). The EFC urged all countries, in particular Spain and Italy, to meet the legal obligations for the crucially important hours worked data.

Progress has been made with regard to euro-area short-term labour cost data. This follows the adoption of a regulation ⁽¹⁾ in February 2003 governing the harmonisation of the labour cost index. First estimates, with coverage of more than 90 %, can now be published within 80 days after the quarter, close to the target of the EMU action plan of 75 days. Several countries have improved the industry coverage and the measures for labour costs and hours worked. The new legislation also requires the coverage of the service sector and improving the timeliness of the first release to 70 days. However, due to extensive derogations, the objectives of the regulation will not be fully achieved before 2005.

Short-term business statistics

The objective of the action plan to produce indicators by the end of 2001 (new orders by end-2002) was achieved for a number of indicators, including industrial production, output prices and retail trade turnover. Progress has been made more recently regarding the release of industrial new order statistics, and early estimates for euro-area retail trade turnover. Qualitative surveys on service industries are already published on a monthly basis and the Commission plans to further extend its coverage within the service industries.

For other variables, though, the objectives of the action plan have not been achieved. For euro-area aggregates, the situation is still not satisfactory for indicators in the construction sector and for services.

A number of countries have still to comply with Council Regulation (EC) No 1165/98 aimed at ensuring good-quality short-term statistics. More emphasis also needs to be placed on improving the comparability of statistical methods and adjusting for seasonal and calendar effects.

External trade statistics

The EMU action plan set Member States the target of transmitting first euro-area aggregates after 40 days. First aggregates are presently transmitted within 42 days by most Member States on the basis of a gentlemen's agreement. However, regulations to be implemented in 2005 will ensure that the 40-day deadline is met.

Revisions in balance-of-payments statistics have been progressively reduced, although the bias in its errors and omissions continues to raise concerns. In order to preserve the quality of the data, Member States have started to elaborate national action plans on future compilation systems. Future collection systems will rely more on multiple sources, in particular direct reporting by enterprises. In many countries work in this direction has already been completed or is under way.

5.5. Beyond the action plan: the response to the Barcelona European Council

The Barcelona European Council of March 2002 also recognised the importance of the availability of high-quality statistics in a monetary union. It added fresh impetus to the process by inviting the Commission and the Council to present a comprehensive report on euro-area statistics in time for the spring European Council in 2003.

The final report was approved by the Ecofin Council in February 2003 before being transmitted to the 2003 spring European Council ⁽²⁾. The report recognised the considerable progress that had been made in the improvements of EU and euro-area macroeconomic statistics as a result of the implementation of the action plan. But it also noted that for the European statistical system to produce macroeconomic statistics reaching quality standards comparable in terms of availability and timeliness to those of the United States, another quantum leap was needed.

⁽¹⁾ Regulation (EC) No 450/2003.

⁽²⁾ See Council of Ministers (2003b).

5.6. Principal European economic indicators

In recognition of weaknesses identified in Barcelona, the Ecofin Council gave its support to a list of key European indicators (principal European economic indicators (PEEIs, see Table 10)) that had been proposed by the Commission, in agreement with the main European policy users. For this set of key indicators it was agreed that focus would be directed to the provision of a more complete range of variables, higher timeliness and higher frequency of the time-series than foreseen by the EMU action plan on statistical requirements. It was additionally agreed that the principal European economic indicators will be produced for the euro area on the basis of a sufficient — but not necessarily complete — coverage provided by the Member States, with later releases having a broader coverage. Such a release schedule is in line with the ‘First for Europe’ principle. This principle means that the release calendars (of both first releases and subsequent revisions) for the PEEIs and for respective national contributions are aligned and take into account European policy needs. Aligning release calendars reduces the problem of monthly and quarterly euro-area and EU indicators implicitly changing almost every day as new or revised data are published by national statistical institutes. The full set of indicators with existing and target compliance is included in Table 10.

5.7. Code of best practice on budgetary statistics

The February 2003 Ecofin Council also gave its support to a code of best practice on the compilation and reporting of data in the context of the excessive deficit procedure, building on an earlier communication from the Commission ⁽¹⁾. In putting forward the code, the Commission recognised that although considerable progress had been made in the compilation and reporting of budgetary statistics, experience had revealed some weaknesses in terms of reliability, transparency and timeliness of budgetary statistics. The code of practice thus signalled a strong commitment by all parties to improving performance in these areas.

The Commission communication argued that government accounts were not as reliable as they should be and

subject to large revisions. This had been highlighted by the late identification in 2002 of an excessive deficit in Portugal for 2001 and large upward revisions in the government deficit and debt levels of other Member States.

The communication also noted that the government accounts of several countries are not transparent enough. For example, for several countries, the government deficit and the change in debt level are not easily reconcilable with other indicators, for example the cash-based balance of the government subsectors. There had also been problems in the transmission of government data by some Member States in terms of both timeliness and the completion of reporting tables.

Finally, the communication noted that in some Member States, the reporting tables are prepared by the Ministry of Finance and the national statistical institute (NSI) has a relatively minor role in the process. This raises concerns about independence given that the statistics are the basis for assessing the budgetary performance of each country. In contrast, although the Commission fulfils the role of statistical authority regarding the EDP and the SGP, in the internal organisation of the Commission, the tasks of scrutinising the reported accounts and interpreting the accounting rules are carried out by Eurostat. By delegating this task to Eurostat, the Commission seeks to ensure that the accounting and statistical issues are treated independently by an impartial and technically competent body according to objective criteria.

The code of best practice has addressed a number of these issues, in particular, reinforcing and reaffirming the independence of statistical authorities based on scientific methods. The code outlines best practice regarding:

- the compilation and reporting of budgetary data by Member States;
- the securing of quality of budget data, including through NSIs providing to Eurostat a detailed inventory of methods, procedures and sources used for the compilation of government deficit and debt data; and
- publication of the budgetary data by the Commission within a few weeks of the reporting deadline.

⁽¹⁾ See European Commission (2002).

The code also provides for increased powers to ensure the quality of reported data. In addition to acting as the final authority on the interpretation of accounting rules, Eurostat has the authority to examine in depth government accounts for each Member State and where it deems necessary to make appropriate amendments to data reported by Member States prior to final publication.

5.8. Progress on implementation of the action plan for the new Member States

The high-level meeting with the (then) candidate countries in May 2003 in Athens endorsed the action plan on economic, monetary and financial statistics for the candidate countries. The meeting identified six priority areas where the countries would have to concentrate their efforts in the run-up to the accession. The final progress report on information requirements in EMU concluded that good progress has been achieved in relation to the action plan, in particular as regards annual national accounts as well as the primary convergence indicators (government deficit and debt, HICP and long-term interest rates). But it also noted that the length of the time-series is not yet satisfactory for many countries. On specific priority areas, the EFC noted that the following progress had been made (the EFC report annex contains detailed progress on the action plan in each new Member State and candidate country).

- Regarding annual national accounts, all new Member States have reached an appropriate level of compliance with ESA 95. Data availability is considered satisfactory and the key variables are well covered. In some countries, efforts are needed to fill existing gaps, with particular care required regarding the revision of back data. The new Member States must now make efforts to meet the 70-day deadline for the transmission of the main aggregates and provide data on hours worked.
- The new Member States provide harmonised indices of consumer prices which are up to the standards of the HICPs compiled by the old Member States in terms of timeliness, comparability and compliance.
- A statistical framework on long-term interest rates has now been established. The long-term interest rate statistics used for convergence assessment purposes for the new Member States were released for the first time at the end of April 2004.
- The new Member States regularly transmit national balance-of-payments data on a monthly, quarterly and annual basis and statistics on their international investment position on an annual basis, following methodological standards agreed at the European level. However, additional efforts are needed by several new Member States to achieve compliance with the requirements of the action plan.
- As regards the timely transmission of detailed statistics on extra-EU trade, considerable progress has been made. All but two new Member States are able to meet the transmission deadline of 42 days. Cyprus and Malta need to further adapt their national collection systems in order to comply with the timeliness requirements.
- The new Member States also need to continue to make progress regarding the relevant infra-annual data.
- Concerning quarterly national accounts, priority should be given to the provision of seasonally adjusted data and to compliance with the new transmission deadline of 70 days laid down in Regulation (EC) No 1267/2003.
- Only half of the new Member States have started transmitting quarterly public finance statistics. It is important to speed up work in this area. In addition, quarterly financial accounts should be taken up with high priority.
- As regards labour market statistics, the situation is generally satisfactory concerning unemployment and labour cost data. Only one country has failed to implement infra-annual labour force surveys. A primary goal must be the timely transmission of a complete set of quarterly employment data under ESA 95.
- In the area of short-term business statistics every effort must be made to ensure compliance with existing legislation.

5.9. Conclusions

A process of reform, which began in 1999 and was accelerated by the EMU action plan in 2000, has succeeded in stimulating substantial improvements in economic statistics in the EU. As the 2004 OECD economic survey of the euro area noted, euro-area statistics have improved considerably since 1999, both in scope and timeliness. Availability, coverage and timeliness of quarterly national accounts, quarterly government statistics and short-term business indicators are now significantly better than they were in 1999. This in turn will reinforce the credibility and implementation of the budgetary surveillance and the effective coordination of budgetary policies.

However, greater commitment is required from national authorities if the target to compile and disseminate a set of principal European economic indicators is to be achieved by 2005. More improvements are also required if the EU is to bridge the gaps with the most developed statistical systems, particularly that of the United States. While the EU has had to concentrate on harmonisation issues, the United States has been able to develop and refine new indicators such as hedonic price indices.

More effort is needed to improve the quality of labour market statistics and in particular to ensure that hours worked data are available for all Member States. In addition, for short-term business statistics, only six countries had fully or almost implemented the relevant regulations by May 2004. Moreover, more work is required to develop the statistical basis for the services economy and to minimise balance-of-payments asymmetries.

Agreement on the code of best practice marks a significant step forwards in the quest to ensure budgetary surveillance is based on high-quality data. The code has already led to an improvement in the reporting of budgetary statistics, with the EDP notification from March 2004 showing improved compliance regarding reporting deadlines. There was also considerable improvement in the availability of detailed data on the government sub-sectors, even though they remain incomplete. However, compliance was not satisfactory as regards the institu-

tional arrangements in Member States and the submission of their respective inventories. In this and other respects the requirements of the code of best practice need to be fulfilled in a number of Member States in the coming years.

The Ecofin Council on 2 June 2004 agreed a number of measures to further improve euro-area statistics.

Regarding budgetary statistics, the Council made particular note of the fact that on several occasions, these had been revised by Member States after a new government took office. With this in mind, the Council invited the Commission to make, by June 2005, a proposal for minimum standards for the institutional set-up of statistical authorities that reinforces the independence, integrity and accountability of Member States' national statistical institutes. In addition, having observed that the requirements of the code of best practice remain to be fulfilled in many Member States, the Council invited the Commission to strengthen the monitoring of the quality of reported fiscal data and report back by the end of 2004.

Given the increasing requirements for high-quality statistics at both national and European level, the Council also agreed that it is important to review statistical priorities and to reduce (legal) requirements for areas that are now considered to be of less importance. The Council therefore invited the EFC, with the assistance of Eurostat and the ECB, to produce a report on 'negative' priorities in statistics, which may help to free resources for the implementation and continuous production of high-priority statistics and to reduce regulatory burden. A preliminary discussion of priorities should take place by the end of 2004.

Finally, the Ecofin Council invited the EFC to continue to monitor at regular intervals the quality and availability of statistics needs for EMU and the EU, covering both euro-area/EU aggregates and the key indicators, in particular the PEEIs, and government finance statistics covered by the code of best practice. A follow-up report will be submitted in 2005.

Table 9

Summary of improvements in European economic statistics since the start of EMU

Action plan target	Assessment of progress
Quarterly national accounts	
<ul style="list-style-type: none"> • First reliable estimates within 70 days • Second estimates within 90 days • Back data compiled from 1980 • Limited set of quarterly sector accounts 	<ul style="list-style-type: none"> • Almost complete availability of euro-area and EU aggregates based on a coverage well above 80 % of Member States' data. • Most of EU-15 (BE, DK, DE, EL, ES, FR, IE, NL, PT, FI, SE and UK) supply GDP and a full or partial set of main aggregates within the 70-day deadline. • Euro-area and EU flash estimates have been regularly released at 45 days since May 2003. • Flash estimates available at 45 days for DE, EL, FR, IE, NL, FI and UK. BE, ES and SE are planning to meet the 45-day target. • Adoption by the Commission of the proposal for a European Parliament and Council regulation on quarterly accounts for institutional sectors.
Quarterly public finance statistics	
<ul style="list-style-type: none"> • Complete implementation of the short-term public finance statistics regulation • Quarterly non-financial statistics (taxes and social contributions) and financial statistics (expenditure and revenue) for general government available after 90 days 	<ul style="list-style-type: none"> • Quarterly non-financial statistics are regularly transmitted within the deadline of three months (taxes, social contributions and social benefits). • All countries except IE regularly transmit data for quarterly government expenditure and revenue variables. • Quarterly financial statistics for central government and social security funds (where the sector exists) are supplied by all Member States on a voluntary basis. Several Member States have also voluntarily transmitted quarterly data for the other subsectors of general government.
Labour market statistics	
<ul style="list-style-type: none"> • Full and quick transmission (within 70 days) of data under ESA 95, including employment and hours worked • Quick implementation of the continuous labour force survey (availability within 91 days) • Improve the quality of the labour cost index (availability within 75 days) 	<ul style="list-style-type: none"> • Currently eight countries (DK, DE, ES, FR, IE, NL, FI and SE) supply employment data (under ESA 95) within the deadline. Work is still necessary for IE and UK to comply with the deadline. EL and PT should start supplying data. • Hours worked are transmitted by DE, NL, FI and SE. Efforts have to be made by the remaining Member States in 2004 (except derogations) to ensure regular transmission. • Several countries supplied quarterly results or proxies within the three-month deadline for the continuous labour force survey. • Most Member States comply with the labour cost index target. European estimates are available at 80 days with more than 90 % of Member States' coverage. • Monthly unemployment data continue to be steadily calculated. Improvements are to be expected according to the progress in LFS and continuous surveys.
Short-term business statistics	
<ul style="list-style-type: none"> • Quick implementation of the short-term regulation for manufacturing, construction and retail trade • Development of qualitative business survey 	<ul style="list-style-type: none"> • Action plan objectives achieved for industrial production, output prices and retail trade turnover. • Progress has been achieved concerning the release of new order statistics and timeliness of retail trade turnover. • The short-term statistics regulation has been fully or almost fully implemented only by DK, DE, FR, PT, FI and SE. Euro-area aggregates of specific indicators (industrial output prices and some construction variables) suffer mainly because of the delays in meeting compliance of ES and IE. Major efforts to comply with the requirements are required by BE, EL, IE and AT. • The action plan objective of a regular and timely monthly publication of qualitative business surveys (Economic and Financial Affairs DG) has been achieved. Coverage will be extended in the near future.
External trade statistics	
<ul style="list-style-type: none"> • First estimates of extra-EU and extra-euro-area trade within 40 days (80 % coverage) • Detailed extra-EU trade (within 42 days) • Detailed intra-EU trade (within 70 days) 	<ul style="list-style-type: none"> • Regular release of first estimates for the EMU around 50 days. • The proportion of fully harmonised data in the first estimate is above 80 %.

Table 10

Principal European economic indicators — target compliance (delay and coverage) and not fully committed countries ⁽¹⁾

Principal European economic indicators	Current release delay (coverage in brackets)		Target release delay	Expected PEEI compliance for 2005	
	European aggregates	US indicators		Euro-area coverage	Euro-area countries not fully committed
CONSUMER PRICE INDICATORS					
Harmonised consumer price index: MUICP flash estimate	0 (~55 %)	n/a	0	~65 %	FR, IE, LU, NL, AT, PT, FI
Harmonised consumer price index: actual indices	17 (100 %)	14	17	100 %	none
QUARTERLY NATIONAL ACCOUNTS					
First GDP estimate	45 (~90 %)	30	45	~90 %	IE, LU, AT, PT
GDP release with more breakdowns	65 (~70 %)	30	60	~90 %	IE, LU, AT, PT, FI
Household and company accounts	n/a (n/a)	60	90	~80 %	EL, ES, IE, LU, AT, PT, FI
Government finance statistics	100 (100 %)	60	90	100 %	none
BUSINESS INDICATORS					
Industrial production index	47 (~95 %)	14	40	~95 %	EL, LU, AT
Industrial output price index for domestic markets	34 (~90 %)	14	35	~95 %	LU, AT
Industrial new orders index	54 (~85 %)	28	50 (40)	~95 %	EL, LU, AT
Industrial import price index	n/a	7	45	~60 %	BE, ES, IE, IT, LU, AT, PT
Production in construction	77 (~95 %)	16	45	~90 %	EL, LU, AT, FI
Turnover index for retail trade and repair	35 (~80 %)	15	30	~90 %	BE, EL, IE, LU, AT
Turnover index for other services	n/a	n/a	60	~95 %	EL, IE, LU
Corporate output price index for services	n/a	n/a	60	~20 %	BE, DE, EL, ES, IE, IT, LU, NL, AT, PT
LABOUR MARKET INDICATORS					
Unemployment rate (monthly)	34 (~65 %)	5	30	<80 %	EL, IT
Job vacancy rate (quarterly)	n/a (n/a)	5	45	~70 %	BE, EL, ES, IE, AT, PT, FI
Employment (quarterly)	105 (~90 %)	5 (monthly)	45	~95 %	EL, LU
Labour cost index (quarterly)	80 (~60 %)	30	70	~90 %	BE, EL, IE, LU
EXTERNAL TRADE INDICATORS					
External trade balance: intra- and extra-euro-area; intra- and extra-EU	49 (~95 %)	44	45	100 %	none

⁽¹⁾ This table draws on that provided in Annex VI to the EFC's June 2004 status report on information requirements in EMU.

NB: The target dates for the release of European aggregates (euro zone, EU-15) have been set in the communication of the Commission to the European Parliament and the Council on euro-zone statistics (COM(2002) 661 final). The commitments were made by national statistical institutes in autumn 2002 and updated in spring 2004. The current release of European aggregates is described by the number of calendar days after the end of the reporting period. Their coverage by Member States' data was calculated with 2002 GDP weights for all indicators except HICP (2004 consumption weights) and labour market indicators (LFS employment weights 2002). Member States are classified as missing if they do not compile the respective indicator within the target time. In some cases, Member States are not committed to the objective, but nevertheless deliver their data already as timely as required. For the indicators marked in dark blue the commitments are insufficient for achieving the objectives set in the communication; for those in light blue, adequate commitments have been made, but substantial progress has to materialise in the months to come.

6. References

- Aghion, P. and E. Cohen (2004), 'Education et croissance', *Les rapports du Conseil d'analyse économique*, No 46, La documentation française, Paris.
- Blanchard, O. (2004), 'The economic future of Europe', *NBER working paper*, No 10310.
- Coulombe, S., J. F. Tremblay and S. Marchand (2004), 'Literacy scores, human capital and growth across 14 OECD countries', Statistics Canada, Catalogue No 89-552 MIE.
- Council of Ministers (2003a), 'Council conclusions', (15875/03) 8.12.2003.
- Council of Ministers (2003b), 'Comprehensive report of the Council and Commission on euro-area statistics to the 2003 spring European Council'. Approved by the Ecofin Council, 18 February 2003. Council document No 7237/03.
- de la Fuente, A. (2003), 'Human capital in a global and knowledge-based economy. Part II: Assessment at the EU country level', final report for Employment and Social Affairs DG, European Commission, April.
- de la Fuente, A. and A. Ciccone (2002), 'Human capital in a global and knowledge-based economy', final report for Employment and Social Affairs DG, European Commission, May.
- de la Fuente, A. and R. Doménech (2001), 'Educational attainment in the OECD, 1960–95', working paper D-2001-01, Dirección General de Presupuestos, Ministerio de Hacienda, Madrid.
- Dyson, K. (2000), *The politics of the euro zone. Stability or breakdown?*, Oxford University Press.
- Economic and Financial Committee (2004), 'Status reports on information requirements in EMU', Economic and Financial Committee, 25 May 2004.
- European Central Bank (2003), 'Developments in general economic statistics for the euro area', *ECB monthly bulletin*, April 2003.
- European Central Bank (2004), 'The European Constitution and the ECB', *ECB monthly bulletin*, August, ECB, Frankfurt am Main, p. 61.
- European Commission (1999), *Action plan on EMU statistical requirements*, report by European Commission (Eurostat) in close collaboration with the ECB.
- European Commission (2000), 'Communication structural indicators' (COM(2000) 594 final).
- European Commission (2001a), 'European governance. A White Paper' (COM(2001) 428 final).
- European Commission (2001b), 'Communication on structural indicators' (COM(2001) 619 final).
- European Commission (2002), 'Communication to the European Parliament and the Council on the need and the means to upgrade the quality of budgetary statistics' (COM(2002) 670), 27 November 2002.
- European Commission (2003a), 'Education, training and growth', Chapter 3 in 'The EU economy: 2003 review', *European Economy*, No 6, Office for Official Publications of the European Communities, Luxembourg.
- European Commission (2003b), 'Communication on structural indicators' (COM(2003) 585 final).
- European Economic and Social Committee (2002), 'Resolution addressed to the European Convention' (ESC 1069/2002, 19.9.2002).

Gordon, R. (2004), 'Why was Europe left at the station when America's productivity locomotive departed?', *CEPR discussion paper*, No 4416.

Hanushek, E. and D. Kimko (2000), 'Schooling, labour-force quality and the growth of nations', *American economic review*, Vol. 90, No 5, pp. 1184–1208.

Krugman, P. (1996), 'Getting ahead; white collars turn blue', *New York Times*, 29 September 1996.

McMorrow, D. K. and W. Röger (2002), 'Production function approach to calculating potential growth and output gaps — estimates for the EU Member States and the US', *Economic and Financial Affairs DG economic papers*, No 176, September 2002.

Monetary Committee (1998), 'Report on information requirements in economic and monetary union', Monetary Committee, 16 November 1998.

Mooslechner, P. and M. Schürz (1999), 'International macro-economic policy coordination. Any lessons for EMU? A selective survey of the literature', *Empirica*, Vol. 26, pp. 171–199.

OECD (2002), *Education at a glance — 2002*, Paris.

OECD (2003), *Education at a glance — 2003*, Paris.

Tarantola, S., R. Liska and A. Saltelli (2004), 'Structural indicators of the Lisbon agenda: Robustness analysis and construction of composite indicators', Joint Research Centre of the European Commission, Ispra, Italy.

Statistical annex

Autumn 2004

Statistical annex

Long-term macroeconomic series

Notes on the statistical annex

General remarks

This edition of *European Economy* gives in its statistical annex updated time series of annual data.

Unless otherwise stated, data for Member States are based on the ESA 95 system. For Germany, Ireland and Portugal, data start in the late 1980s or early 1990s. For the 10 recently acceded Member States (Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Slovenia and Slovakia), data start in the early or mid-1990s. For all other Member States, most data have been reported for longer periods. ESA 79 data are used for the earlier years. Public finance ESA 95 data start at the earliest in 1970. They are gradually becoming available and cannot be linked with the former definitions series. See also the explanatory notes on the respective tables.

Data for the candidate countries (Bulgaria, Croatia, Romania and Turkey) are included in this publication. Data for Bulgaria and Romania are based on ESA 95 and they start in the early 1990s. Long series for Turkey are as in the SNA 68.

For the United States and Japan, the definitions are as in the SNA 93.

Data sources are Eurostat, national publications and the OECD.

Figures for 2004–06 are forecasts made by Commission staff using the definitions and latest figures available from national sources. These series are not fully comparable with the corresponding figures for earlier years; however, the discontinuities of the levels of these series have been eliminated. The forecasts for 2004–06 are based on data available up to 18 October 2004.

Starting from 2002, euro-zone countries publish national series in euro. National currency data for all years prior to the switch of the country to euro have been converted using the irrevocably fixed euro conversion rate. For presentation purposes, the currency denomination has changed, with the prefix EUR and the ISO code of the former currency (i.e. EUR–BEF for Belgium). This approach conserves the historical continuity of national series. However, cross-country comparisons and aggregations should continue to be based only on historical series established in ecu up to 1998 and their statistical continuation in euro from 1999 onwards. Exchange rates and purchasing power parities have also been converted in the same manner.

See also the explanatory notes on the tables for specific definitions.

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Symbols and abbreviations

—	nil
:	not available
%	per cent or percentage
Mio	million
Mrd	1 000 million
EUR	euro
ECU	European currency unit
PPS	purchasing power standard
GDP	gross domestic product, at market prices
ESA	European system of accounts
SNA	system of national accounts
ULC	unit labour costs
D_90	Germany prior to unification in 1990
EU-25	European Union
EUR-12	euro area
EUR-15	former EU-15
BE	Belgium
CZ	Czech Republic
DK	Denmark
DE	Germany
EE	Estonia
EL	Greece
ES	Spain
FR	France
IE	Ireland
IT	Italy
CY	Cyprus
LV	Latvia
LT	Lithuania
LU	Luxembourg
HU	Hungary
MT	Malta
NL	Netherlands
AT	Austria
PL	Poland
PT	Portugal
SI	Slovenia
SK	Slovakia
FI	Finland
SE	Sweden
UK	United Kingdom
BG	Bulgaria
HR	Croatia
RO	Romania
TR	Turkey
JP	Japan
US	United States

Notes on the tables

Preliminary remarks

Notes draw heavily on the methodological guide to the European system of accounts (ESA 95). For key variables, ESA 95 codes are mentioned in brackets. For more information in addition to the notes presented for individual tables, the reader can refer to the respective parts of the ESA 95 methodology.

General remarks on the institutional sectors

The European system of accounts (ESA 95) subdivides the total economy (ESA 95-code: S.1) into institutional sectors:

Corporations

The **non-financial corporations** sector (S.11) consists of resident institutional units whose distributive and financial transactions are distinct from those of their owners. The sector also includes **quasi-corporations**, which keep a complete set of accounts but have no independent legal status. However, quasi-corporations have an economic and financial behaviour that is different from that of their owners and similar to that of corporations. Therefore, they are deemed to have autonomy of decision and are considered as distinct institutional units. The **financial corporations** sector (S.12) consists of all resident corporations and quasi-corporations which are principally engaged in financial intermediation and/or auxiliary financial activities, including insurance corporations and pension funds as well as the central bank.

Reference: ESA 95, paragraphs 2.21, 2.13 f, 2.32 f.

General government

General government (S.13) produces non-market output for individual and collective consumption and is engaged in the redistribution of national income and wealth. The sector comprises four subsectors: central government, State government, local government and social security funds.

Reference: ESA 95, paragraphs 2.68 f.

Households

The households sector (S.14) covers individuals or groups of individuals as consumers and as producers of goods and non-financial services for own final use. Notably, the households sector contains also **sole proprietorships and partnerships without independent legal status** — other than those treated as quasi-corporations — which are market producers.

Reference: ESA 95, paragraphs 2.75, 2.76.

Non-profit institutions serving households (NPISHs)

This sector (S.15) consists of non-profit institutions which are separate legal entities and which provide goods or services to households free or at prices that are not economically significant. Their principal resources, apart from those derived from occasional sales, are derived from voluntary contributions in cash or in kind from households in their capacity as consumers, from payments made by general government (however, NPISHs are **not** controlled and **not** mainly financed by general government) and from property income. Examples are, in particular, churches, sports clubs, charities, political parties and trade unions.

Reference: ESA 95, paragraphs 2.87, 2.88.

Furthermore, ESA 95 defines the **rest of the world sector** (S.2) that consists of non-resident units which have economic links with resident units. This includes the institutions of the EU and international organisations. Its accounts provide an overall view of the economic relationships linking the national economy with the rest of the world.

Reference: ESA 95, paragraph 2.89.

Table 1

Total population (national accounts)

The total population of a country consists of all persons, national or foreign, who are permanently settled (i.e. for a period of **one year or more**) in the economic territory of the country.

The total population of a country does **not** include:

- foreign civilians staying on the territory for less than a year (i.e. frontier workers, seasonal workers, tourists, patients, etc.);
- national civilians staying abroad for a period of one year or more;

- national military personnel working with international organisations located in the rest of the world;
- national technical assistance personnel on long-term assignments who work abroad and are deemed to be employed by their host government, or international organisation, which is actually financing their work;
- foreign students however long they study in the country;
- members of armed forces of a foreign country who are stationed in the country;
- the foreign personnel of foreign scientific bases located on the geographic territory of the country;
- members of foreign diplomatic missions stationed in the country.

National accounts data on population are based on an annual average.

NB: Data for France are for France as a whole, i.e. including the ‘départements d’outre mer’.

Reference: ESA 95, paragraphs 11.05 f.

Table 2

Employment, persons; all domestic industries (national accounts)

Employment covers employees and self-employed persons. It is an annual average, and uses the domestic concept, which includes residents as well as non-residents who work for resident producer units.

Reference: ESA 95, paragraphs 11.11 f.

Table 3

Unemployment rate, total

Total unemployed individuals as a share of the total active population. **Unemployed persons** are those aged at least 15 years not living in collective households who are without work within the next two weeks, available to start work within the next two weeks and are seeking work (i.e. they have actively sought employment at some time during the previous four weeks or are not seeking a job because they have already found a job to start later). The **total active population** (labour force) is the total number of the employed and unemployed population.

Reference: Eurostat, unemployment statistics.

Table 4

Gross domestic product at current market prices

Gross domestic product (GDP) at market prices (ESA-code B.1*g) can be defined in **three** ways:

1. It is the sum of gross value added of the various institutional sectors or the various industries plus taxes less subsidies on products (which are not allocated to sectors and industries). In this context, GDP is the balancing item in the total economy production account.
2. GDP is the sum of final uses of goods and services by resident institutional units, plus exports and minus imports of goods and services.
3. GDP is the sum of uses in the total economy generation of income account (i.e. compensation of employees, taxes on production and imports less subsidies, gross operating surplus and mixed income of the total economy).

Reference: ESA 95, paragraph 8.89.

Table 6

Gross domestic product at current market prices

The purchasing power standard (PPS) is the **artificial** common reference currency unit used in the EU to express the volume of economic aggregates for the purpose of spatial comparisons in real terms. Volume aggregates in PPS are obtained by dividing their original value in national currency units by the respective purchasing power parities (PPPs). One PPS buys the same given average volume of goods and services in all countries, whereas different amounts of national currency units are needed to buy this volume of goods and services, depending on the national price level. For a given product the PPP between two countries A and B is defined as the number of units of country B’s currency that are needed in country B to purchase the same quantity of the product as one unit of country A’s currency will purchase in country A. PPPs for groups of products and higher aggregates up to GDP are obtained by weighting PPPs for products by their share in expenditure.

Table 8

Gross domestic product at current market prices per head of population

Population is defined according to the national accounts (see note on Table 1).

Table 11
Gross domestic product at 1995 market prices per person employed

The calculation is based on employed persons, all domestic industries, or, where applicable, on **full-time equivalents**. Full-time equivalent employment, which equals the number of full-time equivalent jobs, is defined as total hours worked divided by the average annual number of hours worked in full-time jobs within the economic territory.
Reference: ESA 95, paragraph 11.32.

Table 12
Industrial production; construction excluded

Industrial production is calculated as an index (production index) which shows the output and the activity of the industrial branches; it provides a measure of the volume trend in value added at factor cost over a given reference period. The term ‘production’ is used within the scope of European and national short-term indicators (**short-term business statistics**). Industrial production, construction excluded, covers NACE Sections C, D and E.

Table 13
Private final consumption expenditure at current prices

Private final consumption expenditure (P.3) includes final consumption expenditure of private households and of non-profit institutions serving households (NPISHs). Final consumption expenditure consists of expenditure incurred by resident institutional units on goods or services that are used for the direct satisfaction of individual needs or wants or the collective needs of members of the community. Final consumption expenditure of households also includes the following **borderline cases**:

- service of owner-occupied dwelling;
- items not treated as intermediate consumption, like materials for small repairs to and interior decoration of dwellings of a kind typically carried out by tenants as well as owners;
- items not treated as capital formation, in particular consumer durables, that continue to perform their function in several accounting periods.

Goods and services financed by the government and supplied to households as social transfers in kind are **not** included.
Reference: ESA 95, paragraphs 3.75, 3.76.

Table 17
Final consumption expenditure of general government at current prices

Final consumption expenditure of general government (P.3) includes **two categories of expenditures**:

1. the value of goods and services produced by general government itself other than own-account capital formation and sales (collective consumption);
2. purchases by general government of goods and services produced by market producers that are supplied to households — without any transformation — as **social transfers in kind**. This implies that general government just pays for goods and services that the sellers provide to households (individual consumption).

Individual consumption expenditure of general government includes, for example, expenditure for health, for social security and welfare and for culture, except for expenditures on general administration, regulation, research, etc. in each of these categories. **Collective consumption expenditure**, among other things, consists of expenses for management and regulation of society, for the provision of security and defence as well as for the protection of the environment.

Reference: ESA 95, paragraphs 3.79, 3.85.

Table 19
Gross fixed capital formation at current prices; total economy

Gross fixed capital formation (P.51) consists of resident producers’ acquisitions, less disposals, of fixed assets during a given period plus certain additions to the value of non-produced assets realised by the productive activity of producer or institutional units. Fixed assets are tangible or intangible assets produced as outputs from the process of production that are themselves used repeatedly, or continuously, in the process of production **for more than one year**. **Additions to the value of non-produced assets** pertaining in particular to land, e.g. draining of marshes or the irrigation of deserts by the construction of dykes, ditches and irrigation channels. Examples of **intangible** fixed assets are mineral exploration and computer software.

Reference: ESA 95, paragraphs 3.102 to 3.111.

Table 21**Change in inventories and acquisitions less disposals of valuables at current prices; total economy**

Changes in inventories (P.52) are measured by the value of entries into inventories less the value of withdrawals and the value of any recurrent losses of goods held in inventories. Inventories consist of materials and supply, work in progress, finished goods and goods for resale.

Valuables (P.53) are non-financial goods that are not used primarily for production or consumption, do not deteriorate (physically) over time and are held primarily as stores of value. They encompass, for example, precious metals (gold, silver, platinum), antiques, paintings, etc.

Reference: ESA 95, paragraphs 3.117, 3.119, 3.125, 3.126.

Table 22**Domestic demand including stocks at current prices**

Domestic demand is the sum of:

- final consumption expenditure (P.3)
- + gross fixed capital formation (P.51)
- + changes in inventories (P.52)
- + acquisitions less disposals of valuables (P.53).

Table 24**Price deflator gross domestic product at market prices**

Ratio of GDP at current market prices to GDP at constant prices.

Table 28**Terms of trade of goods and services (national accounts)**

The terms of trade indicate the ratio of the change of export prices of goods and services to the change of import prices of goods and services. They are equal to the ratio of the price index for exports of goods and services to the price index for imports of goods and services.

Table 29**Nominal compensation per employee; total economy**

Compensation of employees (D.1) is the total remuneration payable by an employer to an employee in return for work done by the latter during the accounting period. Compensation of employees encompasses wages and salaries in cash and wages and salaries in kind (D.11) as well as employers' social contributions (D.12). The system of accounts records the employers' contributions to social insurance funds as two transactions: employers pay employers' social contributions to their employees, and employees pay the same contributions to social insurance funds (**rerouting**).

For several countries nominal compensation per employee is based on **full-time equivalents** (see note on Table 11).

Depending on the availability, data relate to domestic or national concept.

Reference: ESA 95, paragraphs 4.02, 1.39, 11.12, 11.32.

Table 32**Adjusted wage share; total economy**

Compensation per employee as percentage of gross domestic product at factor cost per person employed. **GDP at factor cost**, which is not an ESA 95 term, can easily be derived by subtracting net taxes on production from GDP at market prices. For several countries adjusted wage share is based on **full-time equivalents** (see note on Table 11).

Table 33**Nominal unit labour costs; total economy**

Ratio of compensation per employee to real GDP per person employed (labour productivity). For several countries nominal unit labour costs are based on **full-time equivalents** (see note on Table 11).

Table 34**Real unit labour costs; total economy**

Ratio of compensation per employee to nominal GDP per person employed. For several countries real unit labour costs are based on **full-time equivalents** (see note on Table 11).

Table 35**Nominal unit labour costs; total economy**

Ratio of compensation per employee to real GDP per person employed. For several countries nominal unit labour costs are based on **full-time equivalents** (see note on Table 11). **Double export weights** calculate for each market the total supply as the sum of home supply (i.e. the part of the domestic production that is not exported) and foreign supply (all competitor countries' exports to the market). The share of each country in the total market is then calculated. In a further step these weights per market are weighted together for each exporting country in the total market. Double export weights take into account that exporters to a given market compete not only with domestic producers there, but also with other exporters to that market ('third market effect').

Table 36**Exports of goods and services at current prices (national accounts)**

Exports of goods (P.61) are to be valued free on board (fob) at the border of the exporting country.

This value consists of:

- the value of the goods at basic prices;
- the related transport and distributive services up to that point of the border;
- any taxes less subsidies on the goods exported; for intra-EU deliveries this includes VAT and other taxes on the goods paid in the exporting country.

Exports of services (P.62) consist of all services rendered by residents to non-residents. They include, for example, expenditures by non-resident tourists and business travellers, royalties and licence fees, installation of equipment abroad when a project is of limited duration by its nature, etc.

Reference: ESA 95, paragraphs 3.138, 3.140, 3.142.

Table 38**Intra-EU exports of goods**

It should be remembered that there might be some minor differences between **exports according to national accounts** and **according to foreign trade statistics**. They are due to different data vintages and revision schemes, in some cases to conceptual differences and partly to different basic data sources.

Table 40**Imports of goods and services at current prices (national accounts)**

The **imports of goods** (P.71) are valued at the cost-insurance-freight (cif) price at the border of the importing country. The cif price is the price of a good delivered at the frontier of the importing country before the payment of any import duties or other taxes on imports or trade and transport margins within the country. **Imports of services** (P.72) consist of all services rendered by non-residents to residents (see also note on Table 36).

Reference: ESA 95, paragraphs 3.138, 3.141, 3.142 f.

Table 42**Intra-EU imports of goods**

It should be remembered that there might be some minor differences between **imports according to national accounts** and **according to foreign trade statistics**. They are due to different data vintages and revision schemes, in some cases to conceptual differences and partly to different basic data sources.

Table 44**Balance on current transactions with the rest of the world (national accounts)**

'Balance on current transactions with the rest of the world' is identical to the '**Current external balance**' (B.12). It is the sum of:

- the external balance of goods and services (exports minus imports)
- + the net factor income from the rest of the world
- + the net current transfers from the rest of the world.

Factor income (primary income) from the rest of the world contains compensation of employees, property income, subsidies and taxes on production and imports.

Reference: see ESA 95, Table 8.16 (external account of primary incomes and current transfers).

Table 45**Gross national saving**

Gross national saving (B.8g) measures the proportion of national disposable income that is not used for final consumption expenditure. **Gross** (national) saving always means the saving before deducting consumption of fixed capital.

Reference: ESA 95, paragraph 8.96.

Table 46**Gross saving; private sector**

The private sector includes non-financial corporations, financial corporations, private households and non-profit institutions serving households (NPISHs).

For the **private households and the NPISHs**, gross saving (B.8g) measures the proportion of disposable income that is not used for final consumption expenditure. For **financial and non-financial corporations**, gross saving equals disposable income minus adjustment for the change in net equity of households in pension funds reserves. The adjustment for the change in net equity of households in pension funds reserves (D.8) represents the adjustment needed to make appear in the saving of households the change in the actuarial reserves on which households have a definite claim.

Reference: ESA 95, paragraphs 8.36, 4.141 f.

Table 47**Gross saving; general government**

Saving (B.8) is obtained by subtracting final consumption expenditure from disposable income or by subtracting actual final consumption from adjusted disposable income. It is the (positive or negative) amount resulting from **current** transactions which establishes the link with accumulation. If saving is positive, non-spent income is used for the acquisition of assets or for paying off liabilities. If saving is negative, certain assets are liquidated or certain liabilities increase.

Reference: ESA 95, paragraphs 8.36, 8.42, 8.43.

Table 48**Money supply (M2/M3)**

Definitions: BE: M3H; DK: M2; DE: M3, until 1990 D_90, from 1991 onwards DE; EL: M3; ES: ALP; FR: M3; IE: M3; IT: M2; NL: M3; AT: M3; PT: L-; FI: until 1984 M1, from 1985 onwards M3; SE: M3; UK: M4; EU: chain-weighted arithmetic mean; weights: GDP at current market prices and PPS; CY: M2; CZ: M2; EE: M2; HU: M3; LV: M3; LT: M2; MT: M3; PL: M2; SK: M2; SI: M3; BG: M3; RO: M2; TR: M3; US: M2; JP: M2 plus certificates of deposit.

Table 49**Nominal short-term interest rates**

Definitions:

BE: 1961–84, four-month certificates of ‘Fonds des Rentes’; from 1985, three-month treasury certificates.

DK: 1961–76, discount rate; 1977–88, call money; from 1989, three-month interbank rates.

DE: Three-month interbank rates.

EL: 1960 to April 1980 credit for working capital to industry; May 1980–87, interbank sight deposits; from 1988, one-month interbank rates; since December 1994, three-month Athibor.

ES: Three-month interbank rates.

FR: 1960–68, call money; 1969–81, one-month sale and repurchase agreements on private sector paper; from 1982, three-month sale and repurchase agreement on private sector paper (PIBOR).

IE: 1961–70, three-month interbank deposits in London; from 1971, three-month interbank rates in Dublin.

IT: 1960–70, 12-month treasury bills; 1971–84, interbank sight deposits; from 1985, three-month interbank rates.

NL: 1960 to September 1972, three-month treasury bills; from October 1972, three-month interbank rates.

AT: 1960–79, day-to-day money; 1980–94 onwards, three-month interbank rates; from 1995, three-month VIBOR.

PT: 1966 to July 1985, six-month deposits; August 1985–92, three-month treasury bills; from January 1993, three-month interbank rates.

FI: Three-month Helibor.

SE: 1982–86, three-month treasury discount notes; from 1987 onwards, three-month Stibor.

UK: 1961 to September 1964, three-month treasury bills; from October 1964, three-month interbank rates.

EU-15: Weighted geometric mean; weights: gross domestic product at current market prices and PPS.

US: Three-month money market.

JP: Bonds traded with three-month repurchase agreements; from January 1989, rates of three-month certificate of deposit.

Table 50
Nominal long-term interest rates

Definitions:

BE:	Central government bonds over 5 years, secondary market; from 1993, central government benchmark bond of 10 years.
DK:	State and mortgage bonds; from 1993, central government benchmark bond of 10 years.
DE:	Public sector bonds outstanding (over 3 years); from 1993, central government benchmark bond of 10 years.
EL:	Central government bonds, based on 12-month treasury bonds.
ES:	1979–87, State bonds of 2 to 4 years; 1988–92, central government bonds at more than 2 years; from 1993, central government benchmark bond of 10 years.
FR:	1960–79, public sector bonds; 1980–92, central government bonds of 7 to 10 years; from 1993, central government benchmark bond of 10 years.
IE:	1960–70, central government bonds, 20 years in London; 1971–94, central government bonds with 15 years to maturity, in Dublin; from 1995, central government benchmark bond of 10 years.
IT:	1960–84, Crediop bonds; 1985–91, rate of specialised industrial credit institutions (gross rate); 1992, public sector bonds outstanding; from 1993, central government benchmark bond of 10 years.
LU:	1973–93, central government bonds of 5 to 7 years, secondary market; from 1994, central government OLUX bonds of 10 years, secondary market.
NL:	1960–73, 3.25 % State bond 1948; 1974–84, private loans to public enterprises; 1985–92, yield of five central government bonds with the longest maturity; from 1993, central government benchmark bond of 10 years.
AT:	Government bonds of more than 1 year, secondary market; from 1995, central government benchmark bond of 10 years.
PT:	Weighted average of public and private bonds over 5 years; from 1993, central government benchmark bond of 10 years.
FI:	1960–79, non-central government taxable bonds; 1980–94, government bonds of 5 to 7 years, secondary market; from 1995, central government benchmark bond of 10 years.
SE:	Central government bonds of 9 to 11 years; from 1995, central government benchmark bond of 10 years.
UK:	Central government bonds of 20 years; from 1993, central government benchmark bond of 10 years.
EU-15:	Weighted geometric mean; weights: gross domestic product at current market prices and PPS.
US:	1960–88, federal government bonds over 10 years; 1989–92, federal government bonds over 30 years; from 1993, central government benchmark bond of 10 years.
JP:	1961–78, State bonds; 1979 to June 1987, over the counter sales of State bonds; 1987 to April 1989: benchmark: Bond No 111 (1998); 1989 to August 1992: benchmark: Bond No 119 (1999); from September 1992: benchmark: Bond No 145 (maturity in 2002).

Table 53
Nominal effective exchange rates

The **nominal effective exchange rate** of a country or of a currency area displays changes in the value of that country's currency relative to the currencies of its principal trading partners. It is calculated as a weighted average of the bilateral exchange rates with those currencies. For **double export weights** see note on Table 35.

Tables 54 to 76

Member States have provided figures for the last statistical period according to ESA 95 specifications starting from the years mentioned below:

1970:	BE, DE, NL, UK	1988:	EL
1971:	DK	1990:	IE, LV, LU, PL
1975:	FI	1992:	CZ
1976:	AT	1993:	EE, LT, SK, SE
1977:	PT	1995:	ES
1978:	FR	1998:	CY
1980:	IT	2000:	HU, MT, SI

Table 54**Taxes linked to imports and production (indirect taxes); general government**

Taxes on production and imports (D.2) levied by general government consist of compulsory, unrequited payments, which are levied in respect of the production and importation of goods and services, the employment of labour, the ownership or use of land, buildings or other assets used in production. (Taxes on production and imports are also levied by the **institutions of the EU**. However, they are **not included** in this table.) Taxes on production and imports comprise:

- value added type taxes (D.211);
- taxes and duties on imports excluding VAT (D.212);
- taxes on products, except VAT and import taxes (D.214);
- other taxes on production (D.29).

Taxes on products, except VAT and import taxes (D.214), include, for example, car registration taxes; taxes on entertainment; taxes on insurance premiums and taxes on lotteries, gambling and betting, other than those on winnings.

Other taxes on production (D.29) consist of all taxes that enterprises incur as a result of engaging in production, independently of the quantity or value of the goods and services produced or sold. They include taxes on the total wage bill and payroll taxes; taxes on the use of fixed assets (vehicles, machinery, equipment) for purposes of production as well as taxes on the ownership or use of land, buildings, or other structures utilised by enterprises in production.

Reference: ESA 95, paragraphs 4.14 to 4.23.

Table 55**Current taxes on income and wealth (direct taxes); general government**

Current taxes on income and wealth (D.5) levied by general government cover all compulsory, unrequited payments, in cash or in kind, levied periodically on the income and wealth of institutional units. They are subdivided into taxes on income and other current taxes.

Taxes on income (D.51) include:

- taxes on individual or household income (income from employment, property, entrepreneurship, pensions, etc.), including taxes deducted by employees (pay-as-you-earn taxes): taxes on the income of owners of unincorporated enterprises are included here;
- taxes on the income or profits of corporations;
- taxes on holding gains;
- taxes on winnings from lottery or gambling, payable on the amounts received by winners.

Other current taxes (D.59) include:

- current taxes on capital which consist of taxes that are payable periodically on the ownership or use of land or buildings by owners, and current taxes on net wealth and other assets (in particular valuables);
- poll taxes, levied per adult or per household, independently of income or wealth;
- expenditure taxes, payable on the total expenditures of persons or households;
- payments of households for licences to own or use vehicles, boats or aircraft (not used for business purposes), or for licences to hunt, shoot or fish, etc. (**but** driving or pilots' licences, television or radio licences, library admission, etc. are **not** included: they are regarded as purchases of services rendered by government);
- taxes on international transactions (e.g. travel abroad, or foreign remittances), except those payable by producers and import duties paid by households.

Reference: ESA 95, paragraphs 4.77 to 4.80.

Table 56**Social contributions received; general government**

Actual and imputed social contributions (D.611 and D.612) paid to general government, in particular to social security funds. They comprise compulsory and voluntary social contributions of employers and employees as well as of self-employed and non-employed persons.

Table 57
Actual social contributions received; general government

Actual social contributions (D.611) are paid by residents or non-residents to social security funds, i.e. to the general government sector (but also to insurance enterprises or autonomous as well as non-autonomous pension funds administering social insurance schemes) in order to secure the entitlement of social benefits. They consist of employers' actual social contributions, employees' actual social contributions, and social contributions by self-employed and non-employed persons.
Reference: ESA 95, paragraph 4.92.

Table 58
Other current revenue; general government

Other current revenue of general government is the sum of:

- gross operating surplus (B.2g)
- + property income (D.4), receivable
- + other current transfers (D.7), receivable
(consolidated).

Regarding the 'other current transfers' of particular importance are transfers connected with current international cooperation, non-life insurance claims and miscellaneous current transfers. The latter include, for example, refunds of households or corporations to general government, fines and penalties, etc.
Reference: ESA 95, paragraphs 4.109 f.

Table 59
Total current revenue; general government

Total current revenue of general government is the sum of:

- gross operating surplus (B.2g)
- + property income (D.4), receivable
- + other current transfers (D.7), receivable
- + taxes on production and imports (D.2), receivable
- + current taxes on income and wealth (D.5), receivable
- + social contributions (D.61), receivable
(consolidated).

Table 60
Final consumption expenditure of general government

Final consumption expenditure (P.3) of general government includes **two categories of expenditures**:

1. the value of goods and services produced by general government itself other than own-account capital formation and sales (collective consumption);
2. purchases by general government of goods and services produced by market producers that are supplied to households — without any transformation — as social transfers in kind. This implies that general government just pays for goods and services that the sellers provide to households (individual consumption).

For additional information on individual and collective consumption see notes on Table 17 and Table 62.
Reference: ESA 95, paragraphs 3.79, 3.85.

Table 61
Compensation of employees; general government

Compensation of employees paid by general government. Compensation of employees (D.1) is the total remuneration payable by an employer to an employee in return for work done by the latter during the accounting period. Compensation of employees encompasses wages and salaries in cash and kind (D.11) as well as employers' social contributions (D.12) (see also note on Table 29).
Reference: ESA 95, paragraph 4.02.

Table 62
Collective consumption expenditure

Services for collective consumption (P.42) are provided simultaneously to all members of the community or all members of a particular section of the community.

Collective services have the following characteristics:

1. they can be delivered simultaneously to every member of the community or to particular sections of the community;
2. the use of such services is usually passive and does not require the explicit agreement or active participation of all the individuals concerned;
3. the provision of a collective service to one individual does not reduce the amount available to another in the same community; there is no rivalry in acquisition.

Collective goods and services are **provided by general government**. The collective consumption expenditure is the remainder of the government final consumption expenditure. It consists in particular of:

- management and regulation of society;
- the provision of security and defence;
- the maintenance of law and order, legislation and regulation;
- the maintenance of public health;
- the protection of the environment;
- research and development;
- infrastructure and economic development.

Reference: ESA 95, paragraphs 3.83, 3.85.

Table 63
Social transfers in kind

Social transfers in kind (D.63) consist of individual goods and services provided as transfers in kind to individual households by government units and non-profit institutions serving households (NPISHs), whether purchased on the market or produced as non-market output by government units and NPISHs. Social transfers in kind include:

1. Social benefits in kind (D.631)

Social benefits in kind are social transfers in kind intended to relieve the household from the financial burden of social risks or needs. They encompass the following cases:

- **Social security benefits, reimbursements (D.6311)**
These benefits consist of reimbursement by social security funds of approved expenditures made by households on specific goods or services.
- **Other social security benefits in kind (D.6312)**
These consist of social transfers in kind, except reimbursements, made by social security funds to households. Most of other social security benefits are likely to consist of medical or dental treatments, hospital accommodation, spectacles, etc. The service is provided directly to the beneficiaries, without reimbursement, by market or non-market producers.
- **Social assistance benefits in kind (D.6313)**
These consist of transfers in kind provided to households by government units or NPISHs that are similar in nature to social security benefits in kind but are not provided in the context of social insurance schemes. Social assistance benefits in kind include, if not covered by a social insurance scheme, for example, social housing, dwelling allowance and reductions on transport prices (provided that there is a social purpose).

2. Transfers of individual non-market goods or services (D.632)

Transfers of individual non-market goods or services consist of goods or services provided to individual households free or at prices which are not economically significant, by non-market producers of government units or NPISHs. They cover, for example, education and cultural services.

Social transfers in kind are equal to the **individual consumption expenditure of general government**.

Reference: ESA 95, paragraphs 4.104 to 4.106.

Table 64**Social benefits other than social transfers in kind; general government**

Social benefits other than social transfers in kind (D.62) comprise:

1. **Social security benefits in cash** (D.621)

These are benefits paid to households by social security funds (excluding reimbursements), e.g. retirement pensions.

2. **Private funded social benefits** (D.622)

They are (in cash or in kind) payable to households by insurance enterprises or other institutional units administering private funded social insurance schemes, e.g. retirement pensions paid by an autonomous pension fund.

3. **Unfunded employee social benefits** (D.623)

They are payable to employees, their dependants or survivors by employers administering unfunded social insurance schemes. They include:

- the continued payment of normal wages during periods of absence from work as a result of ill health, accident, maternity, etc.;
- the payment of family, education or other allowances in respect of dependants;
- the payments of retirement or survivors' pensions to ex-employees or their survivors in the event of redundancy, incapacity, accidental death, etc.;
- general medical services not related to the employee's work;
- convalescent and retirement homes.

4. **Social assistance benefits in cash** (D.624)

They are payable to households by government units or NPISHs to meet the same needs as social insurance benefits but which are not made under a social insurance scheme incorporating social contributions and social insurance benefits. Included are, for example, children's allowance, welfare affairs and services, grants referring to students' financial assistance scheme, etc.

Reference: ESA 95, paragraph 4.103.

Table 65**Interest including flows on swaps and FRAs (forward rate agreements); general government**

Interest (EDP D.41) paid by general government, consolidated. Interest flows exchanged between two counterparts under any kind of swap and under forward rate agreements are recorded in this item. In ESA 95, these flows are considered as financial transactions.

Reference: ESA 95, paragraphs 4.42 f, Commission Regulation (EC) No 351/2002.

Table 66**Subsidies; general government**

Subsidies (D.3) are defined by ESA 95 as current unrequited payments which general government or the institutions of the European Union make to resident producers, with the objective of influencing their levels of production, their prices or the remuneration of the factors of production. The table only contains subsidies **paid by general government**. Data cover subsidies on products as well as other subsidies on production.

Subsidies on products (D.31) are subsidies payable **per unit of a good or service** produced or imported. The subsidy may be a specific amount of money per unit of quantity of a good or service, or it may be calculated *ad valorem* as a specified percentage of the price per unit. A subsidy may also be calculated as the difference between a specified target price and the market price actually paid by the buyer.

Other subsidies on production (D.39) consist of subsidies except subsidies on products which resident producer units may receive **as a consequence of engaging in production**. They include in particular:

- subsidies on payroll or workforce, e.g. payments on the employment of particular types of persons such as physically handicapped persons or persons who have been unemployed for long periods;
- subsidies to reduce pollution;
- grants for interest relief made to resident producer units.

It should be noted that **investment grants** are not treated as subsidies, they are part of the **capital transfers**.

Reference: ESA 95, paragraphs 4.30, 4.33, 4.36, 4.37.

Table 67
Other current expenditure; general government

Other current expenditure of general government consist of:

- property income except interest, payable;
- current taxes on income and wealth (D.5), payable;
- other current transfers (D.7), payable (consolidated).

Property income except interest only comprises rents (D.45), since the remaining kinds of property income as classified by ESA 95 — distributed income of corporations, reinvested earnings on direct foreign investment and property income attributed to insurance policy holders — are not included in general governments' uses.

Among other current transfers (D.7) relevant are in particular **net non-life insurance premiums** (D.71), **current international cooperation** (D.74) and **miscellaneous current transfers** (D.75).

The latter comprise, for example:

- transfers of EU Member States to the institutions of the European Union according to the GNP-based fourth own resource;
- bonus payments on savings granted at intervals by general government to households in order to reward them for their saving during the period;
- ex gratia payments made by government units to other institutional units in compensation for injuries or damage caused by natural disasters other than those classified as capital transfers.

Reference: ESA 95, paragraphs 4.136 to 4.139.

Table 68
Total current expenditure; general government

Total current expenditure of general government is the sum of:

- property income (D.4), payable (including interest EDP D.41)
- + subsidies (D.3), payable
- + current taxes on income and wealth (D.5), payable
- + social benefits other than social transfers in kind (D.62), payable
- + other current transfers (D.7), payable
- + final consumption expenditure (P.3) of general government.

Table 70
Capital transfers received; general government

Capital transfers (D.9) are made in cash or in kind. A **capital transfer in kind** consists of the transfer of ownership of an asset (other than inventories and cash), or the cancellation of a liability by a creditor, **without any counterpart being received in return**.

A **capital transfer in cash** consists of the transfer of cash that the first party has raised by disposing of an asset (other than inventories), or that the second party, the recipient, is expected, or required, to use for the acquisition of an asset (other than inventories) as a condition on which the transfer is made. Capital transfers cover capital taxes, investment grants and other capital transfers.

Capital taxes (D.91) consist of taxes levied at irregular or very infrequent intervals on the values of the assets or net worth owned by institutional units or on the values of assets transferred between institutional units as a result of legacies, gifts *inter vivos* or other transfers. They include in particular inheritance taxes, death duties and taxes on gifts *inter vivos* as well as certain betterment levies (e.g. taxes on the increase in the value of agricultural land due to planning permission to develop the land for commercial or residential purposes).

Investment grants (D.92) consist of capital transfers in cash or in kind made by government or by the rest of the world (e.g. by the institutions of the European Union) to other resident or non-resident institutional units to finance all or part of the costs of their acquiring **fixed assets**. Investment grants to general government include all payments (except grants for interest relief) made to subsectors of general government, e.g. transfers from central government to local authorities, for the purpose of financing capital formation. However, investment grants within general government are flows internal to the general government sector and do not appear in a consolidated account for the sector as a whole

(such as in this table). Investment grants received by general government also include transfers from the rest of the world, with the objective of financing capital formation by non-resident units.

Other capital transfers (D.99) cover transfers other than investment grants and capital taxes which do not themselves redistribute income but redistribute saving or wealth among the different sectors or subsectors of the economy or the rest of the world. They include, for example:

- legacies, large gifts *inter vivos* and donations between units belonging to different sectors;
- transfers between subsectors of general government designed to cover unexpected expenditure or accumulated deficits. These transfers are flows within the general government sector and do not appear in a consolidated account for the sector as a whole;
- the counterpart transaction of cancellation of debts by agreement between institutional units belonging to different sectors or subsectors, e.g. the cancellation by the government of a debt owed to it by a foreign country.

Reference: ESA 95, paragraphs 4.145 to 4.165.

Table 71

Total revenue; general government

Total general government revenue is the sum of:

- sales of market output (P.11) and output for own final use (P.12)
- + payments for other non-market output (P.131)
- + other subsidies on production (D.39), received
- + taxes on production and imports (D.2), received
- + property income (D.4), received
- + current taxes on income and wealth (D.5), received
- + social contributions (D.61), received
- + other current transfers (D.7), received
- + capital transfers (D.9), received.

For total general government revenue see also annex of Regulation (EC) No 1221/2002 of the European Parliament and of the Council of 10 June 2002, and Table 2 — ‘Main aggregates of general government’ — of the ESA 95 transmission programme.

Table 72

Gross fixed capital formation; general government

Gross fixed capital formation (P.51) consists of producers’ acquisitions, less disposals, of fixed assets during a given period plus certain additions to the value of non-produced assets realised by the productive activity of producer or institutional units. Fixed assets are tangible or intangible assets produced as outputs from the process of production that are themselves used repeatedly, or continuously, in the process of production **for more than one year**. (For further information see note on Table 19.)

Gross fixed capital formation of general government also includes:

- structures and equipment used by the military, which are similar to those utilised by civilian producers, such as docks, airfields, roads and hospitals;
- light weapons and armoured vehicles used by non-military units. (The purchase of military weapons and their supporting systems is still a part of intermediate consumption and **not** included in gross fixed capital formation.)

Reference: ESA 95, paragraphs 3.102 to 3.111.

Table 73

Other capital expenditure, including capital transfers; general government

Other capital expenditure, including capital transfers, is defined as:

- capital transfers (D.9), payable
- + changes in inventories (P.52) and acquisitions less disposals of valuables (P.53)
- + acquisitions less disposals of non-financial non-produced assets (K.2).

Data include **one-off proceeds** (treated as negative expenditure) **relative to the allocation of mobile phone licences (UMTS)**.

For **valuables** (P.53) see the note to Table 21.

Non-financial non-produced assets (K.2) consist of land and other tangible non-produced assets that may be used in the production of goods and services, and intangible non-produced assets. Acquisitions and disposals of **other tangible non-produced assets** cover subsoil assets (coal, oil and natural gas reserves, metallic as well as non-metallic mineral reserves), non-cultivated biological resources and water resources. Examples of **intangible non-financial non-produced assets** are patents, leases, other transferable contracts, purchased goodwill, and transferable contracts with authors.

Reference: ESA 95, paragraphs 3.125, 3.126, 6.06 f.

Table 74

Total expenditure; general government

Total general government expenditure is the sum of:

- intermediate consumption (P.2)
- + gross capital formation (P.5)
- + compensation of employees (D.1), payable
- + other taxes on production (D.29), payable
- + subsidies (D.3), payable
- + property income (D.4), payable (including interest EDP D.41)
- + current taxes on income and wealth (D.5), payable
- + social benefits other than social transfers in kind (D.62), payable
- + social transfers in kind related to expenditure on products supplied to households via market producers (D.6311 + D.63121 + D.63131), payable
- + other current transfers (D.7), payable
- + adjustment for the change in the net equity of households on pension funds reserves (D.8)
- + capital transfers (D.9), payable
- + acquisition of non-produced non-financial assets (K.2).

For total general government expenditure see also annex to Regulation (EC) No 1221/2002 of the European Parliament and of the Council of 10 June 2002, and Table 2 — ‘Main aggregates of general government’ — of the ESA 95 transmission programme.

Intermediate consumption (P.2) consists of the value of goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital. The goods and services may be either transformed or used up by the production process. Intermediate consumption basically also comprises the costs of using rented fixed assets, e.g. the leasing of cars, and small durable goods which are inexpensive and used for relatively simple operations like hand tools and small devices such as pocket calculators.

Furthermore, intermediate consumption of general government includes, in particular, military weapons of destruction and the equipment needed to deliver them (in contrast, light weapons or armoured vehicles acquired by police and security forces are treated as gross fixed capital formation).

The adjustment for the change in the net equity of households in pension funds reserves (D.8) represents the adjustment needed to make appear in the saving of households the change in the actuarial reserves on which households have a definite claim.

The adjustment for the change in net equity of households in pension funds reserves is part of the expenditure of the insurance enterprises sector and other sectors, as, for instance, the general government sector, administering non-autonomous pension funds.

Reference: ESA 95, paragraphs 3.69, 3.70, 4.141, 4.144.

Table 75

Net lending (+) or net borrowing (-); general government

Net lending/net borrowing (B.9) is the balancing item in the capital account. It is defined as:

- net saving (B.8n)
- + capital transfers (D.9), receivable

- capital transfers (D.9), payable
- gross capital formation (P.5)
- + consumption of fixed capital (K.1)
- acquisition less disposals of non-financial non-produced assets (K.2).

Net lending/net borrowing of general government can also be defined as:

Total general government revenue (see Table 71) **minus**

Total general government expenditure (see Table 74).

Reference: ESA 95, paragraph 8.47.

Table 76

Net lending (+) or net borrowing (–) excluding interest; general government

Net lending/net borrowing excluding interest is calculated as:

Total general government revenue **minus**

Total general government expenditure excluding interest, payable.

Table 77

General government consolidated gross debt

General government gross debt is defined by Article 1(5) of Council Regulation (EC) No 3605/93 as amended by Council Regulation (EC) No 475/2000. According to the said regulation:

‘Government debt means the total gross debt at nominal value outstanding at the end of the year of the sector of general government (S.13), with the exception of those liabilities the corresponding financial assets of which are held by the sector of general government (S.13). Government debt is constituted by the liabilities of general government in the following categories: currency and deposits (AF.2); securities other than shares, excluding financial derivatives (AF.33) and loans (AF.4) as defined in ESA 95. The nominal value of a liability outstanding at the end of the year is the face value. The nominal value of an index-linked liability corresponds to its face value adjusted by the index-related change in the value of the principal accrued to the end of the year.

Liabilities denominated in a foreign currency, or exchanged from one foreign currency through contractual agreements to one or more other foreign currencies shall be converted into the other foreign currencies at the rate agreed upon in those contracts and shall be converted into the national currency on the basis of the representative market exchange rate prevailing on the last working day of each year.

Liabilities denominated in the national currency and exchanged through contractual agreements to a foreign currency shall be converted into the foreign currency at the rate agreed upon in those contracts and shall be converted into the national currency on the basis of the representative market exchange rate prevailing on the last working day of each year.

Liabilities denominated in a foreign currency and exchanged through contractual agreements to the national currency shall be converted into the national currency at the rate agreed upon in those contracts.’

For currency and deposits (AF.2), financial derivatives (AF.33) and for loans (AF.4) see ESA 95, paragraphs 7.46 to 7.51.

Tables 78 to 110 (country tables): Main economic indicators 1961–2006

Item 4.4 — Profitability index (1961–73 = 100)

The profitability index measures the net returns on net capital stock for total economy.

In formal terms, the net returns on net capital stock can be calculated as follows:

$$[\text{UVND} - (\text{UWCD} \times (\text{NETD}/\text{NWTD}))] \times 100 / (\text{OKND} \times \text{PIGT})$$

Where:

UVND:	net domestic product at market prices
UWCD:	compensation of employees, total economy, domestic
NETD:	employment, total economy, domestic
NWTD:	employees, total economy, domestic

OKND: net capital stock at constant prices
 PIGT: price deflator gross fixed capital formation

Item 5.1 — Growth of net capital stock (real)

The net capital stock is the sum of the written-down values of all fixed assets still in use at the end of an accounting period. The net capital stock at constant prices in year t is calculated as follows:

Net capital stock at constant prices in year $t-1$
 + Gross fixed capital formation at constant prices in year t
 – Capital consumption at constant prices in year t .

Item 5.2 — Net capital/output ratio (real)

Net capital stock per unit of gross domestic product; ratio of net capital stock at constant prices to gross domestic product at constant market prices.

Item 5.3 — Growth of capital intensity

Capital intensity is the net capital stock at constant prices per person employed.

Item 5.4 — Labour productivity growth

Labour productivity is the gross domestic product at constant market prices per person employed.

Item 6.2 — Activity rate

The activity rate is defined as the ratio of civilian labour force (employed and unemployed) to the total population aged 15 to 64 years.

Item 6.3 — Employment rate

The employment rate is defined as the ratio of civilian employment (national definition) to total population aged 15 to 64 years. Persons carrying out obligatory military service are not included.

Item 6.4 — Employment rate (full-time equivalent)

The full-time equivalent employment rate is calculated by dividing the full-time equivalent employment by the total population in the 15 to 64 age group (see also note on Table 11).

Table 1

**Population and labour market
Total population (national accounts)**

(1 000)

	BE	DE (1)	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 (2)	CZ	DK	EE	CY
1960	9 152	55 433	8 354	30 498	46 716	2 835	49 377	314	11 483	7 047	8 904	4 430	234 543	9 659	4 581	1 219	.
1965	9 462	58 619	8 578	32 118	49 859	2 877	51 258	331	12 293	7 271	9 045	4 564	246 276	9 784	4 757	1 295	486
1970	9 654	60 651	8 822	33 863	51 918	2 951	52 940	361	13 032	7 467	8 726	4 606	254 990	9 804	4 929	1 364	505
1975	9 799	61 829	9 077	35 694	53 889	3 178	54 532	365	13 660	7 579	9 141	4 711	263 454	10 062	5 060	1 431	502
1980	9 858	61 566	9 675	37 533	55 109	3 402	55 509	364	14 148	7 549	9 817	4 780	269 311	10 326	5 124	1 479	509
1981	9 857	61 682	9 761	37 747	55 419	3 444	55 584	365	14 247	7 569	9 903	4 800	270 379	10 302	5 122	1 489	515
1982	9 855	61 638	9 822	37 950	55 746	3 481	55 617	366	14 312	7 574	9 963	4 827	271 151	10 313	5 118	1 500	521
1983	9 854	61 423	9 879	38 130	56 048	3 506	55 637	366	14 368	7 562	10 006	4 856	271 635	10 321	5 114	1 511	528
1984	9 855	61 175	9 929	38 286	56 326	3 530	55 649	366	14 423	7 561	10 041	4 882	272 023	10 330	5 111	1 520	535
1985	9 857	61 024	9 967	38 427	56 610	3 541	55 666	367	14 488	7 565	10 064	4 902	272 475	10 335	5 113	1 531	542
1986	9 859	61 066	9 997	38 544	56 898	3 542	55 669	368	14 567	7 570	10 063	4 918	273 060	10 340	5 120	1 542	548
1987	9 870	61 077	10 017	38 639	57 208	3 543	55 674	371	14 664	7 575	10 046	4 932	273 616	10 348	5 127	1 554	554
1988	9 904	61 449	10 037	38 724	57 526	3 531	55 701	374	14 760	7 585	10 020	4 946	274 557	10 355	5 130	1 564	560
1989	9 940	62 063	10 090	38 799	57 862	3 510	55 743	378	14 846	7 620	9 989	4 964	275 802	10 361	5 132	1 570	568
1990	9 968	63 253	10 161	38 857	58 171	3 506	55 790	382	14 947	7 678	9 950	4 986	277 648	10 361	5 140	1 571	580
1991		64 074											279 259				
1991	10 006	79 984	10 247	38 926	58 464	3 526	55 821	387	15 068	7 755	9 971	5 014	295 169	10 307	5 154	1 568	595
1992	10 047	80 594	10 322	39 016	58 754	3 549	55 927	392	15 182	7 841	9 963	5 042	296 629	10 316	5 171	1 555	611
1993	10 086	81 179	10 379	39 102	59 000	3 563	56 114	398	15 290	7 906	9 974	5 066	298 058	10 328	5 189	1 511	626
1994	10 116	81 422	10 426	39 172	59 210	3 571	56 266	404	15 381	7 936	9 998	5 089	298 991	10 331	5 206	1 477	639
1995	10 137	81 661	10 634	39 223	59 419	3 601	56 362	410	15 460	7 948	10 030	5 108	299 993	10 325	5 230	1 448	651
1996	10 155	81 896	10 709	39 279	59 624	3 626	56 456	416	15 526	7 959	10 058	5 125	300 829	10 313	5 262	1 425	661
1997	10 180	82 052	10 777	39 348	59 831	3 661	56 570	421	15 607	7 968	10 091	5 140	301 645	10 301	5 285	1 406	671
1998	10 203	82 029	10 835	39 453	60 047	3 711	56 644	427	15 703	7 977	10 129	5 153	302 311	10 291	5 303	1 393	679
1999	10 222	82 087	10 883	39 626	60 297	3 751	56 702	433	15 809	7 992	10 172	5 165	303 138	10 283	5 321	1 379	687
2000	10 246	82 188	10 917	39 927	60 594	3 800	56 815	439	15 922	8 012	10 226	5 176	304 262	10 273	5 338	1 372	694
2001	10 281	82 340	10 938	40 266	60 916	3 859	56 945	442	16 043	8 032	10 293	5 188	305 541	10 224	5 357	1 367	702
2002	10 330	82 482	10 950	40 546	61 237	3 926	57 157	446	16 147	8 053	10 368	5 201	306 845	10 201	5 376	1 361	710
2003	10 374	82 520	11 018	40 809	61 540	3 991	57 405	450	16 256	8 079	10 433	5 213	308 288	10 202	5 390	1 356	718
2004	10 395	82 561	11 040	41 051	61 724	4 056	57 936	455	16 321	8 110	10 498	5 222	309 369	10 197	5 396	1 351	724
2005	10 416	82 603	11 063	41 273	61 909	4 113	58 029	459	16 370	8 154	10 563	5 231	310 181	10 186	5 405	1 345	730
2006	10 436	82 644	11 085	41 484	62 095	4 166	58 112	463	16 417	8 197	10 628	5 240	310 968	10 176	5 412	1 340	736

(1) 1960-91 D₉₀.(2) Euro area: 1960-91 including D₉₀.

Table 1 (continued)

(/ 000)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽¹⁾	EUR-15 ⁽²⁾	BG	RO	TR	HR	US	JP
1960	2 121	2 779	9 984	334	29 561	1 585	3 994	7 480	52 372	298 976	7 867	18 412	27 755	180 760	94 100		
1965	2 266	2 971	10 148	324	31 496	1 649	4 371	7 734	54 350	377 907	8 204	19 036	31 391	194 347	98 880		
1970	2 359	3 140	10 338	328	32 526	1 725	4 538	8 043	55 632	390 221	8 490	20 262	35 605	205 089	103 720		
1975	2 456	3 302	10 541	309	34 022	1 794	4 739	8 192	56 226	402 090	8 721	21 255	40 026	215 981	111 520		
1980	2 512	3 413	10 711	330	35 578	1 901	4 980	8 310	56 330	410 814	8 862	22 211	44 439	227 726	116 800		
1981	2 519	3 433	10 712	333	35 902	1 917	5 016	8 320	56 357	412 316	8 891	22 357	45 540	230 008	117 650		
1982	2 531	3 457	10 706	336	36 227	1 927	5 055	8 325	56 291	413 459	8 918	22 480	46 688	232 218	118 450		
1983	2 546	3 485	10 689	339	36 571	1 933	5 092	8 329	56 316	414 409	8 940	22 565	47 864	234 333	119 260		
1984	2 562	3 514	10 668	342	36 914	1 937	5 127	8 337	56 409	415 331	8 961	22 645	49 070	236 394	120 020		
1985	2 579	3 545	10 649	345	37 203	1 956	5 162	8 350	56 554	416 338	8 961	22 737	50 306	238 506	120 750		
1986	2 600	3 579	10 631	348	37 456	1 980	5 194	8 370	56 684	417 451	8 958	22 841	51 433	240 683	121 490		
1987	2 627	3 616	10 613	350	37 664	1 990	5 223	8 398	56 804	418 483	8 971	22 954	52 561	242 843	122 090		
1988	2 653	3 655	10 596	353	37 862	1 995	5 251	8 436	56 916	419 882	8 981	23 062	53 715	245 061	122 610		
1989	2 670	3 684	10 578	357	37 963	1 996	5 276	8 493	57 076	421 525	8 877	23 166	54 893	247 387	123 120		
1990	2 671	3 698	10 374	360	38 119	1 998	5 280	8 559	57 237	423 595	8 718	23 206	56 203	250 181	123 540		
1991							425 572										
1991	2 662	3 704	10 373	364	38 245	2 000	5 284	8 617	57 439	441 482	8 632	23 185	57 305	253 530	123 920		
1992	2 632	3 700	10 369	367	38 365	1 996	5 305	8 668	57 563	443 248	8 540	22 789	58 401	256 922	124 320		
1993	2 586	3 683	10 358	371	38 459	1 991	5 325	8 719	57 672	444 875	8 472	22 755	59 491	260 282	124 670		
1994	2 548	3 658	10 343	375	38 544	1 989	5 347	8 781	57 797	446 027	8 444	22 731	60 573	263 455	124 960		
1995	2 485	3 629	10 329	378	38 588	1 989	5 363	8 827	57 928	447 163	8 406	22 681	61 646	266 588	125 570		
1996	2 457	3 602	10 311	380	38 618	1 990	5 374	8 841	58 043	448 107	8 362	22 608	62 695	269 714	125 864		
1997	2 433	3 575	10 291	383	38 650	1 986	5 383	8 846	58 167	449 021	8 312	22 546	63 745	272 958	126 166		
1998	2 410	3 549	10 267	385	38 666	1 982	5 391	8 851	58 305	449 783	8 257	22 503	64 789	276 154	126 486		
1999	2 391	3 524	10 238	387	38 655	1 984	5 396	8 858	58 481	450 721	8 211	22 458	65 819	279 328	126 686		
2000	2 373	3 500	10 211	390	38 646	1 989	5 401	8 872	58 643	451 964	8 170	22 435	67 461	282 425	126 919		
2001	2 355	3 481	10 188	393	38 248	1 992	5 403	8 896	59 051	453 197	7 913	22 408	68 610	285 358	127 221		
2002	2 339	3 469	10 159	396	38 230	1 995	5 379	8 925	59 232	454 616	7 868	21 795	69 666	288 240	127 366		
2003	2 325	3 454	10 130	398	38 200	1 996	5 380	8 958	59 787	456 583	7 821	21 734	70 772	291 085	127 550		
2004	2 315	3 451	10 100	400	38 162	1 997	5 380	8 996	60 024	457 860	7 790	21 630	71 896	293 867	127 511		
2005	2 310	3 447	10 079	402	38 124	1 997	5 380	9 037	60 254	458 879	7 759	21 540	72 966	296 689	127 511		
2006	2 306	3 446	10 059	404	38 086	1 998	5 380	9 079	60 481	459 869	7 728	21 450	73 978	299 548	127 511		

(1) 1960-91 including D_90.

(2) Former EU-15; 1960-91 including D_90.

Table 2

**Population and labour market
Employment, persons; all domestic industries (national accounts)**

(annual percentage change)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1961-70	0.5	0.2	-0.8	0.6	0.6	0.0	-0.5	0.6	2.0	-0.4	0.2	0.4	0.3	:	1.1	:	:
1971-80	0.2	0.3	0.7	-0.6	0.5	0.9	0.7	1.2	0.5	0.7	0.1	0.3	0.3	:	0.3	:	:
1981	-1.9	0.1	5.2	-2.4	-0.4	-0.9	-0.1	0.3	-3.1	-0.6	1.1	1.3	-0.4	:	-1.5	:	:
1982	-1.3	-0.8	-1.1	-0.9	0.1	0.0	0.2	-0.3	-5.2	-1.1	-1.9	1.1	-0.7	:	0.3	:	:
1983	-1.3	-0.9	0.5	-0.3	-0.3	-1.9	0.3	-0.3	-3.3	-0.3	-1.1	0.4	-0.5	:	0.2	:	:
1984	0.1	0.8	-0.2	-2.2	-0.2	-1.9	0.0	0.6	1.7	-0.1	-1.5	0.6	-0.1	:	1.5	:	:
1985	0.6	1.4	2.5	-1.0	-0.8	-2.6	0.9	0.9	4.4	0.2	0.0	0.1	0.6	:	2.3	:	:
1986	0.6	1.9	0.3	2.3	0.4	0.7	0.7	2.4	5.5	0.1	-2.7	-0.3	1.2	:	2.3	:	:
1987	0.6	1.3	-0.1	4.8	0.8	0.9	0.2	2.7	4.5	0.4	2.3	0.6	1.5	:	0.4	:	:
1988	1.7	1.4	1.7	3.5	0.9	0.0	1.1	3.0	1.9	-0.5	2.2	1.0	1.5	:	-0.3	:	:
1989	1.2	1.8	0.4	3.6	1.7	-0.2	0.7	3.4	2.6	1.1	1.9	0.9	1.7	:	-0.6	:	:
1990	0.9	3.1	1.3	3.8	0.8	4.3	1.6	4.2	3.0	1.8	1.7	-0.5	2.1	:	-0.7	:	:
1981-90	0.1	1.0	1.0	1.1	0.3	-0.2	0.6	1.7	1.1	0.1	0.2	0.5	0.7	:	0.4	:	:
1991	0.1	2.8	-2.3	1.2	0.1	-0.3	1.9	4.0	1.9	1.3	2.8	-5.6	1.3	:	-0.6	-2.8	:
1992	-0.5	-1.5	1.4	-1.4	-0.6	0.3	-0.5	2.8	1.3	0.5	-1.6	-7.1	-0.9	:	-0.8	-6.0	:
1993	-0.8	-1.4	1.0	-2.8	-1.3	1.5	-2.5	1.8	0.3	-0.5	-2.0	-6.0	-1.6	:	-1.7	-7.9	:
1994	-0.4	-0.2	1.9	-0.5	0.1	3.1	-1.5	2.7	0.6	0.0	-1.0	-1.4	-0.3	:	2.0	-3.3	:
1995	0.7	0.2	0.9	1.9	0.9	4.1	-0.1	2.7	2.3	-0.2	-0.7	1.8	0.6	:	0.9	-6.2	:
1996	0.3	-0.3	-0.5	1.3	0.4	3.6	0.6	2.6	2.3	0.3	1.6	1.4	0.5	-0.4	0.4	-2.3	-16.8
1997	0.9	-0.2	-2.2	2.9	0.4	5.6	0.4	3.2	3.2	0.9	1.6	3.3	0.8	0.2	0.8	0.0	-0.3
1998	1.8	1.1	7.5	3.9	1.5	8.6	1.0	4.5	2.6	1.3	2.7	2.0	2.0	-2.3	1.6	-1.9	1.0
1999	1.4	1.2	0.1	3.5	2.0	6.2	1.1	5.0	2.6	1.8	1.9	2.5	1.8	-4.1	2.1	-4.4	1.3
2000	1.9	1.8	0.3	3.5	2.7	4.6	1.9	5.7	2.2	1.0	2.1	2.3	2.2	-0.5	0.3	-1.5	2.8
1991-2000	0.6	0.4	0.8	1.3	0.6	3.7	0.2	3.5	1.9	0.7	0.7	-0.7	0.6	:	0.5	-3.7	:
2001	1.5	0.4	-0.3	2.4	1.7	3.0	2.0	5.7	1.8	0.6	1.3	1.5	1.4	0.4	0.3	0.8	1.9
2002	-0.3	-0.6	0.1	1.5	0.7	1.8	1.8	3.0	0.9	-0.1	0.3	0.9	0.6	1.5	-0.4	1.3	1.4
2003	0.0	-1.0	1.4	1.8	0.2	2.0	1.2	1.8	-0.4	0.1	-0.4	0.0	0.2	-0.1	-0.9	1.5	0.9
2004	0.4	0.1	1.8	1.9	0.0	2.4	0.9	2.0	-1.3	0.5	0.4	-0.4	0.5	-0.9	0.4	1.6	1.1
2005	0.7	0.8	1.0	1.9	0.6	1.7	0.9	2.4	0.5	0.7	1.0	0.4	0.9	-0.1	0.6	1.2	1.3
2006	0.8	0.8	1.0	1.8	0.8	1.5	0.8	2.7	1.0	0.8	1.2	0.7	1.0	0.1	0.3	1.0	1.3
2001-06	0.5	0.1	0.8	1.9	0.7	2.1	1.2	2.9	0.4	0.4	0.6	0.5	0.7	0.2	0.1	1.2	1.3

(¹) 1961-91 D_90.

(²) Euro area; 1961-91 including D_90.

Table 2 (continued)

(annual percentage change)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-15 ⁽¹⁾	EU-25	BG	RO	TR	HR	US	JP
1961-70	:	:	:	:	:	:	:	0.7	0.3	0.3	:	:	:	:	:	2.0	1.4
1971-80	:	:	:	:	:	:	:	0.8	0.2	0.3	:	:	:	1.8	:	2.1	0.7
1981	:	:	:	:	:	:	:	0.2	-3.3	-0.9	:	:	:	0.9	:	0.9	0.8
1982	:	:	:	:	:	:	:	-0.2	-1.9	-0.9	:	:	:	1.0	:	-1.2	0.8
1983	:	:	:	:	:	:	:	0.2	-0.2	-0.4	:	:	:	1.0	:	1.0	1.5
1984	:	:	:	:	:	:	:	0.8	2.2	0.4	:	:	:	1.5	:	4.4	0.3
1985	:	:	:	:	:	:	:	1.0	1.0	0.7	:	:	:	1.7	:	2.3	0.6
1986	:	:	:	:	:	:	:	0.6	0.3	1.0	:	:	:	1.8	:	1.7	0.5
1987	:	:	:	:	:	:	:	0.8	2.2	1.6	:	:	:	2.3	:	2.8	0.4
1988	:	:	:	:	:	:	:	1.4	3.6	1.8	:	:	:	1.5	:	2.9	1.2
1989	:	:	:	:	:	:	:	1.5	2.8	1.9	:	:	:	2.0	:	2.3	1.5
1990	:	:	:	:	:	:	:	0.9	0.4	1.7	:	:	:	1.8	:	1.2	1.7
1981-90	:	:	:	:	:	:	:	0.7	0.7	0.7	:	:	:	1.5	:	1.8	0.9
1991	-0.8	2.4	:	1.9	:	:	:	-1.5	-3.2	0.4	:	-13.0	-0.5	0.6	:	-1.0	2.0
1992	-7.3	-2.2	:	1.3	:	:	:	-4.5	-2.9	-1.3	:	-8.1	-3.0	0.5	:	0.1	1.1
1993	-6.9	-4.2	-6.3	0.9	-2.4	:	:	-5.2	-0.8	-1.6	:	-11.6	-3.8	-0.2	:	1.9	0.4
1994	-10.1	-5.8	-2.0	0.5	1.0	:	:	-0.9	0.8	-0.1	:	0.6	-0.5	2.4	:	2.2	0.1
1995	-10.4	-1.9	-3.4	3.2	1.8	:	0.2	1.5	0.9	0.7	:	1.3	-5.2	3.7	:	2.1	0.1
1996	-1.9	0.9	-0.5	1.5	1.9	-1.5	2.3	-0.8	1.6	0.6	0.7	0.1	-1.2	2.1	:	1.7	0.4
1997	4.4	0.6	0.1	-0.1	2.8	-0.7	-1.2	-1.3	1.8	0.9	1.0	-3.9	-3.8	-2.5	:	2.1	1.0
1998	-0.3	-0.8	1.8	0.5	2.3	0.1	-0.4	1.5	1.2	1.8	1.7	-0.2	-2.3	2.8	:	2.2	-0.7
1999	-1.8	-2.2	3.2	-0.4	-2.7	1.1	-2.7	2.1	1.5	1.8	1.1	-2.1	-4.5	2.1	:	2.0	-0.8
2000	-2.9	-4.0	1.0	2.3	-2.3	3.2	-1.8	2.4	1.4	2.0	1.5	-3.5	2.5	-0.4	:	2.0	-0.1
1991-2000	-3.9	-1.7	:	1.1	:	:	:	-0.7	0.2	0.5	:	-3.1	-2.3	1.1	:	1.5	0.4
2001	2.2	-3.3	0.4	2.1	-0.6	0.5	0.6	1.9	0.7	1.2	1.0	-0.4	-0.8	-1.0	0.5	-0.1	-0.6
2002	1.6	4.0	0.7	-0.7	-2.2	-0.4	-0.5	0.2	0.2	0.5	0.3	0.8	-2.7	-0.8	0.8	-0.9	-1.4
2003	1.7	2.3	2.5	-1.0	-1.2	-0.3	1.7	-0.2	0.9	0.3	0.3	3.5	-0.1	-1.0	2.5	0.0	-0.2
2004	0.8	1.6	0.5	0.6	-0.2	0.2	-0.1	-0.5	0.7	0.5	0.4	1.5	-0.1	2.0	0.8	1.0	0.9
2005	0.6	1.1	0.5	0.3	0.7	0.4	0.6	0.4	0.5	0.8	0.8	2.0	-0.2	3.0	1.0	0.9	0.3
2006	0.6	0.9	0.6	0.8	1.2	0.4	0.9	1.0	0.5	0.9	0.9	1.0	-0.2	2.9	1.1	0.8	0.2
2001-06	1.2	1.1	0.9	0.3	-0.4	0.1	0.5	0.4	0.6	0.7	0.6	1.4	-0.7	0.8	1.1	0.3	-0.1

⁽¹⁾ Former EU-15; 1961-91 including D_90.

Table 3

**Population and labour market
Unemployment rate; total
Member States: Eurostat definition**

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1960-70	1.9	0.6	5.0	0.9	1.8	5.4	4.9	0.0	0.9	2.1	2.4	2.2	2.2	:	1.1	:	:
1971-80	4.6	2.2	2.2	2.8	4.1	7.7	6.1	0.6	4.3	1.4	5.1	4.0	3.8	:	3.6	:	:
1981	9.4	3.9	4.0	11.2	7.1	10.8	7.4	2.4	8.6	1.5	7.3	4.9	6.7	:	7.9	:	:
1982	11.0	5.6	5.8	13.0	7.7	12.5	8.0	2.4	11.5	2.4	7.2	5.4	7.9	:	8.4	:	:
1983	10.7	6.9	7.1	14.1	7.7	13.9	7.4	3.4	9.2	3.0	8.2	5.5	8.3	:	8.4	:	:
1984	10.8	7.1	7.2	16.5	9.2	15.5	7.9	3.0	8.9	2.9	8.9	5.2	9.0	:	7.9	:	:
1985	10.1	7.2	7.0	17.7	9.6	16.8	8.2	2.9	7.9	3.1	9.1	4.9	9.3	:	6.7	:	:
1986	10.0	6.6	6.6	17.3	9.8	16.8	8.9	2.6	7.8	3.3	8.8	5.2	9.2	:	5.0	:	:
1987	9.8	6.4	6.7	16.8	9.9	16.6	9.6	2.5	7.7	3.5	7.2	4.8	9.2	:	5.0	:	:
1988	8.8	6.3	6.8	15.9	9.4	16.2	9.7	2.0	7.2	3.3	5.8	4.2	8.9	:	5.7	:	:
1989	7.4	5.6	6.7	13.9	8.9	14.7	9.7	1.8	6.6	2.9	5.2	3.1	8.2	:	6.8	:	:
1990	6.6	4.8	6.4	13.1	8.5	13.4	8.9	1.7	5.8	3.1	4.8	3.2	7.6	:	7.2	0.6	:
1981-90	9.5	6.0	6.4	15.0	8.8	14.7	8.6	2.5	8.1	2.9	7.3	4.6	8.4	:	6.9	:	:
1991	4.2												7.5				
1991	6.4	5.4	7.1	13.2	9.0	14.7	8.5	1.6	5.5	3.4	4.2	6.6	7.8	:	7.9	1.5	:
1992	7.1	6.4	7.9	14.9	9.9	15.4	8.7	2.1	5.3	3.4	4.3	11.7	8.8	:	8.6	3.7	:
1993	8.6	7.7	8.6	18.6	11.1	15.6	10.1	2.6	6.2	4.0	5.6	16.3	10.1	:	9.6	6.6	:
1994	9.8	8.2	8.9	19.8	11.7	14.3	11.0	3.2	6.8	3.8	6.9	16.6	10.8	:	7.7	7.6	:
1995	9.7	8.0	9.2	18.8	11.1	12.3	11.5	2.9	6.6	3.9	7.3	15.4	10.6	3.9	6.7	9.7	3.4
1996	9.5	8.7	9.6	18.1	11.6	11.7	11.5	2.9	6.0	4.4	7.3	14.6	10.8	3.8	6.3	10.0	4.5
1997	9.2	9.7	9.8	17.0	11.5	9.9	11.6	2.7	4.9	4.4	6.8	12.7	10.8	4.7	5.2	9.6	4.9
1998	9.3	9.1	10.9	15.2	11.1	7.5	11.7	2.7	3.8	4.5	5.1	11.4	10.2	6.4	4.9	9.2	5.0
1999	8.6	8.4	11.8	12.8	10.5	5.6	11.3	2.4	3.2	3.9	4.5	10.2	9.4	8.6	4.8	11.3	5.3
2000	6.9	7.8	11.0	11.3	9.1	4.3	10.4	2.3	2.9	3.7	4.1	9.8	8.4	8.7	4.4	12.5	5.2
1991-2000	8.5	7.9	9.5	16.0	10.7	11.1	10.6	2.5	5.1	3.9	5.6	12.5	9.8	:	6.6	8.2	:
2001	6.7	7.8	10.4	10.6	8.4	3.9	9.4	2.1	2.5	3.6	4.0	9.1	8.0	8.0	4.3	11.8	4.4
2002	7.3	8.7	10.0	11.3	8.9	4.3	9.0	2.8	2.7	4.2	5.0	9.1	8.4	7.3	4.6	9.5	3.9
2003	8.0	9.6	9.3	11.3	9.4	4.6	8.6	3.7	3.8	4.3	6.3	9.0	8.9	7.8	5.6	10.1	4.4
2004	8.2	9.7	8.5	11.1	9.6	4.4	8.3	4.3	4.6	4.2	6.3	8.8	8.9	8.3	5.8	9.7	4.2
2005	8.1	10.0	9.0	10.8	9.5	4.4	8.1	4.6	5.0	3.9	6.2	8.6	8.9	8.2	5.3	9.4	4.0
2006	7.9	9.6	9.0	10.6	9.3	4.3	8.0	4.4	4.4	3.4	6.1	8.3	8.6	8.0	4.9	9.1	3.7
2001-06	7.7	9.2	9.4	11.0	9.2	4.3	8.6	3.7	3.8	3.9	5.7	8.8	8.6	7.9	5.1	9.9	4.1

(1) 1960-91 D₉₀.(2) Euro area; 1960-91 including D₉₀.

Table 3 (continued)

(%)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽¹⁾	EUR-15 ⁽²⁾	BG	RO	TR	HR	US	JP
1960-70	:	:	:	:	:	:	:	1.7	1.7	:	2.0	:	:	:	:	4.8	1.3
1971-80	:	:	:	:	:	:	:	2.1	3.8	:	3.8	:	:	:	:	6.4	1.8
1981	:	:	:	:	:	:	:	2.5	8.8	:	7.0	:	:	6.7	:	7.6	2.2
1982	:	:	:	:	:	:	:	3.2	10.1	:	8.2	:	:	6.6	:	9.7	2.4
1983	:	:	:	:	:	:	:	3.7	10.8	:	8.6	:	:	7.2	:	9.6	2.6
1984	:	:	:	:	:	:	:	3.3	10.9	:	9.2	:	:	7.1	:	7.5	2.7
1985	:	:	:	:	:	:	:	2.9	11.2	:	9.4	:	:	6.7	:	7.2	2.6
1986	:	:	:	:	:	:	:	2.7	11.2	:	9.3	:	:	7.4	:	7.0	2.8
1987	:	:	:	:	:	:	:	2.2	10.3	:	9.2	:	:	7.8	:	6.2	2.8
1988	:	:	:	:	:	:	:	1.8	8.5	:	8.6	:	:	7.9	:	5.5	2.3
1989	:	:	:	:	:	:	:	1.6	7.1	:	7.8	:	:	8.1	:	5.3	2.3
1990	0.5	:	:	5.1	:	:	:	1.7	6.9	:	7.3	:	:	7.6	:	5.5	2.1
1981-90	:	:	:	:	:	:	:	2.6	9.6	:	8.4	:	:	7.3	:	7.1	2.5
1991											7.6						
1991	0.6	5.7	:	4.7	:	:	:	3.1	8.6	:	7.8	5.1	0.0	7.7	:	6.7	2.1
1992	3.9	6.9	9.8	5.2	13.7	:	:	5.6	9.8	:	8.9	11.5	5.1	8.0	:	7.4	2.2
1993	8.7	10.4	11.8	5.7	14.5	:	:	9.1	10.0	:	10.1	13.9	7.2	8.0	:	6.8	2.5
1994	16.7	9.9	10.5	5.7	14.6	:	13.7	9.4	9.3	:	10.5	12.3	7.6	8.0	:	6.1	2.9
1995	18.9	12.7	10.0	5.2	13.4	7.0	13.3	8.8	8.5	10.6	10.1	9.7	6.1	7.1	:	5.6	3.1
1996	20.6	13.6	9.6	5.5	12.2	6.9	11.6	9.6	8.0	10.5	10.2	9.3	3.1	6.2	:	5.4	3.4
1997	15.2	12.5	9.0	6.5	10.9	6.9	12.3	9.9	6.9	10.1	10.0	12.3	5.3	6.5	:	4.9	3.4
1998	14.3	13.2	8.4	6.9	10.2	7.4	13.0	8.2	6.2	9.4	9.4	10.6	5.4	6.7	:	4.5	4.1
1999	14.0	13.7	6.9	7.4	13.4	7.2	16.7	6.7	5.9	9.2	8.6	12.2	6.2	7.6	:	4.2	4.7
2000	13.7	16.4	6.3	7.0	16.4	6.6	18.7	5.6	5.4	8.7	7.8	16.4	6.8	6.5	:	4.0	4.7
1991-2000	12.7	11.5	:	6.0	:	:	:	7.6	7.9	:	9.3	11.3	5.3	7.2	:	5.6	3.3
2001	12.9	16.4	5.6	6.7	18.5	5.8	19.4	4.9	5.0	8.5	7.4	19.2	6.6	8.3	:	4.8	5.0
2002	12.6	13.5	5.6	7.5	19.8	6.1	18.7	4.9	5.1	8.9	7.7	17.8	7.5	10.3	:	5.8	5.4
2003	10.5	12.7	5.8	8.2	19.2	6.5	17.5	5.6	5.0	9.1	8.1	13.6	6.6	10.6	:	6.0	5.3
2004	9.9	11.4	5.8	8.6	19.0	6.3	18.4	6.3	4.9	9.1	8.1	12.2	6.6	10.5	:	5.5	4.8
2005	9.7	10.6	5.9	8.5	18.7	6.1	17.9	5.8	4.9	9.1	8.1	10.7	6.6	10.6	:	5.5	4.7
2006	9.4	9.9	6.0	8.4	18.1	5.8	17.2	5.0	4.9	8.8	7.9	10.0	6.7	10.3	:	5.4	4.6
2001-06	10.8	12.4	5.8	8.0	18.9	6.1	18.2	5.4	5.0	8.9	7.9	13.9	6.8	10.1	:	5.5	5.0

⁽¹⁾ 1960-91 including D_90.⁽²⁾ Former EU-15; 1960-91 including D_90.

Table 4

Output
Gross domestic product at current market prices

(national currency)

	BE		DE (1)		EL		ES		FR		IE		IT		LU		NL		AT		PT		FI		EUR-12 (2)		CZ		DK		EE		CY	
	Mrd EUR- BEF	Mrd EUR- DEM	Mrd EUR- GRD	Mrd EUR- ESP	Mrd EUR- FRF	Mrd EUR- IEP	Mrd EUR- ITL	Mrd EUR- LUF	Mrd EUR- NLG	Mrd EUR- ATS	Mrd EUR- PTE	Mrd EUR- FIM	Mrd EUR	Mrd EUR	Mrd CZK	Mrd DKK	Mrd EEK	Mrd CYP																
1960	14.1	158	0.3	4.3	47	0.9	13	0.74	21.3	12.2	0.4	2.8	220										42								0.092			
1965	20.9	239	0.6	8.8	77	1.3	22	1.00	34.6	18.5	0.6	4.6	357										72								0.136			
1970	31.8	352	1.0	16.5	124	2.2	35	1.57	58.1	28.2	1.1	7.8	581										122								0.227			
1975	57.5	536	2.3	38.0	230	5.3	72	2.47	105.4	49.2	2.2	17.8	1 113										223								0.257			
1980	88.3	767	6.1	95.3	439	13.0	199	3.78	160.7	74.7	7.5	32.8	1 954										386								0.760			
1981	92.5	800	7.3	107.0	494	15.8	238	4.03	168.5	79.6	8.9	37.1	2 118										422								0.8776			
1982	100.1	832	9.2	123.0	565	18.6	281	4.52	175.4	85.5	11.0	41.7	2 325										482								1.025			
1983	106.1	872	11.0	140.1	625	20.6	327	4.97	182.2	90.9	13.7	46.5	2 498										532								1.137			
1984	114.6	915	13.6	158.1	680	22.8	375	5.51	190.5	95.5	16.7	52.1	2 710										584								1.337			
1985	121.9	955	16.6	175.6	727	24.8	420	5.84	199.1	100.8	20.9	56.7	2 893										634								1.482			
1986	127.6	1 010	19.9	201.1	783	26.3	465	6.42	205.5	105.9	26.2	60.5	3 138										686								1.600			
1987	132.7	1 043	22.4	224.8	826	28.1	509	6.68	207.8	109.9	30.7	65.7	3 312										721								1.781			
1988	142.0	1 099	27.3	250.3	890	30.3	564	7.44	216.0	118.4	36.7	74.6	3 552										748								1.992			
1989	154.0	1 168	32.4	280.5	956	33.9	618	8.50	229.0	126.5	43.2	83.1	3 884										789								2.256			
1990	163.3	1 275	39.1	312.4	1 009	36.3	682	9.18	243.6	136.3	50.8	88.1	4 236										825								2.556			
1991	1 387												4 528																					
1991	171.1	1 502	48.3	342.6	1 049	37.7	744	10.15	256.5	146.6	58.4	84.0	4 638										858								2.675			
1992	179.6	1 613	55.8	369.0	1 086	40.0	784	10.73	266.5	155.5	65.8	82.0	4 888										888								3.103			
1993	185.0	1 654	62.9	381.7	1 102	43.2	807	11.84	273.2	160.3	69.2	83.1	4 940										900								3.285			
1994	195.0	1 736	71.3	406.0	1 143	46.5	854	12.73	287.5	168.9	74.9	87.9	5 159										966								3.663			
1995	202.1	1 801	79.9	437.8	1 182	52.5	923	13.21	302.2	175.5	80.8	95.3	5 403										1 010								4.020			
1996	206.9	1 834	87.9	464.3	1 212	57.9	982	13.93	315.1	181.9	86.2	98.6	5 636										1 061								4.168			
1997	217.1	1 872	97.2	494.1	1 251	67.0	1 026	15.49	333.7	185.1	93.0	107.0	5 758										1 116								4.380			
1998	225.2	1 929	105.8	528.0	1 306	77.6	1 073	17.01	354.2	192.4	101.0	116.3	5 994										1 155								4.704			
1999	235.7	1 979	112.7	565.4	1 355	89.5	1 108	18.74	374.1	200.0	108.0	120.0	6 271										1 208								5.037			
2000	247.9	2 030	121.7	610.5	1 420	103.1	1 167	21.28	402.3	210.4	115.5	130.1	6 581										1 279								5.525			
2001	254.2	2 074	131.3	653.9	1 476	115.4	1 219	22.02	429.3	215.6	122.5	135.5	6 848										1 326								5.877			
2002	261.1	2 107	141.5	698.6	1 527	128.0	1 260	22.81	445.2	221.0	128.6	139.8	7 081										1 361								6.161			
2003	269.5	2 128	153.0	744.8	1 557	134.8	1 301	23.96	454.3	226.1	130.0	142.5	7 265										1 398								6.614			
2004	281.8	2 190	164.6	793.1	1 625	146.1	1 355	25.47	464.8	233.0	134.2	147.3	7 561										1 456								7.049			
2005	294.8	2 247	175.3	842.5	1 689	157.0	1 411	27.00	476.1	241.3	140.2	153.5	7 854										1 520								7.523			
2006	308.3	2 306	186.8	894.6	1 756	168.2	1 466	28.78	492.4	250.1	147.1	160.0	8 165										1 582								8.031			

(1) 1960-91 D_90.

(2) 1960-98 ECU; euro area; 1960-91 including D_90.

Table 4 (continued)

(national currency)

	LV		LT		HU		MT		PL		SI		SK		SE		UK		EU-25 ⁽¹⁾		EUR-15 ⁽²⁾		BG		RO		TR		HR		US		JP				
	Mio LVL	Mrd LTL	Mrd HUF	Mrd MTL	Mrd PLN	Mrd SIT	Mrd SKK	Mrd SEK	Mrd GBP	Mrd EUR	Mrd EUR	Mrd EUR	Mrd BGN	Mio BGN	Mrd ROL	1 000 Mrd TRL	Mrd HRK	Mrd USD	Mrd JPY	Mrd USD	Mrd EUR	Mrd EUR	Mrd EUR	Mrd EUR	Mrd BGN	Mrd ROL	1 000 Mrd TRL	Mrd HRK	Mrd USD	Mrd JPY							
1960	:	:	:	0.052	:	:	:	75	26	:	:	308	:	:	:	0	:	:	517	16 063	:	:	:	:	:	:	:	:	:	:	:	:					
1965	:	:	:	0.056	:	:	:	118	36	:	:	481	:	:	:	0	:	:	708	32 975	:	:	:	:	:	:	:	:	:	:	:	:	:				
1970	:	:	333	0.102	:	:	:	180	52	:	:	751	:	:	:	0	:	:	1 025	73 587	:	:	:	:	:	:	:	:	:	:	:	:	:				
1975	:	:	483	0.178	:	:	:	314	106	:	:	1 394	:	:	:	1	:	:	1 623	148 817	:	:	:	:	:	:	:	:	:	:	:	:	:	:			
1980	:	:	721	0.420	0	:	:	549	231	:	:	2 482	:	:	5	:	:	2 766	240 969	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:			
1981	:	:	780	0.467	0	:	:	599	253	:	:	2 735	:	:	8	:	:	3 102	259 034	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:		
1982	:	:	848	0.494	1	:	:	656	277	:	:	2 985	:	:	10	:	:	3 226	271 888	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:		
1983	:	:	896	0.490	1	:	:	736	303	:	:	3 187	:	:	14	:	:	3 505	282 803	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
1984	:	:	979	0.494	1	:	:	826	324	:	:	3 458	:	:	22	:	:	3 898	300 941	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
1985	:	:	1 034	0.510	1	:	:	900	355	:	:	3 712	:	:	35	:	:	4 183	323 541	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
1986	:	:	1 089	0.548	1	:	:	985	381	:	:	3 933	:	:	51	:	:	4 423	338 674	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
1987	:	:	1 226	0.588	2	:	:	1 068	420	:	:	4 145	:	:	75	:	:	4 697	352 530	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
1988	:	:	1 440	0.649	3	:	:	1 165	468	:	:	4 512	:	:	129	:	:	5 058	379 250	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
1989	:	:	1 723	0.718	12	:	:	1 293	514	:	:	4 928	:	:	227	:	:	5 435	408 535	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
1990	69	0.13	2 089	0.787	60	197	278	1 421	557	:	:	5 311	45	:	393	0.3	:	5 751	440 125	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
1991												5 677																									
1991	159	0.41	2 498	0.864	87	349	320	1 532	586	:	:	5 787	136	:	630	0.4	:	5 940	468 234	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
1992	1 113	3.41	2 943	0.937	123	1 018	332	1 529	611	:	:	6 032	201	:	1 093	2.6	:	6 280	480 492	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
1993	1 625	11.59	3 548	1.006	167	1 435	411	1 544	642	:	:	6 229	299	:	1 982	41.8	:	6 598	484 234	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
1994	2 262	16.90	4 365	1.101	241	1 853	496	1 646	680	:	:	6 548	526	:	3 868	87.4	:	7 011	490 005	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
1995	2 580	25.57	5 614	1.227	330	2 373	577	1 770	718	:	:	6 828	880	:	7 762	98.4	:	7 336	496 922	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
1996	3 076	32.29	6 894	1.286	414	2 728	638	1 815	763	:	:	7 192	1 761	:	109	108.0	:	7 756	509 984	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
1997	3 563	39.38	8 541	1.379	504	3 110	713	1 888	810	:	:	7 587	17 433	:	253	123.8	:	8 244	520 937	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
1998	3 903	44.38	10 087	1.459	589	3 465	781	1 972	859	:	:	7 956	22 421	:	374	137.6	:	8 687	514 595	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
1999	4 224	43.36	11 393	1.559	653	3 875	844	2 077	903	:	:	8 369	23 790	:	546	141.6	:	9 209	507 224	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
2000	4 686	45.53	13 172	1.685	724	4 252	934	2 195	951	:	:	8 947	26 753	:	804	152.5	:	9 757	511 462	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
2001	5 168	48.38	14 850	1.731	761	4 762	1 010	2 266	994	:	:	9 292	29 709	:	1 168	165.6	:	10 068	505 847	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
2002	5 691	51.64	16 740	1.767	781	5 314	1 099	2 347	1 044	:	:	9 627	32 335	:	1 513	179.4	:	10 426	498 276	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
2003	6 322	56.18	18 568	1.846	815	5 747	1 196	2 439	1 100	:	:	9 752	34 410	:	1 891	193.1	:	10 943	497 711	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
2004	7 252	61.19	20 489	1.927	886	6 221	1 304	2 558	1 163	:	:	10 230	38 442	:	2 297	205.3	:	11 680	504 864	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
2005	8 260	67.04	22 157	2.003	956	6 666	1 394	2 690	1 224	:	:	10 652	42 736	:	2 681	219.9	:	12 329	506 961	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
2006	9 265	73.36	23 899	2.082	1 033	7 137	1 490	2 821	1 286	:	:	11 105	46 630	:	3 055	237.9	:	12 958	515 499	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:

⁽¹⁾ 1960–98 ECU; 1960–91 including D_90.⁽²⁾ 1960–98 ECU; former EU-15; 1960–91 including D_90.

Table 5

Output
Gross domestic product at current market prices

(Mrd EUR (1))

	BE	DE (2)	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 (3)	CZ	DK	EE	CY
1960	10.7	70	3.5	11.4	59	1.8	38	0.57	11.7	6.1	2.8	4.9	220	:	5.8	:	0.24
1965	15.8	109	6.2	22.9	95	2.7	63	0.75	19.7	9.1	4.2	7.9	357	:	9.7	:	0.35
1970	25.1	184	11.0	38.5	144	4.2	105	1.24	34.6	14.6	7.2	10.9	581	:	15.9	:	0.53
1975	50.9	344	19.6	89.9	284	7.4	172	2.19	74.1	31.4	14.3	23.3	1 113	:	31.4	:	0.56
1980	87.7	594	35.0	159.1	491	15.2	323	3.76	128.3	57.2	21.5	37.7	1 954	:	49.3	:	1.64
1981	90.4	623	40.4	173.3	536	18.0	365	3.94	133.8	61.8	26.1	46.1	2 118	:	53.3	:	1.92
1982	90.4	685	47.9	190.3	576	21.3	411	4.08	147.8	70.4	28.2	52.6	2 325	:	59.1	:	2.23
1983	94.2	751	47.9	182.8	606	22.7	469	4.41	158.2	78.3	27.8	55.9	2 498	:	65.4	:	2.61
1984	101.8	800	52.6	207.8	649	24.8	525	4.89	166.4	83.5	29.0	65.5	2 710	:	71.6	:	3.21
1985	109.5	839	53.6	226.3	702	27.3	562	5.25	174.7	88.6	32.2	71.8	2 893	:	79.1	:	2.74
1986	117.5	928	49.3	243.4	755	28.2	616	5.91	188.6	97.3	35.8	72.2	3 138	:	86.4	:	2.90
1987	124.4	985	48.9	263.1	782	28.6	659	6.26	196.2	103.8	37.9	77.1	3 312	:	91.4	:	2.84
1988	131.9	1 036	55.4	302.7	830	30.8	711	6.91	203.9	111.7	43.3	89.7	3 552	:	94.1	:	3.64
1989	143.2	1 104	61.7	357.9	893	34.3	792	7.91	216.1	119.5	50.0	104.6	3 884	:	98.0	:	3.81
1990	155.3	1 215	66.2	401.7	958	37.2	868	8.73	232.1	129.9	56.3	107.9	4 236	24.70	105.0	:	4.39
1991		1 323											4 528				
1991	163.5	1 433	73.1	443.7	987	38.6	940	9.70	244.6	139.8	65.5	99.9	4 638	23.14	108.4	:	4.67
1992	174.2	1 562	77.0	463.3	1 041	41.4	951	10.40	258.1	150.5	75.5	84.0	4 888	24.30	113.7	:	5.32
1993	184.4	1 671	79.8	425.9	1 089	42.6	849	11.80	276.8	161.9	73.6	73.8	4 940	31.71	118.5	1.48	5.64
1994	198.4	1 764	84.4	425.1	1 139	46.1	863	12.95	293.6	171.7	76.3	84.4	5 159	36.78	128.0	2.04	6.27
1995	211.5	1 880	89.9	446.9	1 188	50.7	839	13.83	317.3	183.2	82.6	99.2	5 403	42.27	137.8	2.87	6.79
1996	212.4	1 878	98.0	480.5	1 225	57.5	971	14.30	324.5	186.3	88.3	100.6	5 636	48.19	144.2	3.66	7.04
1997	216.1	1 863	107.1	495.6	1 241	70.6	1 030	15.42	332.7	184.3	93.9	108.2	5 758	49.68	149.2	4.35	7.52
1998	223.7	1 916	109.0	525.5	1 298	77.7	1 069	16.89	351.6	191.1	100.4	115.6	5 994	54.44	154.1	4.97	8.12
1999	235.7	1 979	117.9	565.4	1 355	89.5	1 108	18.74	374.1	200.0	108.0	120.0	6 271	55.35	162.4	5.22	8.70
2000	247.9	2 030	123.2	610.5	1 420	103.1	1 167	21.28	402.3	210.4	115.5	130.1	6 581	60.40	171.6	5.93	9.63
2001	254.2	2 074	131.3	653.9	1 476	115.4	1 219	22.02	429.3	215.6	122.5	135.5	6 848	67.96	177.9	6.67	10.20
2002	261.1	2 107	141.5	698.6	1 527	128.0	1 260	22.81	445.2	221.0	128.6	139.8	7 081	78.39	183.1	7.47	10.71
2003	269.5	2 128	153.0	744.8	1 557	134.8	1 301	23.96	454.3	226.1	130.0	142.5	7 265	79.52	188.2	8.04	11.32
2004	281.8	2 190	164.6	793.1	1 625	146.1	1 355	25.47	464.8	233.0	134.2	147.3	7 561	86.03	195.7	8.84	12.12
2005	294.8	2 247	175.3	842.5	1 689	157.0	1 411	27.00	476.1	241.3	140.2	153.5	7 854	92.53	203.8	9.73	13.06
2006	308.3	2 306	186.8	894.6	1 756	168.2	1 466	28.78	492.4	250.1	147.1	160.0	8 165	97.71	212.0	10.65	13.94

(1) 1960-98 ECU.

(2) 1960-91 D_90.

(3) Euro area; 1960-91 including D_90.

Table 5 (continued)

(Mrd EUR⁽¹⁾)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽²⁾	EUR-15 ⁽²⁾	BG	RO	TR	HR	US	JP
1960	:	:	:	0.136	:	:	:	13.8	68	:	308	:	:	12.9	:	489	42
1965	:	:	:	0.147	:	:	:	21.3	94	:	481	:	:	11.2	:	662	86
1970	:	:	:	0.238	:	:	:	34.0	121	:	751	:	:	18.0	:	1 003	200
1975	:	:	:	0.375	:	:	:	61.1	189	:	1 394	:	:	37.6	:	1 308	413
1980	:	:	16.92	0.929	42.1	:	:	93.3	385	:	2 482	:	26.2	52.5	:	1 987	765
1981	:	:	20.95	1.116	26.1	:	:	106.4	457	:	2 735	:	38.3	65.5	:	2 779	1 056
1982	:	:	23.92	1.242	58.9	:	:	107.8	494	:	2 985	:	50.1	66.7	:	3 293	1 116
1983	:	:	23.60	1.368	87.3	:	:	107.9	516	:	3 187	:	54.1	74.5	:	3 937	1 338
1984	:	:	25.81	1.511	98.6	:	:	126.9	549	:	3 458	:	54.1	84.6	:	4 941	1 609
1985	:	:	46.42	1.228	164.1	:	:	138.0	603	:	3 712	:	107.6	75.7	:	5 481	1 792
1986	:	:	24.92	1.306	79.6	:	:	140.8	568	:	3 933	:	54.3	70.7	:	4 494	2 053
1987	:	:	16.97	1.308	42.7	:	:	146.1	596	:	4 145	:	37.6	66.9	:	4 068	2 116
1988	:	:	17.28	1.678	42.8	:	:	160.9	705	:	4 512	:	36.2	77.5	:	4 277	2 504
1989	:	:	21.81	1.720	63.1	:	:	182.2	764	:	4 928	:	40.1	89.5	:	4 933	2 689
1990	:	:	16.01	1.949	30.5	:	:	189.0	781	:	5 311	10.04	18.5	118.1	:	4 516	2 396
1991	:	:	:	:	:	:	:	:	:	5 677	:	:	:	:	:	:	:
1991	:	:	17.57	2.161	42.9	9.45	:	204.9	836	:	5 787	4.01	15.2	122.3	:	4 794	2 812
1992	1.24	1.59	17.03	2.268	41.3	9.68	:	203.0	828	:	6 032	3.93	8.9	122.4	:	4 838	2 926
1993	2.05	2.28	32.97	2.251	78.5	10.83	11.42	169.3	823	6 229	6 050	9.25	22.6	153.9	9.99	5 634	3 721
1994	3.41	3.57	34.91	2.455	89.1	12.13	13.00	179.6	877	6 548	6 344	8.16	25.2	108.9	12.26	5 894	4 039
1995	3.74	4.89	34.12	2.658	103.9	15.32	14.83	189.7	867	6 828	6 597	10.02	27.1	129.6	14.38	5 608	4 040
1996	4.40	6.36	35.58	2.810	121.1	15.88	16.40	213.2	937	7 192	6 931	7.82	27.8	143.1	15.65	6 108	3 693
1997	5.40	8.68	40.35	3.153	135.7	17.18	18.70	218.3	1 170	7 587	7 296	9.17	31.2	167.8	17.74	7 269	3 800
1998	5.91	9.90	41.93	3.353	150.5	18.63	19.76	221.2	1 269	7 956	7 639	11.39	37.4	177.8	19.30	7 749	3 515
1999	6.75	10.17	45.07	3.661	154.4	19.92	19.13	235.8	1 371	8 369	8 040	12.16	33.4	173.1	18.68	8 640	4 181
2000	8.38	12.32	50.65	4.169	180.6	20.58	21.93	259.9	1 560	8 947	8 572	13.70	40.3	216.7	19.98	10 564	5 142
2001	9.23	13.50	57.87	4.294	207.1	21.85	23.32	244.9	1 599	9 292	8 870	15.25	44.9	161.8	22.17	11 241	4 654
2002	9.80	14.93	68.90	4.322	202.5	23.52	25.73	256.2	1 660	9 627	9 181	16.59	48.4	192.8	24.22	11 026	4 221
2003	9.87	16.27	73.21	4.331	185.2	24.58	28.82	267.3	1 589	9 752	9 310	17.66	50.4	212.3	25.53	9 673	3 800
2004	10.96	17.72	81.31	4.511	194.4	26.01	32.47	280.1	1 719	10 230	9 756	19.68	56.2	245.5	27.38	9 511	3 759
2005	12.31	19.42	89.87	4.667	218.2	27.81	34.67	297.3	1 775	10 652	10 130	21.85	61.7	258.4	28.80	9 959	3 786
2006	13.83	21.25	96.94	4.845	232.3	29.78	37.03	311.6	1 858	11 105	10 547	23.84	65.6	272.5	30.56	10 425	3 962

⁽¹⁾ 1960-98 ECU.⁽²⁾ 1960-91 including D_90.⁽³⁾ Former EU-15; 1960-91 including D_90.

Table 6

Output
Gross domestic product at current market prices

(Mrd PPS)

	BE	DE (1)	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 (2)	CZ	DK	EE	CY
1960	9.3	72	4.3	18.7	48	1.9	45	0.46	13.9	7.2	3.7	4.1	229	:	6.0	:	:
1965	14.5	112	8.1	34.4	78	2.8	71	0.67	21.5	10.8	6.2	6.3	366	:	9.5	:	:
1970	22.7	169	14.7	57.7	126	4.3	119	0.99	34.5	17.3	10.6	9.8	586	:	14.3	:	:
1975	43.2	301	30.0	119.4	238	8.8	220	1.82	64.6	33.5	20.9	19.8	1 101	:	24.7	:	:
1980	77.4	544	56.5	200.2	427	16.8	416	3.12	112.8	60.4	41.1	35.1	1 990	:	42.5	:	:
1981	85.0	599	61.2	220.1	476	19.1	462	3.41	123.5	66.4	45.9	39.5	2 201	:	45.9	:	:
1982	92.4	643	65.5	240.9	528	21.1	503	3.73	131.8	73.3	50.7	44.1	2 397	:	51.0	:	:
1983	97.3	685	68.0	257.3	562	22.1	534	4.03	140.8	79.2	53.2	47.5	2 551	:	54.4	:	:
1984	105.6	746	73.4	277.4	605	24.5	581	4.54	153.8	84.2	55.3	52.0	2 764	:	59.7	:	:
1985	112.5	799	78.9	297.4	643	26.4	627	4.89	165.4	90.4	59.5	56.3	2 961	:	64.7	:	:
1986	118.1	844	81.7	316.5	679	29.3	663	5.55	175.8	95.1	63.9	59.4	3 129	:	69.4	:	:
1987	123.7	877	81.8	342.2	713	29.3	699	5.91	183.4	99.0	69.6	63.4	3 288	:	71.1	:	:
1988	135.3	950	89.1	375.4	779	31.9	759	6.69	197.2	109.2	78.1	69.4	3 579	:	75.1	:	:
1989	147.6	1 040	97.5	414.9	855	35.7	823	7.74	217.8	119.2	87.7	76.7	3 923	:	79.3	:	:
1990	159.3	1 151	102.0	450.6	919	40.2	878	8.53	237.2	130.5	95.3	79.9	4 251	106.9	83.8	:	6.12
1991		1 271											4 581				
1991	170.4	1 376	110.5	485.5	975	43.1	935	9.74	255.3	142.0	104.6	78.6	4 686	99.2	89.1	:	6.48
1992	178.3	1 450	114.7	504.9	1 019	45.9	971	10.22	266.9	149.8	108.9	77.9	4 898	101.7	92.3	:	7.33
1993	177.8	1 444	113.6	503.2	1 017	47.4	969	10.72	270.5	151.3	107.4	77.5	4 890	102.5	92.9	7.37	7.43
1994	187.3	1 508	118.2	525.6	1 059	51.2	1 011	11.36	283.9	158.5	110.7	82.2	5 107	106.9	100.0	7.40	8.03
1995	194.5	1 557	122.5	548.2	1 093	57.0	1 056	11.69	296.9	164.0	117.1	86.3	5 304	114.9	104.3	7.85	8.68
1996	201.7	1 625	128.5	578.4	1 142	62.8	1 106	12.39	313.4	173.0	123.3	91.0	5 558	123.7	111.0	8.47	9.13
1997	211.2	1 678	137.4	610.2	1 211	72.7	1 147	13.73	333.6	178.3	132.0	100.6	5 825	126.0	117.7	9.61	9.59
1998	218.7	1 733	143.6	649.4	1 271	80.2	1 209	15.19	351.4	184.9	141.0	108.1	6 105	126.6	122.2	10.28	10.22
1999	229.7	1 805	151.6	706.3	1 337	88.9	1 254	17.46	370.1	196.8	152.4	111.9	6 421	131.1	131.5	10.50	10.94
2000	247.1	1 900	163.3	755.5	1 425	99.3	1 326	19.78	399.6	211.4	163.2	122.1	6 833	137.5	139.7	11.78	12.01
2001	257.1	1 932	172.0	792.5	1 490	106.5	1 353	20.07	424.7	213.0	169.3	126.1	7 056	144.1	144.3	12.52	12.86
2002	265.9	1 973	186.9	842.5	1 546	116.7	1 374	20.66	433.5	217.6	175.4	127.4	7 279	152.1	145.3	13.44	13.08
2003	270.6	1 981	196.3	867.9	1 561	121.6	1 384	21.37	431.8	220.3	174.1	130.4	7 360	157.6	146.7	14.20	13.41
2004	283.9	2 066	208.7	911.7	1 638	131.0	1 435	22.75	448.6	229.8	180.6	137.6	7 694	167.5	153.7	15.40	14.21
2005	295.6	2 131	219.0	950.1	1 699	139.5	1 484	23.91	463.2	239.0	187.4	144.0	7 976	176.6	159.8	16.57	14.99
2006	308.6	2 205	230.1	992.5	1 768	149.1	1 537	25.21	482.8	249.1	195.3	150.6	8 294	186.9	165.8	17.92	15.89

(1) 1960-91 D.90.

(2) Euro area: 1960-91 including D.90.

Table 6 (continued)

(Mrd PPS)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽¹⁾	EUR-15 ⁽²⁾	BG	RO	TR	HR	US	JP
1960	:	:	:	:	:	:	:	9.6	63	:	308	:	:	8.3	:	285	55
1965	:	:	:	:	:	:	:	15.1	91	:	481	:	:	12.9	:	445	104
1970	:	:	:	:	:	:	:	22.8	128	:	751	:	:	21.9	:	653	218
1975	:	:	:	:	:	:	:	41.4	227	:	1 394	:	:	46.4	:	1 194	434
1980	:	:	:	:	:	:	:	68.0	381	:	2 482	:	:	80.1	:	2 203	826
1981	:	:	:	:	:	:	:	74.7	413	:	2 735	:	:	92.4	:	2 485	936
1982	:	:	:	:	:	:	:	81.8	456	:	2 985	:	:	103.5	:	2 631	1 040
1983	:	:	:	:	:	:	:	87.4	495	:	3 187	:	:	114.0	:	2 881	1 109
1984	:	:	:	:	:	:	:	96.6	538	:	3 458	:	:	128.9	:	3 275	1 212
1985	:	:	:	:	:	:	:	103.4	584	:	3 712	:	:	140.8	:	3 561	1 334
1986	:	:	:	:	:	:	:	109.6	625	:	3 933	:	:	155.3	:	3 795	1 416
1987	:	:	:	:	:	:	:	116.1	670	:	4 145	:	:	174.2	:	4 018	1 505
1988	:	:	:	:	:	:	:	124.3	734	:	4 512	:	:	185.7	:	4 369	1 678
1989	:	:	:	:	:	:	:	134.7	790	:	4 928	:	:	196.2	:	4 768	1 862
1990	19.71	30.22	80.9	:	200.0	19.84	:	142.4	833	:	5 311	:	109.1	224.3	:	5 076	2 050
1991	5 682																
1991	18.10	29.95	74.9	3.416	195.4	18.99	:	148.0	864	:	5 787	40.73	99.7	237.9	:	5 323	2 226
1992	12.66	24.30	75.6	3.685	206.4	18.50	30.37	150.5	892	:	6 032	38.92	93.7	259.8	:	5 668	2 316
1993	11.30	20.50	75.6	3.877	215.6	19.15	32.78	148.5	919	6.546	6 050	38.61	95.8	282.6	:	5 861	2 338
1994	11.78	18.87	79.4	4.182	231.6	20.59	35.52	157.9	979	6.868	6 344	40.11	101.6	272.7	:	6 223	2 412
1995	11.85	19.78	81.8	4.509	251.4	21.75	38.16	166.7	1 022	7 158	6 597	41.87	110.5	296.6	:	6 476	2 495
1996	12.70	21.39	85.6	4.842	275.2	23.28	41.83	174.5	1 087	7 537	6 931	39.18	118.6	327.8	:	6 939	2 665
1997	14.11	23.49	91.9	5.210	301.6	25.03	44.91	181.7	1 172	7 947	7 296	38.05	114.3	361.7	:	7 444	2 785
1998	15.03	25.62	98.0	5.480	321.5	26.36	47.59	188.0	1 224	8 325	7 639	40.20	110.7	379.2	:	7 890	2 801
1999	15.88	25.76	104.4	5.833	342.3	28.46	49.39	203.5	1 284	8 765	8 040	42.08	111.9	369.6	:	8 432	2 866
2000	17.37	27.82	112.7	6.324	365.3	30.07	53.40	219.3	1 380	9 346	8 572	45.45	117.3	422.3	:	8 997	3 034
2001	18.79	30.25	122.6	6.296	374.0	31.74	56.34	220.5	1 449	9 679	8 870	48.19	127.5	382.4	:	9 216	3 097
2002	20.33	33.03	130.4	6.446	382.9	33.36	60.97	225.0	1 531	10 027	9 181	50.07	136.6	415.1	:	9 614	3 161
2003	21.95	36.41	135.1	6.490	399.3	34.37	63.72	229.7	1 574	10 193	9 310	52.47	144.0	441.4	:	9 957	3 254
2004	24.16	39.94	143.7	6.714	432.7	36.59	68.42	244.0	1 664	10 705	9 756	56.69	158.0	490.5	:	10 643	3 472
2005	26.18	43.19	151.4	6.923	460.8	38.50	72.63	255.7	1 738	11 138	10 130	61.03	169.5	523.1	:	11 132	3 600
2006	28.44	46.56	159.9	7.171	490.3	40.68	77.74	267.6	1 819	11 618	10 547	64.90	181.3	560.7	:	11 658	3 747

⁽¹⁾ 1960-91 including D_90.⁽²⁾ Former EU-15; 1960-91 including D_90.

Table 7

Output
Gross domestic product at current market prices

(national currency; annual percentage change)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1961-70	8.5	8.4	11.7	14.3	10.2	9.9	10.5	7.7	10.5	8.7	9.5	10.9	9.9	:	11.3	:	9.5
1971-80	10.8	8.1	19.9	19.2	13.4	19.2	19.0	9.2	10.7	10.2	21.6	15.4	12.9	:	12.2	:	12.9
1981	4.8	4.4	19.7	12.2	12.4	21.4	20.0	6.6	4.9	6.6	19.5	13.2	10.5	:	9.5	:	15.2
1982	8.2	3.9	25.8	15.0	14.4	17.8	17.9	12.1	4.0	7.3	23.3	12.2	11.2	:	14.2	:	17.0
1983	5.9	4.9	19.3	13.9	10.6	10.6	16.5	10.0	3.9	6.4	24.4	11.6	9.9	:	10.3	:	10.9
1984	8.0	4.9	24.4	12.8	8.8	11.0	14.6	10.9	4.6	5.0	22.3	11.9	9.1	:	9.7	:	17.7
1985	6.4	4.4	22.0	11.1	7.0	8.5	12.2	6.0	4.5	5.5	25.2	8.9	7.9	:	8.6	:	10.8
1986	4.7	5.7	19.5	14.5	7.6	6.1	10.6	9.9	3.2	5.1	25.4	6.8	8.1	:	8.1	:	7.9
1987	4.0	3.3	12.6	11.8	5.5	7.0	9.4	4.0	1.1	3.8	17.1	8.6	6.0	:	5.2	:	11.3
1988	7.0	5.3	21.7	11.3	7.8	7.8	11.0	11.5	3.9	7.7	19.5	13.5	8.2	:	3.8	:	11.9
1989	8.4	6.4	18.8	12.1	7.4	11.6	9.5	14.2	6.0	6.8	17.6	11.4	8.3	:	5.4	:	13.2
1990	6.0	9.1	20.7	11.4	5.6	7.3	10.4	8.0	6.4	7.8	17.6	6.0	8.7	:	4.7	:	13.3
1981-90	6.3	5.2	20.4	12.6	8.7	10.8	13.1	9.3	4.2	6.2	21.2	10.4	8.8	:	7.9	:	12.9
1991	4.8	8.8	23.5	9.7	4.0	3.8	9.1	10.6	5.3	7.5	14.9	-4.6	7.4	20.4	3.9	:	4.7
1992	5.0	7.4	15.6	7.7	3.5	6.2	5.3	5.6	3.9	6.1	12.7	-2.4	5.8	11.8	3.5	:	16.0
1993	3.0	2.5	12.6	3.5	1.4	8.0	3.0	10.4	2.5	3.1	5.2	1.3	2.8	21.1	1.4	:	5.9
1994	5.4	4.9	13.4	6.4	3.8	7.5	5.8	7.5	5.2	5.4	8.3	5.8	5.2	15.9	7.3	36.7	11.5
1995	3.7	3.8	12.1	7.8	3.4	13.0	8.1	3.8	5.1	3.9	7.9	8.4	5.2	16.8	4.6	37.3	9.7
1996	2.4	1.8	9.9	6.0	2.6	10.2	6.4	5.4	4.2	3.6	6.7	3.5	3.6	13.2	5.1	29.9	3.7
1997	4.9	2.1	10.7	6.4	3.2	15.7	4.5	11.2	5.9	1.8	7.9	8.5	3.9	7.5	5.2	22.1	5.1
1998	3.7	3.1	8.8	6.8	4.4	15.8	4.6	9.8	6.1	3.9	8.5	8.7	4.7	9.9	3.5	14.7	7.4
1999	4.6	2.6	6.5	7.1	3.8	15.3	3.3	10.2	5.6	4.0	7.0	3.2	4.0	4.0	4.5	4.2	7.1
2000	5.2	2.6	8.0	8.0	4.8	15.2	5.3	13.6	7.5	5.2	7.0	8.5	5.0	5.3	5.9	13.6	9.7
1991-2000	4.3	3.9	12.0	6.9	3.5	11.0	5.5	8.8	5.1	4.4	8.6	4.0	4.8	12.5	4.5	:	8.0
2001	2.5	2.2	7.9	7.1	3.9	12.0	4.5	3.5	6.7	2.5	6.1	4.1	4.1	7.7	3.6	12.5	6.4
2002	2.7	1.6	7.7	6.8	3.5	10.9	3.4	3.6	3.7	2.5	4.9	3.2	3.4	4.3	2.7	12.0	4.8
2003	3.2	1.0	8.2	6.6	2.0	5.3	3.2	5.0	2.0	2.3	1.1	1.9	2.6	4.9	2.8	7.7	7.4
2004	4.5	2.9	7.5	6.5	4.4	8.4	4.2	6.3	2.3	3.0	3.2	3.4	4.1	8.7	4.2	9.9	6.6
2005	4.6	2.6	6.5	6.2	3.9	7.4	4.1	6.0	2.4	3.6	4.5	4.2	3.9	7.0	4.4	10.1	6.7
2006	4.6	2.6	6.6	6.2	4.0	7.1	3.9	6.6	3.4	3.7	4.9	4.2	4.0	6.8	4.1	9.4	6.7
2001-06	3.7	2.1	7.4	6.6	3.6	8.5	3.9	5.2	3.4	2.9	4.1	3.5	3.7	6.6	3.6	10.3	6.4

(¹) 1961-91 D_90.

(²) Weighted in common currency; euro area; 1961-91 including D_90.

Table 7 (continued)

(national currency; annual percentage change)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-15 ⁽¹⁾	EU-25 ⁽²⁾	BG	RO	TR	HR	US	JP
1961–70	:	:	:	7.0	:	:	:	9.1	7.2	9.3	:	:	:	12.0	:	7.1	16.4
1971–80	:	:	8.0	15.3	:	:	:	11.8	16.2	13.3	:	:	:	38.2	:	10.4	12.6
1981	:	:	8.2	11.4	9.6	:	:	9.3	9.7	10.3	:	:	1.1	51.0	:	12.2	7.5
1982	:	:	8.7	5.8	101.5	:	:	9.5	9.5	10.9	:	:	16.6	32.8	:	4.0	5.0
1983	:	:	5.7	-0.9	24.8	:	:	12.2	9.3	9.9	:	:	5.7	32.5	:	8.7	4.0
1984	:	:	9.2	0.8	23.9	:	:	12.2	7.1	8.9	:	:	6.2	58.2	:	11.2	6.4
1985	:	:	5.6	3.2	21.8	:	:	8.9	9.4	8.2	:	:	0.2	59.5	:	7.3	7.5
1986	:	:	5.3	7.5	24.0	:	:	9.5	7.4	8.1	:	:	2.6	45.5	:	5.7	4.7
1987	:	:	12.6	7.3	30.8	:	:	8.4	10.0	6.7	:	:	0.8	46.3	:	6.2	4.1
1988	:	:	17.4	10.4	74.9	:	:	9.1	11.6	8.6	:	:	1.4	72.9	:	7.7	7.6
1989	:	:	19.6	10.5	299.3	:	:	11.0	9.8	8.6	:	:	-6.6	75.9	:	7.5	7.7
1990	:	:	21.3	9.6	393.2	:	:	9.9	8.4	8.6	:	:	7.2	72.9	:	5.8	7.7
1981–90	:	:	11.2	6.5	72.4	:	:	10.0	9.2	8.9	:	:	3.4	54.0	:	7.6	6.2
1991	129.5	209.2	19.6	9.8	44.4	77.6	15.0	7.8	5.1	7.0	:	199.0	156.9	60.3	47.6	3.3	6.4
1992	600.9	721.3	17.8	8.4	42.1	191.3	3.9	-0.2	4.2	5.4	:	48.0	173.6	73.5	544.5	5.7	2.6
1993	46.0	240.3	20.6	7.5	35.5	41.0	23.8	1.0	5.1	3.0	:	48.8	232.3	81.3	1 492.1	5.1	0.8
1994	39.2	45.9	23.0	9.4	44.5	29.1	20.5	6.6	6.0	5.4	6.2	75.8	148.4	95.2	109.0	6.3	1.2
1995	14.0	51.3	28.6	11.4	36.9	28.0	16.3	7.6	5.6	5.3	6.0	67.5	44.9	100.7	12.5	4.6	1.4
1996	19.2	26.3	22.8	4.9	25.7	15.0	10.7	2.5	6.2	3.9	4.5	100.1	51.0	90.3	9.8	5.7	2.6
1997	15.8	22.0	23.9	7.2	21.6	14.0	11.6	4.0	6.2	4.3	4.8	889.8	132.2	95.2	14.7	6.3	2.1
1998	9.5	12.7	18.1	5.8	16.9	11.4	9.6	4.4	6.0	4.8	5.2	28.6	47.8	81.1	11.1	5.4	-1.2
1999	8.2	-2.3	12.9	6.9	10.7	11.8	8.0	5.3	5.2	4.2	4.4	6.1	46.0	48.2	2.9	6.0	-1.4
2000	10.9	5.0	15.6	8.0	10.9	9.7	10.7	5.7	5.2	5.1	5.3	12.5	47.3	60.9	7.7	6.0	0.8
1991–2000	52.4	79.1	20.2	7.9	28.3	36.0	12.9	4.4	5.5	4.8	:	89.3	98.2	77.9	88.0	5.4	1.5
2001	10.3	6.3	12.7	2.7	5.1	12.0	8.1	3.3	4.6	4.1	4.3	11.1	45.3	43.2	8.6	3.2	-1.1
2002	10.1	6.7	12.7	2.1	2.7	11.6	8.8	3.6	5.0	3.7	3.8	8.8	29.5	55.6	8.3	3.6	-1.5
2003	11.1	8.8	10.9	4.4	4.3	8.1	8.8	3.9	5.3	3.1	3.3	6.4	25.0	29.6	7.6	5.0	-0.1
2004	14.7	8.9	10.3	4.4	8.8	8.2	9.1	4.9	5.7	4.4	4.6	11.7	21.5	20.8	6.3	6.7	1.4
2005	13.9	9.6	8.1	3.9	7.9	7.2	6.9	5.2	5.3	4.2	4.3	11.2	16.7	14.7	7.1	5.6	0.4
2006	12.2	9.4	7.9	3.9	8.0	7.1	6.8	4.9	5.0	4.2	4.3	9.1	14.0	13.4	8.2	5.1	1.7
2001–06	12.0	8.3	10.4	3.6	6.1	9.0	8.1	4.3	5.2	3.9	4.1	9.7	24.9	28.7	7.7	4.8	0.1

⁽¹⁾ Weighted in common currency; former EU-15; 1961–91 including D_90.⁽²⁾ Weighted in common currency.

Table 8

Output
Gross domestic product at current market prices per head of population

(EUR⁽¹⁾); EUR-15 = 100⁽²⁾)

	BE	DE ⁽³⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽⁴⁾	CZ	DK	EE	CY
1960	114.1	122.0	41.1	36.3	123.1	62.8	74.1	175.7	99.2	84.4	30.6	107.3	91.2	:	122.3	:	:
1965	108.6	121.4	46.9	46.3	124.5	62.1	79.5	148.0	104.1	81.8	29.9	113.1	94.2	:	133.0	:	47.5
1970	111.9	130.7	53.9	49.0	119.3	60.7	85.7	147.6	114.4	84.2	35.6	101.6	98.0	:	139.2	:	45.3
1975	124.0	132.8	51.7	60.1	125.8	55.7	75.4	142.8	129.5	99.0	37.3	117.8	100.9	:	148.0	:	26.7
1980	121.6	131.8	49.5	57.9	121.7	60.9	79.6	141.0	123.9	103.6	29.9	107.8	99.1	:	131.4	:	44.1
1981	114.1	125.5	51.5	57.1	120.4	65.0	81.7	134.1	116.8	101.6	32.8	119.4	97.4	:	129.5	:	46.4
1982	104.7	126.8	55.7	57.3	118.1	69.7	84.3	127.4	118.0	106.2	32.4	124.5	97.9	:	131.9	:	48.9
1983	102.4	131.0	51.9	51.3	115.7	69.3	90.3	129.2	118.0	111.0	29.7	123.3	98.5	:	136.9	:	52.9
1984	102.1	129.2	52.4	53.7	113.9	69.4	93.3	132.0	114.0	109.2	28.5	132.7	98.5	:	138.6	:	59.3
1985	102.5	126.9	49.7	54.3	114.4	71.1	93.2	132.0	111.2	108.1	29.5	135.1	97.9	:	142.7	:	46.6
1986	104.0	132.7	43.1	55.1	115.8	69.6	96.6	140.1	113.0	112.2	31.0	128.2	100.3	:	147.3	:	46.2
1987	104.6	133.8	40.5	56.5	113.4	66.9	98.2	140.1	111.0	113.7	31.3	129.7	100.4	:	148.0	:	42.6
1988	101.9	128.9	42.2	59.8	110.3	66.7	97.6	141.4	105.6	112.6	33.0	138.7	98.9	:	140.3	:	49.7
1989	101.3	125.1	43.0	64.9	108.5	68.8	99.9	147.2	102.3	110.2	35.2	148.2	99.0	:	134.2	:	47.2
1990	102.3	126.1	42.7	67.9	108.1	69.7	102.1	150.0	101.9	111.1	37.1	142.0	100.1	15.6	134.2	:	49.7
1991	100.8	127.4	44.0	70.4	104.2	67.7	103.9	154.7	100.2	111.3	40.6	123.0	100.1	13.9	129.9	:	48.4
1991	103.4	113.4	45.1	72.2	106.9	69.4	106.6	158.7	102.8	114.1	41.6	126.1	99.5	14.2	133.2	:	49.6
1992	105.8	118.2	45.5	72.4	108.0	71.2	103.8	161.7	103.7	117.1	46.2	101.6	100.5	14.4	134.1	:	53.1
1993	111.7	125.7	47.0	66.5	112.8	73.0	92.4	181.2	110.6	125.1	45.1	89.0	101.3	18.8	139.6	6.0	55.0
1994	114.6	126.6	47.3	63.4	112.5	75.5	89.7	187.4	111.6	126.4	44.6	96.9	100.9	20.8	143.7	8.1	57.4
1995	117.6	129.8	47.7	64.2	112.7	79.4	83.9	190.3	115.7	130.0	46.5	109.5	101.5	23.1	148.6	11.2	58.9
1996	112.6	123.4	49.2	65.8	110.5	85.3	92.6	185.1	112.5	126.0	47.3	105.7	100.8	25.1	147.4	13.8	57.3
1997	108.8	116.4	50.9	64.6	106.3	98.8	93.3	187.7	109.2	118.5	47.7	107.9	97.8	24.7	144.7	15.9	57.5
1998	107.6	114.6	49.3	65.3	106.0	102.7	92.6	194.3	109.9	117.5	48.6	110.1	97.3	26.0	142.5	17.5	58.7
1999	107.8	112.7	50.6	66.7	105.0	111.5	91.3	202.5	110.6	117.0	49.6	108.6	96.7	25.2	142.7	17.7	59.2
2000	106.5	108.7	49.6	67.3	103.1	119.3	90.3	213.5	111.2	115.5	49.7	110.6	95.2	25.9	141.4	19.0	61.0
2001	105.6	107.6	51.3	69.4	103.5	127.8	91.4	213.0	114.3	114.7	50.9	111.5	95.7	28.4	141.8	20.8	62.1
2002	104.7	105.9	53.5	71.4	103.3	135.1	91.4	211.8	114.2	113.7	51.4	111.4	95.6	31.8	141.1	22.7	62.5
2003	106.7	105.9	57.1	75.0	103.9	138.7	92.8	218.4	114.8	115.0	51.2	112.3	96.8	32.0	143.4	24.4	64.8
2004	106.6	104.4	58.6	76.0	103.6	141.7	92.0	220.5	112.0	113.0	50.3	111.0	96.2	33.2	142.7	25.8	65.9
2005	107.5	103.3	60.2	77.6	103.6	145.0	92.4	223.6	110.5	112.4	50.4	111.5	96.2	34.5	143.2	27.5	68.0
2006	108.1	102.1	61.7	78.9	103.5	147.7	92.3	227.6	109.8	111.7	50.6	111.8	96.1	35.1	143.4	29.1	69.3

⁽¹⁾ 1960-98 ECU.⁽²⁾ Former EU-15; 1960-91 including D_90.⁽³⁾ 1960-91 D_90.⁽⁴⁾ Euro area; 1960-91 including D_90.

Table 8 (continued)

(EUR⁽¹⁾); EUR-15 = 100⁽²⁾)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽³⁾	EUR-15 ⁽⁴⁾	BG	RO	TR	HR	US	JP
1960	:	:	:	39.6	:	:	:	178.9	126.4	:	100.0	:	:	45.3	:	263.1	43.6
1965	:	:	:	29.6	:	:	:	179.4	112.1	:	100.0	:	:	23.3	:	221.4	56.3
1970	:	:	:	31.3	:	:	:	182.2	93.6	:	100.0	:	:	21.7	:	210.5	83.0
1975	:	:	:	29.0	:	:	:	178.2	80.2	:	100.0	:	:	22.5	:	144.6	88.3
1980	:	:	21.6	38.5	16.2	:	:	153.4	93.5	:	100.0	:	16.1	16.1	:	119.2	89.5
1981	:	:	24.3	41.7	9.0	:	:	159.0	101.0	:	100.0	:	21.3	17.9	:	150.3	111.6
1982	:	:	25.5	42.2	18.6	:	:	146.5	100.3	:	100.0	:	25.5	16.3	:	161.9	107.6
1983	:	:	23.6	43.2	25.6	:	:	138.8	98.1	:	100.0	:	25.7	16.7	:	180.0	120.2
1984	:	:	23.9	43.6	26.4	:	:	150.5	96.3	:	100.0	:	23.6	17.0	:	206.6	132.5
1985	:	:	40.2	32.8	40.7	:	:	152.4	98.3	:	100.0	:	43.6	13.9	:	212.0	136.9
1986	:	:	20.5	32.8	18.5	:	:	146.8	87.4	:	100.0	:	20.7	12.0	:	162.9	147.4
1987	:	:	13.3	31.0	9.4	:	:	144.4	87.0	:	100.0	:	13.6	10.6	:	139.0	143.8
1988	:	:	12.5	36.3	8.6	:	:	145.9	94.7	:	100.0	:	12.0	11.0	:	133.5	156.2
1989	:	:	14.5	33.9	11.7	:	:	150.8	94.1	:	100.0	:	12.2	11.5	:	140.2	153.6
1990	:	:	10.1	35.5	5.3	:	:	145.0	89.5	:	100.0	7.6	5.2	13.8	:	118.5	127.3
1991	:	:	10.5	36.6	6.9	29.2	:	146.8	89.8	:	100.0	2.9	4.0	13.2	:	116.7	140.1
1991	:	:	10.7	37.6	7.1	29.9	:	150.5	92.1	:	100.0	2.9	4.1	13.5	:	119.7	143.7
1992	2.9	2.6	10.0	37.7	6.6	29.6	:	142.9	87.7	:	100.0	2.8	2.4	12.8	:	114.9	143.6
1993	4.8	3.8	19.4	37.0	12.5	33.2	13.1	118.6	87.2	85.5	100.0	6.7	6.1	15.8	13.2	132.3	182.3
1994	7.8	5.7	19.7	38.3	13.5	35.6	14.2	119.5	88.7	85.8	100.0	5.6	6.5	10.5	15.8	130.8	188.9
1995	8.5	7.6	18.6	39.7	15.2	43.4	15.6	121.2	84.4	86.1	100.0	6.7	6.7	11.9	18.2	118.6	181.4
1996	9.6	9.5	18.6	39.8	16.9	43.0	16.4	129.8	86.9	86.4	100.0	5.0	6.6	12.3	19.1	121.9	157.9
1997	11.4	12.4	20.1	42.2	18.0	44.3	17.8	126.5	103.1	86.6	100.0	5.7	7.1	13.5	20.6	136.5	154.4
1998	12.0	13.7	20.0	42.7	19.1	46.1	18.0	122.6	106.8	86.8	100.0	6.8	8.2	13.5	21.4	137.7	136.3
1999	13.2	13.5	20.6	44.2	18.7	46.9	16.6	124.4	109.6	86.8	100.0	6.9	6.9	12.3	19.7	144.6	154.3
2000	15.5	15.5	21.8	47.0	20.6	45.5	17.9	128.9	117.0	87.1	100.0	7.4	7.9	14.1	19.8	164.6	178.2
2001	16.7	16.6	24.3	46.7	23.1	46.8	18.4	117.6	115.7	87.6	100.0	8.2	8.6	10.1	21.3	168.3	156.3
2002	17.4	17.8	28.1	45.2	21.9	48.8	19.8	118.9	116.1	87.7	100.0	8.7	9.2	11.5	22.6	158.5	137.3
2003	17.4	19.3	29.7	44.6	19.9	50.6	22.0	122.6	109.2	87.7	100.0	9.3	9.5	12.3	23.6	136.5	122.4
2004	18.6	20.2	31.7	44.3	20.0	51.2	23.7	122.5	112.6	87.9	100.0	9.9	10.2	13.4	24.2	127.3	116.0
2005	20.2	21.4	33.9	44.1	21.7	52.9	24.5	125.0	111.9	88.2	100.0	10.7	10.9	13.5	24.6	127.5	112.8
2006	22.0	22.6	35.3	43.8	22.3	54.6	25.2	125.6	112.4	88.4	100.0	11.3	11.2	13.5	25.2	127.4	113.7

⁽¹⁾ 1960-98 ECU.⁽²⁾ Former EU-15; 1960-91 including D_90.⁽³⁾ 1960-91 including D_90.

Table 9

Output
Gross domestic product at current market prices per head of population

(PPS; EUR-15 = 100⁽¹⁾)

	BE	DE ⁽²⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽³⁾	CZ	DK	EE	CY
1960	98.5	126.5	50.0	59.7	100.3	64.9	88.7	142.3	117.6	99.2	40.7	89.0	94.9	:	127.3	:	:
1965	99.6	123.9	61.4	69.6	101.9	62.9	90.2	132.3	113.8	96.3	44.9	89.8	96.7	:	129.7	:	:
1970	101.2	119.9	71.8	73.4	104.3	63.2	96.9	117.6	114.0	99.6	52.1	92.0	99.0	:	125.4	:	:
1975	105.2	116.4	78.9	79.8	105.5	66.0	96.2	118.6	113.0	105.4	54.5	100.2	99.8	:	116.4	:	:
1980	107.3	120.7	79.8	72.9	105.8	67.5	102.5	116.9	108.9	109.3	57.2	100.4	101.0	:	113.4	:	:
1981	107.2	120.9	78.0	72.5	106.7	69.1	103.4	116.2	107.8	109.2	57.7	102.3	101.3	:	111.4	:	:
1982	107.1	119.1	76.1	72.5	108.1	69.4	103.2	116.6	105.2	110.6	58.2	104.2	100.9	:	113.7	:	:
1983	105.8	119.5	73.7	72.3	107.4	67.6	102.8	118.1	104.9	112.2	56.9	104.8	100.6	:	113.9	:	:
1984	106.0	120.6	73.1	71.6	106.2	68.5	103.3	122.5	105.4	110.1	54.4	105.3	100.5	:	115.4	:	:
1985	105.3	120.8	73.0	71.4	104.8	68.9	103.9	123.1	105.3	110.2	54.5	106.0	100.2	:	116.8	:	:
1986	104.5	120.6	71.3	71.7	104.2	67.3	103.9	131.4	105.3	109.7	55.4	105.4	100.0	:	118.3	:	:
1987	104.0	119.1	67.8	73.5	103.5	68.6	104.2	132.2	103.8	108.5	57.5	106.7	99.7	:	115.1	:	:
1988	104.4	118.2	67.9	74.1	103.5	69.1	104.1	136.8	102.2	110.1	59.6	107.2	99.7	:	112.0	:	:
1989	104.4	117.9	67.9	75.2	104.0	71.5	103.8	144.2	103.2	110.0	61.7	108.6	100.0	:	108.7	:	:
1990	104.9	119.4	65.9	76.1	103.6	75.3	103.3	146.7	104.2	111.5	62.9	105.2	100.5	67.7	107.0	:	69.3
1991	105.1	122.4	66.5	76.9	102.8	75.4	103.4	155.2	104.5	113.0	64.7	96.7	101.2	59.4	106.6	:	67.2
1991	107.8	108.9	68.3	79.0	105.6	77.3	106.1	159.3	107.3	116.0	66.4	99.3	100.5	61.0	109.4	:	69.0
1992	108.3	109.8	67.8	79.0	105.8	78.8	105.9	158.9	107.3	116.6	66.7	94.3	100.7	60.2	108.9	:	73.1
1993	107.7	108.7	66.9	78.6	105.3	81.3	105.5	164.6	108.1	117.0	65.8	93.5	100.2	60.6	109.4	29.8	72.5
1994	108.2	108.2	66.3	78.4	104.6	83.8	105.0	164.4	107.9	116.7	64.7	94.4	99.8	60.5	112.3	29.3	73.4
1995	108.2	107.5	65.0	78.8	103.7	89.3	105.6	160.9	108.3	116.3	65.8	95.2	99.7	62.8	112.5	30.6	75.2
1996	106.9	106.8	64.6	79.3	103.1	93.2	105.4	160.4	108.6	117.0	66.0	95.5	99.4	64.5	113.6	32.0	74.3
1997	106.3	104.8	65.3	79.5	103.7	101.8	103.9	167.1	109.5	114.7	67.0	100.3	99.0	62.7	114.1	35.0	73.3
1998	105.1	103.6	65.0	80.7	103.8	106.1	104.7	174.7	109.8	113.7	68.3	102.9	99.1	60.4	113.1	36.2	73.8
1999	105.0	102.8	65.1	83.3	103.7	110.8	103.3	188.7	109.4	115.1	70.0	101.2	99.0	59.6	115.5	35.6	74.5
2000	106.1	101.7	65.8	83.2	103.5	114.9	102.7	198.4	110.4	116.1	70.2	103.8	98.8	58.9	115.1	37.8	76.1
2001	106.8	100.2	67.2	84.1	104.5	117.9	101.5	194.2	113.1	113.3	70.2	103.9	98.6	60.2	115.0	39.1	78.3
2002	106.6	99.1	70.7	86.1	104.6	123.2	99.6	191.8	111.2	111.9	70.1	101.5	98.3	61.8	112.0	40.9	76.3
2003	107.1	98.6	73.2	87.4	104.2	125.1	99.7	194.8	109.1	112.0	68.6	102.8	98.1	63.5	111.8	43.0	76.7
2004	107.4	98.5	74.4	87.4	104.4	127.1	97.5	196.9	108.1	111.5	67.7	103.6	97.8	64.6	112.0	44.8	77.2
2005	107.8	99.0	75.2	87.5	104.3	128.9	97.2	198.1	107.5	111.4	67.4	104.6	97.7	65.9	112.3	46.8	78.0
2006	108.2	97.7	76.0	87.6	104.2	130.9	96.8	199.3	107.6	111.2	67.2	105.2	97.6	67.2	112.1	48.9	79.0

⁽¹⁾ Former EU-15; 1960-91 including D_90.⁽²⁾ 1960-91 D_90.⁽³⁾ Euro area; 1960-91 including D_90.

Table 9 (continued)

(PPS; EUR-15 = 100⁽¹⁾)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽²⁾	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US	JP
1960	:	:	:	:	:	:	:	124.4	117.0	:	100.0	:	:	29.2	:	153.2	56.6
1965	:	:	:	:	:	:	:	126.8	108.7	:	100.0	:	:	26.6	:	149.0	68.5
1970	:	:	:	:	:	:	:	122.3	99.1	:	100.0	:	:	26.5	:	137.1	90.7
1975	:	:	:	:	:	:	:	120.8	96.4	:	100.0	:	:	27.7	:	132.0	93.0
1980	:	:	:	:	:	:	:	111.8	92.4	:	100.0	:	:	24.6	:	132.2	96.6
1981	:	:	:	:	:	:	:	111.7	91.2	:	100.0	:	:	25.2	:	134.4	99.0
1982	:	:	:	:	:	:	:	112.1	92.4	:	100.0	:	:	25.3	:	129.4	100.3
1983	:	:	:	:	:	:	:	112.4	94.1	:	100.0	:	:	25.5	:	131.7	99.6
1984	:	:	:	:	:	:	:	114.6	94.3	:	100.0	:	:	26.0	:	136.9	99.8
1985	:	:	:	:	:	:	:	114.3	95.2	:	100.0	:	:	25.8	:	137.7	101.9
1986	:	:	:	:	:	:	:	114.3	96.3	:	100.0	:	:	26.3	:	137.6	101.7
1987	:	:	:	:	:	:	:	114.7	97.8	:	100.0	:	:	27.5	:	137.3	102.3
1988	:	:	:	:	:	:	:	112.7	98.6	:	100.0	:	:	26.4	:	136.3	104.6
1989	:	:	:	:	:	:	:	111.5	97.4	:	100.0	:	:	25.1	:	135.5	106.4
1990	48.4	53.6	51.2	:	34.4	65.2	:	109.2	95.6	:	100.0	:	30.9	26.2	:	133.2	108.9
1991	41.9	49.9	44.6	57.9	31.5	58.6	:	105.9	92.8	:	100.0	29.1	26.5	25.6	:	129.5	110.8
1991	43.0	51.2	45.7	59.4	32.3	60.1	:	108.7	95.2	:	100.0	29.9	27.2	26.3	:	132.9	113.7
1992	29.4	40.1	44.5	61.2	32.8	56.5	34.9	105.9	94.5	:	100.0	27.8	25.1	27.1	:	134.6	113.7
1993	26.7	34.0	44.6	63.8	34.2	58.8	37.6	104.1	97.3	89.9	100.0	27.8	25.7	29.0	:	137.6	114.6
1994	27.0	30.2	44.9	65.2	35.1	60.5	38.8	105.1	99.0	90.0	100.0	27.8	26.1	26.3	:	138.1	112.8
1995	26.9	30.7	44.7	67.3	36.7	61.7	40.1	106.5	99.5	90.3	100.0	28.1	27.5	27.1	:	137.0	112.0
1996	27.8	32.0	44.7	68.6	38.4	63.0	41.9	106.2	100.8	90.5	100.0	25.2	28.2	28.1	:	138.5	113.9
1997	29.7	33.7	45.8	69.8	40.0	64.6	42.8	105.3	103.2	90.7	100.0	23.5	26.0	29.1	:	139.8	113.2
1998	30.6	35.4	46.8	69.8	40.8	65.2	43.3	104.2	103.0	90.8	100.0	23.9	24.1	28.7	:	140.2	108.6
1999	31.0	34.2	47.6	70.4	41.4	67.1	42.8	107.4	102.6	90.9	100.0	24.0	23.3	26.2	:	141.1	105.7
2000	32.2	35.0	48.6	71.3	41.6	66.5	43.5	108.8	103.5	91.0	100.0	24.5	23.0	27.5	:	140.1	105.1
2001	34.1	37.1	51.4	68.4	41.8	68.1	44.5	105.9	104.8	91.2	100.0	26.0	24.3	23.8	:	138.0	104.0
2002	36.0	39.4	53.2	67.4	41.5	69.3	47.0	104.4	107.1	91.4	100.0	26.4	26.0	24.7	:	138.2	102.8
2003	38.8	43.3	54.8	66.9	42.9	70.7	48.7	105.3	108.1	91.7	100.0	27.6	27.2	25.6	:	140.5	104.8
2004	41.1	45.5	56.0	66.0	44.6	72.1	50.0	106.7	109.1	92.0	100.0	28.6	28.7	26.8	:	142.5	107.1
2005	43.1	47.6	57.1	65.4	45.9	73.2	51.3	107.5	109.6	92.2	100.0	29.9	29.9	27.2	:	142.6	107.3
2006	45.1	49.5	58.2	64.9	47.1	74.5	52.9	107.9	110.1	92.5	100.0	30.7	30.9	27.7	:	142.4	107.5

⁽¹⁾ Former EU-15; 1960-91 including D_90.⁽²⁾ 1960-91 including D_90.

Table 10

Output
Gross domestic product at 1995 market prices

(national currency; annual percentage change)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1961-70	4.9	4.4	8.5	7.3	5.6	4.2	5.7	3.5	5.1	4.7	6.4	4.8	5.3	:	4.7	:	:
1971-80	3.4	2.8	4.6	3.5	3.3	4.7	3.6	2.6	2.9	3.6	4.7	3.8	3.2	:	1.9	:	:
1981	-0.3	0.1	-1.6	-0.1	1.2	3.3	0.8	-0.6	-0.5	-0.1	1.6	2.1	0.5	:	-2.1	:	:
1982	0.6	-0.8	-1.1	1.2	2.6	2.3	0.6	1.1	-1.3	2.1	2.1	3.2	0.7	:	2.7	:	:
1983	0.3	1.6	-1.1	1.8	1.5	-0.2	1.2	3.0	1.8	2.9	-0.2	2.8	1.4	:	1.7	:	:
1984	2.5	2.8	2.0	1.8	1.6	4.3	2.8	6.2	3.1	0.4	-1.9	3.2	2.3	:	3.5	:	:
1985	1.7	2.2	2.5	2.3	1.5	3.1	3.0	2.9	2.7	2.4	2.8	3.4	2.2	:	3.6	:	:
1986	1.8	2.4	0.5	3.3	2.4	0.3	2.5	10.0	3.1	2.1	4.1	2.3	2.5	:	4.0	:	:
1987	2.3	1.5	-2.3	5.5	2.5	4.7	3.0	4.0	1.9	1.6	6.4	4.3	2.5	:	0.0	:	:
1988	4.7	3.7	4.3	5.1	4.6	4.3	3.9	8.5	3.0	5.6	7.5	4.7	4.2	:	1.2	:	:
1989	3.5	3.9	3.8	4.8	4.2	6.2	2.9	9.8	4.8	3.5	6.4	4.8	3.9	:	0.2	:	:
1990	3.1	5.7	0.0	3.8	2.6	7.6	2.0	5.3	4.1	4.6	4.0	-0.3	3.6	:	1.0	:	:
1981-90	2.0	2.3	0.7	2.9	2.5	3.6	2.3	5.0	2.2	2.5	3.3	3.0	2.4	:	1.6	:	:
1991	1.8	5.1	3.1	2.5	1.0	1.9	1.4	8.6	2.4	3.6	4.4	-6.4	2.5	-11.6	1.1	:	0.7
1992	1.5	2.2	0.7	0.9	1.5	3.3	0.8	1.8	1.5	2.4	1.1	-3.8	1.4	-0.5	0.6	:	9.7
1993	-1.0	-1.1	-1.6	-1.0	-0.9	2.7	-0.9	4.2	0.7	0.3	-2.0	-1.2	-0.8	0.1	0.0	:	0.7
1994	3.2	2.3	2.0	2.4	2.1	5.8	2.2	3.8	2.9	2.7	1.0	3.9	2.4	2.2	5.5	-1.6	5.9
1995	2.4	1.7	2.1	2.8	1.7	9.8	2.9	1.4	3.0	1.9	4.3	3.4	2.2	5.9	2.8	4.5	6.5
1996	1.2	0.8	2.4	2.4	1.1	8.1	1.1	3.3	3.0	2.6	3.5	3.9	1.4	4.2	2.5	4.5	1.9
1997	3.5	1.4	3.6	4.0	1.9	10.8	2.0	8.3	3.8	1.8	4.0	6.3	2.4	-0.7	3.0	10.5	2.3
1998	2.0	2.0	3.4	4.3	3.4	8.9	1.8	6.9	4.3	3.6	4.6	5.0	2.9	-1.1	2.5	5.2	4.8
1999	3.2	2.0	3.4	4.2	3.2	11.1	1.7	7.8	4.0	3.3	3.8	3.4	2.8	1.2	2.6	-0.1	4.7
2000	3.9	2.9	4.5	4.4	3.8	9.9	3.0	9.0	3.5	3.4	3.4	5.1	3.5	3.9	2.8	7.8	5.0
1991-2000	2.2	1.9	2.3	2.7	1.9	7.2	1.6	5.5	2.9	2.6	2.8	1.9	2.1	0.2	2.3	:	4.2
2001	0.7	0.8	4.3	2.8	2.1	6.0	1.8	1.5	1.4	0.7	1.6	1.1	1.6	2.6	1.6	6.4	4.0
2002	0.9	0.1	3.6	2.2	1.2	6.1	0.4	2.5	0.6	1.2	0.4	2.3	0.9	1.5	1.0	7.2	2.0
2003	1.3	-0.1	4.5	2.5	0.5	3.7	0.3	2.9	-0.9	0.8	-1.2	1.9	0.6	3.1	0.5	5.1	2.0
2004	2.5	1.9	3.8	2.6	2.4	5.2	1.3	4.0	1.4	1.9	1.3	3.0	2.1	3.8	2.3	5.9	3.5
2005	2.5	1.5	3.3	2.6	2.2	4.8	1.8	3.5	1.7	2.4	2.2	3.1	2.0	3.8	2.4	6.0	3.9
2006	2.6	1.7	3.3	2.7	2.2	5.0	1.8	3.6	2.4	2.4	2.4	2.7	2.2	4.0	2.0	6.2	4.2
2001-06	1.7	1.0	3.8	2.6	1.8	5.1	1.2	3.0	1.1	1.5	1.1	2.3	1.6	3.1	1.6	6.1	3.2

(¹) 1961-91 D_90.

(²) Weighted in common currency; euro area; 1961-91 including D_90.

Table 10 (continued)

(national currency; annual percentage change)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-15 ⁽¹⁾	EU-25 ⁽²⁾	BG	RO	TR	HR	US	JP
1961-70	:	:	:	:	:	:	:	4.6	3.0	4.8	:	:	:	5.7	:	4.2	10.1
1971-80	:	:	:	:	:	:	:	2.0	2.0	3.0	:	:	:	4.1	:	3.2	4.4
1981	:	:	:	:	:	:	:	-0.2	-1.4	0.1	:	:	:	4.9	:	2.5	2.9
1982	:	:	:	:	:	:	:	1.2	1.9	1.0	:	:	:	3.6	:	-2.1	2.8
1983	:	:	:	:	:	:	:	1.9	3.5	1.8	:	:	:	5.0	:	4.3	1.6
1984	:	:	:	:	:	:	:	4.3	2.6	2.5	:	:	:	6.7	:	7.3	3.1
1985	:	:	:	:	:	:	:	2.2	3.6	2.5	:	:	:	4.2	:	3.8	5.1
1986	:	:	:	:	:	:	:	2.8	4.0	2.8	:	:	:	7.0	:	3.4	3.0
1987	:	:	:	:	:	:	:	3.4	4.6	2.8	:	:	:	9.5	:	3.4	3.8
1988	:	:	:	:	:	:	:	2.6	5.0	4.2	:	:	:	2.1	:	4.2	6.8
1989	:	:	:	:	:	:	:	2.7	2.2	3.5	:	:	:	0.3	:	3.5	5.3
1990	:	:	:	:	:	:	:	1.0	0.8	3.0	:	:	:	9.3	:	1.7	5.2
1981-90	:	:	:	:	:	:	:	2.2	2.6	2.4	:	:	:	5.2	:	3.2	3.9
1991	-12.6	-5.7	-11.9	:	-7.0	-8.9	:	-1.1	-1.4	1.8	:	:	-13.1	0.9	:	-0.2	3.4
1992	-32.1	-21.3	-2.1	4.7	2.5	-5.5	:	-1.3	0.2	1.1	:	:	-8.7	6.0	:	3.3	1.0
1993	-11.4	-16.2	-0.6	4.5	3.7	2.8	7.2	-2.0	2.3	-0.4	:	-7.3	1.5	8.0	:	2.7	0.2
1994	2.2	-9.8	2.9	5.7	5.3	5.3	6.2	4.2	4.4	2.8	2.8	1.8	3.9	-5.5	:	4.1	1.1
1995	-0.9	3.3	1.5	6.2	7.0	4.1	5.8	4.1	2.9	2.4	2.5	2.9	7.1	7.2	:	2.5	1.9
1996	3.8	4.7	1.3	4.0	6.0	3.6	6.1	1.3	2.8	1.6	1.7	-9.4	3.9	7.0	5.9	3.7	3.4
1997	8.3	7.0	4.6	4.9	6.8	4.8	4.6	2.4	3.3	2.5	2.6	-5.4	-6.1	7.5	6.8	4.5	1.9
1998	4.7	7.3	4.9	3.4	4.8	3.6	4.2	3.6	3.1	2.9	2.9	3.9	-4.8	3.1	2.5	4.2	-1.1
1999	3.3	-1.7	4.2	4.1	4.1	5.6	1.5	4.6	2.9	2.9	2.9	2.3	-1.2	-4.7	-0.9	4.5	0.1
2000	6.9	3.9	5.2	6.4	4.0	3.9	2.0	4.3	3.9	3.6	3.6	5.4	2.1	7.4	2.9	3.7	2.8
1991-2000	-3.6	-3.3	0.9	:	3.6	1.8	:	2.0	2.4	2.1	:	:	-1.7	3.6	:	3.3	1.5
2001	8.0	6.4	3.8	-2.2	1.0	2.7	3.8	0.9	2.3	1.7	1.8	4.1	5.7	-7.5	4.4	0.8	0.4
2002	6.4	6.8	3.5	1.8	1.4	3.3	4.6	2.1	1.8	1.1	1.1	4.9	5.0	7.9	5.2	1.9	-0.3
2003	7.5	9.7	3.0	0.2	3.8	2.5	4.0	1.6	2.2	0.9	1.0	4.3	4.9	5.8	4.3	3.1	2.4
2004	7.5	7.1	3.9	1.0	5.8	4.0	4.9	3.7	3.3	2.3	2.5	5.5	7.2	8.5	3.8	4.4	4.2
2005	6.7	6.4	3.7	1.5	4.9	3.6	4.5	3.1	2.8	2.2	2.3	6.0	5.6	5.0	4.0	3.0	2.1
2006	6.7	5.9	3.8	1.8	4.5	3.8	5.2	2.9	2.8	2.3	2.4	4.5	5.1	5.3	4.5	2.9	2.3
2001-06	7.1	7.1	3.6	0.7	3.5	3.3	4.5	2.4	2.5	1.8	1.9	4.9	5.6	4.0	4.4	2.7	1.8

⁽¹⁾ Weighted in common currency; former EU-15; 1961-91 including D_90.⁽²⁾ Weighted in common currency.

Table 11

Output
Gross domestic product at 1995 market prices per person employed

(national currency; annual percentage change)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1961-70	4.4	4.2	9.3	6.7	4.9	4.2	6.2	2.9	3.8	5.1	6.2	4.4	5.1	:	3.5	:	:
1971-80	3.2	2.5	3.9	4.2	2.8	3.7	2.6	1.4	2.7	3.0	4.7	3.5	2.8	:	1.6	:	:
1981	1.6	0.0	-6.4	2.4	1.8	4.2	0.8	-0.9	0.9	0.7	0.6	0.8	0.8	:	-0.6	:	:
1982	1.9	0.0	-0.1	2.2	2.6	2.3	0.1	1.4	1.3	3.4	4.1	2.0	1.2	:	2.4	:	:
1983	1.6	2.5	-1.6	2.2	1.9	1.7	0.6	3.3	3.7	3.2	1.0	2.4	1.9	:	1.6	:	:
1984	2.4	2.0	2.2	4.2	2.0	6.3	2.4	5.6	3.0	0.7	-0.4	2.6	2.5	:	2.0	:	:
1985	1.1	0.8	0.0	3.4	2.4	5.9	2.1	2.0	0.7	2.4	2.8	3.3	1.8	:	1.3	:	:
1986	1.3	0.5	0.2	1.0	2.2	-0.4	1.7	7.4	1.0	2.2	7.0	2.6	1.5	:	1.6	:	:
1987	1.7	0.1	-2.2	0.7	1.9	3.8	2.5	1.2	0.1	1.4	4.0	3.7	1.2	:	-0.3	:	:
1988	2.9	2.3	2.6	1.6	3.7	4.3	2.9	5.3	1.4	5.1	5.2	3.7	2.7	:	1.5	:	:
1989	2.3	2.0	3.4	1.2	2.5	6.5	2.6	6.1	2.6	2.3	4.5	3.8	2.3	:	0.8	:	:
1990	2.2	2.5	-1.3	0.0	1.8	3.2	1.0	1.1	1.4	2.8	2.2	0.1	1.6	:	1.7	:	:
1981-90	1.9	1.3	-0.3	1.9	2.3	3.8	1.7	3.2	1.6	2.4	3.1	2.5	1.7	:	1.2	:	:
1991	1.8	2.3	5.6	1.4	1.1	2.3	0.6	4.5	1.2	2.4	1.5	-0.8	1.5	:	1.7	:	:
1992	2.0	3.8	-0.7	2.4	2.3	3.0	1.4	-0.9	0.3	2.1	2.8	3.5	2.5	:	1.5	:	:
1993	-0.2	0.3	-2.5	1.9	0.9	1.2	2.2	2.4	0.8	1.2	0.0	5.0	1.0	:	1.7	:	:
1994	3.6	2.5	0.1	2.9	2.2	2.6	3.2	1.1	3.1	2.7	2.0	5.4	2.7	:	3.4	1.8	:
1995	1.6	1.5	1.2	0.9	1.2	5.5	2.9	-1.2	1.0	1.9	5.1	1.6	1.7	:	1.9	11.4	:
1996	0.8	1.1	2.8	1.2	1.2	4.4	0.8	0.7	0.5	2.7	1.9	2.5	1.1	4.6	2.1	7.0	1.1
1997	2.5	1.6	6.0	0.9	1.7	5.0	1.6	5.0	0.7	1.3	2.4	2.8	1.6	-0.9	2.1	10.5	2.2
1998	0.2	0.9	-3.8	0.2	2.1	0.3	0.8	2.3	1.4	2.3	1.8	2.9	0.9	0.9	0.8	7.6	3.8
1999	1.8	0.8	3.3	0.5	1.3	4.6	1.1	2.6	1.6	1.7	1.9	0.8	1.2	4.3	0.5	4.9	2.6
2000	1.9	1.1	4.2	0.7	1.0	5.0	1.3	3.2	1.6	2.0	1.2	2.8	1.3	4.6	2.5	11.0	2.5
1991-2000	1.6	1.6	1.6	1.3	1.5	3.4	1.6	1.9	1.2	2.0	2.1	2.6	1.5	:	1.8	:	:
2001	-0.7	0.4	4.6	0.3	0.2	2.9	0.1	-3.9	0.1	0.3	0.3	-0.4	0.3	2.2	1.3	5.6	1.9
2002	1.2	0.7	3.6	0.5	0.2	4.3	-0.9	-0.5	0.7	1.1	0.1	1.3	0.4	0.0	1.4	5.6	0.8
2003	1.2	0.9	3.1	0.7	0.4	1.6	-0.2	1.1	0.1	0.7	-0.8	1.9	0.5	3.3	1.4	4.3	1.1
2004	2.1	1.8	2.0	0.6	2.7	2.7	0.5	1.9	3.2	1.4	0.9	3.5	1.7	4.7	1.9	5.6	2.4
2005	1.7	0.7	2.3	0.7	1.6	3.0	1.1	1.1	1.1	1.7	1.1	2.6	1.1	3.9	1.8	5.6	2.5
2006	1.7	0.9	2.2	0.8	1.5	3.4	1.2	0.9	1.2	1.6	1.2	2.0	1.2	3.9	1.6	5.8	2.8
2001-06	1.2	0.9	3.0	0.6	1.1	3.0	0.3	0.1	1.1	1.1	0.5	1.8	0.9	3.0	1.6	5.4	1.9

(¹) 1961-91 D_90.

(²) Weighted in common currency; euro area; 1961-91 including D_90.

Table 11 (continued)

(national currency; annual percentage change)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-15 ⁽¹⁾	EU-25 ⁽²⁾	BG	RO	TR	HR	US	JP
1961-70	:	:	:	:	:	:	:	3.9	2.7	4.5	:	:	:	:	:	2.3	8.6
1971-80	:	:	:	:	:	:	:	1.2	1.7	2.6	:	:	:	2.2	:	1.2	3.7
1981	:	:	:	:	:	:	:	-0.4	2.0	1.0	:	:	:	4.0	:	1.5	2.1
1982	:	:	:	:	:	:	:	1.4	3.8	1.7	:	:	:	2.5	:	-0.4	1.9
1983	:	:	:	:	:	:	:	1.6	3.8	2.2	:	:	:	3.9	:	3.4	0.1
1984	:	:	:	:	:	:	:	3.5	0.3	2.1	:	:	:	5.1	:	2.3	2.8
1985	:	:	:	:	:	:	:	1.2	2.5	1.9	:	:	:	2.5	:	1.4	4.5
1986	:	:	:	:	:	:	:	2.2	3.6	1.9	:	:	:	5.1	:	1.7	2.5
1987	:	:	:	:	:	:	:	2.6	2.3	1.3	:	:	:	7.1	:	0.4	3.4
1988	:	:	:	:	:	:	:	1.2	1.4	2.4	:	:	:	0.6	:	1.2	5.5
1989	:	:	:	:	:	:	:	1.3	-0.7	1.7	:	:	:	-1.7	:	1.0	3.8
1990	:	:	:	:	:	:	:	0.1	0.3	1.4	:	:	:	7.4	:	0.7	3.5
1981-90	:	:	:	:	:	:	:	1.5	1.9	1.8	:	:	:	3.6	:	1.3	3.0
1991	-11.9	-7.9	:	:	:	:	:	0.4	1.9	1.7	:	:	-12.6	0.4	:	1.0	1.3
1992	-26.7	-19.5	:	3.4	:	:	:	3.3	3.1	2.6	:	:	-5.9	5.5	:	3.6	-0.2
1993	-4.8	-12.6	6.1	3.6	6.2	:	:	3.4	3.2	1.3	:	1.0	5.5	8.2	:	0.7	-0.1
1994	13.7	-4.2	5.0	5.2	4.2	:	:	5.1	3.6	2.8	:	1.2	4.5	-7.7	:	1.5	1.0
1995	10.6	5.3	5.1	3.0	5.1	:	5.6	2.5	1.9	1.7	:	1.6	13.0	3.4	:	0.0	1.8
1996	5.8	3.7	1.8	2.5	4.0	5.2	3.7	2.2	1.2	1.1	1.2	-9.5	5.2	4.8	:	1.9	3.0
1997	3.7	6.4	4.5	5.0	3.9	5.5	5.9	3.8	1.5	1.6	1.6	-1.5	-2.3	10.3	:	2.2	0.8
1998	5.0	8.1	3.0	2.9	2.4	3.5	4.7	2.1	1.9	1.1	1.3	4.1	-2.5	0.3	:	1.9	-0.5
1999	5.2	0.5	0.9	4.5	7.0	4.5	4.3	2.4	1.3	1.2	1.8	4.5	3.5	-6.7	:	2.4	0.9
2000	10.1	8.3	3.9	4.0	6.4	0.7	3.9	1.9	2.5	1.5	2.1	9.2	-0.3	7.8	:	1.6	3.0
1991-2000	0.3	-1.6	:	:	:	:	:	2.7	2.2	1.7	:	:	0.6	2.5	:	1.7	1.1
2001	5.7	10.0	3.2	-4.1	1.7	2.2	3.2	-1.0	1.6	0.5	0.8	4.5	6.6	-6.5	3.9	0.5	1.0
2002	4.8	2.7	2.9	2.5	3.7	3.7	5.2	1.9	1.6	0.7	0.9	4.1	7.9	8.8	4.4	3.0	1.1
2003	5.6	7.2	2.2	1.2	5.0	2.8	2.2	1.8	1.3	0.7	0.9	0.8	5.0	6.8	1.8	3.2	2.6
2004	6.7	5.5	3.4	0.4	6.0	3.8	5.0	4.3	2.6	1.9	2.1	4.0	7.3	6.4	3.0	3.3	3.2
2005	6.1	5.3	3.1	1.2	4.1	3.1	3.9	2.8	2.4	1.4	1.6	3.9	5.8	1.9	3.0	2.1	1.8
2006	6.1	5.0	3.2	1.0	3.3	3.4	4.2	1.9	2.4	1.5	1.6	3.5	5.4	2.4	3.4	2.1	2.1
2001-06	5.8	5.9	3.0	0.3	4.0	3.2	3.9	1.9	2.0	1.1	1.3	3.4	6.3	3.2	3.2	2.4	2.0

⁽¹⁾ Weighted in common currency; former EU-15; 1961-91 including D_90.⁽²⁾ Weighted in common currency.

Table 12

Output
Industrial production; construction excluded

(annual percentage change)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1961-70	5.0	5.8	:	:	5.4	:	7.0	2.3	7.3	5.6	5.4	7.5	:	:	6.2	:	:
1971-80	2.2	1.5	7.1	5.1	2.9	:	3.5	0.4	2.9	4.0	6.5	4.6	:	:	1.9	:	:
1981	-2.8	-1.8	0.8	-0.8	-1.0	5.4	-2.2	-5.6	-2.0	-1.1	2.3	2.6	-1.5	:	0.1	:	:
1982	0.0	-3.2	0.9	-1.2	-0.8	-0.7	-3.1	2.3	-3.8	-0.5	7.7	0.9	-2.1	:	2.7	:	:
1983	1.9	0.7	-0.4	2.6	0.1	7.9	-2.4	5.4	1.9	0.9	3.6	3.2	0.2	:	3.3	:	:
1984	2.5	3.0	2.3	0.9	1.7	9.9	3.3	11.7	5.0	4.9	2.5	4.7	2.8	:	9.5	:	:
1985	2.5	4.8	3.3	1.8	1.4	3.4	0.2	-1.1	4.8	4.7	-1.3	3.4	2.6	:	4.2	:	:
1986	0.8	1.8	-0.3	3.3	0.6	2.2	4.1	1.9	0.2	1.2	7.3	1.5	2.1	:	6.0	:	:
1987	2.1	0.4	-1.2	4.6	1.2	8.9	2.6	-0.6	1.1	1.0	4.4	4.6	1.7	:	-5.1	:	:
1988	5.8	3.6	5.1	3.1	4.6	10.7	6.9	8.7	0.1	4.4	3.8	4.3	4.5	:	5.3	:	:
1989	3.4	4.9	1.8	5.1	3.7	11.6	3.9	7.8	5.1	5.8	6.7	2.4	4.4	:	0.9	:	:
1990	1.5	5.2	-2.5	-0.3	3.1	4.7	-1.7	2.6	2.4	6.8	9.0	-1.6	2.4	:	0.7	:	:
1981-90	1.8	1.9	1.0	1.9	1.4	6.3	1.1	3.2	1.4	2.8	4.6	2.6	1.7	:	2.7	:	:
1991	-1.9	3.5	-1.0	-0.6	-0.2	3.3	-1.0	0.4	1.8	1.9	0.0	-8.7	0.8	-21.9	0.1	:	:
1992	-0.4	-2.4	-1.1	-3.5	-1.0	9.1	-0.9	-0.8	-0.2	-1.2	-2.3	0.8	-1.6	-8.0	2.5	:	:
1993	-5.1	-7.9	-2.9	-4.7	-3.8	5.6	-2.2	-4.3	-1.1	-1.5	-5.2	5.5	-4.7	-5.3	-3.2	:	:
1994	2.1	3.2	1.3	7.7	4.2	11.9	5.9	5.9	4.9	4.0	-0.2	11.3	4.5	2.1	10.3	:	:
1995	6.5	0.8	1.8	4.9	2.3	20.5	5.7	2.0	4.1	4.9	11.6	6.1	3.3	-0.7	3.9	:	:
1996	0.5	0.7	1.2	-1.3	0.9	8.1	-1.7	0.1	2.4	1.0	5.3	2.9	0.3	2.0	1.1	:	:
1997	4.7	3.7	1.3	7.0	3.9	17.5	3.8	5.8	0.2	6.4	2.6	8.6	4.1	4.5	4.8	:	:
1998	3.4	4.1	7.1	5.5	5.1	19.8	1.3	-0.1	2.2	8.2	5.7	9.2	4.1	1.6	3.2	:	:
1999	0.9	1.5	3.9	2.6	2.0	14.8	0.0	11.5	1.4	6.0	3.0	5.7	1.7	-3.2	0.1	:	:
2000	5.3	6.2	0.5	4.4	3.5	15.4	4.0	4.3	4.0	8.9	-1.9	11.8	5.0	5.4	5.7	14.6	4.5
1992-2000	1.9	1.0	1.4	2.4	1.9	13.5	1.7	2.6	2.0	4.0	1.9	6.8	1.8	-0.3	3.1	:	:
2001	-2.1	0.5	1.4	-1.5	1.1	10.2	-1.2	1.8	1.4	0.8	3.1	0.1	0.2	6.5	1.3	8.9	-0.3
2002	1.5	-1.1	0.4	0.2	-1.0	7.8	-1.3	1.0	-2.1	0.1	-0.2	1.7	-0.8	9.5	1.5	6.0	0.1
2003	0.8	-1.1	1.5	1.7	0.2	6.3	-0.5	0.9	0.0	3.1	-0.5	0.7	-0.1	2.9	0.7	8.3	0.4
2004	2.6	6.3	2.0	1.7	2.0	8.5	0.4	3.9	0.0	4.1	0.4	1.6	3.1	4.2	1.8	9.0	0.5
2005	2.7	6.3	2.0	1.7	2.5	7.5	2.0	5.4	0.0	4.1	1.1	1.5	3.6	4.1	3.0	9.5	0.5
2006	2.8	6.3	2.0	1.5	2.5	8.0	2.2	5.1	0.0	4.1	1.5	2.8	3.7	3.9	2.7	10.0	0.5
2001-06	1.4	2.8	1.6	0.9	1.2	8.1	0.3	3.0	-0.1	2.7	0.9	1.4	1.6	5.2	1.8	8.6	0.3

⁽¹⁾ 1961-91 D_90.⁽²⁾ Euro area; 1961-91 including D_90.

Table 12 (continued)

(annual percentage change)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽¹⁾	EUR-15 ⁽²⁾	BG	RO	TR	HR	US	JP
1961-70	:	:	:	:	:	:	:	6.1	2.5	:	:	:	:	:	:	4.9	13.5
1971-80	:	:	:	:	:	:	:	1.0	1.0	:	:	:	:	:	:	2.9	4.1
1981	:	:	2.8	:	:	:	:	-2.4	-3.2	:	-1.8	:	:	8.0	:	1.2	1.0
1982	:	:	2.5	:	:	:	:	-0.6	1.9	:	-1.4	:	:	8.1	:	-5.2	0.3
1983	:	:	0.6	:	:	:	:	3.7	3.7	:	0.9	:	:	8.3	:	2.6	3.2
1984	:	:	3.0	:	:	:	:	5.7	0.0	:	2.4	:	:	11.1	:	8.9	9.3
1985	:	:	2.6	:	:	:	:	2.9	5.5	:	3.2	:	:	5.9	:	1.1	3.7
1986	:	:	1.7	:	4.2	:	:	0.1	1.4	:	2.0	:	:	11.8	:	0.9	-0.2
1987	:	:	2.4	:	3.2	:	:	2.5	4.1	:	2.0	:	:	10.6	:	4.8	3.4
1988	:	:	-1.0	:	4.9	:	:	1.3	5.2	:	4.5	:	:	1.6	:	4.8	9.4
1989	:	:	-5.1	:	-2.8	:	:	3.7	2.1	:	3.9	:	:	3.6	:	0.8	5.8
1990	:	:	-9.3	:	-25.4	:	:	8.9	0.0	:	2.1	:	:	9.5	:	0.8	4.2
1981-90	:	:	-0.1	:	:	:	:	2.6	2.1	:	1.8	:	:	7.8	:	2.0	4.0
1991	:	:	-18.3	:	-16.0	:	:	-4.8	-3.3	:	0.0	:	:	2.6	:	-1.6	1.9
1992	:	:	-9.8	:	3.5	:	:	-1.9	0.4	:	-1.2	:	:	5.0	:	2.7	-5.7
1993	:	:	3.9	:	4.8	:	:	-0.8	2.1	:	-3.4	:	0.8	8.0	:	3.2	-3.5
1994	:	:	9.5	:	13.1	:	:	9.5	5.2	:	4.8	:	3.1	-6.1	:	5.3	1.3
1995	:	:	4.7	:	10.6	:	:	9.2	1.8	:	3.2	:	9.4	12.7	:	4.8	3.3
1996	1.4	:	3.3	:	9.4	:	:	1.5	1.2	:	0.5	:	6.3	7.5	:	4.3	2.3
1997	5.9	4.5	11.1	:	11.3	:	:	5.6	1.1	:	3.6	:	-7.3	11.5	:	7.3	3.5
1998	2.0	8.2	19.9	:	4.7	:	:	3.6	1.0	:	3.5	:	-16.8	1.3	:	5.6	-6.2
1999	-8.8	-11.2	10.3	:	4.7	:	-2.0	2.2	0.8	:	1.5	:	-4.4	-3.7	:	4.3	0.3
2000	3.8	5.3	18.2	:	7.5	:	8.4	6.3	1.7	:	4.5	:	6.6	6.0	:	4.6	5.6
1991-2000	:	:	4.7	:	5.0	:	:	3.0	1.2	:	1.7	:	:	4.3	:	4.0	0.2
2001	7.1	15.9	3.6	:	0.4	:	7.5	-0.3	-2.2	:	-0.2	2.2	8.2	-8.7	:	-3.5	-6.4
2002	5.9	7.5	2.7	:	1.4	:	6.7	-1.2	-3.5	:	-1.2	4.6	6.0	9.4	:	-0.7	-3.4
2003	9.1	14.1	6.4	:	9.9	:	6.6	1.4	-0.1	:	0.0	:	:	9.4	:	:	:
2004	8.5	6.0	4.0	:	11.5	:	4.8	1.4	1.1	:	2.8	:	:	9.8	:	:	:
2005	7.7	6.5	4.0	:	10.5	:	4.5	3.5	2.4	:	3.4	:	:	7.0	:	:	:
2006	7.7	6.5	3.5	:	9.9	:	5.2	4.0	2.4	:	3.5	:	:	6.9	:	:	:
2001-06	7.7	9.3	4.0	:	7.2	:	5.9	1.5	0.0	:	1.4	:	:	5.4	:	:	:

⁽¹⁾ 1961-91 including D_90.⁽²⁾ Former EU-15; 1961-91 including D_90.

Table 13

National final uses
Private final consumption expenditure at current prices

(percentage of gross domestic product at market prices)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1960-70	56.7	55.6	70.7	65.9	56.8	75.7	57.6	56.8	53.7	57.4	67.4	58.6	57.5	:	58.3	:	77.6
1971-80	54.0	55.6	62.2	63.4	55.3	68.3	57.8	55.7	51.9	54.4	68.1	53.6	56.4	:	53.5	:	74.2
1981	57.5	57.4	66.0	64.7	57.0	68.9	58.4	61.4	51.6	55.3	68.1	52.4	57.9	:	54.0	:	65.5
1982	58.3	57.3	65.7	64.4	57.2	62.6	58.6	60.9	51.7	55.8	68.0	53.5	58.0	:	53.0	:	66.2
1983	58.8	57.2	67.1	63.7	56.9	62.5	57.9	60.2	51.7	57.3	67.8	53.3	57.7	:	52.1	:	67.4
1984	57.7	57.0	64.6	62.3	56.7	61.6	58.2	58.7	51.3	56.7	69.1	52.5	57.4	:	51.9	:	63.7
1985	58.5	56.6	63.7	62.0	57.0	62.4	58.3	59.3	51.3	56.6	66.4	52.8	57.4	:	51.9	:	63.8
1986	57.6	55.4	64.3	61.3	56.3	62.8	58.3	55.9	50.9	55.8	63.6	52.9	56.7	:	52.3	:	61.2
1987	57.3	55.9	68.7	61.3	56.7	62.1	58.3	56.7	51.6	55.8	62.9	52.7	57.0	:	50.9	:	59.5
1988	56.0	55.1	69.0	60.5	55.6	62.5	57.8	55.1	50.4	56.7	62.7	51.3	56.3	:	50.2	:	60.7
1989	55.4	55.0	69.9	60.8	55.3	61.7	58.4	52.2	49.8	56.7	61.9	50.7	56.3	:	49.9	:	59.5
1990	55.3	54.4	71.2	60.2	55.3	59.1	57.5	52.0	49.6	56.9	62.5	50.1	55.9	48.6	49.1	:	60.0
1981-90	57.2	56.1	67.0	62.1	56.4	62.6	58.2	57.2	51.0	56.4	65.3	52.2	57.1	:	51.5	:	62.7
1991		53.8											56.1				
1991	56.0	56.8	71.0	60.1	55.5	59.5	58.1	52.0	49.9	56.7	63.4	53.5	56.9	46.7	49.3	:	65.6
1992	55.3	56.7	72.7	60.8	55.5	59.4	59.3	50.1	49.9	57.5	64.4	54.5	57.3	51.0	49.5	:	62.5
1993	54.8	57.5	73.1	60.7	55.8	57.8	58.5	48.2	49.8	57.5	66.1	54.1	57.3	49.8	50.0	54.9	58.9
1994	54.5	56.8	73.0	60.5	55.6	57.6	58.9	47.9	49.4	57.8	65.1	52.9	57.0	50.6	51.1	57.8	57.6
1995	54.2	56.9	73.1	59.8	55.5	54.2	58.7	47.9	49.0	57.1	63.3	51.2	56.8	50.1	50.5	55.3	63.5
1996	54.7	57.4	73.7	59.6	55.8	53.7	58.3	48.1	49.9	58.1	63.4	52.1	57.1	51.7	50.3	58.8	64.9
1997	54.1	57.7	72.1	59.3	55.0	51.1	58.9	45.6	49.4	57.9	62.5	50.6	57.0	53.0	50.2	57.9	65.8
1998	54.3	57.6	71.7	59.2	54.8	49.0	59.4	44.7	49.7	56.8	62.2	49.5	56.9	51.6	50.3	57.6	67.2
1999	53.8	58.4	70.6	59.2	54.8	47.6	60.3	42.2	50.1	56.1	62.4	50.3	57.2	51.9	49.6	57.2	65.8
2000	54.1	59.0	68.9	58.9	54.4	46.7	60.5	39.9	49.9	56.8	62.0	49.5	57.3	52.2	47.7	56.1	68.1
1991-2000	54.6	57.5	72.0	59.8	55.3	53.6	59.1	46.7	49.7	57.2	63.5	51.8	57.1	50.9	49.9	:	64.0
2001	54.4	59.7	67.9	58.4	54.7	45.7	60.0	41.8	49.6	57.0	61.4	50.1	57.3	51.5	47.1	56.2	68.3
2002	54.1	58.9	67.3	58.1	54.7	44.7	60.1	42.6	49.7	56.2	61.2	50.9	57.1	51.1	47.2	57.2	68.3
2003	54.5	59.0	67.2	57.8	55.5	45.2	60.4	41.9	49.4	56.1	62.3	52.3	57.3	50.8	47.1	56.6	67.7
2004	54.3	58.3	66.7	57.8	55.4	43.8	60.3	41.2	49.0	56.2	63.0	52.6	57.0	49.6	47.4	56.6	67.1
2005	54.1	58.3	66.5	57.5	55.2	43.4	60.2	40.8	48.8	56.4	62.8	52.8	56.9	49.1	47.5	55.9	66.6
2006	53.9	58.4	66.0	57.1	55.1	43.5	60.1	40.2	48.5	56.6	62.5	52.9	56.8	48.6	47.4	55.2	65.9
2001-06	54.2	58.8	66.9	57.8	55.1	44.4	60.2	41.4	49.2	56.4	62.2	51.9	57.1	50.1	47.3	56.3	67.3

(1) 1960-91 D₉₀.(2) Euro area; 1960-91 including D₉₀.

Table 13 (continued)

(percentage of gross domestic product at market prices)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽¹⁾	EUR-15 ⁽²⁾	BG	RO	TR	HR	US	JP
1960-70	:	:	:	69.2	:	:	:	53.8	63.2	:	58.5	:	:	76.7	:	62.9	52.8
1971-80	:	:	45.7	67.2	:	:	:	50.5	60.3	:	56.7	:	:	73.8	:	63.1	52.4
1981	:	:	48.0	59.8	75.1	:	:	50.2	59.6	:	57.8	:	60.9	71.4	:	62.6	54.2
1982	:	:	47.6	61.8	63.5	:	:	51.0	59.6	:	57.9	:	60.3	73.3	:	64.4	55.4
1983	:	:	48.2	62.6	65.7	:	:	49.5	59.9	:	57.7	:	56.3	74.2	:	65.4	56.0
1984	:	:	48.1	64.3	64.1	:	:	48.3	60.0	:	57.4	:	56.8	75.6	:	64.2	55.4
1985	:	:	49.3	65.4	53.5	:	:	48.9	59.9	:	57.4	:	56.3	71.0	:	65.0	54.6
1986	:	:	50.1	62.7	53.1	:	:	49.2	61.8	:	57.1	:	55.7	67.3	:	65.6	54.3
1987	:	:	49.8	59.7	52.3	:	:	50.3	61.7	:	57.3	:	57.9	68.3	:	66.0	54.6
1988	:	:	47.3	59.7	49.9	:	:	50.1	62.5	:	56.9	:	58.5	63.5	:	66.3	53.6
1989	:	:	46.9	59.3	52.0	:	:	48.9	62.5	:	56.9	:	58.8	65.6	:	66.2	53.4
1990	70.3	:	48.1	58.6	47.9	53.2	:	48.6	62.6	:	56.5	:	65.9	68.6	:	66.8	53.2
1981-90	:	:	48.4	61.4	57.7	:	:	49.5	61.0	:	57.3	:	58.7	69.9	:	65.2	54.5
1991											56.8						
1991	41.7	:	54.8	57.2	59.4	54.8	:	50.3	63.3	:	57.5	54.1	60.7	70.6	:	67.1	52.9
1992	36.0	67.8	57.7	56.7	61.8	55.1	:	50.7	64.0	:	57.8	65.6	62.7	69.5	:	67.4	53.7
1993	47.9	73.1	59.7	55.8	63.2	58.5	55.4	51.6	64.8	58.1	58.0	73.5	63.7	69.1	:	67.9	54.5
1994	53.3	68.0	58.0	55.2	62.6	56.7	52.7	50.6	64.3	57.7	57.7	74.0	63.5	70.0	53.3	67.7	55.6
1995	63.5	66.8	53.9	57.1	60.4	59.6	52.1	48.9	64.0	57.4	57.4	70.7	67.6	70.3	65.1	67.8	55.7
1996	68.5	66.6	52.0	59.5	62.3	58.9	53.3	49.1	64.6	57.8	57.7	74.5	69.5	67.3	62.1	67.8	55.6
1997	67.4	63.0	50.5	58.3	62.7	57.7	53.5	49.3	64.6	57.8	57.8	73.0	74.2	68.0	62.2	67.3	55.4
1998	64.9	61.7	50.9	58.0	62.5	57.3	54.9	49.0	65.0	57.9	57.9	67.5	75.7	69.2	58.9	67.7	56.0
1999	63.5	65.5	52.5	58.7	63.2	57.6	57.0	48.9	65.6	58.3	58.3	71.3	74.3	72.2	57.6	68.2	56.5
2000	63.0	65.2	52.2	63.2	63.9	57.1	56.1	49.1	65.9	58.4	58.4	69.2	70.1	71.5	58.8	69.1	55.9
1991-2000	57.0	:	54.2	58.0	62.2	57.3	:	49.8	64.6	:	57.8	69.3	68.2	69.8	:	67.8	55.2
2001	62.9	65.1	53.0	63.0	64.9	56.3	57.7	48.9	66.4	58.6	58.5	69.5	70.0	72.0	59.2	70.1	56.5
2002	62.7	64.5	53.7	62.2	66.4	54.6	57.5	48.7	66.3	58.4	58.3	68.8	68.9	66.4	59.9	70.7	57.2
2003	63.0	64.9	54.7	61.0	66.0	54.4	56.7	49.0	65.6	58.4	58.3	69.1	68.9	66.6	58.7	70.9	56.9
2004	64.0	65.7	54.7	60.2	65.3	54.0	57.6	48.5	65.1	58.1	58.0	68.8	68.9	68.1	58.4	70.5	57.1
2005	63.8	65.6	54.8	59.7	65.1	53.8	57.9	48.4	64.5	57.9	57.8	69.2	68.4	68.3	58.1	70.1	57.5
2006	63.6	65.2	54.9	59.3	64.8	53.4	58.2	48.4	64.0	57.7	57.6	68.0	67.1	68.4	57.5	69.8	57.2
2001-06	63.3	65.2	54.3	60.9	65.4	54.4	57.6	48.6	65.3	58.2	58.1	68.9	68.7	68.3	58.6	70.4	57.1

⁽¹⁾ 1960-91 including D_90.⁽²⁾ Former EU-15; 1960-91 including D_90.

Table 14

National final uses
Private final consumption expenditure at current prices per head of population

(EUR⁽¹⁾; EUR-15 = 100⁽²⁾)

	BE	DE ⁽³⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽⁴⁾	CZ	DK	EE	CY
1960	115.7	114.6	54.1	40.9	118.3	84.1	71.6	160.4	87.9	83.0	36.6	106.3	88.9	:	123.5	:	:
1965	104.7	115.4	55.6	53.4	120.5	79.8	78.0	149.0	96.0	81.7	34.0	117.0	92.8	:	130.5	:	60.0
1970	104.2	125.1	62.2	54.8	116.6	77.5	87.5	133.4	107.2	80.2	40.6	99.2	97.1	:	137.0	:	60.7
1975	116.9	131.4	56.2	66.4	122.9	65.2	77.4	145.4	116.6	95.5	49.1	110.3	100.7	:	138.0	:	37.9
1980	118.9	130.8	55.9	65.1	119.0	73.3	81.1	146.3	114.5	98.7	34.5	99.1	99.3	:	123.5	:	51.6
1981	113.4	124.6	58.8	63.9	118.6	77.5	82.5	142.5	104.3	97.2	38.6	108.2	97.6	:	121.0	:	52.5
1982	105.4	125.6	63.3	63.6	116.6	75.4	85.3	133.9	105.2	102.3	38.0	115.0	98.1	:	120.6	:	55.9
1983	104.4	129.9	60.4	56.7	114.2	75.0	90.7	134.8	105.7	110.1	34.9	113.9	98.6	:	123.7	:	61.8
1984	102.7	128.3	58.9	58.3	112.6	74.5	94.6	135.0	102.0	107.8	34.3	121.4	98.6	:	125.2	:	65.7
1985	104.5	125.2	55.1	58.7	113.7	77.4	94.6	136.4	99.4	106.6	34.2	124.2	98.0	:	129.1	:	51.9
1986	105.0	128.7	48.5	59.2	114.3	76.5	98.7	137.2	100.8	109.8	34.6	118.7	99.6	:	134.9	:	44.5
1987	104.6	130.4	48.5	60.4	112.2	72.5	99.8	138.5	99.9	110.8	34.3	119.4	99.9	:	131.5	:	44.2
1988	100.1	124.8	51.2	63.5	107.6	73.2	99.1	136.8	93.6	112.2	36.4	124.9	97.9	:	123.7	:	53.0
1989	98.6	120.9	52.9	69.3	105.4	74.6	102.7	135.1	89.5	109.9	38.3	132.2	98.1	:	117.7	:	49.4
1990	100.1	121.3	53.9	72.2	105.8	72.9	103.9	138.0	89.4	111.7	41.0	126.0	99.1	13.4	116.4	:	52.7
1991	99.4	120.6	55.0	74.5	101.8	71.0	106.2	141.7	88.1	111.1	45.3	115.8	98.8	11.4	112.8	:	55.9
1991	100.7	112.0	55.8	75.5	103.2	71.9	107.7	143.6	89.3	112.6	45.9	117.3	98.5	11.5	114.3	:	56.6
1992	101.2	115.9	57.2	76.1	103.7	73.2	106.3	140.2	89.5	116.4	51.5	95.7	99.6	12.7	114.8	:	57.3
1993	105.5	124.5	59.1	69.6	108.4	72.7	93.1	150.4	94.9	123.9	51.4	83.0	100.0	16.1	120.3	5.7	55.8
1994	108.1	124.6	59.8	66.4	108.3	75.4	91.5	155.4	95.5	126.7	50.3	88.9	99.6	18.2	127.3	8.1	57.3
1995	111.2	128.8	60.7	67.0	109.1	75.0	85.9	158.9	99.0	129.3	51.3	97.7	100.5	20.2	130.7	10.8	65.1
1996	106.6	122.7	62.8	68.0	106.9	79.3	93.5	154.2	97.1	126.6	51.9	95.4	99.7	22.5	128.3	14.1	64.4
1997	101.9	116.1	63.6	66.2	101.1	87.2	95.1	147.9	93.4	118.7	51.6	94.5	96.4	22.6	125.7	15.9	65.3
1998	101.0	114.1	61.2	66.9	100.5	86.9	95.0	150.1	94.3	115.3	52.2	94.2	95.6	23.1	123.9	17.4	68.1
1999	99.4	113.0	61.3	67.8	98.8	91.0	94.5	146.8	95.2	112.6	53.2	93.7	95.0	22.4	121.6	17.4	66.9
2000	98.7	109.7	58.6	67.9	96.1	95.5	93.6	145.9	94.9	112.4	52.7	93.8	93.3	23.1	115.6	18.3	71.2
2001	98.2	109.7	59.5	69.2	96.7	99.8	93.7	152.3	96.8	111.7	53.4	95.5	93.8	25.0	114.2	20.0	72.5
2002	97.1	107.0	61.8	71.2	97.0	103.5	94.2	154.6	97.4	109.7	53.9	97.2	93.6	27.9	114.2	23.3	73.2
2003	99.7	107.2	65.8	74.4	99.1	107.5	96.2	157.2	97.2	110.7	54.7	100.8	95.2	27.9	116.0	23.7	75.2
2004	99.7	105.0	67.4	75.7	98.9	107.1	95.6	156.7	94.7	109.5	54.7	100.6	94.5	28.4	116.6	25.1	76.2
2005	100.6	104.2	69.2	77.1	99.0	108.9	96.3	157.7	93.4	109.7	54.8	101.9	94.7	29.3	117.7	26.6	78.3
2006	101.2	103.4	70.7	78.1	99.0	111.4	96.3	158.6	92.3	109.6	54.9	102.5	94.7	29.6	117.8	27.9	79.3

⁽¹⁾ 1960-98 ECU.⁽²⁾ Former EU-15; 1960-91 including D_90.⁽³⁾ 1960-91 D_90.⁽⁴⁾ Euro area; 1960-91 including D_90.

Table 14 (continued)

(EUR⁽¹⁾); EUR-15 = 100⁽²⁾)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽³⁾	EUR-15 ⁽²⁾	BG	RO	TR	HR	US	JP
1960	:	:	:	44.0	:	:	:	169.3	137.7	:	100.0	:	:	59.8	:	282.8	39.9
1965	:	:	:	35.2	:	:	:	163.8	121.0	:	100.0	:	:	30.8	:	238.0	52.6
1970	:	:	:	40.4	:	:	:	164.3	100.6	:	100.0	:	:	28.1	:	236.2	71.6
1975	:	:	:	33.8	:	:	:	154.2	85.2	:	100.0	:	:	28.4	:	160.9	82.1
1980	:	:	18.1	40.7	19.2	:	:	132.0	96.3	:	100.0	:	16.3	22.9	:	132.5	85.8
1981	:	:	20.2	43.1	11.7	:	:	138.0	104.0	:	100.0	:	22.4	22.1	:	162.5	104.5
1982	:	:	21.0	45.1	20.4	:	:	129.0	103.2	:	100.0	:	26.5	20.7	:	180.1	102.9
1983	:	:	19.8	46.9	29.1	:	:	119.0	101.8	:	100.0	:	25.0	21.5	:	203.9	116.7
1984	:	:	20.1	48.9	29.5	:	:	126.5	100.6	:	100.0	:	23.4	22.5	:	231.2	128.0
1985	:	:	34.5	37.4	37.9	:	:	129.9	102.6	:	100.0	:	42.8	17.2	:	240.3	130.2
1986	:	:	18.0	36.0	17.3	:	:	126.6	94.6	:	100.0	:	20.2	14.2	:	187.2	140.3
1987	:	:	11.5	32.3	8.6	:	:	126.8	93.7	:	100.0	:	13.7	12.6	:	160.1	137.1
1988	:	:	10.4	38.1	7.6	:	:	128.4	104.0	:	100.0	:	12.3	12.3	:	155.4	147.1
1989	:	:	11.9	35.4	10.7	:	:	129.5	103.4	:	100.0	:	12.6	13.2	:	163.2	144.1
1990	:	:	8.6	36.8	4.5	:	:	124.5	99.2	:	100.0	:	6.1	16.7	:	139.9	119.9
1991	:	:	10.1	36.9	7.2	28.1	:	129.9	100.1	:	100.0	2.7	4.3	16.4	:	137.9	130.4
1991	:	:	10.2	37.4	7.3	28.5	:	131.7	101.4	:	100.0	2.8	4.4	16.6	:	139.8	132.2
1992	1.8	3.1	10.0	36.9	7.0	28.2	:	125.4	97.1	:	100.0	3.2	2.6	15.4	:	134.0	133.4
1993	4.0	4.8	20.0	35.6	13.6	33.5	12.5	105.4	97.3	85.6	100.0	8.4	6.7	18.8	:	154.6	171.4
1994	7.2	6.7	19.8	36.6	14.7	35.0	13.0	104.8	98.8	85.8	100.0	7.2	7.1	12.7	14.6	153.3	182.1
1995	9.4	8.8	17.5	39.5	16.0	45.2	14.2	103.3	94.2	86.1	100.0	8.3	7.9	14.5	20.7	140.3	176.2
1996	11.4	11.0	16.7	41.0	18.2	43.8	15.2	110.3	97.2	86.4	100.0	6.5	8.0	14.3	20.5	143.1	152.0
1997	13.3	13.5	17.5	42.5	19.5	44.2	16.5	107.9	115.2	86.6	100.0	7.1	9.1	15.9	22.2	158.9	148.0
1998	13.5	14.6	17.6	42.8	20.6	45.7	17.1	103.9	120.0	86.8	100.0	7.9	10.7	16.1	21.8	161.0	131.9
1999	14.4	15.2	18.5	44.5	20.2	46.4	16.2	104.4	123.4	86.8	100.0	8.5	8.9	15.2	19.4	169.3	149.6
2000	16.8	17.3	19.5	50.9	22.5	44.5	17.2	108.4	132.1	87.2	100.0	8.7	9.5	17.3	19.9	194.7	170.5
2001	18.0	18.4	22.0	50.3	25.7	45.1	18.2	98.2	131.2	87.7	100.0	9.8	10.2	12.4	21.6	201.5	150.9
2002	18.7	19.7	25.9	48.2	25.0	45.7	19.6	99.4	132.1	87.9	100.0	10.3	10.9	13.1	23.2	192.3	134.6
2003	18.9	21.6	27.8	46.7	22.6	47.2	21.4	103.0	122.8	87.8	100.0	11.0	11.3	14.1	23.8	166.1	119.5
2004	20.5	22.9	29.8	46.0	22.6	47.7	23.6	102.4	126.4	88.0	100.0	11.8	12.1	15.8	24.4	154.7	114.1
2005	22.3	24.3	32.1	45.5	24.5	49.2	24.5	104.6	125.0	88.3	100.0	12.8	12.9	15.9	24.7	154.8	112.2
2006	24.2	25.5	33.6	45.1	25.1	50.5	25.4	105.5	124.9	88.5	100.0	13.3	13.0	16.0	25.1	154.3	112.8

(1) 1960-98 ECU.

(2) Former EU-15; 1960-91 including D_90.

(3) 1960-91 including D_90.

Table 15

National final uses
Private final consumption expenditure at current prices per head of population

(PPS; EUR-15 = 100⁽¹⁾)

	BE	DE ⁽²⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽³⁾	CZ	DK	EE	CY
1960	99.6	118.5	65.6	67.2	96.1	86.7	85.5	129.5	103.9	97.2	48.5	87.9	92.8	:	128.1	:	:
1965	95.5	117.1	72.3	79.8	98.0	80.4	88.0	132.4	104.3	95.6	50.8	92.3	95.3	:	126.6	:	:
1970	93.4	113.8	82.1	81.4	101.1	80.0	98.1	105.4	105.9	94.2	59.0	89.0	98.1	:	122.3	:	:
1975	98.0	113.9	84.9	87.2	101.9	76.4	97.7	119.4	100.5	100.5	71.0	92.7	99.5	:	107.3	:	:
1980	104.1	118.8	89.6	81.3	102.6	80.6	103.6	120.3	99.9	103.3	65.3	91.6	101.2	:	105.7	:	:
1981	105.9	119.1	88.5	80.5	104.5	81.7	103.6	122.6	95.6	103.7	67.5	92.1	101.4	:	103.4	:	:
1982	107.2	117.2	85.8	80.1	106.1	74.5	103.7	121.8	93.3	105.9	67.9	95.6	101.1	:	103.4	:	:
1983	107.1	117.6	85.1	79.3	105.2	72.7	102.5	122.3	93.4	110.6	66.4	96.2	100.7	:	102.2	:	:
1984	105.9	119.0	81.8	77.3	104.3	73.1	103.9	124.4	93.7	108.0	65.1	95.6	100.5	:	103.6	:	:
1985	106.7	118.5	80.5	76.7	103.5	74.5	104.9	126.4	93.5	108.0	62.7	96.8	100.3	:	105.0	:	:
1986	104.7	116.1	79.7	76.4	102.0	73.5	105.4	127.7	93.3	106.5	61.3	96.8	99.2	:	107.5	:	:
1987	103.2	115.2	80.6	77.9	101.5	73.7	105.1	129.7	92.6	104.9	62.6	97.4	99.0	:	101.4	:	:
1988	101.9	113.6	81.6	78.2	100.3	75.3	105.0	131.4	89.9	108.9	65.2	95.9	98.5	:	98.1	:	:
1989	100.9	113.2	83.0	79.8	100.3	77.1	105.9	131.4	89.7	108.9	66.7	96.2	98.9	:	94.6	:	:
1990	101.9	114.1	82.5	80.5	100.8	78.2	104.4	134.0	90.7	111.4	69.1	92.7	99.3	57.8	92.2	:	73.0
1991	102.9	115.2	82.7	81.0	99.9	78.6	105.1	141.4	91.4	112.2	71.8	90.6	99.8	48.6	92.1	:	77.2
1991	104.5	107.1	83.9	82.2	101.4	79.7	106.6	143.5	92.7	113.8	72.9	91.9	99.4	49.3	93.4	:	78.3
1992	102.9	107.0	84.7	82.5	101.0	80.5	107.9	137.0	92.0	115.2	73.8	88.4	99.6	52.8	92.7	:	78.6
1993	101.0	106.9	83.7	81.6	100.6	80.4	105.5	135.7	92.1	115.1	74.5	86.6	98.8	51.7	93.7	28.0	73.0
1994	101.3	105.7	83.2	81.5	99.9	82.9	106.3	135.3	91.6	116.1	72.5	85.9	98.4	52.6	98.7	29.1	72.7
1995	101.4	105.7	82.0	81.4	99.5	83.6	107.2	133.2	91.8	114.7	72.1	84.2	98.4	54.3	98.1	29.2	82.5
1996	100.5	105.4	81.8	81.3	99.0	86.0	105.7	132.6	93.1	116.8	71.9	85.6	98.0	57.4	98.1	32.3	82.9
1997	99.2	104.2	81.2	81.2	98.2	89.6	105.5	131.2	93.3	114.3	72.2	87.4	97.5	57.2	98.8	34.9	83.0
1998	98.4	102.8	80.3	82.3	98.0	89.5	107.1	134.5	94.0	111.2	73.2	87.8	97.4	53.6	98.0	35.9	85.4
1999	96.6	102.8	78.7	84.5	97.2	90.2	106.7	136.5	93.9	110.5	74.8	87.2	97.4	53.0	98.2	34.9	84.0
2000	98.3	102.6	77.6	83.9	96.4	91.9	106.4	135.5	94.2	112.8	74.4	87.9	97.1	52.6	94.0	36.3	88.8
2001	99.3	102.1	77.9	83.8	97.7	92.0	104.0	138.8	95.7	110.4	73.7	88.9	96.8	53.0	92.6	37.6	91.3
2002	98.8	100.1	81.6	85.7	98.1	94.3	102.5	139.9	94.7	107.8	73.0	88.5	96.4	54.1	90.5	40.1	89.3
2003	99.8	99.5	84.1	86.4	99.0	96.7	102.0	139.8	92.1	107.5	73.0	91.9	96.4	55.2	90.2	41.6	88.8
2004	100.2	98.8	85.2	86.8	99.4	95.8	101.0	139.6	91.1	107.8	73.3	93.7	96.2	55.1	91.3	43.7	89.1
2005	100.6	98.5	86.2	86.7	99.4	96.4	101.0	139.3	90.6	108.4	73.1	95.3	96.2	55.8	92.1	45.2	89.6
2006	101.0	98.6	86.8	86.4	99.4	98.4	100.7	138.5	90.2	108.8	72.7	96.2	96.2	56.5	91.9	46.8	90.1

⁽¹⁾ Former EU-15; 1960-91 including D_90.⁽²⁾ 1960-91 D_90.⁽³⁾ Euro area; 1960-91 including D_90.

Table 15 (continued)

(PPS; EUR-15 = 100⁽¹⁾)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽²⁾	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US	JP
1960	:	:	:	:	:	:	:	117.4	127.1	:	100.0	:	:	38.4	:	164.2	51.7
1965	:	:	:	:	:	:	:	115.1	116.6	:	100.0	:	:	35.0	:	159.2	63.6
1970	:	:	:	:	:	:	:	109.4	105.5	:	100.0	:	:	34.0	:	152.5	77.6
1975	:	:	:	:	:	:	:	103.3	101.3	:	100.0	:	:	34.6	:	145.3	85.4
1980	:	:	:	:	:	:	:	95.4	94.5	:	100.0	:	:	34.6	:	145.8	91.9
1981	:	:	:	:	:	:	:	96.2	93.4	:	100.0	:	:	31.0	:	144.4	92.1
1982	:	:	:	:	:	:	:	98.1	94.5	:	100.0	:	:	31.9	:	143.0	95.3
1983	:	:	:	:	:	:	:	95.7	97.0	:	100.0	:	:	32.6	:	148.1	96.1
1984	:	:	:	:	:	:	:	95.7	97.8	:	100.0	:	:	34.0	:	152.2	95.8
1985	:	:	:	:	:	:	:	96.8	98.7	:	100.0	:	:	31.8	:	155.2	96.3
1986	:	:	:	:	:	:	:	97.8	103.4	:	100.0	:	:	30.9	:	156.9	96.0
1987	:	:	:	:	:	:	:	99.9	104.5	:	100.0	:	:	32.5	:	156.9	96.7
1988	:	:	:	:	:	:	:	98.5	107.4	:	100.0	:	:	29.3	:	157.6	97.9
1989	:	:	:	:	:	:	:	95.1	106.3	:	100.0	:	:	28.8	:	156.7	99.1
1990	59.8	:	43.3	:	29.0	60.9	:	93.1	105.1	:	100.0	:	35.7	31.6	:	156.2	101.8
1991	30.6	:	42.8	58.0	32.8	56.2	:	93.2	102.8	:	100.0	27.6	28.2	31.7	:	152.2	102.6
1991	31.1	:	43.4	58.9	33.3	57.0	:	94.6	104.3	:	100.0	28.0	28.6	32.1	:	154.4	104.1
1992	18.2	46.7	44.1	59.7	34.9	53.6	:	92.4	104.0	:	100.0	31.4	27.1	32.5	:	156.1	105.0
1993	21.9	42.5	45.6	60.9	37.0	58.8	35.6	91.8	108.0	90.0	100.0	35.0	28.0	34.3	:	159.8	107.0
1994	24.8	35.2	44.8	61.9	37.8	58.9	35.2	91.4	109.5	90.0	100.0	35.3	28.5	31.6	:	160.6	107.9
1995	29.5	35.5	41.6	66.4	38.3	63.5	36.1	89.9	110.0	90.1	100.0	34.3	32.1	33.0	:	160.5	107.9
1996	32.7	36.6	40.0	70.1	41.1	63.7	38.4	89.6	111.9	90.5	100.0	32.3	33.7	32.5	:	161.3	108.9
1997	34.5	36.5	39.8	70.0	43.2	64.2	39.4	89.5	114.9	90.7	100.0	29.5	33.2	34.1	:	162.0	108.1
1998	34.2	37.6	41.0	69.7	43.9	64.4	41.0	88.0	115.3	90.8	100.0	27.8	31.5	34.2	:	163.4	104.8
1999	33.8	38.3	42.8	70.7	44.8	66.1	41.7	89.9	115.3	91.0	100.0	29.2	29.6	32.5	:	164.8	102.3
2000	34.7	39.0	43.4	77.2	45.4	64.9	41.8	91.4	116.8	91.1	100.0	29.0	27.6	33.7	:	165.6	100.5
2001	36.6	41.2	46.5	73.7	46.3	65.5	43.9	88.5	118.8	91.4	100.0	30.9	29.1	29.3	:	165.1	100.4
2002	38.7	43.6	48.9	71.8	47.2	64.8	46.3	87.2	121.7	91.6	100.0	31.1	30.6	28.1	:	167.5	100.7
2003	41.8	48.1	51.2	69.8	48.5	65.8	47.2	88.2	121.2	91.9	100.0	32.6	32.1	29.2	:	170.4	102.0
2004	45.1	51.4	52.6	68.2	50.0	66.9	49.5	89.0	122.1	92.2	100.0	33.9	34.1	31.4	:	172.6	105.1
2005	47.4	53.9	53.9	67.3	51.6	68.0	51.3	89.6	122.0	92.5	100.0	35.7	35.3	32.1	:	172.5	106.3
2006	49.7	55.8	55.3	66.6	52.8	68.9	53.2	90.3	122.0	92.7	100.0	36.1	35.9	32.8	:	172.0	106.4

⁽¹⁾ Former EU-15; 1960-91 including D_90.⁽²⁾ 1960-91 including D_90.

Table 16

National final uses
Private final consumption expenditure at 1995 prices

(national currency; annual percentage change)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1961-70	3.7	5.1	7.1	7.3	5.4	3.4	6.4	4.4	6.2	4.1	5.4	5.2	5.6	:	4.3	:	:
1971-80	4.0	3.4	5.2	3.8	3.4	4.1	4.0	4.1	3.2	4.0	3.9	3.1	3.6	:	1.3	:	:
1981	0.4	-0.5	-0.7	-1.0	1.5	1.7	1.9	1.7	-3.7	1.3	2.9	1.3	0.4	:	-1.8	:	:
1982	2.4	-1.1	3.4	0.0	2.8	-6.9	1.1	0.4	-0.9	2.6	2.4	4.6	0.8	:	1.9	:	:
1983	-0.2	1.4	2.1	0.4	0.5	0.8	0.3	0.5	1.0	4.9	-1.4	3.2	0.9	:	1.0	:	:
1984	0.4	2.0	0.4	-0.2	0.5	2.0	3.0	1.4	1.7	-1.1	-2.9	3.1	1.4	:	2.1	:	:
1985	2.7	1.9	0.5	2.3	1.6	4.6	3.1	2.7	1.8	1.8	0.7	3.6	2.1	:	4.0	:	:
1986	2.7	3.9	-1.5	3.4	3.6	2.9	4.0	3.3	2.3	1.9	5.6	3.4	3.5	:	5.9	:	:
1987	1.7	3.7	2.7	6.0	3.0	3.3	3.8	4.6	2.1	2.6	5.3	4.9	3.6	:	-2.2	:	:
1988	3.3	2.6	6.2	4.9	2.7	4.4	4.0	6.0	0.8	7.8	6.9	5.4	3.4	:	-2.1	:	:
1989	3.3	3.2	6.2	5.4	3.0	5.9	3.7	4.8	3.0	3.9	2.9	5.3	3.6	:	-0.1	:	:
1990	3.2	5.2	2.6	3.5	2.7	0.6	2.1	3.8	3.8	4.6	6.4	-1.1	3.4	:	0.1	:	:
1981-90	2.0	2.2	2.2	2.4	2.2	1.9	2.7	2.9	1.2	3.0	2.8	3.3	2.3	:	0.9	:	:
1991	3.0	3.6	2.8	2.9	0.7	1.8	2.9	7.0	2.7	3.6	4.2	-3.8	2.5	-21.4	1.6	:	:
1992	1.9	2.7	2.3	2.2	0.9	2.9	1.9	-2.3	0.5	3.6	4.7	-4.0	1.9	8.8	1.9	:	:
1993	-0.4	0.1	-0.7	-1.9	-0.4	2.9	-3.7	2.1	0.3	-0.3	1.1	-3.8	-1.0	1.2	0.5	:	:
1994	2.4	1.1	2.0	1.1	1.2	4.4	1.5	4.0	1.4	3.3	1.0	2.5	1.4	6.9	6.5	0.6	:
1995	1.6	2.1	2.9	1.7	1.2	3.4	1.7	1.9	2.9	0.4	0.6	4.1	1.8	5.9	1.2	5.0	18.1
1996	1.1	1.0	2.4	2.2	1.3	6.4	1.2	4.3	4.0	3.4	3.0	3.7	1.6	8.8	2.5	10.1	3.5
1997	2.0	0.6	2.7	3.2	0.2	7.2	3.2	3.9	3.0	0.0	3.3	3.4	1.6	1.3	2.9	10.5	3.9
1998	3.1	1.8	3.5	4.4	3.4	7.2	3.2	6.6	4.8	1.6	5.0	4.3	3.0	-1.5	2.3	5.2	8.6
1999	2.3	3.7	2.5	4.7	3.2	8.8	2.6	2.6	4.7	2.0	5.1	3.5	3.5	2.1	0.7	-2.5	2.8
2000	3.5	2.0	2.0	4.1	2.6	9.0	2.7	4.6	3.5	3.9	2.9	3.1	2.8	2.9	-0.7	8.6	8.2
1991-2000	2.0	1.9	2.2	2.4	1.4	5.4	1.7	3.4	2.8	2.1	3.1	1.2	1.9	1.1	1.9	:	:
2001	0.6	1.7	3.0	2.8	2.7	5.2	0.8	5.1	1.4	1.0	1.2	1.8	1.9	2.6	-0.2	6.2	4.6
2002	0.3	-0.7	3.0	2.9	1.5	2.6	0.5	3.2	1.3	-0.1	1.0	1.5	0.7	2.8	0.6	10.3	2.5
2003	2.2	0.0	4.4	2.9	1.5	2.6	1.3	1.6	-0.9	0.6	-0.5	4.3	1.1	4.9	0.8	5.7	2.4
2004	2.1	0.1	3.5	3.2	2.4	3.0	1.5	2.2	0.5	1.2	2.1	3.3	1.5	3.9	3.2	6.5	3.2
2005	2.3	1.1	3.2	2.8	1.7	3.8	1.6	2.6	0.9	2.1	1.8	2.7	1.7	3.7	2.9	5.2	3.4
2006	2.5	1.7	3.0	2.8	2.1	4.8	1.7	3.0	1.2	2.4	2.0	2.4	2.0	3.8	1.9	5.2	3.5
2001-06	1.7	0.7	3.3	2.9	2.0	3.7	1.2	2.9	0.7	1.2	1.2	2.7	1.5	3.6	1.5	6.5	3.3

(¹) 1961-91 D_90.

(²) Weighted in common currency; euro area; 1961-91 including D_90.

Table 16 (continued)

(national currency; annual percentage change)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-15 ⁽¹⁾	EU-25 ⁽²⁾	BG	RO	TR	HR	US	JP
1961-70	:	:	:	:	:	:	:	3.8	2.5	4.8	:	:	:	4.9	:	4.4	9.0
1971-80	:	:	:	:	:	:	:	1.6	2.3	3.3	:	:	:	5.1	:	3.2	4.7
1981	:	:	:	:	:	:	:	-0.6	0.1	0.3	:	:	:	-9.3	:	1.4	1.4
1982	:	:	:	:	:	:	:	0.9	0.9	0.9	:	:	:	7.7	:	1.4	4.4
1983	:	:	:	:	:	:	:	-2.1	4.1	1.4	:	:	:	6.3	:	5.7	2.8
1984	:	:	:	:	:	:	:	1.8	2.2	1.6	:	:	:	8.4	:	5.3	2.4
1985	:	:	:	:	:	:	:	3.3	3.9	2.5	:	:	:	-1.2	:	5.2	4.0
1986	:	:	:	:	:	:	:	5.3	6.3	4.1	:	:	:	5.7	:	4.1	3.3
1987	:	:	:	:	:	:	:	5.4	5.5	3.8	:	:	:	-0.8	:	3.3	4.1
1988	:	:	:	:	:	:	:	2.6	7.6	3.9	:	:	:	1.3	:	4.1	4.9
1989	:	:	:	:	:	:	:	1.2	3.4	3.4	:	:	:	-1.1	:	2.8	4.8
1990	:	:	:	:	:	:	:	-0.4	1.0	2.8	:	:	:	13.4	:	2.0	4.6
1981-90	:	:	:	:	:	:	:	1.7	3.5	2.5	:	:	:	2.9	:	3.5	3.7
1991	:	:	:	:	6.6	-10.9	:	1.1	-1.5	1.8	:	:	-16.3	2.7	:	0.2	2.9
1992	:	:	:	:	2.4	-3.6	:	-1.3	0.5	1.6	:	1.0	-7.5	3.2	:	3.3	2.6
1993	:	:	3.2	:	5.4	13.8	:	-3.5	3.0	-0.5	:	-0.8	0.9	8.6	:	3.3	1.4
1994	:	:	0.3	:	3.9	4.0	1.0	1.9	3.1	1.7	:	-2.6	2.4	-5.4	:	3.7	2.7
1995	:	:	-6.5	:	3.7	9.1	5.4	1.0	1.7	1.7	:	-0.5	12.9	4.7	:	2.7	1.8
1996	10.6	6.5	-3.5	7.1	8.5	2.6	7.9	1.6	3.6	1.9	2.1	-3.9	8.1	8.5	1.1	3.4	2.5
1997	5.0	5.3	1.9	1.6	6.9	2.5	5.5	2.7	3.6	1.9	2.0	-10.7	-3.5	8.6	12.8	3.8	0.9
1998	0.7	4.8	4.9	2.5	4.8	3.0	6.5	3.0	3.9	3.2	3.2	2.7	1.0	0.3	-0.6	5.0	-0.1
1999	4.3	4.1	5.6	6.1	5.2	5.9	3.2	3.8	4.4	3.6	3.6	9.6	-2.1	-3.1	-2.9	5.1	0.2
2000	6.3	6.1	5.5	7.4	2.8	0.4	-0.8	5.0	4.6	3.1	3.1	4.3	-0.6	6.1	4.2	4.7	1.0
1991-2000	:	:	:	:	5.0	2.5	:	1.5	2.7	2.0	:	:	-0.8	3.3	:	3.5	1.6
2001	7.3	3.6	5.7	-0.7	2.0	2.3	4.7	0.4	2.9	2.0	2.0	5.2	7.1	-9.2	4.4	2.5	1.7
2002	7.4	6.1	10.2	-0.4	3.4	0.3	5.3	1.4	3.3	1.2	1.4	3.6	4.7	1.9	7.5	3.1	0.9
2003	8.6	12.4	8.0	1.5	3.1	2.7	-0.4	1.9	2.3	1.4	1.5	6.4	7.0	7.2	4.1	3.3	0.8
2004	9.0	9.1	3.1	-0.3	4.0	3.5	3.6	2.3	3.3	1.9	2.0	6.0	8.0	11.7	3.5	3.5	3.1
2005	8.5	6.5	3.4	0.6	4.2	3.3	4.1	3.0	2.3	1.9	2.0	7.5	5.5	5.7	3.8	2.3	2.0
2006	8.0	5.9	3.7	1.1	4.4	3.3	4.3	3.0	2.1	2.1	2.2	4.0	4.5	6.2	4.2	2.6	2.0
2001-06	8.1	7.2	5.6	0.3	3.5	2.6	3.6	2.0	2.7	1.7	1.8	5.4	6.1	3.7	4.6	2.9	1.8

⁽¹⁾ Weighted in common currency; former EU-15; 1961-91 including D_90.⁽²⁾ Weighted in common currency.

Table 17

National final uses
Final consumption expenditure of general government at current prices

(percentage of gross domestic product at market prices)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1960-70	16.9	14.6	11.0	9.2	16.7	13.9	15.7	13.1	18.6	14.2	11.6	14.2	15.2	:	17.4	:	9.7
1971-80	20.8	18.6	12.3	11.5	19.3	18.1	16.7	16.6	23.3	17.2	12.9	17.3	18.1	:	24.3	:	13.2
1981	24.2	20.5	14.8	14.9	22.4	21.0	18.2	20.6	25.5	18.9	13.9	19.0	20.3	:	28.4	:	14.6
1982	23.9	20.2	14.4	15.1	23.1	20.9	18.3	19.5	25.8	19.3	13.8	19.2	20.4	:	28.7	:	14.8
1983	23.5	19.9	15.0	15.5	23.3	20.4	18.7	18.7	25.5	19.4	14.0	19.7	20.5	:	27.9	:	15.1
1984	23.5	19.7	15.4	15.3	23.7	19.7	18.4	18.2	24.3	19.4	13.9	19.7	20.3	:	26.6	:	14.1
1985	23.0	19.6	16.1	15.6	23.7	19.5	18.6	18.7	24.3	19.6	14.4	20.6	20.4	:	25.9	:	14.1
1986	22.8	19.4	15.2	15.4	23.4	19.8	18.3	18.2	24.2	19.9	14.2	21.0	20.2	:	24.6	:	14.4
1987	22.6	19.5	15.4	15.9	23.1	18.6	19.1	19.3	25.2	19.9	14.1	21.3	20.4	:	25.8	:	16.6
1988	21.3	19.3	14.1	15.7	22.7	17.1	19.5	18.3	24.6	19.2	14.6	20.4	20.1	:	26.3	:	16.7
1989	20.6	18.5	15.0	16.2	22.3	15.9	19.3	17.9	23.8	19.0	15.4	20.2	19.6	:	25.9	:	16.0
1990	20.3	18.1	15.1	16.7	22.3	16.4	20.2	18.3	23.5	18.7	16.2	21.6	19.7	25.0	25.6	:	17.3
1981-90	22.6	19.5	15.0	15.6	23.0	18.9	18.9	18.8	24.7	19.3	14.5	20.3	20.2	:	26.6	:	15.4
1991		17.6											19.8				
1991	21.0	19.2	14.2	17.4	22.5	17.4	20.3	17.7	23.7	18.8	18.0	24.9	20.2	24.6	25.7	:	18.4
1992	21.1	19.8	13.7	18.3	23.1	17.8	20.1	18.4	24.3	19.0	18.0	25.4	20.6	21.1	25.8	:	19.0
1993	21.4	19.9	14.3	18.8	24.5	17.6	19.9	18.3	24.7	19.8	18.6	24.2	21.1	23.7	26.8	22.7	16.8
1994	21.2	19.7	13.8	18.2	24.1	17.4	19.1	17.8	24.2	19.8	18.7	23.4	20.7	23.6	25.9	25.5	16.6
1995	21.4	19.8	15.3	18.1	23.9	16.5	17.9	18.4	24.0	20.1	18.6	22.8	20.5	21.7	25.8	27.2	16.0
1996	21.7	19.9	14.5	17.9	24.2	15.8	18.1	18.9	23.1	19.9	18.9	23.2	20.5	21.2	25.9	25.0	18.0
1997	21.2	19.5	15.1	17.5	24.2	15.2	18.2	17.9	22.9	18.9	19.0	22.3	20.2	21.8	25.5	22.5	18.8
1998	21.1	19.2	15.3	17.5	23.4	14.4	17.9	16.8	22.7	18.8	18.9	21.6	19.9	21.0	26.0	21.6	19.2
1999	21.2	19.1	15.4	17.4	23.3	14.0	18.0	16.8	22.9	19.0	19.7	21.6	19.9	22.3	25.8	22.0	17.1
2000	21.1	19.0	17.7	17.7	23.2	14.0	18.3	15.7	22.7	18.4	20.5	20.6	19.9	22.1	25.3	19.9	16.5
1991-2000	21.2	19.5	14.9	17.9	23.6	16.0	18.8	17.7	23.5	19.2	18.9	23.0	20.4	22.3	25.8	:	17.6
2001	21.7	19.0	16.8	17.6	23.2	14.8	18.8	16.9	23.5	18.0	20.9	21.0	20.1	22.2	25.9	19.0	17.5
2002	22.3	19.2	17.1	17.7	23.9	15.3	19.0	17.6	24.6	17.9	21.2	21.7	20.4	23.0	26.3	18.8	18.5
2003	22.8	19.2	16.0	17.9	24.3	15.8	19.5	18.2	25.4	18.0	21.3	22.3	20.7	23.8	26.6	19.0	19.1
2004	22.9	18.5	16.6	18.0	24.1	15.7	19.5	18.3	25.4	17.7	21.3	22.6	20.4	23.2	26.4	18.9	17.9
2005	22.9	18.2	16.4	18.1	23.9	15.6	19.2	18.4	25.1	17.4	21.1	22.6	20.2	22.6	26.0	18.8	17.6
2006	23.0	18.1	16.1	18.2	23.8	15.4	19.0	18.4	25.1	17.1	20.7	22.6	20.1	22.1	25.8	18.6	17.3
2001-06	22.6	18.7	16.5	17.9	23.9	15.4	19.2	18.0	24.8	17.7	21.1	22.1	20.3	22.8	26.2	18.8	18.0

(1) 1960-91 D₉₀.

(2) Euro area; 1960-91 including D₉₀.

Table 17 (continued)

(percentage of gross domestic product at market prices)

	LV	LT	LU	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽¹⁾	EUR-15 ⁽²⁾	BG	RO	TR	HR	US	JP
1960-70	:	:	:	:	:	:	:	:	18.9	17.6	:	15.9	:	:	8.6	:	17.4	10.8
1971-80	:	:	:	24.7	16.9	:	:	:	26.1	20.3	:	18.9	:	:	11.2	:	17.2	12.8
1981	:	:	:	24.6	16.1	9.2	:	:	30.1	22.2	:	21.2	:	5.1	10.9	:	16.9	13.6
1982	:	:	:	24.1	17.2	8.0	:	:	30.0	22.1	:	21.2	:	4.1	9.5	:	17.8	13.8
1983	:	:	:	24.6	16.8	8.6	:	:	29.3	21.9	:	21.2	:	4.0	10.5	:	17.7	14.1
1984	:	:	:	23.6	16.3	9.1	:	:	28.3	21.7	:	21.0	:	3.7	8.9	:	17.2	13.9
1985	:	:	:	24.5	16.5	17.7	:	:	27.9	20.9	:	20.9	:	3.9	8.9	:	17.7	13.5
1986	:	:	:	25.8	16.3	17.4	:	:	27.5	20.9	:	20.6	:	3.6	9.0	:	18.1	13.5
1987	:	:	:	25.0	16.7	16.9	:	:	26.6	20.4	:	20.7	:	3.3	7.8	:	17.9	13.6
1988	:	:	:	28.4	16.2	15.7	:	:	26.0	19.7	:	20.4	:	3.6	7.6	:	17.2	13.2
1989	:	:	:	25.0	16.7	5.8	:	:	26.2	19.4	:	20.0	:	11.6	9.3	:	16.8	13.0
1990	7.7	19.2	16.4	25.7	16.4	21.1	17.4	21.9	27.4	19.8	:	20.1	18.2	13.3	11.0	:	17.0	12.9
1981-90	:	:	:	25.1	16.5	13.0	:	:	27.9	20.9	:	20.7	:	5.6	9.3	:	17.4	13.5
1991											20.4							
1991	9.3	10.8	25.7	17.0	17.0	24.7	19.0	20.6	28.1	20.7	:	20.7	19.0	15.2	12.4	:	17.2	13.0
1992	10.8	13.1	26.5	17.5	23.4	23.4	20.3	25.6	29.2	21.1	:	21.1	20.3	14.3	12.9	:	16.8	13.4
1993	18.1	15.5	28.6	18.8	22.0	22.0	21.1	24.3	29.4	20.4	21.4	21.3	18.9	12.3	13.0	:	16.2	13.8
1994	18.1	19.6	26.2	19.0	19.0	20.2	20.2	20.7	28.3	19.9	20.9	20.9	17.2	13.8	11.6	29.4	15.6	14.2
1995	24.4	21.9	23.6	22.0	19.2	19.0	19.7	20.5	27.2	19.5	20.7	20.7	15.3	13.7	10.8	28.2	15.4	14.6
1996	23.8	22.3	22.0	20.2	18.7	18.7	19.7	22.4	27.8	19.1	20.6	20.7	11.9	13.1	11.6	25.4	15.0	14.8
1997	20.8	22.8	21.9	19.1	18.4	18.4	19.4	21.5	27.2	18.2	20.2	20.2	12.6	12.3	12.3	26.0	14.6	14.8
1998	23.5	24.3	21.7	18.4	17.8	17.8	19.4	21.7	27.4	17.8	19.9	19.9	15.3	14.5	12.7	26.6	14.3	15.3
1999	22.8	22.2	21.5	17.5	17.9	17.9	19.3	19.8	27.4	18.3	19.9	20.0	16.5	14.5	15.2	27.8	14.4	15.9
2000	21.5	21.6	20.8	19.2	18.0	18.0	19.8	19.8	26.6	18.6	20.0	20.0	17.9	16.1	14.1	26.1	14.4	16.4
1991-2000	19.3	19.4	23.9	18.6	19.9	19.9	19.8	21.7	27.9	19.4	:	20.5	16.5	14.0	12.6	:	15.4	14.6
2001	20.6	19.8	21.8	20.5	18.0	18.0	20.5	20.1	27.1	19.1	20.2	20.2	17.4	15.2	14.2	22.9	14.8	17.1
2002	20.2	19.3	23.4	21.1	18.1	18.1	20.2	20.0	28.1	20.0	20.6	20.7	18.0	13.3	14.0	21.0	15.4	17.7
2003	20.8	18.5	24.2	21.0	17.8	17.8	20.3	20.0	28.3	20.9	21.0	21.0	19.0	14.3	13.6	20.6	15.7	17.5
2004	21.1	18.6	23.3	20.9	17.2	17.2	19.8	19.4	27.8	21.1	20.8	20.9	18.9	13.9	12.9	19.7	15.4	17.2
2005	22.0	18.8	22.8	20.7	16.8	16.8	19.6	19.0	27.7	21.2	20.7	20.7	19.0	13.6	12.7	18.8	15.3	17.2
2006	22.3	18.4	22.9	20.4	16.2	16.2	19.5	18.6	27.6	21.5	20.6	20.7	18.5	13.2	12.8	17.8	15.2	17.1
2001-06	21.2	18.9	23.1	20.8	17.3	17.3	20.0	19.5	27.8	20.6	20.7	20.7	18.5	13.9	13.4	20.1	15.3	17.3

⁽¹⁾ 1960-91 including D_90.⁽²⁾ Former EU-15; 1960-91 including D_90.

Table 18

National final uses
Final consumption expenditure of general government at 1995 prices

(national currency; annual percentage change)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1961-70	5.5	4.4	6.3	4.3	4.1	4.5	4.0	3.4	3.1	3.1	9.5	5.1	4.3	:	6.0	:	:
1971-80	4.1	3.8	6.2	5.5	3.4	6.3	3.5	3.0	3.5	3.4	8.4	5.0	3.8	:	3.9	:	:
1981	3.1	2.4	6.8	4.1	3.4	0.3	3.4	1.4	3.2	1.8	5.5	4.7	3.1	:	2.0	:	:
1982	-0.7	-0.6	-2.0	4.8	4.7	3.3	2.9	1.5	2.5	3.3	3.7	2.6	2.2	:	2.7	:	:
1983	0.6	0.2	3.6	3.2	2.2	-0.4	3.6	1.9	2.1	1.9	3.8	2.1	1.8	:	0.1	:	:
1984	0.2	2.1	2.7	1.9	2.8	-0.7	1.8	2.2	0.2	0.7	0.2	3.0	1.9	:	-0.2	:	:
1985	2.9	1.8	3.8	4.3	2.2	1.8	3.0	2.0	5.0	1.3	6.4	4.4	2.7	:	2.1	:	:
1986	1.3	2.4	-1.1	4.6	2.4	2.6	2.6	6.4	4.2	1.8	7.2	3.1	2.6	:	0.9	:	:
1987	2.7	1.8	0.2	9.2	2.2	-4.8	4.8	9.6	4.8	0.1	3.8	4.3	3.1	:	2.1	:	:
1988	-0.7	2.4	-5.5	3.6	3.2	-5.0	4.0	4.3	1.8	1.8	8.6	2.0	2.7	:	-0.2	:	:
1989	1.2	-1.1	5.4	8.3	1.6	-1.3	0.2	8.2	1.9	1.9	6.4	2.3	1.1	:	-0.8	:	:
1990	-0.4	3.1	0.6	6.3	2.5	5.4	2.5	6.7	2.2	2.2	4.2	4.2	2.9	:	-0.2	:	:
1981-90	1.0	1.4	1.4	5.0	2.7	0.1	2.9	4.4	2.8	1.7	5.0	3.3	2.4	:	0.8	:	:
1991	3.6	1.9	-1.5	6.0	2.7	2.7	1.7	4.0	2.9	2.6	9.6	1.9	2.6	-12.3	0.6	:	:
1992	1.5	5.0	-3.0	3.5	3.8	3.0	0.6	3.2	2.9	2.8	-0.9	-2.5	3.0	-6.7	0.8	:	:
1993	-0.2	0.1	2.6	2.7	4.6	0.1	-0.2	5.2	1.6	3.2	-0.2	-4.2	1.4	3.6	4.1	:	:
1994	1.4	2.4	-1.1	0.5	0.7	4.1	-0.9	1.0	1.5	2.6	4.3	0.8	1.2	0.2	3.0	4.0	:
1995	1.3	1.5	5.6	2.4	-0.1	3.9	-2.2	4.7	1.5	3.0	1.0	2.0	0.7	-4.3	2.1	13.5	1.3
1996	2.4	1.8	0.9	1.3	2.3	3.4	1.0	5.6	-0.4	1.5	3.4	2.6	1.7	1.5	3.4	-3.1	12.6
1997	0.2	0.3	3.0	2.9	2.1	5.1	0.2	3.0	3.2	3.0	2.2	2.9	1.4	1.4	0.8	-1.3	4.0
1998	1.1	1.9	1.7	3.7	-0.1	5.8	0.2	1.3	3.6	2.3	4.1	2.0	1.4	-1.0	3.1	1.7	7.3
1999	3.6	0.8	2.1	4.2	1.5	7.4	1.3	7.3	2.5	3.0	5.6	1.4	1.8	5.4	2.0	2.9	-7.7
2000	2.3	1.1	14.8	5.6	2.8	8.1	1.7	4.8	2.0	0.2	4.1	0.0	2.4	0.2	0.9	1.1	-0.1
1991-2000	1.7	1.7	2.4	3.3	2.0	4.3	0.3	4.0	2.1	2.4	3.3	0.7	1.8	-1.3	2.1	:	:
2001	2.8	1.0	-3.1	3.5	2.9	11.3	3.9	6.5	4.8	-1.4	3.3	2.4	2.6	3.8	2.7	1.8	10.4
2002	2.3	1.9	5.3	4.1	4.6	8.4	1.9	3.2	3.6	1.1	2.2	3.8	3.1	4.5	2.1	5.9	8.5
2003	2.7	0.1	-2.5	3.9	2.4	2.6	2.2	5.0	1.8	0.4	-0.4	0.7	1.6	2.2	1.0	5.8	1.7
2004	2.3	0.0	5.9	4.2	2.5	2.2	1.0	3.6	0.8	0.3	0.6	1.5	1.5	-0.2	0.3	5.1	-3.2
2005	2.1	-0.3	1.5	4.1	1.6	2.3	1.1	3.5	0.5	0.5	0.5	1.5	1.1	-0.1	0.5	4.8	2.3
2006	2.0	0.4	1.0	4.1	2.0	2.3	1.1	3.5	2.5	0.5	0.4	1.4	1.6	0.1	0.5	4.6	2.7
2001-06	2.4	0.5	1.3	4.0	2.7	4.8	1.9	4.2	2.3	0.2	1.1	1.9	1.9	1.7	1.2	4.7	3.6

(1) 1961-91 D_90.

(2) Weighted in common currency; euro area; 1961-91 including D_90.

Table 18 (continued)

(national currency; annual percentage change)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-15 ⁽¹⁾	EU-25 ⁽²⁾	BG	RO	TR	HR	US	JP
1961-70	:	:	:	:	:	:	:	5.7	2.2	4.0	:	:	:	6.5	:	3.5	4.8
1971-80	:	:	:	:	:	:	:	3.2	2.4	3.6	:	:	:	4.3	:	1.0	4.8
1981	:	:	:	:	:	:	:	2.4	0.2	2.6	:	:	:	48.8	:	2.1	5.0
1982	:	:	:	:	:	:	:	0.7	0.6	1.9	:	:	:	-10.6	:	2.5	4.7
1983	:	:	:	:	:	:	:	0.6	1.9	1.7	:	:	:	16.6	:	3.5	4.7
1984	:	:	:	:	:	:	:	2.1	1.3	1.8	:	:	:	1.9	:	2.9	2.8
1985	:	:	:	:	:	:	:	1.7	-0.3	2.1	:	:	:	14.1	:	5.5	0.8
1986	:	:	:	:	:	:	:	1.8	1.5	2.4	:	:	:	9.2	:	4.9	3.7
1987	:	:	:	:	:	:	:	1.2	0.0	2.5	:	:	:	9.4	:	3.7	3.7
1988	:	:	:	:	:	:	:	1.1	0.2	2.2	:	:	:	-1.1	:	1.3	3.6
1989	:	:	:	:	:	:	:	3.0	1.0	1.1	:	:	:	0.8	:	1.4	2.9
1990	:	:	:	:	:	:	:	2.5	2.2	2.7	:	:	:	8.0	:	2.6	3.2
1981-90	:	:	:	:	:	:	:	1.7	0.9	2.1	:	:	:	8.8	:	3.0	3.5
1991	:	:	-2.7	:	9.6	-0.3	:	3.4	3.0	2.6	:	:	10.6	3.7	:	0.8	4.1
1992	:	:	-1.1	:	5.9	-1.7	:	1.7	0.7	2.6	:	-14.9	2.2	3.6	:	0.2	2.5
1993	:	:	9.8	:	2.4	5.3	5.9	0.1	-0.7	1.1	:	-12.5	2.7	8.6	:	-1.0	3.0
1994	:	:	-7.4	:	1.2	2.1	-10.7	-0.8	1.0	1.1	:	-11.8	11.0	-5.5	:	0.0	3.2
1995	:	:	-6.7	:	4.8	2.5	3.6	-0.4	1.4	0.8	:	-8.2	1.0	6.8	:	0.1	4.3
1996	1.8	2.5	-2.3	8.4	2.3	3.4	17.2	0.6	1.3	1.6	1.7	-28.9	1.5	8.6	-2.9	0.5	2.9
1997	-5.9	6.3	3.1	-1.1	3.3	2.4	-5.4	-0.9	-0.4	1.1	1.1	-1.3	-8.5	4.1	3.0	1.4	1.0
1998	13.1	6.0	1.8	-4.0	2.0	5.4	12.5	3.4	1.2	1.5	1.5	4.0	1.8	7.8	2.3	1.7	2.0
1999	0.0	-8.1	1.5	-0.6	1.9	2.9	-7.1	1.7	3.5	2.1	2.0	2.0	-4.5	6.5	2.8	3.3	4.6
2000	-1.9	3.9	1.9	5.4	1.3	2.3	1.6	-1.2	2.3	2.2	2.2	11.6	11.9	7.1	-1.5	1.9	4.9
1991-2000	:	:	-0.3	:	3.4	2.4	:	0.7	1.3	1.7	:	:	2.8	5.1	:	0.9	3.2
2001	0.3	0.3	6.2	0.0	0.6	3.9	4.6	0.9	2.6	2.5	2.5	1.3	2.8	-8.5	-6.2	3.3	3.0
2002	2.4	1.8	5.0	4.0	0.4	1.7	4.7	3.2	3.8	3.2	3.1	4.0	-8.9	5.4	-1.8	4.4	2.4
2003	2.5	4.0	5.4	2.2	0.4	2.6	2.9	0.6	3.5	1.9	1.9	7.3	6.1	-2.4	-0.3	3.2	1.0
2004	2.7	6.8	0.0	0.7	1.8	1.7	0.9	0.9	3.8	1.9	1.8	7.0	6.5	-1.8	-0.3	1.7	1.6
2005	3.5	6.7	1.0	0.2	1.4	2.5	1.5	0.9	2.2	1.3	1.3	8.0	4.0	-0.5	-0.3	2.3	1.4
2006	3.3	4.1	2.2	0.2	1.0	2.7	2.4	0.8	2.8	1.7	1.7	4.0	4.0	2.0	-0.1	2.5	1.4
2001-06	2.5	3.9	3.3	1.2	0.9	2.5	2.8	1.2	3.1	2.1	2.1	5.2	2.3	-1.1	-1.5	2.9	1.8

⁽¹⁾ Weighted in common currency; former EU-15; 1961-91 including D_90.⁽²⁾ Weighted in common currency.

Table 19

National final uses
Gross fixed capital formation at current prices; total economy

(percentage of gross domestic product at market prices)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1960-70	23.9	25.5	22.8	24.5	24.1	19.7	25.4	23.3	27.1	25.6	24.6	27.0	25.0	:	24.2	:	19.9
1971-80	24.0	23.0	28.2	25.2	24.5	25.3	25.3	23.8	23.4	26.5	27.8	28.7	24.4	:	23.5	:	27.3
1981	20.2	22.2	26.1	22.7	23.1	28.7	25.2	23.2	20.7	25.3	32.4	26.7	23.3	:	16.8	:	31.5
1982	19.0	21.0	23.6	22.5	22.5	25.6	23.8	22.8	19.8	22.8	32.6	26.9	22.3	:	17.5	:	29.7
1983	17.5	21.1	25.3	21.9	21.2	22.4	22.6	19.4	19.9	22.1	30.6	27.1	21.6	:	17.9	:	27.8
1984	17.2	20.7	20.5	20.1	20.4	20.7	22.3	18.3	20.3	21.6	24.7	25.5	20.9	:	18.9	:	30.8
1985	17.6	20.3	22.0	20.6	20.3	18.4	21.8	16.1	21.0	22.3	22.9	25.7	20.8	:	20.7	:	27.2
1986	17.5	20.1	22.8	21.1	20.4	17.8	20.9	20.5	21.6	22.0	23.2	25.2	20.6	:	22.5	:	24.0
1987	17.9	20.1	21.6	22.4	21.0	16.6	20.9	23.6	21.9	22.5	25.7	25.9	21.0	:	22.0	:	23.5
1988	19.7	20.4	21.5	24.2	21.9	15.9	21.3	23.7	22.5	22.3	27.4	27.1	21.7	:	20.5	:	24.6
1989	21.4	21.1	22.6	25.6	22.5	17.1	21.3	23.2	22.8	22.5	26.6	29.8	22.3	:	20.5	:	27.5
1990	22.5	21.8	23.1	25.9	22.6	18.7	21.5	23.5	22.5	22.6	26.2	28.7	22.6	25.0	19.9	:	24.6
1981-90	19.1	20.9	22.9	22.7	21.6	20.2	22.2	21.4	21.3	22.6	27.2	26.9	21.7	:	19.7	:	27.1
1991		22.1											22.2				
1991	21.0	23.8	22.6	25.1	22.0	17.1	21.0	25.3	21.9	23.4	24.9	24.4	22.7	23.8	19.1	:	24.3
1992	20.7	24.0	21.3	23.1	20.9	16.9	20.5	21.4	21.6	22.9	23.7	20.1	22.1	27.5	17.9	:	25.7
1993	20.0	23.0	20.3	21.3	19.4	15.5	18.4	23.7	20.7	22.5	22.2	16.7	20.8	28.0	17.1	23.7	22.6
1994	19.5	23.1	18.6	21.1	19.1	16.5	18.0	22.4	20.3	22.9	22.3	15.8	20.6	28.3	17.3	26.5	20.5
1995	19.9	22.4	18.6	22.0	18.8	17.5	18.3	21.6	20.3	22.1	22.8	16.8	20.5	31.6	18.6	25.9	19.4
1996	19.9	21.8	19.5	21.6	18.5	19.2	18.3	21.4	21.1	22.1	23.3	17.4	20.2	31.4	18.6	26.0	20.7
1997	20.4	21.4	19.8	21.9	18.0	20.8	18.3	22.3	21.5	22.3	25.6	18.6	20.1	29.9	19.6	27.8	19.3
1998	20.6	21.4	21.1	22.9	18.4	22.5	18.5	22.6	21.5	22.4	26.9	19.3	20.4	28.3	20.6	29.8	19.7
1999	20.9	21.6	22.7	24.1	19.2	24.3	19.0	23.8	22.5	22.1	27.3	19.6	21.0	27.0	19.8	24.8	18.6
2000	21.2	21.7	23.6	25.3	20.2	24.6	19.8	20.8	22.1	22.8	28.1	19.8	21.6	27.7	20.0	25.6	17.8
1991-2000	20.4	22.4	20.8	22.8	19.4	19.5	19.0	22.5	21.3	22.5	24.7	18.9	21.0	28.3	18.9	:	20.8
2001	20.9	20.3	23.8	25.3	20.1	23.4	19.7	22.8	21.6	22.0	27.1	20.5	21.0	27.6	20.3	27.0	17.7
2002	19.5	18.6	23.9	25.2	19.4	22.6	19.8	21.9	20.8	20.8	25.0	19.0	20.2	26.6	20.6	28.7	18.9
2003	18.9	17.8	25.7	25.6	19.2	23.6	19.1	19.8	20.2	21.5	22.4	18.2	19.8	26.7	19.9	28.4	17.6
2004	18.6	17.2	25.6	26.3	19.6	25.2	19.4	20.0	20.3	21.4	22.7	18.2	19.9	27.7	19.7	27.8	18.1
2005	18.9	17.2	25.5	26.6	19.9	25.7	19.6	20.1	20.4	21.6	22.9	18.2	20.1	28.4	19.9	27.5	17.9
2006	19.3	17.5	25.3	27.0	20.3	25.4	19.7	20.1	20.7	21.8	23.3	18.3	20.4	28.8	19.9	27.2	18.2
2001-06	19.4	18.1	24.9	26.0	19.7	24.3	19.6	20.8	20.7	21.5	23.9	18.7	20.2	27.6	20.0	27.8	18.1

(¹) 1960-91 D₉₀.

(²) Euro area; 1960-91 including D₉₀.

Table 19 (continued)

(percentage of gross domestic product at market prices)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽¹⁾	EUR-15 ⁽²⁾	BG	RO	TR	HR	US	JP
1960-70	:	:	:	23.0	:	:	:	24.8	18.7	:	23.8	:	:	15.9	:	18.1	32.4
1971-80	:	:	32.7	22.3	:	:	:	21.8	19.9	:	23.6	:	:	19.0	:	19.3	33.1
1981	:	:	26.5	23.1	18.2	:	:	19.7	17.1	:	22.0	:	33.6	19.3	:	20.0	31.0
1982	:	:	25.2	24.8	19.6	:	:	19.7	17.1	:	21.2	:	29.7	19.3	:	18.9	29.8
1983	:	:	24.5	27.5	19.6	:	:	19.8	17.0	:	20.7	:	30.0	18.9	:	18.6	28.1
1984	:	:	23.0	26.2	20.2	:	:	20.0	18.1	:	20.4	:	30.0	18.9	:	19.5	27.7
1985	:	:	22.5	25.3	20.6	:	:	20.8	18.1	:	20.3	:	30.1	21.8	:	19.5	27.9
1986	:	:	24.1	22.8	21.3	:	:	20.0	18.0	:	20.3	:	29.7	25.0	:	19.2	27.8
1987	:	:	24.7	26.7	22.0	:	:	20.8	18.8	:	20.7	:	29.0	24.7	:	18.6	28.7
1988	:	:	21.6	26.2	21.9	:	:	21.7	20.5	:	21.5	:	28.0	26.1	:	18.3	30.3
1989	:	:	21.6	26.9	15.9	:	:	23.7	21.7	:	22.2	:	29.9	22.8	:	18.1	31.4
1990	20.8	27.6	19.3	30.2	19.6	18.8	31.3	23.1	20.5	:	22.3	21.3	19.8	22.9	:	17.3	32.3
1981-90	:	:	23.3	26.0	19.9	:	:	20.9	18.7	:	21.2	:	29.0	22.0	:	18.8	29.5
1991										21.5							
1991	5.6	22.4	20.9	28.3	18.2	20.6	28.3	20.9	17.9	:	21.9	18.2	14.4	23.8	:	16.2	31.8
1992	10.1	23.0	19.9	26.3	15.7	18.6	32.9	18.3	16.5	:	21.1	16.2	19.2	23.6	:	16.1	30.5
1993	12.4	23.1	18.9	28.1	14.9	18.8	30.0	15.7	15.7	19.9	19.9	13.0	17.9	26.5	:	16.6	29.3
1994	13.4	23.1	20.1	28.4	16.8	20.1	26.6	15.5	15.9	19.8	19.8	13.8	20.3	24.6	14.0	17.1	28.3
1995	13.8	21.4	20.0	30.4	17.4	20.6	25.0	16.0	16.3	19.9	19.8	15.3	21.4	23.8	15.7	17.6	27.8
1996	16.7	21.4	21.4	27.5	19.4	21.7	32.2	16.2	16.6	19.7	19.6	13.5	23.0	25.1	20.5	18.1	28.4
1997	17.2	23.0	22.2	24.2	22.0	22.8	34.2	15.7	16.5	19.6	19.4	11.0	21.2	26.4	24.2	18.5	28.1
1998	25.1	24.2	23.6	23.4	23.6	23.8	36.1	16.5	17.5	20.1	19.8	13.0	18.2	24.6	23.3	19.1	26.9
1999	23.2	22.2	23.9	22.3	24.0	26.3	29.6	17.3	17.1	20.4	20.2	15.1	17.7	21.9	23.3	19.5	26.3
2000	24.6	18.8	23.5	22.4	23.5	25.1	25.9	17.7	17.0	20.7	20.6	15.7	18.9	22.4	21.8	19.8	26.3
1991-2000	16.2	22.3	21.5	26.1	19.6	21.8	30.1	17.0	16.7	:	20.2	14.5	19.2	24.3	:	17.9	28.4
2001	25.1	20.2	23.5	20.6	20.7	24.5	28.8	17.5	16.6	20.3	20.1	18.2	20.7	18.2	22.3	19.1	25.8
2002	24.1	20.4	23.4	18.8	19.0	23.3	27.6	16.7	16.4	19.5	19.4	18.3	21.3	16.6	24.6	17.8	24.2
2003	24.2	21.4	22.3	21.3	18.3	23.9	25.8	15.7	16.3	19.2	19.1	19.6	22.5	15.5	27.5	18.0	23.9
2004	24.2	22.7	23.1	22.6	18.4	24.6	25.8	15.4	16.9	19.4	19.2	20.7	23.5	19.0	28.5	18.9	23.7
2005	24.0	23.5	23.6	22.9	19.4	24.9	26.5	15.7	17.2	19.6	19.5	22.3	24.8	20.2	28.5	19.4	23.4
2006	24.2	23.9	24.2	22.8	20.8	25.4	26.5	16.1	17.5	19.9	19.7	22.9	26.2	21.2	27.7	19.6	23.2
2001-06	24.3	22.0	23.4	21.5	19.4	24.4	26.9	16.2	16.8	19.7	19.5	20.3	23.1	18.4	26.5	18.8	24.0

⁽¹⁾ 1960-91 including D_90.⁽²⁾ Former EU-15; 1960-91 including D_90.

Table 20

National final uses
Gross fixed capital formation at 1995 prices; total economy

(national currency; annual percentage change)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1961-70	5.8	4.2	8.4	11.3	7.8	9.6	5.1	3.4	6.8	5.9	6.9	4.4	6.1	:	7.0	:	:
1971-80	2.3	1.2	2.8	1.6	2.7	5.7	1.8	2.6	0.3	3.7	4.1	2.2	1.9	:	-0.7	:	:
1981	-15.5	-4.9	-9.8	-1.6	-0.6	7.3	-1.2	-7.4	-9.1	-0.4	5.5	1.6	-3.2	:	-19.6	:	:
1982	-4.0	-5.0	-2.3	1.0	0.0	-3.4	-3.5	-0.5	-3.6	-8.0	2.3	5.2	-2.5	:	7.0	:	:
1983	-5.3	2.9	5.2	-1.2	-2.2	-9.0	-1.1	-11.8	2.8	0.7	-7.1	3.0	-0.1	:	1.8	:	:
1984	2.3	-0.1	-15.9	-4.8	-0.8	-2.7	3.4	0.1	5.3	-0.4	-17.4	-2.0	-0.3	:	10.9	:	:
1985	4.5	-0.2	9.5	6.7	3.1	-7.8	0.4	-9.5	6.7	6.2	-3.5	2.7	2.1	:	14.3	:	:
1986	3.1	2.9	-0.5	10.5	6.0	0.0	2.3	37.1	6.5	1.3	10.9	0.8	4.3	:	16.4	:	:
1987	4.9	1.8	-6.0	12.2	6.0	-2.3	4.2	17.7	1.1	3.8	18.0	4.5	4.4	:	-0.8	:	:
1988	16.0	4.6	6.7	13.6	9.5	-1.6	6.7	11.5	5.3	5.6	14.8	11.7	7.7	:	-3.2	:	:
1989	11.8	6.7	7.1	12.0	7.3	15.6	4.2	6.9	5.2	4.2	3.7	12.5	7.1	:	-0.6	:	:
1990	8.6	7.7	5.0	6.5	3.3	12.1	4.0	3.4	2.6	5.2	7.6	-4.6	5.0	:	-2.2	:	:
1981-90	2.3	1.6	-0.4	5.3	3.1	0.5	1.9	3.9	2.2	1.7	3.0	3.4	2.4	:	1.9	:	:
1991	-4.1	5.2	4.8	1.7	-1.5	-7.0	1.0	15.8	0.3	8.1	3.3	-18.5	1.1	-27.3	-3.4	:	:
1992	1.1	4.5	-3.2	-4.1	-1.6	0.0	-1.4	-15.1	0.7	0.2	4.5	-16.4	0.1	16.5	-2.1	:	:
1993	-2.5	-4.4	-3.5	-8.9	-6.4	-5.1	-10.9	20.6	-3.2	-1.2	-5.5	-15.2	-6.3	0.2	-3.8	:	:
1994	0.4	4.0	-2.7	1.9	1.5	11.8	0.1	0.0	2.1	5.2	2.7	-3.6	2.3	9.1	7.7	9.2	:
1995	3.4	-0.6	4.2	7.7	2.0	15.1	6.0	-1.5	4.1	-1.0	6.6	11.2	2.4	19.8	11.6	5.6	-0.6
1996	0.9	-0.8	8.4	2.1	0.0	17.1	3.6	3.8	6.3	2.6	5.7	6.7	1.3	7.6	3.9	9.6	7.2
1997	7.1	0.6	6.8	5.0	-0.1	18.2	2.1	12.7	6.6	1.4	13.9	13.8	2.5	-3.4	10.9	19.9	-4.1
1998	3.3	3.0	10.6	10.0	7.0	16.4	4.0	11.8	4.2	3.5	11.5	8.4	5.3	-1.1	10.0	14.0	7.9
1999	4.4	4.1	11.0	8.8	8.3	15.5	5.0	14.6	7.8	2.3	6.4	2.5	6.1	-3.5	1.4	-15.6	-1.0
2000	4.4	2.7	8.0	5.7	7.8	7.3	6.9	-3.5	1.4	6.5	3.8	4.1	5.0	4.9	7.1	14.3	3.8
1991-2000	1.8	1.8	4.3	2.8	1.6	8.5	1.5	5.4	3.0	2.7	5.2	-1.4	1.9	1.4	4.2	:	:
2001	0.3	-4.2	6.5	3.0	1.9	-1.5	1.9	10.0	0.2	-2.1	0.8	3.9	-0.1	5.4	4.9	13.0	3.2
2002	-3.7	-6.4	5.7	1.7	-2.0	3.0	1.2	-1.1	-3.6	-3.4	-4.9	-3.1	-2.4	3.4	4.5	17.2	8.0
2003	-0.9	-2.2	13.7	3.2	-0.2	3.4	-2.1	-6.3	-3.1	6.2	-9.8	-2.3	-0.5	7.4	0.1	5.4	-3.4
2004	1.7	-1.0	4.9	3.3	3.6	8.5	3.6	6.3	1.6	2.9	2.4	2.6	2.2	11.7	3.2	5.5	5.3
2005	4.6	2.3	3.6	3.7	3.7	4.6	3.2	5.2	2.0	4.0	3.3	2.8	3.2	8.8	3.5	6.0	6.4
2006	4.8	3.6	3.5	4.0	3.4	2.8	3.0	5.0	3.5	4.3	4.8	3.1	3.6	6.8	2.6	6.2	6.6
2001-06	1.1	-1.4	6.3	3.1	1.7	3.4	1.8	3.0	0.1	1.9	-0.7	1.1	1.0	7.2	3.1	8.8	4.3

(¹) 1961-91 D_90.

(²) Weighted in common currency; euro area; 1961-91 including D_90.

Table 20 (continued)

(national currency; annual percentage change)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-15 ⁽¹⁾	EU-25 ⁽²⁾	BG	RO	TR	HR	US	JP
1961-70	:	:	:	:	:	:	:	5.1	5.2	5.9	:	:	:	8.1	:	4.7	15.7
1971-80	:	:	:	:	:	:	:	0.6	0.5	1.6	:	:	:	2.1	:	3.6	3.5
1981	:	:	:	:	:	:	:	-5.8	-8.9	-4.3	:	:	:	31.6	:	0.5	1.9
1982	:	:	:	:	:	:	:	0.6	5.9	-1.1	:	:	:	-5.7	:	-7.4	-0.7
1983	:	:	:	:	:	:	:	2.6	5.1	0.7	:	:	:	2.6	:	6.6	-2.7
1984	:	:	:	:	:	:	:	7.4	9.2	1.4	:	:	:	0.9	:	15.8	2.5
1985	:	:	:	:	:	:	:	7.0	4.1	2.8	:	:	:	11.5	:	5.4	7.6
1986	:	:	:	:	:	:	:	1.1	1.9	4.1	:	:	:	8.4	:	1.4	5.3
1987	:	:	:	:	:	:	:	8.0	9.3	5.0	:	:	:	45.1	:	-0.1	7.4
1988	:	:	:	:	:	:	:	6.3	14.9	8.4	:	:	:	-1.0	:	3.6	13.0
1989	:	:	:	:	:	:	:	12.1	6.0	6.9	:	:	:	2.2	:	3.1	8.5
1990	:	:	:	:	:	:	:	0.2	-2.6	3.6	:	:	:	15.9	:	-0.4	7.9
1981-90	:	:	:	:	:	:	:	3.8	4.3	2.7	:	:	:	10.2	:	2.7	5.0
1991	:	:	-10.4	:	-4.5	-11.5	:	-8.5	-8.2	-0.6	:	:	-31.6	0.4	:	-4.9	2.3
1992	:	:	-2.6	:	2.4	-12.9	:	-11.3	-0.9	-0.4	:	:	11.0	6.4	:	5.3	-2.4
1993	:	:	2.0	:	2.9	10.7	-1.2	-14.6	0.3	-5.8	:	:	8.3	26.4	:	7.0	-2.8
1994	:	:	12.5	:	9.2	14.1	-2.5	6.6	4.7	2.8	:	:	20.7	-16.0	:	7.9	-1.5
1995	:	14.9	-4.3	:	16.6	16.8	0.6	9.9	3.1	2.8	:	16.1	6.9	9.1	:	6.2	0.8
1996	22.3	15.2	6.7	-8.4	19.7	11.3	29.1	4.5	5.7	1.9	2.4	-21.2	5.7	14.1	37.6	8.3	6.4
1997	20.7	24.5	9.2	-4.5	21.7	13.5	15.0	-0.3	6.8	3.1	3.4	-20.9	1.7	14.8	23.3	8.8	0.9
1998	61.4	21.8	13.2	-3.4	14.2	9.9	11.0	7.8	12.7	6.5	6.7	35.2	-5.7	-3.9	2.5	9.3	-3.9
1999	-6.8	-6.1	5.9	4.0	6.8	21.0	-19.6	8.2	1.6	5.4	5.2	20.8	-4.8	-15.7	-3.9	8.3	-0.9
2000	10.2	-9.0	7.7	17.5	2.7	0.6	-7.2	5.7	3.6	4.9	4.8	15.4	5.5	16.9	-3.8	6.2	2.7
1991-2000	:	:	3.7	:	8.9	6.8	:	0.4	2.8	2.0	:	:	0.8	4.4	:	6.2	0.1
2001	11.4	13.5	5.0	-8.9	-8.8	4.1	13.9	-1.0	2.6	0.4	0.3	23.3	10.1	-31.5	7.1	-1.9	-1.1
2002	13.0	11.1	8.0	-11.7	-5.8	3.1	-0.9	-3.0	2.7	-1.5	-1.4	8.5	7.3	-1.1	12.0	-3.5	-6.2
2003	7.8	14.0	3.4	19.0	-0.9	6.3	-1.2	-2.0	2.2	-0.1	0.0	13.8	9.2	10.0	16.8	4.4	3.1
2004	12.0	14.2	10.0	6.9	6.5	6.9	6.3	2.5	6.7	2.9	3.2	15.0	10.0	39.4	7.3	9.1	3.6
2005	11.0	10.0	6.0	2.9	10.0	5.7	7.4	6.0	5.1	3.6	3.8	16.0	10.0	16.7	5.4	5.5	1.1
2006	10.5	8.9	6.5	1.2	12.0	5.9	5.2	6.4	4.5	3.7	4.0	9.0	9.0	16.5	4.0	4.5	1.9
2001-06	10.9	11.9	6.5	1.1	1.9	5.3	5.0	1.4	3.9	1.5	1.6	14.2	9.3	5.9	8.7	2.9	0.3

⁽¹⁾ Weighted in common currency; former EU-15; 1961-91 including D_90.⁽²⁾ Weighted in common currency.

Table 21

**National final uses
Changes in inventories and acquisitions less disposals of valuables at current prices; total economy**

(percentage of gross domestic product at market prices)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1960-70	0.8	1.8	2.1	2.0	1.9	1.4	1.1	0.8	1.8	1.7	2.7	0.9	1.7	:	1.7	:	1.1
1971-80	0.8	0.9	3.4	1.2	1.3	1.4	0.8	-1.7	0.5	1.4	2.9	1.0	1.0	:	0.7	:	2.9
1981	0.6	-0.7	-4.9	-0.2	-0.1	-1.1	0.4	-0.9	-0.7	-0.6	3.7	0.9	-0.3	:	0.1	:	2.3
1982	0.9	-0.9	2.0	-0.1	0.5	1.4	0.7	-0.1	-1.0	-0.1	3.0	0.8	0.1	:	0.5	:	2.0
1983	-0.2	0.0	-0.8	-0.3	-0.1	0.7	0.4	3.1	-0.2	-0.7	-0.9	0.0	0.0	:	0.2	:	2.3
1984	1.1	0.3	5.0	0.4	0.1	1.4	1.5	4.7	-0.3	0.7	-1.3	0.5	0.6	:	1.5	:	2.8
1985	-0.1	-0.1	4.6	0.0	-0.1	0.9	1.8	2.0	-0.5	0.5	-1.2	-0.1	0.4	:	1.2	:	3.2
1986	-0.4	0.1	3.0	0.4	0.2	0.6	1.1	1.2	0.2	0.3	-1.0	-0.6	0.4	:	1.1	:	1.9
1987	0.2	-0.3	-1.8	0.6	0.2	0.1	1.3	1.1	-0.6	0.0	0.7	-0.2	0.2	:	-0.5	:	2.1
1988	0.4	0.3	0.6	0.9	0.6	-0.2	1.3	1.8	-0.4	0.8	3.2	0.7	0.7	:	0.2	:	2.9
1989	0.3	0.5	-0.2	0.8	0.8	1.0	1.1	2.0	1.0	1.4	1.8	1.3	0.8	:	0.6	:	3.4
1990	0.0	0.5	-0.3	0.8	0.8	2.3	0.8	2.4	0.8	1.3	1.6	0.4	0.7	-0.1	0.4	:	2.4
1981-90	0.3	0.0	0.7	0.3	0.3	0.7	1.0	1.7	-0.2	0.4	1.0	0.4	0.3	:	0.5	:	2.5
1991		0.6											0.5				
1991	0.1	0.5	0.9	0.7	0.5	2.1	0.7	2.4	0.6	0.6	0.9	-2.1	0.5	-1.1	0.0	:	1.5
1992	0.1	-0.2	-0.3	0.7	-0.1	-0.6	0.3	2.7	0.7	0.3	1.3	-1.4	0.1	-1.7	0.2	:	3.0
1993	0.3	-0.5	-0.4	0.0	-1.1	-0.4	-0.1	0.5	-0.8	-0.1	0.0	-0.6	-0.5	-1.0	-0.7	2.4	1.4
1994	0.8	0.0	0.1	0.4	-0.1	-0.4	0.5	0.5	0.0	-0.1	0.8	1.4	0.2	1.0	0.3	0.6	4.9
1995	0.2	0.2	0.3	0.3	0.5	0.9	1.0	-0.2	0.7	1.2	1.4	1.3	0.5	0.9	1.1	0.7	2.7
1996	-0.3	-0.1	0.3	0.3	-0.2	0.9	0.3	0.3	0.2	0.6	0.9	-0.3	0.0	1.6	0.4	1.0	1.9
1997	-0.1	0.0	0.3	0.3	-0.1	1.3	0.6	0.8	0.3	0.7	0.6	0.4	0.2	0.6	1.2	2.8	0.8
1998	-0.3	0.4	0.2	0.4	0.6	1.6	0.8	1.1	0.7	0.8	0.8	0.9	0.6	0.3	1.0	0.4	1.5
1999	-0.2	0.1	-0.1	0.5	0.4	0.4	0.6	0.7	0.1	1.3	1.0	0.0	0.3	0.0	0.0	0.2	1.5
2000	0.5	0.0	0.3	0.4	0.9	0.8	0.4	2.7	0.1	0.6	0.7	0.8	0.4	1.1	1.0	2.2	2.2
1991-2000	0.1	0.0	0.2	0.4	0.1	0.7	0.5	1.2	0.3	0.6	0.9	0.0	0.2	0.2	0.4	:	2.2
2001	-0.4	-0.9	0.0	0.3	0.3	0.3	0.0	1.0	0.0	0.5	0.7	0.1	-0.2	1.3	0.2	2.2	1.0
2002	-0.3	-1.3	0.2	0.3	0.2	0.1	0.2	-0.7	-0.2	0.3	0.6	0.3	-0.3	1.3	0.2	3.1	1.2
2003	0.1	-0.4	0.1	0.4	-0.3	0.4	0.4	1.3	0.0	0.4	0.6	0.3	0.0	0.9	-0.1	2.7	0.8
2004	0.4	-0.1	0.1	0.7	1.2	0.2	0.2	1.0	0.1	0.3	0.6	0.5	0.4	0.7	-0.2	2.0	2.7
2005	0.3	0.0	0.0	1.4	2.5	0.2	0.3	0.7	0.3	0.3	0.6	0.3	0.8	1.1	-0.2	2.2	3.8
2006	0.3	0.2	0.0	1.8	1.9	0.2	0.3	0.4	0.3	0.3	0.5	0.2	0.8	1.3	-0.1	2.0	3.9
2001-06	0.1	-0.4	0.0	0.8	1.0	0.2	0.2	0.6	0.1	0.3	0.6	0.3	0.3	1.1	0.0	2.4	2.3

(¹) 1960-91 D, 90.

(²) Euro area; 1960-91 including D, 90.

Table 21 (continued)

(percentage of gross domestic product at market prices)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽¹⁾	EUR-15 ⁽²⁾	BG	RO	TR	HR	US	JP
1960-70	:	:	:	2.4	:	:	:	1.4	1.0	:	1.5	:	:	0.6	:	0.9	3.1
1971-80	:	:	3.6	2.1	:	:	:	0.8	0.5	:	0.9	:	:	0.5	:	0.7	1.1
1981	:	:	3.2	2.9	-0.2	:	:	-0.2	-1.1	:	-0.4	:	2.7	2.5	:	1.0	0.5
1982	:	:	3.3	5.5	7.8	:	:	-0.4	-0.4	:	0.0	:	4.0	0.4	:	-0.5	0.4
1983	:	:	1.9	1.2	4.9	:	:	-0.8	0.5	:	0.0	:	4.0	-0.4	:	-0.2	0.1
1984	:	:	2.7	1.5	5.6	:	:	-0.3	0.4	:	0.5	:	4.2	-0.4	:	1.7	0.3
1985	:	:	2.5	1.7	6.5	:	:	0.6	0.2	:	0.4	:	2.9	0.4	:	0.5	0.7
1986	:	:	2.9	1.6	7.0	:	:	0.1	0.2	:	0.3	:	4.7	0.8	:	0.1	0.5
1987	:	:	1.9	-0.4	6.3	:	:	0.2	0.3	:	0.2	:	2.8	0.9	:	0.6	0.1
1988	:	:	3.7	1.4	10.1	:	:	0.3	0.9	:	0.7	:	0.4	-1.0	:	0.4	0.7
1989	:	:	5.0	1.5	22.1	:	:	0.5	0.5	:	0.8	:	-3.1	0.7	:	0.5	0.7
1990	15.4	:	6.1	:	4.4	-1.6	2.2	0.4	-0.3	:	0.5	9.1	10.5	1.5	:	0.3	0.6
1981-90	:	:	3.3	:	7.4	:	:	0.1	0.1	:	0.3	:	3.3	0.5	:	0.4	0.5
1991											0.3						
1991	24.9	:	-0.5	:	0.4	-3.7	6.9	-0.9	-0.9	:	0.3	4.4	13.7	-1.1	:	0.0	0.7
1992	27.1	:	-3.8	:	-1.6	-1.0	-4.8	0.0	-0.3	:	0.0	3.7	12.2	0.2	:	0.3	0.2
1993	-4.1	:	1.1	:	-0.3	0.5	-5.3	-0.3	0.0	:	-0.4	2.3	11.0	1.1	:	0.3	0.1
1994	3.8	:	2.1	:	-0.3	0.8	-5.6	1.1	0.6	:	0.2	-4.4	4.5	-3.1	3.4	0.9	-0.1
1995	0.5	1.1	2.6	0.1	1.0	1.9	-0.2	1.2	0.6	0.6	0.6	0.4	2.9	1.6	1.9	0.4	0.4
1996	-1.5	-0.7	4.1	-0.1	1.1	0.7	2.5	0.4	0.2	0.1	0.1	-5.4	2.9	-0.5	1.5	0.4	0.7
1997	2.3	1.6	4.3	0.2	1.0	0.9	0.3	0.5	0.6	0.3	0.3	-1.1	-0.5	-1.3	3.3	0.9	0.6
1998	-1.0	1.4	5.2	-0.8	1.0	0.9	-2.2	0.8	0.6	0.6	0.6	3.9	-0.4	-0.4	0.7	0.8	0.0
1999	0.0	0.3	4.8	0.6	0.9	1.0	-2.1	0.2	0.7	0.4	0.4	2.8	-1.6	1.5	-0.3	0.7	-0.3
2000	-1.1	0.7	7.4	5.1	1.1	1.6	0.1	0.7	0.6	0.5	0.4	2.6	0.6	2.2	-1.6	0.6	-0.1
1991-2000	5.1	:	2.7	:	0.4	0.4	-1.1	0.4	0.3	:	0.2	0.9	4.5	0.0	:	0.5	0.2
2001	1.8	0.3	3.3	1.0	0.1	-0.6	1.0	0.3	0.7	0.0	0.0	2.4	1.9	-1.4	1.6	-0.3	0.0
2002	2.7	1.3	1.8	-1.8	-0.1	0.4	1.6	0.1	0.2	-0.1	-0.2	1.5	2.2	4.7	3.8	0.1	-0.3
2003	4.7	1.0	3.0	1.9	0.4	1.4	-0.7	0.3	0.2	0.1	0.0	2.2	2.1	7.3	2.9	0.0	0.1
2004	4.7	0.9	3.4	2.6	1.4	2.3	0.0	0.0	0.2	0.4	0.4	1.6	2.2	6.7	2.2	0.4	0.3
2005	4.7	1.0	3.2	2.5	1.5	3.1	0.3	0.2	0.0	0.7	0.6	0.8	2.1	6.2	1.9	0.5	0.1
2006	4.7	1.0	2.3	2.5	1.3	3.5	0.2	0.2	0.0	0.7	0.6	0.7	2.0	5.5	1.7	0.4	0.1
2001-06	3.9	0.9	2.8	1.5	0.8	1.7	0.4	0.2	0.2	0.3	0.2	1.5	2.1	4.8	2.3	0.2	0.0

(1) 1960-91 including D_90.

(2) Former EU-15; 1960-91 including D_90.

Table 22

**National final uses
Domestic demand including stocks at current prices**

(percentage of gross domestic product at market prices)

	BE	DE (1)	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 (2)	CZ	DK	EE	CY
1960-70	100.3	97.8	106.7	102.4	100.2	108.1	99.7	95.0	100.9	100.1	103.9	101.5	99.8	:	101.7	:	109.1
1971-80	100.2	98.1	105.7	101.6	100.6	111.2	100.5	95.0	99.1	100.7	109.6	101.2	100.0	:	102.1	:	118.4
1981	102.5	99.4	102.2	102.1	102.5	115.7	102.2	104.2	97.2	101.6	117.4	99.0	101.3	:	99.3	:	114.7
1982	102.1	97.7	106.1	101.8	103.2	108.8	101.4	103.0	96.4	98.8	116.7	99.8	100.7	:	99.6	:	113.5
1983	99.7	98.3	107.0	100.8	101.4	104.2	99.5	101.1	96.8	99.1	111.0	100.0	99.8	:	98.1	:	113.4
1984	99.5	97.7	106.0	98.0	100.9	101.7	100.4	99.6	95.6	100.0	106.3	97.6	99.3	:	98.9	:	112.2
1985	99.0	96.5	107.0	98.3	100.9	99.5	100.5	96.0	96.1	99.8	102.4	99.3	99.0	:	99.8	:	109.0
1986	97.6	95.0	105.8	98.2	100.3	99.0	98.7	95.8	96.9	99.0	101.2	98.8	97.9	:	100.6	:	102.3
1987	98.0	95.2	104.5	100.1	101.0	95.7	99.5	100.6	98.1	99.7	104.4	99.9	98.6	:	98.2	:	102.4
1988	97.4	95.1	105.7	101.4	100.8	93.7	99.9	98.9	97.1	99.5	107.9	100.7	98.8	:	97.1	:	105.7
1989	97.6	95.1	107.8	103.4	100.9	94.2	100.2	95.2	97.4	99.5	105.7	102.1	99.1	:	96.9	:	107.2
1990	98.1	94.7	109.8	103.5	101.0	95.4	100.0	96.2	96.3	99.1	106.5	101.6	99.0	97.0	94.9	:	105.1
1981-90	99.1	96.5	106.2	100.8	101.3	100.8	100.2	99.1	96.8	99.6	107.9	99.9	99.4	:	98.3	:	108.6
1991		94.1											98.6				
1991	98.0	100.2	109.5	103.3	100.5	95.0	100.0	97.4	96.1	99.8	107.2	100.9	100.4	92.6	94.1	:	110.7
1992	97.2	100.2	108.1	102.9	99.4	92.4	100.1	92.6	96.5	100.0	107.4	99.0	100.1	98.7	93.4	:	111.0
1993	96.4	99.8	108.1	100.8	98.5	89.4	96.8	90.7	94.4	99.3	107.0	95.3	98.7	98.8	93.2	104.0	100.4
1994	96.0	99.7	106.2	100.2	98.7	90.1	96.5	88.6	93.9	100.8	106.8	94.2	98.5	102.2	94.7	110.4	100.4
1995	95.7	99.4	107.3	100.2	98.6	89.1	95.9	87.8	94.1	100.3	106.2	92.1	98.3	104.3	95.9	107.6	103.5
1996	95.9	99.0	108.0	99.5	98.3	89.6	95.1	88.6	94.3	100.8	106.6	92.4	97.9	106.0	95.1	110.8	106.7
1997	95.6	98.6	107.3	99.0	97.0	88.3	96.0	86.5	94.1	99.8	107.7	92.0	97.5	105.3	96.5	110.9	105.4
1998	95.7	98.5	108.3	99.9	97.3	87.4	96.6	85.2	94.6	98.6	108.8	91.2	97.7	101.1	98.0	109.8	107.6
1999	95.7	99.2	108.5	101.3	97.7	86.3	97.9	83.5	95.7	98.3	110.4	91.5	98.5	101.2	95.2	104.6	103.0
2000	96.9	99.6	110.5	102.2	98.8	86.0	99.0	79.1	94.8	98.6	111.2	90.8	99.1	103.1	94.0	103.8	105.2
1991-2000	96.3	99.4	108.2	100.9	98.5	89.4	97.4	88.0	94.8	99.6	107.9	93.9	98.7	101.3	95.0	:	105.4
2001	96.6	98.0	108.5	101.6	98.4	84.3	98.6	82.6	94.7	97.6	110.2	91.7	98.3	102.5	93.5	103.5	104.4
2002	95.6	95.5	108.5	101.3	98.1	82.7	99.0	81.3	94.9	95.0	108.1	91.6	97.4	102.0	94.3	107.1	107.3
2003	96.2	95.7	108.9	101.6	98.8	84.9	99.5	81.3	95.0	96.0	106.6	93.5	97.8	102.2	93.5	108.0	105.4
2004	96.1	94.0	108.9	102.7	100.3	85.0	99.4	80.6	94.9	95.8	107.6	93.9	97.8	101.2	93.4	106.6	105.9
2005	96.3	93.8	108.4	103.6	101.6	84.9	99.3	80.1	94.7	95.8	107.3	93.9	98.1	101.1	93.4	105.7	105.9
2006	96.6	94.1	107.4	104.1	101.1	84.6	99.2	79.1	94.5	95.9	107.0	94.0	98.1	100.7	93.1	104.3	105.4
2001-06	96.2	95.2	108.4	102.5	99.7	84.4	99.2	80.8	94.8	96.0	107.8	93.1	97.9	101.6	93.5	105.9	105.7

(1) 1960-91 D.L.90.

(2) Euro area; 1960-91 including D.90.

Table 22 (continued)

(percentage of gross domestic product at market prices)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽¹⁾	EUR-15 ⁽²⁾	BG	RO	TR	HR	US	JP
1960-70	:	:	117.5	:	:	:	:	99.9	100.6	:	100.0	:	:	101.1	:	99.4	99.6
1971-80	:	:	104.7	115.1	:	:	:	99.8	101.0	:	100.2	:	:	104.4	:	100.3	99.4
1981	:	:	101.1	108.0	101.9	:	:	99.9	97.8	:	100.7	:	102.3	104.1	:	100.4	99.3
1982	:	:	99.2	115.8	98.7	:	:	100.2	98.3	:	100.3	:	98.1	102.5	:	100.6	99.3
1983	:	:	98.1	114.6	98.5	:	:	97.7	99.3	:	99.6	:	94.3	103.2	:	101.5	98.3
1984	:	:	96.8	114.8	98.8	:	:	96.2	100.1	:	99.3	:	94.7	103.1	:	102.6	97.3
1985	:	:	97.9	115.4	98.4	:	:	98.2	99.2	:	99.0	:	93.2	102.2	:	102.8	96.6
1986	:	:	101.5	109.7	99.0	:	:	96.8	100.8	:	98.4	:	93.7	102.1	:	103.0	96.1
1987	:	:	100.5	109.0	97.6	:	:	98.0	101.2	:	98.9	:	90.5	102.2	:	103.1	97.0
1988	:	:	97.3	109.6	97.8	:	:	98.3	103.7	:	99.5	:	90.5	98.9	:	102.2	97.8
1989	:	:	96.7	110.5	95.7	:	:	99.4	104.1	:	99.9	:	97.2	101.6	:	101.6	98.5
1990	101.2	108.6	97.4	113.3	93.4	87.8	109.0	99.5	102.6	:	99.4	:	109.5	104.3	:	101.4	99.1
1981-90	:	:	98.6	112.1	98.0	:	:	98.4	100.7	:	99.5	:	96.6	102.4	:	101.9	97.9
1991											98.9						
1991	91.2	91.4	101.0	110.7	102.9	90.7	103.0	98.4	101.0	:	100.3	95.7	103.9	102.8	:	100.5	98.4
1992	93.8	96.6	100.3	106.7	99.4	93.0	103.9	98.3	101.2	:	100.1	105.8	108.4	103.0	:	100.5	97.8
1993	85.3	107.8	108.2	109.3	99.7	98.9	104.3	96.3	101.0	98.9	98.8	107.6	105.0	105.7	:	101.0	97.8
1994	98.1	106.0	106.5	109.8	98.0	97.8	94.4	95.5	100.7	98.7	98.7	100.6	102.1	99.0	100.1	101.3	98.0
1995	102.2	111.1	100.0	113.3	97.8	101.9	97.5	93.3	100.5	98.5	98.4	101.6	105.6	104.5	110.9	101.2	98.6
1996	107.4	109.6	99.5	113.5	101.5	100.9	110.5	93.4	100.5	98.2	98.1	94.6	108.4	106.3	109.5	101.2	99.5
1997	107.8	110.3	99.0	108.1	104.0	100.7	109.5	92.7	99.9	98.0	97.7	95.4	107.1	105.8	115.7	101.2	98.9
1998	112.4	111.5	101.4	105.2	104.9	101.4	110.7	93.7	101.0	98.4	98.2	99.8	108.0	103.6	109.6	101.8	98.2
1999	109.5	110.1	102.7	105.2	106.0	104.2	104.4	93.8	101.8	99.0	98.8	105.8	104.8	103.7	108.4	102.8	98.4
2000	108.0	106.4	103.9	109.9	106.5	103.5	102.5	94.2	102.1	99.6	99.4	105.4	105.6	107.5	105.1	103.9	98.6
1991-2000	101.6	106.1	102.3	109.2	102.1	99.3	104.1	95.0	101.0	:	98.8	101.2	105.9	104.2	:	101.6	98.4
2001	110.4	105.4	101.5	105.1	103.7	100.7	108.2	93.7	102.8	99.1	98.9	107.6	107.8	97.6	106.0	103.6	99.4
2002	109.7	105.6	102.3	100.3	103.3	98.5	107.1	93.5	103.0	98.4	98.2	106.6	105.7	101.5	109.3	104.1	98.7
2003	112.7	105.8	104.2	105.2	102.5	100.0	101.5	93.3	103.0	98.7	98.5	109.8	107.9	103.3	109.7	104.6	98.4
2004	114.0	107.9	104.5	106.2	102.3	100.7	102.5	91.7	103.2	98.7	98.5	110.2	108.7	105.9	108.8	105.2	98.3
2005	114.6	108.8	104.3	105.8	102.8	101.4	103.3	92.0	102.9	98.9	98.6	111.6	109.1	106.6	107.3	105.3	98.2
2006	114.9	108.5	104.3	105.1	103.1	101.8	103.2	92.3	103.1	98.9	98.7	110.3	108.8	107.0	104.6	105.1	97.6
2001-06	112.7	107.0	103.5	104.6	103.0	100.5	104.3	92.8	103.0	98.8	98.6	109.4	108.0	103.6	107.6	104.7	98.4

⁽¹⁾ 1960-91 including D_90.⁽²⁾ Former EU-15; 1960-91 including D_90.

Table 23

**National final uses
Domestic demand including stocks at 1995 prices**

(national currency; annual percentage change)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1961-70	4.6	4.7	8.8	7.8	5.7	4.6	5.7	3.6	5.6	4.5	6.8	5.2	5.5	:	5.0	:	:
1971-80	3.6	2.8	4.2	3.5	3.1	4.6	3.4	3.0	2.5	3.7	4.7	3.5	3.1	:	1.4	:	:
1981	-2.9	-2.1	-1.8	-1.9	0.7	2.8	-0.3	1.2	-4.4	-1.1	3.4	-0.2	-1.1	:	-4.2	:	:
1982	-0.2	-1.8	1.0	1.0	2.9	-2.4	0.9	1.1	-1.0	0.3	2.2	4.4	0.5	:	3.3	:	:
1983	-1.7	2.3	0.1	0.3	0.1	-2.2	0.3	-0.6	2.1	3.1	-5.7	2.8	0.9	:	0.7	:	:
1984	2.2	1.7	0.3	-0.2	0.8	0.7	3.3	2.5	1.6	0.9	-6.7	2.1	1.5	:	3.9	:	:
1985	1.8	1.1	2.9	3.2	2.1	1.2	3.2	0.1	3.3	2.0	0.9	4.9	2.2	:	4.7	:	:
1986	2.7	3.7	0.4	5.3	3.7	2.1	3.1	8.9	4.1	1.8	8.3	2.7	3.6	:	6.5	:	:
1987	3.1	2.4	-2.7	7.9	3.2	0.3	4.3	7.8	1.9	2.4	9.9	5.8	3.5	:	-2.0	:	:
1988	4.9	3.7	5.9	6.8	4.6	1.3	4.1	7.8	2.1	5.4	10.7	6.5	4.4	:	0.2	:	:
1989	4.1	3.2	5.3	7.3	3.7	7.7	3.1	6.4	4.8	3.3	4.9	6.3	4.0	:	-0.1	:	:
1990	3.3	5.3	2.2	4.6	2.9	5.5	2.7	4.7	3.0	4.4	5.3	-0.8	3.7	:	-0.7	:	:
1981-90	1.7	1.9	1.3	3.4	2.5	1.7	2.4	4.0	1.7	2.2	3.2	3.4	2.3	:	1.2	:	:
1991	1.7	3.8	3.5	3.0	0.5	0.2	2.1	8.6	1.9	4.2	6.1	-7.8	2.2	-21.4	-0.1	:	:
1992	1.7	2.8	-0.6	1.0	0.8	-0.1	0.9	-4.1	1.3	2.4	3.4	-6.1	1.4	4.7	0.9	:	:
1993	-0.9	-1.1	-1.0	-3.3	-1.6	1.0	-5.1	4.6	-1.8	-0.4	-2.1	-5.4	-2.3	2.2	-0.3	:	:
1994	2.4	2.3	1.1	1.5	2.1	5.1	1.7	2.4	2.3	4.1	1.5	3.0	2.1	8.4	7.0	3.4	:
1995	2.0	1.7	3.5	3.1	1.6	7.0	2.0	0.7	3.6	1.8	4.1	2.7	2.1	8.4	4.2	5.3	10.0
1996	0.9	0.3	3.3	1.9	0.7	8.0	0.9	5.0	2.8	2.7	3.0	3.8	1.1	7.7	2.2	7.7	3.7
1997	2.7	0.6	3.5	3.5	0.7	9.8	2.7	6.5	3.9	0.6	5.1	4.8	1.8	-1.0	4.9	12.6	2.0
1998	2.9	2.4	4.6	5.7	4.0	9.5	3.1	7.3	4.8	2.3	6.7	4.2	3.6	-1.7	4.0	6.3	9.0
1999	2.5	2.8	3.8	5.6	3.7	8.5	3.2	6.6	4.3	3.0	5.9	2.0	3.5	0.9	0.1	-5.0	0.2
2000	3.8	1.9	5.6	4.6	4.1	9.1	2.3	5.2	2.6	3.0	2.9	2.5	3.0	4.1	2.4	9.3	5.2
1991-2000	2.0	1.7	2.7	2.6	1.6	5.7	1.3	4.2	2.6	2.4	3.6	0.3	1.8	0.8	2.5	:	:
2001	0.4	-0.8	2.4	2.9	2.0	3.8	1.4	4.3	1.8	-0.3	1.6	1.8	1.0	4.0	1.0	8.0	4.2
2002	0.5	-1.9	4.2	2.8	1.4	3.4	1.3	-0.1	0.5	-0.8	-0.4	0.6	0.4	3.3	1.9	9.3	5.5
2003	1.7	0.5	5.3	3.2	1.1	3.3	1.2	2.8	-0.5	2.3	-2.8	1.8	1.2	4.6	0.3	9.9	1.0
2004	2.2	0.1	4.2	3.5	3.4	4.0	1.5	3.2	0.8	1.4	1.9	2.7	1.8	5.9	2.5	6.3	2.5
2005	2.7	1.2	3.0	3.4	2.4	3.7	1.9	3.1	1.3	2.2	1.9	2.2	2.1	4.6	2.5	4.9	3.8
2006	2.9	1.9	2.9	3.4	2.4	3.8	1.9	3.1	2.1	2.5	2.3	2.2	2.3	3.9	1.8	4.8	3.9
2001-06	1.7	0.2	3.6	3.2	2.1	3.7	1.5	2.7	1.0	1.2	0.7	1.9	1.5	4.4	1.7	7.2	3.5

(¹) 1961-91 D_90.

(²) Weighted in common currency; euro area; 1961-91 including D_90.

Table 23 (continued)

(national currency; annual percentage change)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-15 ⁽¹⁾	EU-25 ⁽²⁾	BG	RO	TR	HR	US	JP
1961-70	:	:	:	:	:	:	:	4.5	2.8	4.9	:	:	:	5.7	:	4.2	10.1
1971-80	:	:	:	:	:	:	:	1.6	1.8	2.8	:	:	:	4.4	:	2.8	4.1
1981	:	:	:	:	:	:	:	-2.1	-1.5	-1.2	:	:	:	3.1	:	2.3	2.1
1982	:	:	:	:	:	:	:	0.7	2.4	0.9	:	:	:	2.0	:	-0.9	2.9
1983	:	:	:	:	:	:	:	-0.4	4.7	1.5	:	:	:	5.7	:	5.5	1.2
1984	:	:	:	:	:	:	:	3.8	3.1	1.9	:	:	:	6.6	:	8.0	2.6
1985	:	:	:	:	:	:	:	4.0	2.9	2.4	:	:	:	3.3	:	4.2	4.8
1986	:	:	:	:	:	:	:	2.9	4.6	3.8	:	:	:	6.9	:	3.5	3.8
1987	:	:	:	:	:	:	:	4.3	5.0	3.6	:	:	:	9.5	:	3.1	4.7
1988	:	:	:	:	:	:	:	3.1	8.1	4.8	:	:	:	-0.6	:	3.2	7.6
1989	:	:	:	:	:	:	:	4.0	3.0	3.7	:	:	:	1.2	:	2.8	5.7
1990	:	:	:	:	:	:	:	0.7	-0.4	2.8	:	:	:	13.4	:	1.4	5.3
1981-90	:	:	:	:	:	:	:	2.1	3.2	2.4	:	:	:	5.0	:	3.3	4.1
1991	:	:	-10.2	:	1.3	-8.7	:	-2.0	-2.5	1.3	:	:	-17.5	-0.4	:	-0.7	3.0
1992	:	:	-2.7	:	0.4	-2.4	:	-1.5	0.8	1.2	:	:	-8.5	6.1	:	3.2	0.6
1993	:	:	8.5	:	5.8	10.8	6.5	-5.2	2.1	-1.7	:	:	0.6	12.6	:	3.2	0.2
1994	:	:	2.1	:	4.2	5.5	-4.5	3.2	3.6	2.4	:	:	-0.6	-11.2	:	4.3	1.3
1995	:	:	-4.7	:	7.4	9.5	9.9	2.2	1.9	2.1	:	5.2	10.8	10.9	:	2.4	2.5
1996	7.8	6.5	0.1	2.8	9.4	3.4	18.2	0.9	3.2	1.4	1.6	-15.5	5.9	7.4	4.9	3.7	3.9
1997	5.2	10.3	4.7	-0.1	9.2	5.0	3.7	1.1	3.7	2.1	2.2	-7.5	-6.1	8.8	14.8	4.7	0.9
1998	12.2	8.0	8.3	-1.1	6.3	5.3	7.2	4.3	5.0	3.8	3.9	12.7	0.2	1.2	-1.6	5.3	-1.5
1999	3.0	-0.3	5.0	5.8	4.9	9.1	-6.3	3.3	3.9	3.5	3.5	8.8	-4.7	-3.9	-2.7	5.4	0.2
2000	3.7	2.0	4.5	10.8	2.6	1.4	0.1	3.6	3.9	3.2	3.2	6.8	5.5	9.6	-0.3	4.4	2.4
1991-2000	:	:	1.4	:	5.1	3.7	:	0.9	2.5	1.9	:	:	-1.7	3.9	:	3.6	1.3
2001	10.9	5.5	1.7	-5.9	-1.8	0.9	7.4	-0.2	2.9	1.3	1.3	7.6	9.7	-15.9	5.5	0.9	1.2
2002	5.5	6.5	5.5	-4.5	0.7	2.3	4.4	0.8	2.9	0.9	1.0	3.8	3.7	9.1	8.8	2.5	-1.0
2003	11.9	11.5	5.5	8.6	2.0	4.8	-2.3	0.8	2.5	1.4	1.5	8.6	8.8	8.8	5.2	3.3	1.8
2004	9.2	9.5	4.1	0.8	5.1	4.7	4.7	1.6	3.8	2.2	2.3	8.6	8.6	13.3	3.5	4.8	3.2
2005	7.9	7.5	3.2	0.8	5.0	4.3	4.9	3.1	2.6	2.2	2.3	9.8	6.2	6.6	3.2	3.0	1.5
2006	7.8	6.1	3.9	0.9	5.4	4.4	4.2	3.0	2.7	2.4	2.5	5.4	5.5	7.5	3.3	2.9	1.9
2001-06	8.8	7.7	4.0	0.0	2.7	3.5	3.8	1.5	2.9	1.7	1.8	7.3	7.1	4.4	4.9	2.9	1.4

⁽¹⁾ Weighted in common currency; former EU-15; 1961-91 including D_90.⁽²⁾ Weighted in common currency.

Table 24

Prices
Price deflator gross domestic product at market prices

(national currency; annual percentage change)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1961-70	3.4	3.8	3.0	6.5	4.4	5.5	4.5	4.1	5.2	3.8	2.9	5.9	4.3	:	6.3	:	:
1971-80	7.1	5.2	14.6	15.1	9.8	13.8	14.9	6.5	7.6	6.4	16.1	11.1	9.4	:	10.1	:	:
1981	5.1	4.3	21.6	12.3	11.0	17.5	19.0	7.2	5.4	6.6	17.6	10.9	10.0	:	11.8	:	:
1982	7.6	4.8	27.2	13.6	11.5	15.2	17.2	10.8	5.4	5.1	20.7	8.7	10.3	:	11.1	:	:
1983	5.6	3.3	20.6	11.9	9.0	10.8	15.1	6.8	2.1	3.4	24.6	8.6	8.3	:	8.4	:	:
1984	5.4	2.0	21.9	10.9	7.0	6.4	11.5	4.4	1.4	4.7	24.7	8.4	6.6	:	6.0	:	:
1985	4.6	2.2	19.0	8.6	5.4	5.3	8.9	3.0	1.8	3.0	21.7	5.2	5.5	:	4.9	:	:
1986	2.8	3.3	18.9	10.9	5.1	5.8	7.9	-0.1	0.1	2.9	20.5	4.4	5.5	:	4.0	:	:
1987	1.7	1.8	15.3	5.9	2.9	2.2	6.2	0.1	-0.7	2.2	10.1	4.1	3.5	:	5.1	:	:
1988	2.2	1.5	16.7	5.9	3.0	3.4	6.8	2.8	0.9	2.0	11.2	8.4	3.8	:	2.5	:	:
1989	4.8	2.3	14.5	6.9	3.1	5.1	6.5	4.0	1.1	3.2	10.5	6.3	4.2	:	5.2	:	:
1990	2.8	3.2	20.7	7.3	2.9	-0.3	8.2	2.5	2.2	3.0	13.1	6.4	4.9	:	3.7	:	:
1981-90	4.3	2.9	19.6	9.4	6.1	7.0	10.6	4.1	2.0	3.6	17.3	7.1	6.2	:	6.2	:	:
1991	2.9	3.5	19.8	6.9	3.0	1.8	7.6	1.8	2.9	3.8	10.1	1.9	4.8	36.2	2.8	:	3.9
1992	3.4	5.0	14.8	6.7	2.0	2.8	4.5	3.7	2.3	3.6	11.4	1.4	4.4	12.4	2.9	:	5.8
1993	4.0	3.7	14.4	4.5	2.3	5.2	3.9	6.0	1.9	2.7	7.4	2.6	3.6	21.0	1.4	:	5.1
1994	2.1	2.5	11.2	3.9	1.7	1.7	3.5	3.5	2.3	2.7	7.3	1.8	2.8	13.4	1.7	38.9	5.3
1995	1.3	2.0	9.8	4.9	1.7	2.9	5.0	2.3	2.0	1.9	3.4	4.8	2.9	10.2	1.8	31.3	3.0
1996	1.2	1.0	7.4	3.5	1.4	1.9	5.3	2.0	1.2	1.0	3.0	-0.3	2.1	8.7	2.5	24.3	1.8
1997	1.4	0.7	6.8	2.3	1.3	4.4	2.4	2.7	2.0	0.0	3.8	2.1	1.6	8.3	2.2	10.5	2.7
1998	1.7	1.1	5.2	2.4	0.9	6.4	2.7	2.7	1.7	0.3	3.8	3.5	1.7	11.2	1.0	9.0	2.5
1999	1.4	0.5	3.0	2.8	0.5	3.8	1.6	2.2	1.6	0.6	3.1	-0.2	1.1	2.8	1.8	4.3	2.2
2000	1.3	-0.3	3.4	3.4	1.0	4.8	2.2	4.2	3.9	1.8	3.5	3.2	1.4	1.4	3.0	5.3	4.5
1991-2000	2.1	2.0	9.5	4.1	1.6	3.6	3.9	3.1	2.2	1.8	5.6	2.1	2.6	12.2	2.1	:	3.7
2001	1.8	1.3	3.5	4.2	1.8	5.7	2.6	1.9	5.2	1.7	4.4	3.0	2.4	4.9	2.1	5.8	2.3
2002	1.8	1.5	4.0	4.5	2.3	4.5	3.1	1.1	3.1	1.3	4.5	0.9	2.5	2.8	1.6	4.4	2.8
2003	1.9	1.1	3.5	4.0	1.5	1.6	2.9	2.1	3.0	1.6	2.3	0.1	2.0	1.7	2.2	2.4	5.3
2004	2.0	1.0	3.6	3.8	1.9	3.0	2.9	2.3	0.9	1.1	1.9	0.4	1.9	4.8	1.9	3.8	3.0
2005	2.1	1.0	3.1	3.6	1.7	2.5	2.3	2.4	0.8	1.2	2.3	1.1	1.8	3.1	1.9	3.9	2.8
2006	2.0	0.9	3.2	3.4	1.7	2.0	2.1	2.9	1.0	1.2	2.4	1.5	1.7	2.7	2.0	3.0	2.5
2001-06	1.9	1.2	3.5	3.9	1.8	3.2	2.6	2.1	2.3	1.4	3.0	1.1	2.1	3.3	2.0	3.9	3.1

⁽¹⁾ 1961-91 D_90.

⁽²⁾ Weighted in common currency; euro area; 1961-91 including D_90.

Table 24 (continued)

(national currency; annual percentage change)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-15 ⁽¹⁾	EU-25 ⁽²⁾	BG	RO	TR	HR	US	JP
1961–70	:	:	:	:	:	:	:	4.3	4.1	4.3	:	:	:	6.0	:	2.8	5.7
1971–80	:	:	:	:	:	:	:	9.6	13.9	10.0	:	:	:	32.8	:	7.0	7.8
1981	:	:	:	:	:	:	:	9.5	11.3	10.2	:	:	:	44.0	:	9.5	4.4
1982	:	:	:	:	:	:	:	8.1	7.5	9.8	:	:	:	28.2	:	6.2	2.1
1983	:	:	:	:	:	:	:	10.1	5.5	7.9	:	:	:	26.3	:	4.1	2.4
1984	:	:	:	:	:	:	:	7.6	4.5	6.3	:	:	:	48.2	:	3.7	3.2
1985	:	:	:	:	:	:	:	6.6	5.7	5.5	:	:	:	53.1	:	3.3	2.3
1986	:	:	:	:	:	:	:	6.5	3.3	5.2	:	:	:	36.0	:	2.3	1.7
1987	:	:	:	:	:	:	:	4.8	5.3	3.8	:	:	:	33.6	:	2.7	0.3
1988	:	:	:	:	:	:	:	6.4	6.3	4.2	:	:	:	69.3	:	3.4	0.8
1989	:	:	:	:	:	:	:	8.0	7.4	4.9	:	:	:	75.5	:	3.8	2.3
1990	:	:	:	:	:	:	:	8.8	7.6	5.4	:	:	:	58.3	:	4.0	2.4
1981–90	:	:	:	:	:	:	:	7.6	6.4	6.3	:	:	:	46.4	:	4.3	2.2
1991	162.6	227.9	35.7	:	55.3	94.9	:	9.0	6.6	5.1	:	:	195.6	58.8	:	3.5	2.9
1992	932.2	943.0	20.3	3.6	38.6	208.2	:	1.1	4.0	4.2	:	59.6	199.7	63.7	:	2.3	1.6
1993	64.8	306.2	21.3	2.8	30.6	37.1	15.5	3.0	2.7	3.4	:	51.1	227.3	67.8	:	2.3	0.5
1994	36.2	61.6	19.5	3.5	37.2	22.6	13.4	2.3	1.5	2.6	3.3	72.7	139.0	106.5	:	2.1	0.1
1995	15.1	46.4	26.7	4.8	28.0	23.0	9.9	3.4	2.6	2.8	3.4	62.8	35.3	87.2	:	2.0	-0.5
1996	14.9	20.6	21.2	0.8	18.6	10.9	4.3	1.2	3.2	2.3	2.7	120.8	45.3	77.8	3.6	1.9	-0.8
1997	7.0	14.0	18.5	2.3	13.9	8.8	6.7	1.6	2.9	1.7	2.1	946.0	147.2	81.5	7.4	1.7	0.3
1998	4.6	5.0	12.6	2.3	11.6	7.6	5.2	0.8	2.8	1.9	2.2	23.8	55.3	75.7	8.4	1.1	-0.1
1999	4.8	-0.6	8.4	2.7	6.4	5.9	6.5	0.7	2.3	1.3	1.5	3.7	47.7	55.6	3.8	1.4	-1.5
2000	3.8	1.0	9.9	1.5	6.7	5.6	8.5	1.3	1.3	1.4	1.6	6.7	44.2	49.9	4.7	2.2	-2.0
1991–2000	58.2	85.3	19.2	:	23.8	33.5	:	2.4	3.0	2.7	:	:	101.7	71.7	:	2.1	0.1
2001	2.1	-0.1	8.6	5.0	4.0	9.1	4.2	2.3	2.2	2.4	2.5	6.7	37.4	54.8	4.0	2.4	-1.5
2002	3.4	0.0	8.9	0.3	1.3	8.0	4.0	1.4	3.2	2.6	2.6	3.8	23.4	44.1	2.9	1.7	-1.2
2003	3.4	-0.8	7.6	4.2	0.5	5.5	4.7	2.3	3.0	2.2	2.2	2.1	19.2	22.5	3.2	1.8	-2.5
2004	6.7	1.7	6.2	3.4	2.8	4.1	4.0	1.1	2.4	2.0	2.1	5.9	13.3	11.3	2.4	2.3	-2.6
2005	6.8	2.9	4.3	2.4	2.9	3.4	2.3	2.0	2.3	1.9	2.0	4.9	10.6	9.3	3.0	2.5	-1.6
2006	5.1	3.3	3.9	2.1	3.3	3.1	1.6	1.9	2.1	1.8	1.9	4.4	8.4	7.6	3.5	2.1	-0.6
2001–06	4.6	1.1	6.6	2.9	2.5	5.5	3.4	1.8	2.6	2.1	2.2	4.6	18.3	23.7	3.2	2.1	-1.7

⁽¹⁾ Weighted in common currency; former EU-15; 1961–91 including D_90.⁽²⁾ Weighted in common currency.

Table 25

Prices
Price deflator private final consumption expenditure

(national currency; annual percentage change)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1961-70	3.1	2.7	2.4	5.8	4.2	5.1	3.8	2.5	4.1	3.5	2.8	4.7	3.7	:	5.8	:	:
1971-80	7.1	5.1	13.9	15.0	9.8	14.0	14.6	6.5	7.3	6.2	17.3	11.3	9.4	:	10.4	:	:
1981	7.4	6.1	23.1	14.1	13.0	19.6	18.0	8.6	6.4	6.9	20.2	11.6	11.4	:	12.2	:	:
1982	7.1	5.0	21.1	14.4	11.6	14.9	17.0	10.6	5.0	5.5	20.3	9.3	10.5	:	9.8	:	:
1983	7.1	3.2	19.4	12.3	9.6	9.5	14.9	8.3	2.9	4.0	25.8	7.8	8.7	:	7.4	:	:
1984	5.6	2.5	19.3	10.6	7.8	7.3	11.6	6.5	2.1	5.1	28.5	6.9	7.2	:	7.0	:	:
1985	5.0	1.8	19.6	8.2	5.8	5.1	9.1	4.3	2.5	3.5	19.4	5.7	5.7	:	4.5	:	:
1986	0.4	-0.5	22.4	9.3	2.6	3.7	6.4	0.3	0.2	1.7	13.8	3.5	3.3	:	2.8	:	:
1987	1.7	0.5	17.3	5.5	3.2	2.4	5.2	0.9	0.3	1.2	9.9	3.3	3.1	:	4.8	:	:
1988	1.2	1.3	15.1	4.8	2.8	4.0	5.9	2.3	0.9	1.5	11.5	4.8	3.4	:	4.6	:	:
1989	3.8	2.8	13.5	6.7	3.8	4.0	6.7	3.2	1.5	2.7	12.8	4.6	4.6	:	4.7	:	:
1990	2.7	2.7	19.8	6.6	3.0	2.1	6.4	3.6	2.1	3.4	11.6	6.0	4.4	:	2.9	:	:
1981-90	4.2	2.5	19.0	9.2	6.3	7.1	10.0	4.8	2.4	3.5	17.2	6.3	6.2	:	6.0	:	:
1991	2.8	3.8	19.7	6.4	3.5	2.7	7.0	3.4	3.3	3.5	11.8	5.8	5.1	47.3	2.8	:	:
1992	1.8	4.4	15.7	6.6	2.5	3.0	5.5	4.2	3.2	3.8	9.2	3.6	4.6	12.2	1.9	:	:
1993	2.5	3.9	14.1	5.3	2.4	2.2	5.5	4.0	2.1	3.4	6.9	4.6	4.1	16.8	2.0	:	:
1994	2.3	2.6	11.0	4.9	2.1	2.7	4.9	2.6	2.9	2.7	5.6	0.9	3.3	10.1	3.0	43.3	:
1995	1.5	1.9	9.0	4.8	2.0	2.8	6.0	2.0	1.4	2.0	4.3	0.8	3.0	9.2	1.9	25.1	2.3
1996	2.1	1.7	8.2	3.5	1.9	2.6	4.4	1.4	1.9	1.9	3.7	1.6	2.5	7.4	2.1	25.4	2.4
1997	1.8	2.0	5.6	2.6	1.4	2.6	2.2	1.4	2.0	1.5	2.9	1.9	2.1	8.6	2.2	8.7	2.5
1998	0.9	1.1	4.5	2.2	0.7	3.6	2.1	1.1	1.7	0.3	2.8	2.0	1.5	8.7	1.3	8.5	1.1
1999	1.2	0.3	2.3	2.4	0.4	3.0	2.1	1.5	1.8	0.7	2.1	1.2	1.1	2.6	2.4	6.2	2.1
2000	2.3	1.5	3.3	3.1	1.5	3.8	2.9	2.6	3.3	2.5	3.3	3.6	2.2	3.0	2.6	2.6	4.9
1991-2000	1.9	2.3	9.2	4.2	1.8	2.9	4.3	2.4	2.4	2.2	5.2	2.6	2.9	12.0	2.2	:	:
2001	2.5	1.6	3.3	3.3	1.6	4.1	2.8	3.2	4.6	1.9	3.8	3.5	2.3	3.5	2.5	6.1	1.8
2002	1.7	1.1	3.6	3.4	1.9	5.6	3.1	2.1	2.7	1.2	3.5	3.1	2.2	0.7	2.1	3.4	2.4
2003	1.8	1.0	3.4	3.1	2.0	3.8	2.5	1.9	2.3	1.5	3.4	0.5	2.0	-0.7	1.8	0.8	3.8
2004	2.0	1.7	3.1	3.1	1.7	2.2	2.4	2.3	1.1	2.0	2.3	0.6	2.0	2.2	1.4	3.3	2.4
2005	1.9	1.3	2.9	2.8	1.9	2.4	2.4	2.1	1.2	1.8	2.4	1.9	1.9	2.0	1.7	3.4	2.4
2006	1.8	1.1	2.8	2.5	1.7	2.4	2.0	2.0	1.4	1.5	2.3	2.0	1.7	1.9	1.7	2.7	2.1
2001-06	1.9	1.3	3.2	3.0	1.8	3.4	2.5	2.3	2.2	1.6	3.0	1.9	2.0	1.6	1.9	3.3	2.5

(¹) 1961-91 D_90.

(²) Weighted in common currency; euro area; 1961-91 including D_90.

Table 25 (continued)

(national currency; annual percentage change)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-15 ⁽¹⁾	EU-25 ⁽²⁾	BG	RO	TR	HR	US	JP
1961–70	:	:	:	:	:	:	:	4.1	3.9	3.8	:	:	:	5.9	:	2.4	5.6
1971–80	:	:	:	:	:	:	:	9.6	13.2	10.0	:	:	:	32.8	:	7.0	8.8
1981	:	:	:	:	:	:	:	12.1	10.9	11.4	:	:	:	47.0	:	8.9	4.8
1982	:	:	:	:	:	:	:	10.2	8.5	10.1	:	:	:	26.5	:	5.5	2.8
1983	:	:	:	:	:	:	:	11.2	5.5	8.2	:	:	:	26.2	:	4.3	2.4
1984	:	:	:	:	:	:	:	7.6	4.9	6.8	:	:	:	48.6	:	3.8	2.8
1985	:	:	:	:	:	:	:	6.9	5.2	5.6	:	:	:	51.8	:	3.3	1.8
1986	:	:	:	:	:	:	:	4.7	4.3	3.5	:	:	:	30.6	:	2.4	0.8
1987	:	:	:	:	:	:	:	5.2	4.2	3.4	:	:	:	49.5	:	3.5	0.6
1988	:	:	:	:	:	:	:	5.9	5.0	3.7	:	:	:	58.7	:	4.0	0.8
1989	:	:	:	:	:	:	:	6.8	6.2	4.9	:	:	:	83.8	:	4.4	2.2
1990	:	:	:	:	:	:	:	9.7	7.5	5.1	:	:	:	59.4	:	4.6	2.8
1981–90	:	:	:	:	:	:	:	8.0	6.2	6.2	:	:	:	47.3	:	4.5	2.2
1991	:	:	:	:	67.8	105.3	:	10.4	7.8	5.6	:	:	182.9	60.8	:	3.6	2.7
1992	:	:	:	:	44.4	204.0	:	2.1	4.9	4.5	:	77.6	205.5	65.6	:	2.9	1.6
1993	:	:	20.9	:	31.5	31.5	:	6.3	3.4	4.1	:	68.0	234.5	65.9	:	2.3	1.0
1994	:	:	19.3	:	37.9	20.3	13.4	2.7	2.1	3.1	:	81.9	141.9	108.9	:	2.1	0.5
1995	:	:	27.8	:	27.2	23.4	9.2	2.8	3.4	3.0	:	60.7	36.7	92.6	:	2.1	-0.3
1996	16.3	18.2	22.9	2.0	19.4	10.5	5.0	1.3	3.4	2.6	3.1	119.6	43.5	67.8	3.5	2.2	-0.1
1997	8.7	9.5	18.0	3.4	14.5	9.0	6.0	1.9	2.5	2.1	2.5	985.1	156.9	81.8	1.9	1.7	1.0
1998	4.7	5.4	13.6	2.7	11.2	7.5	5.8	0.8	2.6	1.6	2.0	15.8	49.4	83.6	5.9	0.9	-0.1
1999	1.7	-0.4	10.2	1.9	6.5	6.0	8.6	1.2	1.7	1.3	1.4	2.2	46.2	59.8	3.6	1.7	-0.7
2000	3.5	-1.5	9.1	8.4	9.0	8.3	10.0	1.1	1.1	2.0	2.2	4.5	39.7	50.1	5.5	2.5	-1.3
1991–2000	:	:	:	:	25.7	33.6	:	3.0	3.3	3.0	:	:	101.0	72.9	:	2.2	0.4
2001	2.6	2.4	8.2	3.1	4.7	8.1	6.1	2.4	2.4	2.3	2.5	6.0	35.6	58.9	4.7	2.1	-1.6
2002	2.2	-0.2	3.7	1.1	1.6	7.8	3.1	1.8	1.6	2.1	2.1	4.0	21.6	40.8	1.9	1.4	-1.3
2003	2.9	-2.6	4.6	1.0	0.6	5.0	7.7	2.5	1.8	1.9	1.9	0.5	16.9	21.2	1.4	1.9	-1.4
2004	6.7	1.0	7.0	3.4	3.4	3.8	6.9	1.5	1.7	1.9	2.0	5.0	12.5	10.5	2.2	2.4	-1.3
2005	4.8	2.8	4.8	2.4	3.3	3.3	3.3	1.8	2.0	1.9	2.0	4.0	9.7	8.9	2.6	2.7	-0.9
2006	3.5	2.7	4.3	2.2	3.0	2.9	2.8	1.9	2.1	1.8	1.8	3.0	7.0	6.9	2.7	2.0	-0.8
2001–06	3.8	1.0	5.4	2.2	2.8	5.1	5.0	2.0	1.9	2.0	2.1	3.7	16.9	23.1	2.6	2.1	-1.2

⁽¹⁾ Weighted in common currency; former EU-15; 1961–91 including D_90.⁽²⁾ Weighted in common currency.

Table 26

Prices
Price deflator exports of goods and services

(national currency; annual percentage change)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1961-70	2.4	1.7	1.0	6.6	2.3	1.9	1.8	2.0	1.3	2.3	1.6	4.8	2.1	:	2.9	:	:
1971-80	6.9	5.1	14.9	13.2	9.3	14.3	15.5	5.9	7.0	4.9	17.2	11.8	8.5	:	8.9	:	:
1981	9.4	5.6	22.2	14.9	13.3	16.4	21.2	9.6	14.0	6.0	18.5	8.4	11.6	:	13.1	:	:
1982	13.2	4.2	21.2	13.6	12.4	10.8	16.1	15.5	3.7	4.7	19.8	6.1	9.2	:	10.6	:	:
1983	7.3	2.0	21.3	16.7	9.2	9.1	8.2	5.9	-0.1	1.5	30.0	6.6	6.0	:	5.4	:	:
1984	8.2	3.2	14.3	12.5	9.0	8.1	9.7	5.2	5.1	3.9	30.2	8.6	7.0	:	7.2	:	:
1985	2.8	2.7	15.1	8.1	3.9	3.1	8.6	3.9	1.4	3.0	17.6	3.0	4.3	:	3.7	:	:
1986	-6.6	-1.2	12.2	-0.4	-4.3	-6.3	-3.0	-2.3	-15.8	0.5	4.5	-3.6	-4.1	:	-5.4	:	:
1987	-3.3	-1.0	8.9	3.5	-0.9	0.5	1.0	-2.1	-5.0	-1.7	10.8	1.7	-0.8	:	-1.3	:	:
1988	3.8	1.7	11.9	4.7	2.3	5.6	3.4	2.0	0.2	1.9	11.7	4.9	2.6	:	-0.8	:	:
1989	7.3	2.5	13.9	6.0	4.1	7.3	6.6	4.3	4.0	2.5	11.8	5.7	4.5	:	6.8	:	:
1990	-1.7	-0.1	15.9	0.8	-1.5	-8.1	3.0	0.1	-0.8	1.0	6.3	0.4	0.1	:	0.7	:	:
1981-90	3.9	1.9	15.6	7.9	4.6	4.4	7.3	4.1	0.4	2.3	15.8	4.1	3.9	:	3.9	:	:
1991	-0.6	0.9	14.0	1.5	-0.6	-0.3	3.9	1.2	0.1	0.7	3.4	-0.3	1.0	49.5	1.7	:	:
1992	-1.1	1.0	10.1	2.9	-1.7	-2.0	0.9	1.8	-2.0	0.1	0.5	6.1	0.2	5.8	2.5	:	:
1993	-1.3	0.7	9.1	5.0	-2.3	6.8	10.4	5.7	-2.1	0.5	4.9	6.5	1.9	4.7	-0.3	:	:
1994	1.3	1.0	8.6	4.6	-0.1	0.2	3.3	3.1	0.5	1.3	6.4	1.3	1.5	5.0	0.6	43.0	:
1995	1.6	2.0	8.7	5.9	0.6	1.9	8.8	1.5	0.9	2.0	5.6	4.9	3.0	6.4	1.4	24.3	2.5
1996	1.7	0.1	5.6	1.5	1.7	-0.3	1.0	1.5	0.5	1.1	-1.7	-0.4	0.8	3.6	1.7	16.2	0.8
1997	4.8	1.2	3.6	3.3	2.0	1.2	0.3	4.0	2.7	1.2	2.6	-0.8	1.9	5.5	3.0	10.7	4.5
1998	-1.3	0.2	4.1	0.6	-1.3	2.8	1.0	2.7	-1.4	0.4	0.8	-1.0	-0.1	4.3	-2.6	4.2	2.1
1999	0.0	-0.8	1.9	0.4	-1.1	2.4	0.0	2.6	-0.7	0.7	0.2	-5.1	-0.4	0.8	-1.0	-0.1	2.6
2000	9.6	3.0	8.0	7.4	2.5	5.8	6.3	8.0	8.2	1.4	5.4	3.4	5.0	2.9	8.0	8.2	4.3
1991-2000	1.4	0.9	7.3	3.3	-0.1	1.8	3.5	3.2	0.6	0.9	2.8	1.4	1.5	8.2	1.5	:	:
2001	1.4	0.9	1.3	2.7	0.0	4.1	3.2	2.4	1.5	0.8	1.9	-2.5	1.4	-0.7	0.6	7.2	3.6
2002	-1.1	0.1	2.4	1.1	-1.7	-0.3	1.8	-2.2	-1.0	0.6	0.3	-4.8	-0.2	-6.1	-2.7	-1.9	0.1
2003	-1.2	-0.8	2.2	0.7	-0.1	-5.1	1.0	-1.3	0.0	0.1	-1.8	-3.2	-0.5	0.8	0.4	3.0	-0.6
2004	0.9	0.5	2.4	0.8	0.9	0.4	3.2	2.0	0.9	0.7	0.1	0.4	1.0	2.6	2.0	2.8	-0.1
2005	1.3	1.2	1.4	1.0	0.9	1.8	2.1	1.8	1.3	1.2	0.3	0.3	1.3	1.4	1.6	3.2	0.1
2006	1.6	0.7	1.6	1.2	0.6	1.4	1.2	2.0	0.3	0.7	0.5	-0.1	0.9	1.6	0.7	2.9	0.3
2001-06	0.5	0.4	1.9	1.3	0.1	0.3	2.1	0.8	0.5	0.7	0.2	-1.7	0.6	-0.1	0.4	2.8	0.5

(¹) 1961-91 D_90.

(²) Weighted in common currency; euro area; 1961-91 including D_90.

Table 26 (continued)

(national currency; annual percentage change)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-15 ⁽¹⁾	EU-25 ⁽²⁾	BG	RO	TR	HR	US	JP
1961-70	:	:	:	:	:	:	:	1.9	3.2	2.3	:	:	:	4.8	:	2.2	0.6
1971-80	:	:	:	:	:	:	:	10.0	13.4	9.3	:	:	:	36.2	:	8.9	5.4
1981	:	:	:	:	:	:	:	8.9	8.5	11.1	:	:	:	43.5	:	7.4	3.2
1982	:	:	:	:	:	:	:	11.1	6.9	9.0	:	:	:	42.7	:	0.5	3.6
1983	:	:	:	:	:	:	:	12.3	8.0	6.5	:	:	:	25.9	:	0.4	-3.1
1984	:	:	:	:	:	:	:	6.8	7.6	7.1	:	:	:	57.1	:	0.9	1.6
1985	:	:	:	:	:	:	:	4.0	5.1	4.4	:	:	:	64.4	:	-3.1	-3.0
1986	:	:	:	:	:	:	:	-1.5	-8.2	-4.6	:	:	:	28.8	:	-1.5	-12.2
1987	:	:	:	:	:	:	:	2.6	2.9	-0.2	:	:	:	30.8	:	5.2	-4.2
1988	:	:	:	:	:	:	:	5.1	0.3	2.3	:	:	:	74.9	:	2.5	-1.8
1989	:	:	:	:	:	:	:	6.5	8.2	5.1	:	:	:	53.2	:	1.7	3.3
1990	:	:	:	:	:	:	:	1.8	4.4	0.7	:	:	:	38.2	:	0.7	1.7
1981-90	:	:	:	:	:	:	:	5.7	4.2	4.0	:	:	:	45.2	:	1.4	-1.2
1991	:	:	29.8	:	20.6	104.7	:	1.6	1.6	1.1	:	:	231.7	61.0	:	1.3	-2.3
1992	:	:	10.1	:	29.2	187.9	:	-2.8	1.6	0.3	:	:	314.8	62.5	:	-0.4	-2.5
1993	:	:	12.9	:	27.2	30.4	-0.9	9.1	8.8	3.0	:	:	148.8	59.9	:	0.0	-6.6
1994	:	:	18.6	:	31.7	17.3	10.7	3.7	1.0	1.5	:	:	125.8	164.8	:	1.1	-3.1
1995	:	:	33.9	:	19.6	9.1	8.4	6.9	3.2	3.2	:	:	37.3	73.0	:	2.3	-1.8
1996	8.8	10.6	19.0	3.4	7.6	13.0	4.0	-4.6	1.3	0.7	1.1	122.0	50.8	69.0	4.2	-1.3	2.9
1997	2.5	4.5	15.2	0.8	13.9	5.3	-0.3	-0.2	-4.0	1.0	1.4	822.6	116.1	87.0	8.9	-1.7	1.6
1998	5.2	-7.2	12.8	0.8	13.2	2.9	2.1	-1.3	-3.8	-0.7	-0.3	9.0	16.6	60.1	3.2	-2.3	0.6
1999	-0.9	0.4	4.5	2.2	5.9	2.1	5.7	-1.6	-0.6	-0.5	-0.3	5.7	63.7	52.1	5.5	-0.6	-8.4
2000	3.7	9.8	9.8	12.7	1.7	10.5	12.3	2.6	2.2	4.6	4.7	20.6	40.0	39.9	10.9	1.7	-3.9
1991-2000	:	:	16.3	:	16.7	29.8	:	1.3	1.1	1.4	:	:	98.0	70.4	:	0.0	-2.4
2001	0.8	-2.4	2.9	-6.4	1.3	8.2	5.4	2.5	-0.8	1.1	1.1	0.7	31.4	86.9	3.2	-0.4	1.4
2002	3.9	-5.1	-4.4	0.2	4.8	4.5	0.8	-1.9	0.4	-0.3	-0.3	-2.8	17.3	21.4	0.2	-0.3	-1.7
2003	8.9	-0.7	-0.1	-1.3	5.8	2.8	-3.4	-2.1	1.3	-0.3	-0.2	-1.3	14.9	4.7	1.5	2.1	-4.2
2004	5.7	2.4	1.1	3.1	4.5	3.2	-1.9	0.4	-0.2	0.9	1.0	2.5	9.3	5.4	2.0	3.5	-3.1
2005	4.9	2.9	0.7	2.8	0.3	1.3	0.0	1.0	1.9	1.4	1.3	3.2	5.7	16.5	2.6	2.9	-0.9
2006	5.0	1.4	1.1	2.3	3.0	0.7	0.2	0.2	0.2	0.7	0.8	2.7	4.0	11.0	2.8	2.2	-0.6
2001-06	4.8	-0.3	0.2	0.1	3.3	3.4	0.1	0.0	0.5	0.6	0.6	0.8	13.4	21.6	2.1	1.7	-1.5

⁽¹⁾ Weighted in common currency; former EU-15; 1961-91 including D_90.⁽²⁾ Weighted in common currency.

Table 27

Prices
Price deflator imports of goods and services

(national currency; annual percentage change)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1961-70	2.3	0.0	0.8	3.0	2.2	2.0	1.2	1.8	0.8	2.2	1.1	4.5	1.3	:	2.5	:	:
1971-80	7.6	6.2	16.8	14.8	11.6	15.7	18.8	7.2	7.7	5.7	19.5	13.2	10.3	:	10.7	:	:
1981	13.4	11.3	14.6	28.7	19.3	18.6	25.2	10.1	14.6	8.0	25.6	10.8	16.5	:	16.0	:	:
1982	13.7	2.3	23.6	12.2	13.2	7.5	11.2	13.8	1.6	2.9	18.1	4.1	8.2	:	9.3	:	:
1983	7.6	0.8	16.6	22.0	8.9	5.2	6.0	7.9	0.0	1.8	29.9	7.0	5.8	:	4.7	:	:
1984	8.0	5.4	24.0	11.9	10.2	9.4	9.5	7.4	5.7	4.6	31.2	4.2	8.2	:	7.8	:	:
1985	1.9	2.6	17.6	2.1	2.3	2.6	7.4	3.1	1.2	3.8	13.0	3.2	3.5	:	1.7	:	:
1986	-10.3	-11.5	8.0	-16.2	-12.8	-10.1	-14.2	-1.7	-16.7	-0.6	-6.8	-7.0	-11.9	:	-11.2	:	:
1987	-4.3	-4.8	6.9	-2.8	-1.4	1.3	-1.7	-1.2	-3.0	-2.0	9.5	-0.4	-2.6	:	-1.6	:	:
1988	2.2	1.8	9.2	0.1	1.4	6.4	4.8	0.8	-0.2	2.0	11.7	1.2	2.2	:	-1.4	:	:
1989	6.4	5.3	14.7	1.9	6.0	6.2	6.9	3.8	4.6	3.1	10.6	5.2	5.6	:	6.8	:	:
1990	-1.4	-0.9	13.7	-2.8	-1.8	-3.7	-1.8	1.6	-1.3	0.5	4.1	1.1	-1.0	:	-0.6	:	:
1981-90	3.5	1.1	14.7	5.0	4.2	4.1	4.9	4.5	0.4	2.4	14.1	2.8	3.2	:	2.9	:	:
1991	-0.7	2.3	12.3	-1.5	-0.2	2.4	0.5	2.5	0.3	1.1	1.0	2.8	1.0	92.5	2.8	:	:
1992	-2.8	-1.2	12.3	1.2	-3.0	-1.2	1.1	2.7	-1.1	0.5	-4.2	7.7	-0.7	1.4	-0.8	:	:
1993	-2.8	-1.0	7.4	6.1	-3.3	4.5	14.8	3.2	-2.1	0.8	4.4	8.0	1.6	-1.8	-0.5	:	:
1994	1.8	0.6	5.6	5.8	0.5	2.4	4.8	2.1	0.1	1.2	4.3	0.0	1.8	-0.6	0.7	43.7	:
1995	1.7	0.8	7.5	4.4	0.4	3.8	11.1	1.3	0.2	0.9	3.9	0.0	2.6	5.8	1.2	19.6	2.2
1996	2.5	0.5	5.0	0.7	2.3	-0.6	-2.9	0.9	1.2	2.4	1.6	0.9	0.8	3.1	0.0	17.2	3.0
1997	5.5	3.1	2.8	3.5	1.5	0.7	1.4	3.6	2.2	1.8	2.7	0.9	2.6	5.2	2.2	8.1	2.8
1998	-2.2	-2.0	3.8	-0.3	-2.5	2.5	-1.3	1.2	-1.5	0.3	-1.2	-2.6	-1.5	-1.8	-2.5	2.4	-1.1
1999	0.7	-1.0	1.7	0.7	-1.4	2.5	0.2	2.3	0.5	0.6	-0.3	-2.0	-0.2	1.6	-2.4	-0.2	2.6
2000	12.0	7.4	9.3	9.7	5.5	7.5	14.2	7.7	8.3	2.8	8.2	7.0	8.5	6.2	6.8	6.2	8.0
1991-2000	1.5	0.9	6.7	3.0	-0.1	2.4	4.2	2.7	0.8	1.2	2.0	2.2	1.6	8.8	0.7	:	:
2001	1.3	0.8	1.8	0.5	-1.0	3.6	2.6	3.4	0.5	0.4	0.0	-2.8	0.8	-2.6	0.4	4.6	1.8
2002	-2.1	-1.7	0.9	-1.3	-4.0	-1.0	0.1	-2.1	-1.0	-1.2	-2.1	-2.8	-1.7	-8.4	-3.1	0.4	-1.0
2003	-1.0	-2.4	1.4	-0.2	-0.3	-4.5	-0.8	-1.8	-0.7	-0.9	-1.2	2.4	-1.2	-0.5	-1.7	-0.9	-1.6
2004	1.1	0.1	1.7	2.0	-0.4	1.5	2.4	1.9	1.6	0.9	2.0	2.9	1.0	1.5	1.6	2.7	3.0
2005	1.4	1.4	0.8	1.8	1.5	2.3	1.5	1.6	1.6	1.6	0.5	1.9	1.5	1.1	1.6	3.7	0.6
2006	1.6	1.0	0.3	1.0	0.3	1.7	0.3	1.5	0.3	0.7	0.1	1.0	0.7	1.6	0.5	3.1	-0.1
2001-06	0.4	-0.1	1.2	0.6	-0.7	0.6	1.0	0.7	0.4	0.2	-0.1	0.4	0.2	-1.3	-0.1	2.2	0.4

(¹) 1961-91 D_90.

(²) Weighted in common currency; euro area; 1961-91 including D_90.

Table 27 (continued)

(national currency; annual percentage change)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-15 ⁽¹⁾	EU-25 ⁽²⁾	BG	RO	TR	HR	US	JP
1961-70	:	:	:	:	:	:	:	2.3	2.9	1.7	:	:	:	4.7	:	1.7	1.0
1971-80	:	:	:	:	:	:	:	11.9	13.8	10.9	:	:	:	36.8	:	13.7	11.4
1981	:	:	:	:	:	:	:	11.3	7.8	15.1	:	:	:	43.5	:	5.4	1.2
1982	:	:	:	:	:	:	:	14.4	7.0	8.3	:	:	:	42.8	:	-3.4	3.0
1983	:	:	:	:	:	:	:	13.3	7.5	6.3	:	:	:	25.8	:	-3.8	-5.4
1984	:	:	:	:	:	:	:	3.5	8.8	8.1	:	:	:	57.1	:	-0.8	-2.5
1985	:	:	:	:	:	:	:	3.5	4.0	3.5	:	:	:	64.4	:	-3.3	-5.7
1986	:	:	:	:	:	:	:	-6.8	-4.4	-10.5	:	:	:	28.8	:	0.1	-30.6
1987	:	:	:	:	:	:	:	3.8	2.4	-1.6	:	:	:	33.1	:	6.0	-8.9
1988	:	:	:	:	:	:	:	4.1	-0.9	1.7	:	:	:	79.0	:	4.8	-3.9
1989	:	:	:	:	:	:	:	5.7	6.5	5.8	:	:	:	66.7	:	2.2	5.6
1990	:	:	:	:	:	:	:	3.3	3.3	-0.2	:	:	:	28.4	:	2.9	7.3
1981-90	:	:	:	:	:	:	:	5.4	4.1	3.4	:	:	:	45.9	:	0.9	-4.6
1991	:	:	34.1	:	31.7	116.2	:	0.3	0.3	0.9	:	:	209.7	60.2	:	-0.4	-5.1
1992	:	:	10.0	:	21.7	186.1	:	-2.4	0.0	-0.7	:	:	353.9	63.1	:	0.1	-5.1
1993	:	:	9.7	:	18.7	23.1	1.5	13.9	8.6	2.9	:	:	146.1	48.9	:	-0.9	-8.3
1994	:	:	15.6	:	27.0	14.4	12.3	4.0	3.0	2.0	:	:	142.1	163.3	:	0.9	-4.5
1995	:	:	32.7	:	18.0	6.6	7.3	5.7	5.9	3.1	:	:	37.6	85.0	:	2.7	-1.1
1996	12.2	3.7	20.7	4.7	10.4	11.6	7.2	-4.2	0.1	0.5	1.0	120.5	52.9	80.4	3.2	-1.8	8.6
1997	9.3	0.1	13.4	1.0	15.7	4.6	0.3	0.8	-7.1	1.1	1.6	857.7	114.1	74.1	4.9	-3.5	5.9
1998	0.4	-4.2	11.7	2.9	10.8	1.4	-0.2	-0.5	-5.8	-2.1	-1.7	0.1	12.3	62.5	1.2	-5.4	-3.0
1999	-4.4	-4.0	5.5	0.2	7.1	1.5	8.1	1.1	-1.2	-0.4	-0.1	4.3	58.9	48.2	6.9	0.6	-8.2
2000	6.7	4.3	12.4	12.4	7.7	13.8	11.6	4.8	3.1	7.5	7.6	15.0	35.8	50.6	10.0	4.2	1.5
1991-2000	:	:	16.2	:	16.6	28.9	:	2.2	0.6	1.5	:	:	97.7	71.2	:	-0.4	-2.1
2001	0.7	-2.4	2.4	-6.4	1.3	6.2	8.4	4.0	-0.3	0.7	0.8	0.1	30.9	89.2	3.1	-2.5	2.9
2002	4.2	-3.9	-5.3	1.4	5.2	2.4	0.0	0.0	-2.3	-1.8	-1.7	-1.8	15.9	31.7	-0.1	-1.2	-1.9
2003	5.8	-3.0	0.3	-3.8	6.9	2.0	-3.5	-2.2	0.5	-1.0	-0.8	-2.3	15.2	1.9	0.8	3.4	-1.9
2004	5.1	2.2	1.5	4.6	5.1	3.4	-0.8	1.1	-0.8	0.7	0.9	0.6	9.1	4.5	1.2	5.1	3.2
2005	4.4	2.9	1.2	3.0	0.5	1.6	0.3	1.3	1.8	1.5	1.5	1.4	6.3	12.7	1.6	3.5	2.3
2006	3.7	0.9	1.1	2.4	1.3	0.8	0.5	0.5	1.5	0.8	0.9	0.4	3.5	6.9	0.6	1.0	-3.3
2001-06	4.0	-0.6	0.2	0.1	3.4	2.7	0.7	0.8	0.1	0.2	0.2	-0.3	13.1	21.4	1.2	1.5	0.2

⁽¹⁾ Weighted in common currency; former EU-15; 1961-91 including D_90.⁽²⁾ Weighted in common currency.

Table 28

Prices
Terms of trade of goods and services (national accounts)

(1995 = 100)

	BE	DE (1)	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	CZ	DK	EE	CY
1960	99.3	82.1	101.2	59.7	115.1	117.2	104.2	113.1	101.3	107.3	90.2	96.7	:	100.4	:	:
1965	97.9	84.5	104.3	64.4	119.3	120.7	108.1	104.0	105.4	111.2	91.8	103.8	:	105.2	:	:
1970	99.9	97.1	103.7	84.0	116.4	115.7	110.2	116.0	106.8	108.0	94.4	99.5	:	104.3	:	:
1975	97.1	95.8	91.3	78.2	104.8	109.2	90.3	105.9	103.2	106.4	80.4	99.6	:	97.6	:	:
1980	93.7	88.2	88.1	73.3	94.4	102.2	83.5	102.1	99.9	100.5	77.2	88.3	:	89.0	:	:
1981	90.4	83.7	94.0	65.4	89.7	100.3	80.8	101.6	99.4	98.6	72.9	86.4	:	86.8	:	:
1982	89.9	85.2	92.1	66.2	89.0	103.4	84.4	103.1	101.4	100.3	73.9	88.0	:	87.8	:	:
1983	89.7	86.2	95.9	63.4	89.3	107.2	86.2	101.2	101.3	100.0	74.0	87.8	:	88.4	:	:
1984	89.9	84.4	88.4	63.7	88.4	105.9	86.3	99.2	100.7	99.4	73.4	91.4	:	88.0	:	:
1985	90.6	84.5	86.5	67.5	89.7	106.4	87.3	100.0	100.9	98.7	76.4	91.2	:	89.7	:	:
1986	94.4	94.3	89.9	80.2	98.5	111.0	98.7	99.3	102.0	99.7	85.6	94.5	:	95.5	:	:
1987	95.4	98.0	91.5	85.4	99.0	110.0	101.4	98.4	99.9	100.0	86.6	96.5	:	95.8	:	:
1988	96.8	97.9	93.8	89.3	99.9	109.2	100.0	99.5	100.2	100.0	86.6	100.0	:	96.3	:	:
1989	97.6	95.3	93.2	92.9	98.1	110.4	99.7	99.9	99.6	99.4	87.5	100.5	:	96.4	:	:
1990	97.3	96.0	95.0	96.3	98.5	105.4	104.6	98.5	100.1	99.9	89.4	99.8	109.1	97.6	:	:
1991	97.4	94.7	96.5	99.2	98.1	102.6	108.1	97.3	99.9	99.5	91.5	96.8	84.7	96.6	:	:
1992	99.0	96.8	94.6	100.9	99.4	101.9	107.9	96.4	99.0	99.1	96.0	95.4	88.4	99.8	:	:
1993	100.6	98.5	96.2	99.8	100.5	104.1	103.7	98.7	98.9	98.8	96.4	94.1	94.2	100.0	96.6	:
1994	100.1	98.8	98.9	98.6	99.8	101.8	102.1	99.7	99.3	98.9	98.4	95.3	99.5	99.8	96.2	99.7
1995	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1996	99.2	99.6	100.5	100.8	99.4	100.3	104.0	100.6	99.3	98.8	96.8	98.8	100.5	101.8	99.1	97.8
1997	98.5	97.8	101.3	100.7	99.8	100.7	102.9	101.0	99.8	98.2	96.7	97.2	100.9	102.6	101.5	99.5
1998	99.5	100.0	101.7	101.7	101.1	101.0	105.3	102.5	99.9	98.3	98.7	98.7	107.2	102.6	103.3	102.7
1999	98.8	100.2	101.8	101.3	101.3	100.8	105.1	102.8	98.7	98.4	99.1	95.7	106.4	104.1	103.4	102.8
2000	96.7	96.1	100.7	99.2	98.4	99.2	97.8	103.1	98.6	97.0	96.6	92.5	103.0	105.3	105.3	99.3
2001	96.7	96.2	100.2	101.4	99.4	99.7	98.4	102.2	99.6	97.3	98.4	92.7	105.0	105.5	107.9	101.0
2002	97.6	98.0	101.7	103.9	101.8	100.4	100.0	102.0	99.6	99.1	100.8	90.9	107.7	105.9	105.4	102.1
2003	97.5	99.6	102.5	104.7	102.0	99.7	101.8	102.5	100.3	100.1	100.1	85.9	109.2	108.2	109.6	103.2
2004	97.3	100.0	103.2	103.5	103.3	98.7	102.6	102.6	99.6	99.9	98.2	83.8	110.4	108.6	109.6	100.0
2005	97.3	99.8	103.8	102.8	102.7	98.2	103.2	102.8	99.3	99.5	98.0	82.6	110.7	108.7	109.2	99.6
2006	97.3	99.5	105.2	103.0	103.1	97.8	104.2	103.4	99.3	99.5	98.4	81.7	110.7	108.9	108.9	99.9

(1) 1960-91 D_90.

Table 28 (continued)

(1995 = 100)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	BG	RO	TR	HR	US	JP
1960	:	:	:	:	:	:	:	123.8	101.0	:	:	108.4	:	137.7	118.0
1965	:	:	:	:	:	:	:	117.3	102.2	:	:	112.5	:	139.4	117.7
1970	:	:	:	:	:	:	:	119.1	103.9	:	:	108.8	:	144.2	113.5
1975	:	:	:	:	:	:	:	114.6	90.1	:	:	79.2	:	116.5	89.0
1980	:	:	:	:	:	:	:	100.2	100.4	:	:	104.2	:	93.7	64.9
1981	:	:	:	:	:	:	:	98.0	101.1	:	:	104.1	:	95.4	66.2
1982	:	:	:	:	:	:	:	95.1	101.0	:	:	104.1	:	99.2	66.6
1983	:	:	:	:	:	:	:	94.3	101.5	:	:	104.1	:	103.5	68.2
1984	:	:	:	:	:	:	:	97.3	100.4	:	:	104.1	:	105.3	71.0
1985	:	:	:	:	:	:	:	97.8	101.4	:	:	104.1	:	105.6	73.1
1986	:	:	:	:	:	:	:	103.4	97.3	:	:	104.1	:	103.9	92.5
1987	:	:	:	:	:	:	:	102.2	97.8	:	:	102.3	:	100.5	97.3
1988	:	:	:	:	:	:	:	103.2	98.9	:	:	99.9	:	100.8	99.5
1989	:	:	:	:	:	:	:	103.9	100.4	:	:	91.8	:	100.3	97.3
1990	:	:	96.9	:	91.3	94.3	:	102.5	101.4	:	108.6	98.8	:	98.2	92.2
1991	:	:	93.8	:	83.6	89.3	:	103.9	102.7	:	116.3	99.3	:	99.9	95.0
1992	:	:	93.9	:	88.8	89.9	102.8	103.6	104.4	:	106.3	99.0	:	99.3	97.6
1993	:	:	96.6	:	95.2	95.2	100.3	99.2	104.6	:	107.5	106.3	:	100.2	99.3
1994	:	:	99.1	:	98.7	97.7	98.9	98.8	102.6	:	100.2	106.9	:	100.4	100.8
1995	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1996	97.0	106.7	98.7	98.7	97.5	101.3	97.0	99.6	101.2	100.7	98.6	93.7	101.0	100.5	94.8
1997	90.9	111.4	100.2	98.5	96.0	102.0	96.4	98.7	104.5	97.0	99.5	100.6	104.9	102.4	90.9
1998	95.3	107.8	101.1	96.6	98.1	103.5	98.6	97.9	106.7	105.6	103.4	99.1	107.0	105.8	94.2
1999	98.7	112.9	100.2	98.4	97.0	104.1	96.4	95.2	107.3	107.0	106.5	101.7	105.6	104.5	94.0
2000	96.0	118.8	97.9	98.8	91.6	101.1	97.0	93.1	106.3	112.2	109.8	94.5	106.4	102.0	89.1
2001	96.0	118.8	98.3	98.7	91.6	103.0	94.4	91.7	105.7	113.0	110.2	93.4	106.5	104.2	87.7
2002	95.8	117.3	99.2	97.5	91.3	105.1	95.2	90.0	108.6	111.9	111.5	86.0	106.9	105.1	87.9
2003	98.6	120.1	98.8	100.0	90.3	105.8	95.3	90.1	109.5	113.1	111.2	88.4	107.5	103.8	85.8
2004	99.2	120.4	98.4	98.6	89.7	105.7	94.2	89.4	110.1	115.2	111.4	89.1	108.4	102.2	80.5
2005	99.6	120.5	98.0	98.5	89.5	105.4	93.9	89.1	110.3	117.3	110.8	92.2	109.5	101.6	78.1
2006	100.9	121.1	98.0	98.3	91.0	105.3	93.7	88.8	108.9	120.0	111.2	95.6	112.0	102.8	80.2

Table 29

Wage costs
Nominal compensation per employee; total economy

(national currency; annual percentage change)

	BE	DE (1)	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 (2)	CZ	DK	EE	CY
1961-70	7.9	8.6	9.4	14.1	9.5	9.8	10.7	6.7	10.6	8.6	9.7	9.8	9.7	:	10.7	:	:
1971-80	12.2	8.3	18.3	20.4	13.7	18.6	18.5	10.6	11.0	10.1	22.6	15.1	12.9	:	12.0	:	:
1981	7.0	4.6	21.3	15.6	14.0	18.1	22.5	8.3	3.6	8.3	21.0	14.0	11.3	:	9.7	:	:
1982	7.3	4.0	27.5	13.8	14.3	14.2	16.1	6.9	6.0	5.7	21.5	9.6	10.3	:	12.2	:	:
1983	6.3	3.1	21.6	13.9	10.1	12.8	15.8	6.9	3.3	3.9	21.8	10.0	8.6	:	8.7	:	:
1984	7.3	2.9	20.8	10.4	7.5	10.7	11.7	7.1	0.5	5.4	21.2	10.4	7.0	:	6.2	:	:
1985	4.7	2.4	21.0	9.2	6.7	9.2	10.0	4.3	1.4	5.5	22.5	10.3	6.2	:	5.4	:	:
1986	3.6	3.2	12.0	9.5	4.5	5.1	7.5	5.1	2.1	5.6	21.6	7.3	5.2	:	5.0	:	:
1987	2.2	2.9	11.3	7.1	3.3	5.1	7.9	3.8	1.5	3.6	14.4	7.7	4.3	:	8.5	:	:
1988	2.4	2.6	20.1	7.5	4.5	7.0	8.2	3.6	1.1	4.8	13.1	8.9	4.7	:	4.8	:	:
1989	6.1	2.6	23.2	7.4	4.1	6.5	8.6	8.5	0.7	4.5	15.2	10.3	4.9	:	4.1	:	:
1990	7.0	4.7	17.9	10.1	5.3	4.2	10.4	4.7	3.3	5.4	19.2	9.4	6.7	:	4.0	:	:
1981-90	5.4	3.3	19.6	10.4	7.4	9.2	11.8	5.9	2.3	5.3	19.1	9.8	6.9	:	6.8	:	:
1991	7.7	6.0	15.3	10.1	3.9	4.5	8.8	5.4	4.9	6.7	18.1	6.3	6.6	:	4.0	:	:
1992	5.7	10.5	11.5	11.3	4.0	7.8	5.8	6.5	4.8	6.0	16.3	2.0	7.6	:	4.1	:	:
1993	4.7	4.1	9.8	7.4	2.9	5.5	4.6	5.7	3.5	4.8	6.0	0.5	4.3	:	2.3	:	:
1994	4.4	3.0	10.9	3.7	1.7	2.2	3.0	3.9	3.0	4.1	5.6	3.4	3.0	:	0.8	56.6	:
1995	-1.9	3.6	13.0	3.7	2.4	3.0	4.2	1.3	1.5	3.2	16.2	4.0	3.4	:	3.7	42.6	7.4
1996	1.5	1.3	8.6	4.5	2.4	3.3	6.1	1.9	1.3	1.0	6.1	2.6	2.6	18.2	4.6	24.0	6.3
1997	2.9	0.8	16.4	2.3	2.2	4.1	4.0	2.5	2.1	1.0	6.0	1.5	2.1	11.1	3.8	20.1	11.8
1998	1.0	1.0	1.8	2.7	1.9	6.5	-1.5	1.6	3.5	2.4	5.3	4.4	1.2	9.0	3.6	15.7	0.1
1999	3.4	1.2	6.5	2.7	2.3	4.6	2.6	3.6	3.7	1.9	5.4	2.2	2.2	7.7	2.2	14.4	4.8
2000	2.1	2.1	5.8	3.5	1.8	8.6	3.1	4.7	4.7	1.8	6.7	3.7	2.7	5.7	4.2	10.0	7.2
1991-2000	3.1	3.3	9.9	5.1	2.5	5.0	4.0	3.7	3.3	3.3	9.1	3.0	3.5	:	3.3	:	:
2001	3.6	1.7	5.2	3.8	2.7	7.7	3.2	3.9	5.5	1.4	5.7	4.7	2.9	7.6	4.6	7.7	4.7
2002	3.7	1.5	9.2	4.2	2.4	5.0	2.5	3.7	6.2	1.7	4.4	1.9	2.7	6.2	3.2	10.2	4.4
2003	2.5	1.6	4.0	4.2	2.3	4.7	3.8	2.1	3.9	2.1	4.1	3.3	2.6	6.7	3.6	8.9	4.9
2004	2.7	0.0	6.5	3.7	3.3	5.4	3.4	3.3	2.4	2.5	3.1	4.1	2.2	6.4	3.3	8.6	4.0
2005	2.5	0.9	5.5	4.0	2.9	4.9	3.3	3.2	0.7	2.5	3.6	3.7	2.3	7.9	3.3	8.5	4.5
2006	2.8	1.4	5.3	3.6	2.9	4.7	2.8	3.2	1.0	2.6	3.8	3.6	2.4	6.6	3.5	7.9	4.5
2001-06	3.0	1.2	5.9	3.9	2.7	5.4	3.2	3.2	3.3	2.2	4.1	3.5	2.5	6.9	3.6	8.6	4.5

(1) 1961-91 D_90.

(2) Weighted in common currency; euro area; 1961-91 including D_90.

Table 29 (continued)

(national currency; annual percentage change)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-15 ⁽¹⁾	EU-25 ⁽²⁾	BG	RO	TR	HR	US	JP
1961–70	:	:	:	:	:	:	:	8.5	7.0	9.0	:	:	:	:	:	5.2	13.5
1971–80	:	:	:	:	:	:	:	11.4	16.1	13.3	:	:	:	:	:	8.1	13.1
1981	:	:	:	:	:	:	:	9.2	13.3	11.7	:	:	:	:	:	9.5	6.4
1982	:	:	:	:	:	:	:	6.2	8.6	9.9	:	:	:	:	:	7.6	3.8
1983	:	:	:	:	:	:	:	7.9	7.8	8.5	:	:	:	:	:	5.4	2.2
1984	:	:	:	:	:	:	:	8.2	5.5	6.8	:	:	:	:	:	5.1	3.9
1985	:	:	:	:	:	:	:	7.5	7.8	6.5	:	:	:	:	:	4.6	2.9
1986	:	:	:	:	:	:	:	8.7	7.9	5.8	:	:	:	:	:	4.1	3.2
1987	:	:	:	:	:	:	:	7.0	6.5	4.8	:	:	:	:	:	4.0	3.3
1988	:	:	:	:	:	:	:	7.5	8.4	5.3	:	:	:	:	:	4.8	3.8
1989	:	:	:	:	:	:	:	11.3	8.9	5.8	:	:	102.8	:	:	3.3	4.8
1990	:	:	:	:	:	:	:	11.3	10.0	7.4	:	:	:	90.9	:	5.0	5.5
1981–90	:	:	:	:	:	:	:	8.5	8.4	7.2	:	:	:	:	:	5.3	4.0
1991	:	:	:	9.3	:	:	:	6.8	9.4	7.1	:	:	127.4	90.9	:	4.8	5.0
1992	:	:	:	6.8	73.4	:	:	3.9	5.9	7.1	:	:	187.8	63.1	:	5.4	1.3
1993	138.1	:	23.0	10.2	33.0	:	:	4.4	3.7	4.1	:	:	207.6	75.2	:	2.8	0.8
1994	63.9	67.7	17.9	6.4	40.4	:	:	5.9	2.8	3.0	:	:	132.6	61.8	:	2.4	1.5
1995	8.8	67.5	21.6	9.0	34.0	:	20.6	2.8	3.7	3.4	:	:	54.3	71.2	:	2.1	1.6
1996	27.3	32.7	20.2	6.3	28.6	12.9	7.2	7.3	3.1	2.8	3.4	72.7	53.5	90.3	:	2.7	0.7
1997	13.0	23.3	21.0	3.5	21.0	10.6	15.4	4.8	4.5	2.5	3.0	848.0	103.1	103.0	:	3.6	1.5
1998	6.2	18.5	13.8	4.7	16.0	9.0	13.2	2.6	5.6	2.1	2.6	52.5	128.1	76.2	:	4.9	-0.2
1999	7.5	5.2	5.3	6.7	13.2	7.5	6.9	1.3	4.4	2.5	3.2	6.0	41.2	84.4	:	4.2	-1.1
2000	6.9	0.0	15.6	13.8	11.9	11.8	11.9	7.5	5.6	3.4	4.1	10.2	74.9	53.1	:	5.7	0.2
1991–2000	:	:	:	7.6	:	:	:	4.7	4.9	3.8	:	:	104.3	76.3	:	3.8	1.1
2001	3.4	3.4	15.7	5.9	13.3	11.6	6.3	4.5	5.4	3.4	4.0	12.3	44.8	40.5	:	2.4	-0.5
2002	4.4	1.4	12.1	1.5	2.0	10.0	9.3	2.7	4.5	3.0	3.2	7.1	23.5	45.4	:	3.2	-2.1
2003	10.8	8.2	12.8	1.5	5.0	7.8	9.9	2.4	4.1	2.9	3.1	2.9	25.0	30.1	:	4.0	-0.7
2004	14.0	7.8	8.8	0.6	4.7	6.0	9.9	3.4	5.2	2.8	3.0	8.4	20.5	19.1	:	4.2	-1.2
2005	10.0	8.1	7.0	2.4	5.3	5.4	6.7	3.7	5.3	3.0	3.1	10.5	16.4	12.4	:	4.9	-0.6
2006	7.0	7.5	6.2	2.4	5.4	5.3	6.5	3.9	5.2	3.0	3.2	7.8	12.6	7.6	:	4.7	0.0
2001–06	8.2	6.0	10.4	2.4	5.9	7.6	8.1	3.4	4.9	3.0	3.3	8.1	23.4	25.1	:	3.9	-0.8

⁽¹⁾ Weighted in common currency; former EU-15; 1961–91 including D_90.⁽²⁾ Weighted in common currency.

Table 30

Wage costs
Real compensation per employee, deflator GDP; total economy

(national currency; annual percentage change)

	BE	DE (1)	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 (2)	CZ	DK	EE	CY
1961-70	4.3	4.6	6.3	7.1	4.9	4.1	5.9	2.5	5.1	4.6	6.6	3.7	5.1	:	4.1	:	:
1971-80	4.7	2.9	3.1	4.6	3.5	4.2	3.1	3.9	3.2	3.5	5.6	3.6	3.2	:	1.7	:	:
1981	1.8	0.3	-0.2	2.9	2.6	0.5	2.9	1.1	-1.7	1.5	2.9	2.8	1.2	:	-1.8	:	:
1982	-0.2	-0.8	0.2	0.2	2.5	-0.9	-0.9	-3.5	0.6	0.6	0.7	0.8	0.0	:	1.0	:	:
1983	0.6	-0.1	0.8	1.8	1.0	1.7	0.6	0.1	1.2	0.5	-2.2	1.3	0.3	:	0.3	:	:
1984	1.8	0.9	-0.9	-0.4	0.4	4.1	0.2	2.6	-0.9	0.7	-2.8	1.8	0.4	:	0.1	:	:
1985	0.1	0.2	1.7	0.6	1.2	3.7	1.0	1.3	-0.4	2.4	0.6	4.8	0.6	:	0.4	:	:
1986	0.8	0.0	-5.8	-1.2	-0.6	-0.6	-0.4	5.2	2.0	2.7	0.9	2.8	-0.3	:	1.0	:	:
1987	0.5	1.1	-3.4	1.1	0.4	2.8	1.6	3.8	2.2	1.4	3.9	3.4	0.8	:	3.2	:	:
1988	0.2	1.1	2.9	1.4	1.5	3.5	1.4	0.8	0.1	2.8	1.8	0.5	0.9	:	2.2	:	:
1989	1.2	0.3	7.6	0.4	0.9	1.4	2.0	4.3	-0.4	1.2	4.2	3.7	0.7	:	-1.1	:	:
1990	4.1	1.4	-2.3	2.6	2.4	4.6	2.0	2.1	1.0	2.3	5.3	2.9	1.7	:	0.3	:	:
1981-90	1.1	0.4	0.0	0.9	1.2	2.1	1.0	1.7	0.4	1.6	1.5	2.5	0.6	:	0.6	:	:
1991	4.7	2.4	-3.7	2.9	0.9	2.7	1.1	3.6	2.0	2.8	7.3	4.3	1.7	:	1.2	:	:
1992	2.2	5.2	-2.9	4.3	2.0	4.8	1.2	2.7	2.4	2.3	4.4	0.6	3.1	:	1.1	:	:
1993	0.7	0.4	-4.0	2.8	0.6	0.3	0.6	-0.2	1.6	2.0	-1.3	-2.0	0.6	:	0.9	:	:
1994	2.3	0.5	-0.2	-0.2	0.0	0.5	-0.4	0.4	0.7	1.4	-1.6	1.6	0.2	:	-0.9	12.7	:
1995	-3.1	1.6	2.9	-1.2	0.7	0.1	-0.8	-1.0	-0.5	1.3	12.4	-0.8	0.5	:	1.9	8.6	4.3
1996	0.3	0.3	1.1	1.0	1.0	1.3	0.8	-0.1	0.1	0.0	3.0	2.9	0.4	:	2.1	-0.2	4.5
1997	1.5	0.2	9.0	0.0	0.9	-0.2	1.6	-0.2	0.1	1.1	2.2	-0.6	0.5	:	1.5	8.7	8.8
1998	-0.6	-0.1	-3.3	0.3	0.9	0.1	-4.1	-1.0	1.7	2.0	1.4	0.9	-0.5	:	2.6	6.2	-2.3
1999	2.0	0.7	3.4	-0.1	1.7	0.7	1.0	1.4	2.1	1.2	2.2	2.4	1.0	:	4.8	9.7	2.5
2000	0.8	2.3	2.4	0.0	0.8	3.6	0.9	0.6	0.8	0.1	3.2	0.5	1.2	:	4.3	4.4	2.6
1991-2000	1.1	1.3	0.4	1.0	0.9	1.4	0.2	0.6	1.1	1.4	3.2	1.0	0.9	:	1.2	:	:
2001	1.8	0.3	1.7	-0.4	0.9	1.9	0.5	2.0	0.2	-0.3	1.3	1.6	0.5	:	2.5	1.8	2.3
2002	1.9	-0.1	5.0	-0.2	0.2	0.5	-0.5	2.6	3.0	0.4	-0.1	1.0	0.2	:	3.4	1.5	1.6
2003	0.6	0.4	0.5	0.2	0.7	3.1	0.8	0.0	0.9	0.6	1.7	3.2	0.5	:	4.9	6.4	-0.4
2004	0.7	-1.0	2.8	-0.1	1.4	2.3	0.5	1.0	1.5	1.4	1.1	3.7	0.3	:	1.6	4.4	1.0
2005	0.4	-0.1	2.3	0.5	1.1	2.3	1.0	0.8	-0.1	1.3	1.4	2.6	0.5	:	1.3	4.4	1.7
2006	0.8	0.5	2.1	0.1	1.1	2.6	0.7	0.3	0.1	1.4	1.3	2.1	0.7	:	3.8	4.7	2.0
2001-06	1.0	0.0	2.4	0.0	0.9	2.1	0.5	1.1	0.9	0.8	1.1	2.4	0.4	:	1.6	4.6	1.4

(1) 1961-91 D_90.

(2) Weighted in common currency; euro area; 1961-91 including D_90.

Table 30 (continued)

(national currency; annual percentage change)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-15 ⁽¹⁾	EU-25 ⁽²⁾	BG	RO	TR	HR	US	JP
1961-70	:	:	:	:	:	:	:	4.1	2.7	4.5	:	:	:	:	:	2.4	7.3
1971-80	:	:	:	:	:	:	:	1.6	1.9	3.0	:	:	:	:	:	1.1	4.9
1981	:	:	:	:	:	:	:	-0.3	1.8	1.4	:	:	:	:	:	0.1	1.9
1982	:	:	:	:	:	:	:	-1.8	1.1	0.1	:	:	:	:	:	1.4	1.7
1983	:	:	:	:	:	:	:	-2.1	2.2	0.5	:	:	:	:	:	1.2	-0.1
1984	:	:	:	:	:	:	:	0.6	1.0	0.4	:	:	:	:	:	1.3	0.7
1985	:	:	:	:	:	:	:	0.9	2.0	0.9	:	:	:	:	:	1.2	0.6
1986	:	:	:	:	:	:	:	2.1	4.4	0.6	:	:	:	:	:	1.8	1.5
1987	:	:	:	:	:	:	:	2.1	1.2	1.0	:	:	:	:	:	1.2	3.0
1988	:	:	:	:	:	:	:	1.1	1.9	1.0	:	:	:	:	:	1.4	3.1
1989	:	:	:	:	:	:	:	3.1	1.4	0.9	:	:	:	15.6	:	-0.6	2.4
1990	:	:	:	:	:	:	:	2.3	2.2	1.9	:	:	:	20.6	:	1.0	3.0
1981-90	:	:	:	:	:	:	:	0.8	1.9	0.9	:	:	:	:	:	1.0	1.8
1991	:	:	:	:	:	:	:	-2.0	2.6	1.9	:	:	-23.1	20.2	:	1.2	2.0
1992	:	:	:	3.1	25.1	:	:	2.8	1.9	2.8	:	:	-4.0	-0.4	:	3.1	-0.3
1993	44.5	:	1.4	7.2	1.8	:	:	1.3	1.0	0.6	:	:	-6.0	4.5	:	0.5	0.2
1994	20.3	3.7	-1.4	2.8	2.3	:	:	3.5	1.3	0.4	:	:	-2.7	-21.6	:	0.3	1.4
1995	-5.5	14.4	-4.1	4.0	4.7	:	9.7	-0.6	1.0	0.5	:	:	14.1	-8.5	:	0.0	2.1
1996	10.9	10.0	-0.8	5.4	8.4	1.8	2.7	6.0	-0.1	0.5	0.7	-21.8	5.7	7.0	:	0.8	1.4
1997	5.6	8.2	2.1	1.2	6.3	1.6	8.2	3.2	1.6	0.7	0.8	-9.4	-17.8	11.8	:	1.9	1.2
1998	1.5	12.8	1.1	2.4	3.9	1.3	7.6	1.8	2.7	0.2	0.4	23.2	46.9	0.3	:	3.7	-0.1
1999	2.6	5.8	-2.9	3.9	6.4	1.4	0.4	0.6	2.1	1.2	1.7	2.2	-4.4	18.6	:	2.7	0.4
2000	3.0	-1.0	5.2	12.1	4.9	5.9	3.2	6.1	4.2	1.9	2.4	3.3	21.3	2.2	:	3.4	2.2
1991-2000	:	:	:	:	:	:	:	2.2	1.8	1.1	:	:	1.3	2.7	:	1.7	1.0
2001	1.2	3.5	6.6	0.8	9.0	2.3	2.0	2.2	3.0	1.1	1.5	5.3	5.4	-9.3	:	0.0	1.1
2002	0.9	1.4	2.9	1.2	0.7	1.8	5.1	1.2	1.3	0.5	0.6	3.3	0.0	0.9	:	1.5	-1.0
2003	7.2	9.1	4.8	-2.6	4.5	2.2	5.0	0.1	1.0	0.7	0.8	0.9	4.8	6.2	:	2.2	1.8
2004	6.8	6.0	2.5	-2.7	1.8	1.8	5.7	2.3	2.8	0.8	0.9	2.3	6.4	7.0	:	1.9	1.5
2005	3.0	5.0	2.6	0.0	2.3	1.9	4.3	1.7	2.9	1.0	1.1	5.3	5.3	2.9	:	2.3	1.0
2006	1.8	4.1	2.2	0.3	2.0	2.1	4.9	1.9	3.0	1.2	1.3	3.2	3.8	0.0	:	2.5	0.6
2001-06	3.5	4.8	3.6	-0.5	3.4	2.0	4.5	1.6	2.3	0.9	1.0	3.4	4.3	1.1	:	1.7	0.8

⁽¹⁾ Weighted in common currency; former EU-15; 1961-91 including D_90.⁽²⁾ Weighted in common currency.

Table 31

Wage costs
Real compensation per employee, deflator private consumption; total economy

(national currency; annual percentage change)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1961-70	4.6	5.7	6.9	7.8	5.1	4.4	6.7	4.1	6.3	4.9	6.6	4.8	5.8	:	4.6	:	:
1971-80	4.7	3.0	3.9	4.7	3.5	4.0	3.3	3.8	3.5	3.7	4.5	3.4	3.2	:	1.4	:	:
1981	-0.3	-1.5	-1.5	1.3	0.8	-1.3	3.8	-0.2	-2.6	1.3	0.7	2.1	-0.1	:	-2.2	:	:
1982	0.2	-1.0	5.3	-0.5	2.4	-0.6	-0.7	-3.3	0.9	0.2	1.0	0.3	-0.2	:	2.2	:	:
1983	-0.7	-0.1	1.9	1.4	0.5	3.0	0.7	-1.2	0.4	-0.1	-3.2	2.0	0.0	:	1.2	:	:
1984	1.7	0.4	1.3	-0.2	-0.3	3.2	0.1	0.5	-1.6	0.3	-5.6	3.2	-0.1	:	-0.7	:	:
1985	-0.2	0.6	1.1	1.0	0.8	3.8	0.9	0.0	-1.1	2.0	2.6	4.4	0.5	:	0.8	:	:
1986	3.2	3.8	-8.5	0.2	1.8	1.4	1.0	4.8	1.9	3.9	6.8	3.7	1.8	:	2.2	:	:
1987	0.5	2.4	-5.1	1.5	0.1	2.6	2.5	2.9	1.2	2.3	4.1	4.3	1.2	:	3.5	:	:
1988	1.2	1.3	4.3	2.5	1.7	2.9	2.2	1.3	0.2	3.3	1.4	4.0	1.3	:	0.2	:	:
1989	2.2	-0.2	8.5	0.6	0.3	2.4	1.8	5.1	-0.8	1.7	2.1	5.4	0.4	:	-0.6	:	:
1990	4.2	2.0	-1.6	3.3	2.3	2.1	3.8	1.0	1.1	2.0	6.8	3.3	2.2	:	1.1	:	:
1981-90	1.2	0.8	0.5	1.1	1.0	1.9	1.6	1.1	0.0	1.7	1.6	3.3	0.7	:	0.7	:	:
1991	4.8	2.1	-3.7	3.4	0.4	1.8	1.7	2.0	1.6	3.1	5.7	0.5	1.4	:	1.2	:	:
1992	3.8	5.8	-3.6	4.5	1.4	4.7	0.3	2.2	1.6	2.1	6.5	-1.5	2.9	:	2.1	:	:
1993	2.1	0.2	-3.8	2.0	0.4	3.2	-0.9	1.7	1.4	1.3	-0.9	-3.9	0.1	:	0.3	:	:
1994	2.1	0.4	0.0	-1.1	-0.4	-0.5	-1.8	1.3	0.1	1.3	0.0	2.4	-0.3	:	-2.2	9.3	:
1995	-3.4	1.7	3.7	-1.1	0.4	0.3	-1.7	-0.7	0.1	1.2	11.5	3.2	0.3	:	1.7	14.0	5.0
1996	-0.6	-0.4	0.3	1.0	0.6	0.6	1.7	0.5	-0.6	-0.9	2.4	0.9	0.0	10.0	2.5	-1.1	3.8
1997	1.1	-1.2	10.3	-0.3	0.8	1.5	1.7	1.1	0.1	-0.4	3.0	-0.4	0.0	2.2	1.5	10.4	9.0
1998	0.1	-0.1	-2.6	0.5	1.2	2.8	-3.6	0.6	1.7	2.0	2.4	2.4	-0.2	0.3	2.2	6.7	-0.9
1999	2.1	0.9	4.1	0.3	1.8	1.5	0.4	2.1	1.9	1.1	3.2	0.9	1.0	5.0	-0.2	7.8	2.7
2000	-0.3	0.6	2.4	0.3	0.3	4.7	0.2	2.1	1.4	-0.7	3.4	0.1	0.4	2.6	1.6	7.2	2.1
1991-2000	1.2	1.0	0.6	0.9	0.7	2.0	-0.2	1.3	0.9	1.0	3.7	0.4	0.6	:	1.1	:	:
2001	1.1	0.0	1.8	0.5	1.0	3.4	0.4	0.7	0.8	-0.4	1.8	1.1	0.5	4.0	2.1	1.5	2.8
2002	2.0	0.3	5.4	0.8	0.5	-0.6	-0.5	1.5	3.4	0.6	0.9	-1.2	0.5	5.4	1.0	6.6	2.0
2003	0.8	0.5	0.6	1.1	0.3	0.9	1.3	0.2	1.5	0.6	0.6	2.8	0.6	7.4	1.8	8.1	1.0
2004	0.7	-1.7	3.3	0.6	1.6	3.1	1.0	1.0	1.3	0.5	0.8	3.5	0.2	4.1	1.8	5.1	1.5
2005	0.6	-0.4	2.5	1.2	0.9	2.4	0.9	1.1	-0.5	0.7	1.3	1.8	0.4	5.8	1.5	4.9	2.0
2006	1.0	0.3	2.4	1.0	1.2	2.2	0.8	1.2	-0.3	1.1	1.5	1.6	0.7	4.6	1.7	5.0	2.4
2001-06	1.0	-0.2	2.7	0.9	0.9	1.9	0.6	0.9	1.0	0.5	1.1	1.6	0.5	5.2	1.7	5.2	1.9

(¹) 1961-91 D_90.

(²) Weighted in common currency; euro area; 1961-91 including D_90.

Table 31 (continued)

(national currency; annual percentage change)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-15 ⁽¹⁾	EU-25 ⁽²⁾	BG	RO	TR	HR	US	JP
1961-70	:	:	:	:	:	:	:	4.3	3.0	5.1	:	:	:	:	:	2.7	7.5
1971-80	:	:	:	:	:	:	:	1.6	2.5	3.0	:	:	:	:	:	1.0	4.0
1981	:	:	:	:	:	:	:	-2.6	2.2	0.3	:	:	:	:	:	0.6	1.6
1982	:	:	:	:	:	:	:	-3.6	0.1	-0.2	:	:	:	:	:	2.0	1.1
1983	:	:	:	:	:	:	:	-3.0	2.3	0.3	:	:	:	:	:	1.0	-0.2
1984	:	:	:	:	:	:	:	0.5	0.5	0.0	:	:	:	:	:	1.2	1.0
1985	:	:	:	:	:	:	:	0.6	2.5	0.8	:	:	:	:	:	1.3	1.1
1986	:	:	:	:	:	:	:	3.9	3.5	2.2	:	:	:	:	:	1.6	2.4
1987	:	:	:	:	:	:	:	1.7	2.2	1.4	:	:	:	:	:	0.5	2.7
1988	:	:	:	:	:	:	:	1.5	3.2	1.5	:	:	:	:	:	0.8	3.1
1989	:	:	:	:	:	:	:	4.2	2.6	0.9	:	:	:	10.3	:	-1.1	2.5
1990	:	:	:	:	:	:	:	1.5	2.3	2.2	:	:	:	19.8	:	0.4	2.6
1981-90	:	:	:	:	:	:	:	0.4	2.1	0.9	:	:	:	:	:	0.8	1.8
1991	:	:	:	:	:	:	:	-3.3	1.4	1.4	:	:	-19.6	18.7	:	1.1	2.2
1992	:	:	:	:	20.1	:	:	1.8	1.0	2.5	:	:	-5.8	-1.5	:	2.5	-0.2
1993	:	:	1.7	:	1.1	:	:	-1.8	0.3	0.0	:	:	-8.0	5.6	:	0.4	-0.2
1994	:	:	-1.2	:	1.8	:	:	3.1	0.8	-0.1	:	:	-3.8	-22.5	:	0.3	0.9
1995	:	:	-4.9	:	5.3	:	10.4	0.0	0.3	0.3	:	:	12.8	-11.1	:	-0.1	1.9
1996	9.5	12.3	-2.2	4.3	7.7	2.2	2.1	5.9	-0.2	0.1	0.3	-21.3	7.0	13.4	:	0.5	0.7
1997	4.0	12.6	2.6	0.1	5.7	1.4	8.9	2.9	2.0	0.4	0.5	-12.6	-20.9	11.7	:	1.9	0.5
1998	1.5	12.4	0.2	1.9	4.3	1.3	7.0	1.8	2.9	0.4	0.6	31.6	52.7	-4.1	:	3.9	-0.1
1999	5.7	5.6	-4.4	4.7	6.3	1.4	-1.5	0.1	2.6	1.3	1.8	3.7	-3.5	15.4	:	2.5	-0.4
2000	3.3	1.6	5.9	5.0	2.6	3.2	1.8	6.3	4.4	1.4	1.8	5.4	25.2	2.0	:	3.1	1.5
1991-2000	:	:	:	:	:	:	:	1.6	1.5	0.8	:	:	1.7	2.0	:	1.6	0.7
2001	0.7	1.0	6.9	2.7	8.3	3.3	0.2	2.1	2.9	1.1	1.5	6.0	6.7	-11.6	:	0.3	1.1
2002	2.2	1.7	8.1	0.4	0.4	2.0	6.0	0.9	2.9	1.0	1.1	3.0	1.5	3.2	:	1.7	-0.8
2003	7.7	11.0	7.8	0.5	4.4	2.6	2.1	-0.1	2.2	0.9	1.1	2.5	6.9	7.4	:	2.1	0.7
2004	6.8	6.7	1.7	-2.7	1.3	2.1	2.8	1.9	3.5	0.9	1.0	3.2	7.1	7.8	:	1.7	0.1
2005	5.0	5.2	2.1	0.0	2.0	2.0	3.3	1.9	3.2	1.0	1.1	6.2	6.1	3.2	:	2.2	0.3
2006	3.4	4.7	1.8	0.2	2.3	2.3	3.6	2.0	3.0	1.2	1.3	4.7	5.2	0.7	:	2.6	0.8
2001-06	4.3	5.0	4.7	0.2	3.1	2.4	3.0	1.4	3.0	1.0	1.2	4.2	5.6	1.6	:	1.8	0.4

⁽¹⁾ Weighted in common currency; former EU-15; 1961-91 including D_90.⁽²⁾ Weighted in common currency.

Table 32

Wage costs
Adjusted wage share; total economy ⁽¹⁾

	BE	DE ⁽²⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽³⁾	CZ	DK	EE	CY
1960-70	69.4	69.9	85.8	72.1	74.2	78.9	75.1	59.3	65.8	75.8	63.3	76.1	72.4	:	71.1	:	:
1971-80	74.6	72.2	69.1	74.0	75.5	76.9	76.6	67.5	72.1	76.3	75.8	73.8	74.1	:	74.3	:	:
1981	78.0	73.1	71.9	74.6	78.4	77.1	76.7	73.8	70.4	76.7	74.9	73.4	75.3	:	74.9	:	:
1982	76.8	72.4	72.6	73.3	78.5	75.5	76.3	70.8	69.7	74.5	73.8	72.6	74.8	:	73.0	:	:
1983	76.0	70.6	75.0	73.6	77.8	75.8	76.9	69.9	67.9	72.6	72.2	71.7	74.0	:	72.3	:	:
1984	75.2	69.8	72.9	70.8	76.7	73.9	75.2	68.4	65.4	73.3	70.2	71.8	72.7	:	71.3	:	:
1985	74.6	69.1	73.2	69.3	75.9	71.5	74.4	68.3	64.6	73.1	68.9	73.0	72.0	:	71.1	:	:
1986	74.1	68.5	69.5	67.8	73.6	71.6	72.9	66.6	65.6	72.9	67.0	73.5	70.8	:	71.8	:	:
1987	73.9	69.0	69.3	67.7	72.7	70.8	72.8	68.4	66.9	73.0	67.0	73.6	70.8	:	74.0	:	:
1988	71.9	68.2	69.5	67.2	71.4	69.8	72.5	65.5	66.1	71.2	65.5	72.3	69.9	:	74.3	:	:
1989	71.6	67.3	71.5	66.8	70.2	68.2	72.1	64.6	64.1	70.5	65.1	72.2	69.1	:	72.1	:	:
1990	72.9	66.8	72.2	68.4	70.5	67.4	73.5	65.3	64.1	70.0	67.0	73.5	69.6	:	70.6	:	:
1981-90	74.5	69.5	71.8	69.9	74.6	72.2	74.3	68.1	66.5	72.8	69.2	72.8	71.9	:	72.5	:	:
1991		67.0						70.0					70.0				
1991	74.9	68.5	66.8	69.4	70.3	67.5	74.2	64.8	64.6	70.0	70.8	76.9	70.4	:	70.1	:	:
1992	75.2	69.6	65.8	71.2	69.8	69.3	74.2	67.2	66.0	70.2	72.7	74.4	70.8	:	69.3	:	:
1993	76.1	69.9	64.1	70.7	69.7	68.0	73.5	66.5	67.1	70.8	71.0	69.2	70.5	:	68.9	61.8	:
1994	75.5	68.7	63.8	68.9	68.7	67.6	71.1	65.7	65.5	70.3	69.0	66.9	69.1	:	66.4	69.3	:
1995	71.8	68.4	65.0	67.4	68.7	64.1	68.9	65.9	65.2	69.1	73.1	64.9	68.3	54.6	66.5	67.1	66.5
1996	71.7	67.9	64.4	67.3	68.9	61.9	68.6	65.2	65.2	67.7	73.9	65.7	68.1	57.0	66.8	62.6	68.3
1997	71.3	67.1	66.6	67.0	68.4	59.2	69.1	62.2	64.8	68.0	73.9	64.1	67.7	58.4	66.8	62.1	72.0
1998	70.7	66.5	67.1	67.4	67.6	59.2	68.0	60.2	65.2	67.6	73.9	62.8	67.1	56.3	68.6	59.7	68.3
1999	71.0	66.8	68.0	67.4	67.8	57.3	67.7	60.2	65.9	67.5	74.3	63.9	67.3	56.9	68.5	62.1	68.2
2000	70.2	67.6	67.1	67.1	67.5	56.7	67.4	58.9	65.3	66.0	76.0	62.0	67.2	56.7	67.0	58.9	69.2
1991-2000	72.8	68.1	65.9	68.4	68.7	63.1	70.3	63.7	65.5	68.7	72.9	67.1	68.7	:	67.9	:	:
2001	71.6	67.5	64.9	66.5	67.6	55.5	67.3	62.0	65.8	65.4	76.2	63.1	67.2	56.6	68.0	56.8	69.9
2002	72.2	67.0	65.8	65.9	67.4	53.5	67.7	63.6	67.0	65.0	76.7	63.1	67.1	58.8	68.2	56.9	71.0
2003	71.6	66.9	63.6	65.9	67.7	54.6	68.1	63.2	67.7	64.8	79.2	64.2	67.2	59.7	68.0	58.1	72.4
2004	70.9	64.9	64.2	65.4	67.0	54.4	67.9	62.5	67.0	64.7	78.8	64.3	66.3	58.1	67.7	56.8	71.9
2005	70.1	64.4	64.2	65.3	66.7	54.1	68.0	62.5	66.5	64.5	79.3	64.2	66.0	58.8	67.4	56.5	71.7
2006	69.5	64.0	64.1	64.9	66.4	53.7	67.7	62.2	66.0	64.4	79.6	64.2	65.7	58.8	67.1	55.9	71.2
2001-06	71.0	65.8	64.5	65.7	67.1	54.3	67.8	62.7	66.7	64.8	78.3	63.8	66.6	58.5	67.7	56.8	71.4

⁽¹⁾ Compensation per employee as percentage of GDP at factor cost per person employed.

⁽²⁾ 1960-91 D_90.

⁽³⁾ Euro area; 1960-91 including D_90.

Table 32 (continued)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽¹⁾	EUR-15 ⁽²⁾	BG	RO	TR	HR	US	JP	
1960-70	:	:	:	:	:	:	:	71.0	72.3	:	72.3	:	:	:	:	70.4	72.3	
1971-80	:	:	:	:	:	:	:	73.0	73.1	:	73.9	:	:	:	:	70.3	76.1	
1981	:	:	:	:	:	:	:	73.4	74.4	:	75.1	:	:	:	:	69.8	76.8	
1982	:	:	:	:	:	:	:	70.7	73.1	:	74.3	:	:	:	:	70.8	76.5	
1983	:	:	:	:	:	:	:	68.8	71.6	:	73.4	:	:	:	:	69.3	76.0	
1984	:	:	:	:	:	:	:	67.4	72.1	:	72.4	:	:	:	:	68.6	74.6	
1985	:	:	:	:	:	:	:	67.7	71.5	:	71.8	:	:	:	:	68.4	72.4	
1986	:	:	:	:	:	:	:	68.0	72.6	:	71.0	:	:	:	:	68.4	71.6	
1987	:	:	:	:	:	:	:	68.2	71.9	:	71.0	:	:	:	:	69.0	71.8	
1988	:	:	:	:	:	:	:	67.7	72.3	:	70.3	:	:	57.0	:	69.2	70.4	
1989	:	:	:	:	:	:	:	68.6	73.5	:	69.8	:	:	66.9	:	68.1	69.7	
1990	:	:	:	:	:	:	:	70.7	74.7	:	70.4	:	76.7	75.9	:	68.4	69.2	
1981-90	:	:	:	:	:	:	:	69.1	72.8	:	71.9	:	:	:	:	69.0	72.9	
1991	70.8																	
1991	:	:	:	:	:	:	:	70.3	75.9	:	71.1	:	69.3	91.1	:	68.8	69.4	
1992	40.5	:	81.9	:	76.0	:	:	69.0	74.9	:	71.3	:	66.7	85.8	:	68.4	69.7	
1993	64.3	44.1	78.4	:	74.7	:	:	66.9	73.0	:	70.7	:	64.3	83.5	:	68.2	69.7	
1994	69.5	49.0	72.7	:	73.7	:	50.0	65.7	71.5	:	69.3	:	60.1	70.2	:	67.5	70.1	
1995	59.9	54.1	67.3	:	74.1	81.5	51.2	63.8	71.1	:	68.5	70.3	61.0	63.0	:	67.4	70.4	
1996	62.3	57.0	65.1	:	77.7	79.5	51.1	66.8	70.0	:	68.3	61.5	60.7	64.5	:	66.6	69.4	
1997	63.5	60.1	63.0	:	79.1	76.3	51.3	67.0	70.2	:	68.1	56.3	51.4	66.2	:	66.3	69.6	
1998	62.0	62.1	61.8	:	79.8	75.2	53.0	67.8	70.9	:	67.8	66.2	80.2	65.8	:	67.5	70.4	
1999	59.7	65.3	60.0	:	80.2	73.5	50.9	67.8	71.8	:	68.1	64.6	75.2	84.0	:	67.6	70.0	
2000	55.5	59.0	60.6	57.2	78.4	76.8	50.6	69.3	73.0	68.3	68.3	61.5	93.4	81.9	:	68.8	69.4	
1991-2000	:	:	:	:	:	:	:	67.4	72.2	:	69.2	:	68.2	75.6	:	67.7	69.8	
2001	53.1	55.3	61.9	60.3	83.7	76.6	49.6	71.6	73.6	68.6	68.5	61.9	86.8	80.1	:	68.4	69.5	
2002	50.5	54.8	61.6	59.8	81.8	75.7	50.0	71.4	73.3	68.4	68.3	:	77.9	75.2	:	67.6	68.0	
2003	51.6	55.3	64.4	57.4	81.9	75.2	51.2	70.4	72.9	68.3	68.3	:	:	75.8	:	66.9	67.4	
2004	51.6	54.8	63.3	56.7	78.8	73.4	51.7	69.1	73.1	67.6	67.6	:	:	78.0	:	65.9	66.3	
2005	50.1	54.0	63.1	56.2	77.4	71.9	51.9	68.2	73.4	67.4	67.4	:	:	79.5	:	66.0	65.8	
2006	48.0	53.2	62.7	55.9	76.4	70.7	52.2	68.1	73.8	67.2	67.2	:	:	77.7	:	66.1	64.9	
2001-06	50.8	54.6	62.8	57.7	80.0	73.9	51.1	69.8	73.4	67.9	67.9	:	:	77.7	:	66.8	67.0	

(1) 1960-91 including D_90.

(2) Former EU-15; 1960-91 including D_90.

Table 33

Wage costs
Nominal unit labour costs; total economy ⁽¹⁾

(national currency; 1995 = 100)

	BE	DE ⁽²⁾	EL	ES	FR	IE	IT	NL	AT	PT	FI	EUR-11 ⁽³⁾	CZ	DK	EE	CY
1960	19.9	26.9	2.6	4.2	13.6	8.6	5.2	20.4	24.4	2.2	10.4	15.1	:	10.7	:	:
1965	23.1	32.9	2.4	5.9	16.9	10.7	6.8	28.3	30.1	2.4	13.9	18.9	:	14.8	:	:
1970	27.6	40.4	2.6	8.2	21.0	14.5	7.9	38.3	33.7	3.0	17.2	23.3	:	21.0	:	:
1975	47.0	57.8	4.2	15.2	34.9	28.0	15.5	63.6	52.4	6.8	33.5	37.9	:	36.9	:	:
1980	63.8	69.8	9.4	34.8	57.3	55.2	33.2	83.3	66.0	14.8	49.7	56.2	:	55.6	:	:
1981	67.2	73.0	12.2	39.2	64.2	62.6	40.4	85.6	71.0	17.8	56.1	61.5	:	61.3	:	:
1982	70.8	75.9	15.6	43.7	71.5	69.9	46.8	89.6	72.6	20.7	60.3	66.5	:	67.2	:	:
1983	74.0	76.4	19.3	48.7	77.3	77.5	53.9	89.3	73.1	25.0	64.8	70.2	:	71.9	:	:
1984	77.6	77.1	22.8	51.6	81.4	80.7	58.8	87.1	76.5	30.4	69.7	72.9	:	74.9	:	:
1985	80.4	78.3	27.6	54.5	84.9	83.2	63.3	87.6	78.9	36.2	74.4	75.7	:	77.9	:	:
1986	82.3	80.4	30.8	59.1	86.8	87.8	66.9	88.6	81.5	41.1	77.8	78.3	:	80.5	:	:
1987	82.7	82.6	35.1	62.8	88.0	88.9	70.5	89.8	83.3	45.3	80.8	80.5	:	87.6	:	:
1988	82.2	82.9	41.1	66.5	88.7	91.3	74.1	89.5	83.0	48.7	84.9	81.7	:	90.5	:	:
1989	85.3	83.4	48.9	70.5	90.0	91.3	78.5	87.9	84.7	53.7	90.2	83.4	:	93.5	:	:
1990	89.3	85.1	58.4	77.6	93.1	92.2	85.8	89.5	86.9	62.6	98.5	87.0	:	95.6	:	:
1991	94.5	88.2	63.8	84.3	95.8	94.2	92.7	92.8	90.6	72.8	105.6	91.1	:	97.7	:	:
1992	98.0	93.9	71.7	91.6	97.3	98.6	96.7	97.0	94.1	82.4	104.1	95.4	:	100.2	:	:
1993	102.8	97.5	80.8	96.5	99.3	102.8	98.9	99.5	97.4	87.3	99.6	98.5	:	100.8	:	:
1994	103.6	98.0	89.5	97.3	98.8	102.4	98.8	99.5	98.8	90.4	97.7	98.7	:	98.3	:	:
1995	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	:	100.0	:	:
1996	100.6	100.2	105.6	103.3	101.2	99.0	105.3	100.8	98.3	104.1	100.1	101.3	:	102.5	:	:
1997	101.0	99.5	116.0	104.8	101.7	98.2	107.8	102.2	98.1	107.8	98.9	101.8	:	104.1	:	:
1998	101.8	99.7	122.7	107.4	101.4	104.3	105.3	104.3	98.1	111.5	100.3	102.1	:	107.0	:	:
1999	103.5	100.0	126.5	109.7	102.4	104.3	106.8	106.4	98.3	115.3	101.6	103.1	:	108.9	:	:
2000	103.6	101.0	128.5	112.7	103.2	107.8	108.7	109.7	98.2	121.6	102.5	104.5	:	110.7	:	:
2001	108.2	102.3	129.2	116.7	105.8	112.8	112.1	115.6	99.3	128.2	107.7	107.3	:	114.4	:	:
2002	110.9	103.1	136.3	121.0	108.1	113.6	115.9	121.9	100.0	133.7	108.4	109.6	:	116.4	:	:
2003	112.3	103.8	137.5	125.2	110.1	117.0	120.5	126.5	101.4	140.3	109.8	111.7	:	118.9	:	:
2004	113.0	102.0	143.6	129.1	110.8	120.0	124.1	125.0	102.5	143.3	110.5	112.0	:	120.6	:	:
2005	113.8	102.2	148.1	133.4	112.2	122.2	126.8	125.0	103.3	146.9	111.7	113.1	:	122.4	:	:
2006	115.0	102.7	152.5	137.0	113.7	123.7	128.8	124.8	104.4	150.6	113.4	114.2	:	124.6	:	:

⁽¹⁾ Ratio of compensation per employee to real GDP per person employed.

⁽²⁾ 1960–91 D, 90.

⁽³⁾ EU-15 excluding DK, LU, SE and UK; export weighted.

Table 33 (continued)

(national currency; 1995 = 100)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-14 ⁽¹⁾	BG	RO	TR	HR	US	JP
1960	:	:	:	:	:	:	:	11.6	8.5	13.4	:	:	:	:	23.8	23.0
1965	:	:	:	:	:	:	:	14.4	10.1	16.5	:	:	:	:	24.5	29.3
1970	:	:	:	:	:	:	:	18.0	12.8	20.5	:	:	:	:	31.4	35.6
1975	:	:	:	:	:	:	:	27.5	26.0	34.6	:	:	:	:	42.2	68.1
1980	:	:	:	:	:	:	:	47.0	48.0	53.9	:	:	:	:	61.1	85.5
1981	:	:	:	:	:	:	:	51.5	53.3	59.3	:	:	:	:	65.9	89.0
1982	:	:	:	:	:	:	:	53.9	55.8	63.8	:	:	:	:	71.3	90.7
1983	:	:	:	:	:	:	:	57.2	58.0	67.2	:	:	:	:	72.6	92.6
1984	:	:	:	:	:	:	:	59.8	61.0	70.0	:	:	:	:	74.5	93.6
1985	:	:	:	:	:	:	:	63.6	64.1	73.0	:	:	:	:	76.9	92.2
1986	:	:	:	:	:	:	:	67.6	66.7	75.7	:	:	:	:	78.8	92.9
1987	:	:	:	:	:	:	:	70.6	69.5	78.2	:	:	:	:	81.6	92.8
1988	:	:	:	:	:	:	:	75.0	74.3	80.2	:	:	:	:	84.5	91.3
1989	:	:	:	:	:	:	:	82.4	81.4	83.1	:	:	:	:	86.4	92.2
1990	:	:	:	:	:	:	:	91.6	89.3	87.6	:	:	:	:	90.1	94.0
1991	:	:	:	:	:	:	:	97.5	95.8	92.1	:	:	:	:	93.5	97.4
1992	:	:	:	:	:	:	:	98.1	98.4	96.0	:	:	:	:	95.2	98.9
1993	:	:	:	:	:	:	:	99.0	99.0	98.5	:	:	:	:	97.2	99.8
1994	:	:	:	:	:	:	:	99.7	98.3	98.6	:	:	:	:	98.0	100.2
1995	:	:	:	:	:	:	:	100.0	100.0	100.0	:	:	:	:	100.0	100.0
1996	:	:	:	:	:	:	:	105.0	101.9	101.6	:	:	:	:	100.8	97.7
1997	:	:	:	:	:	:	:	106.1	104.9	102.5	:	:	:	:	102.1	98.4
1998	:	:	:	:	:	:	:	106.6	108.8	103.3	:	:	:	:	105.1	98.6
1999	:	:	:	:	:	:	:	105.5	112.0	104.5	:	:	:	:	107.0	96.6
2000	:	:	:	:	:	:	:	111.3	115.4	106.3	:	:	:	:	111.3	94.1
2001	:	:	:	:	:	:	:	117.5	119.7	109.3	:	:	:	:	113.4	92.7
2002	:	:	:	:	:	:	:	118.4	123.1	111.6	:	:	:	:	113.7	89.7
2003	:	:	:	:	:	:	:	119.0	126.5	113.8	:	:	:	:	114.6	86.8
2004	:	:	:	:	:	:	:	118.0	129.8	114.4	:	:	:	:	115.6	83.1
2005	:	:	:	:	:	:	:	119.0	133.4	115.7	:	:	:	:	118.8	81.1
2006	:	:	:	:	:	:	:	121.4	137.1	117.2	:	:	:	:	121.7	79.5

⁽¹⁾ EU-15 excluding LU; export weighted.

Table 34

Wage costs
Real unit labour costs; total economy ⁽¹⁾

(1995 = 100)

	BE	DE ⁽²⁾	EL	ES	FR	IE	IT	NL	AT	PT	FI	EUR-11 ⁽³⁾	CZ	DK	EE	CY
1960	96.3	100.5	154.4	102.5	106.8	121.2	112.7	95.5	108.7	95.1	118.7	103.9	:	104.6	:	:
1965	95.9	102.8	127.8	107.0	107.4	119.5	113.3	103.5	108.6	92.5	122.4	105.7	:	109.7	:	:
1970	95.5	104.5	116.4	106.6	107.0	120.2	110.0	107.8	103.1	98.1	110.9	105.7	:	111.5	:	:
1975	107.1	109.8	104.7	111.2	114.1	125.7	120.8	116.0	111.5	128.3	120.1	113.2	:	115.3	:	:
1980	110.7	109.1	108.5	110.9	114.6	125.1	115.8	113.3	108.7	106.7	111.8	111.9	:	112.9	:	:
1981	110.9	109.4	115.6	111.4	115.5	120.7	118.3	110.5	109.6	109.2	113.9	112.4	:	111.5	:	:
1982	108.6	108.5	115.9	109.2	115.4	117.0	117.2	109.6	106.6	105.6	112.5	111.4	:	109.9	:	:
1983	107.5	108.7	108.8	114.4	114.4	117.0	117.1	107.0	103.8	102.2	111.3	109.7	:	108.6	:	:
1984	106.9	104.6	115.1	104.0	112.7	114.5	114.6	102.9	103.8	99.7	110.5	107.9	:	106.6	:	:
1985	105.9	104.0	117.0	101.1	111.4	112.2	113.4	101.7	103.9	97.6	112.1	106.9	:	105.7	:	:
1986	105.4	103.5	110.1	98.9	108.4	111.9	111.1	102.7	104.5	92.0	112.3	105.7	:	105.0	:	:
1987	104.1	104.5	108.6	99.2	106.8	110.9	110.1	104.9	104.4	92.0	112.0	105.8	:	108.8	:	:
1988	101.3	103.2	109.0	99.1	104.5	110.1	108.5	103.6	102.1	89.0	108.6	104.2	:	109.5	:	:
1989	100.3	101.4	113.4	98.4	102.9	104.8	107.9	100.6	101.0	88.8	108.5	102.6	:	107.5	:	:
1990	102.1	100.4	112.2	100.9	103.5	106.2	108.9	100.2	100.5	91.5	111.5	102.7	:	106.1	:	:
1991	105.1	100.5	102.4	102.5	103.3	106.6	109.5	101.0	100.9	96.7	117.2	103.3	:	105.5	:	:
1992	105.3	101.8	100.2	104.4	103.0	108.5	109.2	103.1	101.2	98.2	113.9	104.0	:	105.2	:	:
1993	106.3	102.0	98.6	105.2	102.6	107.6	107.5	103.9	102.0	96.9	106.2	103.7	:	104.4	:	:
1994	104.9	99.9	98.3	102.1	100.4	105.4	103.7	101.5	100.7	93.5	102.4	101.3	:	100.0	:	:
1995	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	:	100.0	:	:
1996	99.5	99.2	98.3	99.8	99.8	97.1	100.0	99.6	97.4	101.1	100.5	99.4	:	100.0	:	:
1997	98.5	97.8	101.1	98.9	99.0	92.3	100.0	99.0	97.1	100.9	97.1	98.4	:	99.4	:	:
1998	97.6	96.9	101.7	99.0	97.8	92.2	95.1	99.4	96.9	100.5	95.2	97.0	:	101.2	:	:
1999	97.8	96.8	101.8	98.4	98.2	88.8	95.0	99.9	96.5	100.8	96.7	96.9	:	101.1	:	:
2000	96.7	98.0	100.0	97.8	98.1	87.6	94.6	99.0	94.7	102.8	94.5	96.9	:	99.8	:	:
2001	99.2	97.9	97.1	97.2	98.7	86.7	95.0	99.2	94.1	103.8	96.4	97.2	:	101.0	:	:
2002	99.9	97.2	98.5	96.4	98.6	83.5	95.4	101.4	93.5	103.6	96.1	97.0	:	101.2	:	:
2003	99.3	96.8	96.1	95.9	99.0	84.7	96.3	102.2	93.4	106.2	97.3	97.1	:	101.1	:	:
2004	97.9	94.2	96.9	95.3	97.8	84.3	96.4	100.6	93.3	106.4	97.6	95.7	:	100.7	:	:
2005	96.6	93.4	96.9	95.1	97.3	83.8	96.3	99.4	93.0	106.6	97.5	95.1	:	100.2	:	:
2006	95.7	93.0	96.7	94.4	97.0	83.2	95.8	98.3	92.8	106.8	97.6	94.6	:	100.0	:	:

⁽¹⁾ Ratio of compensation per employee to nominal GDP per person employed.⁽²⁾ 1960-91 D, 90.⁽³⁾ EU-15 excluding DK, LU, SE and UK; export weighted.

Table 34 (continued)

(1995 = 100)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-14 ⁽¹⁾	BG	RO	TR	HR	US	JP
1960	:	:	:	:	:	:	:	111.2	103.8	104.5	:	:	:	:	105.1	110.7
1965	:	:	:	:	:	:	:	112.9	103.9	105.8	:	:	:	:	101.0	106.4
1970	:	:	:	:	:	:	:	112.9	104.6	106.0	:	:	:	:	105.8	98.3
1975	:	:	:	:	:	:	:	112.7	114.7	113.4	:	:	:	:	102.8	115.6
1980	:	:	:	:	:	:	:	117.7	106.1	111.1	:	:	:	:	104.9	111.1
1981	:	:	:	:	:	:	:	117.8	105.9	111.6	:	:	:	:	103.4	110.8
1982	:	:	:	:	:	:	:	114.1	103.1	110.1	:	:	:	:	105.3	110.5
1983	:	:	:	:	:	:	:	109.9	101.5	108.4	:	:	:	:	103.0	110.3
1984	:	:	:	:	:	:	:	106.8	102.2	106.9	:	:	:	:	102.0	108.0
1985	:	:	:	:	:	:	:	106.5	101.7	106.1	:	:	:	:	101.9	103.9
1986	:	:	:	:	:	:	:	106.4	102.4	105.2	:	:	:	:	102.0	103.0
1987	:	:	:	:	:	:	:	105.9	101.3	105.1	:	:	:	:	102.8	102.6
1988	:	:	:	:	:	:	:	105.8	101.9	104.0	:	:	:	:	103.0	100.2
1989	:	:	:	:	:	:	:	107.6	104.0	103.2	:	:	:	:	101.5	98.9
1990	:	:	:	:	:	:	:	110.0	105.9	103.6	:	:	:	:	101.7	98.4
1991	:	:	:	:	:	:	:	107.4	106.7	104.0	:	:	:	:	102.0	99.1
1992	:	:	:	:	:	:	:	106.9	105.4	104.3	:	:	:	:	101.5	99.0
1993	:	:	:	:	:	:	:	104.7	103.2	103.7	:	:	:	:	101.3	99.3
1994	:	:	:	:	:	:	:	103.1	100.9	101.3	:	:	:	:	100.0	99.7
1995	:	:	:	:	:	:	:	100.0	100.0	100.0	:	:	:	:	100.0	100.0
1996	:	:	:	:	:	:	:	103.7	98.7	99.5	:	:	:	:	98.9	98.5
1997	:	:	:	:	:	:	:	103.2	98.8	98.7	:	:	:	:	98.6	98.8
1998	:	:	:	:	:	:	:	102.9	99.6	97.7	:	:	:	:	100.4	99.2
1999	:	:	:	:	:	:	:	101.2	100.3	97.7	:	:	:	:	100.7	98.7
2000	:	:	:	:	:	:	:	105.3	102.0	98.0	:	:	:	:	102.5	97.9
2001	:	:	:	:	:	:	:	108.6	103.5	98.6	:	:	:	:	102.0	98.0
2002	:	:	:	:	:	:	:	107.9	103.1	98.4	:	:	:	:	100.5	96.0
2003	:	:	:	:	:	:	:	106.1	102.8	98.3	:	:	:	:	99.5	95.2
2004	:	:	:	:	:	:	:	104.0	103.0	97.1	:	:	:	:	98.2	93.6
2005	:	:	:	:	:	:	:	102.9	103.5	96.6	:	:	:	:	98.4	92.9
2006	:	:	:	:	:	:	:	103.0	104.1	96.3	:	:	:	:	98.7	91.6

⁽¹⁾ EU-15 excluding LU: export weighted.

Table 35

Wage costs

Nominal unit labour costs; total economy ⁽¹⁾

Performance relative to the rest of 22 industrial countries; double export weights

(USD; 1995 = 100)

	BE	DE ⁽²⁾	EL	ES	FR	IE	IT	NL	AT	PT	FI	EUR-11 ⁽³⁾	CZ	DK	EE	CY
1960	99.8	72.3	161.6	66.2	117.5	101.1	110.6	71.3	83.9	88.0	109.6	79.7		64.9		
1965	93.3	76.2	127.2	77.9	119.8	107.1	120.7	85.8	83.4	78.1	120.4	88.1		74.5		
1970	90.0	85.1	109.7	75.0	106.8	109.1	113.5	94.8	75.8	84.2	93.7	88.4		80.7		
1975	101.9	90.6	84.2	88.5	114.3	105.1	106.9	110.7	86.6	110.3	105.8	103.2		95.6		
1980	105.2	90.1	86.3	100.4	115.5	112.6	106.3	111.8	89.7	73.4	94.2	104.3		89.7		
1981	96.9	81.4	93.7	94.1	108.9	106.9	105.9	101.8	86.6	78.0	99.8	89.5		84.7		
1982	86.4	82.5	102.5	92.4	104.0	111.6	107.6	104.8	85.7	73.9	101.3	87.8		83.5		
1983	84.6	82.3	99.1	82.3	100.3	114.9	115.2	102.3	84.9	67.4	99.1	85.7		85.8		
1984	84.4	78.7	97.4	82.3	97.7	111.2	115.4	95.0	85.5	66.3	105.2	80.8		83.6		
1985	85.3	77.1	96.4	81.9	99.3	111.6	114.4	92.5	85.8	67.7	108.9	79.9		84.9		
1986	90.1	85.3	82.7	85.6	103.5	120.6	122.9	97.7	91.9	68.9	109.3	91.8		91.1		
1987	91.4	90.7	82.0	88.4	102.4	115.5	127.2	101.0	94.7	68.2	110.8	98.3		99.9		
1988	87.8	87.9	87.0	94.4	98.2	112.6	126.3	97.9	92.0	67.5	114.6	93.1		98.2		
1989	87.9	84.1	93.1	100.9	94.8	106.6	130.4	92.0	90.7	69.4	120.8	89.6		95.3		
1990	92.4	85.5	96.6	109.9	98.4	107.5	140.7	92.6	91.8	75.5	127.4	98.0		99.0		
1991	93.4	83.3	89.2	113.5	93.9	103.0	142.7	91.0	90.6	84.2	125.1	94.3		95.0		
1992	95.2	88.8	89.2	115.9	94.8	107.6	138.9	93.6	92.2	94.8	104.2	100.0		96.6		
1993	98.4	93.3	90.4	104.9	96.6	104.7	115.8	96.7	95.6	91.4	84.7	96.4		97.8		
1994	100.8	93.7	93.3	98.8	96.4	103.8	110.2	96.7	96.7	90.6	89.2	94.7		95.1		
1995	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		100.0		
1996	97.4	96.3	102.1	102.5	99.9	100.1	114.2	97.5	95.2	103.2	96.0	100.8		100.3		
1997	92.7	89.4	108.2	97.8	95.3	99.7	115.5	93.8	91.4	103.1	90.6	90.8		97.7		
1998	92.7	88.9	107.0	99.1	94.8	99.4	111.4	94.9	91.3	104.1	90.2	89.5		100.0		
1999	91.7	86.1	108.5	98.2	92.5	95.0	109.1	94.5	89.4	104.9	88.4	84.9		99.0		
2000	87.0	81.1	101.3	95.5	87.3	90.7	104.3	92.8	85.4	105.4	83.4	75.5		94.2		
2001	89.0	80.3	98.6	96.6	87.5	93.1	105.4	96.0	84.6	108.6	86.4	76.6		96.2		
2002	90.4	80.6	103.1	99.2	89.0	94.0	108.9	100.5	84.4	111.8	86.7	79.8		97.5		
2003	93.6	83.6	105.9	104.5	93.2	101.8	116.8	106.1	86.5	118.6	90.6	89.4		102.2		
2004	94.7	82.5	111.0	107.9	94.3	105.2	121.5	105.6	87.9	120.9	92.1	91.6		104.5		
2005	94.4	81.4	113.2	110.2	94.2	105.9	122.6	103.9	87.5	122.2	92.0	91.1		104.6		
2006																

⁽¹⁾ Ratio of compensation per employee to real GDP per person employed.⁽²⁾ 1960-91 D 90.⁽³⁾ EU-15 excluding DK, LU, SE and UK relative to 11 industrial countries.

Table 35 (continued)

(USD; 1995 = 100)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-14 ⁽¹⁾	BG	RO	TR	HR	US	JP
1960	:	:	:	:	:	:	:	128.2	114.2	85.9	:	:	:	:	180.1	33.5
1965	:	:	:	:	:	:	:	128.9	114.3	96.7	:	:	:	:	155.0	38.0
1970	:	:	:	:	:	:	:	132.1	100.9	91.3	:	:	:	:	161.7	37.2
1975	:	:	:	:	:	:	:	125.1	97.3	105.1	:	:	:	:	108.5	51.4
1980	:	:	:	:	:	:	:	130.5	118.4	117.6	:	:	:	:	99.7	54.6
1981	:	:	:	:	:	:	:	128.4	122.2	98.9	:	:	:	:	108.8	59.0
1982	:	:	:	:	:	:	:	112.6	114.2	92.4	:	:	:	:	126.4	53.0
1983	:	:	:	:	:	:	:	102.3	106.3	85.7	:	:	:	:	133.1	58.4
1984	:	:	:	:	:	:	:	105.1	103.2	79.2	:	:	:	:	142.1	60.5
1985	:	:	:	:	:	:	:	107.2	104.8	79.2	:	:	:	:	148.4	58.9
1986	:	:	:	:	:	:	:	109.8	99.0	90.5	:	:	:	:	123.4	74.6
1987	:	:	:	:	:	:	:	109.4	99.1	98.4	:	:	:	:	111.7	78.6
1988	:	:	:	:	:	:	:	113.0	109.9	97.2	:	:	:	:	108.1	82.8
1989	:	:	:	:	:	:	:	120.7	113.3	95.2	:	:	:	:	110.0	77.2
1990	:	:	:	:	:	:	:	126.2	117.6	108.9	:	:	:	:	103.8	67.7
1991	:	:	:	:	:	:	:	128.0	121.9	105.6	:	:	:	:	101.4	73.0
1992	:	:	:	:	:	:	:	126.2	116.1	110.6	:	:	:	:	98.1	75.8
1993	:	:	:	:	:	:	:	101.7	104.5	97.9	:	:	:	:	101.4	90.1
1994	:	:	:	:	:	:	:	101.3	103.8	95.3	:	:	:	:	100.8	97.1
1995	:	:	:	:	:	:	:	100.0	100.0	100.0	:	:	:	:	100.0	100.0
1996	:	:	:	:	:	:	:	114.0	102.4	104.1	:	:	:	:	104.4	84.1
1997	:	:	:	:	:	:	:	109.1	121.1	98.4	:	:	:	:	111.3	78.8
1998	:	:	:	:	:	:	:	106.1	128.8	99.6	:	:	:	:	119.2	73.1
1999	:	:	:	:	:	:	:	101.6	130.6	93.4	:	:	:	:	118.4	82.4
2000	:	:	:	:	:	:	:	104.7	135.7	82.6	:	:	:	:	127.5	87.1
2001	:	:	:	:	:	:	:	98.8	135.1	83.4	:	:	:	:	133.2	76.0
2002	:	:	:	:	:	:	:	100.0	137.9	88.6	:	:	:	:	129.9	68.9
2003	:	:	:	:	:	:	:	104.6	133.4	100.7	:	:	:	:	117.0	65.2
2004	:	:	:	:	:	:	:	104.9	142.6	107.0	:	:	:	:	111.3	62.8
2005	:	:	:	:	:	:	:	105.5	142.0	106.2	:	:	:	:	112.3	60.5
2006	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:

⁽¹⁾ EU-15 excluding LU relative to eight industrial non-member countries.

Table 36

Foreign trade and current balance
Exports of goods and services at current prices (national accounts)

(percentage of gross domestic product at market prices)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1960	38.7	19.6	12.1	8.3	13.9	29.4	12.7	91.3	47.0	23.6	15.5	21.6	18.9	:	31.6	:	32.6
1965	43.0	18.6	9.4	8.2	12.7	32.2	14.5	85.0	42.2	24.4	23.7	19.5	18.3	:	28.7	:	34.4
1970	51.9	21.8	9.7	12.5	15.1	34.1	16.1	93.6	44.0	30.2	21.6	24.7	21.4	:	27.2	:	37.9
1975	53.0	24.8	17.3	12.7	18.2	39.4	20.2	97.4	48.6	30.9	18.0	22.7	24.5	:	29.3	:	35.5
1980	57.6	27.0	23.6	14.8	20.4	45.7	21.6	93.2	51.6	36.0	24.2	31.6	27.0	:	32.2	:	45.3
1981	62.1	29.3	26.1	16.9	21.3	44.7	23.0	91.3	56.9	37.2	23.0	32.1	28.7	:	36.0	:	50.3
1982	66.8	30.4	21.0	17.6	20.8	44.3	22.5	93.7	56.4	36.4	23.4	29.7	28.8	:	35.7	:	50.9
1983	69.4	29.5	20.1	19.8	21.4	48.3	21.6	95.0	56.0	35.8	27.7	29.5	28.8	:	35.8	:	50.4
1984	74.0	31.5	20.5	22.1	23.0	54.9	22.3	106.5	60.6	37.9	33.0	30.3	30.7	:	36.3	:	54.7
1985	71.8	33.3	19.7	21.6	22.9	55.6	22.5	114.4	61.9	39.8	33.0	28.8	31.1	:	36.4	:	48.7
1986	65.8	30.7	21.6	18.8	20.3	50.6	19.9	104.7	51.8	36.2	29.4	26.3	28.0	:	31.9	:	45.1
1987	64.2	29.6	22.1	18.4	19.7	54.1	19.2	101.8	50.4	35.1	30.9	25.4	27.2	:	31.2	:	47.3
1988	68.3	30.2	19.9	17.9	20.4	57.7	18.8	103.4	52.5	35.2	31.2	24.2	27.5	:	33.2	:	48.2
1989	73.1	32.1	19.5	17.2	21.7	61.1	19.7	106.3	55.4	37.2	33.3	23.6	28.8	:	35.1	:	51.5
1990	70.8	32.7	18.1	16.3	21.2	57.0	19.7	104.1	54.5	37.7	32.9	22.7	28.5	43.0	35.8	:	51.5
1991		34.9											28.8				
1991	69.2	26.3	17.3	16.3	21.5	57.9	18.5	104.0	54.7	36.4	30.0	22.0	26.3	50.2	37.2	:	47.1
1992	67.6	24.5	18.2	16.8	21.5	60.8	19.1	102.9	52.5	34.9	27.6	26.3	25.9	52.0	36.5	:	49.8
1993	64.5	22.8	17.2	18.3	20.7	66.0	22.3	103.2	52.5	33.1	26.6	32.1	26.1	52.1	35.4	66.2	47.3
1994	67.1	23.6	17.7	21.0	21.5	70.8	23.9	106.6	55.0	33.6	28.4	34.9	27.5	48.0	35.5	71.7	47.5
1995	69.1	24.5	17.6	22.6	22.5	76.6	27.0	109.1	57.4	35.1	30.2	36.7	29.2	51.0	35.5	68.4	55.4
1996	70.6	25.3	17.5	23.9	23.1	77.7	25.8	111.2	57.9	35.9	29.8	37.3	29.6	49.2	35.8	62.9	55.8
1997	74.7	27.9	19.7	26.7	25.5	79.9	26.4	119.3	61.1	39.7	30.4	38.8	32.0	52.5	36.5	73.5	56.4
1998	75.4	29.0	19.8	27.2	26.1	86.4	26.4	127.3	61.0	41.7	30.8	38.6	32.8	55.1	35.8	74.8	53.6
1999	75.7	29.6	22.4	27.5	25.9	88.4	25.5	136.1	60.3	42.7	29.7	37.8	33.1	56.5	38.1	72.2	54.8
2000	85.5	33.8	25.6	30.1	28.5	97.7	28.3	151.9	67.5	45.4	31.5	43.0	37.1	64.5	44.1	88.3	56.8
2001	85.7	35.2	23.8	29.9	27.9	98.4	28.4	153.1	65.2	47.7	30.6	39.9	37.3	66.5	44.7	83.9	57.2
2002	83.7	36.1	20.9	28.7	27.0	93.5	27.0	143.6	62.8	48.6	29.8	38.7	36.6	61.5	44.3	74.1	51.8
2003	81.5	36.1	19.9	27.8	25.8	83.7	25.4	137.4	61.5	48.2	30.1	37.2	35.6	62.8	43.3	75.0	48.1
2004	82.0	39.0	20.9	27.5	25.9	82.2	26.2	140.1	64.8	49.8	31.5	37.2	36.8	68.2	44.8	79.2	47.2
2005	83.5	41.2	21.2	27.5	26.7	83.4	27.2	142.8	68.0	51.4	32.4	37.7	38.1	71.5	45.9	83.0	46.5
2006	85.6	42.7	21.4	27.7	27.6	84.2	27.9	144.8	69.8	52.8	33.2	37.8	39.2	73.4	46.5	87.8	46.0

(¹) 1960-91 D₉₀.

(²) Euro area: 1960-91 including D₉₀.

Table 36 (continued)

(percentage of gross domestic product at market prices)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽¹⁾	EUR-15 ⁽²⁾	BG	RO	TR	HR	US	JP
1960	:	:	54.8	:	:	:	:	22.4	20.0	:	19.6	:	:	4.5	:	5.2	10.6
1965	:	:	50.3	:	:	:	:	21.3	18.4	:	18.7	:	:	4.5	:	5.2	10.4
1970	:	:	46.4	:	:	:	:	23.5	22.3	:	21.8	:	:	4.4	:	5.8	10.7
1975	:	:	77.3	:	:	:	:	27.5	25.4	:	24.8	:	:	5.0	:	8.5	12.7
1980	:	:	39.1	85.0	27.4	:	:	29.1	27.1	:	27.2	:	22.5	5.4	:	10.2	13.6
1981	:	:	39.5	76.1	22.6	:	:	29.7	26.7	:	28.6	:	27.9	8.4	:	9.8	14.6
1982	:	:	38.0	64.7	18.9	:	:	32.1	26.2	:	28.6	:	23.7	12.1	:	8.8	14.4
1983	:	:	40.2	62.8	16.8	:	:	35.4	26.4	:	28.8	:	26.6	13.0	:	7.9	13.8
1984	:	:	41.1	65.5	17.2	:	:	36.1	28.3	:	30.6	:	27.9	16.2	:	7.8	14.9
1985	:	:	42.2	67.7	17.7	:	:	34.9	28.8	:	31.0	:	28.9	16.4	:	7.2	14.3
1986	:	:	39.6	67.5	17.7	:	:	32.5	25.6	:	27.9	:	27.1	13.8	:	7.2	11.2
1987	:	:	37.9	73.1	20.8	:	:	32.1	25.4	:	27.2	:	26.6	15.6	:	7.7	10.3
1988	:	:	36.8	73.9	22.2	:	:	31.8	23.0	:	27.1	:	25.5	18.7	:	8.8	9.9
1989	:	:	36.0	75.7	18.6	:	:	31.4	23.7	:	28.2	:	20.9	16.2	:	9.3	10.3
1990	43.1	52.1	31.1	79.6	26.8	90.8	26.5	29.7	24.0	:	28.0	:	16.7	13.3	:	9.6	10.4
1991											28.1						
1991	31.8	29.7	32.8	81.2	22.0	83.5	46.3	27.4	23.2	:	26.1	43.5	17.6	13.8	:	10.0	10.0
1992	72.2	23.4	31.4	85.8	22.2	63.1	70.3	27.3	23.6	:	25.8	47.1	27.8	14.4	:	10.1	9.8
1993	66.1	82.5	26.4	89.1	21.4	58.8	56.7	31.9	25.5	26.6	26.4	38.2	23.0	13.7	:	9.9	9.1
1994	41.9	55.4	28.9	90.3	22.1	60.0	59.8	35.4	26.5	28.0	27.8	45.1	24.9	21.4	45.8	10.3	9.0
1995	42.7	49.9	44.6	87.6	23.7	51.7	58.3	39.3	28.3	29.9	29.5	44.7	27.6	19.9	38.6	11.1	9.1
1996	46.8	52.2	48.5	81.3	22.7	52.2	54.1	37.9	29.4	30.3	30.0	55.4	28.1	21.5	40.2	11.2	9.7
1997	46.8	53.1	55.1	79.4	23.9	53.7	56.9	41.4	28.8	32.2	31.9	58.3	29.2	24.6	41.1	11.6	10.8
1998	47.2	45.7	61.9	81.9	26.4	53.2	59.7	42.5	26.8	32.6	32.2	47.1	22.6	24.3	39.6	11.0	10.7
1999	40.4	39.1	64.3	84.8	24.6	49.4	61.4	42.6	26.4	32.7	32.3	44.6	28.0	23.2	40.9	10.8	10.1
2000	42.3	44.9	73.9	93.4	27.8	56.1	70.8	46.1	28.1	36.3	35.9	55.7	32.9	24.0	47.1	11.2	10.8
2001	41.4	50.0	72.8	80.8	27.7	57.6	73.4	45.9	27.4	36.4	35.9	55.6	33.3	33.7	48.4	10.3	10.4
2002	41.5	53.1	64.0	83.1	29.6	57.6	71.7	44.0	26.2	35.7	35.1	53.1	35.5	29.2	45.4	9.6	11.2
2003	42.4	51.8	62.0	77.0	34.5	56.5	78.0	43.7	25.2	34.9	34.2	53.2	36.2	27.4	47.1	9.6	11.8
2004	43.7	53.5	63.8	77.5	37.5	58.5	79.3	46.1	24.4	35.9	35.1	54.3	38.4	26.8	48.3	10.1	13.1
2005	44.7	54.9	65.1	78.7	39.0	58.4	83.2	47.5	25.2	37.2	36.3	54.8	39.6	30.7	50.4	10.6	14.1
2006	44.1	55.4	66.1	79.8	41.0	58.6	89.3	48.4	25.5	38.2	37.2	55.9	40.6	34.0	52.5	11.1	15.0

⁽¹⁾ 1960-91 including D_90.⁽²⁾ Former EU-15; 1960-91 including D_90.

Table 37

Foreign trade and current balance
Exports of goods and services at 1995 prices

(national currency; annual percentage change)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1961-70	9.1	7.7	8.1	11.7	8.6	9.5	11.1	5.9	8.4	9.0	11.5	7.3	8.7	:	6.5	:	:
1971-80	4.7	5.0	14.1	7.1	7.0	7.3	6.1	3.1	5.1	6.9	5.0	5.7	5.8	:	4.7	:	:
1981	3.4	7.2	8.4	11.3	3.7	2.0	5.5	-4.8	1.4	3.8	-4.4	5.9	5.0	:	8.1	:	:
1982	2.8	3.7	-16.5	5.6	-0.6	5.5	-0.9	-0.3	-0.4	0.5	4.7	-2.2	1.1	:	2.5	:	:
1983	2.6	-0.5	-5.8	9.6	4.4	10.5	3.7	5.3	3.2	2.9	13.6	4.0	2.7	:	4.7	:	:
1984	6.5	8.8	10.9	12.0	7.1	16.6	7.7	18.0	7.7	6.9	11.6	5.9	8.3	:	3.9	:	:
1985	0.3	7.3	1.8	0.7	2.6	6.6	3.9	9.5	5.1	7.7	6.7	0.4	4.5	:	5.0	:	:
1986	2.7	-1.3	16.8	0.2	-0.4	3.1	0.8	3.0	2.7	-4.8	6.8	1.4	0.4	:	0.4	:	:
1987	5.0	0.7	5.9	5.3	3.4	13.7	4.5	3.3	3.5	2.3	11.2	2.9	3.1	:	4.3	:	:
1988	9.6	5.5	-2.1	3.8	8.7	8.9	5.1	11.1	8.1	6.0	8.2	3.1	6.6	:	11.2	:	:
1989	8.2	10.3	1.9	1.4	10.0	10.3	7.8	12.6	7.5	10.1	12.2	3.0	8.7	:	4.2	:	:
1990	4.6	11.3	-3.5	4.7	4.8	8.7	7.5	5.6	5.6	8.2	9.5	1.5	7.4	:	6.2	:	:
1981-90	4.5	5.2	1.4	5.4	4.3	8.5	4.5	6.1	4.4	4.3	7.9	2.6	4.7	:	5.0	:	:
1991	3.1	14.9	4.1	8.3	5.9	5.7	-1.4	9.2	5.6	3.0	1.2	-7.4	7.2	-6.0	6.1	:	:
1992	3.7	-0.8	10.0	7.5	5.4	13.9	7.3	2.7	1.8	1.5	3.2	10.1	3.4	9.5	-0.9	:	:
1993	-0.4	-5.5	-2.6	7.8	0.0	9.7	9.0	4.8	4.8	-2.6	-3.3	16.3	0.9	15.8	-1.5	:	:
1994	8.3	7.6	7.4	16.7	7.7	15.1	9.8	7.7	9.7	5.5	8.4	13.6	9.0	1.7	7.0	3.5	:
1995	5.0	5.7	3.0	9.4	7.7	20.0	12.6	4.6	8.8	6.3	8.8	8.5	8.0	16.7	3.1	5.3	24.8
1996	3.0	5.1	3.5	10.4	3.5	12.2	0.6	5.8	4.6	4.8	7.1	5.7	4.5	5.5	4.3	2.8	3.6
1997	5.9	11.2	20.0	15.3	11.8	17.4	6.4	14.7	8.8	11.4	7.1	13.7	10.4	8.5	4.1	28.9	1.7
1998	6.0	7.0	5.3	8.2	8.3	22.0	3.4	14.1	7.4	8.6	9.1	9.2	7.4	10.6	4.3	12.0	0.0
1999	5.1	5.5	18.1	7.7	4.3	15.2	0.1	14.8	5.1	5.7	2.9	6.5	5.2	5.7	12.2	0.7	6.5
2000	8.4	13.5	14.1	10.1	12.6	20.4	9.7	17.3	11.3	10.5	7.8	19.3	12.1	16.8	13.4	28.3	9.0
1991-2000	4.8	6.3	8.1	10.1	6.6	15.1	5.7	9.5	6.8	5.4	5.2	9.3	6.8	8.3	5.1	:	:
2001	1.3	5.7	-1.1	3.6	1.6	8.4	1.6	1.8	1.6	6.8	1.0	-0.8	3.3	11.8	4.4	-0.2	3.4
2002	1.5	4.1	-7.7	1.2	1.9	5.7	-3.4	-0.6	0.8	3.8	2.0	5.1	1.8	2.7	4.8	0.9	-5.1
2003	1.7	1.8	1.0	2.6	-2.5	-0.8	-3.9	1.8	0.0	1.4	4.0	1.3	0.1	6.2	0.0	5.7	0.3
2004	4.2	10.5	10.5	4.5	3.9	6.2	4.2	6.3	6.8	5.6	7.9	3.0	6.6	15.0	5.6	13.0	4.7
2005	5.1	6.8	6.0	5.2	6.2	7.0	5.7	6.1	6.2	5.7	7.0	5.1	6.2	10.7	5.2	11.7	5.1
2006	5.7	5.7	6.0	5.7	6.6	6.7	5.5	6.0	5.8	5.6	7.0	4.7	5.9	7.9	4.6	12.5	5.4
2001-06	3.2	5.7	2.3	3.8	2.9	5.5	1.6	3.5	3.5	4.8	4.8	3.0	3.9	9.0	4.1	7.1	2.2

(¹) 1961-91 D_90.

(²) Weighted in common currency; euro area; 1961-91 including D_90.

Table 37 (continued)

(national currency; annual percentage change)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-15 ⁽¹⁾	EU-25 ⁽²⁾	BG	RO	TR	HR	US	JP
1961-70	:	:	:	:	:	:	:	7.6	5.0	7.9	:	:	:	6.5	:	5.9	15.9
1971-80	:	:	:	:	:	:	:	3.8	4.5	5.5	:	:	:	3.7	:	7.2	9.4
1981	:	:	:	:	:	:	:	2.4	-0.8	4.1	:	:	:	63.5	:	1.2	11.7
1982	:	:	:	:	:	:	:	6.7	0.9	1.3	:	:	:	34.0	:	-7.6	0.0
1983	:	:	:	:	:	:	:	10.0	1.8	2.9	:	:	:	13.1	:	-2.6	3.1
1984	:	:	:	:	:	:	:	7.1	6.6	7.9	:	:	:	25.4	:	8.2	13.0
1985	:	:	:	:	:	:	:	1.2	5.9	4.6	:	:	:	-1.9	:	3.0	6.0
1986	:	:	:	:	:	:	:	3.4	4.3	1.1	:	:	:	-5.1	:	7.7	-6.2
1987	:	:	:	:	:	:	:	4.3	6.1	3.6	:	:	:	26.4	:	10.8	-0.8
1988	:	:	:	:	:	:	:	2.8	0.7	5.7	:	:	:	18.4	:	16.0	5.3
1989	:	:	:	:	:	:	:	3.2	4.5	7.8	:	:	:	-0.3	:	11.5	9.3
1990	:	:	:	:	:	:	:	1.8	5.5	6.9	:	:	:	2.6	:	9.0	6.7
1981-90	:	:	:	:	:	:	:	4.3	3.5	4.6	:	:	:	16.0	:	5.5	4.7
1991	:	:	-3.1	:	-1.7	-20.1	:	-1.9	-0.1	5.9	:	:	-18.5	3.7	:	6.6	4.1
1992	:	:	2.7	:	10.8	-23.5	:	2.2	4.3	3.4	:	:	4.1	11.0	:	6.9	3.9
1993	:	:	-10.3	:	3.2	0.6	0.7	8.3	4.4	1.5	:	:	10.6	7.7	:	3.2	-0.1
1994	:	:	13.6	:	13.1	12.3	14.8	14.1	9.2	9.1	:	:	19.0	15.2	:	8.7	3.6
1995	:	:	48.2	:	22.9	1.1	4.5	11.5	9.3	8.1	:	:	17.0	8.0	:	10.1	4.1
1996	20.2	19.3	12.1	-5.9	12.0	2.8	-1.1	3.7	8.6	4.9	5.1	11.8	2.0	22.0	9.8	8.4	6.4
1997	13.1	18.7	22.3	4.0	12.2	11.3	17.6	13.8	8.4	10.1	10.3	12.8	11.4	19.1	7.6	11.9	11.4
1998	4.9	4.6	17.6	8.1	14.3	7.4	12.8	8.6	2.8	6.7	7.0	-4.7	-1.7	12.0	3.9	2.4	-2.4
1999	-6.4	-16.8	12.2	8.2	-2.6	1.6	5.0	7.4	4.3	5.3	5.2	-5.0	10.5	-7.0	0.7	4.3	1.5
2000	12.0	9.8	21.0	5.6	23.2	13.0	13.7	11.5	9.4	11.7	12.1	16.6	23.4	19.2	12.0	8.7	12.4
1991-2000	:	:	12.7	:	10.4	-0.2	:	7.8	6.0	6.7	:	:	7.1	10.8	:	7.1	4.4
2001	6.9	21.2	7.8	-4.9	3.1	6.3	6.3	0.2	2.9	3.1	3.3	10.0	12.1	7.4	8.1	-5.4	-6.1
2002	6.3	19.5	3.7	4.8	4.8	6.7	5.5	1.2	0.1	1.6	1.8	7.0	17.6	11.1	1.3	-2.4	8.0
2003	4.3	6.9	7.6	-2.0	14.7	3.2	22.6	5.5	0.1	0.3	0.9	8.0	11.1	16.0	10.1	1.9	10.1
2004	11.9	9.7	12.3	2.0	13.3	8.6	13.1	10.2	2.5	6.2	6.6	11.1	17.9	12.0	6.9	8.7	15.7
2005	8.6	9.2	9.5	2.6	11.9	5.6	12.2	7.3	6.6	6.2	6.5	8.7	13.8	13.0	8.8	7.5	9.3
2006	7.7	8.9	8.2	3.1	10.4	6.7	14.3	6.5	6.1	5.9	6.1	8.5	12.5	13.2	9.7	7.7	8.9
2001-06	7.6	12.5	8.2	0.8	9.6	6.2	12.2	5.1	3.0	3.9	4.2	8.9	14.1	12.1	7.4	2.9	7.4

⁽¹⁾ Weighted in common currency; former EU-15; 1961-91 including D_90.⁽²⁾ Weighted in common currency.

Table 38

Foreign trade and current balance
Intra-EU exports of goods ⁽¹⁾
Foreign trade statistics

(percentage of gross domestic product at market prices)

	B/L	DE ⁽²⁾	EL	ES	FR	IE	IT	NL	AT	PT	FI	CZ	DK
1960	19.2	6.3	2.4	3.5	4.2	17.9	3.7	19.9	10.3	4.3	11.4	:	13.8
1965	26.7	9.0	2.5	2.2	5.4	17.7	6.0	22.7	9.7	6.4	10.1	:	14.8
1970	33.8	10.8	3.2	3.1	7.3	18.7	6.8	25.5	10.7	6.8	13.0	:	13.0
1975	33.2	11.9	5.1	3.5	8.3	28.4	8.6	29.1	10.0	7.0	10.6	:	14.4
1980	38.3	14.1	5.3	5.1	9.4	31.4	9.6	31.8	13.1	10.1	15.4	:	16.0
1981	39.1	14.6	4.3	5.0	9.2	28.6	9.1	34.7	13.1	9.1	13.4	:	16.3
1982	42.3	15.5	4.5	5.5	9.0	28.9	9.5	35.3	13.0	10.2	12.2	:	16.2
1983	43.9	15.0	5.7	6.3	9.4	31.2	9.1	35.8	13.0	12.8	12.4	:	16.4
1984	44.7	15.9	6.7	7.5	10.1	35.8	9.1	38.4	13.9	15.5	13.2	:	15.8
1985	44.8	16.8	6.3	7.6	10.3	35.9	9.6	39.5	14.7	15.9	12.4	:	15.9
1986	43.2	13.9	7.7	7.1	9.7	34.1	9.3	34.0	14.4	15.3	12.1	:	14.4
1987	42.7	16.1	8.1	7.4	10.0	37.2	9.3	32.2	14.8	16.4	12.8	:	14.4
1988	42.3	16.9	5.6	7.7	10.6	39.7	9.4	31.8	15.5	16.8	11.9	:	15.2
1989	46.8	18.1	7.6	7.5	12.1	42.2	9.8	38.3	16.7	18.1	11.7	:	17.6
1990	44.4	16.5	6.4	7.7	11.9	39.0	9.6	38.2	16.6	18.2	11.3	:	18.2
1991	43.3	14.3	6.4	7.9	12.3	39.1	9.2	38.8	15.9	16.4	11.3	:	18.7
1992	40.3	13.5	6.8	7.8	12.1	40.6	8.9	36.6	15.3	15.1	13.6	:	18.7
1993	39.8	11.4	5.3	8.3	10.8	41.3	9.7	33.6	13.6	14.3	15.0	:	18.0
1994	41.1	11.8	5.4	10.1	11.7	45.2	10.7	36.1	14.0	15.8	16.1	:	18.0
1995	41.0	12.4	5.7	11.4	12.2	49.8	12.2	34.4	15.8	16.9	17.9	:	18.8
1996	42.2	12.6	5.1	11.9	12.3	47.2	11.3	40.6	15.8	17.7	17.5	:	18.7
1997	46.9	13.5	4.7	12.3	13.3	45.9	11.3	43.5	17.7	18.2	18.0	:	19.3
1998	50.2	14.3	4.8	13.5	13.7	51.2	11.7	42.8	19.2	18.1	18.9	:	18.9
1999	54.5	16.7	5.4	12.7	14.6	50.2	12.5	44.8	23.3	17.9	21.5	39.0	20.5
2000	60.9	18.9	5.7	14.9	16.1	52.6	13.5	50.9	25.7	18.6	24.1	44.3	22.8
2001	63.3	19.4	4.4	14.8	15.6	51.4	13.3	48.8	27.0	18.1	21.5	46.8	22.5
2002	63.9	19.4	4.1	14.2	14.9	48.1	12.6	46.4	27.7	17.8	20.8	43.9	23.1
2003	62.7	19.9	4.2	13.8	14.4	37.9	11.8	45.8	28.0	17.2	19.8	46.7	22.2
2004	64.0	21.5	4.0	13.8	14.7	37.1	12.0	47.9	29.1	17.6	19.8	52.6	22.8
2005	65.4	22.5	4.0	13.8	15.2	37.1	12.4	50.4	30.0	18.0	19.9	56.3	23.5
2006	66.8	23.2	4.0	13.9	15.7	37.1	12.7	51.9	30.8	18.8	20.1	58.3	24.2

⁽¹⁾ 1960–98 former EU-15.

⁽²⁾ 1960–90 D_90.

Table 38 (continued)

(percentage of gross domestic product at market prices)

	EE	CY	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽¹⁾	EU-15 ⁽²⁾
1960	:	:	:	:	:	:	:	:	:	10.3	3.3	:	6.3
1965	:	:	:	:	:	:	:	:	:	10.4	4.7	:	8.1
1970	:	:	:	:	:	:	:	:	:	11.4	6.1	:	9.9
1975	:	:	:	:	:	:	:	:	:	12.4	7.8	:	11.3
1980	:	:	:	:	:	:	:	:	:	13.4	10.6	:	13.2
1981	:	:	:	:	:	:	:	:	:	12.9	9.7	:	13.0
1982	:	:	:	:	:	:	:	:	:	13.6	9.8	:	13.4
1983	:	:	:	:	:	:	:	:	:	15.3	10.3	:	13.6
1984	:	:	:	:	:	:	:	:	:	15.5	11.5	:	14.4
1985	:	:	:	:	:	:	:	:	:	14.9	11.9	:	14.8
1986	:	:	:	:	:	:	:	:	:	14.3	10.1	:	13.4
1987	:	:	:	:	:	:	:	:	:	14.4	10.3	:	14.0
1988	:	:	:	:	:	:	:	:	:	14.7	9.5	:	14.0
1989	:	:	:	:	:	:	:	:	:	14.6	9.8	:	15.1
1990	:	:	:	:	:	:	:	:	:	13.5	10.5	:	14.7
1991	:	:	:	:	:	:	:	:	:	12.3	10.6	:	14.1
1992	:	:	:	:	:	:	:	:	:	12.3	10.4	:	13.7
1993	:	:	:	:	:	:	:	:	:	14.0	10.0	:	13.1
1994	:	:	:	:	:	:	:	:	:	16.0	11.1	:	14.1
1995	:	:	:	:	:	:	:	:	:	19.3	12.2	:	15.0
1996	:	:	:	:	:	:	:	:	:	17.9	12.5	:	15.3
1997	:	:	:	:	:	:	:	:	:	18.6	11.7	:	15.9
1998	:	:	:	:	:	:	:	:	:	19.8	11.2	:	16.4
1999	37.1	2.6	18.6	18.7	42.9	24.8	13.5	29.4	44.3	21.1	11.3	18.0	17.8
2000	51.2	2.7	19.5	23.3	49.0	21.6	15.3	32.9	51.8	21.8	11.7	19.9	19.5
2001	45.1	2.5	19.0	26.0	47.5	24.9	15.6	33.0	53.9	20.3	11.4	19.8	19.4
2002	39.8	2.3	19.2	25.7	43.3	23.5	17.2	31.5	52.2	19.6	10.9	19.4	18.9
2003	40.9	2.2	20.5	23.7	42.3	22.5	20.7	30.7	56.7	19.7	10.0	19.1	18.5
2004	42.9	2.2	21.1	24.3	44.0	22.8	22.9	30.1	59.3	20.4	9.3	19.6	18.9
2005	39.6	2.2	21.2	25.1	45.1	23.2	24.1	29.8	62.9	21.0	9.4	20.3	19.5
2006	36.9	2.2	21.3	25.3	46.1	23.6	25.5	29.9	68.8	21.4	9.2	20.8	19.9

⁽¹⁾ 1960-90 including D_90.⁽²⁾ Former EU-15; 1960-90 including D_90.

Table 39

Foreign trade and current balance
Extra-EU exports of goods ⁽¹⁾
Foreign trade statistics

(percentage of gross domestic product at market prices)

	B/L	DE (2)	EL	ES	FR	IE	IT	NL	AT	PT	FI	CZ	DK
1960	12.4	9.3	3.1	2.5	6.7	4.1	5.5	12.5	7.0	6.7	7.7	:	10.5
1965	9.2	6.2	2.5	1.6	4.4	3.6	4.7	7.5	6.6	6.6	6.7	:	7.4
1970	9.4	7.4	2.5	2.9	5.0	5.6	5.5	7.8	8.4	6.1	7.8	:	7.6
1975	10.5	9.2	4.3	3.4	6.8	6.2	7.7	9.0	9.3	4.0	8.4	:	8.0
1980	12.4	9.1	5.4	4.3	7.5	8.8	7.6	9.6	8.9	5.3	11.6	:	8.8
1981	13.7	10.7	5.1	5.5	8.5	9.7	9.4	11.3	9.8	5.3	13.8	:	10.8
1982	14.3	10.8	4.6	5.5	8.1	9.6	8.8	10.5	9.6	4.9	12.2	:	10.4
1983	15.2	10.3	4.7	5.9	8.2	11.3	8.3	10.1	9.1	5.7	12.8	:	11.2
1984	16.9	11.3	4.9	6.9	9.0	13.5	8.6	11.7	10.0	7.3	12.8	:	12.4
1985	16.5	11.9	4.9	6.5	8.7	13.6	8.8	11.6	10.8	7.2	12.5	:	12.4
1986	13.5	9.3	4.0	4.3	7.1	11.5	6.8	9.4	9.0	5.2	10.9	:	10.5
1987	12.4	9.8	3.5	3.8	6.4	11.3	6.0	8.7	7.8	5.1	9.7	:	9.9
1988	13.8	9.5	2.7	3.6	6.6	11.8	5.9	11.0	8.0	4.4	8.6	:	9.4
1989	13.1	9.9	3.4	3.6	6.1	13.0	6.4	6.8	8.0	4.9	8.5	:	8.1
1990	11.8	9.3	3.2	3.2	5.8	11.1	5.8	6.0	8.4	4.7	8.1	:	7.3
1991	11.6	8.4	3.1	3.0	5.4	11.5	5.4	5.1	7.8	4.6	7.3	:	7.4
1992	11.1	7.8	2.7	2.8	5.4	11.7	5.5	4.8	7.4	4.0	8.3	:	9.2
1993	13.1	8.1	4.4	4.2	6.2	17.2	7.2	5.9	7.3	3.5	12.1	:	7.9
1994	16.9	8.6	3.4	4.4	6.0	16.9	7.8	5.8	8.0	4.1	13.4	:	8.1
1995	18.9	8.9	3.7	4.3	6.4	15.9	9.0	9.5	8.2	4.6	12.6	:	7.5
1996	18.6	9.4	4.5	4.8	6.2	17.7	9.0	9.8	8.7	3.6	12.5	:	7.0
1997	21.3	10.8	4.4	6.3	7.5	19.7	9.1	11.5	10.3	4.2	14.1	:	9.5
1998	20.1	11.0	4.0	4.7	7.1	22.9	8.6	11.4	9.5	3.4	13.6	:	8.9
1999	14.6	9.0	3.5	4.6	7.9	24.5	7.4	10.0	7.6	3.4	11.5	6.0	8.5
2000	18.2	10.6	4.7	5.6	8.9	28.8	8.9	11.9	9.2	4.2	14.2	7.8	9.6
2001	17.6	11.4	4.3	5.1	8.9	28.8	9.1	11.3	9.7	4.1	14.1	7.9	10.0
2002	20.4	11.5	3.7	4.9	8.1	24.9	8.7	11.5	10.0	4.0	13.3	8.0	10.1
2003	18.0	11.2	3.4	4.6	7.5	22.9	8.0	11.5	10.0	4.1	13.2	7.4	9.4
2004	17.6	12.5	2.9	4.7	7.5	22.2	8.6	13.1	10.7	4.5	13.2	6.6	10.1
2005	17.9	13.4	3.0	4.8	7.6	22.2	9.0	14.3	11.3	4.7	13.5	6.1	10.2
2006	18.7	13.9	3.0	5.0	7.8	21.9	9.2	14.8	11.7	4.4	13.4	5.9	9.9

(1) 1960-98 former EU-15.

(2) 1960-90 D_90.

Table 39 (continued)

(percentage of gross domestic product at market prices)

	EE	CY	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽¹⁾	EU-15 ⁽²⁾
1960	:	:	:	:	:	:	:	:	:	7.4	11.1	:	8.4
1965	:	:	:	:	:	:	:	:	:	6.9	8.6	:	6.1
1970	:	:	:	:	:	:	:	:	:	8.1	9.5	:	6.8
1975	:	:	:	:	:	:	:	:	:	10.5	11.2	:	8.4
1980	:	:	:	:	:	:	:	:	:	10.4	9.9	:	8.6
1981	:	:	:	:	:	:	:	:	:	11.1	10.3	:	9.7
1982	:	:	:	:	:	:	:	:	:	12.0	10.2	:	9.5
1983	:	:	:	:	:	:	:	:	:	13.3	9.6	:	9.4
1984	:	:	:	:	:	:	:	:	:	13.8	10.2	:	10.2
1985	:	:	:	:	:	:	:	:	:	13.8	10.1	:	10.3
1986	:	:	:	:	:	:	:	:	:	12.5	9.1	:	8.3
1987	:	:	:	:	:	:	:	:	:	11.9	8.8	:	8.0
1988	:	:	:	:	:	:	:	:	:	11.4	8.0	:	7.9
1989	:	:	:	:	:	:	:	:	:	10.8	8.6	:	7.8
1990	:	:	:	:	:	:	:	:	:	10.1	8.2	:	7.2
1991	:	:	:	:	:	:	:	:	:	9.4	7.3	:	6.7
1992	:	:	:	:	:	:	:	:	:	9.0	7.3	:	6.5
1993	:	:	:	:	:	:	:	:	:	11.1	8.7	:	7.6
1994	:	:	:	:	:	:	:	:	:	12.6	8.5	:	7.9
1995	:	:	:	:	:	:	:	:	:	12.8	8.9	:	8.6
1996	:	:	:	:	:	:	:	:	:	13.3	9.2	:	8.8
1997	:	:	:	:	:	:	:	:	:	14.8	9.3	:	9.8
1998	:	:	:	:	:	:	:	:	:	14.4	7.7	:	9.3
1999	6.2	1.9	5.4	6.7	9.2	25.9	3.2	10.9	5.8	12.7	7.3	8.2	8.3
2000	6.9	1.9	4.7	8.0	11.3	42.1	3.7	13.3	6.6	14.5	8.1	9.6	9.7
2001	10.4	2.2	5.2	9.4	11.2	22.5	3.8	14.4	6.4	14.2	7.7	9.6	9.8
2002	8.9	1.8	5.5	11.4	9.6	26.1	4.2	15.1	7.0	14.0	6.9	9.4	9.5
2003	8.7	1.5	5.4	14.2	9.8	23.6	4.9	15.2	10.3	14.0	7.0	9.0	9.1
2004	10.5	1.5	5.2	14.8	10.2	23.8	5.4	17.6	9.1	15.3	6.9	9.5	9.6
2005	16.8	1.5	5.1	15.2	10.4	24.3	5.7	17.8	9.1	15.9	7.3	9.9	10.0
2006	23.4	1.5	5.0	15.4	10.7	24.7	6.0	17.9	8.8	16.3	7.5	10.2	10.3

⁽¹⁾ 1960–90 including D_90.⁽²⁾ Former EU-15; 1960–90 including D_90.

Table 40

**Foreign trade and current balance
Imports of goods and services at current prices (national accounts)**

(percentage of gross domestic product at market prices)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1960	39.7	16.9	16.1	7.0	12.4	35.1	13.2	78.8	45.6	24.5	20.3	22.6	17.9	:	32.8	:	43.3
1965	43.3	18.2	18.9	13.3	12.3	41.3	12.5	85.4	43.3	25.1	27.0	21.4	18.5	:	30.1	:	40.4
1970	49.7	19.6	16.8	13.5	15.3	42.4	16.0	80.9	46.1	29.4	26.5	26.2	21.1	:	30.1	:	47.5
1975	53.0	22.4	23.3	16.4	17.9	45.9	20.4	94.1	46.1	30.5	28.1	28.9	24.2	:	30.1	:	56.7
1980	61.0	27.7	27.8	17.2	22.8	59.3	24.5	95.3	52.7	38.1	36.0	33.0	29.1	:	33.3	:	63.1
1981	64.7	28.7	28.3	19.0	23.8	58.9	25.2	95.6	54.1	38.8	38.8	31.1	30.0	:	35.3	:	63.3
1982	68.9	28.1	27.1	19.4	24.0	52.1	23.9	96.8	52.8	35.2	38.6	29.5	29.5	:	35.4	:	64.2
1983	69.1	27.7	27.2	20.6	22.8	51.9	21.2	96.2	52.8	34.9	37.8	29.5	28.6	:	33.9	:	64.0
1984	73.5	29.2	26.5	20.1	23.9	56.2	22.8	106.1	56.2	37.8	38.7	27.9	30.0	:	35.2	:	67.1
1985	70.7	29.8	26.7	19.9	23.9	54.8	23.0	110.4	58.0	39.6	35.5	28.1	30.1	:	36.1	:	58.8
1986	63.4	25.7	27.4	17.0	20.6	49.4	18.5	100.5	48.8	35.2	30.8	25.2	25.9	:	32.5	:	48.7
1987	62.2	24.8	26.6	18.5	20.7	49.7	18.7	102.4	48.5	34.8	35.4	25.3	25.8	:	29.5	:	50.2
1988	65.7	25.4	25.6	19.3	21.2	51.4	18.7	102.3	49.6	34.7	39.1	24.9	26.3	:	30.3	:	53.6
1989	70.7	27.3	27.3	20.6	22.6	55.5	19.9	101.5	52.7	36.7	38.9	25.7	27.9	:	32.0	:	59.9
1990	68.9	27.4	27.9	19.7	22.2	52.4	19.7	100.3	50.8	36.8	39.5	24.3	27.5	39.6	30.8	:	57.0
1991		28.9											27.4				
1991	67.2	26.5	26.8	19.6	22.0	52.9	18.6	101.4	50.7	36.2	37.2	22.8	26.7	42.5	31.3	:	57.1
1992	64.8	24.8	26.3	19.7	21.0	53.2	19.1	95.6	49.0	34.9	35.0	25.3	26.0	50.1	29.9	:	60.6
1993	60.9	22.6	25.3	19.1	19.2	55.4	19.0	94.0	47.0	32.5	33.6	27.4	24.8	50.3	28.6	70.2	47.8
1994	63.1	23.3	23.9	21.2	20.1	60.9	20.4	95.2	48.9	34.4	35.2	29.1	26.1	49.4	30.1	82.0	47.9
1995	64.8	23.8	24.9	22.8	21.1	65.1	23.0	96.8	51.5	35.4	36.4	28.8	27.5	54.3	31.4	76.0	58.9
1996	66.6	24.3	25.5	23.4	21.4	66.1	20.9	99.8	52.2	36.7	36.4	29.8	27.5	55.4	30.9	73.7	62.4
1997	70.3	26.5	27.0	25.7	22.5	67.2	22.3	105.8	55.2	39.5	38.2	30.8	29.5	58.0	33.0	84.3	61.8
1998	71.1	27.5	28.2	27.2	23.5	74.9	22.9	112.5	55.5	40.3	39.7	29.8	30.6	56.2	33.8	84.6	61.3
1999	71.4	28.8	31.0	28.8	23.7	74.7	23.5	119.7	55.9	40.9	40.1	29.3	31.5	57.7	33.3	76.8	57.7
2000	82.4	33.4	36.0	32.3	27.3	84.5	27.3	131.0	62.2	44.1	42.8	33.7	36.2	67.5	38.1	92.1	62.0
2001	82.3	33.2	32.2	31.5	26.3	83.4	27.0	135.7	59.9	45.3	40.8	31.6	35.6	69.0	38.2	87.4	61.6
2002	79.2	31.6	29.3	30.0	25.2	77.0	26.0	125.0	57.7	43.6	38.0	30.3	34.0	63.6	38.7	81.2	59.0
2003	77.7	31.8	28.8	29.4	24.6	68.2	24.9	118.7	56.5	44.3	36.8	30.7	33.4	65.0	36.8	83.0	53.4
2004	78.1	33.0	29.8	30.2	25.3	67.2	25.6	120.6	59.6	45.5	39.2	31.2	34.4	69.8	38.2	84.6	53.1
2005	79.8	34.9	29.5	31.1	26.4	68.2	26.5	122.9	62.7	47.2	39.7	31.5	35.8	73.0	39.2	87.4	52.4
2006	82.2	36.8	28.8	31.8	27.2	68.7	27.1	123.9	64.3	48.6	40.2	31.8	36.9	74.5	39.6	90.8	51.4

(¹) 1960-91 D₉₀.

(²) Euro area; 1960-91 including D₉₀.

Table 40 (continued)

(percentage of gross domestic product at market prices)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽¹⁾	EUR-15 ⁽²⁾	BG	RO	TR	HR	US	JP
1960	:	:	65.2	:	:	:	:	22.8	21.4	:	19.2	:	:	5.8	:	4.4	10.2
1965	:	:	66.3	:	:	:	:	21.9	19.4	:	19.0	:	:	5.1	:	4.5	9.1
1970	:	:	74.4	:	:	:	:	23.9	21.5	:	21.4	:	:	5.8	:	5.4	9.5
1975	:	:	90.0	:	:	:	:	27.4	27.1	:	24.8	:	:	11.3	:	7.6	12.7
1980	:	:	41.2	90.1	30.2	:	:	30.7	24.9	:	28.6	:	22.2	11.8	:	10.6	14.5
1981	:	:	40.6	84.0	24.6	:	:	29.6	23.8	:	29.1	:	25.1	12.6	:	10.2	13.9
1982	:	:	37.2	79.8	16.9	:	:	32.4	24.4	:	28.9	:	18.5	14.6	:	9.4	13.7
1983	:	:	38.3	76.8	15.0	:	:	33.1	25.6	:	28.4	:	18.6	16.2	:	9.4	12.1
1984	:	:	37.9	79.7	15.3	:	:	32.3	28.5	:	29.9	:	20.1	19.3	:	10.4	12.3
1985	:	:	40.1	82.5	16.4	:	:	33.1	27.8	:	30.0	:	20.0	18.6	:	10.0	10.9
1986	:	:	41.1	76.9	16.3	:	:	29.2	26.5	:	26.3	:	18.1	15.9	:	10.2	7.3
1987	:	:	38.3	81.8	18.5	:	:	30.1	26.6	:	26.1	:	17.8	17.8	:	10.8	7.3
1988	:	:	34.1	83.3	19.5	:	:	30.0	26.6	:	26.5	:	15.7	17.6	:	11.0	7.7
1989	:	:	32.7	86.0	14.5	:	:	30.8	27.8	:	28.1	:	18.2	17.8	:	10.9	8.8
1990	44.3	60.6	28.5	92.4	20.1	78.5	35.5	29.1	26.6	:	27.5	:	26.2	17.6	:	11.0	9.5
1991										27.0							
1991	23.0	21.1	33.7	91.6	23.8	74.2	49.3	25.8	24.2	:	26.4	39.2	21.5	16.6	:	10.5	8.4
1992	66.0	19.9	31.7	92.5	20.7	56.2	74.3	25.6	24.8	:	25.9	52.9	36.2	17.3	:	10.6	7.7
1993	51.4	90.4	34.6	98.1	20.5	57.7	61.0	28.2	26.5	25.5	25.2	45.8	28.0	19.3	:	10.9	6.9
1994	40.1	61.4	35.4	99.8	20.1	57.8	54.2	30.9	27.2	26.7	26.5	45.7	27.0	20.4	45.9	11.6	7.0
1995	44.9	61.0	44.7	100.4	21.5	53.6	55.8	32.5	28.8	28.3	27.9	46.3	33.2	24.4	49.5	12.3	7.7
1996	54.2	61.8	48.0	94.3	24.2	53.2	64.6	31.3	29.8	28.5	28.0	50.0	36.6	27.8	49.7	12.4	9.2
1997	54.7	63.4	54.1	87.3	27.9	54.4	66.4	34.2	28.6	30.2	29.6	53.7	36.2	30.4	56.8	12.8	9.7
1998	59.6	57.2	63.4	87.1	31.4	54.6	70.4	36.2	27.8	31.0	30.4	46.8	30.6	27.9	49.2	12.8	8.9
1999	49.9	49.2	67.0	89.9	30.6	53.5	65.7	36.5	28.2	31.8	31.1	50.3	32.9	26.9	49.3	13.6	8.5
2000	50.4	51.2	77.8	103.3	34.4	59.7	73.3	40.3	30.1	36.0	35.2	61.1	38.5	31.5	52.3	15.1	9.4
2001	51.8	55.4	74.3	86.0	31.4	58.3	81.5	39.6	30.2	35.5	34.8	63.1	41.1	31.3	54.5	13.9	9.8
2002	51.2	58.7	66.3	83.4	33.0	56.1	78.9	37.5	29.2	34.1	33.3	59.8	41.2	30.7	54.7	13.7	9.9
2003	55.1	57.6	66.2	82.2	36.9	56.5	79.5	37.1	28.2	33.6	32.7	63.0	44.1	30.7	56.8	14.1	10.2
2004	57.7	61.3	68.3	83.7	39.8	59.2	81.9	37.8	27.7	34.5	33.4	64.5	47.1	32.7	57.1	15.3	11.3
2005	58.4	63.7	69.4	84.4	41.8	59.8	86.6	39.5	28.1	35.8	34.6	66.4	48.7	37.3	57.6	15.9	12.3
2006	59.0	63.9	70.4	84.8	44.1	60.3	92.5	40.7	28.6	36.9	35.6	66.2	49.5	41.1	57.2	16.2	12.7

⁽¹⁾ 1960-91 including D_90.⁽²⁾ Former EU-15; 1960-91 including D_90.

Table 41

**Foreign trade and current balance
Imports of goods and services at 1995 prices**

(national currency; annual percentage change)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1961-70	8.5	9.9	11.3	18.5	10.2	9.8	11.3	6.1	9.8	8.3	11.3	7.8	10.1	:	7.6	:	:
1971-80	5.0	5.4	8.0	6.3	5.8	6.5	4.6	3.5	4.1	7.1	4.9	4.3	5.3	:	2.4	:	:
1981	-1.9	-2.6	6.5	-3.6	-1.9	1.7	-1.6	-2.9	-6.1	0.3	2.3	-3.7	-2.3	:	-0.2	:	:
1982	1.4	-0.4	-2.6	4.9	2.0	-3.1	0.5	-0.3	0.0	-5.3	3.9	2.2	0.5	:	4.7	:	:
1983	-1.2	2.5	2.6	-1.2	-3.4	4.7	-2.4	1.2	3.9	3.5	-6.1	4.3	0.2	:	1.0	:	:
1984	6.4	4.7	-2.1	-1.3	3.5	9.9	12.4	13.9	5.3	9.0	-4.4	1.4	5.4	:	5.7	:	:
1985	0.4	3.8	4.4	7.5	4.2	3.2	5.3	7.0	6.5	6.4	1.4	6.4	4.4	:	9.7	:	:
1986	4.6	3.1	13.9	17.2	6.5	6.3	4.0	1.7	4.2	-6.0	16.9	2.9	4.9	:	9.5	:	:
1987	6.8	4.7	2.1	24.8	7.7	6.2	12.2	7.3	3.7	4.8	23.1	9.4	7.8	:	-3.1	:	:
1988	10.4	5.7	7.3	16.1	8.8	4.9	5.9	10.5	6.4	5.3	18.0	10.6	7.7	:	8.3	:	:
1989	9.7	8.5	10.5	17.7	8.0	13.5	8.9	9.1	7.7	9.6	5.9	9.1	9.2	:	4.1	:	:
1990	4.9	10.7	8.4	9.6	5.5	5.1	11.5	5.0	3.8	7.6	14.5	-0.6	8.0	:	1.2	:	:
1981-90	4.0	4.0	5.0	8.8	4.0	5.1	5.5	5.1	3.5	3.4	7.1	4.1	4.5	:	4.0	:	:
1991	2.9	12.2	5.8	10.3	3.1	2.4	2.3	9.1	4.9	4.6	7.2	-12.9	6.1	-32.8	3.0	:	:
1992	4.1	1.5	1.1	6.8	1.8	8.2	7.4	-3.1	1.5	1.6	10.7	0.5	3.2	29.7	-0.4	:	:
1993	-0.4	-5.5	0.6	-5.2	-3.7	7.5	-10.9	5.2	0.3	-4.8	-3.3	1.5	-4.3	23.8	-2.7	:	:
1994	7.3	7.4	1.5	11.4	8.2	15.5	8.1	6.7	9.4	10.2	8.8	12.4	8.4	14.7	12.3	11.1	:
1995	4.7	5.6	8.9	11.1	8.0	16.4	9.7	4.2	10.5	6.0	7.4	7.4	7.7	21.2	7.5	6.4	32.1
1996	2.6	3.1	7.0	8.0	1.6	12.5	-0.3	7.6	4.4	5.0	4.9	5.9	3.3	12.1	3.5	7.5	6.6
1997	5.1	8.3	14.2	13.3	6.9	16.7	10.1	13.9	9.5	7.8	10.0	11.2	8.9	7.0	10.0	29.3	1.2
1998	7.3	9.1	9.2	13.2	11.6	26.0	8.9	15.3	8.5	5.6	14.2	7.9	10.0	8.4	8.9	12.3	7.7
1999	4.2	8.4	15.0	12.6	6.2	12.1	5.6	14.6	5.8	5.0	8.5	3.5	7.4	5.0	5.5	-5.2	-1.6
2000	8.5	10.6	15.1	10.5	14.6	21.3	7.1	15.4	10.5	10.1	5.5	16.9	11.1	16.2	13.5	28.3	9.0
1991-2000	4.6	5.9	7.7	9.1	5.7	13.7	4.6	8.7	6.5	5.0	7.3	5.1	6.1	9.0	6.0	:	:
2001	1.0	1.0	-5.2	3.9	1.3	6.7	0.5	3.7	2.2	5.0	1.1	0.2	1.6	12.9	3.4	2.1	3.8
2002	1.0	-1.6	-2.9	3.1	2.9	3.3	-0.2	-2.6	0.8	-0.2	-0.3	1.9	0.5	4.9	7.3	3.7	1.5
2003	2.3	4.0	4.8	4.8	-0.1	-2.3	-0.6	1.6	0.6	4.8	-0.9	0.9	1.9	7.8	-0.6	11.0	-1.2
2004	3.9	6.6	9.4	7.2	7.8	5.3	4.9	6.0	6.3	5.0	7.8	2.0	6.2	15.0	6.4	9.1	2.8
2005	5.4	7.1	4.5	7.3	6.9	6.5	6.1	6.2	6.1	5.6	5.5	3.5	6.5	10.7	5.6	9.7	4.8
2006	6.1	6.9	3.9	7.5	7.0	6.1	5.9	6.0	5.7	6.1	6.1	4.0	6.5	7.2	4.4	10.2	4.8
2001-06	3.3	4.0	2.3	5.6	4.3	4.2	2.7	3.4	3.6	4.4	3.2	2.1	3.8	9.7	4.4	7.6	2.7

(¹) 1961-91 D_90.

(²) Weighted in common currency; euro area; 1961-91 including D_90.

Table 41 (continued)

(national currency; annual percentage change)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-15 ⁽¹⁾	EU-25 ⁽²⁾	BG	RO	TR	HR	US	JP
1961-70	:	:	:	:	:	:	:	7.2	4.2	8.7	:	:	:	7.0	:	7.5	14.5
1971-80	:	:	:	:	:	:	:	2.4	3.7	4.8	:	:	:	8.3	:	3.8	5.4
1981	:	:	:	:	:	:	:	-5.3	-2.8	-2.5	:	:	:	12.5	:	2.6	1.4
1982	:	:	:	:	:	:	:	4.6	4.9	1.4	:	:	:	8.3	:	-1.3	0.9
1983	:	:	:	:	:	:	:	1.2	6.5	1.2	:	:	:	16.9	:	12.6	-3.0
1984	:	:	:	:	:	:	:	5.7	9.9	6.1	:	:	:	19.7	:	24.3	10.3
1985	:	:	:	:	:	:	:	8.0	2.5	4.4	:	:	:	-6.6	:	6.5	1.1
1986	:	:	:	:	:	:	:	3.8	6.9	5.3	:	:	:	-3.5	:	8.6	1.6
1987	:	:	:	:	:	:	:	7.6	7.9	7.5	:	:	:	23.0	:	5.9	13.6
1988	:	:	:	:	:	:	:	4.5	12.8	8.4	:	:	:	-4.5	:	3.9	18.5
1989	:	:	:	:	:	:	:	7.7	7.4	8.8	:	:	:	6.9	:	4.4	16.9
1990	:	:	:	:	:	:	:	0.7	0.5	6.4	:	:	:	33.0	:	3.6	7.8
1981-90	:	:	:	:	:	:	:	3.8	5.6	4.6	:	:	:	9.9	:	6.9	6.7
1991	:	:	5.4	:	29.7	-22.4	:	-4.9	-4.5	4.1	:	:	-31.8	-5.2	:	-0.6	-1.1
1992	:	:	0.7	:	1.8	-22.9	:	1.5	6.8	3.6	:	:	1.3	10.9	:	6.9	-0.7
1993	:	:	20.0	:	13.1	17.6	0.2	-2.2	3.3	-3.2	:	:	4.4	35.8	:	8.8	-1.4
1994	:	:	8.8	:	11.3	13.1	-4.7	12.2	5.8	8.2	:	:	-1.2	-21.9	:	11.9	7.9
1995	:	:	22.3	:	24.2	11.3	11.6	7.2	5.6	7.4	:	:	29.7	29.6	:	8.0	12.5
1996	28.5	23.3	9.4	-5.9	28.0	2.3	19.7	3.0	9.7	4.2	4.7	-1.9	8.7	20.5	6.8	8.7	13.1
1997	6.8	25.0	23.1	-1.7	21.4	11.5	14.2	12.5	9.8	9.2	9.5	10.9	7.5	22.4	25.1	13.6	1.0
1998	19.0	6.2	23.8	2.5	18.5	10.3	16.5	11.3	9.3	9.9	10.2	12.1	11.3	2.3	-4.9	11.6	-6.6
1999	-5.2	-12.4	13.3	10.1	1.0	8.0	-6.7	4.9	7.9	7.4	7.1	9.3	-1.5	-3.7	-3.5	11.5	3.3
2000	4.9	4.7	19.4	10.4	15.6	7.6	10.5	11.3	9.1	10.8	11.1	18.6	27.1	25.4	3.7	13.1	9.2
1991-2000	:	:	14.3	:	16.1	2.6	:	5.5	6.2	6.1	:	:	4.2	10.2	:	9.3	3.5
2001	12.6	17.7	5.1	-8.7	-5.3	3.0	11.0	-2.5	4.9	2.0	2.1	14.8	18.4	-24.8	9.8	-2.7	0.1
2002	4.5	17.6	6.2	-2.3	2.6	4.9	5.2	-1.9	4.1	1.1	1.4	4.9	12.0	15.8	8.8	3.4	2.0
2003	13.1	10.2	10.4	7.0	9.3	6.8	13.8	5.0	1.3	1.8	2.3	14.8	16.3	27.1	10.9	4.4	5.0
2004	14.3	13.4	12.1	1.6	11.6	9.7	13.1	5.8	4.5	6.0	6.4	13.8	18.9	23.3	5.6	10.0	8.9
2005	10.4	10.6	8.7	1.8	12.6	6.5	12.8	8.3	5.2	6.3	6.6	12.8	13.6	16.0	6.4	6.1	6.9
2006	9.2	8.8	8.2	2.0	12.6	7.2	13.6	7.6	5.1	6.3	6.5	8.4	11.8	16.8	6.7	5.7	7.9
2001-06	10.6	13.0	8.4	0.1	7.0	6.3	11.6	3.6	4.2	3.9	4.2	11.5	15.1	10.8	8.0	4.4	5.1

⁽¹⁾ Weighted in common currency; former EU-15; 1961-91 including D_90.⁽²⁾ Weighted in common currency.

Table 42

Foreign trade and current balance
Intra-EU imports of goods ⁽¹⁾
Foreign trade statistics

(percentage of gross domestic product at market prices)

	B/L	DE ⁽²⁾	EL	ES	FR	IE	IT	NL	AT	PT	FI	CZ	DK
1960	18.8	5.5	8.5	2.3	3.5	20.9	4.4	19.8	:	9.5	:	:	16.1
1965	24.1	8.1	10.0	6.1	5.0	25.2	4.7	23.6	14.8	11.5	12.0	:	18.0
1970	29.2	9.1	9.9	5.1	7.6	27.8	7.1	25.4	16.3	12.5	14.7	:	18.6
1975	32.9	10.0	10.8	5.3	8.4	30.3	8.5	22.7	16.0	10.6	14.8	:	17.5
1980	37.2	12.3	9.6	4.9	10.3	39.6	11.0	25.0	20.0	15.1	14.3	:	19.0
1981	38.1	12.9	10.5	5.0	10.3	39.6	10.1	25.1	18.9	16.5	12.7	:	19.0
1982	41.7	12.9	10.9	5.5	11.0	34.5	10.0	25.4	18.2	17.3	12.5	:	19.3
1983	44.3	13.1	11.6	6.1	11.0	32.6	9.2	25.5	18.3	15.8	12.2	:	18.7
1984	46.6	13.7	12.0	6.2	11.6	34.2	9.9	27.7	19.0	15.7	12.2	:	19.4
1985	46.6	14.2	12.6	6.5	11.8	33.3	10.7	30.2	19.9	15.0	12.5	:	19.8
1986	42.8	12.4	14.3	7.5	10.9	29.2	9.9	27.6	19.4	16.5	12.4	:	18.3
1987	41.9	12.1	14.8	8.8	11.2	28.2	10.0	27.4	19.2	20.5	13.0	:	16.5
1988	42.8	12.2	12.4	9.7	11.5	29.5	10.2	28.0	19.6	24.6	11.4	:	16.0
1989	44.8	13.0	15.7	10.4	13.9	33.1	10.7	30.0	22.3	24.6	13.9	:	17.3
1990	44.1	13.3	15.9	10.3	13.6	32.0	10.2	29.3	22.5	24.7	13.2	:	16.8
1991	43.3	13.6	15.2	10.3	13.6	31.2	9.7	28.3	22.0	24.3	11.6	:	17.0
1992	40.1	12.6	15.9	10.2	13.1	30.2	9.6	27.6	20.9	23.7	13.2	:	16.5
1993	36.9	10.3	14.8	10.1	11.4	28.5	8.9	25.0	19.0	20.9	13.6	:	15.6
1994	37.5	10.8	14.6	11.7	12.3	30.8	10.0	26.5	19.9	21.9	14.4	:	16.7
1995	39.1	11.4	15.4	13.3	12.7	31.5	11.4	23.5	21.0	22.3	14.8	:	18.3
1996	41.2	11.6	14.6	13.8	12.9	31.3	10.3	28.5	21.5	24.0	16.1	:	17.5
1997	42.9	12.5	14.4	13.6	13.3	30.2	11.0	29.6	23.1	25.1	16.6	:	18.6
1998	43.8	12.9	16.3	16.4	14.3	30.6	11.3	28.8	23.9	26.7	16.7	:	19.1
1999	47.2	14.7	16.6	15.7	14.9	30.8	12.1	29.5	27.3	27.3	17.4	36.9	19.4
2000	54.1	16.6	18.5	18.7	17.3	33.9	13.2	31.2	29.6	28.6	19.2	43.0	20.7
2001	55.8	16.8	13.5	18.1	16.7	32.7	13.0	29.1	30.9	27.5	18.7	44.3	20.6
2002	57.5	16.0	12.7	17.2	15.5	29.0	12.6	28.6	29.9	26.3	18.1	39.6	21.7
2003	55.5	16.4	14.0	17.0	15.3	22.0	12.0	27.9	31.4	24.0	18.0	40.6	19.9
2004	57.0	17.0	13.6	17.3	15.9	21.5	12.2	29.4	32.1	24.9	18.0	43.2	20.7
2005	58.5	17.8	13.7	17.7	16.8	21.5	12.5	30.8	33.5	25.1	18.0	44.6	21.5
2006	60.3	18.6	13.9	18.3	17.3	21.2	12.7	31.6	34.8	25.3	18.2	45.1	22.5

⁽¹⁾ 1960-98 former EU-15.

⁽²⁾ 1960-90 D_90.

Table 42 (continued)

(percentage of gross domestic product at market prices)

	EE	CY	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽¹⁾	EU-15 ⁽²⁾
1960	:	:	:	:	:	:	:	:	:	:	3.9	:	:
1965	:	:	:	:	:	:	:	:	:	12.1	5.2	:	8.3
1970	:	:	:	:	:	:	:	:	:	12.9	6.2	:	10.1
1975	:	:	:	:	:	:	:	:	:	14.8	10.3	:	11.5
1980	:	:	:	:	:	:	:	:	:	15.2	10.6	:	13.2
1981	:	:	:	:	:	:	:	:	:	14.2	10.1	:	13.0
1982	:	:	:	:	:	:	:	:	:	15.6	10.7	:	13.3
1983	:	:	:	:	:	:	:	:	:	16.5	11.6	:	13.6
1984	:	:	:	:	:	:	:	:	:	16.4	12.9	:	14.3
1985	:	:	:	:	:	:	:	:	:	17.3	12.9	:	14.8
1986	:	:	:	:	:	:	:	:	:	15.4	13.0	:	13.8
1987	:	:	:	:	:	:	:	:	:	15.8	13.1	:	13.9
1988	:	:	:	:	:	:	:	:	:	15.5	13.2	:	14.0
1989	:	:	:	:	:	:	:	:	:	15.8	13.2	:	15.1
1990	:	:	:	:	:	:	:	:	:	14.8	12.6	:	14.8
1991	:	:	:	:	:	:	:	:	:	12.8	11.1	:	14.3
1992	:	:	:	:	:	:	:	:	:	12.5	11.4	:	14.0
1993	:	:	:	:	:	:	:	:	:	14.2	11.6	:	12.8
1994	:	:	:	:	:	:	:	:	:	15.9	12.2	:	13.7
1995	:	:	:	:	:	:	:	:	:	18.0	12.9	:	14.5
1996	:	:	:	:	:	:	:	:	:	16.9	13.1	:	14.7
1997	:	:	:	:	:	:	:	:	:	18.0	12.5	:	15.2
1998	:	:	:	:	:	:	:	:	:	19.1	12.1	:	15.8
1999	45.2	18.8	30.9	25.7	41.3	48.1	20.0	36.3	41.3	19.4	12.1	17.2	16.7
2000	54.9	20.5	30.6	25.1	44.7	53.6	20.2	40.5	44.1	20.7	12.2	19.0	18.4
2001	47.6	21.4	32.2	27.2	42.0	42.5	18.7	39.5	50.7	20.1	12.1	18.7	18.2
2002	46.7	20.7	33.7	30.1	36.9	44.1	20.0	37.6	49.5	19.6	12.1	18.2	17.6
2003	46.2	18.8	35.3	29.2	36.4	44.9	22.5	37.7	51.1	19.8	12.1	18.1	17.4
2004	39.2	18.9	37.0	31.3	37.8	46.0	24.5	37.6	53.5	20.3	12.0	18.6	17.8
2005	36.2	18.7	37.0	32.7	38.7	46.6	26.0	37.7	57.7	21.2	12.1	19.2	18.4
2006	33.5	18.3	36.9	32.8	39.6	47.0	27.7	38.2	63.0	21.8	12.2	19.8	19.0

⁽¹⁾ 1960-90 including D_90.⁽²⁾ Former EU-15; 1960-90 including D_90.

Table 43

**Foreign trade and current balance
Extra-EU imports of goods ⁽¹⁾
Foreign trade statistics**

(percentage of gross domestic product at market prices)

	B/L	DE ⁽²⁾	EL	ES	FR	IE	IT	NL	AT	PT	FI	CZ	DK
1960	14.2	8.3	10.2	3.5	6.4	11.6	7.3	16.6	:	8.7	:	:	13.4
1965	11.8	6.9	7.1	6.1	5.1	10.1	6.2	11.8	6.6	9.2	7.3	:	9.1
1970	13.2	6.7	7.5	6.9	5.4	9.1	6.8	12.5	7.5	8.8	9.2	:	8.4
1975	13.6	7.4	11.1	9.2	7.0	10.8	9.4	16.0	8.1	11.1	11.6	:	9.2
1980	19.2	10.1	12.1	10.5	9.5	13.2	11.1	18.7	10.6	16.1	15.4	:	9.3
1981	20.9	10.6	9.0	11.6	9.9	13.1	12.2	19.8	11.6	17.6	14.8	:	10.6
1982	21.1	10.2	10.5	11.4	9.5	12.1	11.4	18.6	10.1	17.0	13.5	:	9.6
1983	18.3	9.7	10.7	11.9	8.6	12.8	10.1	18.3	9.5	17.0	13.6	:	9.2
1984	19.2	10.5	10.8	11.4	8.8	15.3	10.4	19.8	10.8	19.1	11.8	:	10.0
1985	17.6	10.5	12.1	10.8	8.4	14.8	10.5	18.6	11.1	16.2	11.7	:	10.4
1986	13.7	8.4	9.0	7.2	6.5	12.6	6.6	13.1	8.6	10.9	9.1	:	8.6
1987	13.4	7.9	8.6	7.3	6.3	13.1	6.5	12.9	8.1	12.8	9.2	:	7.6
1988	13.3	8.3	6.4	7.2	6.9	13.3	6.3	13.2	8.1	9.3	8.5	:	7.5
1989	14.2	9.1	8.0	7.6	5.7	13.2	6.9	13.7	7.2	9.9	7.3	:	7.1
1990	13.0	8.9	7.5	6.9	5.6	11.9	6.3	12.5	7.3	10.3	6.4	:	6.6
1991	12.9	8.3	8.6	7.3	5.3	12.1	6.0	13.1	7.4	8.7	6.0	:	6.7
1992	11.9	7.5	7.6	6.4	4.7	11.6	5.5	11.2	6.8	7.6	6.1	:	7.4
1993	12.6	7.2	8.7	6.3	4.5	14.7	6.0	9.9	6.3	7.3	7.3	:	5.6
1994	15.2	7.4	6.9	6.6	4.9	15.1	6.3	10.9	7.2	7.9	8.7	:	5.6
1995	14.6	7.5	6.6	6.5	5.2	16.7	7.3	15.4	6.7	8.5	6.9	:	5.1
1996	14.6	7.6	8.2	6.2	4.9	16.6	6.5	17.4	6.9	6.5	6.9	:	4.9
1997	21.4	8.6	7.8	8.3	6.1	18.4	6.8	20.9	7.6	7.9	7.7	:	7.6
1998	22.5	9.0	8.5	5.7	5.6	19.9	6.7	20.8	7.4	6.1	7.4	:	7.5
1999	17.7	7.7	7.7	6.8	6.9	18.2	6.6	22.2	6.1	7.4	7.7	11.4	7.0
2000	21.8	9.9	10.9	9.0	8.5	19.7	8.9	27.5	7.6	8.9	9.5	14.3	8.0
2001	21.4	9.4	10.7	8.3	8.2	16.2	8.6	25.1	7.8	8.4	8.2	15.3	7.8
2002	21.2	8.6	10.7	7.8	7.3	14.3	8.1	23.5	7.5	6.7	7.8	15.2	7.4
2003	19.9	8.6	11.2	7.6	6.8	13.2	7.8	23.4	7.5	6.6	8.4	16.3	7.2
2004	19.1	9.3	12.3	8.0	6.9	12.9	8.6	25.1	8.1	7.9	8.9	18.4	7.6
2005	19.7	10.1	11.9	8.3	7.1	12.8	9.0	26.8	8.5	8.2	9.3	20.4	7.8
2006	20.6	10.7	11.1	8.3	7.3	12.5	9.3	27.6	8.8	8.3	9.4	21.3	7.1

⁽¹⁾ 1960-98 former EU-15.

⁽²⁾ 1960-90 D_90.

Table 43 (continued)

(percentage of gross domestic product at market prices)

	EE	CY	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽¹⁾	EU-15 ⁽²⁾
1960	:	:	:	:	:	:	:	:	:	:	13.5	:	:
1965	:	:	:	:	:	:	:	:	:	7.0	10.8	:	7.6
1970	:	:	:	:	:	:	:	:	:	7.2	11.3	:	7.9
1975	:	:	:	:	:	:	:	:	:	9.0	12.8	:	9.4
1980	:	:	:	:	:	:	:	:	:	10.5	11.0	:	11.3
1981	:	:	:	:	:	:	:	:	:	10.1	10.0	:	11.6
1982	:	:	:	:	:	:	:	:	:	10.8	9.9	:	11.2
1983	:	:	:	:	:	:	:	:	:	10.7	10.2	:	10.6
1984	:	:	:	:	:	:	:	:	:	10.0	11.3	:	11.2
1985	:	:	:	:	:	:	:	:	:	9.6	10.8	:	10.9
1986	:	:	:	:	:	:	:	:	:	7.7	9.6	:	8.3
1987	:	:	:	:	:	:	:	:	:	8.1	9.3	:	8.1
1988	:	:	:	:	:	:	:	:	:	8.2	9.5	:	8.2
1989	:	:	:	:	:	:	:	:	:	8.2	10.5	:	8.5
1990	:	:	:	:	:	:	:	:	:	7.4	9.8	:	8.0
1991	:	:	:	:	:	:	:	:	:	6.6	9.2	:	7.7
1992	:	:	:	:	:	:	:	:	:	6.2	9.2	:	7.1
1993	:	:	:	:	:	:	:	:	:	7.0	9.7	:	7.1
1994	:	:	:	:	:	:	:	:	:	8.2	9.4	:	7.5
1995	:	:	:	:	:	:	:	:	:	8.0	10.3	:	8.0
1996	:	:	:	:	:	:	:	:	:	7.7	10.7	:	8.0
1997	:	:	:	:	:	:	:	:	:	8.5	10.4	:	9.2
1998	:	:	:	:	:	:	:	:	:	8.4	9.7	:	8.9
1999	16.6	13.4	10.1	17.1	17.1	24.7	7.9	11.2	14.3	7.9	10.1	8.9	8.8
2000	23.1	14.7	10.8	21.0	24.1	35.0	9.2	12.9	18.9	9.7	11.7	11.1	11.0
2001	24.3	15.3	10.3	22.4	22.9	23.3	8.3	12.4	20.0	8.7	11.2	10.6	10.5
2002	21.3	15.7	9.9	23.2	21.0	20.7	8.9	11.6	18.6	8.0	10.0	9.8	9.6
2003	25.1	12.8	11.6	23.2	21.3	21.1	10.1	12.1	18.0	7.8	9.7	9.6	9.4
2004	33.8	12.9	12.0	24.6	22.1	21.6	11.0	14.8	18.1	8.0	9.5	10.1	9.8
2005	39.5	12.8	12.6	25.5	22.6	21.9	11.7	15.2	18.2	8.4	9.8	10.6	10.2
2006	45.5	12.6	13.3	25.4	23.2	22.1	12.5	15.1	18.2	8.6	10.0	10.9	10.5

⁽¹⁾ 1960–90 including D_90.⁽²⁾ Former EU-15; 1960–90 including D_90.

Table 44

**Foreign trade and current balance
Balance on current transactions with the rest of the world (national accounts)**

(percentage of gross domestic product at market prices)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-11 ⁽²⁾	CZ	DK	EE	CY
1960	0.2	1.6	-0.4	3.8	1.5	-0.1	0.8	12.5	3.0	-1.1	-4.0	-0.9	1.3	:	-1.1	:	:
1965	1.0	-1.3	-4.6	-3.8	1.2	-4.4	3.6	0.7	0.1	-0.5	-0.4	-2.3	0.2	:	-1.8	:	:
1970	2.8	1.0	-1.8	0.2	0.8	-4.0	0.8	15.5	0.3	0.6	1.9	-2.4	0.8	:	-3.6	:	:
1975	-0.1	1.1	0.5	-2.9	0.8	-1.5	-0.3	17.0	2.7	-0.1	-5.5	-7.6	0.2	:	-1.6	:	:
1980	-4.0	-1.6	1.9	-2.5	-2.8	-11.7	-2.3	19.0	-0.4	-3.1	-5.9	-3.1	-2.2	:	-3.6	:	:
1981	-3.2	-0.6	3.1	-2.7	-3.0	-14.6	-2.4	21.3	2.6	-2.7	-12.2	-1.3	-1.9	:	-2.8	:	:
1982	-3.2	0.8	-0.6	-2.5	-4.1	-10.5	-1.8	34.4	3.5	0.3	-13.5	-2.4	-1.5	:	-4.2	:	:
1983	-0.9	0.8	-1.7	-1.7	-2.5	-6.8	0.2	39.5	3.7	-0.2	-8.3	-2.6	-0.5	:	-2.6	:	:
1984	-0.5	1.6	-1.3	1.1	-2.1	-5.8	-0.7	39.1	5.0	-0.7	-3.4	0.0	0.0	:	-3.4	:	:
1985	0.4	2.8	-3.2	1.2	-2.0	-3.8	-1.0	:	3.4	-0.5	0.4	-1.5	0.3	:	-4.5	:	:
1986	1.8	4.3	-2.2	1.3	-1.2	-3.3	0.4	:	2.4	0.0	2.1	-1.2	1.3	:	-5.4	:	:
1987	1.7	4.0	0.7	-0.2	-1.6	-0.2	-0.3	:	2.6	-0.7	0.3	-2.2	0.9	:	-2.9	:	:
1988	2.3	4.2	-0.3	-1.3	-1.8	0.6	-0.8	:	3.5	-0.1	-2.6	-2.8	0.7	:	-1.4	:	:
1989	1.9	4.4	-2.2	-3.4	-1.8	-1.1	-1.4	:	3.4	-0.1	-0.1	-5.0	0.3	:	-1.6	:	:
1990	1.5	3.3	-2.9	-3.8	-1.9	-1.8	-1.6	:	2.8	0.4	-1.0	-5.0	-0.1	:	0.4	:	:
1991		1.0											-0.8				
1991	2.0	-1.0	-2.1	-3.7	-1.5	-0.4	-2.1	:	3.0	-0.9	-2.0	-5.4	-1.4	:	0.9	:	:
1992	2.7	-0.7	-0.2	-3.7	-0.4	0.4	-2.5	:	2.2	-1.2	-2.3	-4.7	-1.1	1.7	2.1	:	:
1993	4.4	-0.5	-0.8	-1.2	0.7	3.7	0.8	:	4.7	-0.4	-2.1	-1.4	0.4	0.7	2.8	1.2	:
1994	5.6	-1.2	1.3	-1.6	0.2	2.9	1.2	:	5.9	-2.0	-3.8	1.0	0.2	-2.5	1.5	-6.8	1.2
1995	5.6	-0.8	-0.9	0.0	0.3	2.8	2.2	:	6.4	-2.3	-2.9	4.0	0.7	-2.5	0.7	-4.2	-2.1
1996	5.1	-0.3	-2.4	0.1	0.9	3.3	3.2	:	5.4	-2.3	-3.8	4.0	1.1	-6.7	1.5	-8.6	-5.7
1997	5.4	-0.1	-2.1	0.4	2.5	3.1	2.8	:	6.2	-1.7	-6.1	5.4	1.6	-6.3	0.4	-11.4	-4.2
1998	5.3	-0.3	-3.5	-0.9	2.4	0.8	1.9	:	3.0	-0.8	-7.1	5.7	1.0	-2.1	-0.9	-8.6	-6.8
1999	5.4	-0.8	-5.7	-2.1	2.6	0.3	1.0	:	4.0	-1.0	-8.7	6.2	0.6	-2.5	1.8	-4.4	-1.7
2000	4.0	-1.1	-8.2	-3.3	1.3	-0.4	-0.2	:	4.9	-1.0	-10.8	7.2	-0.2	-4.9	1.5	-5.5	-3.5
2001	4.5	0.4	-7.1	-3.1	1.5	-0.7	0.3	:	3.8	-0.4	-10.1	6.9	0.4	-5.4	3.1	-5.6	-4.0
2002	5.8	2.4	-7.7	-2.7	1.5	-1.3	-0.3	:	2.8	2.5	-7.8	7.4	1.0	-5.6	2.0	-10.2	:
2003	4.4	2.4	-8.3	-3.3	0.4	-1.4	-1.2	:	2.7	1.5	-6.3	5.2	0.4	-6.2	2.9	-13.2	-3.5
2004	4.5	4.2	-7.5	-4.2	-0.2	-1.6	-1.0	:	3.7	1.9	-6.8	4.9	0.8	-6.1	3.2	-13.0	-4.5
2005	4.3	4.4	-6.8	-4.8	-0.5	-1.5	-0.9	:	4.2	1.9	-6.5	4.9	0.8	-6.0	3.5	-11.6	-4.4
2006	4.1	4.1	-5.9	-5.0	-0.3	-1.3	-0.7	:	4.5	1.9	-6.2	4.9	0.7	-5.7	3.9	-10.2	-3.7

(¹) 1960-91 D₉₀.

(²) Euro area excluding LU; 1960-91 including D₉₀.

Table 44 (continued)

(percentage of gross domestic product at market prices)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-14 ⁽¹⁾	EUR-21 ⁽²⁾	BG	RO	TR	US	JP
1960	:	:	:	:	:	:	:	-0.6	-0.8	0.7	—	:	:	-1.3	0.6	0.5
1965	:	:	:	:	:	:	:	-0.8	-0.1	0.1	—	:	:	-0.8	0.9	1.1
1970	:	:	:	:	:	:	:	-0.8	1.6	0.7	—	:	:	-0.5	0.4	1.0
1975	:	:	:	:	:	:	:	-0.5	-1.6	-0.1	—	:	:	-3.7	1.3	-0.1
1980	:	:	:	:	:	:	:	-2.2	0.8	-1.8	—	:	:	-5.0	0.4	-1.1
1981	:	:	:	:	:	:	:	-0.9	1.9	-1.2	—	:	:	-2.6	0.2	0.5
1982	:	:	:	:	:	:	:	-2.6	0.8	-1.2	—	:	:	-1.3	0.0	0.6
1983	:	:	:	:	:	:	:	-0.3	0.4	-0.4	—	:	:	-3.0	-0.9	1.8
1984	:	:	:	:	:	:	:	1.3	-0.4	0.0	—	:	:	-2.3	-2.2	2.8
1985	:	:	:	:	:	:	:	-0.8	-0.2	0.1	—	:	:	-1.4	-2.6	3.7
1986	:	:	:	:	:	:	:	1.3	-0.9	0.9	—	:	:	-1.9	-3.1	4.2
1987	:	:	:	:	:	:	:	0.6	-1.8	0.4	—	:	:	-1.8	-3.2	3.4
1988	:	:	:	:	:	:	:	0.3	-4.2	-0.1	—	:	:	1.1	-2.2	2.6
1989	:	:	:	:	:	:	:	-1.1	-5.1	-0.6	—	:	:	-0.2	-1.6	2.1
1990	0.1	:	:	:	2.4	:	:	-1.9	-4.0	-0.8	—	:	:	-3.2	-1.2	1.5
1991										-1.0	—					
1991	10.6	:	:	:	-3.9	8.5	:	-1.5	-1.8	-1.4	:	-4.3	:	-2.1	0.2	2.0
1992	12.7	:	:	:	0.3	7.3	:	-2.6	-2.1	-1.2	:	-7.4	:	-2.0	-0.6	3.0
1993	17.8	:	:	:	0.2	2.2	-4.1	-1.3	-1.9	0.1	:	-9.4	:	-4.9	-1.1	3.0
1994	5.0	-2.1	:	:	2.3	3.9	5.3	1.2	-1.0	0.1	0.1	-2.4	:	1.5	-1.5	2.7
1995	-0.4	-9.6	:	:	1.4	-0.4	3.0	3.5	-1.3	0.5	0.5	-4.8	:	-3.3	-1.2	2.1
1996	-5.0	-9.0	:	:	-1.1	0.2	-9.0	3.6	-0.9	0.9	0.8	2.4	:	-4.9	-1.3	1.4
1997	-5.6	-10.0	:	:	-3.5	0.3	-8.7	4.3	-0.1	1.4	1.2	3.5	:	-3.9	-1.3	2.3
1998	-9.7	-11.7	:	:	-3.9	-0.6	-9.0	4.0	-0.5	0.8	0.6	-0.2	-7.3	-1.1	-2.2	3.0
1999	-9.0	-11.0	:	:	-5.2	-3.3	-3.5	4.2	-2.7	0.1	0.0	-4.8	-1.7	-2.5	-3.0	2.6
2000	-6.4	-5.9	:	:	-6.0	-2.8	-2.5	4.2	-2.5	-0.5	-0.6	-5.5	-4.1	-6.7	-4.1	2.5
2001	-8.9	-4.7	:	:	-2.9	0.2	-7.4	4.4	-2.3	0.1	-0.1	-6.1	-5.7	1.3	-3.7	2.1
2002	-7.0	-5.2	-7.1	:	-2.6	1.4	-8.2	5.1	-1.7	0.6	0.5	-4.7	-3.4	-2.4	-4.4	2.8
2003	-8.6	-6.9	-9.0	:	-2.2	-0.4	-1.1	5.7	-1.9	0.2	0.1	-8.8	-5.9	-4.1	-4.7	3.2
2004	-9.9	-8.7	-8.7	-4.0	-2.6	-0.2	-2.9	7.3	-2.0	0.5	0.4	-8.0	-6.0	-4.9	-5.5	3.3
2005	-9.8	-8.5	-8.5	-3.6	-3.1	-0.8	-3.3	7.1	-1.8	0.6	0.4	-8.5	-6.1	-4.4	-5.8	3.3
2006	-9.6	-7.9	-8.5	-2.8	-3.3	-1.0	-3.0	6.7	-1.9	0.5	0.3	-7.5	-5.8	-4.0	-5.7	3.6

⁽¹⁾ Former EU-15 excluding LU; 1960-91 including D_90.⁽²⁾ EU-25 excluding CY, LU, HU and MT; 1960-91 including D_90.

Table 45

Saving Gross national saving

(percentage of gross domestic product at market prices)

	BE	DE (1)	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-11 (1)	CZ	DK	EE	CY
1960	19.4	28.9	13.7	22.7	24.4	16.3	25.5	35.8	30.3	27.1	15.0	27.1	25.8	:	24.9	:	:
1965	24.1	27.2	24.7	24.1	26.8	19.4	23.6	30.8	27.1	27.5	21.3	23.7	25.9	:	24.6	:	:
1970	27.1	29.6	28.4	27.0	27.6	20.4	27.6	41.3	29.7	30.3	25.5	29.1	28.3	:	22.8	:	:
1975	21.7	22.1	31.3	25.6	24.3	21.7	24.6	39.9	24.9	25.9	10.8	27.5	23.7	:	20.5	:	:
1980	20.5	22.4	28.0	21.7	22.3	15.9	25.5	44.2	22.4	26.1	26.9	27.3	23.1	:	16.6	:	:
1981	17.6	20.9	24.5	19.8	20.0	13.5	23.2	45.8	22.6	24.7	22.4	26.3	21.2	:	14.1	:	:
1982	16.7	20.9	25.3	19.9	18.8	17.1	22.8	59.3	22.3	23.9	20.6	24.7	20.8	:	13.8	:	:
1983	16.4	21.9	23.3	19.9	18.6	16.8	23.1	63.8	23.3	22.2	20.0	24.4	21.1	:	15.5	:	:
1984	17.8	22.6	24.7	21.5	18.3	16.8	23.1	63.8	25.0	23.2	18.8	25.4	21.6	:	17.1	:	:
1985	17.9	23.1	24.0	21.9	18.1	15.3	22.6	:	23.8	23.1	21.0	24.4	21.5	:	17.4	:	:
1986	19.0	24.6	24.1	22.9	19.4	14.9	22.4	:	24.2	23.2	25.4	23.8	22.4	:	18.3	:	:
1987	19.8	23.8	21.1	22.8	19.6	16.3	21.9	:	23.9	23.3	27.8	27.1	22.1	:	18.6	:	:
1988	22.5	24.9	22.3	23.8	20.8	16.3	21.8	:	25.5	23.4	28.0	26.2	23.1	:	19.2	:	:
1989	23.6	26.1	20.0	23.0	21.6	17.1	21.0	:	27.1	23.7	28.3	26.1	23.4	:	19.5	:	:
1990	23.9	25.5	20.0	22.8	21.5	18.0	20.7	:	26.0	23.9	26.8	24.8	23.1	:	20.7	:	:
1991		23.6											21.9				
1991	23.1	23.3	21.7	22.1	20.9	17.7	19.6	:	25.4	23.5	23.8	17.1	21.8	:	20.0	:	:
1992	23.5	23.1	21.0	20.2	20.5	15.6	18.3	:	24.4	22.3	22.7	14.4	21.1	:	29.7	:	:
1993	24.6	21.9	19.5	20.1	19.0	17.7	19.2	:	24.6	21.6	20.1	15.5	20.7	:	19.2	:	27.7
1994	25.9	21.9	20.4	19.9	19.2	18.0	19.7	:	26.2	21.2	19.2	18.8	21.0	:	27.3	:	20.2
1995	25.7	21.8	18.0	22.3	19.5	20.7	21.6	:	27.4	20.8	21.4	22.2	21.7	:	29.0	:	20.9
1996	24.7	21.3	17.4	22.0	19.2	22.2	21.9	:	26.7	20.6	20.4	21.1	21.4	:	26.5	:	18.4
1997	25.7	21.4	17.9	22.5	20.4	24.2	21.6	:	27.9	21.3	20.1	24.5	21.9	:	24.5	:	19.1
1998	25.7	21.5	17.8	22.4	21.4	26.1	21.2	:	25.2	22.2	20.6	25.8	22.0	:	26.5	:	22.0
1999	26.1	20.8	16.8	22.5	22.3	25.0	20.7	:	26.6	22.2	19.6	25.8	21.9	:	24.5	:	20.9
2000	25.7	20.6	15.7	22.3	22.4	25.8	20.0	:	27.1	22.4	18.0	27.8	21.8	:	23.9	:	22.4
2001	24.9	19.8	16.7	22.5	22.0	23.8	20.0	:	25.4	22.1	17.8	27.5	21.3	:	23.5	:	22.6
2002	25.0	19.7	16.3	22.8	21.0	22.2	19.7	:	23.3	23.4	17.9	26.4	20.9	:	22.3	:	20.9
2003	23.4	19.9	17.4	22.6	19.3	22.4	18.4	:	22.8	23.4	16.7	24.0	20.2	:	21.4	:	19.3
2004	23.5	21.3	18.1	22.8	19.6	23.8	18.7	:	24.1	23.6	16.5	23.7	20.9	:	22.3	:	16.8
2005	23.6	21.7	18.6	23.1	20.0	24.4	19.0	:	25.0	23.8	16.9	23.4	21.3	:	23.5	:	18.0
2006	23.7	21.8	19.4	23.8	20.4	24.3	19.4	:	25.5	24.0	17.6	23.3	21.6	:	24.3	:	19.0

(1) 1960-91 D₉₀.

(2) Euro area excluding LU; 1960-91 including D₉₀.

Table 45 (continued)

(percentage of gross domestic product at market prices)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-14 (1)	EUR-21 (2)	BG	RO	TR	US	JP
1960	:	:	:	:	:	:	:	24.1	18.6	24.1	—	:	:	14.7	19.0	33.4
1965	:	:	:	:	:	:	:	26.3	20.6	24.8	—	:	:	14.1	21.2	33.0
1970	:	:	:	:	:	:	:	24.8	22.1	27.1	—	:	:	19.4	18.4	40.0
1975	:	:	:	:	:	:	:	23.8	17.0	22.7	—	:	:	19.0	18.6	32.7
1980	:	:	:	:	:	:	:	20.4	18.1	22.1	—	:	:	12.1	20.5	31.5
1981	:	:	:	:	:	:	:	18.7	17.3	20.3	—	:	:	19.2	21.2	31.9
1982	:	:	:	:	:	:	:	16.7	17.3	19.9	—	:	:	18.4	18.4	30.8
1983	:	:	:	:	:	:	:	18.7	17.8	20.4	—	:	:	15.5	17.5	29.9
1984	:	:	:	:	:	:	:	21.0	18.2	20.9	—	:	:	16.3	19.0	30.8
1985	:	:	:	:	:	:	:	20.6	18.1	20.8	—	:	:	20.7	17.4	32.2
1986	:	:	:	:	:	:	:	21.4	17.2	21.5	—	:	:	23.9	16.2	32.4
1987	:	:	:	:	:	:	:	21.7	17.3	21.3	—	:	:	24.3	16.0	32.2
1988	:	:	:	:	:	:	:	22.4	17.2	22.1	—	:	:	28.9	16.5	33.6
1989	:	:	:	:	:	:	:	23.1	17.1	22.4	—	:	:	26.4	17.0	34.2
1990	23.2	:	:	:	:	19.5	:	21.6	16.2	22.0	—	:	21.7	21.5	16.4	34.4
1991										20.8	—					
1991	50.8	:	:	:	13.9	25.4	:	18.5	15.3	20.7	:	18.3	26.9	17.7	16.4	34.5
1992	59.7	:	:	:	13.7	24.9	:	15.7	14.0	20.0	:	12.5	24.5	18.5	15.8	33.7
1993	37.0	:	:	:	14.3	21.5	20.5	14.0	13.9	19.5	:	5.9	26.9	18.7	15.9	32.4
1994	31.6	16.3	:	:	19.0	24.8	26.3	17.7	15.5	20.1	20.2	6.9	24.9	18.9	16.5	30.9
1995	13.9	12.8	:	:	19.9	22.1	27.8	20.7	15.7	20.9	20.9	10.9	19.9	20.1	16.8	30.3
1996	10.2	11.8	:	:	19.4	22.6	25.8	20.2	15.9	20.6	20.6	10.6	18.3	22.6	17.2	30.5
1997	13.9	14.6	:	:	19.6	23.9	25.8	20.5	17.0	21.0	21.0	13.4	14.3	21.6	18.0	30.9
1998	14.3	13.9	:	:	20.7	24.1	25.0	21.3	17.7	21.2	21.2	16.6	10.5	20.6	17.7	29.9
1999	14.2	11.4	:	:	19.7	24.0	24.1	21.7	15.1	20.7	20.7	13.1	14.4	13.7	17.3	28.6
2000	17.0	13.6	:	:	18.7	23.9	24.0	22.6	15.0	20.6	20.6	12.7	15.4	15.2	16.3	28.8
2001	18.0	15.8	:	:	17.9	24.1	22.9	22.1	15.1	20.2	20.2	14.6	16.9	12.6	15.1	27.9
2002	19.8	16.6	18.2	:	16.2	25.2	21.4	21.8	14.9	19.9	19.8	15.1	:	18.7	13.6	26.7
2003	20.3	15.5	16.8	:	16.5	25.0	23.6	21.7	14.7	19.4	19.4	12.9	:	18.9	13.3	27.2
2004	18.7	14.2	17.8	21.1	17.3	26.6	22.8	22.7	15.1	20.0	19.9	14.3	19.6	19.2	14.3	27.2
2005	18.7	15.2	18.2	21.8	17.9	27.1	23.3	23.0	15.4	20.3	20.3	14.7	20.7	20.0	14.6	26.8
2006	19.0	16.2	18.0	22.5	18.7	27.7	23.6	23.1	15.7	20.6	20.6	16.2	22.3	20.6	14.9	26.9

(1) Former EU-15 excluding LU; 1960-91 including D_90.

(2) EU-25 excluding CY, LU, HU and MT; 1960-91 including D_90.

Table 46

**Saving
Gross saving; private sector
ESA 95**

(percentage of gross domestic product at market prices)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-11 ⁽²⁾	CZ	DK	EE	CY
1975	21.9	22.0	:	:	:	:	:	:	22.4	:	:	17.0	:	:	18.1	:	:
1976	22.8	21.2	:	:	:	:	:	:	22.4	21.9	:	13.5	:	:	16.3	:	:
1977	21.2	20.0	:	:	:	:	:	:	20.6	20.4	18.7	14.0	:	:	16.6	:	:
1978	21.8	21.1	:	20.8	:	:	:	:	20.1	21.9	26.4	17.0	:	:	17.0	:	:
1979	20.6	20.8	:	19.0	:	:	:	:	20.5	22.7	28.7	19.2	:	:	15.9	:	:
1980	24.6	20.1	:	18.3	:	28.3	:	:	20.7	21.6	29.2	19.2	:	:	15.9	:	:
1975-80	22.2	20.9	:	:	:	:	:	:	21.1	:	:	16.7	:	:	16.6	:	:
1981	25.4	20.1	:	18.1	:	29.6	:	:	21.7	20.2	26.0	17.0	:	:	16.8	:	:
1982	23.7	20.1	:	17.2	:	28.7	:	:	23.0	21.5	22.1	17.1	:	:	18.9	:	:
1983	24.0	20.8	:	17.4	:	29.8	:	:	23.9	20.5	20.1	18.5	:	:	19.2	:	:
1984	24.3	20.7	:	17.1	:	30.4	:	:	25.1	20.0	20.6	18.1	:	:	18.7	:	:
1985	24.2	20.4	:	17.2	22.0	30.3	:	:	22.7	19.9	23.8	17.1	:	:	16.9	:	:
1986	25.5	22.0	:	18.7	21.5	29.5	:	:	23.8	21.3	29.1	15.9	:	:	13.6	:	:
1987	24.6	22.0	:	17.8	21.9	28.5	:	:	23.9	22.4	31.6	17.9	:	:	14.6	:	:
1988	26.5	23.5	30.1	19.1	19.1	27.9	16.5	:	25.2	21.9	28.3	16.5	:	:	16.0	:	:
1989	28.9	22.6	29.5	19.2	18.0	27.8	21.8	:	28.1	22.1	28.0	15.7	:	:	17.6	:	:
1990	28.6	24.2	29.3	19.1	19.1	27.2	21.5	:	27.6	21.6	29.8	15.3	:	:	20.5	:	:
1981-90	25.6	21.6	:	18.1	:	29.0	:	:	24.5	21.1	25.9	16.9	:	:	17.3	:	:
1991	22.9	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
1991	28.3	21.9	27.8	19.3	19.1	26.7	26.7	:	24.7	21.6	27.9	13.7	:	:	21.0	:	:
1992	29.1	21.5	27.7	20.3	17.0	26.6	26.6	:	25.4	19.5	23.6	16.0	:	21.0	21.6	:	:
1993	29.1	21.1	27.2	20.8	18.9	26.1	26.1	:	24.4	20.7	24.1	19.5	:	20.7	21.1	13.4	:
1994	28.2	20.8	26.9	20.4	17.5	25.7	25.7	:	26.7	21.1	23.7	20.9	:	21.3	20.5	9.3	:
1995	27.7	22.0	24.8	24.2	20.6	20.7	25.4	:	28.5	21.8	23.4	22.8	23.1	23.3	21.7	13.8	:
1996	26.1	21.8	22.7	23.3	19.5	20.4	25.6	:	26.1	19.9	21.3	20.5	22.4	21.8	20.4	13.8	:
1997	25.2	21.5	19.4	22.1	20.4	20.9	22.1	:	26.6	19.5	19.7	22.6	21.7	19.9	19.9	11.6	:
1998	23.9	21.0	17.8	21.2	20.4	21.7	21.1	:	23.4	20.5	19.4	21.2	21.1	22.3	18.9	16.0	15.1
1999	23.9	19.6	15.2	19.6	20.1	18.3	18.9	:	23.2	20.7	18.3	20.8	19.9	21.3	17.4	17.3	19.5
2000	22.9	18.9	15.9	19.2	20.0	18.0	18.6	:	22.5	20.8	17.3	18.2	19.4	21.7	19.2	17.8	15.8
1991-2000	26.4	21.0	22.5	20.2	19.3	23.7	23.7	:	25.1	20.6	21.9	19.6	:	:	20.2	:	:
2001	22.5	19.6	16.5	18.7	19.8	18.6	19.0	:	21.9	18.6	18.5	19.5	19.6	21.0	20.1	16.7	13.6
2002	22.9	20.5	15.9	18.7	20.7	18.7	19.1	:	21.6	20.6	18.2	19.4	20.1	20.3	20.9	13.7	:
2003	22.7	21.1	18.0	18.3	20.0	18.5	18.7	:	22.3	21.6	17.7	19.1	20.1	19.2	20.9	12.1	17.4
2004	22.1	22.8	20.1	18.7	20.0	20.4	18.8	:	23.5	22.1	18.6	19.0	20.8	19.5	20.5	10.5	17.3
2005	22.3	22.7	19.8	19.0	20.1	21.3	18.6	:	23.9	23.1	18.4	19.0	20.8	20.1	20.3	11.4	16.2
2006	22.5	22.3	20.0	19.4	20.4	21.2	19.1	:	24.1	23.0	19.1	18.9	20.9	20.4	20.7	12.8	16.6
2001-06	22.5	21.5	18.4	18.8	20.2	19.8	18.9	:	22.9	21.5	18.4	19.1	20.4	20.1	20.6	12.9	:

(¹) 1975-91 D_90.

(²) Euro area excluding LU; 1975-91 including D_90.

Table 46 (continued)

(percentage of gross domestic product at market prices)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-14 (1)	EUR-20 (2)	BG	RO	TR	HR	US	JP
1975	:	:	:	:	:	:	:	:	15.4	:	—	:	:	:	:	21.0	:
1976	:	:	:	:	:	:	:	:	17.6	:	—	:	:	:	:	20.4	:
1977	:	:	:	:	:	:	:	:	18.4	:	—	:	:	:	:	20.1	:
1978	:	:	:	:	:	:	:	:	20.3	:	—	:	:	:	:	20.3	:
1979	:	:	:	:	:	:	:	:	19.8	:	—	:	:	:	:	20.7	:
1980	:	:	:	:	:	:	:	:	17.8	:	—	:	:	:	:	20.7	:
1975–80	:	:	:	:	:	:	:	:	18.2	:	—	:	:	:	:	20.6	:
1981	:	:	:	:	:	:	:	:	17.5	:	—	:	:	:	:	21.3	:
1982	:	:	:	:	:	:	:	:	16.9	:	—	:	:	:	:	21.3	:
1983	:	:	:	:	:	:	:	:	17.9	:	—	:	:	:	:	21.1	:
1984	:	:	:	:	:	:	:	:	18.5	:	—	:	:	:	:	21.7	:
1985	:	:	:	:	:	:	:	:	18.0	:	—	:	:	:	:	20.2	:
1986	:	:	:	:	:	:	:	:	17.2	:	—	:	:	:	:	19.2	:
1987	:	:	:	:	:	:	:	:	16.8	:	—	:	:	:	:	18.0	:
1988	:	:	:	:	:	:	:	:	14.7	:	—	:	:	:	:	17.8	:
1989	:	:	:	:	:	:	:	:	13.7	:	—	:	:	:	:	17.9	:
1990	14.0	:	:	:	:	:	:	:	13.6	:	—	:	:	:	:	18.1	26.7
1981–90	:	:	:	:	:	:	:	:	16.5	:	—	:	:	:	:	19.7	:
1991	43.1	:	:	:	16.7	:	:	:	14.9	:	—	25.3	:	:	:	18.8	26.7
1991	43.1	:	:	:	16.7	:	:	:	14.9	:	:	25.3	:	:	:	18.8	26.7
1992	56.1	:	:	:	15.9	:	:	:	17.1	:	:	12.5	:	:	:	19.2	26.4
1993	32.0	:	:	:	14.4	:	23.6	19.2	18.6	:	:	12.0	:	:	:	18.5	27.3
1994	29.3	:	:	:	17.9	:	24.6	22.1	19.2	:	:	10.1	:	:	:	17.9	27.2
1995	13.8	9.9	:	:	19.4	:	20.4	23.3	18.4	22.4	22.4	13.6	:	:	:	17.8	27.6
1996	8.0	10.2	:	:	18.7	:	22.3	19.6	17.8	21.7	21.6	12.3	:	:	:	17.2	27.8
1997	10.8	12.9	:	:	18.4	:	22.8	18.1	17.4	20.9	20.8	6.5	:	:	:	16.7	28.1
1998	12.7	13.2	:	:	19.1	:	21.6	17.1	15.9	20.0	20.0	7.5	:	:	:	15.1	28.6
1999	15.5	10.9	:	:	17.4	:	21.7	16.1	12.5	18.5	18.5	5.4	:	:	:	14.1	28.8
2000	16.8	12.6	:	:	17.3	23.1	23.4	14.8	12.1	18.0	18.0	7.8	:	:	:	12.4	29.0
1991–2000	23.8	:	:	:	17.5	:	:	:	16.4	:	:	11.3	:	:	:	16.8	27.7
2001	16.9	15.0	:	:	17.0	23.4	23.0	16.3	12.6	18.2	18.2	10.8	:	:	:	13.0	27.8
2002	19.1	15.0	18.6	:	17.0	23.8	22.1	18.9	14.9	19.1	19.1	:	:	:	:	14.7	28.9
2003	18.5	13.6	18.0	:	16.3	23.1	24.3	18.5	15.7	19.3	19.2	:	:	:	:	15.2	29.6
2004	18.1	13.2	18.9	20.3	19.6	25.2	23.6	19.1	15.8	19.9	19.8	:	:	:	:	15.3	30.1
2005	19.5	14.5	18.9	20.6	19.0	25.8	23.8	19.5	15.6	19.9	19.8	:	:	:	:	15.3	30.1
2006	20.1	15.0	17.1	20.9	18.6	26.3	24.1	19.4	15.6	19.9	19.9	:	:	:	:	15.8	30.6
2001–06	18.7	14.4	:	:	17.9	24.6	23.5	18.6	15.0	19.4	19.4	:	:	:	:	14.9	29.5

(1) Former EU-15 excluding LU; 1975–91 including D_90.

(2) EU-25 excluding CY, LU, HU, MT and SI; 1975–91 including D_90.

Table 47

Saving
Gross saving; general government
ESA 95

(percentage of gross domestic product at market prices)

	BE	DE (1)	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 (2)	CZ	DK	EE	CY
1975	-0.2	0.1	:	:	:	:	:	:	2.5	:	:	10.5	:	:	2.5	:	:
1976	-0.5	2.0	:	:	:	:	:	:	2.8	3.2	:	12.5	:	:	3.9	:	:
1977	-0.6	2.8	:	:	:	:	:	:	3.2	4.2	1.0	10.9	:	:	3.8	:	:
1978	-1.5	2.5	:	:	2.5	:	:	:	2.0	3.9	-1.6	8.1	:	:	3.6	:	:
1979	-2.3	2.6	:	:	4.0	:	:	:	2.2	3.8	-0.9	7.6	:	:	2.5	:	:
1980	-4.1	2.3	:	:	4.1	:	-2.8	:	1.7	4.5	-2.3	8.1	:	:	0.7	:	:
1975-80	-1.5	2.0	:	:	:	:	:	:	2.4	:	:	9.6	:	:	2.8	:	:
1981	-7.8	0.7	:	:	1.9	:	-6.4	:	0.8	4.5	-3.6	9.4	:	:	-2.7	:	:
1982	-7.0	0.9	:	:	1.6	:	-6.0	:	-0.7	2.4	-1.5	7.6	:	:	-5.1	:	:
1983	-7.6	1.2	:	:	1.2	:	-6.7	:	-0.6	1.7	-0.1	5.9	:	:	-3.7	:	:
1984	-6.5	1.9	:	:	1.2	:	-7.3	:	-0.1	3.2	-1.8	7.3	:	:	-1.7	:	:
1985	-6.3	2.6	:	:	0.9	-6.6	-7.7	:	1.1	3.2	-2.8	7.3	:	:	0.5	:	:
1986	-6.5	2.5	:	:	0.7	-6.6	-7.1	:	0.4	1.9	-3.8	7.9	:	:	4.7	:	:
1987	-4.7	1.8	:	:	1.7	-5.6	-6.6	:	0.0	0.9	-3.7	5.8	:	:	4.0	:	:
1988	-4.0	1.4	-7.8	:	1.7	-2.8	-6.2	:	0.3	1.5	-0.3	9.7	:	:	3.2	:	:
1989	-5.3	3.5	-9.5	:	2.3	-0.9	-6.8	:	-1.0	1.6	0.4	10.4	:	:	1.9	:	:
1990	-4.7	1.4	-9.3	:	2.5	-1.1	-6.6	10.6	-1.6	2.3	-2.9	9.5	:	:	0.2	:	:
1981-90	-6.1	1.8	:	:	1.6	:	-6.7	:	-0.1	2.3	-2.0	8.1	:	:	0.1	:	:
1991	0.8																
1991	-5.2	1.4	-6.2	:	1.7	-1.4	-7.2	7.6	0.7	1.9	-4.0	3.4	:	:	-1.0	:	:
1992	-5.6	1.6	-6.7	:	0.2	-1.4	-8.3	7.1	-1.0	2.9	-0.9	-1.6	:	8.6	-1.3	:	:
1993	-4.5	0.8	-7.7	:	-1.9	-1.2	-6.9	8.1	0.1	0.9	-4.0	-4.0	:	7.0	-1.9	14.4	:
1994	-2.4	1.1	-6.5	:	-1.2	0.5	-6.0	8.5	-0.5	0.1	-4.4	-2.0	:	6.0	-1.4	10.9	:
1995	-2.0	-0.1	-6.8	-1.8	-1.1	0.0	-3.8	8.0	-1.1	-1.0	-2.1	-0.7	-1.3	5.7	-1.4	7.1	:
1996	-1.5	-0.5	-5.2	-1.2	-0.3	1.8	-3.7	7.8	0.6	0.7	-0.8	0.7	-1.0	4.8	0.0	4.6	:
1997	0.5	-0.1	-1.5	0.4	-0.1	3.3	-0.4	8.5	1.3	0.1	0.4	1.9	0.1	4.6	1.3	7.5	:
1998	1.8	0.5	0.1	1.2	1.1	4.3	0.1	8.6	1.8	1.7	1.2	4.6	0.9	4.2	1.8	6.0	-0.8
1999	2.2	1.2	1.6	2.9	2.1	6.7	1.7	8.9	3.4	1.5	1.3	5.0	2.0	3.2	4.1	3.6	-1.3
2000	2.8	1.6	-0.2	3.1	2.3	7.7	1.4	10.7	4.6	1.6	0.7	9.7	2.3	2.2	3.3	4.6	1.1
1991-2000	-1.4	0.8	-3.9	:	0.3	2.0	-3.3	8.4	1.0	1.2	-1.3	1.7	:	:	0.3	:	:
2001	2.4	0.2	0.2	3.7	2.2	5.2	1.0	10.0	3.5	3.6	-0.7	8.0	1.8	2.5	3.5	5.8	1.2
2002	2.1	-0.8	0.3	4.1	0.3	3.5	0.6	8.7	1.7	2.8	-0.4	7.0	0.8	2.0	1.9	7.2	-0.9
2003	0.8	-1.1	-0.5	4.4	-0.7	3.8	-0.3	6.7	0.5	1.6	-1.0	4.9	0.2	2.2	1.7	7.2	-2.4
2004	1.5	-1.5	-2.0	4.1	-0.4	3.5	-0.2	5.2	0.6	1.8	-2.2	4.8	0.1	2.8	2.3	6.3	-1.1
2005	1.3	-1.0	-1.1	4.2	-0.1	3.1	0.4	4.4	1.1	0.7	-1.5	4.4	0.5	3.4	3.0	6.6	1.0
2006	1.2	-0.6	-0.6	4.4	0.0	3.2	0.3	4.0	1.4	1.0	-1.5	4.4	0.7	3.9	3.2	6.2	1.7
2001-06	1.5	-0.8	-0.6	4.1	0.2	3.7	0.3	6.5	1.5	1.9	-1.2	5.6	0.7	2.8	2.6	6.6	-0.1

(1) 1975-91 D_90.

(2) Euro area; 1975-91 including D_90.

Table 47 (continued)

(percentage of gross domestic product at market prices)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-15 ⁽¹⁾	EUR-20 ⁽²⁾	BG	RO	TR	HR	US	JP
1975	:	:	:	:	:	:	:	:	1.5	:	:	:	:	:	:	-2.4	:
1976	:	:	:	:	:	:	:	:	0.8	:	:	:	:	:	:	-0.9	:
1977	:	:	:	:	:	:	:	:	1.2	:	:	:	:	:	:	-0.1	:
1978	:	:	:	:	:	:	:	:	-0.3	:	:	:	:	:	:	1.1	:
1979	:	:	:	:	:	:	:	:	0.0	:	:	:	:	:	:	1.4	:
1980	:	:	:	:	:	:	:	:	0.3	:	:	:	:	:	:	-0.3	:
1975-80	:	:	:	:	:	:	:	:	0.6	:	:	:	:	:	:	-0.2	:
1981	:	:	:	:	:	:	:	:	-0.2	:	:	:	:	:	:	-0.1	:
1982	:	:	:	:	:	:	:	:	0.4	:	:	:	:	:	:	-2.8	:
1983	:	:	:	:	:	:	:	:	-0.1	:	:	:	:	:	:	-3.7	:
1984	:	:	:	:	:	:	:	:	-0.3	:	:	:	:	:	:	-2.7	:
1985	:	:	:	:	:	:	:	:	0.1	:	:	:	:	:	:	-2.8	:
1986	:	:	:	:	:	:	:	:	0.0	:	:	:	:	:	:	-3.0	:
1987	:	:	:	:	:	:	:	:	0.5	:	:	:	:	:	:	-2.0	:
1988	:	:	:	:	:	:	:	:	2.6	:	:	:	:	:	:	-1.3	:
1989	:	:	:	:	:	:	:	:	3.4	:	:	:	:	:	:	-0.9	:
1990	9.3	:	:	:	:	:	:	:	2.5	:	:	:	:	:	:	-1.7	7.7
1981-90	:	:	:	:	:	:	:	:	0.9	:	:	:	:	:	:	-2.1	:
1991	7.6	:	:	:	-2.7	:	:	:	0.4	:	:	-7.0	:	:	:	-2.4	7.8
1992	3.6	:	:	:	-2.2	:	:	:	-3.1	:	:	0.0	:	:	:	-3.4	7.3
1993	5.1	:	:	:	-0.1	:	-3.1	-5.2	-4.7	:	:	-6.1	:	:	:	-2.7	5.1
1994	2.3	:	:	:	1.2	:	1.7	-4.4	-3.7	:	:	-3.2	:	:	:	-1.4	3.7
1995	0.2	2.9	:	:	0.5	:	7.5	-2.6	-2.7	-1.6	-1.5	-2.7	:	:	:	-1.0	2.7
1996	2.1	1.5	:	:	0.7	:	3.5	0.6	-1.9	-1.1	-1.0	-1.8	:	:	:	0.0	2.8
1997	3.1	1.7	:	:	1.1	:	3.0	2.5	-0.4	0.1	0.2	6.9	:	:	:	1.4	2.8
1998	1.6	0.7	:	:	1.6	:	3.4	4.2	1.8	1.2	1.2	9.1	:	:	:	2.6	1.4
1999	-1.3	0.6	:	:	2.2	:	2.4	5.6	2.6	2.3	2.3	7.7	:	:	:	3.2	-0.2
2000	0.3	1.0	2.5	-2.4	1.4	0.8	0.6	7.8	2.9	2.6	2.6	4.9	:	:	:	4.0	-0.2
1991-2000	2.5	:	:	:	0.4	:	:	:	-0.9	:	:	0.8	:	:	:	0.0	3.3
2001	1.1	0.7	1.9	-2.1	0.9	0.7	-0.1	5.8	2.4	2.0	2.0	3.7	:	:	:	2.1	0.0
2002	0.8	1.5	-0.5	-1.3	-0.7	1.4	-0.7	2.9	0.0	0.8	0.7	:	:	:	:	-1.2	-2.2
2003	1.7	2.0	-1.2	-1.5	0.2	1.9	-0.6	3.2	-1.1	0.1	0.1	:	:	:	:	-1.9	-2.4
2004	0.7	1.0	-1.1	-0.8	-2.3	1.4	-0.8	3.6	-0.7	0.1	0.1	:	:	:	:	-1.0	-2.9
2005	-0.8	0.8	-0.7	1.2	-1.1	1.3	-0.5	3.5	-0.2	0.5	0.5	:	:	:	:	-0.7	-3.3
2006	-1.1	1.3	1.0	1.5	0.1	1.4	-0.5	3.7	0.1	0.7	0.7	:	:	:	:	-1.0	-3.7
2001-06	0.4	1.2	-0.1	-0.2	-0.5	1.3	-0.5	3.8	0.1	0.7	0.7	:	:	:	:	-0.6	-2.4

⁽¹⁾ Former EU-15; 1975-91 including D_90.⁽²⁾ EU-25 excluding CY, LU, HU, MT and SI; 1975-91 including D_90.

Table 48

Money, interest rates and exchange rates
Money supply (M2/M3)

(end year; annual percentage change)

	B/L	DE ⁽¹⁾	EL	ES	FR	FR	IE	IT	NL	AT	PT	FI	EUR-11 ⁽²⁾	EUR-12 ⁽³⁾	CZ	DK	EE	CY
1961-70	8.6	10.4	17.6	:	12.7	10.4	10.4	14.1	9.1	11.0	:	11.0	12.2	12.3	:	10.2	:	:
1971	12.9	13.5	22.4	24.0	18.0	12.9	12.9	17.2	9.0	15.3	21.0	13.8	16.2	16.4	:	8.5	:	:
1972	17.0	14.4	23.6	23.8	18.8	14.2	14.2	19.0	11.9	16.5	23.4	17.1	17.6	17.7	:	15.0	:	:
1973	15.4	10.1	14.5	24.8	14.7	26.1	26.1	23.1	21.9	10.8	28.9	15.6	16.9	16.9	:	12.6	:	:
1974	14.0	8.5	20.9	19.9	15.6	20.6	20.6	15.7	20.1	9.6	12.1	17.5	14.2	14.3	:	8.9	:	:
1975	15.1	8.6	26.5	18.9	18.1	18.9	18.9	23.7	5.7	11.7	13.1	22.1	15.6	15.9	:	25.1	:	:
1976	14.3	8.4	26.8	19.0	12.3	14.5	14.5	20.8	22.7	14.4	16.4	8.9	14.6	14.9	:	10.9	:	:
1977	10.3	11.2	22.7	18.9	14.2	17.1	17.1	21.7	3.6	11.4	21.8	11.9	14.7	14.9	:	9.8	:	:
1978	10.2	11.0	26.0	19.5	12.4	29.0	29.0	22.6	4.2	13.6	26.0	15.3	14.9	15.2	:	8.3	:	:
1979	8.2	6.0	18.4	18.5	14.0	18.7	18.7	20.8	6.9	6.3	31.1	17.2	13.3	13.4	:	9.7	:	:
1980	6.5	6.2	24.7	16.9	9.6	17.7	17.7	12.7	4.4	9.1	28.4	11.2	10.2	10.5	:	8.8	:	:
1971-80	12.4	9.8	22.6	20.4	14.8	19.0	19.0	19.7	11.0	11.9	22.2	15.1	14.8	15.0	:	11.8	:	:
1981	6.0	5.0	36.4	16.9	11.1	17.4	17.4	10.0	5.3	10.3	24.0	14.9	9.6	10.3	:	10.0	:	:
1982	5.5	7.1	28.5	17.0	11.6	13.0	13.0	18.1	7.6	14.6	24.1	12.9	12.3	12.7	:	11.4	:	:
1983	9.0	5.3	22.0	15.4	11.7	5.6	5.6	12.3	5.1	7.2	17.0	12.2	9.9	10.2	:	25.4	:	:
1984	6.0	4.7	30.8	15.0	9.9	10.1	10.1	12.1	5.8	7.5	24.8	15.7	9.5	10.0	:	17.8	:	:
1985	7.7	7.6	29.1	13.2	7.2	5.3	5.3	11.1	9.0	6.6	28.5	16.7	9.5	9.9	:	15.8	:	:
1986	12.8	6.6	20.6	13.5	6.4	-1.0	-1.0	10.7	7.0	10.2	26.3	8.6	8.9	9.2	:	10.8	:	:
1987	10.2	5.9	24.3	14.9	11.2	10.9	10.9	7.2	3.1	7.4	19.7	21.2	9.1	9.4	:	4.4	:	:
1988	7.8	6.9	23.5	13.4	8.1	6.3	6.3	7.6	10.3	4.1	17.8	24.6	8.8	9.1	:	3.4	:	:
1989	13.5	5.5	24.7	14.9	9.9	5.0	5.0	9.9	12.0	6.7	10.6	6.1	9.4	9.7	:	6.2	:	:
1990	5.7	4.2	15.7	11.8	9.0	15.5	15.5	8.1	7.7	7.6	10.9	6.8	7.7	7.8	:	7.1	:	:
1981-90	8.4	5.9	25.6	14.6	9.6	8.8	8.8	10.7	7.3	8.2	20.4	14.0	9.5	9.8	:	11.2	:	:
1991	3.6	6.3	12.9	11.3	2.0	3.1	3.1	9.1	5.3	8.0	18.1	6.8	7.5	:	:	6.4	:	13.9
1992	7.8	7.6	15.4	5.1	5.1	11.7	11.7	4.7	6.2	4.2	13.6	-0.1	7.1	:	:	-1.5	:	13.7
1993	14.2	10.9	16.8	10.1	-2.9	16.3	16.3	8.1	7.8	4.0	6.2	3.8	6.4	:	:	13.8	:	16.1
1994	-4.8	1.6	9.2	7.1	1.8	10.2	10.2	0.9	0.3	5.3	9.4	1.9	2.3	:	20.7	-5.0	:	12.5
1995	0.0	3.6	16.1	9.2	4.6	12.4	12.4	-2.0	4.3	5.7	8.0	0.4	5.5	:	23.7	3.0	:	12.1
1996	6.9	8.7	13.8	7.4	-3.3	15.9	15.9	4.0	6.0	1.8	8.8	-1.3	3.9	:	7.6	9.7	:	10.9
1997	6.1	3.6	20.3	4.3	2.0	22.1	22.1	9.0	5.6	1.2	6.2	8.8	4.0	:	9.2	6.1	:	10.7
1998	9.8	7.3	15.5	1.1	2.7	17.3	17.3	6.5	11.7	6.4	7.8	2.4	5.1	:	5.4	4.0	4.4	9.9
1999	:	:	12.8	:	:	:	:	:	:	:	:	:	5.6	:	7.7	3.4	23.6	16.0
2000	:	:	14.6	:	:	:	:	:	:	:	:	:	4.3	:	5.6	-5.1	25.5	9.1
1991-2000	:	:	14.7	:	:	:	:	:	:	:	:	:	5.2	:	:	3.5	:	12.5
2001	:	:	:	:	:	:	:	:	:	:	:	:	:	7.7	13.0	6.7	24.6	13.2
2002	:	:	:	:	:	:	:	:	:	:	:	:	:	6.8	3.5	4.6	11.3	11.0
2003	:	:	:	:	:	:	:	:	:	:	:	:	:	7.0	6.9	8.8	9.8	3.9

(1) 1961-90 D_90.

(2) BE, DE, ES, FR, IE, IT, LU, NL, AT, PT and FI; 1961-90 including D_90.

(3) Euro area; 1961-90 including D_90.

Table 48 (continued)

(end year: annual percentage change)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US	JP
1961-70	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	7.2	18.3
1971	:	:	:	:	:	:	:	9.9	16.2	:	:	:	:	:	:	13.5	24.3
1972	:	:	:	:	:	:	:	11.8	23.2	:	:	:	:	:	:	13.0	24.7
1973	:	:	:	:	:	:	:	12.8	21.8	:	:	:	:	:	:	6.9	16.8
1974	:	:	:	:	:	:	:	8.9	10.8	:	:	:	:	:	:	5.5	11.5
1975	:	:	:	:	:	:	:	12.7	11.7	:	:	:	:	:	:	12.6	16.5
1976	:	:	:	:	:	:	:	5.1	11.3	:	:	:	:	:	:	13.7	15.4
1977	:	:	:	:	:	:	:	9.4	14.8	:	:	:	:	:	:	10.6	13.4
1978	:	:	:	:	:	:	:	18.0	15.0	:	:	:	:	:	:	8.0	14.0
1979	:	:	:	:	:	:	:	16.4	14.4	:	:	:	:	:	:	7.8	10.8
1980	:	:	:	:	:	:	:	10.8	17.1	:	:	:	:	:	:	8.9	9.5
1971-80	:	:	:	:	:	:	:	11.6	15.6	:	:	:	:	:	:	10.1	15.7
1981	:	:	:	:	:	:	:	13.6	20.4	:	:	:	:	:	:	10.1	11.0
1982	:	:	:	:	:	:	:	7.7	12.0	:	:	:	:	:	:	8.8	7.9
1983	:	:	:	:	:	:	:	7.0	13.2	:	:	:	:	:	:	11.8	7.3
1984	:	:	:	:	:	:	:	7.2	13.5	:	:	:	:	:	:	8.7	7.8
1985	:	:	:	:	:	:	:	-0.7	13.0	:	:	:	:	:	:	8.0	8.7
1986	:	:	:	:	:	:	:	10.7	15.6	:	:	:	:	:	:	9.5	9.2
1987	:	:	:	:	:	:	:	4.2	16.3	:	:	:	:	:	:	3.6	10.8
1988	:	:	:	:	:	:	:	5.2	17.6	:	:	:	:	:	:	5.8	10.2
1989	:	:	:	:	:	:	:	10.0	19.1	:	:	:	:	:	:	5.5	12.0
1990	:	:	:	:	:	:	:	11.3	11.8	:	:	:	:	:	:	3.8	11.7
1981-90	:	:	:	:	:	:	:	7.6	15.2	:	:	:	:	:	:	7.6	9.7
1991	:	:	:	:	:	:	:	4.0	5.9	:	6.7	:	:	:	:	3.1	3.6
1992	:	:	:	:	:	:	:	3.2	3.6	:	3.1	:	79.6	:	:	1.6	-0.4
1993	:	:	:	:	:	:	:	4.0	4.6	:	6.9	:	141.0	:	:	2.2	1.4
1994	:	65.0	13.8	13.0	:	:	19.0	0.3	4.7	:	1.9	:	138.1	123.2	:	-1.6	2.9
1995	:	28.8	21.0	6.5	:	30.4	21.3	2.7	9.9	:	5.2	:	71.6	99.4	:	4.1	3.2
1996	:	-3.6	22.7	8.3	:	19.7	16.7	11.4	9.5	:	7.8	124.0	66.0	132.8	:	4.3	3.1
1997	:	35.7	22.7	7.9	28.1	20.0	8.8	1.3	12.0	:	7.5	351.6	104.9	93.5	:	5.6	3.5
1998	:	13.6	17.0	7.2	24.7	19.1	4.2	2.1	8.3	:	4.1	11.8	48.9	101.9	:	8.7	4.4
1999	7.7	7.2	13.1	11.3	20.1	10.2	11.4	12.4	4.3	:	:	13.4	45.0	96.1	:	6.1	4.3
2000	26.8	16.2	18.0	5.1	11.8	17.2	15.5	2.8	8.2	:	:	30.8	38.0	42.5	:	6.1	1.9
1991-2000	:	:	:	:	:	:	:	4.4	7.1	:	:	:	:	:	:	4.0	2.8
2001	20.2	21.4	17.1	9.7	9.2	29.4	11.8	6.7	6.7	:	:	25.8	46.2	48.0	:	10.5	3.4
2002	18.0	17.4	9.5	12.1	-2.4	10.6	3.4	4.5	7.3	:	:	11.7	38.1	31.0	:	6.4	1.8
2003	21.2	19.0	11.9	2.5	5.5	6.4	5.6	3.1	6.9	:	:	19.5	:	33.7	:	4.3	1.6

⁽¹⁾ Former EU-15.

Table 49

Money, interest rates and exchange rates
Nominal short-term interest rates

(%)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1961-70	5.2	5.0	:	:	5.4	:	3.7	3.8	:	:	:	:	:	6.8	:	:
1971	5.4	7.1	:	:	6.0	6.5	5.7	4.5	4.4	4.3	8.1	:	:	7.6	:	:
1972	4.2	5.7	:	:	5.3	7.1	5.2	2.7	5.2	4.4	7.8	:	:	7.3	:	:
1973	6.6	12.2	:	:	9.3	12.2	7.0	7.5	6.9	4.4	9.3	:	:	7.6	:	:
1974	10.6	9.8	:	:	13.0	14.6	14.9	10.4	7.3	5.3	10.4	:	:	10.0	:	:
1975	7.0	4.9	:	:	7.6	10.9	10.4	5.4	5.5	6.8	11.7	:	:	8.0	:	:
1976	10.3	4.3	:	:	8.7	11.7	16.0	7.4	4.7	8.4	12.4	:	:	9.3	:	:
1977	7.4	4.3	:	15.5	9.1	8.4	14.0	4.8	7.5	11.1	11.8	9.1	:	14.7	:	:
1978	7.3	3.7	:	17.6	7.8	9.9	11.5	7.0	6.4	15.5	8.6	8.5	:	15.4	:	:
1979	10.9	6.9	:	15.5	9.7	16.0	12.0	9.6	5.6	16.1	8.5	10.0	:	12.5	:	:
1980	14.3	9.5	16.4	16.5	12.0	16.2	16.9	10.6	10.3	16.3	13.8	13.0	:	16.8	:	:
1971-80	8.4	6.9	:	:	8.8	11.3	11.3	7.0	6.4	9.3	10.2	:	:	10.9	:	:
1981	15.6	12.4	16.8	16.2	15.3	16.7	19.3	11.8	11.4	16.0	12.7	15.1	:	14.9	:	:
1982	14.3	8.8	18.9	16.3	14.6	17.5	19.9	8.2	8.8	16.8	13.7	13.9	:	16.4	:	:
1983	10.4	5.8	16.6	20.1	12.5	14.0	18.3	5.7	5.4	20.9	14.2	12.2	:	11.9	:	:
1984	11.5	6.0	15.7	14.9	11.7	13.2	17.3	6.1	6.6	22.5	15.8	11.5	:	11.5	:	:
1985	9.6	5.4	17.0	12.2	10.0	12.0	15.0	6.3	6.2	21.0	12.8	10.1	:	10.0	:	:
1986	8.1	4.6	19.8	11.7	7.7	12.4	12.8	5.7	5.3	15.6	11.7	8.7	:	9.1	:	:
1987	7.1	4.0	14.9	15.8	8.3	11.1	11.4	5.4	4.4	13.9	10.0	8.5	:	9.9	:	:
1988	6.7	4.3	15.9	11.6	7.9	8.1	11.3	4.8	4.6	13.0	10.0	8.0	:	8.3	:	:
1989	8.7	7.1	18.7	15.0	9.4	9.8	12.7	7.4	7.5	13.7	12.6	10.2	:	9.6	:	:
1990	9.8	8.4	19.9	15.2	10.3	11.4	12.3	8.7	8.5	16.9	14.0	11.0	:	10.9	:	:
1981-90	10.2	6.7	17.4	14.9	10.8	12.6	15.0	7.0	6.9	17.0	12.7	10.9	:	11.2	:	:
1991	9.4	9.2	22.7	13.2	9.6	10.4	12.2	9.3	9.1	17.7	13.1	10.9	:	9.7	:	:
1992	9.4	9.5	23.5	13.3	10.4	12.4	14.0	9.4	9.3	16.2	13.3	11.5	:	11.0	:	:
1993	8.1	7.2	23.5	11.7	8.6	9.3	10.2	6.9	7.2	13.3	7.8	9.1	13.1	10.5	:	:
1994	5.6	5.3	24.6	8.0	5.9	5.9	8.5	5.2	5.0	11.1	5.3	6.9	9.1	6.1	:	:
1995	4.7	4.5	16.4	9.4	6.6	6.3	10.3	4.4	4.5	9.8	5.8	7.0	11.0	6.1	:	:
1996	3.2	3.3	13.8	7.5	3.9	5.4	8.7	3.0	3.3	7.4	3.6	5.2	12.0	3.9	8.1	:
1997	3.4	3.3	12.8	5.4	3.5	6.1	6.8	3.3	3.5	5.7	3.2	4.5	16.0	3.7	8.6	:
1998	3.5	3.5	14.0	4.3	3.6	5.5	4.9	3.4	3.6	4.3	3.6	4.2	14.3	4.1	13.9	:
1999	3.0	3.0	10.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.1	6.9	3.4	7.8	6.3
2000	4.4	4.4	7.7	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.5	5.4	5.0	5.7	6.4
1991-2000	5.5	5.3	16.9	8.0	5.9	6.9	8.3	5.2	5.3	9.3	6.3	6.7	:	6.3	:	:
2001	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	5.2	4.7	5.3	5.9
2002	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.5	3.5	3.9	4.4
2003	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.9	3.9

⁽¹⁾ 1961-90 D_90.⁽²⁾ Euro area; 1961-90 including D_90.

Table 49 (continued)

(%)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-7 ⁽¹⁾	EU-25 ⁽²⁾	EUR-15 ⁽³⁾	BG	RO	TR	HR	US	JP
1961–70	:	:	:	:	:	:	:	:	6.3	5.1	:	:	:	:	:	:	4.3	:
1971	:	:	:	:	:	:	:	:	6.2	6.2	:	:	:	:	:	:	4.3	6.5
1972	:	:	:	:	:	:	:	:	6.8	5.5	:	:	:	:	:	:	4.2	5.2
1973	:	:	:	:	:	:	:	:	11.8	9.9	:	:	:	:	:	:	7.2	8.3
1974	:	:	:	:	:	:	:	:	13.4	12.3	:	:	:	:	:	:	7.9	14.7
1975	:	:	:	:	:	:	:	:	10.6	7.9	:	:	:	:	:	:	5.8	10.1
1976	:	:	:	:	:	:	:	:	11.6	9.4	:	:	:	:	:	:	5.0	7.3
1977	:	:	:	:	:	:	:	:	8.0	8.3	:	:	:	:	:	:	5.3	6.4
1978	:	:	:	:	:	:	:	:	9.5	7.8	:	:	:	:	:	:	7.4	5.1
1979	:	:	:	:	:	:	:	:	13.9	10.3	:	:	:	:	:	:	10.1	5.9
1980	:	:	:	:	:	:	:	:	16.8	13.3	:	:	:	:	:	:	11.6	10.7
1971–80	:	:	:	:	:	:	:	:	10.8	9.1	:	:	:	:	:	:	6.9	8.0
1981	:	:	:	:	:	:	:	:	14.2	14.9	:	:	:	:	:	:	14.0	7.4
1982	:	:	:	:	:	:	:	:	13.3	13.3	:	13.6	:	:	:	:	10.6	6.9
1983	:	:	:	:	:	:	:	11.4	10.1	10.9	:	11.8	:	:	:	:	8.7	6.5
1984	:	:	:	:	:	:	:	11.9	10.0	10.6	:	11.3	:	:	:	:	9.5	6.3
1985	:	:	:	:	:	:	:	14.2	12.2	10.0	:	10.6	:	:	:	:	7.5	6.5
1986	:	:	:	:	:	:	:	9.8	10.9	8.5	:	9.1	:	:	:	:	6.0	5.0
1987	:	:	:	:	:	:	:	9.6	9.7	7.9	:	8.8	:	:	:	:	5.9	3.9
1988	:	:	:	:	:	:	:	10.3	10.3	7.9	:	8.5	:	:	:	:	6.9	4.0
1989	:	:	:	:	:	:	:	11.6	13.9	10.2	:	10.8	:	:	:	:	8.4	5.4
1990	:	:	:	:	:	:	:	13.8	14.8	11.0	:	11.7	:	:	:	:	7.7	7.8
1981–90	:	:	:	:	:	:	:	:	11.8	10.5	:	:	:	:	:	:	8.5	6.0
1991	:	:	:	:	:	:	:	11.8	11.5	10.3	:	11.0	:	:	:	:	5.5	7.4
1992	:	:	:	:	:	:	:	13.4	9.6	10.6	:	11.2	:	:	:	:	3.5	4.4
1993	:	:	:	:	:	:	:	8.8	5.9	7.9	:	8.6	:	:	:	:	3.1	3.0
1994	:	:	27.8	:	:	:	:	7.6	5.5	6.1	:	6.7	:	:	:	:	4.7	2.3
1995	:	:	31.3	4.8	27.6	:	8.4	8.9	6.7	6.5	:	7.0	:	43.0	:	:	6.0	1.2
1996	:	:	24.3	5.0	21.4	:	11.9	5.9	6.0	5.0	:	5.4	:	53.7	:	:	5.5	0.6
1997	6.0	:	20.4	5.1	23.7	:	21.8	4.5	6.8	4.7	:	4.9	:	80.8	:	:	5.7	0.6
1998	8.4	:	17.9	5.4	20.4	10.3	21.1	4.3	7.3	4.6	:	4.7	5.9	69.5	:	:	5.5	0.8
1999	8.4	13.9	15.1	5.2	14.7	8.6	15.7	3.3	5.5	3.5	4.3	3.5	5.9	79.6	:	:	5.4	0.2
2000	5.4	8.6	11.4	4.9	18.8	10.9	8.6	4.1	6.2	4.8	5.4	4.7	4.6	50.7	:	:	6.5	0.3
1991–2000	:	:	:	:	:	:	:	7.3	7.1	6.4	:	6.8	:	:	:	:	5.1	2.1
2001	6.9	5.9	10.9	4.9	16.1	10.9	7.8	4.1	5.0	4.4	5.0	4.4	5.1	41.3	:	:	3.8	0.2
2002	4.4	3.7	9.2	4.0	9.0	8.0	7.8	4.2	4.1	3.5	3.8	3.5	4.9	27.3	:	:	1.8	0.1
2003	3.8	2.8	8.5	3.3	5.7	6.8	6.2	3.2	3.7	2.6	2.8	2.6	3.6	17.7	:	:	1.2	0.1

(1) BE, DK, DE, FR, IT, NL and UK; 1961–90 including D_90.

(2) 1961–90 including D_90.

(3) Former EU-15; 1961–90 including D_90.

Table 50

Money, interest rates and exchange rates
Nominal long-term interest rates

(%)

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1961-70	6.3	6.8	:	:	6.5	:	6.7	5.6	:	:	7.9	:	:	8.3	:	:
1971	7.3	8.0	:	:	8.4	9.2	8.3	7.1	7.7	:	8.1	:	:	11.0	:	:
1972	7.0	7.9	:	:	8.0	9.1	7.5	6.7	7.4	:	8.0	:	:	11.0	:	:
1973	7.5	9.3	9.3	:	9.0	10.7	7.4	7.3	8.3	:	8.3	:	:	12.6	:	:
1974	8.8	10.4	10.5	:	11.0	14.6	9.9	10.7	9.7	:	8.8	:	:	15.9	:	:
1975	8.5	8.5	9.4	:	10.3	14.0	11.5	9.2	9.6	:	9.6	:	:	12.7	:	:
1976	9.1	7.8	10.2	:	10.5	14.6	13.1	9.2	8.8	:	10.2	:	:	14.9	:	:
1977	8.8	6.2	9.5	:	11.0	12.9	14.6	8.5	8.7	:	10.8	:	:	16.2	:	:
1978	8.5	5.7	10.0	:	10.6	12.8	13.7	8.1	8.2	:	9.8	:	:	16.8	:	:
1979	9.7	7.4	11.2	13.3	10.9	15.1	14.1	9.2	8.0	:	9.5	10.6	:	16.7	:	:
1980	11.9	8.5	17.1	16.0	13.1	15.4	15.3	10.7	9.3	:	11.6	12.3	:	18.7	:	:
1971-80	8.7	8.0	:	:	10.3	12.8	11.5	8.7	8.6	:	9.5	:	:	14.6	:	:
1981	13.4	10.1	17.7	15.8	15.9	17.3	19.4	12.2	10.6	:	12.4	14.5	:	19.3	:	:
1982	13.4	9.0	15.4	16.0	15.7	17.0	20.2	10.5	9.9	:	12.4	14.1	:	20.5	:	:
1983	11.9	8.0	18.2	16.9	13.6	13.9	18.3	8.8	8.2	:	13.1	12.9	:	14.4	:	:
1984	12.2	8.0	18.5	16.5	12.5	14.6	15.6	8.6	8.0	:	14.0	12.1	:	14.4	:	:
1985	11.0	7.0	15.8	13.4	11.1	12.7	13.7	7.3	7.8	27.7	12.7	10.9	:	11.6	:	:
1986	8.6	5.9	15.8	11.4	8.5	11.1	11.5	6.4	7.4	15.8	11.7	9.0	:	10.1	:	:
1987	8.2	6.1	17.4	12.8	9.5	11.3	10.6	6.4	7.0	15.1	11.2	9.2	:	11.3	:	:
1988	8.0	6.5	16.6	11.8	9.1	9.4	10.9	6.4	6.9	14.2	10.6	9.1	:	9.9	:	:
1989	8.5	6.9	:	13.7	8.8	8.9	12.8	7.2	7.2	14.9	12.1	9.7	:	9.7	:	:
1990	10.0	8.7	:	14.7	9.9	10.1	13.5	8.9	8.8	15.4	13.3	10.9	:	10.6	:	:
1981-90	10.5	7.6	:	14.3	11.5	12.6	14.7	8.3	8.2	:	12.3	11.2	:	13.2	:	:
1991	9.3	8.5	:	12.4	9.0	9.2	13.3	8.7	8.6	14.5	11.7	10.2	:	9.3	:	:
1992	8.7	7.9	:	11.7	8.6	9.1	13.3	8.1	8.2	13.8	12.0	9.8	:	9.0	:	:
1993	7.2	6.5	23.3	10.2	6.8	7.7	11.2	6.4	6.7	11.2	8.8	8.4	:	7.3	:	:
1994	7.8	6.9	20.7	10.0	7.2	7.9	10.5	6.9	7.0	10.5	9.0	8.4	:	7.8	:	:
1995	7.5	6.9	17.0	11.3	7.5	8.3	12.2	6.9	7.1	11.5	8.8	8.9	:	8.3	:	:
1996	6.5	6.2	14.5	8.7	6.3	7.3	9.4	6.2	6.3	8.6	7.1	7.4	:	7.2	:	:
1997	5.8	5.6	9.9	6.4	5.6	6.3	6.9	5.6	5.7	6.4	6.0	6.1	:	6.3	:	6.9
1998	4.8	4.6	8.5	4.8	4.6	4.8	4.9	4.6	4.7	4.9	4.8	4.6	:	4.9	13.2	6.7
1999	4.8	4.5	6.3	4.7	4.6	4.7	4.7	4.6	4.7	4.8	4.7	4.7	:	4.9	11.4	7.4
2000	5.6	5.3	6.1	5.5	5.4	5.5	5.6	5.4	5.6	5.6	5.5	5.4	6.9	5.6	10.5	7.6
1991-2000	6.8	6.3	:	8.6	6.6	7.1	9.2	6.3	6.5	9.2	7.8	7.4	:	7.1	:	:
2001	5.1	4.8	5.3	5.1	4.9	5.0	5.2	5.0	5.1	5.2	5.0	5.0	6.3	5.1	10.2	7.7
2002	5.0	4.8	5.1	5.0	4.9	5.0	5.0	4.9	5.0	5.0	5.0	4.9	4.9	5.1	8.4	5.4
2003	4.2	4.1	4.3	4.1	4.1	4.1	4.3	4.1	4.2	4.2	4.1	4.1	4.1	4.3	5.3	4.7

⁽¹⁾ 1961-90 D_90.⁽²⁾ Euro area; 1961-90 including D_90.

Table 50 (continued)

(%)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-9 ⁽¹⁾	EUR-15 ⁽²⁾	BG	RO	TR	HR	US	JP
1961-70	:	:	:	:	:	:	:	6.0	7.0	6.7	:	:	:	:	:	4.8	:
1971	:	:	:	:	:	:	:	7.2	8.9	8.3	:	:	:	:	:	5.7	:
1972	:	:	:	:	:	:	:	7.3	9.0	8.0	:	:	:	:	:	5.6	6.9
1973	:	:	:	:	:	:	:	7.4	10.8	9.0	:	:	:	:	:	6.3	7.0
1974	:	:	:	:	:	:	:	7.8	15.0	11.2	:	:	:	:	:	7.0	8.1
1975	:	:	:	:	:	:	:	8.8	14.5	10.7	:	:	:	:	:	7.0	8.4
1976	:	:	:	:	:	:	:	9.3	14.6	11.0	:	:	:	:	:	6.8	8.2
1977	:	:	:	:	:	:	:	9.7	12.5	10.5	:	:	:	:	:	7.1	7.4
1978	:	:	:	:	:	:	:	10.1	12.6	10.2	:	:	:	:	:	7.9	6.3
1979	:	:	:	:	:	:	:	10.5	13.0	10.9	11.1	:	:	:	:	8.7	8.3
1980	:	:	:	:	:	:	:	11.7	13.9	12.3	12.7	:	:	:	:	10.8	8.9
1971-80	:	:	:	:	:	:	:	9.0	12.5	10.2	:	:	:	:	:	7.3	:
1981	:	:	:	:	:	:	:	13.5	14.8	14.5	14.6	:	:	:	:	12.9	8.4
1982	:	:	:	:	:	:	:	13.0	12.7	13.9	14.0	:	:	:	:	12.2	8.3
1983	:	:	:	:	:	:	:	12.3	10.8	12.2	12.6	:	:	:	:	10.8	7.8
1984	:	:	:	:	:	:	:	12.3	11.1	11.5	12.0	:	:	:	:	12.0	7.3
1985	:	:	:	:	:	:	:	13.0	11.0	10.4	11.0	:	:	:	:	10.8	6.5
1986	:	:	:	:	:	:	:	10.3	10.1	8.8	9.2	:	:	:	:	8.1	5.2
1987	:	:	:	:	:	:	:	11.7	9.6	8.8	9.4	:	:	:	:	8.7	4.7
1988	:	:	:	:	:	:	:	11.4	9.7	8.8	9.3	:	:	:	:	9.0	4.7
1989	:	:	:	:	:	:	:	11.2	10.2	9.4	9.8	:	:	:	:	8.5	5.2
1990	:	:	:	:	:	:	:	13.2	11.8	10.8	11.1	:	:	:	:	8.7	7.5
1981-90	:	:	:	:	:	:	:	12.2	11.2	10.9	11.3	:	:	:	:	10.2	6.6
1991	:	:	:	:	:	:	:	10.7	10.1	10.0	10.2	:	:	:	:	8.0	6.5
1992	:	:	:	:	:	:	:	10.0	9.1	9.4	9.6	:	:	:	:	7.1	5.2
1993	:	:	:	:	:	:	:	8.6	7.6	7.7	8.3	:	:	:	:	6.0	4.1
1994	:	:	:	:	:	:	:	9.7	8.2	8.0	8.4	:	:	:	:	7.2	4.2
1995	:	:	:	:	:	:	:	10.2	8.4	8.4	8.8	:	:	:	:	6.7	3.3
1996	:	:	:	:	:	:	:	8.0	7.9	7.2	7.5	:	:	:	:	6.5	3.0
1997	:	:	:	:	:	:	:	6.6	7.1	6.2	6.3	:	:	:	:	6.5	2.2
1998	:	:	:	:	:	:	:	5.0	5.6	4.9	4.9	:	:	:	:	5.3	1.3
1999	:	:	9.9	:	9.5	:	:	5.0	5.0	4.7	4.7	:	:	:	:	5.6	1.8
2000	:	:	8.6	5.8	11.8	:	8.3	5.4	5.3	5.4	5.4	:	:	:	:	6.0	1.8
1991-2000	:	:	:	:	:	:	:	7.9	7.4	7.2	7.4	:	:	:	:	6.5	3.3
2001	7.6	8.2	7.9	6.1	10.7	:	8.1	5.1	5.0	5.0	5.0	:	:	:	:	5.0	1.3
2002	5.4	6.1	7.1	5.7	7.3	:	6.9	5.3	4.9	4.9	4.9	8.3	:	:	:	4.6	1.3
2003	4.9	5.3	6.8	5.0	5.8	6.4	5.0	4.6	4.6	4.2	4.2	6.4	:	:	:	4.0	1.0

(1) BE, DK, DE, FR, IT, NL, FI, SE and UK; 1961-90 including D_90.

(2) Former EU-15; 1961-90 including D_90.

Table 51

**Money, interest rates and exchange rates
ECU–EUR exchange rates ⁽¹⁾**

(annual average, national currency units per EUR ⁽¹⁾)

	EUR– BEF	EUR– DEM	EUR– GRD	EUR– ESP	EUR– FRF	EUR– IEP	EUR– ITL	EUR– LUF	EUR– NLG	EUR– ATS	EUR– PTE	EUR– FIM	CZK	DKK	EEK	CYP
1960	1.3091	2.2681	0.09299	0.3809	0.7950	0.4790	0.3409	1.3091	1.8213	1.9957	0.1515	0.5685	:	7.2954	:	0.37925
1965	1.3260	2.1879	0.09419	0.3855	0.8052	0.4851	0.3453	1.3260	1.7573	2.0214	0.1534	0.5757	:	7.3893	:	0.38301
1970	1.2670	1.9129	0.09000	0.4289	0.8656	0.5408	0.3300	1.2670	1.6792	1.9315	0.1465	0.7221	:	7.6668	:	0.42653
1975	1.1296	1.5591	0.11737	0.4223	0.8109	0.7108	0.4181	1.1296	1.4226	1.5659	0.1568	0.7643	:	7.1227	:	0.45704
1980	1.0064	1.2906	0.17437	0.5992	0.8947	0.8583	0.6142	1.0064	1.2526	1.3058	0.3469	0.8699	:	7.8274	:	0.46277
1981	1.0237	1.2853	0.18085	0.6171	0.9208	0.8774	0.6524	1.0237	1.2593	1.2874	0.3417	0.8061	:	7.9226	:	0.45596
1982	1.1084	1.2148	0.19176	0.6464	0.9804	0.8756	0.6837	1.1084	1.1861	1.2136	0.3891	0.7917	:	8.1569	:	0.45861
1983	1.1264	1.1609	0.22917	0.7663	1.0322	0.9078	0.6972	1.1264	1.1513	1.1605	0.4923	0.8322	:	8.1319	:	0.43546
1984	1.1265	1.1443	0.25947	0.7607	1.0476	0.9218	0.7134	1.1265	1.1450	1.1435	0.5770	0.7945	:	8.1465	:	0.41703
1985	1.1134	1.1383	0.31031	0.7761	1.0359	0.9081	0.7478	1.1134	1.1394	1.1368	0.6497	0.7895	:	8.0188	:	0.54142
1986	1.0857	1.0881	0.40330	0.8261	1.0366	0.9314	0.7550	1.0857	1.0895	1.0875	0.7337	0.8375	:	7.9357	:	0.55174
1987	1.0670	1.0592	0.45860	0.8544	1.0563	0.9846	0.7721	1.0670	1.0592	1.0589	0.8111	0.8519	:	7.8847	:	0.62661
1988	1.0766	1.0606	0.49178	0.8270	1.0727	0.9849	0.7940	1.0766	1.0595	1.0600	0.8483	0.8315	:	7.9515	:	0.54794
1989	1.0754	1.0585	0.52484	0.7838	1.0708	0.9864	0.7801	1.0754	1.0597	1.0588	0.8650	0.7944	:	8.0493	:	0.59257
1990	1.0517	1.0492	0.59108	0.7778	1.0541	0.9749	0.7860	1.0517	1.0492	1.0494	0.9034	0.8165	26.927	7.8565	:	0.58195
1991	1.0467	1.0485	0.66094	0.7721	1.0631	0.9749	0.7918	1.0467	1.0487	1.0487	0.8909	0.8413	34.597	7.9086	:	0.57335
1992	1.0311	1.0330	0.72495	0.7965	1.0440	0.9659	0.8240	1.0311	1.0323	1.0332	0.8715	0.9767	36.827	7.8093	15.672	0.58368
1993	1.0033	0.9901	0.78817	0.8963	1.0113	1.0157	0.9509	1.0033	0.9871	0.9901	0.9396	1.1262	34.169	7.5936	15.484	0.58294
1994	0.9831	0.9840	0.84527	0.9551	1.0035	1.0077	0.9890	0.9831	0.9794	0.9840	0.9821	1.0412	34.151	7.5433	15.393	0.58393
1995	0.9557	0.9580	0.88918	0.9796	0.9947	1.0355	1.1001	0.9557	0.9524	0.9580	0.9782	0.9601	34.696	7.3280	14.984	0.59162
1996	0.9742	0.9763	0.89669	0.9661	0.9899	1.0075	1.0117	0.9742	0.9710	0.9763	0.9765	0.9802	34.457	7.3593	15.273	0.59190
1997	1.0048	1.0044	0.90787	0.9970	1.0081	0.9491	0.9964	1.0048	1.0032	1.0046	0.9906	0.9891	35.930	7.4836	15.713	0.58243
1998	1.0070	1.0068	0.97060	1.0048	1.0064	0.9983	1.0038	1.0070	1.0072	1.0068	1.0061	1.0062	36.049	7.4993	15.748	0.57934
1999	1.0000	1.0000	0.95602	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	36.884	7.4355	15.647	0.57884
2000	1.0000	1.0000	0.98791	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	35.599	7.4538	15.647	0.57392
2001	1.0000	1.0000	1.00000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	34.068	7.4521	15.647	0.57589
2002	1.0000	1.0000	1.00000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	30.804	7.4305	15.647	0.57530
2003	1.0000	1.0000	1.00000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	31.846	7.4307	15.647	0.58409

⁽¹⁾ 1960–98 ECU.

Table 51 (continued)

(annual average, national currency units per EUR (¹))

	LVL	LTL	100 HUF	MTL	PLN	SIT	SKK	SEK	GBP	BGN	1 000 ROL	1 000 TRL	HRK	USD	100 JPY
1960	:	:	:	0.37925	:	:	:	5.4640	0.37722	:	:	0.0	:	1.0562	3.8023
1965	:	:	:	0.38301	:	:	:	5.5340	0.38207	:	:	0.0	:	1.0698	3.8513
1970	:	:	:	0.42653	:	:	:	5.2882	0.42593	:	:	0.0	:	1.0222	3.6800
1975	:	:	:	0.47330	:	:	:	5.1413	0.56003	:	:	0.0	:	1.2408	3.6073
1980	:	:	0.4260	0.45160	0.0061	:	:	5.8810	0.59849	:	0.024	0.1	:	1.3923	3.1504
1981	:	:	0.3723	0.41899	0.0109	:	:	5.6347	0.55311	:	0.016	0.1	:	1.1165	2.4538
1982	:	:	0.3545	0.39822	0.0097	:	:	6.1434	0.56046	:	0.015	0.2	:	0.9797	2.4355
1983	:	:	0.3799	0.35817	0.0082	:	:	6.8212	0.58701	:	0.014	0.2	:	0.8902	2.1135
1984	:	:	0.3791	0.32670	0.0089	:	:	6.5110	0.59063	:	0.015	0.3	:	0.7890	1.8709
1985	:	:	0.2227	0.41492	0.0065	:	:	6.5213	0.58898	0.0005	0.008	0.5	:	0.7631	1.8056
1986	:	:	0.4369	0.41976	0.0167	:	:	6.9957	0.67154	0.0009	0.015	0.7	:	0.9842	1.6500
1987	:	:	0.7227	0.44943	0.0408	:	:	7.3100	0.70457	0.0013	0.022	1.1	:	1.1544	1.6660
1988	:	:	0.8335	0.38699	0.0712	:	:	7.2419	0.66443	0.0014	0.024	1.7	:	1.1825	1.5146
1989	:	:	0.7899	0.41707	0.1925	:	:	7.0994	0.67330	0.0011	0.020	2.5	:	1.1018	1.5194
1990	:	:	1.3052	0.40363	1.9618	:	:	7.5205	0.71385	0.0045	0.046	3.3	:	1.2734	1.8366
1991	:	:	1.4220	0.39982	2.0169	36.97	:	7.4793	0.70101	0.0339	0.145	5.2	:	1.2392	1.6649
1992	0.89607	2.1433	1.7278	0.41295	2.9748	105.19	:	7.5330	0.73765	0.0511	0.674	8.9	:	1.2981	1.6422
1993	0.79360	5.0868	1.0761	0.44707	2.1222	132.49	36.032	9.1215	0.77999	0.0323	0.886	12.9	4.1892	1.1710	1.3015
1994	0.66410	4.7319	1.2503	0.44862	2.7015	152.77	38.118	9.1631	0.77590	0.0644	1.972	35.5	7.1325	1.1895	1.2132
1995	0.68954	5.2320	1.6455	0.46143	3.1705	154.88	38.865	9.3319	0.82879	0.0879	2.662	59.9	6.8409	1.3080	1.2301
1996	0.69961	5.0790	1.9376	0.45768	3.4223	171.78	38.923	8.5147	0.81380	0.2251	3.922	103.2	6.8996	1.2698	1.3808
1997	0.65940	4.5362	2.1165	0.43750	3.7155	180.99	38.113	8.6512	0.69230	1.9016	8.112	171.8	6.9797	1.1340	1.3708
1998	0.66024	4.4844	2.4057	0.43498	3.9165	185.95	39.541	8.9159	0.67643	1.9691	9.985	293.7	7.1279	1.1211	1.4642
1999	0.62560	4.2641	2.5277	0.42580	4.2274	194.47	44.123	8.8075	0.65874	1.9558	16.345	447.2	7.5805	1.0658	1.2132
2000	0.55920	3.6952	2.6004	0.40410	4.0082	206.61	42.602	8.4452	0.60948	1.9522	19.922	574.8	7.6349	0.9236	0.9947
2001	0.56010	3.5823	2.5659	0.40300	3.6721	217.98	43.300	9.2551	0.62187	1.9482	26.004	1102.4	7.4697	0.8956	1.0868
2002	0.58100	3.4594	2.4296	0.40890	3.8574	225.98	42.694	9.1611	0.62883	1.9492	31.270	1439.7	7.4066	0.9456	1.1806
2003	0.64070	3.4527	2.5362	0.42610	4.3996	233.85	41.489	9.1242	0.69199	1.9490	37.551	1694.9	7.5634	1.1312	1.3097

(¹) 1960–98 ECU.

Table 52

Money, interest rates and exchange rates**Conversion rates between the euro and the former national currencies of the euro zone**

EUR 1	=	40.3399	Belgian francs
	=	1.95583	German marks
	=	340.75	Greek drachma
	=	166.386	Spanish pesetas
	=	6.55957	French francs
	=	0.787564	Irish pounds
	=	1936.27	Italian lire
	=	40.3399	Luxembourg francs
	=	2.20371	Dutch guilders
	=	13.7603	Austrian schillings
	=	200.482	Portuguese escudos
	=	5.94573	Finnish markkaa

Table 53

Money, interest rates and exchange rates
Nominal effective exchange rates
Performance relative to the rest of 22 industrial countries; double export weights

(1995 = 100)

	BE	DE	EL	ES	FR	IE	IT	NL	AT	PT	FI	EUR-11 ⁽¹⁾	CZ	DK	EE	CY
1960	77.9	:	985.6	214.1	122.6	148.0	350.3	55.5	53.1	553.8	152.1	79.0	:	89.0	:	:
1965	76.7	:	973.8	212.3	121.4	147.9	346.0	57.6	52.3	550.5	150.6	81.0	:	88.1	:	:
1970	78.2	:	983.9	186.5	108.4	141.3	353.2	58.3	52.5	579.5	118.8	84.1	:	84.1	:	:
1975	83.8	:	751.0	194.3	115.1	125.5	268.8	66.2	63.1	569.1	114.2	99.5	:	93.4	:	:
1980	94.1	:	509.6	145.9	106.2	109.5	180.5	74.6	76.0	269.9	104.3	101.9	:	88.5	:	:
1981	89.6	:	466.1	133.9	98.0	100.8	160.5	72.0	74.4	261.2	106.7	87.0	:	82.7	:	:
1982	81.7	:	429.9	128.8	90.6	100.8	151.0	76.0	77.5	228.1	108.2	84.5	:	79.8	:	:
1983	80.0	:	351.8	109.4	85.0	97.8	146.8	78.0	79.7	180.8	102.9	81.2	:	80.1	:	:
1984	78.7	:	303.3	108.0	81.6	94.5	139.5	77.1	79.3	151.7	105.1	76.4	:	77.8	:	:
1985	79.4	:	257.5	106.3	82.8	95.8	133.0	77.4	79.9	135.0	105.8	75.5	:	78.9	:	:
1986	84.8	:	204.4	106.9	87.9	102.0	140.3	83.9	86.0	125.7	105.8	87.4	:	85.3	:	:
1987	88.4	:	184.2	107.8	89.1	99.9	142.4	88.2	89.7	117.0	107.2	94.9	:	89.2	:	:
1988	87.4	:	171.4	111.8	87.2	98.3	137.7	88.0	89.5	110.8	109.0	92.1	:	87.6	:	:
1989	86.7	:	158.6	116.8	86.1	97.4	138.4	87.2	88.8	107.2	112.6	91.1	:	85.4	:	:
1990	91.2	:	145.0	122.1	91.3	103.1	143.2	90.5	91.8	105.5	114.6	101.2	:	91.6	:	:
1991	91.1	:	128.8	122.4	89.5	101.9	140.8	90.0	91.3	106.3	110.2	98.0	:	90.2	:	:
1992	93.0	:	119.2	119.7	92.8	105.1	136.6	92.2	93.4	110.0	96.2	101.3	:	92.6	:	:
1993	93.9	:	109.9	105.5	95.3	100.2	114.3	95.4	96.2	102.8	83.6	96.0	:	95.2	:	:
1994	95.6	:	102.6	99.1	96.0	99.7	109.5	95.8	96.3	98.7	90.0	94.3	:	95.3	:	:
1995	100.0	:	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	:	100.0	:	:
1996	97.9	:	98.2	100.9	100.2	102.5	109.4	98.0	98.0	100.5	97.3	100.5	:	99.2	:	:
1997	93.7	:	95.6	96.1	96.2	104.2	109.2	93.6	94.9	97.9	94.0	91.7	:	96.0	:	:
1998	94.0	:	89.9	96.0	97.1	99.4	109.3	93.7	95.3	96.8	93.5	92.2	:	96.9	:	:
1999	92.6	:	89.5	94.4	95.1	96.4	106.8	92.5	94.2	95.6	91.5	87.9	:	95.3	:	:
2000	89.3	:	83.7	91.2	90.8	90.8	102.1	89.5	91.5	92.9	87.3	78.9	:	90.9	:	:
2001	89.8	:	83.1	91.5	91.3	91.4	102.5	90.1	91.8	93.2	88.4	79.8	:	92.3	:	:
2002	90.7	:	83.9	92.5	92.6	93.1	104.0	90.8	92.5	93.9	89.5	82.3	:	93.4	:	:
2003	94.4	:	87.0	96.2	97.0	99.7	109.1	94.0	95.3	97.0	93.8	91.9	:	97.3	:	:
2004	95.4	:	87.8	97.1	98.2	101.3	110.8	94.7	96.2	97.7	95.1	94.8	:	98.3	:	:
2005	95.7	:	88.0	97.4	98.5	101.9	111.0	95.0	96.3	97.9	95.3	95.4	:	98.2	:	:
2006	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:

⁽¹⁾ EU-15 excluding DK, LU, SE and UK relative to 11 industrial countries.

Table 53 (continued)

(1995 = 100)

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EUR-14 ⁽¹⁾	BG	RO	TR	HR	US	JP
1960	:	:	:	:	:	:	:	155.8	212.2	127.1	:	:	:	:	82.7	24.1
1965	:	:	:	:	:	:	:	154.3	212.1	129.8	:	:	:	:	83.7	24.1
1970	:	:	:	:	:	:	:	160.9	185.2	124.7	:	:	:	:	85.0	24.5
1975	:	:	:	:	:	:	:	167.2	142.5	132.2	:	:	:	:	73.4	27.1
1980	:	:	:	:	:	:	:	152.2	139.9	129.9	:	:	:	:	71.0	34.6
1981	:	:	:	:	:	:	:	149.8	141.7	107.3	:	:	:	:	79.6	39.3
1982	:	:	:	:	:	:	:	135.5	136.9	100.4	:	:	:	:	94.3	37.7
1983	:	:	:	:	:	:	:	121.5	128.3	91.3	:	:	:	:	104.3	42.3
1984	:	:	:	:	:	:	:	123.9	122.6	83.2	:	:	:	:	114.1	44.9
1985	:	:	:	:	:	:	:	123.6	122.7	82.1	:	:	:	:	121.9	46.4
1986	:	:	:	:	:	:	:	124.1	115.6	94.3	:	:	:	:	108.1	60.7
1987	:	:	:	:	:	:	:	123.9	114.8	103.2	:	:	:	:	100.9	66.6
1988	:	:	:	:	:	:	:	124.3	121.9	102.2	:	:	:	:	97.8	73.9
1989	:	:	:	:	:	:	:	124.8	117.7	99.1	:	:	:	:	102.3	70.6
1990	:	:	:	:	:	:	:	123.1	116.4	112.0	:	:	:	:	98.1	63.8
1991	:	:	:	:	:	:	:	122.8	117.4	107.9	:	:	:	:	97.8	69.4
1992	:	:	:	:	:	:	:	124.3	112.9	110.6	:	:	:	:	96.3	73.0
1993	:	:	:	:	:	:	:	101.1	103.6	96.9	:	:	:	:	99.9	87.9
1994	:	:	:	:	:	:	:	100.0	104.1	94.8	:	:	:	:	99.0	94.9
1995	:	:	:	:	:	:	:	100.0	100.0	100.0	:	:	:	:	100.0	100.0
1996	:	:	:	:	:	:	:	109.7	101.6	102.7	:	:	:	:	105.7	87.2
1997	:	:	:	:	:	:	:	105.2	117.7	97.5	:	:	:	:	114.0	82.3
1998	:	:	:	:	:	:	:	103.5	122.3	99.8	:	:	:	:	121.0	77.7
1999	:	:	:	:	:	:	:	101.7	121.6	93.6	:	:	:	:	120.3	91.0
2000	:	:	:	:	:	:	:	101.2	125.0	83.0	:	:	:	:	125.8	101.7
2001	:	:	:	:	:	:	:	92.7	122.9	82.8	:	:	:	:	132.2	92.2
2002	:	:	:	:	:	:	:	94.7	123.7	86.3	:	:	:	:	130.8	87.4
2003	:	:	:	:	:	:	:	100.3	118.5	97.3	:	:	:	:	118.8	87.0
2004	:	:	:	:	:	:	:	102.0	123.8	103.1	:	:	:	:	112.1	88.3
2005	:	:	:	:	:	:	:	103.1	121.6	103.2	:	:	:	:	110.9	88.9
2006	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:

⁽¹⁾ EU-15 excluding LU relative to eight industrial non-member countries.

Table 54

**General government (% of GDP at market prices)
Taxes linked to imports and production (indirect taxes); general government
ESA 95**

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1970	13.9	12.5	:	:	:	:	:	:	9.6	:	:	:	:	:	:	:	:
1971	13.5	12.5	:	:	:	:	:	:	9.8	:	:	:	:	:	17.7	:	:
1972	12.5	12.5	:	:	:	:	:	:	10.1	:	:	:	:	:	18.0	:	:
1973	12.3	12.1	:	:	:	:	:	:	10.0	:	:	:	:	:	15.9	:	:
1974	12.2	11.6	:	:	:	:	:	:	9.5	:	:	:	:	:	14.9	:	:
1975	11.9	11.5	:	:	:	:	:	:	9.7	:	:	12.3	:	:	14.6	:	:
1976	12.3	11.5	:	:	:	:	:	:	10.1	15.9	:	12.3	:	:	15.2	:	:
1977	12.7	11.5	:	:	:	:	:	:	10.9	16.3	11.1	13.3	:	:	16.2	:	:
1978	12.7	11.6	:	:	14.4	:	:	:	10.9	15.8	10.4	13.6	:	:	17.3	:	:
1979	12.6	11.8	:	:	15.1	:	:	:	10.7	15.7	10.2	13.4	:	:	18.0	:	:
1980	11.7	11.8	:	:	15.0	:	8.4	:	10.3	15.7	11.9	13.3	:	:	17.7	:	:
1981	11.8	11.5	:	:	15.1	:	7.9	:	9.9	15.8	12.1	13.6	:	:	17.4	:	:
1982	11.8	11.3	:	:	15.3	:	8.6	:	9.9	15.6	12.5	13.6	:	:	16.6	:	:
1983	12.2	11.3	:	:	15.3	:	9.3	:	10.0	15.7	13.2	13.5	:	:	16.8	:	:
1984	11.9	11.3	:	:	15.7	:	9.3	:	10.3	16.3	13.0	14.3	:	:	17.1	:	:
1985	11.8	11.1	:	:	15.8	15.5	9.0	:	10.3	16.2	12.7	14.4	:	:	17.3	:	:
1986	11.4	10.8	:	:	15.4	15.3	9.1	:	10.6	16.0	13.3	14.9	:	:	18.6	:	:
1987	11.7	10.8	:	:	15.5	15.0	9.4	:	11.1	16.1	12.8	15.0	:	:	18.4	:	:
1988	11.7	10.7	12.5	:	15.3	15.3	10.1	:	11.0	15.6	13.4	16.1	:	:	18.3	:	:
1989	11.7	10.9	11.3	:	14.9	15.1	10.3	:	10.3	15.5	12.9	15.9	:	:	17.4	:	:
1990	11.8	11.0	12.9	:	14.8	14.4	10.7	11.8	10.3	15.2	12.9	15.2	:	:	16.7	:	:
1991		11.0															
1991	11.7	11.1	13.5	:	14.6	14.0	11.1	11.7	10.4	15.1	13.0	15.3	:	:	16.4	:	:
1992	11.8	11.1	14.8	:	14.4	14.0	11.3	12.4	10.4	15.1	13.8	15.0	:	13.9	16.3	:	:
1993	12.1	11.5	14.0	:	14.7	13.1	12.0	13.1	11.2	15.3	13.0	14.6	:	14.0	16.6	13.1	:
1994	12.4	11.8	13.8	:	15.2	14.0	11.8	13.3	10.7	15.2	13.6	14.7	:	13.8	17.0	14.5	:
1995	12.2	11.4	13.5	10.2	15.4	13.5	12.1	12.5	10.7	15.2	13.6	13.6	12.5	12.3	16.9	13.9	:
1996	12.7	11.4	14.0	10.2	16.1	13.7	11.8	12.6	11.2	14.2	14.0	13.8	12.7	12.3	17.3	14.0	:
1997	12.9	11.4	14.3	10.5	16.0	13.5	12.4	12.8	11.4	14.7	13.8	14.4	12.8	11.7	17.5	14.7	:
1998	12.9	11.6	14.4	11.1	16.0	13.1	15.3	12.9	11.6	14.7	14.3	14.1	13.5	11.2	18.2	12.8	11.6
1999	13.2	12.2	15.1	11.7	15.9	13.1	15.1	13.6	12.2	14.8	14.8	14.3	13.8	11.8	18.1	12.2	11.2
2000	13.1	12.0	15.2	11.7	15.5	13.2	15.0	14.1	12.1	14.4	14.4	13.7	13.5	11.5	17.2	12.9	13.0
2001	12.7	11.9	14.7	11.4	15.0	12.0	14.5	13.6	12.6	14.4	14.2	13.4	13.3	11.1	17.3	12.8	13.7
2002	12.9	11.9	14.6	11.6	15.1	12.2	14.7	13.4	12.6	14.8	15.0	13.8	13.4	11.1	17.5	13.1	13.9
2003	12.9	12.0	14.1	12.0	15.1	12.7	14.5	13.6	12.7	14.7	15.6	14.1	13.4	11.4	17.3	13.1	16.8
2004	13.2	11.7	14.2	12.0	15.3	12.8	14.3	13.5	13.1	14.5	15.3	14.0	13.4	11.9	17.2	12.1	16.9
2005	13.3	11.6	14.2	12.2	15.3	12.8	14.5	13.7	13.3	14.4	15.4	13.9	13.4	12.0	17.1	12.8	17.2
2006	13.4	11.5	14.2	12.3	15.3	12.7	14.6	13.9	13.5	14.4	15.5	13.7	13.4	11.8	16.8	12.8	17.3

(¹) 1970-91 D_90.

(²) Euro area: 1970-91 including D_90.

Table 54 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US ⁽²⁾	JP
1970	:	:	:	:	:	:	:	:	14.5	:	:	:	:	:	:	8.9	:
1971	:	:	:	:	:	:	:	:	13.3	:	:	:	:	:	:	9.0	:
1972	:	:	:	:	:	:	:	:	12.5	:	:	:	:	:	:	8.8	:
1973	:	:	:	:	:	:	:	:	11.1	:	:	:	:	:	:	8.6	:
1974	:	:	:	:	:	:	:	:	11.5	:	:	:	:	:	:	8.4	:
1975	:	:	:	:	:	:	:	:	11.1	:	:	:	:	:	:	8.3	:
1976	:	:	:	:	:	:	:	:	10.9	:	:	:	:	:	:	8.1	:
1977	:	:	:	:	:	:	:	:	11.3	:	:	:	:	:	:	7.9	:
1978	:	:	:	:	:	:	:	:	11.2	:	:	:	:	:	:	7.5	:
1979	:	:	:	:	:	:	:	:	11.9	:	:	:	:	:	:	7.1	:
1980	:	:	:	:	:	:	:	:	13.2	:	:	:	:	:	:	7.3	:
1981	:	:	:	:	:	:	:	:	13.5	:	:	:	:	:	:	7.6	:
1982	:	:	:	:	:	:	:	:	13.7	:	:	:	:	:	:	7.5	:
1983	:	:	:	:	:	:	:	:	13.3	:	:	:	:	:	:	7.5	:
1984	:	:	:	:	:	:	:	:	13.6	:	:	:	:	:	:	7.4	:
1985	:	:	:	:	:	:	:	:	13.0	:	:	:	:	:	:	7.4	:
1986	:	:	:	:	:	:	:	:	13.1	:	:	:	:	:	:	7.3	:
1987	:	:	:	:	:	:	:	:	13.1	:	:	:	:	:	:	7.4	:
1988	:	:	:	:	:	:	:	:	13.1	:	:	:	:	:	:	7.4	:
1989	:	:	:	:	:	:	:	:	12.6	:	:	:	:	:	:	7.3	:
1990	19.8	:	:	:	:	:	:	:	12.2	:	:	:	:	:	:	7.4	8.0
1991	11.5	:	:	:	15.3	:	:	:	13.2	:	:	9.6	:	:	:	7.7	7.3
1992	6.5	:	:	:	13.1	:	:	:	13.1	:	:	10.5	:	:	:	7.7	7.8
1993	10.5	9.6	:	:	15.0	:	13.4	16.8	12.7	:	:	12.3	:	:	:	7.6	7.5
1994	12.3	11.3	:	:	15.4	:	16.5	16.3	13.0	:	:	14.0	:	:	:	7.8	7.6
1995	13.7	12.3	17.9	:	15.8	:	15.6	15.6	13.1	:	12.7	12.8	:	:	:	7.6	7.8
1996	12.6	11.9	16.9	:	16.0	:	15.5	16.1	13.0	:	12.9	13.5	:	:	:	7.5	7.9
1997	13.0	14.6	15.6	:	15.4	:	14.4	16.3	13.3	:	13.1	12.7	:	:	:	7.4	7.8
1998	14.0	14.0	15.9	:	15.0	:	13.4	17.1	13.2	:	13.6	13.3	:	:	:	7.4	8.3
1999	13.2	13.8	16.3	:	15.5	:	13.1	18.4	13.6	:	14.0	13.2	:	:	:	7.3	8.5
2000	11.7	12.5	16.4	12.7	14.8	16.5	13.0	16.4	13.6	13.7	13.7	13.8	:	:	:	7.3	8.4
2001	11.2	12.2	15.7	13.3	14.4	16.2	11.8	16.5	13.3	13.4	13.4	14.2	:	:	:	7.2	8.5
2002	10.7	12.5	15.2	14.1	14.7	16.5	12.0	16.9	13.3	13.6	13.5	:	:	:	:	7.3	8.3
2003	11.5	11.9	16.6	13.9	15.1	16.8	11.5	17.2	13.3	13.6	13.6	:	:	:	:	7.3	8.1
2004	11.3	11.1	15.7	15.2	15.1	16.5	11.6	17.1	13.3	13.6	13.6	:	:	:	:	7.2	8.1
2005	11.1	10.3	15.8	15.2	15.0	15.8	11.5	16.9	13.2	13.6	13.6	:	:	:	:	7.0	8.1
2006	11.1	9.6	15.9	15.2	14.9	15.5	11.4	16.7	13.2	13.6	13.6	:	:	:	:	6.9	8.1

⁽¹⁾ Former EU-15.⁽²⁾ National definition.

Table 55

**General government (% of GDP at market prices)
Current taxes on income and wealth (direct taxes); general government
ESA 95**

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1970	10.5	11.0	:	:	:	:	:	:	12.7	:	:	:	:	:	:	:	:
1971	11.2	11.4	:	:	:	:	:	:	13.6	:	:	:	:	:	23.9	:	:
1972	11.8	11.1	:	:	:	:	:	:	14.2	:	:	:	:	:	23.1	:	:
1973	12.9	12.6	:	:	:	:	:	:	14.3	:	:	:	:	:	24.1	:	:
1974	13.8	13.0	:	:	:	:	:	:	14.6	:	:	:	:	:	27.2	:	:
1975	15.6	12.0	:	:	:	:	:	:	15.1	:	:	16.3	:	:	23.8	:	:
1976	15.2	12.7	:	:	:	:	:	:	14.9	10.6	:	19.0	:	:	24.1	:	:
1977	16.5	13.7	:	:	:	:	:	:	14.9	10.8	5.3	17.6	:	:	23.5	:	:
1978	17.4	12.9	:	:	6.8	:	:	:	15.0	12.1	5.4	15.3	:	:	23.7	:	:
1979	17.8	12.6	:	:	7.1	:	:	:	15.2	11.7	5.9	14.3	:	:	24.0	:	:
1980	17.1	12.7	:	:	7.6	:	9.5	:	15.3	11.9	5.7	14.4	:	:	25.0	:	:
1981	17.0	12.1	:	:	7.8	:	10.3	:	14.6	12.4	6.5	15.9	:	:	24.9	:	:
1982	17.9	12.0	:	:	8.0	:	11.6	:	14.5	11.9	6.9	15.7	:	:	24.5	:	:
1983	17.9	11.9	:	:	8.1	:	12.1	:	13.3	11.5	7.8	15.7	:	:	25.7	:	:
1984	18.4	12.0	:	:	8.4	:	12.3	:	12.6	11.9	7.6	16.1	:	:	26.7	:	:
1985	18.1	12.4	:	:	8.3	13.1	12.4	:	12.4	12.6	7.7	16.7	:	:	27.8	:	:
1986	17.8	12.1	:	:	8.3	13.9	12.6	:	13.0	12.6	5.9	17.7	:	:	28.6	:	:
1987	17.5	12.2	:	:	8.3	14.3	12.7	:	13.7	12.1	5.3	15.8	:	:	29.0	:	:
1988	16.9	12.0	5.2	:	7.9	15.2	13.2	:	13.9	11.7	6.5	17.2	:	:	30.3	:	:
1989	15.4	12.4	5.0	:	8.0	12.7	13.9	:	13.5	10.8	7.6	16.9	:	:	30.0	:	:
1990	15.7	11.0	5.5	:	8.2	13.2	14.2	16.8	15.0	11.4	7.7	17.6	:	:	28.3	:	:
1991	11.7																
1991	15.4	11.4	5.7	:	8.5	13.9	14.4	15.2	16.3	12.0	8.5	17.7	:	:	28.5	:	:
1992	14.8	11.7	5.1	:	8.3	14.2	14.7	14.3	15.3	12.4	9.5	16.7	:	16.8	29.0	:	:
1993	15.9	11.5	5.6	:	8.2	14.9	16.1	16.1	16.2	12.6	8.6	15.8	:	10.8	30.1	12.9	:
1994	16.1	11.0	6.8	:	8.5	15.3	15.0	16.7	13.4	11.0	8.4	17.2	:	9.7	30.8	11.9	:
1995	16.7	11.1	7.4	10.1	8.5	13.6	14.8	17.5	12.4	11.6	8.9	17.4	11.4	9.6	30.4	10.9	:
1996	16.7	11.5	7.1	10.3	8.9	14.1	15.4	17.9	12.9	12.6	9.5	19.0	11.9	8.5	30.6	9.5	:
1997	17.1	11.2	7.8	10.5	9.5	14.0	16.1	17.4	12.4	13.3	9.6	18.5	12.1	9.0	30.3	9.6	:
1998	17.7	11.5	9.5	10.2	11.7	13.8	14.5	16.4	12.2	13.5	9.3	18.9	12.4	8.4	29.9	10.4	10.2
1999	17.1	12.0	9.9	10.2	12.2	13.7	15.2	15.7	12.2	13.2	9.8	18.9	12.8	8.6	30.8	10.1	11.2
2000	17.3	12.5	10.8	10.5	12.2	13.5	14.7	15.4	12.1	13.0	10.4	21.4	13.0	8.4	29.7	8.1	11.5
2001	17.6	11.1	9.5	10.4	12.5	12.9	15.1	15.5	11.9	14.8	9.9	19.5	12.6	8.9	30.0	7.6	11.8
2002	17.6	10.8	9.5	10.9	11.5	11.7	14.3	16.0	12.0	13.8	9.8	19.4	12.2	9.3	29.4	7.9	11.6
2003	17.0	10.6	8.8	10.6	11.2	12.2	13.7	15.7	11.2	13.3	9.3	18.2	11.8	9.8	29.6	8.7	9.8
2004	17.1	10.2	8.9	10.5	11.1	12.1	13.9	15.2	10.8	13.3	9.1	18.2	11.6	9.4	29.9	9.2	10.3
2005	17.0	10.1	8.9	10.5	11.3	11.6	14.0	15.0	10.8	12.3	8.7	17.8	11.6	8.4	29.8	8.7	10.4
2006	16.7	10.3	8.9	10.5	11.2	11.6	13.9	14.7	10.9	12.1	8.7	17.6	11.6	8.4	29.5	8.4	10.6

(¹) 1970-91 D_90.

(²) Euro area: 1970-91 including D_90.

Table 55 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US ⁽²⁾	JP
1970	:	:	:	:	:	:	:	:	16.8	:	:	:	:	:	:	13.4	:
1971	:	:	:	:	:	:	:	:	16.3	:	:	:	:	:	:	12.6	:
1972	:	:	:	:	:	:	:	:	15.0	:	:	:	:	:	:	13.6	:
1973	:	:	:	:	:	:	:	:	14.9	:	:	:	:	:	:	13.3	:
1974	:	:	:	:	:	:	:	:	17.6	:	:	:	:	:	:	13.7	:
1975	:	:	:	:	:	:	:	:	18.2	:	:	:	:	:	:	12.3	:
1976	:	:	:	:	:	:	:	:	17.3	:	:	:	:	:	:	13.1	:
1977	:	:	:	:	:	:	:	:	16.2	:	:	:	:	:	:	13.5	:
1978	:	:	:	:	:	:	:	:	15.5	:	:	:	:	:	:	13.8	:
1979	:	:	:	:	:	:	:	:	15.0	:	:	:	:	:	:	14.1	:
1980	:	:	:	:	:	:	:	:	15.8	:	:	:	:	:	:	13.9	:
1981	:	:	:	:	:	:	:	:	16.8	:	:	:	:	:	:	13.8	:
1982	:	:	:	:	:	:	:	:	17.3	:	:	:	:	:	:	13.0	:
1983	:	:	:	:	:	:	:	:	16.9	:	:	:	:	:	:	12.3	:
1984	:	:	:	:	:	:	:	:	17.0	:	:	:	:	:	:	12.1	:
1985	:	:	:	:	:	:	:	:	17.1	:	:	:	:	:	:	12.3	:
1986	:	:	:	:	:	:	:	:	16.4	:	:	:	:	:	:	12.3	:
1987	:	:	:	:	:	:	:	:	16.0	:	:	:	:	:	:	13.2	:
1988	:	:	:	:	:	:	:	:	16.1	:	:	:	:	:	:	12.7	:
1989	:	:	:	:	:	:	:	:	16.5	:	:	:	:	:	:	13.1	:
1990	11.2	:	:	:	:	:	:	:	16.7	:	:	:	:	:	:	12.8	13.3
1991	11.0	:	11.2	:	11.3	:	:	:	15.7	:	:	22.5	:	:	:	12.2	13.3
1992	7.9	:	10.1	:	13.7	:	:	:	14.8	:	:	14.6	:	:	:	12.0	12.5
1993	11.6	10.8	10.4	:	14.9	:	9.9	19.5	13.8	:	:	11.2	:	:	:	12.3	11.3
1994	6.4	10.3	10.3	:	13.6	:	6.7	20.4	14.2	:	:	13.8	:	:	:	12.6	10.3
1995	7.8	8.8	9.4	:	12.8	:	11.6	20.1	14.9	:	12.5	11.8	:	:	:	13.1	9.7
1996	7.7	8.3	9.5	:	11.1	:	10.5	21.0	14.8	:	13.0	12.8	:	:	:	13.7	9.7
1997	8.8	6.5	8.8	:	11.1	:	10.1	21.5	15.1	:	13.3	11.2	:	:	:	14.2	9.7
1998	9.3	9.1	8.9	:	10.6	:	10.0	21.4	16.3	:	13.7	9.9	:	:	:	14.6	8.5
1999	8.9	9.2	9.2	:	7.4	:	9.1	22.2	16.2	:	14.0	9.8	:	:	:	14.8	8.2
2000	8.3	8.5	9.9	9.2	7.4	7.6	7.6	22.5	16.7	14.0	14.3	9.4	:	:	:	15.4	8.6
2001	8.5	7.9	10.4	10.1	6.9	7.7	7.4	20.3	16.8	13.7	13.9	8.1	:	:	:	14.3	9.2
2002	8.7	7.5	10.4	11.7	6.6	8.0	7.4	18.1	15.7	13.1	13.3	:	:	:	:	11.8	7.9
2003	8.5	8.1	9.7	12.0	7.2	8.4	7.2	18.6	15.4	12.7	13.0	:	:	:	:	11.3	7.8
2004	8.2	8.5	9.3	11.5	7.1	8.7	6.0	18.7	15.5	12.7	12.9	:	:	:	:	11.4	7.6
2005	8.0	8.6	9.3	11.5	6.8	8.5	5.9	18.4	15.9	12.7	12.9	:	:	:	:	11.8	7.5
2006	7.7	8.7	9.3	11.5	6.5	8.3	5.9	18.5	16.1	12.7	13.0	:	:	:	:	11.6	7.4

⁽¹⁾ Former EU-15.⁽²⁾ National definition.

Table 56

**General government (% of GDP at market prices)
Social contributions received; general government
ESA 95**

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1970	11.3	12.1	:	:	:	:	:	:	13.7	:	:	:	:	:	:	:	:
1971	11.9	12.7	:	:	:	:	:	:	14.4	:	:	:	:	:	2.4	:	:
1972	12.1	13.2	:	:	:	:	:	:	14.7	:	:	:	:	:	2.5	:	:
1973	12.4	14.0	:	:	:	:	:	:	15.9	:	:	:	:	:	1.7	:	:
1974	12.7	14.6	:	:	:	:	:	:	16.9	:	:	:	:	:	1.5	:	:
1975	13.8	15.7	:	:	:	:	:	:	17.5	:	:	10.6	:	:	1.5	:	:
1976	13.9	16.2	:	:	:	:	:	:	17.2	12.5	:	11.4	:	:	1.5	:	:
1977	14.1	16.1	:	:	:	:	:	:	17.1	12.9	8.7	11.8	:	:	1.5	:	:
1978	14.0	15.9	:	:	17.8	:	:	:	17.4	14.4	7.3	10.8	:	:	1.5	:	:
1979	14.1	16.0	:	:	18.8	:	:	:	18.1	14.3	6.8	10.6	:	:	1.6	:	:
1980	14.0	16.2	:	:	19.3	:	14.1	:	17.9	14.7	7.6	10.9	:	:	1.8	:	:
1981	14.4	16.8	:	:	19.3	:	13.5	:	18.4	14.9	8.2	11.1	:	:	2.0	:	:
1982	14.6	17.1	:	:	20.0	:	14.1	:	19.2	14.8	8.4	10.7	:	:	2.3	:	:
1983	15.1	16.7	:	:	20.4	:	14.6	:	21.0	14.8	8.1	10.3	:	:	2.8	:	:
1984	15.8	16.7	:	:	20.8	:	13.7	:	19.9	15.3	7.8	10.5	:	:	2.8	:	:
1985	16.3	16.8	:	:	20.8	7.1	13.8	:	19.9	15.6	8.0	11.5	:	:	2.8	:	:
1986	16.6	16.8	:	:	20.3	7.1	14.0	:	19.3	15.7	9.3	11.5	:	:	2.0	:	:
1987	17.0	16.9	:	:	20.5	7.1	13.9	:	20.0	15.7	9.3	11.5	:	:	2.9	:	:
1988	16.4	16.7	10.9	:	20.3	7.2	14.0	:	19.9	15.5	9.3	11.4	:	:	2.2	:	:
1989	16.0	16.5	11.4	:	20.4	7.0	13.9	:	18.2	15.4	9.2	11.5	:	:	2.2	:	:
1990	16.1	16.1	11.7	:	20.5	7.2	14.4	12.5	16.5	15.3	9.5	12.9	:	:	2.3	:	:
1991	16.3																
1991	16.8	17.2	11.3	:	20.4	7.5	14.8	12.3	17.3	15.3	10.0	13.7	:	:	2.3	:	:
1992	17.0	17.6	11.1	:	20.7	7.6	15.1	13.0	17.8	15.9	10.4	14.6	:	11.9	1.4	:	:
1993	17.3	18.2	12.0	:	20.8	7.7	15.3	12.8	17.7	16.6	10.7	15.1	:	14.3	1.6	12.0	:
1994	17.0	18.6	12.3	:	20.6	7.4	15.0	12.2	18.6	17.0	10.8	15.8	:	15.0	2.0	13.4	:
1995	16.8	18.8	12.6	13.0	20.5	6.8	14.8	12.5	17.2	17.1	11.0	14.8	17.4	14.4	1.8	13.1	:
1996	16.7	19.4	12.9	13.2	20.7	6.4	15.0	12.1	16.6	17.1	10.9	14.2	17.6	14.4	1.8	12.0	:
1997	16.5	19.7	13.3	13.1	20.3	5.9	15.3	11.5	16.6	17.1	11.2	13.4	17.5	14.8	1.7	11.7	:
1998	16.6	19.3	13.6	13.0	18.1	5.6	12.8	11.2	16.4	17.0	11.2	13.1	16.4	14.4	1.6	11.6	7.2
1999	16.4	19.0	13.7	13.1	18.3	5.6	12.7	11.4	17.1	17.0	11.4	13.2	16.4	14.3	2.4	12.2	7.0
2000	16.1	18.6	14.0	13.3	18.2	5.7	12.7	11.2	17.1	16.6	11.8	12.3	16.2	14.5	2.3	11.4	6.8
2001	16.4	18.5	14.1	13.5	18.2	5.8	12.6	12.0	15.3	16.5	12.0	12.6	16.0	14.5	2.2	11.1	7.2
2002	16.7	18.5	15.0	13.5	18.2	5.8	12.8	12.2	14.9	16.3	12.2	12.4	16.0	15.0	1.7	11.4	7.0
2003	16.5	18.6	15.3	13.7	18.5	5.9	13.1	12.4	15.5	16.3	12.8	12.5	16.2	15.2	1.7	11.5	7.2
2004	16.0	18.0	15.7	13.7	18.2	5.9	13.2	12.3	15.7	16.3	12.8	12.3	16.0	14.7	1.7	11.3	6.9
2005	16.0	17.8	16.3	13.7	18.2	5.9	13.1	12.3	15.2	16.2	12.8	12.6	15.8	14.9	1.7	11.1	6.7
2006	15.8	17.6	16.7	13.7	18.0	5.9	13.1	12.2	15.1	16.1	12.9	12.7	15.7	14.8	1.7	10.9	6.6

(¹) 1970-91 D_90.

(²) Euro area: 1970-91 including D_90.

Table 56 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US ⁽²⁾	JP
1970	:	:	:	:	:	:	:	:	6.2	:	:	:	:	:	:	4.5	:
1971	:	:	:	:	:	:	:	:	6.1	:	:	:	:	:	:	4.6	:
1972	:	:	:	:	:	:	:	:	6.4	:	:	:	:	:	:	4.8	:
1973	:	:	:	:	:	:	:	:	6.6	:	:	:	:	:	:	5.5	:
1974	:	:	:	:	:	:	:	:	7.3	:	:	:	:	:	:	5.7	:
1975	:	:	:	:	:	:	:	:	8.0	:	:	:	:	:	:	5.5	:
1976	:	:	:	:	:	:	:	:	8.3	:	:	:	:	:	:	5.6	:
1977	:	:	:	:	:	:	:	:	8.0	:	:	:	:	:	:	5.6	:
1978	:	:	:	:	:	:	:	:	7.5	:	:	:	:	:	:	5.8	:
1979	:	:	:	:	:	:	:	:	7.3	:	:	:	:	:	:	6.0	:
1980	:	:	:	:	:	:	:	:	7.6	:	:	:	:	:	:	6.0	:
1981	:	:	:	:	:	:	:	:	8.0	:	:	:	:	:	:	6.3	:
1982	:	:	:	:	:	:	:	:	8.2	:	:	:	:	:	:	6.5	:
1983	:	:	:	:	:	:	:	:	8.5	:	:	:	:	:	:	6.4	:
1984	:	:	:	:	:	:	:	:	8.5	:	:	:	:	:	:	6.6	:
1985	:	:	:	:	:	:	:	:	8.4	:	:	:	:	:	:	6.7	:
1986	:	:	:	:	:	:	:	:	8.4	:	:	:	:	:	:	6.9	:
1987	:	:	:	:	:	:	:	:	8.1	:	:	:	:	:	:	6.9	:
1988	:	:	:	:	:	:	:	:	8.0	:	:	:	:	:	:	7.1	:
1989	:	:	:	:	:	:	:	:	7.8	:	:	:	:	:	:	7.1	:
1990	3.7	:	:	:	:	:	:	:	7.5	:	:	:	:	:	:	7.1	8.1
1991	9.3	:	17.6	:	10.9	:	:	:	7.6	:	:	10.0	:	:	:	7.2	8.3
1992	8.5	:	18.7	:	12.7	:	:	:	7.6	:	:	15.7	:	:	:	7.2	8.5
1993	11.8	:	19.6	:	12.2	:	12.5	13.4	7.6	:	:	14.7	:	:	:	7.2	8.6
1994	11.6	:	18.0	:	11.4	:	12.9	13.4	7.6	:	:	13.7	:	:	:	7.2	8.8
1995	12.2	7.6	15.6	:	11.7	:	14.4	13.7	7.5	:	15.7	12.0	:	:	:	7.3	9.3
1996	11.1	8.0	14.3	:	12.0	:	14.4	14.8	7.4	:	15.8	10.8	:	:	:	7.2	9.4
1997	10.9	8.6	14.0	:	12.1	:	13.6	14.5	7.5	:	15.5	10.0	:	:	:	7.1	9.6
1998	11.0	9.1	13.9	:	12.0	:	14.9	14.5	7.4	:	14.6	11.4	:	:	:	7.2	9.7
1999	11.0	9.3	12.5	:	15.3	:	13.9	13.2	7.4	:	14.5	11.9	:	:	:	7.2	9.8
2000	10.2	9.4	13.3	7.6	14.0	15.1	13.8	15.1	7.6	14.3	14.3	12.2	:	:	:	7.2	9.8
2001	9.4	9.0	13.3	8.4	15.3	15.4	13.7	15.5	7.6	14.2	14.2	11.2	:	:	:	7.3	10.2
2002	9.6	8.7	13.2	8.3	14.7	15.2	13.6	15.4	7.4	14.1	14.1	:	:	:	:	7.2	10.4
2003	9.2	8.7	12.8	8.1	13.5	15.2	12.4	15.1	7.8	14.4	14.4	:	:	:	:	7.1	10.4
2004	8.9	8.7	12.4	8.1	13.6	14.9	11.3	14.9	8.0	14.2	14.2	:	:	:	:	7.0	10.2
2005	8.8	8.7	12.4	8.1	13.7	14.9	11.6	14.8	8.0	14.1	14.1	:	:	:	:	6.9	10.1
2006	8.8	8.6	12.1	8.1	13.7	14.9	10.9	14.8	8.1	14.0	14.1	:	:	:	:	6.8	10.1

⁽¹⁾ Former EU-15.⁽²⁾ National definition.

Table 57

General government (% of GDP at market prices)
Actual social contributions received; general government
ESA 95

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1970	10.1	11.1	:	:	:	:	:	:	12.2	:	:	:	:	:	:	:	:
1971	10.6	11.6	:	:	:	:	:	:	12.9	:	:	:	:	:	1.6	:	:
1972	10.8	12.1	:	:	:	:	:	:	13.1	:	:	:	:	:	1.7	:	:
1973	11.1	12.9	:	:	:	:	:	:	14.4	:	:	:	:	:	0.8	:	:
1974	11.3	13.4	:	:	:	:	:	:	15.2	:	:	:	:	:	0.6	:	:
1975	12.3	14.4	:	:	:	:	:	:	15.7	:	:	9.1	:	:	0.6	:	:
1976	12.4	14.9	:	:	:	:	:	:	15.4	10.6	:	9.8	:	:	0.6	:	:
1977	12.6	14.9	:	:	:	:	:	:	15.3	11.0	8.3	10.2	:	:	0.6	:	:
1978	12.4	14.7	:	:	16.0	:	:	:	15.5	12.4	6.9	9.2	:	:	0.6	:	:
1979	12.4	14.8	:	:	17.1	:	:	:	16.1	12.4	6.4	9.1	:	:	0.7	:	:
1980	12.3	15.0	:	:	17.6	:	12.8	:	16.2	12.7	7.1	9.3	:	:	0.8	:	:
1981	12.5	15.6	:	:	17.6	:	12.2	:	16.7	12.9	7.7	9.5	:	:	1.0	:	:
1982	12.7	15.9	:	:	18.2	:	12.7	:	17.6	12.8	7.7	9.0	:	:	1.2	:	:
1983	13.3	15.5	:	:	18.6	:	13.1	:	19.5	12.7	7.4	8.6	:	:	1.8	:	:
1984	13.9	15.5	:	:	19.0	:	12.2	:	18.5	13.1	7.1	8.8	:	:	1.8	:	:
1985	14.5	15.6	:	:	19.0	5.5	12.2	:	18.6	13.5	7.2	9.7	:	:	1.9	:	:
1986	14.8	15.6	:	:	18.5	5.4	12.4	:	18.0	13.5	8.5	9.7	:	:	1.5	:	:
1987	15.2	15.7	:	:	18.7	5.3	12.4	:	18.7	13.5	8.4	9.7	:	:	1.9	:	:
1988	14.6	15.6	8.3	:	18.6	5.4	12.5	:	18.6	13.3	8.4	10.6	:	:	1.4	:	:
1989	14.3	15.3	8.7	:	18.8	5.2	12.5	:	16.9	13.2	8.3	10.7	:	:	1.4	:	:
1990	14.4	15.0	9.0	:	18.9	5.3	12.9	11.1	15.2	13.1	8.6	12.1	:	:	1.5	:	:
1991		15.3															
1991	14.9	16.2	8.8	:	18.8	5.4	13.3	11.0	16.0	13.2	9.0	13.4	:	:	1.5	:	:
1992	15.1	16.6	8.7	:	19.0	5.6	13.4	11.6	16.6	13.8	9.3	14.3	:	11.9	0.6	:	:
1993	15.4	17.2	9.7	:	19.1	5.6	13.5	11.5	16.5	14.3	9.5	14.8	:	14.3	0.7	12.0	:
1994	15.0	17.6	10.1	:	18.8	5.4	13.2	10.9	17.3	14.7	9.7	15.6	:	14.9	0.8	13.4	:
1995	14.8	17.7	10.5	12.0	18.7	5.0	13.0	11.2	16.0	14.9	10.1	14.6	16.0	14.4	0.7	13.1	:
1996	14.6	18.3	10.8	12.2	18.9	4.7	14.6	11.0	15.5	15.0	10.2	14.0	16.4	14.4	0.7	12.0	:
1997	14.5	18.5	11.1	12.2	18.4	4.4	14.9	10.5	15.5	15.1	10.5	13.2	16.3	14.8	0.7	11.7	:
1998	14.6	18.2	11.5	12.1	16.3	4.2	12.5	10.2	15.3	15.0	10.5	13.0	15.3	14.3	0.6	11.6	7.2
1999	14.4	17.9	11.4	12.2	16.5	4.3	12.4	10.5	16.0	15.0	10.6	13.2	15.2	14.3	1.4	12.2	7.0
2000	14.1	17.6	11.7	12.4	16.3	4.4	12.4	10.3	16.0	14.7	10.9	12.3	15.0	14.5	1.4	11.4	6.8
2001	14.4	17.5	11.9	12.7	16.3	4.5	12.3	11.1	14.3	14.7	11.1	12.6	14.9	14.5	1.2	11.1	7.2
2002	14.6	17.4	12.7	12.7	16.4	4.5	12.4	11.4	13.9	14.6	11.3	12.4	14.9	10.7	0.7	11.4	7.0
2003	14.4	17.5	12.9	12.8	16.6	4.6	12.9	11.5	14.5	14.6	11.8	12.2	15.1	15.2	0.7	11.5	7.2
2004	14.2	17.0	13.2	12.9	16.4	4.6	12.9	11.4	14.7	14.6	12.0	12.3	14.9	14.7	0.7	11.3	6.9
2005	14.0	16.8	13.6	12.9	16.4	4.6	12.8	11.3	14.2	14.5	12.0	12.6	14.7	14.9	0.7	11.1	6.7
2006	13.9	16.6	13.9	12.9	16.2	4.5	12.8	11.3	14.1	14.4	12.1	12.7	14.6	14.8	0.7	10.9	6.6

(¹) 1970-91 D_90.

(²) Euro area: 1970-91 including D_90.

Table 57 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US ⁽²⁾	JP
1970	:	:	:	:	:	:	:	:	5.7	:	:	:	:	:	:	:	:
1971	:	:	:	:	:	:	:	:	5.5	:	:	:	:	:	:	:	:
1972	:	:	:	:	:	:	:	:	5.8	:	:	:	:	:	:	:	:
1973	:	:	:	:	:	:	:	:	5.9	:	:	:	:	:	:	:	:
1974	:	:	:	:	:	:	:	:	6.6	:	:	:	:	:	:	:	:
1975	:	:	:	:	:	:	:	:	7.3	:	:	:	:	:	:	:	:
1976	:	:	:	:	:	:	:	:	7.5	:	:	:	:	:	:	:	:
1977	:	:	:	:	:	:	:	:	7.2	:	:	:	:	:	:	:	:
1978	:	:	:	:	:	:	:	:	6.7	:	:	:	:	:	:	:	:
1979	:	:	:	:	:	:	:	:	6.5	:	:	:	:	:	:	:	:
1980	:	:	:	:	:	:	:	:	6.7	:	:	:	:	:	:	:	:
1981	:	:	:	:	:	:	:	:	7.0	:	:	:	:	:	:	:	:
1982	:	:	:	:	:	:	:	:	7.3	:	:	:	:	:	:	:	:
1983	:	:	:	:	:	:	:	:	7.6	:	:	:	:	:	:	:	:
1984	:	:	:	:	:	:	:	:	7.6	:	:	:	:	:	:	:	:
1985	:	:	:	:	:	:	:	:	7.5	:	:	:	:	:	:	:	:
1986	:	:	:	:	:	:	:	:	7.6	:	:	:	:	:	:	:	:
1987	:	:	:	:	:	:	:	:	7.3	:	:	:	:	:	:	:	:
1988	:	:	:	:	:	:	:	:	7.3	:	:	:	:	:	:	:	:
1989	:	:	:	:	:	:	:	:	7.1	:	:	:	:	:	:	:	:
1990	3.7	:	:	:	:	:	:	:	6.8	:	:	:	:	:	:	:	7.6
1991	9.3	:	:	:	10.9	:	:	:	6.8	:	:	10.0	:	:	:	:	7.8
1992	8.5	:	:	:	12.7	:	:	:	6.7	:	:	15.7	:	:	:	:	8.0
1993	11.8	:	:	:	12.2	:	12.2	12.9	6.8	:	:	14.7	:	:	:	:	8.2
1994	11.6	:	:	:	11.4	:	12.5	12.7	6.8	:	:	13.4	:	:	:	:	8.3
1995	12.1	7.6	:	:	11.7	:	14.3	13.1	6.8	:	14.4	11.8	:	:	:	:	8.8
1996	11.0	8.0	:	:	12.0	:	14.3	14.2	6.7	:	14.7	10.5	:	:	:	:	8.9
1997	10.8	8.6	:	:	12.1	:	13.6	14.0	6.8	:	14.4	9.8	:	:	:	:	9.1
1998	11.0	9.1	:	:	12.0	:	14.8	14.0	6.7	:	13.5	11.0	:	:	:	:	9.3
1999	10.7	9.3	:	:	15.3	:	13.8	12.7	6.8	:	13.4	11.6	:	:	:	:	9.3
2000	10.0	9.4	13.2	6.5	14.0	14.9	13.7	14.5	6.9	13.3	13.3	11.7	:	:	:	:	9.3
2001	9.3	9.0	13.2	7.0	15.3	15.1	13.7	14.9	7.0	13.2	13.2	10.7	:	:	:	:	9.7
2002	9.4	8.7	13.2	6.8	14.7	14.9	13.5	14.8	6.7	13.1	13.1	:	:	:	:	:	9.8
2003	9.0	8.6	12.7	6.6	13.5	14.9	12.3	14.4	7.3	13.4	13.4	:	:	:	:	:	9.8
2004	8.7	8.7	11.7	6.4	13.6	14.6	11.3	14.1	7.4	13.2	13.2	:	:	:	:	:	9.6
2005	8.5	8.6	11.7	6.4	13.7	14.6	11.6	14.0	7.4	13.1	13.1	:	:	:	:	:	9.6
2006	8.5	8.4	11.3	6.4	13.7	14.6	11.1	14.1	7.5	13.0	13.1	:	:	:	:	:	9.5

⁽¹⁾ Former EU-15.⁽²⁾ National definition.

Table 58

General government (% of GDP at market prices)
Other current revenue; general government
ESA 95

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE (1)	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 (2)	CZ	DK	EE	CY
1970	4.3	2.4	:	:	:	:	:	:	4.9	:	:	:	:	:	:	:	:
1971	4.0	2.5	:	:	:	:	:	:	4.7	:	:	:	:	:	4.0	:	:
1972	3.7	2.5	:	:	:	:	:	:	4.9	:	:	:	:	:	4.0	:	:
1973	3.7	2.5	:	:	:	:	:	:	4.8	:	:	:	:	:	3.5	:	:
1974	3.5	2.5	:	:	:	:	:	:	5.3	:	:	:	:	:	4.4	:	:
1975	4.0	2.5	:	:	:	:	:	:	6.1	:	:	3.6	:	:	4.8	:	:
1976	3.9	2.6	:	:	:	:	:	:	7.1	4.5	:	3.9	:	:	5.1	:	:
1977	4.0	2.5	:	:	:	:	:	:	7.4	4.5	2.3	4.1	:	:	5.3	:	:
1978	3.9	2.8	:	:	3.4	:	:	:	7.3	4.8	2.3	4.3	:	:	5.6	:	:
1979	4.0	2.8	:	:	3.3	:	:	:	8.0	4.8	2.9	4.3	:	:	5.9	:	:
1980	4.4	3.0	:	:	3.5	:	2.6	:	8.6	5.2	2.3	4.3	:	:	6.6	:	:
1981	4.8	3.4	:	:	3.7	:	2.8	:	9.8	5.6	2.7	4.6	:	:	6.9	:	:
1982	5.1	3.9	:	:	3.9	:	2.6	:	9.9	5.5	3.1	4.8	:	:	7.1	:	:
1983	4.6	3.8	:	:	4.0	:	2.7	:	9.9	5.4	3.7	5.1	:	:	7.3	:	:
1984	4.4	3.8	:	:	3.9	:	2.7	:	10.5	5.5	3.4	5.3	:	:	7.7	:	:
1985	4.3	3.8	:	:	4.1	4.9	2.8	:	11.1	5.5	3.0	5.5	:	:	7.4	:	:
1986	3.9	3.6	:	:	4.1	4.1	3.3	:	9.2	5.5	3.9	5.5	:	:	7.4	:	:
1987	3.6	3.3	:	:	4.0	4.4	2.8	:	7.9	5.6	4.2	5.5	:	:	6.8	:	:
1988	3.4	3.0	2.3	:	3.8	3.9	2.8	:	7.1	5.5	4.1	5.4	:	:	7.3	:	:
1989	3.4	3.5	2.3	:	3.8	3.1	2.8	:	7.1	5.6	4.0	5.6	:	:	7.5	:	:
1990	3.5	3.4	2.4	:	3.9	3.3	3.1	7.7	7.2	5.7	3.7	6.3	:	:	7.6	:	:
1991	3.9																
1991	3.5	3.4	2.9	:	4.2	4.1	3.2	7.1	7.6	5.6	4.1	7.4	:	:	7.4	:	:
1992	3.4	3.9	3.3	:	4.1	3.9	2.8	7.2	7.2	6.0	5.2	8.2	:	3.9	8.1	:	:
1993	3.4	3.8	4.0	:	4.2	3.8	3.1	5.8	7.0	5.7	4.9	8.6	:	4.9	8.5	9.9	:
1994	3.1	3.9	4.8	:	3.9	3.4	2.9	5.7	6.4	5.6	3.5	6.6	:	4.6	7.5	9.2	:
1995	3.1	3.5	4.5	4.1	3.7	2.8	3.1	5.6	6.0	4.9	4.1	7.3	3.8	6.9	6.4	8.8	:
1996	3.2	3.4	4.4	4.2	3.9	2.9	3.2	5.4	5.8	4.8	4.3	6.8	3.8	6.9	6.7	6.7	:
1997	3.0	3.2	4.8	4.0	3.8	2.7	3.2	5.3	5.5	3.3	4.0	6.2	3.6	7.3	6.0	6.0	:
1998	3.0	3.1	4.1	3.7	3.6	2.5	3.2	5.1	5.0	3.0	4.0	6.0	3.5	7.7	5.9	4.7	3.4
1999	2.8	3.0	3.9	3.6	3.5	2.2	3.3	4.7	4.7	3.2	4.0	5.4	3.4	7.4	5.2	4.1	3.1
2000	2.9	2.9	3.6	3.4	3.5	2.1	3.0	4.5	4.8	3.2	3.6	6.2	3.3	6.7	5.1	4.1	3.3
2001	3.0	3.1	4.3	3.6	3.6	2.2	3.3	4.8	5.3	4.2	3.7	6.4	3.5	7.0	5.4	5.0	3.8
2002	2.9	3.0	3.1	3.4	3.5	2.1	3.2	4.7	5.0	4.1	4.0	6.2	3.4	6.8	5.1	4.7	3.0
2003	2.7	2.9	2.1	3.3	3.5	2.0	3.2	4.2	4.9	4.0	4.0	5.9	3.3	7.6	5.2	4.2	4.0
2004	2.6	2.7	1.5	3.3	3.6	1.9	3.1	4.1	4.9	3.7	4.3	6.1	3.2	7.8	5.1	9.2	4.4
2005	2.4	2.7	1.5	3.2	3.6	1.8	3.1	3.9	4.9	3.5	4.8	5.8	3.2	8.1	5.0	12.1	5.2
2006	2.2	2.6	1.4	3.2	3.6	1.8	3.0	3.8	4.8	3.4	4.3	5.7	3.2	8.2	4.8	11.4	5.1

(1) 1970-91 D_90.

(2) Euro area; 1970-91 including D_90.

Table 58 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US ⁽²⁾	JP
1970	:	:	:	:	:	:	:	:	4.9	:	:	:	:	:	:	2.4	:
1971	:	:	:	:	:	:	:	:	5.0	:	:	:	:	:	:	2.4	:
1972	:	:	:	:	:	:	:	:	4.8	:	:	:	:	:	:	2.4	:
1973	:	:	:	:	:	:	:	:	4.9	:	:	:	:	:	:	2.4	:
1974	:	:	:	:	:	:	:	:	5.4	:	:	:	:	:	:	2.6	:
1975	:	:	:	:	:	:	:	:	5.1	:	:	:	:	:	:	2.6	:
1976	:	:	:	:	:	:	:	:	5.3	:	:	:	:	:	:	2.5	:
1977	:	:	:	:	:	:	:	:	5.0	:	:	:	:	:	:	2.5	:
1978	:	:	:	:	:	:	:	:	4.8	:	:	:	:	:	:	2.6	:
1979	:	:	:	:	:	:	:	:	4.8	:	:	:	:	:	:	2.8	:
1980	:	:	:	:	:	:	:	:	5.2	:	:	:	:	:	:	3.0	:
1981	:	:	:	:	:	:	:	:	5.5	:	:	:	:	:	:	3.3	:
1982	:	:	:	:	:	:	:	:	5.6	:	:	:	:	:	:	3.6	:
1983	:	:	:	:	:	:	:	:	5.0	:	:	:	:	:	:	3.7	:
1984	:	:	:	:	:	:	:	:	4.7	:	:	:	:	:	:	3.7	:
1985	:	:	:	:	:	:	:	:	4.7	:	:	:	:	:	:	3.9	:
1986	:	:	:	:	:	:	:	:	4.4	:	:	:	:	:	:	4.0	:
1987	:	:	:	:	:	:	:	:	4.0	:	:	:	:	:	:	3.8	:
1988	:	:	:	:	:	:	:	:	3.8	:	:	:	:	:	:	3.7	:
1989	:	:	:	:	:	:	:	:	3.8	:	:	:	:	:	:	3.8	:
1990	4.2	:	:	:	:	:	:	:	3.6	:	:	:	:	:	:	3.7	4.2
1991	:	:	:	:	5.9	:	:	:	3.9	:	:	3.8	:	:	:	3.9	4.3
1992	1.2	:	:	:	7.2	:	:	:	3.2	:	:	2.9	:	:	:	3.8	4.3
1993	4.5	:	:	:	5.9	:	11.1	9.1	3.1	:	:	2.5	:	:	:	3.7	4.3
1994	5.1	:	:	:	3.5	:	13.5	8.3	3.0	:	:	2.2	:	:	:	3.6	4.3
1995	6.4	6.3	:	:	4.9	:	13.8	8.2	2.9	:	3.9	2.1	:	:	:	3.6	4.4
1996	7.9	6.8	:	:	4.5	:	12.9	7.8	3.0	:	3.9	4.1	:	:	:	3.7	4.4
1997	6.6	7.7	:	:	4.6	:	19.6	7.0	2.7	:	3.6	3.3	:	:	:	3.6	4.4
1998	9.0	5.5	:	:	4.4	:	19.2	6.9	2.6	:	3.5	10.6	:	:	:	3.5	4.5
1999	7.3	4.9	:	:	4.3	:	15.2	6.1	2.6	:	3.4	11.9	:	:	:	3.5	4.7
2000	7.2	5.7	6.0	6.3	4.1	3.7	15.1	5.9	2.5	3.4	3.3	13.7	:	:	:	3.6	4.6
2001	7.4	4.7	5.7	6.5	4.1	3.9	14.3	5.0	2.7	3.6	3.5	13.1	:	:	:	3.6	4.6
2002	5.9	3.7	5.6	6.5	4.0	4.0	13.8	5.0	2.4	3.4	3.3	:	:	:	:	3.5	4.7
2003	6.6	3.3	5.6	6.5	4.1	4.0	6.0	4.9	2.3	3.3	3.2	:	:	:	:	3.5	4.7
2004	6.0	3.9	6.1	6.7	4.1	3.3	5.8	4.8	2.2	3.3	3.2	:	:	:	:	4.0	4.7
2005	5.5	4.8	5.4	6.5	4.0	3.4	5.6	4.6	2.2	3.2	3.1	:	:	:	:	3.9	4.8
2006	5.2	5.0	5.7	6.5	3.9	3.6	5.8	4.5	2.2	3.2	3.1	:	:	:	:	3.8	4.8

⁽¹⁾ Former EU-15.⁽²⁾ National definition.

Table 59

General government (% of GDP at market prices)
Total current revenue; general government
ESA 95

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1970	40.2	38.0	:	:	:	:	:	:	40.9	:	:	:	:	:	:	:	:
1971	40.6	39.1	:	:	:	:	:	:	42.5	:	:	:	:	:	48.0	:	:
1972	40.2	39.3	:	:	:	:	:	:	43.9	:	:	:	:	:	47.6	:	:
1973	41.3	41.2	:	:	:	:	:	:	45.1	:	:	:	:	:	45.1	:	:
1974	42.2	41.6	:	:	:	:	:	:	46.3	:	:	:	:	:	48.1	:	:
1975	45.3	41.7	:	:	:	:	:	:	48.4	:	:	42.8	:	:	44.7	:	:
1976	45.3	43.0	:	:	:	:	:	:	49.2	43.5	:	46.6	:	:	45.9	:	:
1977	47.2	43.7	:	:	:	:	:	:	50.3	44.6	27.4	46.9	:	:	46.5	:	:
1978	48.0	43.3	:	:	42.4	:	:	:	50.7	47.1	25.4	44.0	:	:	48.2	:	:
1979	48.5	43.2	:	:	44.4	:	:	:	51.9	46.6	25.8	42.6	:	:	49.5	:	:
1980	47.2	43.7	:	:	45.4	:	34.7	:	52.0	47.5	27.5	42.9	:	:	51.2	:	:
1981	48.0	43.8	:	:	45.9	:	34.5	:	52.7	48.8	29.4	45.2	:	:	51.2	:	:
1982	49.4	44.3	:	:	47.2	:	37.0	:	53.6	47.8	30.8	44.7	:	:	50.5	:	:
1983	49.8	43.7	:	:	47.8	:	38.7	:	54.2	47.4	32.8	44.7	:	:	52.6	:	:
1984	50.4	43.8	:	:	48.8	:	38.0	:	53.3	49.0	31.9	46.2	:	:	54.3	:	:
1985	50.4	44.1	:	:	49.0	40.6	38.1	:	53.7	50.0	31.3	48.1	:	:	55.3	:	:
1986	49.7	43.3	:	:	48.1	40.5	39.0	:	52.2	49.7	32.4	49.6	:	:	56.6	:	:
1987	49.9	43.1	:	:	48.3	40.9	38.9	:	52.7	49.6	31.5	47.8	:	:	57.2	:	:
1988	48.4	42.4	30.9	:	47.3	41.6	40.0	:	51.9	48.2	33.3	50.0	:	:	58.1	:	:
1989	46.4	43.3	30.1	:	47.2	37.9	40.8	:	49.1	47.3	33.7	49.9	:	:	57.0	:	:
1990	47.1	41.6	32.5	:	47.5	38.0	42.4	48.8	49.0	47.6	33.7	52.0	:	:	55.0	:	:
1991	43.0																
1991	47.4	43.0	33.3	:	47.6	39.4	43.5	46.3	51.5	47.9	35.5	54.1	:	:	54.6	:	:
1992	46.9	44.3	34.3	:	47.5	39.8	43.8	46.9	50.8	49.5	38.9	54.5	:	46.5	54.9	:	:
1993	48.7	44.9	35.6	:	48.0	39.5	46.5	47.9	52.1	50.2	37.2	54.1	:	44.0	56.9	48.0	:
1994	48.7	45.4	37.7	:	48.2	40.0	44.8	47.9	49.0	48.8	36.3	54.4	:	43.0	57.3	49.0	:
1995	48.8	44.8	38.1	37.4	48.1	36.8	44.8	48.2	46.3	47.5	37.6	53.1	45.1	43.1	55.5	46.6	:
1996	49.3	45.7	38.4	37.8	49.6	37.1	45.5	48.1	46.5	48.7	38.7	53.9	45.9	42.1	56.3	42.3	:
1997	49.5	45.5	40.1	38.0	49.6	36.2	47.2	47.0	45.9	48.3	38.6	52.5	46.1	42.8	55.5	42.0	:
1998	50.1	45.5	41.5	38.0	49.4	34.9	45.9	45.6	45.2	48.3	38.9	52.0	45.8	41.6	55.7	39.5	32.4
1999	49.5	46.2	42.5	38.6	49.9	34.7	46.3	45.4	46.2	48.1	40.0	51.8	46.3	42.1	56.5	38.6	32.5
2000	49.4	46.1	43.5	38.8	49.3	34.5	45.5	45.2	46.1	47.2	40.3	53.6	46.0	41.2	54.3	36.5	34.6
2001	49.7	44.5	42.6	38.9	49.3	32.9	45.5	45.8	45.2	49.9	39.8	51.9	45.4	41.5	54.8	36.5	36.5
2002	50.0	44.2	42.2	39.4	48.3	31.8	45.0	46.4	44.5	48.9	40.9	51.7	45.0	42.3	53.7	37.1	35.5
2003	49.1	44.1	40.3	39.6	48.2	32.8	44.5	46.0	44.3	48.3	41.7	50.4	44.7	44.1	53.8	37.5	37.8
2004	49.2	42.6	40.3	39.5	48.2	32.6	44.5	45.1	44.5	47.8	41.3	50.5	44.2	43.9	53.9	41.7	38.5
2005	48.7	42.3	40.9	39.6	48.4	32.1	44.7	44.9	44.3	46.4	41.6	50.1	44.1	43.4	53.5	44.7	39.6
2006	48.2	42.1	41.2	39.8	48.1	32.0	44.6	44.6	44.2	46.0	41.4	49.7	44.0	43.3	52.9	43.4	39.7

(¹) 1970-91 D_90.

(²) Euro area; 1970-91 including D_90.

Table 59 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US ⁽²⁾	JP
1970	:	:	:	:	:	:	:	:	42.4	:	:	:	:	:	:	29.3	:
1971	:	:	:	:	:	:	:	:	40.7	:	:	:	:	:	:	28.6	:
1972	:	:	:	:	:	:	:	:	38.7	:	:	:	:	:	:	29.6	:
1973	:	:	:	:	:	:	:	:	37.4	:	:	:	:	:	:	29.8	:
1974	:	:	:	:	:	:	:	:	41.8	:	:	:	:	:	:	30.5	:
1975	:	:	:	:	:	:	:	:	42.4	:	:	:	:	:	:	28.7	:
1976	:	:	:	:	:	:	:	:	41.8	:	:	:	:	:	:	29.4	:
1977	:	:	:	:	:	:	:	:	40.6	:	:	:	:	:	:	29.5	:
1978	:	:	:	:	:	:	:	:	39.0	:	:	:	:	:	:	29.7	:
1979	:	:	:	:	:	:	:	:	39.0	:	:	:	:	:	:	30.0	:
1980	:	:	:	:	:	:	:	:	41.8	:	:	:	:	:	:	30.2	:
1981	:	:	:	:	:	:	:	:	43.9	:	:	:	:	:	:	31.0	:
1982	:	:	:	:	:	:	:	:	44.8	:	:	:	:	:	:	30.6	:
1983	:	:	:	:	:	:	:	:	43.7	:	:	:	:	:	:	29.9	:
1984	:	:	:	:	:	:	:	:	43.7	:	:	:	:	:	:	29.9	:
1985	:	:	:	:	:	:	:	:	43.2	:	:	:	:	:	:	30.3	:
1986	:	:	:	:	:	:	:	:	42.3	:	:	:	:	:	:	30.5	:
1987	:	:	:	:	:	:	:	:	41.1	:	:	:	:	:	:	31.2	:
1988	:	:	:	:	:	:	:	:	41.0	:	:	:	:	:	:	31.0	:
1989	:	:	:	:	:	:	:	:	40.7	:	:	:	:	:	:	31.3	:
1990	38.9	:	:	:	:	:	:	:	40.0	:	:	:	:	:	:	31.1	33.6
1991	:	:	:	:	43.3	:	:	:	40.4	:	:	45.9	:	:	:	31.0	33.2
1992	24.1	:	:	:	46.7	:	:	:	38.7	:	:	43.8	:	:	:	30.7	33.0
1993	38.4	:	:	:	48.0	:	47.0	58.8	37.3	:	:	40.6	:	:	:	30.9	31.7
1994	35.4	:	:	:	43.9	:	49.6	58.3	37.7	:	:	43.6	:	:	:	31.2	31.0
1995	40.0	34.9	:	:	45.1	:	55.4	57.5	38.3	:	44.8	38.8	:	:	:	31.6	31.1
1996	39.3	35.0	:	:	43.6	:	53.3	59.6	38.1	:	45.5	41.2	:	:	:	32.0	31.4
1997	39.3	37.5	:	:	43.3	:	57.7	59.3	38.5	:	45.5	37.2	:	:	:	32.3	31.6
1998	43.4	37.8	:	:	42.0	:	57.6	59.9	39.5	:	45.4	45.1	:	:	:	32.7	31.1
1999	40.4	37.3	:	:	42.6	:	51.2	59.9	39.9	:	45.8	46.8	:	:	:	32.8	31.1
2000	37.5	36.1	45.6	35.8	40.3	42.9	49.5	59.9	40.3	45.4	45.5	49.1	:	:	:	33.4	31.5
2001	36.5	33.8	45.0	38.3	40.7	43.2	47.2	57.3	40.4	44.9	45.0	46.6	:	:	:	32.4	32.5
2002	34.8	32.5	44.5	40.6	40.1	43.6	46.9	55.5	38.7	44.2	44.3	:	:	:	:	29.8	31.3
2003	35.7	31.9	44.7	40.5	39.8	44.3	37.2	55.9	38.7	44.1	44.2	:	:	:	:	29.1	31.0
2004	34.3	32.2	43.6	41.4	39.9	43.4	34.6	55.4	39.1	43.7	43.8	:	:	:	:	29.5	30.5
2005	33.3	32.4	42.9	41.2	39.5	42.6	34.6	54.7	39.3	43.6	43.8	:	:	:	:	29.5	30.5
2006	32.8	32.0	43.1	41.2	39.1	42.2	34.0	54.6	39.6	43.5	43.7	:	:	:	:	29.1	30.4

⁽¹⁾ Former EU-15.⁽²⁾ National definition.

Table 60

General government (% of GDP at market prices)
Final consumption expenditure of general government
ESA 95

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE (1)	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 (2)	CZ	DK	EE	CY
1970	16.9	15.3	:	:	:	:	:	:	19.9	:	:	:	:	:	:	:	:
1971	17.9	16.4	:	:	:	:	:	:	20.9	:	:	:	:	:	22.2	:	:
1972	18.4	16.7	:	:	:	:	:	:	21.4	:	:	:	:	:	22.0	:	:
1973	18.7	17.3	:	:	:	:	:	:	21.2	:	:	:	:	:	22.1	:	:
1974	19.0	18.8	:	:	:	:	:	:	22.2	:	:	:	:	:	24.1	:	:
1975	21.3	19.9	:	:	:	:	:	:	23.8	:	:	17.5	:	:	25.3	:	:
1976	21.4	19.3	:	:	:	:	:	:	23.8	18.2	:	18.5	:	:	24.7	:	:
1977	21.9	19.2	:	:	:	:	:	:	24.3	17.9	14.1	19.0	:	:	24.6	:	:
1978	22.7	19.3	:	:	20.7	:	:	:	24.7	18.6	13.4	18.7	:	:	25.2	:	:
1979	23.1	19.3	:	:	20.8	:	:	:	25.4	18.5	13.0	18.3	:	:	25.7	:	:
1980	23.0	19.9	:	:	21.5	:	16.9	:	25.3	18.5	14.6	18.4	:	:	27.3	:	:
1981	24.2	20.5	:	:	22.4	:	18.2	:	25.5	18.9	14.5	19.0	:	:	28.4	:	:
1982	23.9	20.2	:	:	23.1	:	18.3	:	25.8	19.3	14.2	19.2	:	:	28.7	:	:
1983	23.5	19.9	:	:	23.3	:	18.7	:	25.5	19.4	14.1	19.7	:	:	27.9	:	:
1984	23.5	19.7	:	:	23.7	:	18.4	:	24.3	19.4	14.1	19.7	:	:	26.6	:	:
1985	22.9	19.6	:	:	23.7	18.5	18.6	:	24.3	19.6	14.3	20.6	:	:	25.9	:	:
1986	22.8	19.4	:	:	23.4	18.7	18.3	:	24.2	19.9	14.2	21.0	:	:	24.6	:	:
1987	22.6	19.5	:	:	23.1	17.7	19.1	:	25.2	19.9	13.8	21.3	:	:	25.8	:	:
1988	21.2	19.3	14.2	:	22.7	16.4	19.5	:	24.6	19.1	14.3	20.4	:	:	26.3	:	:
1989	20.6	18.5	15.0	:	22.3	15.3	19.3	:	23.8	18.8	15.0	20.2	:	:	25.9	:	:
1990	20.3	18.1	15.0	:	22.3	16.5	20.2	18.0	23.5	18.6	15.9	21.6	:	:	25.6	:	:
1991	17.6	17.6	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
1991	21.0	19.2	13.8	:	22.5	17.5	20.3	17.4	23.7	18.8	17.6	24.9	:	:	25.7	:	:
1992	21.1	19.8	13.7	:	23.1	17.9	20.1	18.0	24.3	19.1	17.6	25.4	:	18.2	25.8	:	:
1993	21.4	19.9	14.3	:	24.5	17.7	19.9	17.9	24.7	20.0	18.2	24.2	:	20.4	26.8	19.9	:
1994	21.2	19.7	13.7	:	24.1	17.5	19.1	17.4	24.2	20.1	18.1	23.4	:	20.3	25.9	22.7	:
1995	21.4	19.8	15.3	18.1	23.9	16.5	17.9	18.4	24.0	20.1	18.6	22.8	20.5	21.7	25.8	27.2	:
1996	21.7	19.9	14.5	17.9	24.2	15.8	18.1	18.9	23.1	19.9	18.9	23.2	20.5	21.2	25.9	25.0	:
1997	21.2	19.5	15.1	17.5	24.2	15.2	18.2	17.9	22.9	18.9	19.0	22.3	20.2	21.8	25.5	22.5	:
1998	21.1	19.2	15.3	17.5	23.4	14.4	17.9	16.8	22.7	18.8	18.9	21.6	19.9	21.0	26.0	21.6	17.5
1999	21.2	19.1	15.4	17.4	23.3	14.0	18.0	16.9	22.9	19.0	19.7	21.6	19.9	22.3	25.8	22.0	18.3
2000	21.1	19.0	17.7	17.7	23.2	14.0	18.3	15.7	22.7	18.4	20.5	20.6	19.9	22.1	25.3	19.9	16.8
2001	21.7	19.0	16.8	17.6	23.2	14.8	18.8	16.9	23.5	18.0	20.9	21.0	20.1	22.2	25.9	19.0	18.2
2002	22.3	19.2	17.1	17.7	23.9	15.3	19.0	17.6	24.6	17.9	21.1	21.7	20.4	23.0	26.3	18.8	19.0
2003	22.8	19.2	16.0	17.9	24.3	15.9	19.5	18.2	25.4	18.0	21.4	22.3	20.7	24.2	26.4	18.7	20.2
2004	22.9	18.5	16.6	18.0	24.2	15.8	19.5	18.3	25.4	17.7	21.3	22.6	20.5	23.6	26.4	18.5	19.0
2005	22.9	18.2	16.4	18.1	24.0	15.6	19.2	18.4	25.1	17.4	21.1	22.6	20.3	23.0	26.0	18.1	18.6
2006	23.0	18.1	16.1	18.2	23.9	15.5	19.0	18.4	25.1	17.1	20.7	22.6	20.1	22.5	25.8	17.8	18.3

(1) 1970-91 D_90.

(2) Euro area: 1970-91 including D_90.

Table 60 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US ⁽²⁾	JP
1970	:	:	:	:	:	:	:	:	18.0	:	:	:	:	:	:	18.3	:
1971	:	:	:	:	:	:	:	:	18.4	:	:	:	:	:	:	17.8	:
1972	:	:	:	:	:	:	:	:	18.7	:	:	:	:	:	:	17.5	:
1973	:	:	:	:	:	:	:	:	18.6	:	:	:	:	:	:	16.8	:
1974	:	:	:	:	:	:	:	:	20.4	:	:	:	:	:	:	17.4	:
1975	:	:	:	:	:	:	:	:	22.3	:	:	:	:	:	:	18.0	:
1976	:	:	:	:	:	:	:	:	22.1	:	:	:	:	:	:	17.4	:
1977	:	:	:	:	:	:	:	:	20.7	:	:	:	:	:	:	17.1	:
1978	:	:	:	:	:	:	:	:	20.3	:	:	:	:	:	:	16.5	:
1979	:	:	:	:	:	:	:	:	20.0	:	:	:	:	:	:	16.2	:
1980	:	:	:	:	:	:	:	:	21.5	:	:	:	:	:	:	16.9	:
1981	:	:	:	:	:	:	:	:	22.2	:	:	:	:	:	:	16.9	:
1982	:	:	:	:	:	:	:	:	22.1	:	:	:	:	:	:	17.8	:
1983	:	:	:	:	:	:	:	:	21.9	:	:	:	:	:	:	17.7	:
1984	:	:	:	:	:	:	:	:	21.7	:	:	:	:	:	:	17.2	:
1985	:	:	:	:	:	:	:	:	20.9	:	:	:	:	:	:	17.7	:
1986	:	:	:	:	:	:	:	:	20.9	:	:	:	:	:	:	18.1	:
1987	:	:	:	:	:	:	:	:	20.4	:	:	:	:	:	:	17.9	:
1988	:	:	:	:	:	:	:	:	19.7	:	:	:	:	:	:	17.2	:
1989	:	:	:	:	:	:	:	:	19.4	:	:	:	:	:	:	16.8	:
1990	7.7	:	:	:	:	:	:	:	19.8	:	:	:	:	:	:	17.0	12.9
1991	9.3	:	25.7	:	20.4	:	:	:	20.7	:	:	19.0	:	:	:	17.2	13.0
1992	10.8	:	26.5	:	19.4	:	:	:	21.1	:	:	20.3	:	:	:	16.8	13.4
1993	18.1	15.5	28.6	:	18.2	:	24.3	29.4	20.4	:	:	18.9	:	:	:	16.2	13.8
1994	18.1	19.6	26.2	:	15.7	:	20.7	28.3	19.9	:	:	17.2	:	:	:	15.6	14.2
1995	24.4	21.9	23.6	:	19.0	:	20.5	27.2	19.5	:	20.7	15.3	:	:	:	15.4	14.6
1996	21.6	22.3	22.0	:	18.7	:	22.4	27.8	19.1	:	20.7	11.9	:	:	:	15.0	14.8
1997	20.8	22.8	21.9	:	18.4	:	21.5	27.2	18.2	:	20.2	12.6	:	:	:	14.6	14.8
1998	23.5	24.3	21.7	:	17.8	:	21.7	27.4	17.8	:	19.9	15.3	:	:	:	14.3	15.3
1999	22.7	22.2	21.5	:	17.9	:	19.8	27.4	18.3	:	20.0	16.5	:	:	:	14.4	15.9
2000	21.0	21.6	21.3	19.2	18.0	19.9	19.8	26.6	18.6	20.0	20.0	17.9	:	:	:	14.4	16.4
2001	20.6	19.8	21.8	20.5	18.0	20.5	20.1	27.1	19.1	20.2	20.2	17.4	:	:	:	14.8	17.1
2002	21.1	19.3	23.4	21.1	18.1	20.2	20.1	28.1	20.0	20.6	20.7	:	:	:	:	15.4	17.7
2003	21.8	18.5	24.2	21.1	17.6	20.3	20.7	28.3	20.9	21.0	21.0	:	:	:	:	15.7	17.5
2004	21.8	18.7	23.3	20.9	17.2	19.8	20.0	27.8	21.1	20.9	20.9	:	:	:	:	15.4	17.2
2005	22.8	19.0	22.8	20.7	16.8	19.7	19.6	27.7	21.2	20.7	20.7	:	:	:	:	15.3	17.2
2006	23.1	18.6	22.9	20.6	16.2	19.5	19.2	27.6	21.5	20.6	20.7	:	:	:	:	15.2	17.1

⁽¹⁾ Former EU-15.⁽²⁾ National definition.

Table 61

**General government (% of GDP at market prices)
Compensation of employees; general government
ESA 95**

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1970	9.7	8.6	:	:	:	:	:	:	12.5	:	:	:	:	:	:	:	:
1971	10.1	9.3	:	:	:	:	:	:	12.8	:	:	:	:	:	14.5	:	:
1972	10.6	9.5	:	:	:	:	:	:	13.2	:	:	:	:	:	14.6	:	:
1973	10.8	9.9	:	:	:	:	:	:	13.1	:	:	:	:	:	14.9	:	:
1974	11.0	10.7	:	:	:	:	:	:	13.5	:	:	:	:	:	16.0	:	:
1975	12.2	11.2	:	:	:	:	:	:	14.3	:	:	12.2	:	:	17.2	:	:
1976	12.2	10.8	:	:	:	:	:	:	14.1	11.4	:	13.0	:	:	17.1	:	:
1977	12.5	10.7	:	:	:	:	:	:	14.2	11.2	9.5	13.2	:	:	16.7	:	:
1978	12.9	10.1	:	:	12.6	:	:	:	14.3	11.8	9.5	13.0	:	:	17.0	:	:
1979	13.2	9.9	:	:	12.6	:	:	:	14.5	11.6	9.4	12.8	:	:	17.3	:	:
1980	13.3	10.0	:	:	12.9	:	11.0	:	14.2	11.6	9.9	12.7	:	:	18.0	:	:
1981	13.9	10.0	:	:	13.3	:	12.1	:	13.9	11.9	10.2	13.1	:	:	19.0	:	:
1982	13.7	10.0	:	:	13.7	:	11.9	:	13.9	12.1	10.0	13.5	:	:	19.5	:	:
1983	13.2	9.8	:	:	13.8	:	11.9	:	13.5	12.1	10.2	13.9	:	:	19.0	:	:
1984	13.3	9.5	:	:	13.8	:	11.8	:	12.8	12.2	10.1	14.0	:	:	18.0	:	:
1985	12.7	9.4	:	:	13.8	11.5	11.6	:	12.4	12.3	10.0	14.6	:	:	17.4	:	:
1986	12.5	9.3	:	:	13.7	11.6	11.6	:	12.2	12.5	10.2	14.8	:	:	16.7	:	:
1987	12.1	9.3	:	:	13.3	11.3	11.8	:	12.4	12.6	10.3	14.9	:	:	17.4	:	:
1988	11.4	9.1	11.1	:	12.8	10.5	12.0	:	11.9	12.0	10.7	14.4	:	:	18.2	:	:
1989	11.2	8.7	12.1	:	12.5	9.8	11.9	:	11.3	11.8	11.4	14.2	:	:	18.0	:	:
1990	11.2	8.4	12.5	:	12.5	10.4	12.6	10.1	10.9	11.7	11.8	15.0	:	:	17.7	:	:
1991	8.3																
1991	11.5	9.0	11.5	:	12.7	11.0	12.6	9.7	10.8	11.8	12.9	17.4	:	:	17.7	:	:
1992	11.5	9.2	10.9	:	13.0	11.2	12.4	10.0	11.1	12.0	13.8	17.9	:	6.8	17.8	:	:
1993	11.9	9.3	10.9	:	13.5	11.4	12.3	9.8	11.2	12.5	14.1	16.6	:	6.9	18.1	8.6	:
1994	11.9	9.0	10.6	:	13.5	11.0	11.9	9.6	10.9	12.4	13.6	15.7	:	7.4	17.5	10.5	:
1995	11.9	9.0	11.3	11.3	13.7	10.2	11.2	9.7	10.8	12.5	13.6	15.2	11.1	7.3	17.3	11.7	:
1996	11.9	8.9	10.7	11.3	13.9	9.8	11.5	9.7	10.4	12.1	13.7	15.5	11.2	7.6	17.3	11.2	:
1997	11.7	8.7	11.6	10.9	13.8	9.2	11.6	9.2	10.2	11.4	13.8	14.6	11.1	7.5	17.1	10.8	:
1998	11.6	8.5	11.6	10.7	13.7	8.5	10.7	8.8	10.1	11.2	14.0	13.8	10.7	6.9	17.5	10.6	14.2
1999	11.6	8.4	11.7	10.6	13.7	8.1	10.6	8.3	10.2	11.2	14.4	13.8	10.7	7.4	17.4	11.8	14.3
2000	11.4	8.2	11.7	10.5	13.5	8.1	10.6	7.8	10.0	10.9	15.0	13.2	10.6	7.2	16.9	10.8	14.2
2001	11.6	8.0	11.6	10.4	13.5	8.4	10.8	8.1	10.1	9.7	15.1	13.2	10.5	7.5	17.3	10.2	14.0
2002	12.0	8.0	12.1	10.3	13.7	8.6	10.8	8.5	10.5	9.6	15.4	13.5	10.6	8.0	17.6	9.9	14.4
2003	12.1	7.9	11.8	10.3	13.9	9.1	11.0	8.7	10.8	9.5	15.0	13.9	10.7	8.4	17.8	10.2	15.9
2004	12.0	7.7	12.4	10.3	13.7	9.1	11.2	8.6	10.8	9.3	14.9	14.0	10.7	8.2	17.7	10.2	15.0
2005	12.0	7.5	12.3	10.3	13.5	8.9	11.0	8.5	10.6	9.1	14.9	14.0	10.5	8.4	17.6	10.1	14.0
2006	11.9	7.4	12.2	10.3	13.5	8.7	10.8	8.4	10.4	8.9	14.8	14.1	10.4	8.2	17.6	10.0	13.1

(¹) 1970-91 D_90.

(²) Euro area; 1970-91 including D_90.

Table 61 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US ⁽²⁾	JP
1970	:	:	:	:	:	:	:	:	10.8	:	:	:	:	:	:	11.6	:
1971	:	:	:	:	:	:	:	:	11.4	:	:	:	:	:	:	11.8	:
1972	:	:	:	:	:	:	:	:	11.9	:	:	:	:	:	:	11.7	:
1973	:	:	:	:	:	:	:	:	11.7	:	:	:	:	:	:	11.4	:
1974	:	:	:	:	:	:	:	:	12.9	:	:	:	:	:	:	11.4	:
1975	:	:	:	:	:	:	:	:	14.3	:	:	:	:	:	:	11.7	:
1976	:	:	:	:	:	:	:	:	13.9	:	:	:	:	:	:	11.4	:
1977	:	:	:	:	:	:	:	:	12.9	:	:	:	:	:	:	11.2	:
1978	:	:	:	:	:	:	:	:	12.4	:	:	:	:	:	:	10.8	:
1979	:	:	:	:	:	:	:	:	12.0	:	:	:	:	:	:	10.5	:
1980	:	:	:	:	:	:	:	:	13.0	:	:	:	:	:	:	10.7	:
1981	:	:	:	:	:	:	:	:	13.4	:	:	:	:	:	:	10.5	:
1982	:	:	:	:	:	:	:	:	13.2	:	:	:	:	:	:	10.9	:
1983	:	:	:	:	:	:	:	:	13.1	:	:	:	:	:	:	10.7	:
1984	:	:	:	:	:	:	:	:	12.8	:	:	:	:	:	:	10.5	:
1985	:	:	:	:	:	:	:	:	12.3	:	:	:	:	:	:	10.6	:
1986	:	:	:	:	:	:	:	:	12.3	:	:	:	:	:	:	10.6	:
1987	:	:	:	:	:	:	:	:	12.2	:	:	:	:	:	:	10.6	:
1988	:	:	:	:	:	:	:	:	11.8	:	:	:	:	:	:	10.5	:
1989	:	:	:	:	:	:	:	:	11.4	:	:	:	:	:	:	10.4	:
1990	2.9	:	:	:	:	:	:	:	11.5	:	:	:	:	:	:	10.6	:
1991	4.1	:	12.6	:	10.0	:	:	:	11.9	:	:	7.7	:	:	:	10.9	:
1992	6.0	:	13.7	:	11.7	:	:	:	12.3	:	:	10.9	:	:	:	10.7	:
1993	8.6	6.1	14.1	:	11.1	:	11.1	18.6	11.9	:	:	11.7	:	:	:	10.6	:
1994	9.6	9.2	14.0	:	10.2	:	9.4	17.7	11.1	:	:	10.1	:	:	:	10.3	:
1995	11.3	10.1	12.2	:	11.3	:	9.5	16.7	10.8	:	11.4	9.3	:	:	:	10.1	:
1996	11.1	10.9	10.9	:	11.4	:	9.6	17.2	10.6	:	11.4	7.0	:	:	:	9.8	:
1997	10.7	11.4	10.9	:	11.4	:	9.3	16.8	10.1	:	11.2	6.8	:	:	:	9.6	:
1998	11.0	12.8	10.9	:	10.9	:	9.4	16.2	9.8	:	10.9	9.7	:	:	:	9.4	:
1999	11.4	13.5	10.9	:	10.9	:	9.4	15.9	9.8	:	10.8	10.5	:	:	:	9.3	:
2000	10.9	12.8	10.7	13.2	11.1	11.8	8.8	15.7	9.9	10.7	10.7	10.0	:	:	:	9.3	:
2001	10.3	11.7	11.4	14.9	12.0	12.3	8.9	16.0	10.1	10.8	10.7	8.9	:	:	:	9.5	:
2002	10.6	11.4	12.5	15.0	11.9	12.1	9.2	16.3	10.2	10.9	10.9	:	:	:	:	9.8	:
2003	11.1	11.0	13.2	15.0	11.9	12.3	9.0	16.6	10.5	11.0	11.0	:	:	:	:	9.8	:
2004	11.1	11.3	12.1	:	11.3	11.8	8.8	16.5	10.6	:	11.0	:	:	:	:	:	:
2005	11.2	11.2	11.6	:	10.8	11.5	8.8	16.4	10.7	:	10.9	:	:	:	:	:	:
2006	11.2	11.0	11.3	:	10.5	11.3	8.6	16.3	10.8	:	10.8	:	:	:	:	:	:

⁽¹⁾ Former EU-15.⁽²⁾ National definition.

Table 62

**General government (% of GDP at market prices)
Collective consumption expenditure
ESA 95**

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1970	7.4	8.3	:	:	:	:	:	:	11.0	:	:	:	:	:	:	:	:
1971	7.9	8.9	:	:	:	:	:	:	11.3	:	:	:	:	:	7.3	:	:
1972	7.9	8.9	:	:	:	:	:	:	11.4	:	:	:	:	:	7.2	:	:
1973	8.1	9.1	:	:	:	:	:	:	11.3	:	:	:	:	:	7.0	:	:
1974	7.9	9.7	:	:	:	:	:	:	11.7	:	:	:	:	:	7.8	:	:
1975	8.6	10.1	:	:	:	:	:	:	12.5	:	:	7.2	:	:	7.8	:	:
1976	8.5	9.6	:	:	:	:	:	:	12.4	:	:	7.3	:	:	7.3	:	:
1977	8.7	9.4	:	:	:	:	:	:	12.6	7.7	6.5	7.5	:	:	7.5	:	:
1978	9.2	9.5	:	:	9.0	:	:	:	12.8	7.9	6.6	7.2	:	:	7.9	:	:
1979	9.4	9.5	:	:	9.1	:	:	:	13.2	7.9	6.6	7.0	:	:	8.1	:	:
1980	9.4	9.7	:	:	9.4	:	:	:	13.0	7.7	7.7	7.1	:	:	8.8	:	:
1981	9.9	10.0	:	:	9.8	:	:	:	13.0	7.7	7.3	7.3	:	:	9.0	:	:
1982	9.6	10.0	:	:	10.0	:	:	:	13.1	7.9	7.2	7.4	:	:	8.8	:	:
1983	9.4	9.8	:	:	10.2	:	:	:	13.1	8.1	8.4	7.6	:	:	8.5	:	:
1984	9.2	9.5	:	:	10.3	:	:	:	12.4	8.2	7.2	7.3	:	:	8.3	:	:
1985	9.1	9.4	:	:	10.3	8.0	:	:	12.4	8.2	6.4	7.5	:	:	8.0	:	:
1986	9.0	9.3	:	:	10.2	8.1	:	:	12.2	8.3	6.6	7.5	:	:	7.7	:	:
1987	8.7	9.4	:	:	10.1	7.7	:	:	12.6	8.2	6.2	7.6	:	:	8.3	:	:
1988	8.1	9.1	9.5	:	10.0	7.1	:	:	12.4	7.8	6.0	7.2	:	:	8.3	:	:
1989	7.8	9.0	10.0	:	9.5	6.6	:	:	12.1	7.6	6.5	7.0	:	:	8.3	:	:
1990	7.6	8.7	10.2	:	9.4	7.2	7.9	7.8	11.9	7.4	6.9	7.6	:	:	8.2	:	:
1991	7.7																
1991	7.9	8.7	9.3	:	9.6	7.6	7.8	7.4	11.8	7.4	7.9	8.9	:	:	8.5	:	:
1992	7.6	8.7	8.9	:	9.8	7.5	7.7	7.7	11.8	7.4	7.7	9.4	:	8.8	8.6	:	:
1993	7.8	8.8	8.6	:	10.4	7.1	7.9	7.4	11.9	7.6	7.6	9.1	:	8.4	9.3	8.3	:
1994	7.9	8.5	8.1	:	10.0	7.0	7.7	7.3	11.6	7.7	7.9	8.9	:	8.1	9.0	10.4	:
1995	7.9	8.4	9.4	8.0	9.8	6.5	7.3	8.0	11.6	8.1	7.6	8.5	8.6	10.6	8.4	11.9	:
1996	7.8	8.4	8.5	7.8	9.9	6.3	7.3	8.0	11.3	8.1	7.3	8.6	8.6	9.9	8.5	11.5	:
1997	7.8	8.1	8.8	7.7	10.0	6.0	7.2	7.7	11.0	7.7	7.8	8.5	8.5	10.5	8.1	10.5	:
1998	7.7	8.0	9.3	7.5	9.4	5.8	7.1	7.1	10.8	7.5	7.6	8.1	8.2	10.2	8.2	10.2	9.2
1999	7.8	8.0	9.4	7.4	9.3	5.4	7.1	6.9	10.9	7.7	7.9	8.0	8.2	11.4	8.0	10.8	10.1
2000	7.9	7.9	11.7	7.6	9.3	5.3	7.0	6.5	10.6	7.3	8.4	7.5	8.2	11.5	7.7	9.5	8.6
2001	8.0	7.9	10.8	7.6	9.2	5.3	7.2	7.0	11.1	7.2	8.4	7.4	8.2	11.2	7.6	9.1	10.0
2002	8.4	8.0	10.9	7.7	9.4	5.4	7.2	7.3	11.3	7.1	8.5	7.6	8.3	11.5	7.6	9.0	10.4
2003	8.4	7.9	9.8	7.8	9.5	5.6	7.5	7.5	11.4	7.1	8.6	7.9	8.4	12.4	7.6	8.8	11.1
2004	8.3	7.7	10.1	7.8	9.4	5.5	7.4	7.5	12.0	6.9	8.6	8.0	8.3	12.1	7.6	8.7	10.4
2005	8.2	7.4	10.0	7.9	9.3	5.5	7.2	7.6	11.7	6.7	8.5	8.0	8.2	11.7	7.5	8.5	10.2
2006	8.1	7.3	9.8	8.0	9.3	5.4	7.1	7.5	11.4	6.6	8.4	8.0	8.1	11.5	7.4	8.3	10.1

(¹) 1970-91 D_90.

(²) Euro area: 1970-91 including D_90.

Table 62 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US ⁽²⁾	JP
1970	:	:	:	:	:	:	:	:	9.1	:	:	:	:	:	:	:	:
1971	:	:	:	:	:	:	:	:	9.3	:	:	:	:	:	:	:	:
1972	:	:	:	:	:	:	:	:	9.5	:	:	:	:	:	:	:	:
1973	:	:	:	:	:	:	:	:	9.3	:	:	:	:	:	:	:	:
1974	:	:	:	:	:	:	:	:	9.4	:	:	:	:	:	:	:	:
1975	:	:	:	:	:	:	:	:	10.2	:	:	:	:	:	:	:	:
1976	:	:	:	:	:	:	:	:	10.2	:	:	:	:	:	:	:	:
1977	:	:	:	:	:	:	:	:	9.6	:	:	:	:	:	:	:	:
1978	:	:	:	:	:	:	:	:	9.8	:	:	:	:	:	:	:	:
1979	:	:	:	:	:	:	:	:	9.7	:	:	:	:	:	:	:	:
1980	:	:	:	:	:	:	:	:	10.4	:	:	:	:	:	:	:	:
1981	:	:	:	:	:	:	:	:	10.6	:	:	:	:	:	:	:	:
1982	:	:	:	:	:	:	:	:	10.6	:	:	:	:	:	:	:	:
1983	:	:	:	:	:	:	:	:	10.3	:	:	:	:	:	:	:	:
1984	:	:	:	:	:	:	:	:	10.3	:	:	:	:	:	:	:	:
1985	:	:	:	:	:	:	:	:	10.0	:	:	:	:	:	:	:	:
1986	:	:	:	:	:	:	:	:	9.9	:	:	:	:	:	:	:	:
1987	:	:	:	:	:	:	:	:	9.2	:	:	:	:	:	:	:	:
1988	:	:	:	:	:	:	:	:	8.7	:	:	:	:	:	:	:	:
1989	:	:	:	:	:	:	:	:	8.6	:	:	:	:	:	:	:	:
1990	1.9	:	:	:	:	:	:	:	8.9	:	:	:	:	:	:	:	5.7
1991	3.0	:	10.6	:	10.8	:	:	:	9.2	:	:	7.7	:	:	:	:	5.8
1992	4.3	:	11.4	:	10.3	:	:	:	9.1	:	:	8.8	:	:	:	:	5.9
1993	5.7	8.4	13.8	:	9.1	:	7.9	9.2	8.9	:	:	8.4	:	:	:	:	6.1
1994	7.2	8.9	12.1	:	6.5	:	17.2	8.9	8.5	:	:	8.3	:	:	:	:	6.3
1995	11.3	9.9	11.0	:	9.3	:	16.2	8.3	8.3	:	8.6	7.7	:	:	:	:	6.5
1996	9.5	10.1	10.2	:	9.1	:	12.2	8.6	8.0	:	8.5	5.8	:	:	:	:	6.5
1997	10.7	10.5	10.5	:	9.2	:	9.6	8.3	7.5	:	8.3	6.0	:	:	:	:	6.5
1998	12.7	11.3	10.2	:	9.0	:	9.7	8.2	7.2	:	8.0	8.2	:	:	:	:	6.8
1999	11.8	8.7	10.2	:	9.4	:	10.3	8.4	7.4	:	8.1	8.9	:	:	:	:	7.1
2000	10.3	9.5	10.0	9.1	9.1	7.6	10.9	8.4	7.4	8.1	8.1	9.7	:	:	:	:	7.2
2001	10.5	8.0	10.2	9.7	9.5	7.8	11.3	8.2	7.6	8.2	8.1	9.5	:	:	:	:	7.4
2002	10.7	7.7	10.8	9.9	9.5	8.3	11.3	8.2	7.8	8.3	8.2	:	:	:	:	:	7.8
2003	11.0	7.6	10.8	9.9	9.1	8.4	12.3	8.2	8.1	8.4	8.3	:	:	:	:	:	7.7
2004	11.0	7.6	10.4	9.8	9.0	8.2	11.8	8.1	8.2	8.3	8.3	:	:	:	:	:	7.6
2005	11.5	7.8	10.2	9.7	8.8	8.1	11.6	8.0	8.3	8.2	8.2	:	:	:	:	:	7.5
2006	11.7	7.6	10.2	9.7	8.5	8.0	11.4	8.0	8.4	8.2	8.1	:	:	:	:	:	7.4

⁽¹⁾ Former EU-15.⁽²⁾ National definition.

Table 63

General government (% of GDP at market prices)
Social transfers in kind
ESA 95

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1970	9.5	7.0	:	:	:	:	:	:	8.9	:	:	:	:	:	:	:	:
1971	10.0	7.5	:	:	:	:	:	:	9.5	:	:	:	:	:	14.8	:	:
1972	10.5	7.8	:	:	:	:	:	:	10.0	:	:	:	:	:	14.8	:	:
1973	10.6	8.2	:	:	:	:	:	:	10.0	:	:	:	:	:	15.1	:	:
1974	11.1	9.0	:	:	:	:	:	:	10.5	:	:	:	:	:	16.3	:	:
1975	12.6	9.8	:	:	:	:	:	:	11.3	:	:	10.4	:	:	17.5	:	:
1976	12.9	9.8	:	:	:	:	:	:	11.4	10.3	:	11.2	:	:	17.5	:	:
1977	13.2	9.8	:	:	:	:	:	:	11.7	10.2	7.6	11.5	:	:	17.0	:	:
1978	13.5	9.8	:	:	11.6	:	:	:	11.9	10.7	6.8	11.5	:	:	17.3	:	:
1979	13.6	9.9	:	:	11.8	:	:	:	12.2	10.6	6.4	11.3	:	:	17.6	:	:
1980	13.6	10.2	:	:	12.1	:	:	:	12.3	10.8	6.9	11.4	:	:	18.5	:	:
1981	14.4	10.5	:	:	12.6	:	:	:	12.5	11.2	7.3	11.8	:	:	19.4	:	:
1982	14.2	10.2	:	:	13.1	:	:	:	12.7	11.4	7.0	11.9	:	:	19.9	:	:
1983	14.2	10.1	:	:	13.1	:	:	:	12.4	11.2	5.7	12.1	:	:	19.4	:	:
1984	14.2	10.2	:	:	13.5	:	:	:	11.9	11.2	6.8	12.4	:	:	18.2	:	:
1985	13.9	10.2	:	:	13.4	10.5	:	:	12.0	11.4	7.9	13.1	:	:	17.9	:	:
1986	13.8	10.1	:	:	13.2	10.6	:	:	12.0	11.6	7.6	13.5	:	:	17.0	:	:
1987	13.9	10.1	:	:	13.0	10.1	:	:	12.6	11.7	7.6	13.7	:	:	17.5	:	:
1988	13.1	10.2	4.7	:	12.8	9.3	:	:	12.1	11.3	8.2	13.2	:	:	18.0	:	:
1989	12.7	9.5	4.9	:	12.8	8.7	:	:	11.7	11.2	8.5	13.2	:	:	17.7	:	:
1990	12.7	9.4	4.8	:	12.9	9.4	:	10.2	11.6	11.2	9.0	14.0	:	:	17.4	:	:
1991		9.9															
1991	13.1	10.5	4.5	:	13.0	9.9	12.5	9.9	11.9	11.3	9.7	15.9	:	:	17.3	:	:
1992	13.4	11.0	4.8	:	13.2	10.4	12.3	10.4	12.5	11.7	9.9	16.1	:	9.4	17.2	:	:
1993	13.6	11.1	5.7	:	14.1	10.6	12.0	10.5	12.7	12.3	10.7	15.1	:	12.0	17.5	11.6	:
1994	13.3	11.2	5.6	:	14.1	10.6	11.4	10.1	12.6	12.4	10.3	14.5	:	12.2	16.9	12.3	:
1995	13.5	11.4	5.9	10.1	14.1	10.0	10.6	10.4	12.5	12.0	11.0	14.3	11.9	11.2	17.4	15.3	:
1996	13.9	11.6	6.0	10.1	14.2	9.5	10.8	10.9	11.9	11.8	11.7	14.6	11.9	11.3	17.4	13.5	:
1997	13.4	11.3	6.3	9.9	14.2	9.2	11.0	10.2	11.9	11.3	11.3	13.8	11.8	11.3	17.3	12.0	:
1998	13.5	11.2	6.0	9.9	14.1	8.6	10.8	9.6	11.9	11.3	11.3	13.5	11.7	10.8	17.8	11.3	8.3
1999	13.4	11.1	6.0	10.1	14.0	8.6	10.9	9.9	12.0	11.3	11.8	13.6	11.7	10.9	17.9	11.2	8.2
2000	13.2	11.1	6.0	10.1	14.0	8.7	11.2	9.2	12.0	11.1	12.1	13.2	11.7	10.6	17.6	10.3	8.2
2001	13.7	11.1	6.0	10.0	14.0	9.5	11.7	10.0	12.4	10.8	12.5	13.6	11.8	10.9	18.3	9.9	8.2
2002	13.9	11.3	6.2	10.0	14.5	9.9	11.8	10.3	13.3	10.9	12.6	14.0	12.1	11.5	18.8	9.8	8.6
2003	14.4	11.3	6.2	10.1	14.8	10.3	12.0	10.7	14.0	10.9	12.7	14.5	12.3	11.8	19.0	9.9	9.1
2004	14.6	10.9	6.5	10.2	14.8	10.2	12.1	10.8	13.5	10.8	12.7	14.6	12.2	11.5	18.8	9.8	8.5
2005	14.8	10.8	6.4	10.2	14.7	10.1	12.0	10.9	13.4	10.7	12.6	14.6	12.1	11.3	18.6	9.6	8.4
2006	14.9	10.8	6.3	10.2	14.7	10.0	11.9	10.9	13.7	10.5	12.4	14.7	12.1	11.0	18.4	9.5	8.2

(¹) 1970-91 D_90.

(²) Euro area: 1970-91 including D_90.

Table 63 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US ⁽²⁾	JP
1970	:	:	:	:	:	:	:	:	8.9	:	:	:	:	:	:	:	:
1971	:	:	:	:	:	:	:	:	9.1	:	:	:	:	:	:	:	:
1972	:	:	:	:	:	:	:	:	9.3	:	:	:	:	:	:	:	:
1973	:	:	:	:	:	:	:	:	9.2	:	:	:	:	:	:	:	:
1974	:	:	:	:	:	:	:	:	11.0	:	:	:	:	:	:	:	:
1975	:	:	:	:	:	:	:	:	12.1	:	:	:	:	:	:	:	:
1976	:	:	:	:	:	:	:	:	11.9	:	:	:	:	:	:	:	:
1977	:	:	:	:	:	:	:	:	11.1	:	:	:	:	:	:	:	:
1978	:	:	:	:	:	:	:	:	10.5	:	:	:	:	:	:	:	:
1979	:	:	:	:	:	:	:	:	10.3	:	:	:	:	:	:	:	:
1980	:	:	:	:	:	:	:	:	11.1	:	:	:	:	:	:	:	:
1981	:	:	:	:	:	:	:	:	11.6	:	:	:	:	:	:	:	:
1982	:	:	:	:	:	:	:	:	11.5	:	:	:	:	:	:	:	:
1983	:	:	:	:	:	:	:	:	11.6	:	:	:	:	:	:	:	:
1984	:	:	:	:	:	:	:	:	11.4	:	:	:	:	:	:	:	:
1985	:	:	:	:	:	:	:	:	10.9	:	:	:	:	:	:	:	:
1986	:	:	:	:	:	:	:	:	11.0	:	:	:	:	:	:	:	:
1987	:	:	:	:	:	:	:	:	11.2	:	:	:	:	:	:	:	:
1988	:	:	:	:	:	:	:	:	11.0	:	:	:	:	:	:	:	:
1989	:	:	:	:	:	:	:	:	10.8	:	:	:	:	:	:	:	:
1990	5.8	:	:	:	:	:	:	:	10.8	:	:	:	:	:	:	:	7.2
1991	6.3	:	15.1	:	9.6	:	:	:	11.5	:	:	11.3	:	:	:	:	7.2
1992	6.4	:	15.1	:	9.1	:	:	:	12.0	:	:	11.5	:	:	:	:	7.4
1993	12.4	7.1	14.7	:	9.1	:	16.4	20.2	11.5	:	:	10.4	:	:	:	:	7.7
1994	10.9	10.7	14.2	:	9.3	:	3.6	19.4	11.4	:	:	8.9	:	:	:	:	7.9
1995	13.1	12.0	12.6	:	9.7	:	4.4	18.9	11.2	:	12.1	7.5	:	:	:	:	8.2
1996	12.1	12.2	11.8	:	9.6	:	10.3	19.2	11.1	:	12.2	6.1	:	:	:	:	8.3
1997	10.1	12.2	11.4	:	9.2	:	11.9	18.9	10.7	:	11.9	6.5	:	:	:	:	8.3
1998	10.8	13.0	11.5	:	8.9	:	12.0	19.2	10.6	:	11.8	7.1	:	:	:	:	8.5
1999	10.9	13.5	11.4	:	8.5	:	9.5	19.1	11.0	:	11.9	7.7	:	:	:	:	8.8
2000	10.7	12.1	11.3	10.1	8.9	12.3	8.9	18.2	11.2	11.8	11.9	8.2	:	:	:	:	9.2
2001	10.1	11.8	11.6	10.8	8.5	12.7	8.9	18.8	11.5	12.0	12.1	8.0	:	:	:	:	9.6
2002	10.5	11.6	12.6	11.2	8.5	11.9	8.8	19.8	12.2	12.3	12.5	:	:	:	:	:	9.9
2003	10.8	10.8	13.4	11.2	8.5	11.9	8.4	20.1	12.8	12.6	12.7	:	:	:	:	:	9.8
2004	10.8	11.1	12.9	11.1	8.2	11.7	8.2	19.8	12.8	12.5	12.6	:	:	:	:	:	9.7
2005	11.3	11.2	12.6	11.0	8.0	11.6	8.0	19.6	12.9	12.5	12.6	:	:	:	:	:	9.7
2006	11.4	11.0	12.7	10.8	7.8	11.5	7.8	19.6	13.1	12.5	12.6	:	:	:	:	:	9.7

⁽¹⁾ Former EU-15.⁽²⁾ National definition.

Table 64

**General government (% of GDP at market prices)
Social benefits other than social transfers in kind; general government
ESA 95**

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1970	11.7	12.8	:	:	:	:	:	:	12.3	:	:	:	:	:	:	:	:
1971	11.9	13.0	:	:	:	:	:	:	13.0	:	:	:	:	:	11.0	:	:
1972	12.3	13.5	:	:	:	:	:	:	13.7	:	:	:	:	:	11.0	:	:
1973	12.8	13.5	:	:	:	:	:	:	14.1	:	:	:	:	:	10.5	:	:
1974	13.2	14.6	:	:	:	:	:	:	15.1	:	:	:	:	:	12.0	:	:
1975	15.6	17.5	:	:	:	:	:	:	16.7	:	:	9.4	:	:	13.2	:	:
1976	15.8	17.2	:	:	:	:	:	:	17.0	15.4	:	10.4	:	:	13.1	:	:
1977	16.5	17.1	:	:	:	:	11.6	:	17.2	15.6	6.4	11.6	:	:	13.7	:	:
1978	16.8	16.7	:	:	14.9	:	:	:	17.8	17.0	6.6	12.0	:	:	14.5	:	:
1979	17.2	16.3	:	:	15.1	:	:	:	18.3	16.9	6.4	11.3	:	:	14.9	:	:
1980	17.3	16.3	:	:	15.5	:	12.6	:	18.6	16.8	7.3	11.0	:	:	16.0	:	:
1981	18.6	16.9	:	:	16.4	:	14.1	:	19.2	17.2	8.5	11.2	:	:	17.2	:	:
1982	18.8	17.3	:	:	17.1	:	14.4	:	20.4	17.6	8.9	12.3	:	:	17.4	:	:
1983	19.4	16.7	:	:	17.3	:	15.2	:	20.7	17.7	9.0	13.1	:	:	16.9	:	:
1984	18.7	16.1	:	:	17.5	:	14.8	:	19.9	17.9	8.9	13.2	:	:	16.6	:	:
1985	18.3	15.7	:	:	17.7	14.5	15.1	:	18.7	18.2	8.8	14.0	:	:	15.8	:	:
1986	18.0	15.4	:	:	17.5	14.9	15.1	:	18.2	18.4	9.1	14.5	:	:	15.1	:	:
1987	17.6	15.7	:	:	17.2	14.5	15.0	:	18.2	18.9	9.4	14.6	:	:	15.8	:	:
1988	16.9	15.6	14.4	:	17.0	13.9	15.0	:	17.9	18.1	9.2	13.9	:	:	17.0	:	:
1989	16.3	15.4	14.7	:	16.7	12.2	15.4	:	17.3	17.6	8.9	13.6	:	:	17.8	:	:
1990	16.2	14.7	14.6	:	16.9	11.8	15.5	14.5	18.2	17.5	9.3	14.9	:	:	17.9	:	:
1991	13.6																
1991	16.7	15.7	14.4	:	17.3	12.5	15.6	15.2	17.8	17.4	10.0	18.6	:	:	18.4	:	:
1992	16.8	16.3	14.3	:	17.7	13.0	16.5	15.6	17.9	17.7	10.2	22.4	:	12.1	18.9	:	:
1993	17.1	17.4	14.6	:	18.5	12.8	17.0	16.0	17.8	19.1	11.2	23.9	:	11.1	19.8	10.7	:
1994	16.7	17.7	14.9	:	18.4	12.6	17.3	16.0	16.5	19.2	12.6	23.8	:	11.0	21.2	9.9	:
1995	16.6	18.1	15.1	13.9	18.5	11.8	16.7	16.5	15.3	19.3	11.8	22.1	17.3	10.7	20.4	10.0	:
1996	16.6	19.3	15.4	13.8	18.7	11.3	16.9	16.3	14.8	19.1	11.8	21.5	17.7	11.0	19.8	10.5	:
1997	16.3	19.3	15.6	13.3	18.8	10.5	17.3	15.5	13.9	18.8	11.7	19.8	17.6	11.7	18.8	10.1	:
1998	16.1	18.9	15.7	12.8	18.4	9.7	17.0	14.8	13.0	18.5	11.7	18.3	17.1	11.5	18.3	9.3	9.1
1999	15.6	18.9	15.8	12.4	18.2	8.5	17.1	14.4	12.5	18.5	11.9	18.1	17.0	11.9	17.8	10.6	9.3
2000	15.2	18.7	16.6	12.3	17.8	8.1	16.8	13.6	11.8	18.3	12.4	16.5	16.6	12.3	17.3	9.8	9.4
2001	15.4	18.8	17.1	12.2	17.7	8.4	16.6	14.3	11.7	18.4	12.7	16.4	16.6	12.1	17.3	9.5	9.7
2002	16.0	19.4	17.0	12.3	18.0	8.9	17.0	15.4	11.8	18.4	13.2	16.8	16.9	12.5	17.5	9.2	10.7
2003	16.2	19.7	17.2	12.2	18.4	9.0	17.2	16.0	12.3	18.7	14.1	17.2	17.2	12.4	18.1	9.6	11.6
2004	16.1	19.3	18.0	12.3	18.3	9.1	17.3	16.5	12.4	18.8	14.9	17.2	17.1	11.9	18.0	9.7	11.7
2005	16.1	18.8	18.6	12.3	18.3	9.0	17.2	16.9	12.1	18.6	15.1	17.1	16.9	11.6	17.6	9.7	11.9
2006	16.1	18.4	19.0	12.3	18.2	8.9	17.2	17.1	11.8	18.4	15.2	16.9	16.7	11.4	17.2	9.8	11.8

(1) 1970-91 D_90.

(2) Euro area: 1970-91 including D_90.

Table 64 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US ⁽²⁾	JP
1970	:	:	:	:	:	:	:	:	8.8	:	:	:	:	:	:	7.0	:
1971	:	:	:	:	:	:	:	:	8.7	:	:	:	:	:	:	7.7	:
1972	:	:	:	:	:	:	:	:	9.4	:	:	:	:	:	:	7.8	:
1973	:	:	:	:	:	:	:	:	9.0	:	:	:	:	:	:	7.9	:
1974	:	:	:	:	:	:	:	:	9.8	:	:	:	:	:	:	8.7	:
1975	:	:	:	:	:	:	:	:	10.2	:	:	:	:	:	:	10.1	:
1976	:	:	:	:	:	:	:	:	10.7	:	:	:	:	:	:	9.8	:
1977	:	:	:	:	:	:	:	:	10.9	:	:	:	:	:	:	9.4	:
1978	:	:	:	:	:	:	:	:	11.3	:	:	:	:	:	:	8.9	:
1979	:	:	:	:	:	:	:	:	11.4	:	:	:	:	:	:	8.9	:
1980	:	:	:	:	:	:	:	:	11.9	:	:	:	:	:	:	9.8	:
1981	:	:	:	:	:	:	:	:	13.4	:	:	:	:	:	:	9.9	:
1982	:	:	:	:	:	:	:	:	14.2	:	:	:	:	:	:	10.6	:
1983	:	:	:	:	:	:	:	:	14.1	:	:	:	:	:	:	10.6	:
1984	:	:	:	:	:	:	:	:	14.2	:	:	:	:	:	:	9.8	:
1985	:	:	:	:	:	:	:	:	14.2	:	:	:	:	:	:	9.6	:
1986	:	:	:	:	:	:	:	:	14.3	:	:	:	:	:	:	9.7	:
1987	:	:	:	:	:	:	:	:	13.5	:	:	:	:	:	:	9.5	:
1988	:	:	:	:	:	:	:	:	12.5	:	:	:	:	:	:	9.4	:
1989	:	:	:	:	:	:	:	:	11.9	:	:	:	:	:	:	9.6	:
1990	5.7	:	:	:	:	:	:	:	12.0	:	:	:	:	:	:	10.0	7.3
1991	9.8	:	18.7	:	16.7	:	:	:	14.2	:	:	14.0	:	:	:	10.9	7.0
1992	8.8	:	19.3	:	18.7	:	:	:	15.6	:	:	14.5	:	:	:	11.6	7.2
1993	12.5	:	19.5	:	18.6	:	14.0	22.6	16.0	:	:	15.3	:	:	:	11.8	7.6
1994	13.3	:	18.3	:	17.6	:	12.8	22.1	15.6	:	:	13.1	:	:	:	11.6	7.9
1995	12.8	8.6	15.8	:	16.9	:	12.2	20.6	15.4	:	17.2	10.6	:	:	:	11.7	8.4
1996	13.1	8.9	13.9	:	16.9	:	12.3	19.7	14.8	:	17.4	8.8	:	:	:	11.6	8.6
1997	12.8	9.3	13.1	:	16.6	:	12.2	18.9	14.4	:	17.1	8.7	:	:	:	11.3	8.7
1998	13.7	10.0	13.6	:	16.2	:	12.2	18.7	13.7	:	16.6	10.7	:	:	:	11.0	9.3
1999	15.1	11.4	13.5	:	17.2	:	12.9	18.2	13.4	:	16.4	11.9	:	:	:	10.7	9.8
2000	12.6	10.7	12.8	12.0	16.6	17.2	12.3	17.5	13.3	16.0	16.1	14.3	:	:	:	10.7	10.0
2001	11.3	10.6	12.9	12.5	17.1	17.1	12.0	17.4	13.7	16.1	16.1	13.3	:	:	:	11.4	10.3
2002	10.3	9.3	13.7	12.7	17.7	17.2	11.8	17.5	13.5	16.3	16.3	:	:	:	:	12.0	10.9
2003	9.6	9.2	14.1	12.8	17.6	17.2	11.4	18.3	13.7	16.6	16.6	:	:	:	:	11.9	11.3
2004	8.9	9.4	14.1	12.4	17.0	17.1	9.9	18.1	13.6	16.4	16.5	:	:	:	:	11.8	11.5
2005	8.3	9.3	14.3	12.3	17.0	16.7	9.7	17.6	13.4	16.2	16.3	:	:	:	:	11.7	11.9
2006	7.7	8.7	14.1	12.3	16.0	16.5	9.8	17.4	13.2	16.0	16.1	:	:	:	:	11.6	12.1

⁽¹⁾ Former EU-15.⁽²⁾ National definition.

Table 65

**General government (% of GDP at market prices)
Interest including flows on swaps and FRAs (forward rate agreements); general government
Excessive deficit procedure**

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1970	3.6	1.0	:	:	:	:	:	:	2.9	:	:	:	:	:	:	:	:
1971	3.7	1.0	:	:	:	:	:	:	2.9	:	:	:	:	:	1.3	:	:
1972	3.7	1.1	:	:	:	:	:	:	2.7	:	:	:	:	:	1.3	:	:
1973	3.7	1.1	:	:	:	:	:	:	2.8	:	:	:	:	:	1.2	:	:
1974	3.8	1.3	:	:	:	:	:	:	3.0	:	:	:	:	:	1.2	:	:
1975	4.1	1.4	:	:	:	:	:	:	3.0	:	:	0.6	:	:	1.2	:	:
1976	4.2	1.7	:	:	:	:	:	:	3.0	1.7	:	0.6	:	:	1.3	:	:
1977	4.7	1.7	:	:	:	:	:	:	3.1	1.8	1.4	0.7	:	:	1.8	:	:
1978	5.1	1.7	:	:	:	:	:	:	3.2	2.2	2.3	0.8	:	:	2.1	:	:
1979	5.8	1.8	:	:	1.4	:	:	:	3.4	2.3	2.5	0.9	:	:	3.4	:	:
1980	6.6	2.1	:	:	1.4	:	4.7	:	3.8	2.4	2.6	1.0	:	:	3.8	:	:
1981	8.3	2.5	:	:	1.9	:	5.3	:	4.5	2.7	4.3	1.1	:	:	5.1	:	:
1982	9.5	2.9	:	:	2.0	:	6.9	:	5.2	3.0	4.7	1.2	:	:	5.8	:	:
1983	9.9	3.0	:	:	2.5	:	8.2	:	5.7	3.0	5.5	1.5	:	:	7.8	:	:
1984	10.1	3.0	:	:	2.6	:	8.7	:	6.1	3.3	6.1	1.6	:	:	9.3	:	:
1985	11.1	3.0	:	:	2.8	9.9	8.7	:	6.3	3.5	6.9	1.8	:	:	9.6	:	:
1986	11.4	2.9	:	:	2.8	9.3	9.0	:	6.3	3.6	8.3	1.7	:	:	8.5	:	:
1987	10.6	2.9	:	:	2.7	9.3	8.2	:	6.2	3.9	7.5	1.7	:	:	8.0	:	:
1988	10.3	2.8	7.4	:	2.6	8.7	8.6	:	6.1	3.8	6.6	1.6	:	:	7.6	:	:
1989	11.3	2.7	7.5	:	2.7	7.8	9.5	:	5.8	3.9	6.1	1.4	:	:	7.2	:	:
1990	11.9	2.7	10.0	:	2.9	8.1	10.5	0.4	5.9	4.0	8.6	1.4	:	:	7.3	:	:
1991	2.9																
1991	11.3	2.8	9.6	:	3.0	7.9	11.9	0.3	6.1	4.1	8.8	1.9	:	:	7.3	:	:
1992	11.1	3.3	11.5	:	3.2	7.1	12.6	0.3	6.3	4.2	8.5	2.6	:	1.4	6.6	:	:
1993	11.1	3.3	12.6	:	3.5	6.7	13.0	0.3	6.2	4.2	7.7	4.5	:	1.7	7.3	0.2	:
1994	9.6	3.3	13.9	:	3.6	6.1	11.4	0.4	5.8	4.0	6.6	4.2	:	1.4	6.7	0.2	:
1995	9.3	3.7	12.7	5.2	3.8	5.4	11.5	0.4	5.9	4.0	6.3	4.0	5.6	1.1	6.0	0.2	:
1996	8.8	3.7	12.0	5.3	3.8	4.6	11.5	0.4	5.6	3.8	5.4	4.3	5.7	1.2	5.7	0.4	:
1997	8.0	3.6	9.6	4.8	3.6	4.2	9.4	0.3	5.2	3.5	4.2	4.2	5.1	1.2	5.0	0.4	:
1998	7.6	3.6	9.0	4.3	3.5	3.4	8.0	0.4	4.8	3.5	3.5	3.6	4.7	1.2	4.5	0.5	3.2
1999	7.0	3.5	8.3	3.5	3.2	2.3	6.7	0.3	4.5	3.4	3.2	3.1	4.2	1.0	4.0	0.4	3.2
2000	6.7	3.4	8.2	3.3	3.1	2.0	6.5	0.3	3.8	3.5	3.2	2.9	4.1	0.9	3.5	0.3	3.5
2001	6.5	3.3	7.3	3.1	3.1	1.5	6.5	0.3	3.4	3.5	3.2	2.7	4.0	1.1	3.3	0.2	3.6
2002	6.0	3.1	6.3	2.8	3.0	1.4	5.8	0.2	3.1	3.2	3.0	2.2	3.6	1.5	2.9	0.3	3.3
2003	5.4	3.1	5.8	2.5	2.9	1.3	5.3	0.2	2.9	3.0	2.9	1.9	3.5	1.3	2.6	0.3	3.5
2004	4.9	3.1	5.5	2.4	3.0	1.4	5.0	0.2	2.9	3.1	2.7	1.8	3.4	1.2	2.3	0.3	3.5
2005	4.5	3.1	5.3	2.2	3.0	1.3	5.0	0.2	2.9	3.0	2.7	1.7	3.3	1.4	2.2	0.2	3.5
2006	4.1	3.1	5.1	2.1	3.0	1.3	5.2	0.2	3.0	2.9	2.8	1.6	3.3	1.5	2.1	0.2	3.5

(¹) 1970-91 D, 90.

(²) Euro area, 1970-91 including D, 90.

Table 65 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US ⁽²⁾	JP ⁽³⁾
1970	:	:	:	:	:	:	:	:	4.0	:	:	:	:	:	:	2.2	:
1971	:	:	:	:	:	:	:	:	3.8	:	:	:	:	:	:	2.2	:
1972	:	:	:	:	:	:	:	:	3.7	:	:	:	:	:	:	2.1	:
1973	:	:	:	:	:	:	:	:	3.8	:	:	:	:	:	:	2.3	:
1974	:	:	:	:	:	:	:	:	4.3	:	:	:	:	:	:	2.4	:
1975	:	:	:	:	:	:	:	:	4.1	:	:	:	:	:	:	2.5	:
1976	:	:	:	:	:	:	:	:	4.4	:	:	:	:	:	:	2.6	:
1977	:	:	:	:	:	:	:	:	4.4	:	:	:	:	:	:	2.5	:
1978	:	:	:	:	:	:	:	:	4.3	:	:	:	:	:	:	2.6	:
1979	:	:	:	:	:	:	:	:	4.5	:	:	:	:	:	:	2.9	:
1980	:	:	:	:	:	:	:	:	4.9	:	:	:	:	:	:	3.2	:
1981	:	:	:	:	:	:	:	:	5.2	:	:	:	:	:	:	3.8	:
1982	:	:	:	:	:	:	:	:	5.3	:	:	:	:	:	:	4.3	:
1983	:	:	:	:	:	:	:	:	4.9	:	:	:	:	:	:	4.5	:
1984	:	:	:	:	:	:	:	:	5.1	:	:	:	:	:	:	4.8	:
1985	:	:	:	:	:	:	:	:	5.1	:	:	:	:	:	:	5.0	:
1986	:	:	:	:	:	:	:	:	4.8	:	:	:	:	:	:	4.9	:
1987	:	:	:	:	:	:	:	:	4.5	:	:	:	:	:	:	4.9	:
1988	:	:	:	:	:	:	:	:	4.1	:	:	:	:	:	:	4.9	:
1989	:	:	:	:	:	:	:	:	4.0	:	:	:	:	:	:	5.0	:
1990	0.1	:	:	:	:	:	:	:	3.7	:	:	:	:	:	:	5.1	3.6
1991	:	:	:	:	4.5	:	:	:	3.1	:	:	16.4	:	:	:	5.3	3.5
1992	0.1	:	:	:	5.5	:	:	:	3.0	:	:	6.4	:	:	:	5.0	3.5
1993	0.1	:	:	:	8.1	:	2.8	5.8	3.1	:	:	9.4	:	:	:	4.8	3.4
1994	0.9	:	:	:	6.2	:	3.4	6.4	3.3	:	:	14.6	:	:	:	4.6	3.4
1995	1.3	0.4	:	:	5.8	:	2.3	6.7	3.6	:	5.4	14.1	:	:	:	4.8	3.5
1996	1.6	0.9	:	:	4.5	:	2.5	6.4	3.6	:	5.4	21.1	:	:	:	4.7	3.4
1997	1.0	0.8	:	:	4.4	:	2.2	6.2	3.6	:	4.9	8.3	:	:	:	4.5	3.4
1998	0.8	1.1	:	:	1.9	:	2.4	5.6	3.5	:	4.5	4.3	:	:	:	4.3	3.4
1999	0.8	1.5	:	:	2.0	:	3.4	4.6	2.9	:	4.0	3.8	:	:	:	3.9	3.4
2000	1.0	1.7	5.6	3.8	2.1	2.4	4.1	4.1	2.7	3.8	3.8	4.0	:	14.0	:	3.7	3.3
2001	1.0	1.6	4.8	3.6	3.0	2.4	4.0	3.2	2.4	3.6	3.6	3.7	:	27.1	:	3.4	3.2
2002	0.8	1.4	4.1	3.9	2.9	2.3	3.6	2.9	2.0	3.3	3.3	2.2	3.0	19.8	2.1	3.0	3.0
2003	0.8	1.3	4.2	3.7	3.1	2.1	2.5	1.9	2.0	3.1	3.2	2.1	2.1	18.3	2.1	2.8	2.9
2004	0.8	1.2	4.4	3.8	3.1	2.0	2.3	2.1	2.0	3.0	3.1	2.1	1.6	15.1	2.2	2.7	3.0
2005	0.8	1.1	4.0	3.8	3.1	1.9	2.4	2.2	2.0	3.0	3.0	2.0	1.6	13.2	2.2	2.7	3.1
2006	0.9	1.0	3.6	3.7	3.1	1.8	2.3	2.3	2.0	3.0	3.0	2.0	1.5	11.4	2.3	2.8	3.3

⁽¹⁾ Former EU-15.⁽²⁾ National definition.⁽³⁾ SNA 93.

Table 66

General government (% of GDP at market prices)
Subsidies; general government
ESA 95

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1970	2.3	1.5	:	:	:	:	:	:	0.9	:	:	:	:	:	:	:	:
1971	2.2	1.5	:	:	:	:	:	:	1.0	:	:	:	:	:	3.3	:	:
1972	2.4	1.8	:	:	:	:	:	:	1.1	:	:	:	:	:	3.7	:	:
1973	2.5	1.7	:	:	:	:	:	:	1.1	:	:	:	:	:	1.8	:	:
1974	2.3	1.7	:	:	:	:	:	:	1.2	:	:	:	:	:	2.2	:	:
1975	2.6	1.8	:	:	:	:	:	:	1.4	:	:	3.4	:	:	1.5	:	:
1976	2.7	1.7	:	:	:	:	:	:	1.7	3.0	:	3.3	:	:	1.6	:	:
1977	2.9	1.7	:	:	:	:	:	:	1.7	3.1	3.3	3.3	:	:	1.3	:	:
1978	2.9	1.9	:	:	2.2	:	:	:	1.8	3.3	3.7	3.1	:	:	1.3	:	:
1979	3.0	1.9	:	:	2.2	:	:	:	1.8	3.1	4.0	3.3	:	:	1.4	:	:
1980	2.8	1.8	:	:	2.1	:	2.7	:	1.8	3.2	4.6	3.2	:	:	1.6	:	:
1981	2.9	1.8	:	:	2.3	:	2.7	:	1.8	3.2	4.9	3.2	:	:	1.7	:	:
1982	2.6	1.8	:	:	2.4	:	2.9	:	2.0	3.2	3.9	3.0	:	:	1.9	:	:
1983	2.8	1.7	:	:	2.4	:	2.7	:	2.1	3.1	3.6	3.1	:	:	1.9	:	:
1984	2.9	1.8	:	:	2.7	:	2.8	:	2.2	3.0	4.0	3.1	:	:	1.8	:	:
1985	2.4	1.9	:	:	2.6	2.1	2.6	:	2.4	3.2	3.4	3.1	:	:	1.6	:	:
1986	2.3	1.9	:	:	2.6	1.9	2.8	:	2.3	3.6	3.4	3.1	:	:	1.4	:	:
1987	2.0	2.0	:	:	2.5	2.6	2.4	:	2.3	3.5	2.7	3.0	:	:	1.4	:	:
1988	2.1	2.0	2.0	:	2.1	3.0	2.2	:	2.3	3.2	2.4	2.9	:	:	2.1	:	:
1989	1.7	2.0	1.5	:	2.0	1.2	2.2	:	2.3	3.1	2.1	2.7	:	:	2.2	:	:
1990	1.7	1.8	1.2	:	1.8	1.1	1.9	2.5	2.3	3.0	1.7	2.8	:	:	2.2	:	:
1991	1.7	2.2	0.6	:	1.7	1.1	1.9	2.6	2.2	3.2	1.6	3.3	:	:	2.1	:	:
1992	1.6	1.9	0.5	:	1.7	1.2	1.8	2.7	2.3	3.2	1.9	3.5	:	4.9	2.7	:	:
1993	1.6	1.9	0.5	:	1.7	1.3	2.0	2.4	2.1	3.3	2.4	3.3	:	3.1	2.6	0.9	:
1994	1.5	2.1	0.4	:	1.6	1.1	1.7	2.7	2.0	2.8	1.7	3.1	:	3.3	2.6	0.9	:
1995	1.5	2.1	0.4	1.1	1.5	1.0	1.5	1.8	1.1	2.8	1.3	2.8	1.7	2.9	2.5	0.7	:
1996	1.5	2.0	0.5	1.0	1.5	1.0	1.5	2.0	1.2	2.6	1.5	2.0	1.6	2.4	2.6	0.7	:
1997	1.4	1.8	0.2	0.9	1.5	1.0	1.2	1.8	1.5	2.9	1.2	1.8	1.5	2.8	2.4	0.7	:
1998	1.4	1.9	0.1	1.1	1.4	0.8	1.3	1.8	1.5	3.2	1.5	1.6	1.5	3.0	2.3	1.0	1.2
1999	1.4	1.8	0.2	1.2	1.3	0.8	1.2	1.5	1.6	3.0	1.7	1.6	1.5	3.0	2.3	1.1	0.8
2000	1.5	1.7	0.2	1.2	1.2	0.7	1.2	1.6	1.5	2.8	1.1	1.5	1.4	2.8	2.2	1.0	1.4
2001	1.6	1.6	0.1	1.1	1.3	0.9	1.2	1.6	1.5	3.0	1.3	1.4	1.4	2.8	2.2	1.0	1.5
2002	1.5	1.5	0.1	1.2	1.3	0.6	1.1	1.6	1.5	3.2	1.5	1.4	1.4	2.4	2.2	0.9	1.1
2003	1.6	1.4	0.1	1.2	1.3	0.6	1.1	1.7	1.4	3.2	1.5	1.4	1.3	2.8	2.1	0.9	1.2
2004	1.6	1.3	0.1	1.3	1.3	0.6	1.1	1.7	1.3	3.1	1.8	1.3	1.3	3.0	2.1	1.0	0.7
2005	1.6	1.2	0.1	1.3	1.3	0.6	1.1	1.7	1.2	3.0	1.5	1.3	1.3	2.6	2.1	1.2	0.7
2006	1.6	1.2	0.1	1.3	1.2	0.6	1.1	1.7	1.1	2.9	1.3	1.3	1.2	2.4	2.1	1.2	0.6

(¹) 1970-91 D_90.

(²) Euro area; 1970-91 including D_90.

Table 66 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US ⁽²⁾	JP
1970	:	:	:	:	:	:	:	:	1.6	:	:	:	:	:	:	0.5	:
1971	:	:	:	:	:	:	:	:	1.5	:	:	:	:	:	:	0.4	:
1972	:	:	:	:	:	:	:	:	1.7	:	:	:	:	:	:	0.5	:
1973	:	:	:	:	:	:	:	:	1.8	:	:	:	:	:	:	0.4	:
1974	:	:	:	:	:	:	:	3.3	3.3	:	:	:	:	:	:	0.2	:
1975	:	:	:	:	:	:	:	3.1	3.1	:	:	:	:	:	:	0.3	:
1976	:	:	:	:	:	:	:	2.5	2.5	:	:	:	:	:	:	0.3	:
1977	:	:	:	:	:	:	:	2.1	2.1	:	:	:	:	:	:	0.4	:
1978	:	:	:	:	:	:	:	1.9	1.9	:	:	:	:	:	:	0.4	:
1979	:	:	:	:	:	:	:	2.0	2.0	:	:	:	:	:	:	0.3	:
1980	:	:	:	:	:	:	:	2.0	2.0	:	:	:	:	:	:	0.4	:
1981	:	:	:	:	:	:	:	2.0	2.0	:	:	:	:	:	:	0.4	:
1982	:	:	:	:	:	:	:	1.6	1.6	:	:	:	:	:	:	0.5	:
1983	:	:	:	:	:	:	:	1.5	1.5	:	:	:	:	:	:	0.6	:
1984	:	:	:	:	:	:	:	1.7	1.7	:	:	:	:	:	:	0.5	:
1985	:	:	:	:	:	:	:	1.6	1.6	:	:	:	:	:	:	0.5	:
1986	:	:	:	:	:	:	:	1.1	1.1	:	:	:	:	:	:	0.6	:
1987	:	:	:	:	:	:	:	1.1	1.1	:	:	:	:	:	:	0.6	:
1988	:	:	:	:	:	:	:	0.9	0.9	:	:	:	:	:	:	0.6	:
1989	:	:	:	:	:	:	:	0.8	0.8	:	:	:	:	:	:	0.5	:
1990	13.8	:	:	:	:	:	:	0.9	0.9	:	:	:	:	:	:	0.5	1.1
1991	5.5	:	3.8	:	2.5	:	:	:	0.8	:	:	2.0	:	:	:	0.5	0.9
1992	0.7	:	2.1	:	2.3	:	:	:	0.9	:	:	1.8	:	:	:	0.5	0.8
1993	0.7	2.3	1.8	:	1.9	:	4.5	4.5	0.8	:	:	2.9	:	:	:	0.6	0.8
1994	0.5	1.6	2.4	:	2.0	:	4.3	4.1	0.8	:	:	1.3	:	:	:	0.5	0.8
1995	1.2	1.1	2.1	:	1.5	:	4.8	3.7	0.8	:	1.6	1.2	:	:	:	0.5	0.8
1996	0.8	1.2	1.7	:	1.3	:	4.0	3.2	0.6	:	1.6	0.8	:	:	:	0.4	0.8
1997	1.0	0.9	1.3	:	1.1	:	4.4	2.7	0.7	:	1.4	0.6	:	:	:	0.4	0.8
1998	1.2	1.1	1.7	:	1.1	:	2.9	2.2	0.5	:	1.4	1.8	:	:	:	0.4	0.7
1999	1.4	1.1	1.3	:	0.9	:	2.7	2.0	0.5	:	1.4	1.8	:	:	:	0.5	0.8
2000	1.0	0.8	1.7	1.4	0.7	1.5	2.5	1.6	0.5	1.3	1.3	1.9	:	:	:	0.5	0.9
2001	0.7	0.9	1.8	1.6	0.6	1.4	2.2	1.5	0.6	1.3	1.3	2.4	:	:	:	0.5	0.8
2002	0.7	0.8	1.8	2.1	0.5	1.2	1.6	1.5	0.6	1.2	1.2	:	:	:	:	0.4	0.8
2003	0.8	0.8	1.5	2.1	0.4	1.5	1.7	1.5	0.7	1.2	1.2	:	:	:	:	0.4	0.6
2004	1.0	1.2	1.3	1.7	0.3	1.7	1.6	1.4	0.6	1.2	1.2	:	:	:	:	0.3	0.6
2005	0.9	1.6	1.2	1.5	0.2	1.7	1.5	1.4	0.6	1.2	1.2	:	:	:	:	0.3	0.6
2006	0.8	1.6	1.1	1.3	0.2	1.8	1.5	1.4	0.6	1.1	1.1	:	:	:	:	0.3	0.6

⁽¹⁾ Former EU-15.⁽²⁾ National definition.

Table 67

General government (% of GDP at market prices)
Other current expenditure; general government
ESA 95

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1970	2.5	0.8	:	:	:	:	:	:	0.5	:	:	:	:	:	:	:	:
1971	2.2	0.9	:	:	:	:	:	:	0.7	:	:	:	:	:	0.7	:	:
1972	2.2	0.9	:	:	:	:	:	:	0.7	:	:	:	:	:	0.8	:	:
1973	2.2	0.9	:	:	:	:	:	:	0.8	:	:	:	:	:	0.9	:	:
1974	1.7	0.9	:	:	:	:	:	:	0.7	:	:	:	:	:	1.0	:	:
1975	1.9	1.0	:	:	:	:	:	:	1.0	:	:	1.4	:	:	1.1	:	:
1976	1.7	1.1	:	:	:	:	:	:	0.8	2.0	:	1.3	:	:	1.2	:	:
1977	1.8	1.2	:	:	:	:	:	:	0.9	2.0	1.1	1.2	:	:	1.4	:	:
1978	2.0	1.2	:	:	0.8	:	:	:	1.2	2.2	1.0	1.2	:	:	1.4	:	:
1979	1.7	1.2	:	:	0.8	:	:	:	0.8	2.2	0.9	1.2	:	:	1.7	:	:
1980	1.7	1.3	:	:	0.8	:	0.6	:	0.8	2.2	0.8	1.2	:	:	1.7	:	:
1981	1.8	1.3	:	:	0.9	:	0.5	:	0.9	2.3	0.7	1.3	:	:	1.7	:	:
1982	1.7	1.3	:	:	1.0	:	0.5	:	0.9	2.2	0.7	1.3	:	:	1.8	:	:
1983	1.8	1.3	:	:	1.1	:	0.6	:	0.8	2.4	0.7	1.4	:	:	1.8	:	:
1984	1.8	1.4	:	:	1.0	:	0.6	:	1.0	2.2	0.6	1.3	:	:	1.9	:	:
1985	2.0	1.3	:	:	1.2	2.2	0.7	:	0.9	2.3	0.7	1.4	:	:	1.9	:	:
1986	1.7	1.2	:	:	1.0	2.4	0.8	:	0.8	2.3	1.2	1.5	:	:	2.1	:	:
1987	1.7	1.2	:	:	1.1	2.4	0.8	:	0.8	2.3	1.9	1.5	:	:	2.1	:	:
1988	1.8	1.3	0.7	:	1.2	2.4	0.9	:	0.8	2.4	1.2	1.5	:	:	2.0	:	:
1989	1.8	1.3	1.0	:	1.2	2.3	1.2	:	0.8	2.3	1.1	1.6	:	:	2.0	:	:
1990	1.7	3.0	0.9	:	1.2	1.8	0.9	2.8	0.8	2.2	1.2	1.7	:	:	1.8	:	:
1991	6.3																
1991	1.9	1.8	1.0	:	1.4	2.0	1.1	3.2	0.9	2.5	1.5	2.1	:	:	2.1	:	:
1992	1.9	1.4	1.0	:	1.6	2.0	1.1	3.1	1.0	2.4	1.4	2.2	:	1.3	2.1	:	:
1993	2.0	1.5	1.4	:	1.7	2.2	1.4	3.2	1.1	2.7	1.7	2.3	:	0.7	2.3	1.4	:
1994	2.1	1.4	1.2	:	1.6	2.3	1.2	3.0	1.1	2.6	1.6	1.9	:	1.0	2.3	3.5	:
1995	2.0	1.2	1.3	0.9	1.6	2.1	1.1	3.1	1.1	2.4	1.6	2.0	1.4	1.0	2.2	1.4	:
1996	2.1	1.3	1.2	1.0	1.7	2.5	1.3	2.7	1.2	2.5	1.9	2.2	1.4	1.4	2.4	1.1	:
1997	2.1	1.4	1.1	1.1	1.6	2.3	1.3	3.0	1.2	2.3	2.0	2.4	1.5	0.8	2.4	0.9	:
1998	2.1	1.4	1.3	1.2	1.7	2.2	1.3	3.3	1.3	2.5	2.1	2.3	1.5	0.8	2.6	1.1	2.3
1999	2.1	1.6	1.2	1.2	1.7	2.2	1.4	3.5	1.4	2.5	2.2	2.4	1.6	0.7	2.5	0.8	2.1
2000	2.0	1.7	1.1	1.2	1.6	2.0	1.3	3.4	1.7	2.5	2.4	2.4	1.6	0.9	2.6	0.9	2.3
2001	2.0	1.6	1.1	1.2	1.6	2.1	1.3	2.8	1.7	3.2	2.5	2.4	1.6	0.8	2.6	1.0	2.4
2002	2.1	1.7	1.2	1.3	1.8	2.1	1.5	2.8	1.8	3.3	2.5	2.5	1.7	0.9	2.6	0.7	2.5
2003	2.3	1.8	1.6	1.4	1.9	2.3	1.6	3.2	1.7	3.5	2.7	2.7	1.9	1.3	2.5	0.9	3.6
2004	2.2	1.9	2.1	1.5	1.8	2.4	1.7	3.2	1.9	3.6	2.6	2.7	1.9	1.4	2.5	5.9	4.8
2005	2.2	1.9	1.6	1.6	1.8	2.4	1.8	3.3	1.9	3.6	2.6	2.7	1.9	1.4	2.4	8.8	3.9
2006	2.2	1.9	1.4	1.6	1.8	2.5	1.7	3.3	1.8	3.6	2.7	2.7	1.9	1.5	2.4	8.2	3.7

(¹) 1970-91 D, 90.

(²) Euro area; 1970-91 including D, 90.

Table 67 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US ⁽²⁾	JP
1970	:	:	:	:	:	:	:	:	0.9	:	:	:	:	:	:	0.5	:
1971	:	:	:	:	:	:	:	:	1.0	:	:	:	:	:	:	0.6	:
1972	:	:	:	:	:	:	:	:	1.1	:	:	:	:	:	:	0.6	:
1973	:	:	:	:	:	:	:	:	1.0	:	:	:	:	:	:	0.4	:
1974	:	:	:	:	:	:	:	:	1.0	:	:	:	:	:	:	0.4	:
1975	:	:	:	:	:	:	:	:	1.1	:	:	:	:	:	:	0.4	:
1976	:	:	:	:	:	:	:	:	1.2	:	:	:	:	:	:	0.3	:
1977	:	:	:	:	:	:	:	:	1.1	:	:	:	:	:	:	0.2	:
1978	:	:	:	:	:	:	:	:	1.3	:	:	:	:	:	:	0.2	:
1979	:	:	:	:	:	:	:	:	0.9	:	:	:	:	:	:	0.2	:
1980	:	:	:	:	:	:	:	:	0.9	:	:	:	:	:	:	0.3	:
1981	:	:	:	:	:	:	:	:	1.1	:	:	:	:	:	:	0.2	:
1982	:	:	:	:	:	:	:	:	1.1	:	:	:	:	:	:	0.3	:
1983	:	:	:	:	:	:	:	:	1.1	:	:	:	:	:	:	0.2	:
1984	:	:	:	:	:	:	:	:	1.1	:	:	:	:	:	:	0.3	:
1985	:	:	:	:	:	:	:	:	1.2	:	:	:	:	:	:	0.3	:
1986	:	:	:	:	:	:	:	:	1.1	:	:	:	:	:	:	0.3	:
1987	:	:	:	:	:	:	:	:	1.0	:	:	:	:	:	:	0.3	:
1988	:	:	:	:	:	:	:	:	1.2	:	:	:	:	:	:	0.3	:
1989	:	:	:	:	:	:	:	:	1.1	:	:	:	:	:	:	0.2	:
1990	2.3	:	:	:	:	:	:	:	1.1	:	:	:	:	:	:	0.2	0.9
1991	:	:	:	:	1.9	:	:	:	1.1	:	:	1.4	:	:	:	-0.4	1.1
1992	0.1	:	:	:	3.0	:	:	:	1.2	:	:	0.7	:	:	:	0.3	0.9
1993	1.9	:	:	:	1.4	:	4.5	1.7	1.6	:	:	0.4	:	:	:	0.3	0.9
1994	0.3	:	:	:	1.3	:	6.6	1.9	1.8	:	:	0.5	:	:	:	0.3	1.0
1995	0.1	0.0	:	:	1.4	:	8.0	2.0	1.8	:	1.4	0.3	:	:	:	0.2	1.0
1996	0.1	0.1	:	:	1.6	:	8.6	1.8	1.9	:	1.5	0.3	:	:	:	0.2	1.0
1997	0.6	2.0	:	:	1.7	:	14.4	1.7	2.0	:	1.6	0.2	:	:	:	0.2	1.0
1998	2.6	0.6	:	:	1.5	:	14.9	2.0	2.1	:	1.7	3.9	:	:	:	0.2	1.1
1999	1.7	0.5	:	:	1.3	:	10.0	1.9	2.2	:	1.7	5.1	:	:	:	0.2	1.3
2000	1.7	0.3	1.7	1.9	0.8	1.2	10.1	2.3	2.3	1.8	1.8	6.1	:	:	:	0.2	1.1
2001	1.9	0.2	1.7	2.2	1.1	1.1	9.0	2.4	2.3	1.8	1.8	6.1	:	:	:	0.2	1.1
2002	1.1	0.1	1.9	2.1	0.9	1.3	10.6	2.3	2.6	1.9	1.9	:	:	:	:	0.2	1.1
2003	1.0	0.1	1.9	2.2	0.9	1.3	1.5	2.4	2.5	2.0	2.0	:	:	:	:	0.2	1.1
2004	1.1	0.6	1.5	1.8	4.5	1.4	1.5	2.4	2.5	2.1	2.0	:	:	:	:	0.2	1.1
2005	1.3	0.8	1.4	1.8	3.6	1.4	1.9	2.3	2.4	2.0	2.0	:	:	:	:	0.2	1.0
2006	1.3	0.8	0.4	1.8	3.5	1.2	1.8	2.3	2.3	2.0	2.0	:	:	:	:	0.2	1.0

⁽¹⁾ Former EU-15.⁽²⁾ National definition.

Table 68

General government (% of GDP at market prices)
Total current expenditure; general government
Excessive deficit procedure

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1970	36.9	31.3	:	:	:	:	:	:	36.5	:	:	:	:	:	:	:	:
1971	37.9	32.7	:	:	:	:	:	:	38.4	:	:	:	:	:	38.5	:	:
1972	39.0	33.9	:	:	:	:	:	:	39.6	:	:	:	:	:	38.8	:	:
1973	40.0	34.7	:	:	:	:	:	:	40.0	:	:	:	:	:	36.6	:	:
1974	40.2	37.3	:	:	:	:	:	:	42.1	:	:	:	:	:	40.5	:	:
1975	45.5	41.6	:	:	:	:	:	:	45.9	:	:	32.3	:	:	42.3	:	:
1976	45.8	41.0	:	:	:	:	:	:	46.4	40.3	:	34.1	:	:	42.0	:	:
1977	47.9	40.9	:	:	:	:	:	:	47.1	40.3	26.3	35.9	:	:	42.7	:	:
1978	49.5	40.8	:	:	:	:	:	:	48.7	43.2	27.0	35.8	:	:	44.5	:	:
1979	50.8	40.6	:	:	40.4	:	:	:	49.7	42.8	26.7	35.0	:	:	47.0	:	:
1980	51.3	41.4	:	:	41.4	:	37.5	:	50.3	43.0	29.8	34.8	:	:	50.4	:	:
1981	55.8	43.0	:	:	44.0	:	40.9	:	51.9	44.3	33.0	35.8	:	:	54.0	:	:
1982	56.4	43.5	:	:	45.6	:	42.9	:	54.3	45.4	32.4	37.0	:	:	55.6	:	:
1983	57.4	42.6	:	:	46.6	:	45.4	:	54.8	45.6	32.9	38.7	:	:	56.3	:	:
1984	56.9	41.9	:	:	47.6	:	45.4	:	53.4	45.9	33.7	39.0	:	:	56.0	:	:
1985	56.7	41.5	:	:	48.0	47.2	45.8	:	52.6	46.8	34.1	40.8	:	:	54.9	:	:
1986	56.2	40.8	:	:	47.4	47.1	46.1	:	51.8	47.8	36.2	41.7	:	:	51.8	:	:
1987	54.6	41.3	:	:	46.6	46.4	45.5	:	52.7	48.6	35.3	42.0	:	:	53.1	:	:
1988	52.3	41.0	38.6	:	45.6	44.4	46.2	:	51.6	46.7	33.7	40.3	:	:	54.9	:	:
1989	51.7	39.8	39.5	:	44.8	38.8	47.7	:	50.0	45.7	33.3	39.5	:	:	55.1	:	:
1990	51.7	40.3	41.7	:	45.0	39.4	49.0	38.2	50.6	45.3	36.7	42.5	:	:	54.7	:	:
1991	42.2																
1991	52.5	41.7	39.5	:	46.0	41.1	50.7	38.7	50.8	46.0	39.6	50.7	:	:	55.6	:	:
1992	52.5	42.7	41.0	:	47.3	41.2	52.1	39.8	51.8	46.6	39.8	56.1	:	37.9	56.2	:	:
1993	53.1	44.1	43.3	:	49.8	40.7	53.4	39.8	51.9	49.3	41.3	58.1	:	37.0	58.8	33.1	:
1994	51.0	44.3	44.2	:	49.3	39.5	50.7	39.4	49.6	48.7	40.7	56.4	:	37.0	58.7	37.3	:
1995	50.7	44.9	44.9	39.2	49.2	36.8	48.6	40.2	47.4	48.4	39.6	53.7	46.4	37.4	56.9	39.5	:
1996	50.7	46.2	43.6	39.0	49.9	35.2	49.2	40.3	45.9	47.9	39.6	53.2	47.0	37.3	56.3	37.7	:
1997	48.9	45.6	41.6	37.6	49.7	33.2	47.4	38.6	44.7	46.4	38.2	50.6	45.9	38.2	54.2	34.5	:
1998	48.3	45.0	41.4	36.8	48.3	30.5	45.5	37.0	43.4	46.5	37.7	47.4	44.8	37.4	53.8	33.4	33.3
1999	47.3	45.0	40.9	35.8	47.7	27.9	44.5	36.5	42.8	46.4	38.6	46.8	44.2	39.0	52.4	35.0	33.7
2000	46.5	44.5	43.7	35.7	47.0	26.8	44.0	34.5	41.5	45.4	39.5	43.9	43.6	39.0	50.9	31.9	33.5
2001	47.2	44.3	42.4	35.1	47.0	27.7	44.5	35.9	41.7	46.2	40.5	43.9	43.6	39.0	51.3	30.7	35.3
2002	47.9	45.0	41.7	35.3	48.0	28.3	44.3	37.7	42.7	46.0	41.3	44.6	44.1	40.3	51.6	29.9	36.5
2003	48.3	45.2	40.7	35.2	48.9	29.0	44.8	39.3	43.8	46.4	42.7	45.4	44.5	41.9	51.9	30.3	40.2
2004	47.7	44.1	42.2	35.5	48.7	29.2	44.6	39.9	43.4	46.2	43.4	45.6	44.1	41.1	51.4	35.4	39.6
2005	47.3	43.3	42.0	35.5	48.4	28.9	44.3	40.5	43.2	45.6	43.0	45.4	43.7	40.0	50.4	38.0	38.6
2006	47.0	42.7	41.8	35.5	48.1	28.8	44.3	40.7	42.8	44.9	42.8	45.1	43.3	39.3	49.5	37.2	38.0

(¹) 1970-91 D_90.

(²) Euro area: 1970-91 including D_90.

Table 68 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US ⁽²⁾	JP ⁽³⁾
1970	:	:	:	:	:	:	:	:	33.3	:	:	:	:	:	:	:	:
1971	:	:	:	:	:	:	:	:	33.4	:	:	:	:	:	:	:	:
1972	:	:	:	:	:	:	:	:	34.6	:	:	:	:	:	:	:	:
1973	:	:	:	:	:	:	:	:	34.2	:	:	:	:	:	:	:	:
1974	:	:	:	:	:	:	:	:	38.9	:	:	:	:	:	:	:	:
1975	:	:	:	:	:	:	:	:	40.7	:	:	:	:	:	:	:	:
1976	:	:	:	:	:	:	:	:	40.9	:	:	:	:	:	:	:	:
1977	:	:	:	:	:	:	:	:	39.3	:	:	:	:	:	:	:	:
1978	:	:	:	:	:	:	:	:	39.1	:	:	:	:	:	:	:	:
1979	:	:	:	:	:	:	:	:	38.8	:	:	:	:	:	:	:	:
1980	:	:	:	:	:	:	:	:	41.3	:	:	:	:	:	:	:	:
1981	:	:	:	:	:	:	:	:	43.9	:	:	:	:	:	:	:	:
1982	:	:	:	:	:	:	:	:	44.2	:	:	:	:	:	:	:	:
1983	:	:	:	:	:	:	:	:	43.6	:	:	:	:	:	:	:	:
1984	:	:	:	:	:	:	:	:	43.8	:	:	:	:	:	:	:	:
1985	:	:	:	:	:	:	:	:	42.9	:	:	:	:	:	:	:	:
1986	:	:	:	:	:	:	:	:	42.2	:	:	:	:	:	:	:	:
1987	:	:	:	:	:	:	:	:	40.5	:	:	:	:	:	:	:	:
1988	:	:	:	:	:	:	:	:	38.4	:	:	:	:	:	:	:	:
1989	:	:	:	:	:	:	:	:	37.2	:	:	:	:	:	:	:	:
1990	29.7	:	:	:	:	:	:	:	37.4	:	:	:	:	:	:	:	:
1991	:	:	:	:	46.1	:	:	:	40.0	:	:	52.9	:	:	:	:	:
1992	20.5	:	:	48.8	:	:	:	:	41.8	:	:	43.8	:	:	:	:	:
1993	33.4	:	:	48.2	:	50.1	64.0	62.7	42.0	:	:	46.8	:	:	:	:	:
1994	33.1	:	:	42.7	:	47.9	62.2	60.2	41.5	:	:	46.7	:	:	:	:	:
1995	39.8	32.0	:	44.6	:	47.9	62.2	60.2	41.0	:	46.3	41.5	:	:	:	:	:
1996	37.1	33.4	:	42.9	:	49.8	58.9	58.9	40.1	:	46.6	42.9	:	:	:	:	:
1997	36.2	35.8	:	42.1	:	54.7	56.8	56.8	38.9	:	45.3	30.3	:	:	:	:	:
1998	41.8	37.1	:	38.6	:	54.2	55.9	55.9	37.7	:	44.1	36.0	:	:	:	:	:
1999	41.7	36.7	:	39.3	:	48.8	54.2	54.2	37.3	:	43.5	39.1	:	:	:	:	:
2000	37.3	35.2	43.0	38.2	38.3	42.2	48.9	52.0	37.4	42.8	42.9	44.2	:	:	:	:	:
2001	35.4	33.1	43.0	40.4	39.9	42.5	47.3	51.5	38.0	42.9	43.0	42.8	:	:	:	:	:
2002	34.0	31.0	44.9	41.9	40.1	42.3	47.6	52.4	38.6	43.3	43.5	:	:	:	:	:	:
2003	34.0	29.9	45.9	42.0	39.6	42.4	37.8	52.4	39.8	43.9	44.1	:	:	:	:	:	:
2004	33.7	31.2	44.6	40.6	42.1	42.0	35.4	51.8	39.7	43.6	43.7	:	:	:	:	:	:
2005	34.1	31.7	43.6	40.1	40.7	41.3	35.1	51.2	39.5	43.1	43.3	:	:	:	:	:	:
2006	33.8	30.7	42.1	39.7	39.0	40.8	34.5	51.0	39.5	42.8	43.0	:	:	:	:	:	:

(1) Former EU-15.

(2) National definition.

(3) SNA 93.

Table 69

General government (% of GDP at market prices)
Gross saving; general government
Excessive deficit procedure

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1970	3.3	6.7	:	:	:	:	:	:	4.4	:	:	:	:	:	:	:	:
1971	2.8	6.4	:	:	:	:	:	:	4.1	:	:	:	:	:	9.5	:	:
1972	1.2	5.4	:	:	:	:	:	:	4.2	:	:	:	:	:	8.8	:	:
1973	1.4	6.6	:	:	:	:	:	:	5.1	:	:	:	:	:	8.6	:	:
1974	2.0	4.4	:	:	:	:	:	:	4.2	:	:	:	:	:	7.6	:	:
1975	-0.2	0.1	:	:	:	:	:	:	2.5	:	:	10.5	:	:	2.5	:	:
1976	-0.5	2.0	:	:	:	:	:	:	2.8	3.2	:	12.5	:	:	3.9	:	:
1977	-0.6	2.8	:	:	:	:	:	:	3.2	4.2	1.0	10.9	:	:	3.8	:	:
1978	-1.5	2.5	:	:	:	:	:	:	2.0	3.9	-1.6	8.1	:	:	3.6	:	:
1979	-2.3	2.6	:	:	4.0	:	:	:	2.2	3.8	-0.9	7.6	:	:	2.5	:	:
1980	-4.1	2.3	:	:	4.1	:	-2.8	:	1.7	4.5	-2.3	8.1	:	:	0.7	:	:
1981	-7.8	0.7	:	:	1.9	:	-6.4	:	0.8	4.5	-3.6	9.4	:	:	-2.7	:	:
1982	-7.0	0.9	:	:	1.6	:	-6.0	:	-0.7	2.4	-1.5	7.6	:	:	-5.1	:	:
1983	-7.6	1.2	:	:	1.2	:	-6.7	:	-0.6	1.7	-0.1	5.9	:	:	-3.7	:	:
1984	-6.5	1.9	:	:	1.2	:	-7.3	:	-0.1	3.2	-1.8	7.3	:	:	-1.7	:	:
1985	-6.3	2.6	:	:	0.9	-6.6	-7.7	:	1.1	3.2	-2.8	7.3	:	:	0.5	:	:
1986	-6.5	2.5	:	:	0.7	-6.6	-7.1	:	0.4	1.9	-3.8	7.9	:	:	4.7	:	:
1987	-4.7	1.8	:	:	1.7	-5.6	-6.6	:	0.0	0.9	-3.7	5.8	:	:	4.0	:	:
1988	-4.0	1.4	-7.8	:	1.7	-2.8	-6.2	:	0.3	1.5	-0.3	9.7	:	:	3.2	:	:
1989	-5.3	3.5	-9.5	:	2.3	-0.9	-6.8	:	-1.0	1.6	0.4	10.4	:	:	1.9	:	:
1990	-4.6	1.4	-9.3	:	2.5	-1.4	-6.6	10.6	-1.6	2.3	-2.9	9.5	:	:	0.2	:	:
1991	0.8																
1991	-5.1	1.4	-6.2	:	1.7	-1.6	-7.2	7.6	0.7	1.9	-4.0	3.4	:	:	-1.0	:	:
1992	-5.5	1.6	-6.7	:	0.2	-1.4	-8.3	7.1	-1.0	2.9	-0.9	-1.6	:	8.6	-1.3	:	:
1993	-4.5	0.8	-7.7	:	-1.9	-1.2	-6.9	8.1	0.1	0.9	-4.0	-4.0	:	7.0	-1.9	14.4	:
1994	-2.3	1.1	-6.5	:	-1.2	0.5	-6.0	8.5	-0.5	0.1	-4.4	-2.0	:	6.0	-1.4	10.9	:
1995	-2.0	-0.1	-6.8	-1.8	-1.1	0.0	-3.8	8.0	-1.1	-0.9	-2.0	-0.7	-1.3	5.7	-1.4	7.1	:
1996	-1.5	-0.5	-5.2	-1.2	-0.3	1.8	-3.7	7.8	0.6	0.9	-0.8	0.7	-1.0	4.8	0.0	4.6	:
1997	0.5	-0.1	-1.5	0.4	0.0	3.0	-0.2	8.5	1.3	1.9	0.4	1.9	0.2	4.6	1.3	7.5	:
1998	1.8	0.5	0.1	1.2	1.1	4.4	0.4	8.6	1.8	1.8	1.2	4.6	1.0	4.2	1.9	6.0	-0.8
1999	2.2	1.2	1.7	2.9	2.1	6.8	1.7	8.9	3.4	1.7	1.3	5.0	2.0	3.2	4.1	3.6	-1.3
2000	2.8	1.6	-0.2	3.1	2.3	7.7	1.5	10.7	4.6	1.8	0.7	9.7	2.4	2.2	3.4	4.6	1.1
2001	2.5	0.2	0.2	3.7	2.2	5.1	1.0	10.0	3.5	3.7	-0.7	8.0	1.8	2.5	3.5	5.8	1.2
2002	2.2	-0.8	0.4	4.1	0.3	3.5	0.7	8.7	1.8	3.0	-0.3	7.0	0.9	2.0	2.0	7.2	-0.9
2003	0.8	-1.1	-0.4	4.4	-0.7	3.7	-0.2	6.7	0.5	1.9	-1.0	5.0	0.2	2.2	1.9	7.2	-2.3
2004	1.5	-1.5	-2.0	4.0	-0.4	3.5	-0.2	5.2	0.7	1.6	-2.1	5.0	0.1	2.8	2.5	6.3	-1.1
2005	1.4	-1.0	-1.1	4.1	-0.1	3.1	0.4	4.4	1.1	0.8	-1.5	4.7	0.5	3.4	3.1	6.6	1.0
2006	1.2	-0.6	-0.6	4.3	0.0	3.2	0.3	4.0	1.4	1.1	-1.5	4.6	0.7	3.9	3.3	6.2	1.6

(¹) 1970-91 D, 90.

(²) Euro area; 1970-91 including D, 90.

Table 69 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US ⁽²⁾	JP ⁽³⁾
1970	:	:	:	:	:	:	:	:	8.9	:	:	:	:	:	:	0.8	:
1971	:	:	:	:	:	:	:	:	7.1	:	:	:	:	:	:	-0.1	:
1972	:	:	:	:	:	:	:	:	4.0	:	:	:	:	:	:	1.0	:
1973	:	:	:	:	:	:	:	:	3.2	:	:	:	:	:	:	2.0	:
1974	:	:	:	:	:	:	:	:	2.8	:	:	:	:	:	:	1.4	:
1975	:	:	:	:	:	:	:	:	1.5	:	:	:	:	:	:	-2.4	:
1976	:	:	:	:	:	:	:	:	0.8	:	:	:	:	:	:	-0.9	:
1977	:	:	:	:	:	:	:	:	1.2	:	:	:	:	:	:	-0.1	:
1978	:	:	:	:	:	:	:	:	-0.3	:	:	:	:	:	:	1.1	:
1979	:	:	:	:	:	:	:	:	0.0	:	:	:	:	:	:	1.4	:
1980	:	:	:	:	:	:	:	:	0.3	:	:	:	:	:	:	-0.3	:
1981	:	:	:	:	:	:	:	:	-0.2	:	:	:	:	:	:	-0.1	:
1982	:	:	:	:	:	:	:	:	0.4	:	:	:	:	:	:	-2.8	:
1983	:	:	:	:	:	:	:	:	-0.1	:	:	:	:	:	:	-3.7	:
1984	:	:	:	:	:	:	:	:	-0.3	:	:	:	:	:	:	-2.7	:
1985	:	:	:	:	:	:	:	:	0.1	:	:	:	:	:	:	-2.8	:
1986	:	:	:	:	:	:	:	:	0.0	:	:	:	:	:	:	-3.0	:
1987	:	:	:	:	:	:	:	:	0.5	:	:	:	:	:	:	-2.0	:
1988	:	:	:	:	:	:	:	:	2.6	:	:	:	:	:	:	-1.3	:
1989	:	:	:	:	:	:	:	:	3.4	:	:	:	:	:	:	-0.9	:
1990	9.3	:	:	:	:	:	:	:	2.5	:	:	:	:	:	:	-1.7	7.7
1991	:	:	:	:	-2.7	:	:	:	0.4	:	:	-7.0	:	:	:	-2.4	7.8
1992	3.6	:	:	:	-2.2	:	:	:	-3.1	:	:	0.0	:	:	:	-3.4	7.3
1993	5.1	:	:	:	-0.1	:	-3.1	-5.2	-4.7	:	:	-6.1	:	:	:	-2.7	5.1
1994	2.3	:	:	:	1.2	:	1.7	-4.4	-3.7	:	:	-3.2	:	:	:	-1.4	3.7
1995	0.2	2.9	:	:	0.5	:	7.5	-2.7	-2.7	:	-1.6	-2.7	:	:	:	-1.0	2.7
1996	2.1	1.5	:	:	0.7	:	3.5	0.8	-1.9	:	-1.1	-1.8	:	:	:	0.0	2.8
1997	3.1	1.7	:	:	1.1	:	3.0	2.6	-0.4	:	0.2	6.9	:	:	:	1.4	2.8
1998	1.6	0.7	:	:	3.5	:	3.4	4.1	1.8	:	1.2	9.1	:	:	:	2.6	1.4
1999	-1.3	0.6	:	:	3.3	:	2.4	5.7	2.6	:	2.3	7.7	:	:	:	3.2	-0.2
2000	0.3	1.0	2.5	-2.4	2.1	0.8	0.6	7.8	2.9	2.6	2.6	4.9	:	:	:	4.0	-0.2
2001	1.1	0.7	2.0	-2.1	0.8	0.7	-0.1	5.7	2.4	2.0	2.0	3.7	:	:	:	2.1	0.0
2002	0.8	1.5	-0.5	-1.3	0.0	1.4	-0.7	3.1	0.1	0.8	0.8	:	:	:	:	-1.2	-2.2
2003	1.7	2.0	-1.2	-1.5	0.2	1.9	-0.6	3.4	-1.0	0.1	0.1	:	:	:	:	-1.9	-2.4
2004	0.7	1.0	-1.1	0.8	-2.2	1.4	-0.8	3.6	-0.7	0.1	0.1	:	:	:	:	-1.0	-2.9
2005	-0.8	0.8	-0.7	1.2	-1.1	1.3	-0.5	3.5	-0.2	0.5	0.5	:	:	:	:	-0.7	-3.3
2006	-1.1	1.3	1.0	1.5	0.1	1.4	-0.5	3.7	0.1	0.7	0.7	:	:	:	:	-1.0	-3.7

⁽¹⁾ Former EU-15.⁽²⁾ National definition.⁽³⁾ SNA 93.

Table 70

**General government (% of GDP at market prices)
Capital transfers received; general government
ESA 95**

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE (1)	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 (2)	CZ	DK	EE	CY
1970	0.4	0.3	:	:	:	:	:	:	0.4	:	:	:	:	:	:	:	:
1971	0.4	0.4	:	:	:	:	:	:	0.4	:	:	:	:	:	0.3	:	:
1972	0.3	0.5	:	:	:	:	:	:	0.3	:	:	:	:	:	0.3	:	:
1973	0.3	0.5	:	:	:	:	:	:	0.4	:	:	:	:	:	0.4	:	:
1974	0.3	0.5	:	:	:	:	:	:	0.4	:	:	:	:	:	0.4	:	:
1975	0.3	0.6	:	:	:	:	:	:	0.4	:	:	0.1	:	:	0.5	:	:
1976	0.3	0.7	:	:	:	:	:	:	0.6	0.1	:	0.1	:	:	0.5	:	:
1977	0.4	0.5	:	:	:	:	:	:	0.2	0.1	0.2	0.1	:	:	0.6	:	:
1978	0.4	0.5	:	:	-0.1	:	:	:	0.3	0.1	0.3	0.1	:	:	0.6	:	:
1979	0.4	0.5	:	:	-0.2	:	:	:	0.3	0.1	0.3	0.1	:	:	0.6	:	:
1980	0.4	0.5	:	:	-0.1	:	0.2	:	0.3	0.1	0.2	0.1	:	:	0.6	:	:
1981	0.4	0.5	:	:	0.0	:	0.3	:	0.3	0.1	0.2	0.1	:	:	0.6	:	:
1982	0.3	0.4	:	:	-0.3	:	0.9	:	0.3	0.1	0.2	0.1	:	:	0.3	:	:
1983	0.3	0.4	:	:	-0.1	:	1.2	:	0.2	0.2	0.4	0.1	:	:	0.3	:	:
1984	0.3	0.3	:	:	-0.3	:	0.5	:	0.3	0.2	0.8	0.1	:	:	0.3	:	:
1985	0.3	0.3	:	:	0.0	1.0	0.3	:	0.3	0.2	0.4	0.3	:	:	0.5	:	:
1986	0.3	0.3	:	:	0.1	0.9	0.3	:	0.3	0.2	0.7	0.1	:	:	0.3	:	:
1987	0.3	0.3	:	:	0.3	1.1	0.2	:	0.3	0.2	0.8	0.1	:	:	0.4	:	:
1988	0.3	0.3	0.8	:	0.2	1.0	0.3	:	0.3	0.2	1.1	0.1	:	:	0.4	:	:
1989	0.3	0.3	0.8	:	0.2	1.0	0.4	:	0.3	0.2	1.4	0.1	:	:	0.3	:	:
1990	0.3	0.3	1.0	:	0.0	1.5	0.2	0.2	0.3	0.1	1.4	0.2	:	:	0.6	:	:
1991	0.3	0.3	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
1991	0.3	0.3	1.2	:	0.4	1.7	0.3	0.2	0.3	0.1	1.8	0.2	:	:	0.4	:	:
1992	0.3	0.3	1.7	:	0.2	1.6	2.2	0.2	0.3	0.2	2.1	0.2	:	0.2	0.4	:	:
1993	0.4	0.4	1.8	:	0.2	1.8	0.9	0.2	0.4	0.1	1.9	0.3	:	1.6	0.5	0.0	:
1994	0.4	0.4	1.7	:	0.2	1.4	0.4	0.2	0.4	0.1	1.7	0.2	:	1.6	0.4	0.0	:
1995	0.4	0.5	1.6	1.4	0.4	1.8	0.9	0.2	0.3	0.2	1.9	0.2	0.6	0.5	0.5	0.0	:
1996	0.4	0.4	2.2	1.4	0.3	1.7	0.4	0.2	0.6	0.2	2.1	0.2	0.6	0.2	0.4	0.0	:
1997	0.6	0.4	2.4	1.0	0.8	1.8	1.0	0.2	0.4	0.3	2.3	0.3	0.7	0.1	0.5	0.0	:
1998	0.4	0.5	2.6	0.6	0.3	1.6	0.7	0.1	0.4	0.1	1.6	0.3	0.5	0.1	0.5	0.0	0.1
1999	0.6	0.4	2.0	0.7	0.4	1.6	0.5	0.4	0.4	0.3	1.8	0.3	0.5	0.1	0.6	0.0	0.1
2000	0.5	0.4	3.2	0.6	0.4	1.3	0.4	0.2	0.4	0.2	1.4	0.3	0.5	0.2	0.5	0.3	0.1
2001	0.6	0.4	2.7	0.6	0.3	1.2	0.3	0.2	0.4	0.2	1.8	0.3	0.5	0.3	0.5	0.0	0.1
2002	0.5	0.4	1.8	0.7	0.4	1.3	0.4	0.2	0.4	0.2	1.8	0.4	0.5	0.1	0.8	0.2	0.0
2003	2.5	0.4	1.9	0.8	0.7	1.2	1.9	0.3	0.4	0.2	2.9	0.3	0.9	0.2	0.6	0.3	0.1
2004	1.3	0.5	2.6	0.8	0.8	1.1	0.8	0.2	0.4	0.2	3.1	0.3	0.8	0.0	0.6	0.3	0.1
2005	1.2	0.4	2.6	0.8	1.1	1.0	0.3	0.2	0.4	0.2	2.2	0.3	0.7	0.2	0.5	0.4	0.1
2006	1.2	0.4	2.5	0.8	0.9	1.0	0.4	0.2	0.4	0.2	2.0	0.3	0.6	0.2	0.5	0.3	0.1

(1) 1970-91 D_90.

(2) Euro area: 1970-91 including D_90.

Table 70 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US ⁽²⁾	JP
1970	:	:	:	:	:	:	:	:	0.8	:	:	:	:	:	:	1.0	:
1971	:	:	:	:	:	:	:	:	0.7	:	:	:	:	:	:	1.0	:
1972	:	:	:	:	:	:	:	:	0.8	:	:	:	:	:	:	1.0	:
1973	:	:	:	:	:	:	:	:	0.6	:	:	:	:	:	:	0.9	:
1974	:	:	:	:	:	:	:	:	0.5	:	:	:	:	:	:	0.9	:
1975	:	:	:	:	:	:	:	:	0.3	:	:	:	:	:	:	1.0	:
1976	:	:	:	:	:	:	:	:	0.3	:	:	:	:	:	:	1.0	:
1977	:	:	:	:	:	:	:	:	0.3	:	:	:	:	:	:	1.0	:
1978	:	:	:	:	:	:	:	:	0.2	:	:	:	:	:	:	0.8	:
1979	:	:	:	:	:	:	:	:	0.2	:	:	:	:	:	:	0.9	:
1980	:	:	:	:	:	:	:	:	0.2	:	:	:	:	:	:	0.9	:
1981	:	:	:	:	:	:	:	:	0.3	:	:	:	:	:	:	0.8	:
1982	:	:	:	:	:	:	:	:	0.3	:	:	:	:	:	:	0.8	:
1983	:	:	:	:	:	:	:	:	0.2	:	:	:	:	:	:	0.7	:
1984	:	:	:	:	:	:	:	:	0.3	:	:	:	:	:	:	0.7	:
1985	:	:	:	:	:	:	:	:	0.3	:	:	:	:	:	:	0.7	:
1986	:	:	:	:	:	:	:	:	0.3	:	:	:	:	:	:	0.7	:
1987	:	:	:	:	:	:	:	:	0.3	:	:	:	:	:	:	0.6	:
1988	:	:	:	:	:	:	:	:	0.3	:	:	:	:	:	:	0.6	:
1989	:	:	:	:	:	:	:	:	0.3	:	:	:	:	:	:	0.6	:
1990	:	:	:	:	:	:	:	:	0.3	:	:	:	:	:	:	0.6	0.8
1991	0.0	:	:	:	0.0	:	:	:	0.3	:	:	2.1	:	:	:	0.6	0.7
1992	0.4	:	:	:	0.0	:	:	:	0.3	:	2.8	:	:	:	:	0.6	0.9
1993	0.5	0.1	:	:	0.0	:	1.1	0.2	0.2	:	2.1	:	:	:	:	0.6	0.9
1994	0.5	0.3	:	:	8.7	:	1.6	0.1	0.3	:	2.2	:	:	:	:	0.6	0.9
1995	0.5	0.0	:	:	-0.7	:	1.0	0.2	0.3	:	0.6	0.2	:	:	:	0.6	0.8
1996	0.7	0.0	:	:	-1.0	:	2.5	0.2	0.3	:	0.5	0.8	:	:	:	0.7	0.8
1997	1.8	0.0	:	:	-1.0	:	3.0	0.2	0.3	:	0.6	0.1	:	:	:	0.7	0.7
1998	1.7	0.0	:	:	-1.0	:	2.3	0.2	0.3	:	0.5	0.1	:	:	:	0.7	0.7
1999	0.8	0.1	:	:	-1.1	:	0.3	0.2	0.3	:	0.5	0.1	:	:	:	0.7	0.7
2000	0.7	0.1	0.4	1.0	-1.0	0.2	0.4	0.2	0.3	0.4	0.5	0.3	:	:	:	0.7	0.7
2001	0.5	0.1	0.5	0.2	-1.2	0.2	0.4	0.2	0.3	0.4	0.4	0.1	:	:	:	0.8	0.6
2002	0.3	0.5	0.5	0.4	-0.6	0.2	0.5	0.2	0.3	0.5	0.5	:	:	:	:	0.7	0.6
2003	0.1	0.4	0.5	0.5	-0.6	0.1	0.0	0.2	0.4	0.8	0.8	:	:	:	:	0.7	0.6
2004	1.6	1.0	0.5	0.6	1.0	0.1	0.4	0.2	0.5	0.7	0.7	:	:	:	:	0.2	0.6
2005	3.3	1.2	0.5	0.7	1.5	0.4	0.4	0.2	0.5	0.6	0.6	:	:	:	:	0.2	0.6
2006	3.5	1.2	0.5	0.7	1.5	0.4	0.4	0.2	0.4	0.6	0.6	:	:	:	:	0.2	0.6

⁽¹⁾ Former EU-15.⁽²⁾ National definition.

Table 71

General government (% of GDP at market prices)
Total revenue; general government
ESA 95

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE (1)	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 (2)	CZ	DK	EE	CY
1970	40.1	39.6	:	:	:	:	:	:	41.6	:	:	:	:	:	:	:	:
1971	40.4	40.8	:	:	:	:	:	:	43.1	:	:	:	:	:	47.9	:	:
1972	40.0	41.2	:	:	:	:	:	:	44.3	:	:	:	:	:	47.7	:	:
1973	41.0	43.3	:	:	:	:	:	:	45.5	:	:	:	:	:	45.2	:	:
1974	41.7	43.9	:	:	:	:	:	:	46.6	:	:	:	:	:	48.2	:	:
1975	44.9	44.1	:	:	:	:	:	:	48.6	:	:	44.0	:	:	44.9	:	:
1976	44.9	45.6	:	:	:	:	:	:	49.6	45.4	:	48.0	:	:	46.0	:	:
1977	46.8	46.1	:	:	:	:	:	:	50.3	46.6	27.8	48.2	:	:	46.9	:	:
1978	47.6	44.9	:	:	43.4	:	:	:	50.7	49.2	25.9	45.6	:	:	48.5	:	:
1979	48.1	44.5	:	:	45.2	:	:	:	51.8	48.7	26.3	44.2	:	:	49.8	:	:
1980	46.8	45.0	:	:	46.5	:	34.5	:	52.0	49.6	27.8	44.5	:	:	51.3	:	:
1981	47.4	44.8	:	:	47.1	:	34.4	:	52.7	51.0	29.6	46.9	:	:	51.4	:	:
1982	48.6	45.4	:	:	48.1	:	37.5	:	53.6	50.0	30.9	46.5	:	:	50.4	:	:
1983	49.0	44.7	:	:	49.0	:	39.6	:	54.3	49.5	33.0	46.6	:	:	52.6	:	:
1984	49.6	44.9	:	:	49.9	:	38.4	:	53.6	51.2	32.6	48.3	:	:	54.4	:	:
1985	49.5	45.1	:	:	50.4	43.0	38.2	:	54.1	52.1	31.7	50.4	:	:	55.4	:	:
1986	48.8	44.3	:	:	49.5	42.9	39.2	:	52.7	51.9	33.4	51.9	:	:	56.6	:	:
1987	49.1	44.0	:	:	49.9	43.4	39.0	:	53.2	51.6	32.8	50.1	:	:	57.5	:	:
1988	47.7	43.3	32.4	:	48.9	44.1	40.2	:	52.4	50.3	34.8	52.3	:	:	58.7	:	:
1989	45.8	44.1	31.8	:	48.6	40.3	41.1	:	49.5	49.3	35.7	52.1	:	:	57.6	:	:
1990	46.6	42.5	34.5	:	48.6	40.5	42.6	48.0	49.4	49.6	35.5	54.0	:	:	56.0	:	:
1991	43.8																
1991	46.9	44.1	35.6	:	49.1	42.0	43.8	45.6	52.2	50.0	37.5	56.7	:	:	55.4	:	:
1992	46.5	45.5	37.2	:	48.8	42.4	46.0	46.2	51.6	51.7	41.5	57.5	:	46.0	55.8	:	:
1993	48.3	46.2	38.6	:	49.3	42.4	47.4	47.3	53.2	52.5	39.7	56.9	:	45.0	58.0	45.9	:
1994	48.4	46.6	40.7	:	49.4	42.4	45.3	47.3	50.1	51.3	38.3	57.2	:	44.3	58.3	47.4	:
1995	48.5	46.1	40.9	38.4	49.7	39.5	45.8	47.6	47.3	50.3	39.6	55.7	46.4	41.0	56.8	43.9	:
1996	49.1	46.9	41.7	38.8	51.3	39.5	46.1	47.5	47.8	51.4	41.0	56.8	47.2	39.7	57.4	40.4	:
1997	49.5	46.6	43.7	38.6	51.8	38.6	48.4	46.5	47.1	51.1	41.2	55.2	47.6	40.0	56.7	40.9	:
1998	50.1	46.6	45.3	38.3	51.1	37.2	46.8	45.1	46.4	51.0	41.0	54.5	47.0	38.8	57.0	38.9	34.3
1999	49.7	47.3	45.8	39.0	51.7	36.9	47.1	44.9	47.6	50.8	42.4	54.3	47.5	39.2	58.0	38.8	34.2
2000	49.4	47.1	47.9	39.1	51.2	36.3	46.2	44.7	47.5	49.8	42.3	56.1	47.2	38.5	55.8	37.7	36.3
2001	49.9	45.5	46.5	39.2	50.9	34.5	46.0	45.2	46.6	51.0	41.9	54.4	46.5	39.1	56.4	37.2	38.0
2002	50.3	45.1	45.3	39.8	50.2	33.6	45.6	45.9	45.9	50.2	43.2	54.4	46.1	40.2	55.7	38.0	37.3
2003	51.3	45.0	43.6	40.0	50.4	34.4	46.5	45.6	45.8	49.5	44.9	53.2	46.3	41.9	55.6	38.9	39.7
2004	50.7	43.5	44.3	39.9	50.5	34.1	45.4	44.7	45.7	49.1	43.8	53.2	45.6	41.9	55.7	39.3	40.4
2005	50.4	43.2	44.9	40.0	50.9	33.4	45.1	44.5	46.0	47.4	43.2	52.7	45.5	41.6	55.3	39.6	41.4
2006	50.2	43.0	45.2	40.2	50.4	33.1	45.0	44.2	45.7	46.7	43.3	52.2	45.2	41.5	54.6	39.0	41.4

(1) 1970-91 D_90.

(2) Euro area: 1970-91 including D_90.

Table 71 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US ⁽²⁾	JP
1970	:	:	:	:	:	:	:	:	44.7	:	:	:	:	:	:	30.2	:
1971	:	:	:	:	:	:	:	:	42.8	:	:	:	:	:	:	29.6	:
1972	:	:	:	:	:	:	:	:	40.8	:	:	:	:	:	:	30.6	:
1973	:	:	:	:	:	:	:	:	39.5	:	:	:	:	:	:	30.7	:
1974	:	:	:	:	:	:	:	:	44.1	:	:	:	:	:	:	31.4	:
1975	:	:	:	:	:	:	:	:	44.3	:	:	:	:	:	:	29.7	:
1976	:	:	:	:	:	:	:	:	43.9	:	:	:	:	:	:	30.3	:
1977	:	:	:	:	:	:	:	:	42.7	:	:	:	:	:	:	30.5	:
1978	:	:	:	:	:	:	:	:	39.8	:	:	:	:	:	:	30.5	:
1979	:	:	:	:	:	:	:	:	39.6	:	:	:	:	:	:	30.8	:
1980	:	:	:	:	:	:	:	:	42.4	:	:	:	:	:	:	31.1	:
1981	:	:	:	:	:	:	:	:	44.7	:	:	:	:	:	:	31.8	:
1982	:	:	:	:	:	:	:	:	45.7	:	:	:	:	:	:	31.3	:
1983	:	:	:	:	:	:	:	:	44.7	:	:	:	:	:	:	30.6	:
1984	:	:	:	:	:	:	:	:	44.5	:	:	:	:	:	:	30.5	:
1985	:	:	:	:	:	:	:	:	43.9	:	:	:	:	:	:	31.0	:
1986	:	:	:	:	:	:	:	:	42.9	:	:	:	:	:	:	31.2	:
1987	:	:	:	:	:	:	:	:	41.7	:	:	:	:	:	:	31.9	:
1988	:	:	:	:	:	:	:	:	41.5	:	:	:	:	:	:	31.7	:
1989	:	:	:	:	:	:	:	:	41.2	:	:	:	:	:	:	31.9	:
1990	38.9	:	:	:	:	:	:	:	40.6	:	:	:	:	:	:	31.7	34.3
1991	32.6	:	:	:	:	:	:	:	40.8	:	:	54.9	:	:	:	31.6	33.9
1992	24.3	:	:	:	:	:	:	:	39.6	:	:	56.5	:	:	:	31.4	33.9
1993	37.3	:	:	:	:	:	47.6	61.6	38.1	:	:	52.3	:	:	:	31.5	32.6
1994	37.1	:	:	:	:	:	51.7	61.7	38.5	:	:	54.3	:	:	:	31.8	31.9
1995	37.3	34.2	:	:	47.4	:	53.3	60.8	39.1	:	46.1	47.1	:	:	:	32.2	32.0
1996	37.0	34.3	:	:	46.5	:	54.1	62.5	38.7	:	46.7	49.1	:	:	:	32.7	32.2
1997	38.3	37.1	:	:	45.7	:	58.8	62.0	39.1	:	46.8	45.1	:	:	:	33.0	32.3
1998	40.6	37.4	:	:	44.5	:	57.1	62.7	40.2	:	46.6	54.1	:	:	:	33.4	31.8
1999	37.4	37.3	:	:	44.9	:	49.8	62.7	40.6	:	47.0	56.6	:	:	:	33.6	31.8
2000	35.1	35.8	44.6	35.6	42.5	44.7	47.6	62.4	41.2	46.5	46.7	58.2	:	:	:	34.2	32.2
2001	34.4	33.0	44.3	37.4	43.8	45.1	45.5	60.0	41.5	46.0	46.2	53.5	:	:	:	33.1	33.1
2002	33.1	32.8	43.4	39.7	43.9	45.7	45.2	58.1	40.0	45.4	45.5	:	:	:	:	30.5	31.9
2003	34.5	32.3	43.6	39.8	43.7	46.2	35.4	58.4	40.3	45.6	45.8	45.6	:	:	:	29.8	31.6
2004	34.0	33.2	43.3	47.3	45.6	45.3	34.4	57.9	40.5	45.1	45.3	45.1	:	:	:	29.8	31.1
2005	35.3	33.7	42.5	46.7	45.7	44.6	34.3	57.2	40.7	45.1	45.2	44.1	:	:	:	29.8	31.1
2006	34.8	33.2	42.0	45.9	45.2	44.3	33.7	57.1	41.0	44.9	45.0	45.0	:	:	:	29.3	31.0

⁽¹⁾ Former EU-15.⁽²⁾ National definition.

Table 72

**General government (% of GDP at market prices)
Gross fixed capital formation; general government
ESA 95**

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE ⁽¹⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽²⁾	CZ	DK	EE	CY
1970	4.3	4.8	:	:	:	:	:	:	5.2	:	:	:	:	:	:	:	:
1971	5.0	4.7	:	:	:	:	:	:	5.2	:	:	:	:	:	4.3	:	:
1972	5.0	4.2	:	:	:	:	:	:	4.6	:	:	:	:	:	4.0	:	:
1973	4.3	3.9	:	:	:	:	:	:	4.1	:	:	:	:	:	3.4	:	:
1974	3.9	4.4	:	:	:	:	:	:	4.0	:	:	:	:	:	3.5	:	:
1975	4.4	4.2	:	:	:	:	:	:	4.3	:	:	4.0	:	:	3.5	:	:
1976	4.5	3.8	:	:	:	:	:	:	4.2	4.9	:	3.7	:	:	3.3	:	:
1977	4.4	3.6	:	:	:	:	:	:	3.7	4.8	2.8	3.7	:	:	3.3	:	:
1978	4.2	3.6	:	:	3.1	:	:	:	3.7	5.0	4.4	3.7	:	:	3.4	:	:
1979	4.4	3.7	:	:	3.1	:	:	:	3.7	4.6	4.3	3.5	:	:	3.5	:	:
1980	4.7	3.7	:	:	3.2	:	3.0	:	3.8	4.3	4.2	3.7	:	:	3.1	:	:
1981	4.7	3.4	:	:	3.3	:	3.6	:	3.7	4.2	5.0	3.6	:	:	2.8	:	:
1982	4.4	3.0	:	:	3.4	:	3.5	:	3.5	3.9	4.5	3.7	:	:	2.4	:	:
1983	3.9	2.8	:	:	3.1	:	3.5	:	3.3	3.7	4.0	3.8	:	:	2.0	:	:
1984	3.2	2.6	:	:	3.1	:	3.4	:	3.4	3.6	3.4	3.5	:	:	1.9	:	:
1985	3.0	2.6	:	:	3.2	3.8	3.5	:	3.2	3.5	3.3	3.6	:	:	2.1	:	:
1986	2.7	2.7	:	:	3.2	3.5	3.4	:	2.9	3.7	3.2	3.5	:	:	1.8	:	:
1987	2.4	2.6	:	:	3.2	2.6	3.4	:	3.0	3.4	3.3	3.8	:	:	2.2	:	:
1988	2.4	2.5	2.9	:	3.5	1.8	3.3	:	3.0	3.1	3.6	3.7	:	:	2.1	:	:
1989	1.8	2.5	2.9	:	3.5	1.8	3.2	:	3.0	3.1	3.3	3.2	:	:	1.9	:	:
1990	1.7	2.5	2.7	:	3.5	2.1	3.3	4.6	3.0	3.0	3.3	3.7	:	:	1.6	:	:
1991	2.3																
1991	1.7	2.7	3.0	:	3.6	2.2	3.2	4.8	3.0	3.0	3.5	3.8	:	:	1.5	:	:
1992	1.8	2.9	3.3	:	3.7	2.1	3.0	5.2	3.2	3.0	3.9	3.6	:	3.6	1.9	:	:
1993	2.1	2.8	3.1	:	3.5	2.3	2.6	5.2	3.0	3.2	4.0	2.9	:	3.2	1.8	4.7	:
1994	2.1	2.7	3.0	:	3.4	2.3	2.3	4.3	2.9	3.2	3.7	3.0	:	5.1	1.8	4.7	:
1995	1.9	2.3	3.2	3.7	3.3	2.3	2.1	4.6	3.0	3.0	3.7	2.8	2.7	5.1	1.8	5.0	:
1996	1.7	2.1	3.2	3.1	3.2	2.4	2.2	4.7	3.1	2.8	4.2	2.9	2.6	4.4	2.0	4.5	:
1997	1.7	1.9	3.4	3.1	3.0	2.5	2.2	4.2	2.9	1.9	4.4	3.2	2.4	4.0	1.9	4.3	:
1998	1.6	1.9	3.6	3.3	2.9	2.7	2.4	4.6	2.9	1.8	3.9	2.9	2.5	4.1	1.7	4.7	3.0
1999	1.9	1.9	3.4	3.4	3.0	3.2	2.4	4.4	3.0	1.7	4.1	2.8	2.5	3.0	1.7	4.2	2.6
2000	1.9	1.8	4.1	3.1	3.2	3.6	2.4	3.8	3.1	1.5	3.8	2.6	2.5	2.9	1.7	3.9	3.1
2001	1.7	1.8	3.9	3.3	3.1	4.3	2.5	4.2	3.3	1.1	4.0	2.8	2.6	3.2	1.9	4.1	3.1
2002	1.6	1.7	3.7	3.5	3.1	4.3	1.9	4.7	3.6	1.3	3.3	2.9	2.5	3.7	1.8	4.7	3.1
2003	1.6	1.5	3.9	3.2	3.2	3.9	2.6	4.8	3.6	1.2	3.4	2.9	2.6	4.2	1.7	3.4	3.4
2004	1.6	1.4	4.1	3.6	3.3	3.8	2.5	4.8	3.5	1.2	2.4	2.8	2.5	4.3	1.7	3.7	3.5
2005	1.6	1.3	3.2	3.5	3.3	3.9	2.4	4.8	3.4	1.2	3.1	2.7	2.5	4.4	1.7	4.2	3.7
2006	1.7	1.3	3.1	3.6	3.3	3.8	3.0	4.7	3.4	1.1	2.9	2.6	2.6	4.4	1.7	4.1	3.7

(¹) 1970-91 D_90.

(²) Euro area: 1970-91 including D_90.

Table 72 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽¹⁾	BG	RO	TR	HR	US ⁽²⁾	JP
1970	:	:	:	:	:	:	:	:	4.8	:	:	:	:	:	:	3.2	:
1971	:	:	:	:	:	:	:	:	4.5	:	:	:	:	:	:	3.1	:
1972	:	:	:	:	:	:	:	:	4.3	:	:	:	:	:	:	2.9	:
1973	:	:	:	:	:	:	:	:	5.0	:	:	:	:	:	:	2.8	:
1974	:	:	:	:	:	:	:	:	5.2	:	:	:	:	:	:	3.0	:
1975	:	:	:	:	:	:	:	:	4.8	:	:	:	:	:	:	3.1	:
1976	:	:	:	:	:	:	:	:	4.4	:	:	:	:	:	:	2.8	:
1977	:	:	:	:	:	:	:	:	3.3	:	:	:	:	:	:	2.5	:
1978	:	:	:	:	:	:	:	:	2.9	:	:	:	:	:	:	2.6	:
1979	:	:	:	:	:	:	:	:	2.8	:	:	:	:	:	:	2.6	:
1980	:	:	:	:	:	:	:	:	2.6	:	:	:	:	:	:	2.7	:
1981	:	:	:	:	:	:	:	:	2.1	:	:	:	:	:	:	2.5	:
1982	:	:	:	:	:	:	:	:	1.9	:	:	:	:	:	:	2.4	:
1983	:	:	:	:	:	:	:	:	2.2	:	:	:	:	:	:	2.3	:
1984	:	:	:	:	:	:	:	:	2.4	:	:	:	:	:	:	2.3	:
1985	:	:	:	:	:	:	:	:	2.3	:	:	:	:	:	:	2.4	:
1986	:	:	:	:	:	:	:	:	2.4	:	:	:	:	:	:	2.5	:
1987	:	:	:	:	:	:	:	:	2.2	:	:	:	:	:	:	2.5	:
1988	:	:	:	:	:	:	:	:	1.8	:	:	:	:	:	:	2.5	:
1989	:	:	:	:	:	:	:	:	2.2	:	:	:	:	:	:	2.5	:
1990	1.2	:	:	:	:	:	:	:	2.6	:	:	:	:	:	:	2.6	4.8
1991	1.7	:	:	:	2.8	:	:	:	2.4	:	:	2.2	:	:	:	2.6	4.9
1992	2.7	:	:	:	3.2	:	:	:	2.4	:	:	2.6	:	:	:	2.6	5.4
1993	2.1	3.0	:	:	3.5	:	5.5	3.8	2.3	:	:	2.2	:	:	:	2.5	6.2
1994	3.1	3.3	:	:	3.2	:	4.5	4.1	2.3	:	:	1.8	:	:	:	2.4	6.3
1995	1.9	3.4	:	:	3.4	:	2.3	4.0	2.2	:	2.6	0.8	:	:	:	2.5	6.1
1996	2.3	2.5	:	:	3.7	:	3.8	3.5	1.7	:	2.5	0.9	:	:	:	2.5	6.3
1997	2.2	2.3	:	:	4.0	:	5.4	3.1	1.3	:	2.3	1.4	:	:	:	2.5	5.5
1998	1.4	2.6	:	:	3.9	:	4.0	3.2	1.4	:	2.3	3.2	:	:	:	2.5	5.5
1999	1.5	2.6	:	:	3.6	:	2.9	3.2	1.3	:	2.3	3.9	:	:	:	2.6	5.8
2000	1.4	2.4	3.2	4.0	2.5	3.1	2.8	2.9	1.3	2.3	2.3	3.7	:	:	:	2.6	5.1
2001	1.1	2.2	3.8	3.6	3.5	3.0	3.1	3.1	1.4	2.4	2.4	3.5	:	:	:	2.7	4.9
2002	1.3	2.8	4.9	4.5	3.6	2.8	3.3	3.3	1.4	2.3	2.3	:	:	:	:	2.8	4.7
2003	1.5	3.0	3.4	5.2	3.4	2.8	2.6	3.1	1.7	2.5	2.4	:	:	:	:	2.7	4.1
2004	2.0	3.2	3.0	5.7	3.5	2.8	2.7	3.0	1.8	2.4	2.4	:	:	:	:	3.3	3.3
2005	3.2	3.2	2.9	5.3	3.7	2.8	2.7	2.9	2.0	2.5	2.4	:	:	:	:	3.3	2.8
2006	3.5	3.1	3.6	4.9	3.9	2.7	2.7	2.9	2.1	2.6	2.5	:	:	:	:	3.3	2.5

⁽¹⁾ Former EU-15.⁽²⁾ National definition.

Table 73

General government (% of GDP at market prices)
Other capital expenditure, including capital transfers; general government⁽¹⁾
ESA 95

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE ⁽²⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽³⁾	CZ	DK	EE	CY
1970	1.5	1.7	:	:	:	:	:	:	1.2	:	:	:	:	:	:	:	:
1971	1.3	1.9	:	:	:	:	:	:	1.0	:	:	:	:	:	0.4	:	:
1972	1.2	2.1	:	:	:	:	:	:	0.7	:	:	:	:	:	0.1	:	:
1973	1.3	2.0	:	:	:	:	:	:	0.9	:	:	:	:	:	0.5	:	:
1974	1.2	2.1	:	:	:	:	:	:	0.8	:	:	:	:	:	0.8	:	:
1975	1.1	2.2	:	:	:	:	:	:	1.4	:	:	1.4	:	:	0.7	:	:
1976	1.1	2.4	:	:	:	:	:	:	1.3	2.2	:	1.0	:	:	0.9	:	:
1977	1.1	2.3	:	:	:	:	:	:	0.5	1.8	1.4	0.9	:	:	0.7	:	:
1978	1.2	2.0	:	:	0.6	:	:	:	0.6	1.8	1.8	0.6	:	:	0.4	:	:
1979	2.2	2.0	:	:	0.8	:	:	:	1.2	1.6	1.5	0.6	:	:	0.3	:	:
1980	1.1	2.0	:	:	0.8	:	1.5	:	2.2	2.0	1.2	0.7	:	:	0.5	:	:
1981	3.6	1.8	:	:	0.9	:	1.5	:	2.3	2.3	0.7	0.6	:	:	1.0	:	:
1982	1.5	1.8	:	:	0.8	:	1.6	:	2.3	2.1	1.7	0.8	:	:	1.2	:	:
1983	3.6	1.7	:	:	0.7	:	1.4	:	1.9	2.5	1.6	0.7	:	:	1.0	:	:
1984	1.5	1.6	:	:	0.7	:	1.5	:	2.0	2.4	1.3	0.5	:	:	0.4	:	:
1985	1.3	1.5	:	:	0.7	1.4	1.8	:	1.8	2.6	3.5	0.5	:	:	0.4	:	:
1986	1.2	1.3	:	:	0.8	1.4	2.0	:	2.3	2.4	1.7	0.6	:	:	-0.1	:	:
1987	1.2	1.3	:	:	0.8	1.5	2.1	:	2.5	2.2	0.9	0.5	:	:	-0.2	:	:
1988	1.2	1.2	1.7	:	0.9	1.1	2.1	:	1.7	2.0	0.9	0.8	:	:	0.0	:	:
1989	0.8	1.2	2.0	:	0.9	1.0	2.0	:	1.3	1.7	1.5	0.4	:	:	0.1	:	:
1990	0.8	1.2	4.8	:	1.1	1.0	2.2	1.4	1.0	1.9	1.8	0.5	:	:	0.3	:	:
1991	1.6	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
1991	0.9	1.9	3.1	:	0.8	1.0	1.7	1.7	0.7	2.0	1.8	0.7	:	:	0.3	:	:
1992	1.0	1.6	3.9	:	0.9	1.0	1.5	1.8	0.4	1.9	2.1	0.6	:	7.6	0.4	:	:
1993	1.2	1.5	4.3	:	0.8	1.1	1.7	1.5	0.3	2.0	1.8	0.6	:	27.5	0.4	0.0	:
1994	1.1	1.3	1.5	:	1.2	1.5	1.5	1.7	0.4	1.9	1.3	0.9	:	5.8	0.4	1.8	:
1995	1.0	1.5	1.7	2.5	1.5	1.6	2.5	1.5	0.4	2.0	1.5	0.6	1.7	14.6	0.5	1.8	:
1996	1.0	1.2	1.2	2.0	0.9	1.2	1.6	1.3	-0.1	2.1	1.8	0.9	1.2	3.6	0.3	1.9	:
1997	1.4	1.2	1.5	1.5	0.8	1.1	1.3	1.2	-0.2	2.1	2.0	0.3	1.1	3.1	0.4	1.5	:
1998	1.3	1.3	1.6	1.6	1.1	0.9	1.5	1.0	0.0	2.4	2.0	0.3	1.3	5.2	0.5	1.7	0.6
1999	1.3	1.3	2.0	1.4	1.3	2.7	1.6	1.0	0.2	2.4	1.8	0.3	1.3	3.9	0.6	3.2	0.8
2000	1.2	-1.1	3.1	1.4	0.9	1.0	0.2	1.0	-0.3	2.0	1.2	0.3	0.2	3.1	0.5	1.6	0.6
2001	0.8	1.7	2.6	1.5	0.9	1.1	1.4	-0.5	0.6	2.5	1.5	0.3	1.4	5.5	0.1	1.5	0.5
2002	0.9	1.6	2.3	1.5	0.9	0.8	1.6	1.3	0.5	2.1	0.9	0.3	1.3	5.0	0.4	1.3	0.6
2003	1.3	1.6	2.1	1.3	0.9	0.9	1.4	1.4	0.5	2.0	1.3	0.2	1.3	10.8	0.4	1.0	0.7
2004	1.3	1.6	2.0	1.8	0.8	0.9	1.3	1.4	0.5	1.9	1.5	0.2	1.3	3.3	0.4	2.4	0.7
2005	1.3	1.5	1.9	1.5	0.8	0.9	1.3	1.4	0.5	1.9	1.5	0.2	1.2	4.0	0.4	2.7	0.4
2006	1.2	1.4	1.8	1.5	0.9	0.9	1.3	1.4	0.5	1.8	1.4	0.2	1.2	4.1	0.4	2.3	0.5

Table 73 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽⁴⁾	BG	RO	TR	HR	US ⁽⁵⁾	JP
1970	:	:	:	:	:	:	:	:	2.3	:	:	:	:	:	:	0.6	:
1971	:	:	:	:	:	:	:	:	1.8	:	:	:	:	:	:	0.6	:
1972	:	:	:	:	:	:	:	:	2.1	:	:	:	:	:	:	0.6	:
1973	:	:	:	:	:	:	:	:	2.4	:	:	:	:	:	:	0.3	:
1974	:	:	:	:	:	:	:	:	1.6	:	:	:	:	:	:	0.3	:
1975	:	:	:	:	:	:	:	:	1.6	:	:	:	:	:	:	0.7	:
1976	:	:	:	:	:	:	:	:	1.4	:	:	:	:	:	:	0.5	:
1977	:	:	:	:	:	:	:	:	1.5	:	:	:	:	:	:	0.6	:
1978	:	:	:	:	:	:	:	:	1.4	:	:	:	:	:	:	0.6	:
1979	:	:	:	:	:	:	:	:	1.1	:	:	:	:	:	:	0.5	:
1980	:	:	:	:	:	:	:	:	1.2	:	:	:	:	:	:	0.5	:
1981	:	:	:	:	:	:	:	:	2.4	:	:	:	:	:	:	0.4	:
1982	:	:	:	:	:	:	:	:	1.5	:	:	:	:	:	:	0.4	:
1983	:	:	:	:	:	:	:	:	1.3	:	:	:	:	:	:	0.4	:
1984	:	:	:	:	:	:	:	:	1.2	:	:	:	:	:	:	0.4	:
1985	:	:	:	:	:	:	:	:	1.0	:	:	:	:	:	:	0.5	:
1986	:	:	:	:	:	:	:	:	0.6	:	:	:	:	:	:	0.5	:
1987	:	:	:	:	:	:	:	:	0.5	:	:	:	:	:	:	0.5	:
1988	:	:	:	:	:	:	:	:	0.6	:	:	:	:	:	:	0.5	:
1989	:	:	:	:	:	:	:	:	0.7	:	:	:	:	:	:	0.4	:
1990	1.2	:	:	:	:	:	:	:	1.8	:	:	:	:	:	:	0.6	1.6
1991	0.2	:	:	:	3.3	:	:	:	1.4	:	:	6.0	:	:	:	0.5	1.8
1992	1.8	:	:	:	1.3	:	:	:	1.2	:	:	5.6	:	:	:	0.5	2.0
1993	1.3	:	:	:	0.6	:	23.7	2.6	1.2	:	:	3.9	:	:	:	0.5	2.2
1994	1.0	:	:	:	1.2	:	4.9	0.9	1.0	:	:	2.6	:	:	:	0.5	2.1
1995	0.8	:	:	:	0.4	:	6.9	0.6	1.2	:	1.5	0.0	:	:	:	0.4	2.2
1996	1.0	:	:	:	0.8	:	9.6	0.0	0.9	:	1.1	0.0	:	:	:	0.4	2.3
1997	1.2	:	:	:	0.7	:	6.7	0.6	0.7	:	1.0	0.2	:	:	:	0.3	1.9
1998	2.6	1.1	:	:	0.7	:	5.5	-0.7	0.6	:	1.1	4.3	:	:	:	0.4	7.3
1999	2.9	3.6	:	:	0.8	:	7.0	0.2	0.6	:	1.2	3.6	:	:	:	0.5	1.9
2000	2.4	1.2	2.8	0.9	0.3	1.3	10.5	0.1	-1.9	-0.1	-0.2	2.1	:	:	:	0.5	2.9
2001	2.6	0.6	3.1	1.0	0.1	0.8	3.1	0.1	0.7	1.2	1.2	0.2	:	:	:	0.5	1.8
2002	2.5	0.6	4.4	0.4	0.0	1.2	2.2	0.1	0.7	1.2	1.1	:	:	:	:	0.6	1.6
2003	1.9	1.2	2.1	3.4	0.1	1.3	0.5	0.2	1.0	1.3	1.2	:	:	:	:	0.7	1.6
2004	2.3	1.3	2.0	0.8	0.9	1.1	0.9	0.2	0.8	1.2	1.1	:	:	:	:	0.2	1.5
2005	2.1	1.3	2.1	0.7	0.8	1.1	1.2	0.2	0.8	1.1	1.1	:	:	:	:	0.2	1.4
2006	1.9	1.2	2.6	0.6	0.9	1.1	1.4	0.2	0.8	1.1	1.1	:	:	:	:	0.2	1.3

(1) Including one-off proceeds (treated as negative expenditure) relative to the allocation of mobile phone licences (UMTS).

(2) 1970-91 D_90.

(3) Euro area: 1970-91 including D_90.

(4) Former EU-15.

(5) National definition.

Table 74

General government (% of GDP at market prices)
Total expenditure; general government ⁽¹⁾
Excessive deficit procedure

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE ⁽²⁾	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 ⁽³⁾	CZ	DK	EE	CY
1970	42.2	39.1	:	:	:	:	:	:	43.1	:	:	:	:	:	:	:	:
1971	43.5	40.6	:	:	:	:	:	:	44.7	:	:	:	:	:	42.9	:	:
1972	44.7	41.6	:	:	:	:	:	:	45.0	:	:	:	:	:	42.6	:	:
1973	44.9	42.1	:	:	:	:	:	:	44.9	:	:	:	:	:	40.2	:	:
1974	44.6	45.6	:	:	:	:	:	:	46.9	:	:	:	:	:	44.4	:	:
1975	50.3	49.9	:	:	:	:	:	:	51.5	:	:	38.9	:	:	46.1	:	:
1976	50.7	49.1	:	:	:	:	:	:	51.7	49.0	:	40.1	:	:	45.8	:	:
1977	52.6	48.7	:	:	:	:	:	:	51.1	48.7	30.8	41.8	:	:	46.5	:	:
1978	54.1	47.5	:	:	54.1	47.5	:	:	52.7	51.9	33.5	41.6	:	:	48.0	:	:
1979	56.5	47.2	:	:	45.3	47.2	:	:	54.3	51.0	32.7	40.6	:	:	50.5	:	:
1980	56.3	47.9	:	:	46.5	47.9	41.7	:	56.0	51.3	35.3	40.6	:	:	53.6	:	:
1981	63.1	48.8	:	:	49.3	48.8	45.5	:	57.6	52.8	38.8	41.6	:	:	57.3	:	:
1982	61.2	48.9	:	:	51.0	48.9	47.7	:	59.8	53.4	38.5	43.4	:	:	58.8	:	:
1983	63.8	47.7	:	:	51.7	47.7	50.0	:	59.8	53.8	38.4	45.0	:	:	59.0	:	:
1984	60.5	46.9	:	:	52.7	46.9	50.1	:	58.9	53.9	38.4	45.0	:	:	58.0	:	:
1985	59.8	46.3	:	:	53.4	46.3	50.9	:	57.7	54.9	40.8	46.9	:	:	56.8	:	:
1986	58.9	45.4	:	:	52.7	45.4	51.4	:	57.3	55.8	41.3	47.9	:	:	53.3	:	:
1987	57.0	45.8	:	:	51.9	45.8	50.8	:	58.4	56.1	40.0	48.5	:	:	55.0	:	:
1988	55.0	45.3	44.0	:	51.3	45.3	51.5	:	56.6	53.7	38.5	47.0	:	:	57.2	:	:
1989	53.4	44.0	45.4	:	50.4	44.0	52.9	:	54.5	52.3	38.8	45.2	:	:	57.3	:	:
1990	53.4	44.5	50.2	:	50.7	43.6	54.3	43.2	54.8	52.0	42.1	48.6	:	:	57.0	:	:
1991	46.7	46.7															
1991	54.3	47.1	46.7	:	51.6	45.1	55.5	44.4	54.8	52.9	45.1	57.7	:	:	57.8	:	:
1992	54.5	48.1	49.4	:	52.9	45.3	56.7	46.0	55.8	53.6	46.2	63.0	:	48.3	59.0	:	:
1993	55.7	49.3	52.0	:	55.2	45.1	57.7	45.7	56.0	56.7	47.8	64.2	:	67.0	61.7	35.9	:
1994	53.4	49.0	49.9	:	54.9	44.4	54.6	44.5	53.6	56.2	46.0	62.9	:	47.5	61.6	41.9	:
1995	52.9	49.4	51.0	45.0	55.2	41.6	53.4	45.5	51.4	55.9	45.0	59.6	51.5	54.4	59.9	43.4	:
1996	52.8	50.3	49.2	43.7	55.4	39.7	53.2	45.6	49.6	55.3	45.8	59.7	51.5	42.8	59.3	42.1	:
1997	51.4	49.3	47.8	41.8	54.8	37.5	51.1	43.3	48.2	52.9	44.8	56.4	50.2	42.4	57.3	39.2	:
1998	50.7	48.8	47.8	41.4	53.7	34.8	49.6	42.0	47.2	53.3	44.1	52.8	49.3	43.8	56.8	39.3	38.6
1999	50.1	48.7	47.6	40.2	53.4	34.3	48.8	41.2	46.9	53.1	45.2	52.1	48.8	42.9	55.5	42.6	38.7
2000	49.2	45.7	52.0	39.9	52.5	32.0	46.9	38.7	45.3	51.3	45.1	49.1	47.1	42.1	54.1	38.2	38.7
2001	49.3	48.3	50.2	39.5	52.5	33.5	48.7	38.8	46.6	50.7	46.3	49.2	48.2	45.0	54.4	36.9	40.4
2002	50.2	48.7	49.0	39.9	53.5	33.9	47.9	43.1	47.8	50.4	45.9	50.1	48.5	46.9	55.0	36.6	41.9
2003	50.9	48.8	48.2	39.6	54.5	34.3	48.9	44.9	48.9	50.6	47.7	51.0	49.0	54.5	55.3	35.8	46.1
2004	50.8	47.5	49.8	40.5	54.2	34.3	48.4	45.5	48.6	50.5	46.7	50.9	48.5	46.7	54.7	38.8	45.6
2005	50.7	46.6	48.5	40.1	53.9	34.0	48.1	46.1	48.4	49.5	47.0	50.6	48.0	46.3	53.7	39.4	44.4
2006	50.8	45.9	48.2	40.2	53.8	33.6	48.7	46.2	47.7	48.5	47.0	50.0	47.7	45.8	52.8	38.9	43.9

Table 74 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ⁽⁴⁾	BG	RO	TR	HR	US ⁽⁵⁾	JP ⁽⁶⁾
1970	:	:	:	:	:	:	:	:	42.1	:	:	:	:	:	:	32.3	:
1971	:	:	:	:	:	:	:	:	41.3	:	:	:	:	:	:	32.4	:
1972	:	:	:	:	:	:	:	:	42.4	:	:	:	:	:	:	32.0	:
1973	:	:	:	:	:	:	:	:	43.1	:	:	:	:	:	:	30.9	:
1974	:	:	:	:	:	:	:	:	47.6	:	:	:	:	:	:	32.4	:
1975	:	:	:	:	:	:	:	:	48.9	:	:	:	:	:	:	34.9	:
1976	:	:	:	:	:	:	:	:	48.6	:	:	:	:	:	:	33.7	:
1977	:	:	:	:	:	:	:	:	45.9	:	:	:	:	:	:	32.7	:
1978	:	:	:	:	:	:	:	:	44.1	:	:	:	:	:	:	31.8	:
1979	:	:	:	:	:	:	:	:	43.2	:	:	:	:	:	:	31.7	:
1980	:	:	:	:	:	:	:	:	45.6	:	:	:	:	:	:	33.8	:
1981	:	:	:	:	:	:	:	:	49.0	:	:	:	:	:	:	34.0	:
1982	:	:	:	:	:	:	:	:	48.3	:	:	:	:	:	:	36.2	:
1983	:	:	:	:	:	:	:	:	48.0	:	:	:	:	:	:	36.3	:
1984	:	:	:	:	:	:	:	:	48.2	:	:	:	:	:	:	35.3	:
1985	:	:	:	:	:	:	:	:	46.7	:	:	:	:	:	:	36.1	:
1986	:	:	:	:	:	:	:	:	45.5	:	:	:	:	:	:	36.5	:
1987	:	:	:	:	:	:	:	:	43.5	:	:	:	:	:	:	36.2	:
1988	:	:	:	:	:	:	:	:	41.1	:	:	:	:	:	:	35.2	:
1989	:	:	:	:	:	:	:	:	40.4	:	:	:	:	:	:	35.1	:
1990	32.0	:	:	:	:	:	:	:	42.2	:	:	:	:	:	:	36.0	32.3
1991	:	:	:	:	:	:	:	:	43.9	:	:	68.1	:	:	:	36.6	32.1
1992	24.7	:	:	:	:	:	:	:	46.0	:	:	62.0	:	:	:	37.2	33.1
1993	35.1	:	:	:	:	:	78.8	73.0	46.0	:	:	62.5	:	:	:	36.5	35.0
1994	38.5	:	:	:	:	:	57.8	70.9	45.3	:	:	59.7	:	:	:	35.4	35.6
1995	39.3	36.1	:	:	51.3	:	54.1	67.8	44.9	:	51.3	50.5	:	:	:	35.4	36.7
1996	37.4	37.9	:	:	51.2	:	61.5	65.2	42.9	:	50.9	50.9	:	:	:	34.9	37.2
1997	36.8	38.3	:	:	50.2	:	65.0	62.9	41.3	:	49.3	39.8	:	:	:	33.8	36.1
1998	41.3	40.4	:	:	46.6	:	60.8	60.8	40.1	:	48.2	52.4	:	:	:	33.0	42.5
1999	42.3	42.9	:	:	47.0	:	56.9	60.2	39.6	:	47.7	56.2	:	:	:	32.7	39.0
2000	37.9	38.4	47.6	41.9	44.2	48.2	59.9	57.3	37.4	45.7	45.8	58.7	:	:	:	32.5	39.6
2001	36.5	35.0	48.7	43.8	47.7	47.9	51.5	57.2	40.9	47.2	47.2	53.3	:	:	:	33.5	39.2
2002	35.8	34.3	52.6	45.5	48.1	48.1	50.9	58.1	41.7	47.6	47.6	:	:	:	:	34.3	39.8
2003	36.0	34.1	49.8	49.4	47.6	48.2	39.2	58.1	43.6	48.4	48.5	:	:	:	:	34.4	39.1
2004	36.0	35.7	48.7	52.4	51.3	47.5	38.3	57.3	43.4	48.0	48.0	:	:	:	:	34.0	38.2
2005	38.1	36.2	47.6	50.7	49.9	46.8	38.3	56.6	43.3	47.5	47.5	:	:	:	:	33.8	38.1
2006	37.7	35.1	46.7	49.2	48.3	46.3	37.9	56.3	43.4	47.2	47.3	:	:	:	:	33.6	37.8

(1) Including one-off proceeds (treated as negative expenditure) relative to the allocation of mobile phone licences (UMTS).

(2) 1970-91 D_90.

(3) Euro area: 1970-91 including D_90.

(4) Former EU-15.

(5) National definition.

(6) SNA 93.

Table 75

General government (% of GDP at market prices)
Net lending (+) or net borrowing (-); general government ⁽¹⁾
Excessive deficit procedure

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE ⁽²⁾	EL	ES	FR	IE	IT	LU	NL ⁽⁴⁾	AT	PT	FI	EUR-12 ⁽⁵⁾	CZ	DK	EE	CY
1970	-2.1	0.5	:	:	:	:	:	:	-1.5	:	:	:	:	:	:	:	:
1971	-3.1	0.2	:	:	:	:	:	:	-1.6	:	:	:	:	:	5.0	:	:
1972	-4.7	-0.4	:	:	:	:	:	:	-0.7	:	:	:	:	:	5.1	:	:
1973	-3.9	1.1	:	:	:	:	:	:	0.5	:	:	:	:	:	5.1	:	:
1974	-2.9	-1.7	:	:	:	:	:	:	-0.3	:	:	:	:	:	3.8	:	:
1975	-5.4	-5.8	:	:	:	:	:	:	-2.9	:	:	5.1	:	:	-1.3	:	:
1976	-5.8	-3.5	:	:	:	:	:	:	-2.1	-3.7	:	7.9	:	:	0.2	:	:
1977	-5.8	-2.6	:	:	:	:	:	:	-0.8	-2.2	-3.0	6.4	:	:	0.4	:	:
1978	-6.5	-2.6	:	:	:	:	:	:	-2.1	-2.7	-7.5	4.0	:	:	0.4	:	:
1979	-8.4	-2.7	:	:	-0.1	:	:	:	-2.5	-2.4	-6.5	3.6	:	:	-0.7	:	:
1980	-9.5	-2.9	:	:	0.0	:	-7.1	:	-4.0	-1.7	-7.6	3.9	:	:	-2.4	:	:
1981	-15.7	-4.0	:	:	-2.2	:	-11.1	:	-5.0	-1.8	-9.1	5.3	:	:	-5.9	:	:
1982	-12.5	-3.5	:	:	-2.9	:	-10.2	:	-6.2	-3.4	-7.6	3.2	:	:	-8.4	:	:
1983	-14.8	-2.9	:	:	-2.8	:	-10.3	:	-5.5	-4.3	-5.4	1.6	:	:	-6.4	:	:
1984	-10.9	-2.0	:	:	-2.8	:	-11.7	:	-5.3	-2.7	-5.8	3.3	:	:	-3.7	:	:
1985	-10.2	-1.1	:	:	-3.0	-10.8	-12.7	:	-3.6	-2.8	-9.1	3.5	:	:	-1.4	:	:
1986	-10.1	-1.1	:	:	-3.2	-10.6	-12.2	:	-4.6	-4.0	-7.9	4.0	:	:	3.3	:	:
1987	-7.9	-1.8	:	:	-2.0	-8.6	-11.8	:	-5.3	-4.5	-7.2	1.6	:	:	2.5	:	:
1988	-7.3	-2.0	-11.6	:	-2.5	-4.7	-11.3	:	-4.2	-3.4	-3.8	5.3	:	:	1.5	:	:
1989	-7.6	0.1	-13.6	:	-1.8	-2.7	-11.7	:	-5.0	-3.0	-3.1	6.9	:	:	0.3	:	:
1990	-6.8	-2.0	-15.7	:	-2.1	-2.8	-11.8	4.8	-5.3	-2.4	-6.6	5.5	:	:	-1.0	:	:
1991	-2.8																
1991	-7.4	-2.9	-11.0	:	-2.4	-2.9	-11.7	1.2	-2.7	-2.9	-7.6	-1.0	:	:	-2.4	:	:
1992	-8.0	-2.6	-12.2	:	-4.2	-3.0	-10.7	0.2	-4.2	-1.9	-4.8	-5.5	:	-2.3	-3.2	:	:
1993	-7.4	-3.1	-13.4	:	-6.0	-2.7	-10.3	1.5	-2.8	-4.2	-8.1	-7.2	:	-22.0	-3.7	9.7	:
1994	-5.1	-2.4	-9.3	:	-5.5	-2.0	-9.3	2.7	-3.5	-4.9	-7.7	-5.7	:	-3.2	-3.2	4.4	:
1995	-4.4	-3.3	-10.2	-6.6	-5.5	-2.1	-7.6	2.1	-4.2	-5.6	-5.5	-3.9	-5.0	-13.4	-3.1	0.4	:
1996	-3.8	-3.4	-7.4	-4.9	-4.1	-0.1	-7.1	1.9	-1.8	-3.9	-4.8	-2.9	-4.3	-3.1	-1.9	-1.7	:
1997	-2.0	-2.7	-4.0	-3.2	-3.0	1.1	-2.7	3.2	-1.1	-1.8	-3.6	-1.3	-2.6	-2.4	-0.5	1.7	:
1998	-0.6	-2.2	-2.5	-3.0	-2.7	2.4	-2.8	3.2	-0.8	-2.3	-3.2	1.6	-2.2	-5.0	0.2	-0.3	-4.3
1999	-0.4	-1.5	-1.8	-1.2	-1.8	2.6	-1.7	3.7	0.7	-2.2	-2.8	2.2	-1.3	-3.6	2.4	-3.7	-4.5
2000	0.2	1.3	-4.1	-0.9	-1.4	4.4	-0.6	6.0	2.2	-1.5	-2.8	7.1	0.1	-3.7	1.7	-0.6	-2.4
2001	0.6	-2.8	-3.7	-0.4	-1.5	0.9	-2.6	6.4	-0.1	0.3	-4.4	5.2	-1.7	-5.9	2.1	0.3	-2.4
2002	0.1	-3.7	-3.7	-0.1	-3.2	-0.2	-2.3	2.8	-1.9	-0.2	-2.7	4.3	-2.4	-6.8	0.7	1.4	-4.6
2003	0.4	-3.8	-4.6	0.4	-4.1	0.1	-2.4	0.8	-3.2	-1.1	-2.8	2.3	-2.7	-12.6	0.3	3.1	-6.4
2004	-0.1	-3.9	-5.5	-0.6	-3.7	-0.2	-3.0	-0.8	-2.9	-1.3	-2.9	2.3	-2.9	-4.8	1.0	0.5	-5.2
2005	-0.3	-3.4	-3.6	-0.1	-3.0	-0.6	-3.0	-1.6	-2.4	-2.0	-3.7	2.1	-2.5	-4.7	1.5	0.2	-3.0
2006	-0.5	-2.9	-3.0	0.0	-3.3	-0.5	-3.6	-2.0	-2.1	-1.7	-3.8	2.2	-2.5	-4.3	1.7	0.1	-2.4

Table 75 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ^(c)	BG	RO	TR	HR	US ^(f)	JP ^(g)
1970	:	:	:	:	:	:	:	:	2.6	:	:	:	:	:	:	-2.1	:
1971	:	:	:	:	:	:	:	:	1.5	:	:	:	:	:	:	-2.8	:
1972	:	:	:	:	:	:	:	:	-1.7	:	:	:	:	:	:	-1.3	:
1973	:	:	:	:	:	:	:	:	-3.6	:	:	:	:	:	:	-0.2	:
1974	:	:	:	:	:	:	:	:	-3.6	:	:	:	:	:	:	-1.0	:
1975	:	:	:	:	:	:	:	:	-4.5	:	:	:	:	:	:	-5.2	:
1976	:	:	:	:	:	:	:	:	-4.6	:	:	:	:	:	:	-3.3	:
1977	:	:	:	:	:	:	:	:	-3.3	:	:	:	:	:	:	-2.2	:
1978	:	:	:	:	:	:	:	:	-4.4	:	:	:	:	:	:	-1.3	:
1979	:	:	:	:	:	:	:	:	-3.6	:	:	:	:	:	:	-0.9	:
1980	:	:	:	:	:	:	:	:	-3.2	:	:	:	:	:	:	-2.6	:
1981	:	:	:	:	:	:	:	:	-4.4	:	:	:	:	:	:	-2.3	:
1982	:	:	:	:	:	:	:	:	-2.7	:	:	:	:	:	:	-4.9	:
1983	:	:	:	:	:	:	:	:	-3.4	:	:	:	:	:	:	-5.7	:
1984	:	:	:	:	:	:	:	:	-3.6	:	:	:	:	:	:	-4.8	:
1985	:	:	:	:	:	:	:	:	-2.9	:	:	:	:	:	:	-5.1	:
1986	:	:	:	:	:	:	:	:	-2.6	:	:	:	:	:	:	-5.3	:
1987	:	:	:	:	:	:	:	:	-1.8	:	:	:	:	:	:	-4.3	:
1988	:	:	:	:	:	:	:	:	0.5	:	:	:	:	:	:	-3.6	:
1989	:	:	:	:	:	:	:	:	0.8	:	:	:	:	:	:	-3.3	:
1990	6.9	:	:	:	:	:	:	:	-1.6	:	:	:	:	:	:	-4.3	2.1
1991	5.7	:	:	:	-8.7	:	:	:	-3.1	:	:	-13.2	:	:	:	-5.0	1.8
1992	-0.5	:	:	:	-6.6	:	:	:	-6.5	:	:	-5.4	:	:	:	-5.8	0.8
1993	2.2	-0.8	:	:	-4.2	:	-31.2	-11.4	-7.9	:	:	-10.2	:	:	:	-5.0	-2.4
1994	-1.3	-0.9	:	:	5.9	:	-6.1	-9.3	-6.8	:	:	-5.4	:	:	:	-3.6	-3.8
1995	-2.0	-1.9	:	:	-2.3	:	-0.9	-7.0	-5.8	:	-5.2	-3.4	:	:	:	-3.2	-4.7
1996	-0.5	-3.6	:	:	-3.6	:	-7.4	-2.7	-4.2	:	-4.2	-1.8	:	:	:	-2.2	-5.1
1997	1.5	-1.2	:	:	-4.0	:	-6.2	-0.9	-2.2	:	-2.5	5.3	:	:	:	-0.8	-3.8
1998	-0.6	-3.0	:	:	-2.1	:	-3.8	1.8	0.1	:	-1.7	1.7	:	:	:	0.4	-10.8
1999	-4.9	-5.6	:	:	-1.4	:	-7.1	2.5	1.0	:	-0.7	0.4	:	:	:	0.9	-7.2
2000	-2.8	-2.5	-3.0	-6.2	-0.7	-3.5	-12.3	5.1	3.8	0.8	1.0	-0.5	-4.4	-6.1	:	1.6	-7.5
2001	-2.1	-2.0	-4.4	-6.4	-3.8	-2.8	-6.0	2.8	0.7	-1.2	-1.1	0.2	-3.5	-29.8	:	-0.4	-6.1
2002	-2.7	-1.5	-9.2	-5.8	-3.6	-2.4	-5.7	0.0	-1.7	-2.3	-2.1	-0.8	-2.0	-9.4	-5.0	-3.8	-7.9
2003	-1.5	-1.9	-6.2	-9.6	-3.9	-2.0	-3.7	0.3	-3.3	-2.8	-2.7	-0.1	-2.0	-8.7	-6.3	-4.6	-7.5
2004	-2.0	-2.6	-5.5	-5.1	-5.6	-2.3	-3.9	0.6	-2.8	-2.8	-2.7	0.5	-1.6	-7.2	-4.5	-4.2	-7.1
2005	-2.8	-2.5	-5.2	-4.0	-4.1	-2.2	-4.0	0.6	-2.6	-2.4	-2.4	-1.0	-1.7	-5.7	-3.9	-4.0	-7.0
2006	-2.9	-1.9	-4.7	-3.3	-3.1	-1.9	-4.1	0.8	-2.4	-2.3	-2.3	0.0	-2.2	-5.0	-3.6	-4.3	-6.8

(1) Including one-off proceeds relative to the allocation of mobile phone licences (UMTS).

(2) 1970-91 D_90.

(3) Not including unification-related debt and asset assumptions by the federal government in 1995 (Treuhand, eastern housing companies and Deutsche Kreditbank) equal to EUR-DEM 116.3 billion.

(4) Not including for 1995 a net amount of EUR-NLG 14.9 billion of exceptional expenditure related to the reform of the financing of the social housing societies.

(5) Euro area: 1970-91 including D_90.

(6) Former EU-15.

(7) National definition.

(8) SNA 93.

Table 76

General government (% of GDP at market prices)
Net lending (+) or net borrowing (-) excluding interest; general government ⁽¹⁾
Excessive deficit procedure

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE ⁽²⁾	EL	ES	FR	IE	IT	LU	NL ⁽⁴⁾	AT	PT	FI	EUR-12 ⁽⁵⁾	CZ	DK	EE	CY
1970	1.4	1.4	:	:	:	:	:	:	1.4	:	:	:	:	:	:	:	:
1971	0.6	1.1	:	:	:	:	:	:	1.3	:	:	:	:	:	6.4	:	:
1972	-1.0	0.7	:	:	:	:	:	:	2.0	:	:	:	:	:	6.4	:	:
1973	-0.1	2.3	:	:	:	:	:	:	3.3	:	:	:	:	:	6.3	:	:
1974	1.0	-0.4	:	:	:	:	:	:	2.7	:	:	:	:	:	5.0	:	:
1975	-1.3	-4.3	:	:	:	:	:	:	0.2	:	:	5.7	:	:	-0.1	:	:
1976	-1.6	-1.9	:	:	:	:	:	:	1.0	-2.0	:	8.5	:	:	1.5	:	:
1977	-1.0	-0.9	:	:	:	:	:	:	2.3	-0.3	-1.6	7.2	:	:	2.2	:	:
1978	-1.5	-0.9	:	:	:	:	:	:	1.1	-0.6	-5.3	4.8	:	:	2.5	:	:
1979	-2.7	-0.8	:	1.2	1.2	:	:	:	0.9	-0.1	-4.0	4.5	:	:	2.7	:	:
1980	-2.9	-0.8	:	1.4	1.4	:	-2.5	:	-0.2	0.8	-5.0	4.9	:	:	1.5	:	:
1981	-7.4	-1.5	:	-0.3	-0.3	:	-5.8	:	-0.4	0.9	-4.8	6.4	:	:	-0.9	:	:
1982	-3.1	-0.6	:	-0.9	-0.9	:	-3.4	:	-1.0	-0.3	-2.9	4.4	:	:	-2.6	:	:
1983	-4.9	0.1	:	-0.3	-0.3	:	-2.2	:	0.2	-1.4	0.1	3.1	:	:	1.4	:	:
1984	-0.8	1.0	:	-0.2	-0.2	:	-3.0	:	0.8	0.6	0.3	5.0	:	:	5.6	:	:
1985	0.8	1.9	:	-0.2	-0.2	-0.9	-3.9	:	2.7	0.7	-2.2	5.3	:	:	8.1	:	:
1986	1.3	1.7	:	-0.3	-0.3	-1.3	-3.2	:	1.7	-0.3	0.4	5.6	:	:	11.8	:	:
1987	2.7	1.0	:	0.8	0.7	1.7	-3.6	:	0.9	-0.5	0.3	3.3	:	:	10.5	:	:
1988	3.0	0.8	-4.2	0.1	0.1	4.0	-2.7	:	1.9	0.4	2.9	6.9	:	:	9.1	:	:
1989	3.7	2.8	-6.1	0.9	0.9	5.1	-2.2	:	0.8	0.8	3.1	8.3	:	:	7.5	:	:
1990	5.1	0.7	-5.7	0.8	0.8	5.3	-1.3	5.2	0.5	1.6	2.0	6.9	:	:	6.3	:	:
1991	0.1																
1991	3.9	-0.1	-1.4	0.6	0.6	5.0	0.2	1.5	3.4	1.2	1.2	0.9	:	:	4.9	:	:
1992	3.1	0.7	-0.7	-0.9	-0.9	4.2	2.0	0.6	2.1	2.2	3.8	-3.0	:	-0.9	3.5	:	:
1993	3.7	0.2	-0.8	-2.5	-2.5	3.9	2.8	1.9	3.4	0.1	-0.3	-2.8	:	-20.3	3.6	9.9	:
1994	4.5	0.9	4.7	-2.0	-2.0	4.1	2.1	3.1	2.3	-0.9	-1.1	-1.5	:	-1.8	3.4	4.6	:
1995	4.9	0.3	2.6	-1.4	-1.8	3.3	3.9	2.4	1.7	-1.8	0.8	0.1	0.6	-12.3	2.9	0.6	:
1996	5.1	0.3	4.6	0.4	-0.3	4.5	4.4	2.3	3.8	-0.1	0.6	1.3	1.4	-1.9	3.8	-1.3	:
1997	6.1	0.9	5.6	1.6	0.6	5.3	6.7	3.5	4.1	1.7	0.7	3.0	2.5	-1.2	4.5	2.2	:
1998	7.0	1.4	6.5	1.2	0.8	5.7	5.2	3.5	4.1	1.2	0.3	5.2	2.5	-3.8	4.7	0.1	-1.1
1999	6.6	2.0	6.5	2.4	1.4	4.9	5.0	4.0	5.1	1.2	0.4	5.3	2.9	-2.6	6.4	-3.4	-1.4
2000	6.9	4.7	4.0	2.4	1.7	6.4	5.8	6.2	6.0	2.0	0.4	10.0	4.2	-2.8	5.3	-0.2	1.1
2001	7.2	0.4	3.6	2.8	1.6	2.4	3.9	6.7	3.3	3.7	-1.2	7.9	2.3	-4.8	5.4	0.5	1.2
2002	6.1	-0.5	2.6	2.7	-0.2	1.1	3.5	3.0	1.1	3.0	0.3	6.5	1.3	-5.2	3.6	1.7	-1.3
2003	5.7	-0.7	1.2	2.9	-1.2	1.4	2.9	1.0	-0.3	1.9	0.1	4.1	0.7	-11.3	2.9	3.3	-2.9
2004	4.8	-0.8	0.0	1.7	-0.7	1.2	2.0	-0.6	0.0	1.7	-0.2	4.1	0.5	-3.6	3.3	0.8	-1.8
2005	4.2	-0.3	1.6	2.1	-0.1	0.7	2.1	-1.4	0.5	0.9	-1.0	3.9	0.8	-3.3	3.8	0.4	0.5
2006	3.6	0.2	2.1	2.0	-0.4	0.8	1.5	-1.8	0.9	1.2	-0.9	3.8	0.8	-2.9	3.8	0.3	1.1

Table 76 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25	EUR-15 ^(c)	BG	RO	TR	HR	US ^(f)	JP ^(g)
1970	:	:	:	:	:	:	:	:	6.6	:	:	:	:	:	:	0.2	:
1971	:	:	:	:	:	:	:	:	5.2	:	:	:	:	:	:	-0.6	:
1972	:	:	:	:	:	:	:	:	2.0	:	:	:	:	:	:	0.8	:
1973	:	:	:	:	:	:	:	:	0.2	:	:	:	:	:	:	2.1	:
1974	:	:	:	:	:	:	:	:	0.8	:	:	:	:	:	:	1.4	:
1975	:	:	:	:	:	:	:	:	-0.4	:	:	:	:	:	:	-2.8	:
1976	:	:	:	:	:	:	:	:	-0.3	:	:	:	:	:	:	-0.8	:
1977	:	:	:	:	:	:	:	:	1.1	:	:	:	:	:	:	0.3	:
1978	:	:	:	:	:	:	:	:	0.0	:	:	:	:	:	:	1.4	:
1979	:	:	:	:	:	:	:	:	1.0	:	:	:	:	:	:	1.9	:
1980	:	:	:	:	:	:	:	:	1.7	:	:	:	:	:	:	0.6	:
1981	:	:	:	:	:	:	:	:	0.9	:	:	:	:	:	:	1.5	:
1982	:	:	:	:	:	:	:	:	2.6	:	:	:	:	:	:	-0.6	:
1983	:	:	:	:	:	:	:	:	1.5	:	:	:	:	:	:	-1.2	:
1984	:	:	:	:	:	:	:	:	1.5	:	:	:	:	:	:	0.0	:
1985	:	:	:	:	:	:	:	:	2.3	:	:	:	:	:	:	-0.1	:
1986	:	:	:	:	:	:	:	:	2.2	:	:	:	:	:	:	-0.4	:
1987	:	:	:	:	:	:	:	:	2.7	:	:	:	:	:	:	0.6	:
1988	:	:	:	:	:	:	:	:	4.6	:	:	:	:	:	:	1.3	:
1989	:	:	:	:	:	:	:	:	4.8	:	:	:	:	:	:	1.8	:
1990	7.0	:	:	:	:	:	:	:	2.1	:	:	:	:	:	:	0.9	5.7
1991	:	:	:	:	-4.3	:	:	:	0.0	:	:	3.2	:	:	:	0.3	5.3
1992	-0.3	:	:	:	-1.1	:	:	:	-3.4	:	:	1.0	:	:	:	-0.8	4.3
1993	2.3	:	:	:	3.8	:	-28.5	-5.6	-4.9	:	:	-0.9	:	:	:	-0.2	1.1
1994	-0.4	:	:	:	12.1	:	-2.7	-2.9	-3.4	:	:	9.2	:	:	:	1.0	-0.4
1995	-0.8	-1.5	:	:	3.6	:	1.5	-0.3	-2.2	:	0.2	10.7	:	:	:	1.7	-1.3
1996	1.1	-2.7	:	:	0.9	:	-4.9	3.8	-0.6	:	1.2	19.3	:	:	:	2.5	-1.6
1997	2.5	-0.3	:	:	0.4	:	-4.0	5.3	1.4	:	2.5	13.6	:	:	:	3.7	-0.4
1998	0.2	-1.9	:	:	-0.2	:	-1.4	7.4	3.5	:	2.9	5.9	:	:	:	4.7	-7.3
1999	-4.1	-4.1	:	:	0.6	:	-3.8	7.1	3.9	:	3.3	4.1	:	:	:	4.7	-3.8
2000	-1.8	-0.8	2.6	-2.5	1.4	-1.0	-8.2	9.2	6.6	4.6	4.8	3.6	:	7.9	:	5.3	-4.2
2001	-1.1	-0.4	0.4	-2.8	-0.8	-0.4	-2.0	6.0	3.0	2.4	2.6	3.9	:	-2.7	:	3.0	-3.0
2002	-1.9	-0.1	-5.1	-1.9	-0.7	0.0	-2.1	2.9	0.3	1.0	1.2	1.4	1.0	10.4	:	-0.8	-4.8
2003	-0.7	-0.6	-2.1	-5.9	-0.8	0.1	-1.2	2.3	-1.3	0.3	0.5	2.0	0.2	9.6	:	-1.9	-4.6
2004	-1.2	-1.4	-1.1	-1.3	-2.5	-0.3	-1.6	2.7	-0.9	0.2	0.3	2.6	0.0	8.0	:	-1.6	-4.1
2005	-2.0	-1.4	-1.2	-2.0	-1.0	-0.2	-1.6	2.8	-0.6	0.6	0.7	1.0	-0.1	7.5	:	-1.3	-3.8
2006	-2.0	-0.9	-1.1	0.4	0.0	-0.1	-1.8	3.0	-0.4	0.7	0.7	2.0	-0.7	6.3	:	-1.5	-3.6

(1) Including one-off proceeds relative to the allocation of mobile phone licences (UMTS).

(2) 1970-91 D_90.

(3) Not including unification-related debt and asset assumptions by the federal government in 1995 (Treuhand, eastern housing companies and Deutsche Kreditbank) equal to EUR-DEM 116.3 billion.

(4) Not including for 1995 a net amount of EUR-NLG 14.9 billion of exceptional expenditure related to the reform of the financing of the social housing societies.

(5) Euro area: 1970-91 including D_90.

(6) Former EU-15.

(7) National definition.

(8) SNA 93.

Table 77

General government (% of GDP at market prices)
General government consolidated gross debt
Excessive deficit procedure (based on ESA 95) and former definition (linked series)

(percentage of GDP at market prices (excessive deficit procedure))

	BE	DE (¹)	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	EUR-12 (¹)	CZ	DK	EE	CY
1970	65.3	18.2	19.8	15.0	:	49.7	37.9	23.0	:	18.9	:	11.7	:	:	:	:	:
1971	64.5	18.3	20.2	15.6	:	47.6	42.7	23.2	:	17.8	:	10.6	:	:	13.2	:	:
1972	64.1	18.5	21.2	14.2	:	44.7	49.0	20.6	:	17.0	:	9.6	:	:	11.6	:	:
1973	61.9	18.0	17.5	12.6	:	41.8	51.3	16.8	:	17.0	15.3	7.8	:	:	9.1	:	:
1974	57.9	19.0	23.3	12.1	:	52.4	51.4	13.6	:	17.2	15.0	6.2	:	:	6.3	:	:
1975	59.5	24.3	20.2	12.3	:	59.0	57.3	14.8	40.8	23.3	22.2	6.7	:	:	7.1	:	:
1976	60.1	25.8	19.7	12.1	:	63.9	56.3	13.5	40.6	26.7	27.3	6.2	:	:	11.5	:	:
1977	63.6	26.8	19.9	13.2	20.1	60.7	56.4	13.6	40.0	29.1	28.8	7.9	30.5	:	15.4	:	:
1978	67.3	28.2	25.8	13.3	21.2	62.6	61.7	12.6	41.2	32.8	31.5	11.2	32.8	:	25.8	:	:
1979	70.4	29.2	25.2	15.0	21.2	68.2	61.0	11.6	43.4	34.7	35.6	11.3	33.6	:	32.2	:	:
1980	78.7	31.2	25.0	16.8	19.8	69.8	58.2	11.3	45.9	36.2	32.3	11.5	34.0	:	39.8	:	:
1981	92.0	34.8	29.7	20.6	21.9	75.4	60.3	11.8	49.8	37.9	41.1	11.8	37.9	:	52.6	:	:
1982	102.4	37.7	33.5	25.6	25.5	84.7	65.1	11.7	55.3	40.3	44.0	14.2	42.1	:	65.7	:	:
1983	113.3	39.4	38.5	31.0	26.9	94.6	70.0	12.4	61.4	44.7	49.1	15.7	45.4	:	75.5	:	:
1984	117.4	40.1	45.9	37.1	29.1	98.8	76.0	12.3	65.5	47.3	54.2	15.5	49.4	:	79.6	:	:
1985	122.3	40.7	53.6	42.3	30.8	101.7	82.3	11.7	70.3	49.2	61.5	16.2	51.6	:	76.4	:	:
1986	127.7	40.6	55.7	43.7	31.3	113.0	86.3	11.4	72.0	53.7	60.3	17.0	54.0	:	67.8	:	:
1987	132.4	41.6	62.6	44.0	33.4	114.2	90.5	9.9	74.3	57.6	58.1	18.1	55.6	:	63.3	:	:
1988	132.4	42.0	68.4	40.3	33.4	109.9	92.6	7.9	77.2	57.3	57.6	16.9	56.4	:	65.7	:	:
1989	129.1	40.7	72.0	41.7	34.1	100.4	95.3	6.5	77.1	56.7	56.4	14.7	57.1	:	63.3	:	:
1990	129.2	42.3	79.6	43.6	35.1	94.2	97.2	5.4	76.9	56.1	58.3	14.2	57.7	:	63.1	:	:
1991	43.3												59.8				
1991	130.6	40.4	82.2	44.3	35.8	95.6	100.8	4.6	76.8	56.1	60.7	22.6	58.5	:	64.0	:	:
1992	132.2	42.9	87.8	46.8	39.6	92.5	108.1	5.5	77.9	55.8	54.4	40.5	60.3	:	69.3	:	:
1993	137.9	46.9	110.1	58.4	45.3	95.1	118.7	6.8	79.3	60.5	59.1	55.9	66.2	:	81.0	:	:
1994	135.9	49.3	107.9	61.1	48.4	89.6	124.8	6.3	76.4	63.4	62.1	58.0	68.9	:	75.7	:	:
1995	134.0	57.0	108.7	63.9	54.6	82.0	124.3	6.7	77.2	67.9	64.3	57.1	73.6	:	71.0	:	:
1996	130.2	59.8	111.3	68.1	57.1	73.5	123.1	7.2	75.2	67.6	62.9	57.1	75.2	13.1	66.9	7.5	:
1997	124.8	61.0	108.2	66.6	59.3	64.7	120.5	6.8	69.9	63.8	59.1	54.1	74.9	12.7	63.2	6.3	:
1998	119.6	60.9	105.8	64.6	59.5	53.7	116.7	6.3	66.8	63.1	55.0	48.6	74.1	15.0	59.2	5.6	61.6
1999	114.9	61.2	105.2	63.1	58.5	48.7	115.5	6.0	63.1	66.5	54.3	47.0	72.7	16.0	55.8	6.0	62.0
2000	109.1	60.2	114.0	61.1	56.8	38.3	111.2	5.5	55.9	65.8	53.3	44.6	70.4	18.2	52.3	4.7	61.6
2001	108.0	59.4	114.7	57.5	56.5	35.9	110.6	5.5	52.9	66.1	55.8	43.8	69.4	25.3	49.2	4.4	64.3
2002	105.4	60.9	112.5	54.4	58.8	32.7	107.9	5.7	52.6	65.7	58.4	42.6	69.4	28.8	48.8	5.3	67.4
2003	100.0	64.2	109.9	50.7	63.7	32.1	106.2	5.3	54.1	64.5	60.3	45.6	70.7	37.8	45.9	5.3	70.9
2004	95.8	65.9	112.2	48.2	64.9	30.7	106.0	4.9	55.7	64.0	60.8	44.8	71.1	37.8	43.4	4.8	72.6
2005	94.4	67.2	111.9	45.5	65.5	30.7	104.6	4.8	58.0	63.9	62.0	43.4	71.1	39.4	40.3	4.4	72.4
2006	90.9	67.9	110.2	42.9	66.3	30.6	104.4	4.7	58.4	63.4	62.9	42.2	70.9	40.6	38.0	4.2	69.4

Table 77 (continued)

(percentage of GDP at market prices (excessive deficit procedure))

	LV	LT	HU	MT	PL	SI	SK	SE	UK	EU-25 ⁽¹⁾	EUR-15 ⁽²⁾	BG	RO	TR	HR	US	JP
1970	:	:	:	:	:	:	:	27.3	78.7	:	:	:	:	:	:	49.9	12.0
1971	:	:	:	:	:	:	:	27.6	75.0	:	:	:	:	:	:	50.5	13.3
1972	:	:	:	:	:	:	:	27.5	69.7	:	:	:	:	:	:	48.9	17.6
1973	:	:	:	:	:	:	:	26.8	64.9	:	:	:	:	:	:	46.0	17.2
1974	:	:	:	:	:	:	:	27.2	65.0	:	:	:	:	:	:	45.0	18.1
1975	:	:	:	:	:	:	:	26.4	61.2	:	:	:	:	:	:	48.4	22.9
1976	:	:	:	:	:	:	:	24.6	60.6	:	:	:	:	:	:	48.5	29.3
1977	:	:	:	:	:	:	:	26.7	59.5	:	:	:	:	:	:	47.3	34.9
1978	:	:	:	:	:	:	:	30.9	57.1	:	:	:	:	:	:	46.2	44.1
1979	:	:	:	:	:	:	:	35.4	53.8	:	:	:	:	:	:	45.0	49.3
1980	:	:	:	:	:	:	:	40.0	53.2	:	:	:	:	:	:	45.7	55.0
1981	:	:	:	:	:	:	:	48.2	53.5	:	:	:	:	:	:	44.8	59.9
1982	:	:	:	:	:	:	:	57.5	52.4	:	:	:	:	:	:	49.9	64.0
1983	:	:	:	:	:	:	:	61.2	52.6	:	:	:	:	:	:	52.9	69.8
1984	:	:	:	:	:	:	:	62.5	54.5	:	:	:	:	:	:	54.5	72.3
1985	:	:	:	:	:	:	:	61.9	52.7	:	:	:	:	:	:	59.5	72.1
1986	:	:	:	:	:	:	:	61.5	51.2	:	:	:	:	:	:	63.0	75.8
1987	:	:	:	:	:	:	:	54.3	48.7	:	:	:	:	:	:	64.7	76.4
1988	:	:	:	:	:	:	:	48.7	42.3	:	:	:	:	:	:	65.4	74.1
1989	:	:	:	:	:	:	:	43.6	36.7	:	:	:	:	:	:	65.7	70.8
1990	:	:	:	:	:	:	:	42.0	34.0	:	:	:	:	:	:	67.2	68.6
1991	:	:	:	:	:	:	:	50.1	34.4	:	54.7	:	:	:	:	72.0	64.8
1992	:	:	:	:	:	:	:	63.3	39.2	:	57.1	:	:	:	:	74.4	68.7
1993	:	:	:	:	:	:	:	71.3	45.4	:	64.0	:	:	:	:	76.1	74.9
1994	:	:	:	:	:	:	:	73.9	48.6	:	66.3	:	:	:	:	75.2	79.7
1995	:	:	:	:	:	:	:	73.7	51.8	:	70.7	:	:	:	:	74.8	87.1
1996	13.8	:	73.6	40.0	:	:	30.3	73.5	52.3	:	72.6	:	:	:	:	74.0	93.9
1997	11.1	15.8	63.9	48.1	:	:	33.0	70.6	50.8	:	71.0	105.1	16.5	53.1	:	71.4	100.3
1998	9.8	16.8	61.6	53.1	:	23.6	34.0	68.1	47.7	:	68.8	79.6	18.0	50.1	:	68.3	112.2
1999	12.6	23.0	60.9	56.8	40.1	24.9	47.2	62.8	45.1	66.7	67.9	79.3	24.0	65.9	:	64.9	125.7
2000	12.9	23.8	55.4	56.4	36.8	27.4	49.9	52.8	42.0	62.9	64.1	73.6	23.9	57.4	:	59.1	134.1
2001	14.9	22.9	53.5	62.0	36.7	28.1	48.7	54.4	38.8	62.1	63.2	66.2	23.2	105.2	:	58.7	142.3
2002	14.1	22.4	57.2	62.3	41.1	29.5	43.3	52.6	38.3	61.6	62.7	53.2	23.3	94.9	50.4	60.8	149.3
2003	14.4	21.4	59.1	70.4	45.4	29.4	42.6	52.0	39.8	63.2	64.2	46.2	21.8	87.1	51.6	63.1	156.9
2004	14.6	21.1	59.7	72.4	47.7	30.9	44.2	51.6	40.4	63.5	64.4	38.1	21.8	83.3	52.7	64.2	162.8
2005	15.4	21.7	59.5	73.7	49.8	30.8	45.2	50.6	40.9	63.5	64.5	35.3	22.2	79.1	52.5	65.0	169.4
2006	16.6	21.3	58.9	74.2	49.3	30.6	45.9	49.7	41.2	63.3	64.3	32.3	23.3	73.7	51.1	:	173.6

(1) 1970-91 D_90.

(2) Euro area; 1970-91 including D_90.

(3) End of year exchange rates.

(4) Former EU-15.

Table 78

Main economic indicators 1961–2006

Belgium

	1961–73	1974–85	1986–90	1991–95	1996–2000
1. Growth of GDP and its components (real)					
1.1. Private consumption	4.3	2.2	2.8	1.7	2.4
1.2. Government consumption	5.5	2.5	0.8	1.5	1.9
1.3. Gross fixed capital formation	5.1	-0.5	8.8	-0.4	4.0
1.4. of which equipment	:	0.2	11.9	-3.2	6.7
1.5. of which construction	:	0.3	6.8	1.7	1.4
1.6. Exports of goods and services	9.3	2.8	6.0	3.9	5.7
1.7. Imports of goods and services	8.9	2.0	7.2	3.7	5.5
1.8. GDP	4.9	1.9	3.1	1.6	2.7
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	3.5	1.9	1.7	1.3	1.7
2.2. Investment	1.1	-0.1	1.6	-0.1	0.8
2.3. Stockbuilding	0.2	-0.1	0.1	0.1	-0.1
2.4. Domestic demand	4.8	1.6	3.5	1.3	2.5
2.5. Exports	4.1	1.5	3.4	2.5	4.5
2.6. Final demand	8.9	3.2	7.0	3.9	7.0
2.7. Imports	-3.9	-1.2	-3.8	-2.3	-4.2
2.8. Net exports	0.2	0.3	-0.4	0.3	0.3
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	22.4	23.1	26.8	28.5	24.4
3.2. Net savings of households	:	:	8.5	:	:
3.3. General government savings	1.7	-3.5	-5.1	-3.9	1.1
3.4. National savings	24.1	19.6	21.8	24.6	25.6
3.5. Gross capital formation	25.6	22.4	19.9	20.5	20.5
3.6. Current account	1.4	-1.4	1.9	4.1	5.0
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	75.6	78.7	78.0	81.7
4.2. Trend GDP gap	0.0	0.1	0.0	0.1	0.2
4.3. Potential GDP gap	:	-0.7	0.0	-0.4	-0.1
4.4. Profitability index (1961–73 = 100)	100.0	71.4	97.3	90.4	104.7
5. Growth potential					
5.1. Growth of net capital stock (real)	3.2	2.5	2.4	2.4	2.2
5.2. Net capital/output ratio (real)	2.7	2.6	2.5	2.6	2.6
5.3. Growth of capital intensity	2.7	2.8	1.4	2.6	0.9
5.4. Labour productivity growth	4.4	2.2	2.1	1.8	1.5
5.5. Total factor productivity growth	3.4	1.2	1.6	0.8	1.1
6. Employment and unemployment					
6.1. Employment	0.5	-0.3	1.2	-0.1	1.1
6.2. Activity rate	59.9	60.5	59.3	60.6	62.5
6.3. Employment rate (benchmark)	58.7	56.0	54.3	55.5	56.9
6.4. Employment rate (full-time equivalent)	:	:	:	53.6	53.3
6.5. Unemployment rate (Eurostat definition)	1.9	7.6	8.5	8.3	8.7
7. Prices and wages					
7.1. Nominal wages per head	9.1	9.6	4.2	4.1	2.2
7.2. Real wages per head ⁽²⁾	5.2	2.2	2.2	1.8	0.5
7.3. Nominal unit labour costs	4.5	7.2	2.1	2.3	0.7
7.4. Real unit labour costs	0.4	0.4	-0.7	-0.4	-0.7
7.5. GDP deflator	4.1	6.7	2.8	2.7	1.4
7.6. Private consumption deflator	3.7	7.2	1.9	2.2	1.7
7.7. Terms of trade	0.1	-0.9	1.4	0.6	-0.7
8. General government budget, % of GDP					
8.1. Expenditure ⁽³⁾	38.5	56.1	55.6	54.2	50.9
8.2. Current revenues ⁽³⁾	36.0	47.1	47.6	47.7	49.6
8.3. Net borrowing (-) or lending (+) ⁽³⁾	-2.5	-9.0	-7.9	-6.4	-1.3
8.4. Net borrowing cyclically adjusted ⁽³⁾	-2.5	-8.6	-7.9	-6.2	-1.2
8.5. Debt (end of period) ⁽⁴⁾	61.9	122.3	129.2	134.0	109.1
9. Monetary conditions					
9.1. Long-term interest rate	6.5	10.6	8.7	8.1	5.5
9.2. Short-term interest rate	5.3	10.8	8.1	7.4	3.5
9.3. Yield curve (9.1–9.2)	1.3	-0.2	0.6	0.7	2.0
9.4. Real long-term interest rate ⁽⁵⁾	2.3	3.7	5.7	5.2	4.0
9.5. Nominal effective exchange rate	0.4	-0.2	2.8	1.9	-2.2
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	93.3	98.7	89.9	97.5	92.3

⁽¹⁾ Manufacturing industry.

⁽²⁾ Private consumption deflator.

⁽³⁾ From 1970 (ESA 95 data), 1961–73 average according to the former definition.

⁽⁴⁾ Break in 1990 (ESA 95 data).

⁽⁵⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
3.1	2.3	3.5	0.6	0.3	2.2	2.1	2.3	2.5
1.1	3.6	2.3	2.8	2.3	2.7	2.3	2.1	2.0
3.3	4.4	4.4	0.3	-3.7	-0.9	1.7	4.6	4.8
3.6	8.4	9.6	1.3	-3.0	-2.0	2.3	4.6	4.6
1.1	-0.2	-0.3	-1.7	-3.7	-0.7	0.8	4.4	4.7
6.0	5.1	8.4	1.3	1.5	1.7	4.2	5.1	5.7
7.3	4.2	8.5	1.0	1.0	2.3	3.9	5.4	6.1
2.0	3.2	3.9	0.7	0.9	1.3	2.5	2.5	2.6
1.9	2.0	2.4	0.9	0.7	1.7	1.6	1.7	1.8
0.7	0.9	0.9	0.1	-0.8	-0.2	0.3	0.9	1.0
0.2	-0.5	0.3	-0.6	0.6	0.1	0.1	-0.1	0.1
2.8	2.4	3.7	0.4	0.5	1.7	2.1	2.6	2.8
4.6	4.1	6.9	1.1	1.3	1.5	3.7	4.5	5.1
7.5	6.5	10.6	1.5	1.7	3.1	5.7	7.0	7.9
-5.4	-3.3	-6.7	-0.8	-0.8	-1.9	-3.3	-4.5	-5.4
-0.8	0.8	0.2	0.3	0.4	-0.4	0.4	-0.1	-0.2
23.9	23.9	22.9	22.5	22.9	22.7	22.1	22.3	22.5
:	:	:	:	:	:	:	:	:
1.8	2.2	2.8	2.4	2.1	0.8	1.5	1.3	1.2
25.7	26.1	25.7	24.9	25.0	23.4	23.5	23.6	23.7
20.3	20.7	21.7	20.5	19.2	19.0	19.0	19.3	19.6
5.3	5.4	4.0	4.5	5.8	4.4	4.5	4.3	4.1
82.7	80.9	84.0	82.3	79.6	78.7	:	:	:
-0.3	0.6	2.3	0.9	-0.3	-1.1	-0.8	-0.4	0.0
-0.4	0.5	1.8	0.4	-0.7	-1.2	-0.8	-0.5	-0.2
106.0	105.5	108.9	98.8	98.0	100.2	107.9	114.7	119.9
2.2	2.3	2.4	2.0	1.5	1.2	1.2	1.5	1.7
2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.5
0.4	0.9	0.5	0.6	1.8	1.1	0.9	0.7	0.9
0.2	1.8	1.9	-0.7	1.2	1.2	2.1	1.7	1.7
0.1	1.5	1.7	-0.9	0.6	0.8	1.8	1.5	1.4
1.3	1.2	1.9	1.5	-0.3	0.0	0.4	0.7	0.8
62.8	63.1	63.0	63.4	63.4	63.7	63.8	63.9	64.1
56.8	57.5	58.5	59.2	58.7	58.5	58.5	58.7	58.9
53.9	55.7	57.4	55.7	55.3	54.7	:	:	:
9.3	8.6	6.9	6.7	7.3	8.0	8.2	8.1	7.9
1.0	3.4	2.1	3.6	3.7	2.5	2.7	2.5	2.8
0.1	2.1	-0.3	1.1	2.0	0.8	0.7	0.6	1.0
0.8	1.6	0.1	4.4	2.5	1.3	0.6	0.7	1.0
-0.8	0.2	-1.1	2.6	0.7	-0.6	-1.4	-1.3	-0.9
1.7	1.4	1.3	1.8	1.8	1.9	2.0	2.1	2.0
0.9	1.2	2.3	2.5	1.7	1.8	2.0	1.9	1.8
1.0	-0.7	-2.2	0.1	0.9	-0.2	-0.2	0.0	0.0
50.7	50.1	49.2	49.3	50.2	50.9	50.8	50.7	50.8
50.1	49.7	49.4	49.9	50.3	51.3	50.7	50.4	50.2
-0.6	-0.4	0.2	0.6	0.1	0.4	-0.1	-0.3	-0.5
-0.3	-0.7	-0.9	0.2	0.6	1.1	0.4	0.0	-0.4
119.6	114.9	109.1	108.0	105.4	100.0	95.8	94.4	90.9
4.8	4.8	5.6	5.1	5.0	4.2	:	:	:
3.5	3.0	4.4	4.3	3.3	2.3	:	:	:
1.2	1.8	1.2	0.9	1.7	1.9	:	:	:
3.0	3.3	4.3	3.3	3.1	2.2	:	:	:
0.3	-1.4	-3.6	0.6	1.0	4.1	1.0	0.3	:
92.7	91.7	87.0	89.0	90.4	93.6	94.7	94.4	:

Table 79

Main economic indicators 1961–2006

Germany

	1961–70	1971–85	1986–90	1991–95	1996–2000
1. Growth of GDP and its components (real) ⁽¹⁾					
1.1. Private consumption	5.1	2.5	3.7	1.9	1.8
1.2. Government consumption	4.4	2.9	1.7	2.2	1.2
1.3. Gross fixed capital formation	4.2	0.3	4.7	1.6	1.9
1.4. of which equipment	6.3	0.9	6.3	-2.6	6.3
1.5. of which construction	3.3	-0.2	3.5	4.0	-1.3
1.6. Exports of goods and services	7.7	5.1	5.2	4.2	8.4
1.7. Imports of goods and services	9.9	4.1	6.5	4.1	7.9
1.8. GDP	4.4	2.2	3.4	2.0	1.8
2. Demand components: Contribution to changes in GDP (%) ⁽²⁾					
2.1. Consumption	3.4	1.9	2.3	1.5	1.3
2.2. Investment	1.1	0.1	1.0	0.4	0.4
2.3. Stockbuilding	0.0	-0.1	0.1	0.0	-0.1
2.4. Domestic demand	4.6	1.9	3.4	1.8	1.6
2.5. Exports	1.2	1.1	1.4	1.2	2.4
2.6. Final demand	5.8	3.0	4.9	3.0	3.9
2.7. Imports	-1.3	-0.7	-1.4	-1.0	-2.1
2.8. Net exports	-0.1	0.4	0.0	0.2	0.2
3. Gross savings and investment in % of GDP at current prices ⁽²⁾					
3.1. Private sector savings	:	20.9	22.9	21.4	20.6
3.2. Net savings of households	:	:	8.3	7.9	6.6
3.3. General government savings	:	2.8	2.1	1.0	0.5
3.4. National savings	27.3	23.7	25.0	22.4	21.1
3.5. Gross capital formation	27.4	22.8	20.9	23.3	21.6
3.6. Current account	0.7	0.9	4.1	-0.9	-0.5
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽²⁾ ⁽³⁾	:	80.4	86.0	83.6	84.2
4.2. Trend GDP gap ⁽²⁾	-0.3	0.2	-1.2	2.0	-0.1
4.3. Potential GDP gap ⁽²⁾	:	-0.2	-0.7	1.4	-0.5
4.4. Profitability index (1961–73 = 100) ⁽¹⁾	104.1	75.5	78.4	82.3	89.2
5. Growth potential					
5.1. Growth of net capital stock (real) ⁽¹⁾	5.3	2.9	1.9	2.5	2.0
5.2. Net capital/output ratio (real) ⁽²⁾	3.2	3.5	3.5	3.3	3.5
5.3. Growth of capital intensity ⁽¹⁾	5.1	2.7	0.0	2.5	1.3
5.4. Labour productivity growth ⁽¹⁾	4.2	2.0	1.5	2.1	1.1
5.5. Total factor productivity growth ⁽¹⁾	2.3	1.0	1.5	1.1	0.6
6. Employment and unemployment					
6.1. Employment ⁽¹⁾	0.1	0.0	1.4	-0.2	0.8
6.2. Activity rate ⁽²⁾	68.8	66.6	66.6	72.1	73.0
6.3. Employment rate (benchmark) ⁽²⁾	68.4	64.3	62.6	67.1	66.8
6.4. Employment rate (full-time equivalent) ⁽²⁾	:	:	:	61.0	58.7
6.5. Unemployment rate (Eurostat definition) ⁽²⁾	0.6	3.5	5.9	7.1	8.7
7. Prices and wages ⁽¹⁾					
7.1. Nominal wages per head	8.6	6.6	3.2	5.4	1.3
7.2. Real wages per head ⁽⁴⁾	5.7	1.9	1.8	2.0	0.0
7.3. Nominal unit labour costs	4.2	4.5	1.7	3.3	0.2
7.4. Real unit labour costs	0.4	0.0	-0.7	-0.1	-0.4
7.5. GDP deflator	3.8	4.5	2.4	3.3	0.6
7.6. Private consumption deflator	2.7	4.6	1.3	3.3	1.3
7.7. Terms of trade	1.7	-0.9	2.6	0.8	-0.8
8. General government budget, % of GDP ⁽²⁾					
8.1. Expenditure ⁽⁵⁾	:	46.6	45.0	48.6	48.6
8.2. Current revenues ⁽⁵⁾	:	44.3	43.6	45.7	46.9
8.3. Net borrowing (-) or lending (+) ⁽⁵⁾	:	-2.3	-1.4	-2.9	-1.7
8.4. Net borrowing cyclically adjusted ⁽⁵⁾	:	-2.1	-1.0	-3.5	-1.9
8.5. Debt (end of period) ⁽⁶⁾	18.0	40.7	42.3	57.0	60.2
9. Monetary conditions					
9.1. Long-term interest rate ⁽²⁾	6.8	8.1	6.8	7.3	5.2
9.2. Short-term interest rate ⁽²⁾	5.0	7.1	5.7	7.1	3.5
9.3. Yield curve (9.1–9.2) ⁽²⁾	1.8	1.0	1.2	0.2	1.7
9.4. Real long-term interest rate ⁽²⁾ ⁽⁷⁾	2.9	3.4	4.3	3.8	4.6
9.5. Nominal effective exchange rate ⁽¹⁾	1.8	3.6	4.5	2.4	-2.9
9.6. Real effective exchange rate (1995 = 100; ULC in total economy) ⁽¹⁾	77.1	88.3	86.7	91.8	88.4

⁽¹⁾ 1961–91: West Germany.

⁽²⁾ 1961–90: West Germany.

⁽³⁾ Manufacturing industry.

⁽⁴⁾ Private consumption deflator.

⁽⁵⁾ ESA 95 data.

⁽⁶⁾ Break in 1991 (ESA 95 data).

⁽⁷⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
1.8	3.7	2.0	1.7	-0.7	0.0	0.1	1.1	1.7
1.9	0.8	1.1	1.0	1.9	0.1	0.0	-0.3	0.4
3.0	4.1	2.7	-4.2	-6.4	-2.2	-1.0	2.3	3.6
9.2	7.2	10.1	-4.9	-8.6	-1.4	-0.1	6.6	8.2
-1.0	1.4	-2.6	-4.8	-5.8	-3.2	-2.2	-1.9	-1.2
7.0	5.5	13.5	5.7	4.1	1.8	10.5	6.8	5.7
9.1	8.4	10.6	1.0	-1.6	4.0	6.6	7.1	6.9
2.0	2.0	2.9	0.8	0.1	-0.1	1.9	1.5	1.7
1.4	2.3	1.4	1.2	0.0	0.0	0.0	0.6	1.0
0.7	0.9	0.6	-1.0	-1.4	-0.4	-0.2	0.4	0.7
0.3	-0.4	-0.1	-1.0	-0.4	0.9	0.3	0.1	0.1
2.4	2.8	1.9	-0.8	-1.9	0.5	0.1	1.2	1.8
2.0	1.6	4.1	1.9	1.4	0.7	3.9	2.8	2.4
4.3	4.4	6.0	1.2	-0.4	1.1	4.1	3.9	4.2
-2.4	-2.4	-3.1	-0.3	0.5	-1.3	-2.2	-2.4	-2.5
-0.4	-0.7	1.0	1.6	1.9	-0.6	1.8	0.4	-0.1
21.0	19.6	18.9	19.6	20.5	21.1	22.8	22.7	22.3
6.6	6.3	6.4	6.8	6.9	7.1	:	:	:
0.5	1.2	1.6	0.2	-0.8	-1.1	-1.5	-1.0	-0.6
21.5	20.8	20.6	19.8	19.7	19.9	21.3	21.7	21.8
21.8	21.7	21.6	19.4	17.3	17.5	17.1	17.3	17.6
-0.3	-0.8	-1.1	0.4	2.4	2.4	4.2	4.4	4.1
85.5	84.0	85.9	85.1	82.3	82.0	:	:	:
-0.5	0.1	1.5	1.0	-0.2	-1.6	-1.0	-0.8	-0.5
-0.9	-0.4	1.0	0.5	-0.4	-1.6	-1.2	-1.0	-0.9
91.2	92.8	89.6	89.9	92.3	94.4	103.4	107.0	110.1
2.0	2.1	2.1	1.6	1.1	0.9	0.8	0.9	1.0
3.5	3.5	3.5	3.5	3.5	3.6	3.5	3.5	3.5
0.9	0.9	0.3	1.2	1.7	1.9	0.7	0.1	0.3
0.9	0.8	1.1	0.4	0.7	0.9	1.8	0.7	0.9
0.5	0.5	0.9	-0.1	0.0	0.1	1.5	0.7	0.8
1.1	1.6	1.8	0.5	-0.6	-1.0	0.1	0.8	0.8
72.8	73.5	74.3	74.9	75.1	75.2	75.4	76.2	76.4
66.4	67.5	68.8	69.3	68.9	68.3	68.4	68.9	69.4
57.7	58.3	58.6	58.6	58.1	57.5	:	:	:
9.1	8.4	7.8	7.8	8.7	9.6	9.7	10.0	9.6
1.0	1.2	2.1	1.7	1.5	1.6	0.0	0.9	1.4
-0.1	0.9	0.6	0.0	0.3	0.5	-1.7	-0.4	0.3
0.2	0.3	1.0	1.3	0.8	0.7	-1.7	0.2	0.4
-0.9	-0.2	1.2	0.0	-0.7	-0.4	-2.7	-0.8	-0.5
1.1	0.5	-0.3	1.3	1.5	1.1	1.0	1.0	0.9
1.1	0.3	1.5	1.6	1.1	1.0	1.7	1.3	1.1
2.3	0.2	-4.1	0.1	1.9	1.6	0.4	-0.2	-0.3
48.8	48.7	45.7	48.3	48.7	48.8	47.5	46.6	45.9
46.6	47.3	47.1	45.5	45.1	45.0	43.5	43.2	43.0
-2.2	-1.5	1.3	-2.8	-3.7	-3.8	-3.9	-3.4	-2.9
-1.8	-1.3	-1.7	-3.1	-3.5	-3.0	-3.4	-2.9	-2.4
60.9	61.2	60.2	59.4	60.9	64.2	65.9	67.2	67.9
4.6	4.5	5.3	4.8	4.8	4.1	:	:	:
3.5	3.0	4.4	4.3	3.3	2.3	:	:	:
1.1	1.5	0.9	0.5	1.5	1.7	:	:	:
3.4	4.0	5.5	3.4	3.2	2.9	:	:	:
0.6	-2.1	-4.9	0.6	1.5	5.3	1.5	0.3	:
88.9	86.1	81.1	80.3	80.6	83.6	82.5	81.4	:

Table 80

Main economic indicators 1961–2006

Greece

	1961–73	1974–85	1986–90	1991–95	1996–2000
1. Growth of GDP and its components (real)					
1.1. Private consumption	6.8	3.3	3.2	1.9	2.6
1.2. Government consumption	6.2	5.0	-0.1	0.5	4.4
1.3. Gross fixed capital formation	9.6	-2.2	2.3	-0.2	9.0
1.4. of which equipment	12.8	0.7	5.4	4.6	15.9
1.5. of which construction	8.9	-3.3	0.8	-2.8	5.4
1.6. Exports of goods and services	11.5	5.5	3.6	4.3	12.0
1.7. Imports of goods and services	12.8	3.0	8.4	3.5	12.1
1.8. GDP	8.5	1.7	1.2	1.2	3.4
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	4.8	2.2	2.2	1.4	2.6
2.2. Investment	2.4	-0.2	0.3	0.0	1.9
2.3. Stockbuilding	1.3	-0.2	0.0	0.1	0.0
2.4. Domestic demand	9.4	1.6	2.3	1.4	4.5
2.5. Exports	0.8	0.6	0.5	0.7	2.5
2.6. Final demand	10.2	2.2	2.8	2.1	7.0
2.7. Imports	-1.6	-0.4	-1.5	-0.8	-3.5
2.8. Net exports	-0.8	0.2	-1.0	-0.1	-1.1
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	22.6	29.4	29.3	26.9	18.2
3.2. Net savings of households	:	:	:	:	5.7
3.3. General government savings	3.7	-1.6	-7.8	-6.8	-1.0
3.4. National savings	26.2	27.8	21.5	20.1	17.1
3.5. Gross capital formation	28.1	27.1	22.6	20.8	21.5
3.6. Current account	-1.8	0.3	-1.4	-0.5	-4.4
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	76.4	76.5	75.9
4.2. Trend GDP gap	0.6	-0.1	-0.6	-0.3	-1.0
4.3. Potential GDP gap	:	0.2	-1.1	-1.9	-1.7
4.4. Profitability index (1961–73 = 100)	100.0	81.9	63.6	83.4	88.1
5. Growth potential					
5.1. Growth of net capital stock (real)	8.0	4.7	2.7	2.5	2.9
5.2. Net capital/output ratio (real)	2.8	3.5	4.2	4.4	4.5
5.3. Growth of capital intensity	8.5	3.7	2.0	1.9	1.9
5.4. Labour productivity growth	9.0	0.7	0.5	0.7	2.5
5.5. Total factor productivity growth	6.0	-0.5	-0.2	0.0	1.8
6. Employment and unemployment					
6.1. Employment	-0.5	1.0	0.7	0.5	0.9
6.2. Activity rate	60.1	57.3	58.7	58.3	61.9
6.3. Employment rate (benchmark)	57.4	55.1	54.8	53.4	55.3
6.4. Employment rate (full-time equivalent)	:	:	:	53.4	54.6
6.5. Unemployment rate (Eurostat definition)	4.4	3.8	6.6	8.3	10.6
7. Prices and wages					
7.1. Nominal wages per head	10.1	21.5	16.8	12.1	7.7
7.2. Real wages per head ⁽²⁾	6.4	2.7	-0.7	-1.5	2.8
7.3. Nominal unit labour costs	1.0	20.6	16.2	11.3	5.1
7.4. Real unit labour costs	-3.2	1.3	-0.8	-2.3	0.0
7.5. GDP deflator	4.4	19.1	17.2	13.9	5.1
7.6. Private consumption deflator	3.6	18.2	17.6	13.8	4.8
7.7. Terms of trade	0.0	-1.3	1.9	1.0	0.1
8. General government budget, % of GDP					
8.1. Expenditure ⁽³⁾	23.2	32.1	43.4	49.8	48.9
8.2. Current revenues ⁽³⁾	23.6	27.1	31.4	38.6	44.9
8.3. Net borrowing (-) or lending (+) ⁽³⁾	0.5	-5.0	-12.0	-11.2	-4.0
8.4. Net borrowing cyclically adjusted ⁽³⁾	0.4	-4.9	-11.8	-10.5	-3.3
8.5. Debt (end of period) ⁽⁴⁾	17.5	53.6	79.6	108.7	114.0
9. Monetary conditions					
9.1. Long-term interest rate	:	13.6	:	:	9.1
9.2. Short-term interest rate	:	:	17.8	22.1	11.7
9.3. Yield curve (9.1–9.2)	:	:	:	:	-2.6
9.4. Real long-term interest rate ⁽⁵⁾	:	-4.6	:	:	3.7
9.5. Nominal effective exchange rate	-1.3	-9.3	-10.8	-7.2	-3.5
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	120.4	93.1	88.3	92.4	105.4

⁽¹⁾ Manufacturing industry 2000.

⁽²⁾ Private consumption deflator.

⁽³⁾ Break in 1988 (ESA 95 data), 1986–90 average according to the former definition.

⁽⁴⁾ Break in 1990 (ESA 95 data).

⁽⁵⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
3.5	2.5	2.0	3.0	3.0	4.4	3.5	3.2	3.0
1.7	2.1	14.8	-3.1	5.3	-2.5	5.9	1.5	1.0
10.6	11.0	8.0	6.5	5.7	13.7	4.9	3.6	3.5
16.5	21.4	14.1	4.9	6.9	18.3	4.2	4.5	4.2
9.2	5.4	3.6	7.0	3.7	10.9	4.0	3.0	3.0
5.3	18.1	14.1	-1.1	-7.7	1.0	10.5	6.0	6.0
9.2	15.0	15.1	-5.2	-2.9	4.8	9.4	4.5	3.9
3.4	3.4	4.5	4.3	3.6	4.5	3.8	3.3	3.3
2.8	2.1	3.6	1.6	2.9	2.6	3.2	2.4	2.2
2.1	2.4	1.9	1.6	1.4	3.4	1.3	1.0	1.0
-0.1	-0.4	0.5	-0.4	0.3	-0.1	0.0	-0.1	0.0
4.9	4.2	6.2	2.6	4.6	5.8	4.6	3.3	3.2
1.1	3.8	3.4	-0.3	-1.9	0.2	2.3	1.4	1.4
6.0	8.0	9.6	2.3	2.7	6.0	6.8	4.7	4.6
-2.7	-4.6	-5.1	1.9	1.0	-1.5	-3.0	-1.5	-1.3
-1.6	-0.8	-1.7	1.7	-0.9	-1.3	-0.7	-0.1	0.1
17.8	15.2	15.9	16.5	15.9	18.0	20.1	19.8	20.0
6.6	4.4	3.3	2.1	1.3	1.6	:	:	:
0.1	1.6	-0.2	0.2	0.3	-0.5	-2.0	-1.1	-0.6
17.8	16.8	15.7	16.7	16.3	17.4	18.1	18.6	19.4
21.3	22.5	23.9	23.8	24.0	25.7	25.7	25.5	25.3
-3.5	-5.7	-8.2	-7.1	-7.7	-8.3	-7.5	-6.8	-5.9
75.8	75.7	78.1	77.6	77.0	76.5	:	:	:
-1.0	-0.8	0.1	0.7	0.6	1.4	1.5	1.1	0.7
-1.7	-1.3	-0.4	0.5	0.2	1.2	1.6	1.7	1.9
86.9	87.0	90.2	96.8	96.4	102.0	101.8	101.6	101.9
2.9	3.2	3.5	3.7	3.8	4.3	4.3	4.3	4.2
4.5	4.5	4.4	4.4	4.4	4.4	4.4	4.5	4.5
-4.3	3.2	3.2	4.0	3.7	2.9	2.5	3.2	3.2
-3.8	3.3	4.2	4.6	3.6	3.1	2.0	2.3	2.2
-2.3	2.2	3.1	3.2	2.3	2.1	1.1	1.1	1.1
3.6	-0.5	0.5	-0.8	1.4	2.2	1.8	1.0	1.0
62.9	63.2	62.6	61.7	61.8	62.7	63.3	64.2	64.8
56.1	55.8	55.8	55.4	55.7	57.0	58.0	58.5	59.0
55.0	54.5	55.3	55.1	56.3	57.4	:	:	:
10.9	11.8	11.0	10.4	10.0	9.3	8.5	9.0	9.0
1.8	6.5	5.8	5.2	9.2	4.0	6.5	5.5	5.3
-2.6	4.1	2.4	1.8	5.4	0.6	3.3	2.5	2.4
5.8	3.1	1.6	0.6	5.5	0.9	4.4	3.2	3.0
0.5	0.1	-1.8	-2.8	1.4	-2.5	0.8	0.0	-0.2
5.2	3.0	3.4	3.5	4.0	3.5	3.6	3.1	3.2
4.5	2.3	3.3	3.3	3.6	3.4	3.1	2.9	2.8
0.3	0.2	-1.2	-0.5	1.5	0.8	0.7	0.6	1.4
47.8	47.6	52.0	50.2	49.0	48.2	49.8	48.5	48.2
45.3	45.8	47.9	46.5	45.3	43.6	44.3	44.9	45.2
-2.5	-1.8	-4.1	-3.7	-3.7	-4.6	-5.5	-3.6	-3.0
-1.8	-1.2	-3.9	-4.3	-3.8	-5.1	-6.1	-4.4	-3.8
105.8	105.2	114.0	114.7	112.5	109.9	112.2	111.9	110.2
8.5	6.3	6.1	5.3	5.1	4.3	:	:	:
14.0	10.1	7.7	4.3	3.3	2.3	:	:	:
-5.5	-3.8	-1.6	1.0	1.8	1.9	:	:	:
3.1	3.2	2.6	1.7	1.1	0.7	:	:	:
-5.9	-0.5	-6.4	-0.7	1.0	3.7	1.0	0.2	:
107.0	108.5	101.3	98.6	103.1	105.9	111.0	113.2	:

Table 81

Main economic indicators 1961–2006

Spain

	1961–73	1974–85	1986–90	1991–95	1996–2000
1. Growth of GDP and its components (real)					
1.1. Private consumption	7.2	1.5	4.6	1.2	3.7
1.2. Government consumption	4.5	4.8	6.4	3.0	3.5
1.3. Gross fixed capital formation	10.5	-0.6	10.9	-0.5	6.3
1.4. of which equipment	:	-0.2	11.9	-2.5	9.1
1.5. of which construction	:	-1.0	11.0	0.1	4.6
1.6. Exports of goods and services	11.9	6.0	3.1	9.9	10.3
1.7. Imports of goods and services	17.3	2.5	17.0	6.7	11.5
1.8. GDP	7.2	1.8	4.5	1.5	3.9
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	5.4	1.6	3.8	1.2	2.8
2.2. Investment	2.2	-0.1	2.2	-0.1	1.4
2.3. Stockbuilding	0.2	-0.1	0.2	-0.1	0.0
2.4. Domestic demand	7.8	1.4	6.2	1.1	4.3
2.5. Exports	1.2	0.8	0.5	1.8	2.7
2.6. Final demand	9.0	2.2	6.7	2.8	6.9
2.7. Imports	-1.8	-0.4	-2.2	-1.3	-3.1
2.8. Net exports	-0.6	0.5	-1.7	0.5	-0.4
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	:	21.3	21.8	21.6	21.1
3.2. Net savings of households	:	:	:	:	4.7
3.3. General government savings	:	1.2	1.3	-0.7	1.3
3.4. National savings	25.4	22.5	23.1	20.9	22.4
3.5. Gross capital formation	27.5	24.5	24.5	22.9	23.5
3.6. Current account	-0.7	-1.5	-1.5	-2.0	-1.2
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	59.7	76.0	79.2
4.2. Trend GDP gap	0.2	-0.2	1.1	0.0	-0.4
4.3. Potential GDP gap	:	-0.9	0.0	-1.7	-1.4
4.4. Profitability index (1961–73 = 100)	100.0	83.3	112.9	104.9	114.5
5. Growth potential					
5.1. Growth of net capital stock (real)	4.9	3.7	3.8	3.4	3.5
5.2. Net capital/output ratio (real)	2.4	2.6	2.7	2.9	2.9
5.3. Growth of capital intensity	4.2	5.1	0.2	3.8	0.4
5.4. Labour productivity growth	6.5	3.2	0.9	1.9	0.7
5.5. Total factor productivity growth	4.9	1.4	0.8	0.5	0.6
6. Employment and unemployment					
6.1. Employment	0.7	-1.3	3.6	-0.3	3.0
6.2. Activity rate	62.6	58.5	59.2	61.6	63.7
6.3. Employment rate (benchmark)	62.4	54.0	50.4	51.5	54.4
6.4. Employment rate (full-time equivalent)	:	:	48.5	49.5	52.4
6.5. Unemployment rate (Eurostat definition)	0.8	8.2	15.4	17.1	14.9
7. Prices and wages					
7.1. Nominal wages per head	14.6	18.0	8.3	7.2	3.1
7.2. Real wages per head ⁽²⁾	7.6	2.4	1.6	1.5	0.4
7.3. Nominal unit labour costs	7.6	14.3	7.3	5.2	2.4
7.4. Real unit labour costs	0.5	-0.6	0.0	-0.2	-0.4
7.5. GDP deflator	7.2	15.0	7.4	5.4	2.9
7.6. Private consumption deflator	6.5	15.3	6.6	5.6	2.8
7.7. Terms of trade	3.0	-2.2	7.4	0.8	-0.2
8. General government budget, % of GDP					
8.1. Expenditure ⁽³⁾	:	31.0	41.0	45.4	41.4
8.2. Current revenues ⁽³⁾	:	28.6	36.9	39.7	38.8
8.3. Net borrowing (-) or lending (+) ⁽³⁾	:	-2.6	-4.1	-5.6	-2.6
8.4. Net borrowing cyclically adjusted ⁽³⁾	:	-2.5	-4.5	-5.6	-2.5
8.5. Debt (end of period) ⁽⁴⁾	12.6	42.3	43.6	63.9	61.1
9. Monetary conditions					
9.1. Long-term interest rate	:	:	12.9	11.1	6.0
9.2. Short-term interest rate	:	:	13.9	11.1	4.9
9.3. Yield curve (9.1–9.2)	:	:	-1.0	0.0	1.1
9.4. Real long-term interest rate ⁽⁵⁾	:	:	5.1	5.4	3.1
9.5. Nominal effective exchange rate	-0.8	-4.9	2.8	-3.9	-1.8
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	76.2	90.4	95.8	106.6	98.6

⁽¹⁾ Manufacturing industry 2000.

⁽²⁾ Private consumption deflator.

⁽³⁾ Break in 1995 (ESA 95 data), 1991–95 average according to the former definition.

⁽⁴⁾ Break in 1990 (ESA 95 data).

⁽⁵⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
4.4	4.7	4.1	2.8	2.9	2.9	3.2	2.8	2.8
3.7	4.2	5.6	3.5	4.1	3.9	4.2	4.1	4.1
10.0	8.8	5.7	3.0	1.7	3.2	3.3	3.7	4.0
14.5	7.8	4.7	-1.2	-5.4	1.0	1.7	4.2	5.3
7.8	9.0	6.2	5.3	5.2	4.3	4.2	3.6	3.2
8.2	7.7	10.1	3.6	1.2	2.6	4.5	5.2	5.7
13.2	12.6	10.5	3.9	3.1	4.8	7.2	7.3	7.5
4.3	4.2	4.4	2.8	2.2	2.5	2.6	2.6	2.7
3.2	3.5	3.4	2.3	2.4	2.4	2.7	2.5	2.5
2.2	2.1	1.4	0.7	0.4	0.8	0.8	0.9	1.0
0.2	0.1	-0.1	-0.1	0.0	0.1	0.1	0.1	0.1
5.6	5.6	4.7	3.0	2.9	3.3	3.7	3.5	3.6
2.2	2.2	2.9	1.1	0.4	0.8	1.4	1.6	1.8
7.8	7.8	7.6	4.1	3.2	4.1	5.0	5.2	5.4
-3.5	-3.6	-3.2	-1.3	-1.0	-1.6	-2.4	-2.6	-2.8
-1.3	-1.4	-0.3	-0.2	-0.6	-0.8	-1.1	-1.0	-0.9
21.2	19.6	19.2	18.7	18.7	18.3	18.7	19.0	19.4
4.6	3.7	3.2	2.7	2.8	2.7	:	:	:
1.2	2.9	3.1	3.7	4.1	4.4	4.1	4.2	4.4
22.4	22.5	22.3	22.5	22.8	22.6	22.8	23.1	23.8
23.3	24.6	25.7	25.6	25.5	26.0	27.0	28.0	28.8
-0.9	-2.1	-3.3	-3.1	-2.7	-3.3	-4.2	-4.8	-5.0
80.3	79.7	80.6	79.6	77.2	78.9	:	:	:
-0.4	0.6	1.9	1.6	0.9	0.4	0.2	-0.1	-0.2
-1.2	-0.4	0.4	-0.3	-1.0	-1.7	-2.2	-2.7	-2.9
116.5	116.8	112.6	112.3	111.8	110.5	107.0	105.3	105.0
3.5	3.9	4.1	3.9	3.8	3.8	3.8	3.8	3.8
2.9	2.9	2.9	2.9	3.0	3.0	3.1	3.1	3.1
-0.5	0.2	0.3	1.4	2.1	2.0	1.8	1.8	1.9
0.2	0.5	0.7	0.3	0.5	0.7	0.6	0.7	0.8
0.4	0.4	0.5	-0.2	-0.2	0.0	0.0	0.0	0.1
3.9	3.5	3.5	2.4	1.5	1.8	1.9	1.9	1.8
64.0	64.2	64.9	65.4	66.5	67.4	68.3	69.1	69.9
54.5	56.1	57.6	58.5	59.0	59.8	60.6	61.5	62.4
52.5	54.2	55.7	56.7	57.3	58.0	58.8	59.7	60.5
15.2	12.8	11.3	10.6	11.3	11.3	11.1	10.8	10.6
2.7	2.7	3.5	3.8	4.2	4.2	3.7	4.0	3.6
0.5	0.3	0.3	0.5	0.8	1.1	0.6	1.2	1.0
2.5	2.1	2.8	3.5	3.7	3.5	3.1	3.4	2.7
0.1	-0.6	-0.6	-0.6	-0.8	-0.5	-0.7	-0.2	-0.7
2.4	2.8	3.4	4.2	4.5	4.0	3.8	3.6	3.4
2.2	2.4	3.1	3.3	3.4	3.1	3.1	2.8	2.5
1.0	-0.3	-2.1	2.2	2.5	0.8	-1.2	-0.7	0.2
41.4	40.2	39.9	39.5	39.9	39.6	40.5	40.1	40.2
38.3	39.0	39.1	39.2	39.8	40.0	39.9	40.0	40.2
-3.0	-1.2	-0.9	-0.4	-0.1	0.4	-0.6	-0.1	0.0
-2.9	-1.4	-1.7	-1.0	-0.5	0.2	-0.7	-0.1	0.0
64.6	63.1	61.1	57.5	54.4	50.7	48.2	45.5	42.9
4.8	4.7	5.5	5.1	5.0	4.1	:	:	:
4.3	3.0	4.4	4.3	3.3	2.3	:	:	:
0.6	1.8	1.1	0.9	1.6	1.8	:	:	:
2.4	1.9	2.0	0.9	0.4	0.1	:	:	:
-0.1	-1.6	-3.5	0.4	1.1	4.0	1.0	0.3	:
99.1	98.2	95.5	96.6	99.2	104.5	107.9	110.2	:

Table 82

Main economic indicators 1961–2006

France

	1961–73	1974–85	1986–90	1991–95	1996–2000
1. Growth of GDP and its components (real)					
1.1. Private consumption	5.3	2.2	3.0	0.7	2.1
1.2. Government consumption	4.0	3.2	2.4	2.3	1.7
1.3. Gross fixed capital formation	7.7	0.5	6.4	-1.2	4.5
1.4. of which equipment	:	2.9	9.0	-0.1	7.9
1.5. of which construction	:	-1.2	4.1	-2.1	1.6
1.6. Exports of goods and services	9.1	4.6	5.2	5.3	8.0
1.7. Imports of goods and services	10.4	2.4	7.3	3.4	8.1
1.8. GDP	5.4	2.2	3.3	1.1	2.7
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	3.8	1.9	2.3	0.9	1.6
2.2. Investment	1.7	0.1	1.2	-0.2	0.9
2.3. Stockbuilding	0.1	-0.1	0.1	0.0	0.1
2.4. Domestic demand	5.6	1.9	3.6	0.7	2.6
2.5. Exports	1.3	0.8	0.9	1.1	2.0
2.6. Final demand	6.9	2.7	4.5	1.7	4.6
2.7. Imports	-1.5	-0.4	-1.2	-0.7	-1.9
2.8. Net exports	-0.2	0.4	-0.4	0.4	0.1
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	22.0	:	18.8	20.3	20.1
3.2. Net savings of households	:	:	4.3	6.2	6.6
3.3. General government savings	4.2	:	1.8	-0.5	1.0
3.4. National savings	26.2	21.9	20.6	19.8	21.1
3.5. Gross capital formation	26.5	23.7	22.2	20.0	19.2
3.6. Current account	0.6	-1.7	-1.6	-0.1	1.9
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	82.8	85.9	83.4	85.0
4.2. Trend GDP gap	0.2	-0.2	0.5	0.1	-0.6
4.3. Potential GDP gap	:	-0.6	-0.3	-0.5	-0.2
4.4. Profitability index (1961–73 = 100)	100.0	75.2	98.9	106.7	121.4
5. Growth potential					
5.1. Growth of net capital stock (real)	4.5	3.1	2.7	2.0	1.7
5.2. Net capital/output ratio (real)	2.7	2.9	2.9	3.0	3.0
5.3. Growth of capital intensity	3.8	3.0	1.9	2.5	0.5
5.4. Labour productivity growth	4.7	2.2	2.4	1.5	1.5
5.5. Total factor productivity growth	3.2	1.1	1.7	0.6	1.3
6. Employment and unemployment					
6.1. Employment	0.7	0.1	0.9	-0.1	1.4
6.2. Activity rate	68.0	68.1	66.6	67.2	68.6
6.3. Employment rate (benchmark)	66.8	63.9	60.4	60.2	61.3
6.4. Employment rate (full-time equivalent)	:	:	58.6	57.9	58.0
6.5. Unemployment rate (Eurostat definition)	2.0	6.2	9.3	10.6	10.8
7. Prices and wages					
7.1. Nominal wages per head	9.9	12.9	4.3	3.0	2.1
7.2. Real wages per head ⁽²⁾	5.0	2.2	1.2	0.4	0.9
7.3. Nominal unit labour costs	5.0	10.5	1.9	1.4	0.6
7.4. Real unit labour costs	-0.1	0.4	-1.5	-0.7	-0.4
7.5. GDP deflator	5.1	10.0	3.4	2.1	1.0
7.6. Private consumption deflator	4.7	10.5	3.1	2.5	1.2
7.7. Terms of trade	0.3	-2.4	1.9	0.3	-0.3
8. General government budget, % of GDP					
8.1. Expenditure ⁽³⁾	36.7	:	51.4	54.0	54.0
8.2. Current revenues ⁽³⁾	37.2	:	49.1	49.2	51.4
8.3. Net borrowing (-) or lending (+) ⁽³⁾	0.4	:	-2.3	-4.7	-2.6
8.4. Net borrowing cyclically adjusted ⁽³⁾	:	:	-2.2	-4.5	-2.5
8.5. Debt (end of period) ⁽⁴⁾	:	30.8	35.1	54.6	56.8
9. Monetary conditions					
9.1. Long-term interest rate	6.9	12.2	9.2	7.8	5.3
9.2. Short-term interest rate	5.7	11.0	8.7	8.2	3.7
9.3. Yield curve (9.1–9.2)	1.2	1.2	0.4	-0.4	1.6
9.4. Real long-term interest rate ⁽⁵⁾	1.8	2.0	5.6	5.6	4.2
9.5. Nominal effective exchange rate	-0.7	-2.5	2.0	1.8	-1.9
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	115.5	107.4	99.5	96.3	93.9

⁽¹⁾ Manufacturing industry.

⁽²⁾ Private consumption deflator.

⁽³⁾ Break in 1978 (ESA 95 data), 1974–85 average according to the former definition.

⁽⁴⁾ Break in 1990 (ESA 95 data).

⁽⁵⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
3.4	3.2	2.6	2.7	1.5	1.5	2.4	1.7	2.1
-0.1	1.5	2.8	2.9	4.6	2.4	2.5	1.6	2.0
7.0	8.3	7.8	1.9	-2.0	-0.2	3.6	3.7	3.4
12.5	11.9	10.4	2.5	-3.5	-0.1	5.9	5.9	5.4
1.9	6.1	7.1	1.4	-1.5	0.3	3.2	2.3	2.0
8.3	4.3	12.6	1.6	1.9	-2.5	3.9	6.2	6.6
11.6	6.2	14.6	1.3	2.9	-0.1	7.8	6.9	7.0
3.4	3.2	3.8	2.1	1.2	0.5	2.4	2.2	2.2
1.8	2.1	2.1	2.2	1.9	1.4	1.9	1.3	1.6
1.3	1.6	1.5	0.4	-0.4	0.0	0.7	0.7	0.7
0.8	-0.1	0.4	-0.6	-0.1	-0.2	0.7	0.3	0.0
3.9	3.6	4.0	2.0	1.4	1.1	3.4	2.4	2.4
2.1	1.1	3.4	0.5	0.5	-0.7	1.1	1.8	1.9
6.0	4.7	7.4	2.4	1.9	0.4	4.5	4.2	4.3
-2.6	-1.5	-3.6	-0.4	-0.8	0.0	-2.1	-2.0	-2.1
-0.5	-0.3	-0.2	0.1	-0.2	-0.7	-1.0	-0.2	-0.2
20.4	20.1	20.0	19.8	20.7	20.0	20.0	20.1	20.4
6.7	6.5	6.8	7.1	7.6	7.0	:	:	:
1.1	2.1	2.3	2.2	0.3	-0.7	-0.4	-0.1	0.0
21.4	22.3	22.4	22.0	21.0	19.3	19.6	20.0	20.4
19.1	19.7	21.1	20.5	19.5	18.9	20.8	22.5	22.1
2.4	2.6	1.3	1.5	1.5	0.4	-0.2	-0.5	-0.3
85.0	85.3	87.5	87.4	85.3	84.8	:	:	:
-0.8	0.2	1.8	1.8	0.9	-0.7	-0.3	-0.2	-0.1
-0.3	0.7	1.9	1.7	0.8	-0.7	-0.4	-0.5	-0.7
124.8	126.2	124.5	122.4	121.9	119.6	122.6	123.8	124.2
1.7	2.0	2.2	2.1	1.7	1.6	1.8	1.9	2.0
3.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
0.4	0.1	-0.6	0.2	0.8	1.5	2.0	1.3	1.3
2.1	1.3	1.0	0.2	0.2	0.4	2.7	1.6	1.5
2.0	1.3	1.2	0.2	0.0	-0.2	1.9	1.1	1.0
1.5	2.0	2.7	1.7	0.7	0.2	0.0	0.6	0.8
68.4	69.1	69.6	70.0	70.5	70.7	70.6	70.6	70.6
61.0	62.0	63.4	64.2	64.3	64.1	63.8	63.9	64.1
57.6	58.5	59.9	60.8	61.0	60.8	60.4	60.4	60.5
11.1	10.5	9.1	8.4	8.9	9.4	9.6	9.5	9.3
1.9	2.3	1.8	2.7	2.4	2.3	3.3	2.9	2.9
1.2	1.8	0.3	1.0	0.5	0.3	1.6	0.9	1.2
-0.2	0.9	0.9	2.5	2.2	1.9	0.6	1.3	1.4
-1.2	0.4	-0.1	0.7	-0.1	0.4	-1.2	-0.5	-0.3
0.9	0.5	1.0	1.8	2.3	1.5	1.9	1.7	1.7
0.7	0.4	1.5	1.6	1.9	2.0	1.7	1.9	1.7
1.2	0.2	-2.9	1.1	2.3	0.2	1.4	-0.6	0.4
53.7	53.4	52.5	52.5	53.5	54.5	54.2	53.9	53.8
51.1	51.7	51.2	50.9	50.2	50.4	50.5	50.9	50.4
-2.7	-1.8	-1.4	-1.5	-3.2	-4.1	-3.7	-3.0	-3.3
-2.5	-2.0	-2.2	-2.3	-3.6	-3.8	-3.5	-2.8	-3.1
59.5	58.5	56.8	56.5	58.8	63.7	64.9	65.5	66.3
4.6	4.6	5.4	4.9	4.9	4.1	:	:	:
3.6	3.0	4.4	4.3	3.3	2.3	:	:	:
1.1	1.6	1.0	0.7	1.5	1.8	:	:	:
3.7	4.0	4.4	3.1	2.5	2.6	:	:	:
1.0	-2.0	-4.5	0.5	1.4	4.8	1.3	0.3	:
94.8	92.5	87.3	87.5	89.0	93.2	94.3	94.2	:

Table 83

Main economic indicators 1961–2006

Ireland

	1961–73	1974–85	1986–90	1991–95	1996–2000
1. Growth of GDP and its components (real)					
1.1. Private consumption	3.8	2.2	3.4	3.1	7.7
1.2. Government consumption	5.2	3.7	-0.7	2.7	5.9
1.3. Gross fixed capital formation	9.9	0.7	4.5	2.6	14.8
1.4. of which equipment	:	1.6	6.0	2.9	16.3
1.5. of which construction	:	0.6	3.3	3.7	13.0
1.6. Exports of goods and services	8.7	8.0	8.9	12.8	17.4
1.7. Imports of goods and services	9.7	4.4	7.1	9.9	17.6
1.8. GDP	4.4	3.8	4.6	4.7	9.8
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	3.7	2.3	2.0	2.3	4.9
2.2. Investment	1.9	0.2	0.8	0.4	2.9
2.3. Stockbuilding	0.1	0.0	0.4	-0.2	0.1
2.4. Domestic demand	5.7	2.5	3.2	2.4	7.9
2.5. Exports	2.5	3.0	4.8	8.0	15.2
2.6. Final demand	8.3	5.5	8.0	10.5	23.1
2.7. Imports	-3.8	-1.9	-3.6	-5.6	-13.1
2.8. Net exports	-1.3	1.1	1.2	2.4	2.0
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	19.0	22.9	19.9	18.6	19.9
3.2. Net savings of households	:	:	:	:	:
3.3. General government savings	0.9	-4.5	-3.4	-0.7	4.8
3.4. National savings	19.9	18.4	16.5	17.9	24.6
3.5. Gross capital formation	21.5	25.4	17.8	17.0	23.3
3.6. Current account	-2.5	-7.9	-1.2	1.9	1.4
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	73.5	76.2	76.9
4.2. Trend GDP gap	-0.3	1.0	-0.7	-3.4	1.5
4.3. Potential GDP gap	:	-0.1	-0.5	-2.5	1.8
4.4. Profitability index (1961–73 = 100)	100.0	81.4	108.3	118.4	175.0
5. Growth potential					
5.1. Growth of net capital stock (real)	4.9	4.8	2.5	2.2	4.9
5.2. Net capital/output ratio (real)	3.1	3.4	3.5	3.1	2.5
5.3. Growth of capital intensity	4.8	4.7	1.4	0.5	-0.8
5.4. Labour productivity growth	4.3	3.7	3.5	2.9	3.8
5.5. Total factor productivity growth	2.5	1.9	2.9	2.7	4.1
6. Employment and unemployment					
6.1. Employment	0.1	0.3	1.0	2.0	5.5
6.2. Activity rate	66.2	62.1	61.1	61.7	65.4
6.3. Employment rate (benchmark)	62.5	55.6	51.6	52.8	60.3
6.4. Employment rate (full-time equivalent)	:	:	:	49.2	51.5
6.5. Unemployment rate (Eurostat definition)	5.6	10.6	15.5	14.5	7.8
7. Prices and wages					
7.1. Nominal wages per head	11.3	16.7	5.6	4.6	5.4
7.2. Real wages per head ⁽²⁾	4.7	2.6	2.3	1.9	2.2
7.3. Nominal unit labour costs	6.8	12.5	2.1	1.6	1.5
7.4. Real unit labour costs	-0.4	-0.2	-1.1	-1.2	-2.6
7.5. GDP deflator	7.2	12.8	3.2	2.9	4.3
7.6. Private consumption deflator	6.3	13.8	3.2	2.7	3.1
7.7. Terms of trade	0.8	-1.7	-0.2	-1.0	-0.2
8. General government budget, % of GDP					
8.1. Expenditure ⁽³⁾	30.5	45.1	48.2	44.3	35.7
8.2. Current revenues ⁽³⁾	26.5	35.2	42.2	41.7	37.7
8.3. Net borrowing (-) or lending (+) ⁽³⁾	-3.5	-9.9	-5.9	-2.5	2.1
8.4. Net borrowing cyclically adjusted ⁽³⁾	:	-10.2	-5.6	-1.6	1.5
8.5. Debt (end of period) ⁽⁴⁾	41.8	101.7	94.2	82.0	38.3
9. Monetary conditions					
9.1. Long-term interest rate	:	14.6	10.2	8.4	5.7
9.2. Short-term interest rate	:	13.4	10.5	8.8	4.9
9.3. Yield curve (9.1–9.2)	:	1.1	-0.4	-0.4	0.9
9.4. Real long-term interest rate ⁽⁵⁾	:	1.6	6.8	5.4	1.4
9.5. Nominal effective exchange rate	-0.8	-2.8	1.5	-0.6	-1.9
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	107.2	108.8	112.6	103.8	97.0

⁽¹⁾ Manufacturing industry.

⁽²⁾ Private consumption deflator.

⁽³⁾ Break in 1985 (ESA 95 data).

⁽⁴⁾ Break in 1990 (ESA 95 data).

⁽⁵⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
7.2	8.8	9.0	5.2	2.6	2.6	3.0	3.8	4.8
5.8	7.4	8.1	11.3	8.4	2.6	2.2	2.3	2.3
16.4	15.5	7.3	-1.5	3.0	3.4	8.5	4.6	2.8
26.5	18.2	8.7	-10.4	1.0	0.5	6.0	7.5	6.5
10.1	12.4	6.6	4.7	5.3	5.0	10.5	2.9	0.1
22.0	15.2	20.4	8.4	5.7	-0.8	6.2	7.0	6.7
26.0	12.1	21.3	6.7	3.3	-2.3	5.3	6.5	6.1
8.9	11.1	9.9	6.0	6.1	3.7	5.2	4.8	5.0
4.6	5.5	5.6	4.1	2.5	1.6	1.7	2.1	2.5
3.3	3.3	1.6	-0.3	0.6	0.7	1.7	0.9	0.6
0.5	-1.4	0.6	-0.6	-0.2	0.4	-0.1	0.0	0.0
8.3	7.5	7.8	3.2	2.9	2.7	3.3	3.0	3.1
18.5	14.3	19.9	9.0	6.2	-0.8	6.5	7.3	7.2
26.8	21.8	27.7	12.2	9.1	1.9	9.7	10.3	10.2
-18.6	-10.0	-17.7	-6.1	-3.1	2.0	-4.5	-5.5	-5.2
-0.1	4.4	2.2	2.8	3.1	1.2	2.0	1.8	1.9
21.7	18.3	18.0	18.6	18.7	18.5	20.4	21.3	21.2
:	:	:	:	:	:	:	:	:
4.3	6.7	7.7	5.2	3.5	3.8	3.5	3.1	3.2
26.1	25.0	25.8	23.8	22.2	22.2	23.8	24.4	24.3
24.1	24.7	25.4	23.8	22.7	24.0	25.4	25.9	25.7
0.8	0.3	-0.4	-0.7	-1.3	-1.4	-1.6	-1.5	-1.3
76.6	75.9	78.6	78.4	75.9	75.1	:	:	:
0.7	3.8	6.1	5.0	4.3	1.7	1.0	0.2	-0.1
1.0	3.5	5.3	3.8	2.9	0.2	-0.8	-1.9	-2.6
177.8	187.2	187.1	186.0	197.0	182.3	175.8	172.0	170.9
5.2	5.9	5.7	5.1	4.8	4.8	5.1	5.1	4.9
2.5	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3
-3.1	-0.3	1.0	2.0	2.9	2.8	2.6	3.3	3.3
0.3	4.6	5.0	2.9	4.3	1.6	2.7	3.0	3.4
1.4	4.7	4.6	2.1	3.2	0.6	1.7	1.8	2.2
8.4	6.5	5.1	2.8	1.9	1.6	2.4	1.7	1.5
65.4	67.0	68.2	68.3	68.4	68.4	68.7	68.8	68.8
60.5	63.2	65.2	65.6	65.4	65.3	65.7	65.8	65.8
55.5	58.6	60.6	60.7	60.7	58.7	:	:	:
7.5	5.6	4.3	3.9	4.3	4.6	4.4	4.4	4.3
6.5	4.6	8.6	7.7	5.0	4.7	5.4	4.9	4.7
2.8	1.5	4.7	3.4	-0.6	0.9	3.1	2.4	2.2
6.2	0.0	3.4	4.6	0.6	3.0	2.6	1.8	1.3
-0.1	-3.7	-1.4	-1.0	-3.7	1.4	-0.4	-0.7	-0.7
6.4	3.8	4.8	5.7	4.5	1.6	3.0	2.5	2.0
3.6	3.0	3.8	4.1	5.6	3.8	2.2	2.4	2.4
0.3	-0.2	-1.6	0.5	0.7	-0.6	-1.1	-0.5	-0.4
34.8	34.3	32.0	33.5	33.9	34.3	34.3	34.0	33.6
37.2	36.9	36.3	34.5	33.6	34.4	34.1	33.4	33.1
2.4	2.6	4.4	0.9	-0.2	0.1	-0.2	-0.6	-0.5
2.0	1.4	2.7	-0.3	-1.3	0.1	0.1	0.0	0.3
53.7	48.7	38.3	35.9	32.7	32.1	30.7	30.7	30.6
4.8	4.7	5.5	5.0	5.0	4.1	:	:	:
5.5	3.0	4.4	4.3	3.3	2.3	:	:	:
-0.7	1.7	1.1	0.8	1.7	1.8	:	:	:
-1.5	0.9	0.7	-0.6	0.5	2.5	:	:	:
-4.6	-3.1	-5.7	0.6	1.9	7.1	1.6	0.5	:
99.4	95.0	90.7	93.1	94.0	101.8	105.2	105.9	:

Table 84

Main economic indicators 1961–2006

Italy

	1961–73	1974–85	1986–90	1991–95	1996–2000
1. Growth of GDP and its components (real)					
1.1. Private consumption	5.9	3.0	3.5	0.9	2.6
1.2. Government consumption	4.1	3.0	2.8	-0.2	0.9
1.3. Gross fixed capital formation	4.5	0.6	4.3	-1.2	4.3
1.4. of which equipment	:	1.8	6.3	-0.1	6.5
1.5. of which construction	:	-0.3	2.4	-2.4	1.9
1.6. Exports of goods and services	10.2	4.9	5.1	7.4	4.0
1.7. Imports of goods and services	10.3	3.2	8.5	3.0	6.2
1.8. GDP	5.3	2.7	2.9	1.3	1.9
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	4.2	2.3	2.6	0.5	1.7
2.2. Investment	1.0	0.1	0.8	-0.2	0.8
2.3. Stockbuilding	0.0	0.0	-0.1	0.0	-0.2
2.4. Domestic demand	5.2	2.4	3.4	0.3	2.4
2.5. Exports	1.4	0.8	0.9	1.7	1.1
2.6. Final demand	6.7	3.2	4.4	1.9	3.5
2.7. Imports	-1.4	-0.5	-1.5	-0.7	-1.6
2.8. Net exports	0.0	0.3	-0.6	1.0	-0.4
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	24.6	30.6	28.2	26.1	21.3
3.2. Net savings of households	:	:	18.8	15.1	9.1
3.3. General government savings	0.1	-5.8	-6.7	-6.4	-0.2
3.4. National savings	24.7	24.8	21.5	19.7	21.1
3.5. Gross capital formation	25.8	25.5	22.3	19.7	19.3
3.6. Current account	1.4	-0.8	-0.7	-0.1	1.7
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	77.8	76.3	77.2
4.2. Trend GDP gap	0.2	-0.2	0.7	-0.3	0.0
4.3. Potential GDP gap	:	0.0	0.9	-0.4	0.7
4.4. Profitability index (1961–73 = 100)	100.0	60.0	86.8	96.0	126.2
5. Growth potential					
5.1. Growth of net capital stock (real)	5.1	3.3	2.6	2.0	1.9
5.2. Net capital/output ratio (real)	2.9	3.0	3.1	3.2	3.2
5.3. Growth of capital intensity	5.4	2.3	1.9	2.8	1.1
5.4. Labour productivity growth	5.5	1.8	2.1	2.1	1.1
5.5. Total factor productivity growth	3.7	1.0	1.5	1.1	0.7
6. Employment and unemployment					
6.1. Employment	-0.3	0.6	0.9	-0.6	1.0
6.2. Activity rate	60.2	62.0	63.4	63.7	64.5
6.3. Employment rate (benchmark)	59.7	58.9	58.4	58.6	58.8
6.4. Employment rate (full-time equivalent)	:	60.5	60.9	59.9	59.9
6.5. Unemployment rate (Eurostat definition)	5.0	6.9	9.4	10.0	11.3
7. Prices and wages					
7.1. Nominal wages per head	11.4	18.2	8.5	5.3	2.8
7.2. Real wages per head ⁽²⁾	6.3	2.0	2.2	-0.5	0.1
7.3. Nominal unit labour costs	5.6	16.1	6.2	3.1	1.7
7.4. Real unit labour costs	0.1	-0.1	-0.8	-1.7	-1.1
7.5. GDP deflator	5.4	16.3	7.1	4.9	2.8
7.6. Private consumption deflator	4.9	16.0	6.1	5.8	2.8
7.7. Terms of trade	-0.5	-0.9	3.7	-0.9	-0.4
8. General government budget, % of GDP					
8.1. Expenditure ⁽³⁾	32.3	43.9	52.2	55.6	49.9
8.2. Current revenues ⁽³⁾	28.9	34.0	40.4	45.7	46.9
8.3. Net borrowing (-) or lending (+) ⁽³⁾	-3.1	-9.6	-11.8	-9.9	-3.0
8.4. Net borrowing cyclically adjusted ⁽³⁾	:	-9.5	-12.1	-9.7	-3.5
8.5. Debt (end of period) ⁽⁴⁾	51.3	82.3	97.2	124.3	111.2
9. Monetary conditions					
9.1. Long-term interest rate	7.0	14.9	11.9	12.1	6.3
9.2. Short-term interest rate	4.2	15.5	12.1	11.0	5.5
9.3. Yield curve (9.1–9.2)	2.7	-0.5	-0.2	1.1	0.7
9.4. Real long-term interest rate ⁽⁵⁾	1.5	-1.1	4.4	6.9	3.4
9.5. Nominal effective exchange rate	-0.9	-6.8	1.5	-6.9	0.4
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	114.1	105.5	129.5	121.5	110.9

⁽¹⁾ Manufacturing industry.

⁽²⁾ Private consumption deflator.

⁽³⁾ Break in 1980 (ESA 95 data), 1974–85 average according to the former definition.

⁽⁴⁾ Break in 1990 (ESA 95 data).

⁽⁵⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
3.2	2.6	2.7	0.8	0.5	1.3	1.5	1.6	1.7
0.2	1.3	1.7	3.9	1.9	2.2	1.0	1.1	1.1
4.0	5.0	6.9	1.9	1.2	-2.1	3.6	3.2	3.0
7.2	7.1	8.3	0.8	-1.1	-6.0	4.6	4.5	4.6
-0.2	2.6	5.9	3.0	3.3	1.8	3.0	2.0	1.7
3.4	0.1	9.7	1.6	-3.4	-3.9	4.2	5.7	5.5
8.9	5.6	7.1	0.5	-0.2	-0.6	4.9	6.1	5.9
1.8	1.7	3.0	1.8	0.4	0.3	1.3	1.8	1.8
1.9	1.8	2.0	1.1	0.6	1.2	1.1	1.2	1.2
0.7	1.0	1.4	0.4	0.2	-0.4	0.7	0.7	0.6
0.3	0.3	-1.1	-0.1	0.5	0.5	-0.4	0.1	0.0
3.0	3.1	2.2	1.4	1.3	1.2	1.4	1.9	1.9
1.0	0.0	2.7	0.5	-1.0	-1.1	1.2	1.6	1.6
4.0	3.1	5.0	1.9	0.3	0.1	2.6	3.5	3.5
-2.2	-1.5	-1.9	-0.1	0.1	0.2	-1.3	-1.7	-1.7
-1.2	-1.4	0.8	0.3	-0.9	-0.9	-0.2	-0.1	-0.1
21.1	18.9	18.6	19.0	19.1	18.7	18.8	18.6	19.1
8.2	6.5	6.1	7.0	7.1	:	:	:	:
0.1	1.7	1.4	1.0	0.6	-0.3	-0.2	0.4	0.3
21.2	20.7	20.0	20.0	19.7	18.4	18.7	19.0	19.4
19.3	19.7	20.2	19.7	20.0	19.6	19.6	19.9	20.0
1.9	1.0	-0.2	0.3	-0.3	-1.2	-1.0	-0.9	-0.7
78.5	76.0	78.8	78.9	77.3	76.3	:	:	:
-0.2	-0.1	1.3	1.6	0.5	-0.7	-0.8	-0.5	-0.1
0.6	0.6	1.7	1.5	0.2	-1.2	-1.5	-0.9	-0.5
132.1	132.1	133.5	131.9	128.4	124.4	124.9	125.2	127.0
1.8	2.0	2.2	2.2	2.1	1.8	1.9	2.0	2.1
3.2	3.2	3.2	3.2	3.3	3.3	3.3	3.3	3.3
0.8	1.4	0.5	0.5	0.8	1.4	1.1	1.3	1.5
0.8	1.1	1.3	0.1	-0.9	-0.2	0.5	1.1	1.2
0.5	0.6	1.1	-0.1	-1.2	-0.6	0.1	0.7	0.7
1.0	1.1	1.9	2.0	1.8	1.2	0.9	0.9	0.8
64.4	65.0	65.7	66.2	66.9	67.1	67.5	68.1	68.8
58.5	59.3	60.5	61.7	62.8	63.3	63.8	64.6	65.2
59.8	60.2	61.3	62.4	63.1	63.2	63.6	64.2	64.8
11.7	11.3	10.4	9.4	9.0	8.6	8.3	8.1	8.0
-1.5	2.6	3.1	3.2	2.5	3.8	3.4	3.3	2.8
-3.6	0.4	0.2	0.4	-0.5	1.3	1.0	0.9	0.8
-2.3	1.5	1.8	3.1	3.5	4.0	2.9	2.2	1.6
-4.9	-0.1	-0.4	0.4	0.4	1.0	0.1	-0.1	-0.5
2.7	1.6	2.2	2.6	3.1	2.9	2.9	2.3	2.1
2.1	2.1	2.9	2.8	3.1	2.5	2.4	2.4	2.0
2.3	-0.1	-6.9	0.6	1.7	1.8	0.8	0.6	0.9
49.6	48.8	46.9	48.7	47.9	48.9	48.4	48.1	48.7
46.8	47.1	46.2	46.0	45.6	46.5	45.4	45.1	45.0
-2.8	-1.7	-0.6	-2.6	-2.3	-2.4	-3.0	-3.0	-3.6
-3.1	-2.0	-2.6	-3.3	-2.3	-1.9	-2.4	-2.6	-3.4
116.7	115.5	111.2	110.6	107.9	106.2	106.0	104.6	104.4
4.9	4.7	5.6	5.2	5.0	4.3	:	:	:
4.9	3.0	4.4	4.3	3.3	2.3	:	:	:
0.0	1.8	1.2	0.9	1.7	1.9	:	:	:
2.1	3.1	3.3	2.5	1.9	1.3	:	:	:
0.1	-2.3	-4.4	0.4	1.4	4.9	1.5	0.3	:
111.4	109.1	104.3	105.4	108.9	116.8	121.5	122.6	:

Table 85

Main economic indicators 1961–2006

Luxembourg

	1961–73	1974–85	1986–90	1991–95	1996–2000
1. Growth of GDP and its components (real)					
1.1. Private consumption	4.6	2.6	4.5	2.5	4.4
1.2. Government consumption	3.4	2.4	7.0	3.6	4.4
1.3. Gross fixed capital formation	4.9	– 2.7	14.7	3.2	7.7
1.6. Exports of goods and services	6.3	2.9	7.0	5.8	13.3
1.7. Imports of goods and services	6.4	2.7	6.7	4.4	13.3
1.8. GDP	4.0	1.8	7.5	4.0	7.1
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	2.9	1.9	3.8	1.9	2.8
2.2. Investment	1.5	– 0.7	2.9	0.7	1.8
2.3. Stockbuilding	– 0.4	0.3	0.2	– 0.4	0.7
2.4. Domestic demand	4.0	1.5	6.9	2.2	5.4
2.5. Exports	5.2	2.9	6.9	5.9	16.3
2.6. Final demand	9.2	4.4	13.8	8.1	21.5
2.7. Imports	– 5.1	– 2.6	– 6.3	– 4.1	– 14.6
2.8. Net exports	0.1	0.3	0.6	1.8	1.7
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	29.0	:	:	:	:
3.2. Net savings of households	:	:	:	:	:
3.3. General government savings	5.0	8.2	:	7.8	8.9
3.4. National savings	34.0	:	:	:	:
3.5. Gross capital formation	24.2	20.7	24.6	24.1	23.3
3.6. Current account	6.9	:	:	:	:
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	83.1	81.2	84.4
4.2. Trend GDP gap	0.1	– 0.9	1.1	1.3	– 0.3
4.3. Potential GDP gap	:	:	1.6	1.4	0.6
4.4. Profitability index (1961–73 = 100)	100.0	76.8	129.7	146.1	201.9
5. Growth potential					
5.1. Growth of net capital stock (real)	1.4	1.7	3.5	4.1	5.5
5.2. Net capital/output ratio (real)	2.7	2.3	1.9	1.7	1.7
5.3. Growth of capital intensity	0.4	1.2	0.3	1.3	1.2
5.4. Labour productivity growth	3.0	1.3	4.2	1.1	2.8
5.5. Total factor productivity growth	2.8	0.8	4.1	0.6	2.2
6. Employment and unemployment					
6.1. Employment	1.1	0.5	3.1	2.8	4.2
6.2. Activity rate	61.3	62.6	62.0	62.6	63.3
6.3. Employment rate (benchmark)	63.2	64.3	67.4	75.5	84.1
6.4. Employment rate (full-time equivalent)	:	:	:	58.3	57.4
6.5. Unemployment rate (Eurostat definition)	0.0	1.7	2.1	2.5	2.6
7. Prices and wages					
7.1. Nominal wages per head	7.4	9.2	5.1	4.6	2.9
7.2. Real wages per head ⁽²⁾	4.2	1.7	3.0	1.3	1.3
7.3. Nominal unit labour costs	4.3	7.8	0.9	3.4	0.1
7.4. Real unit labour costs	– 0.2	1.1	– 0.9	– 0.1	– 2.5
7.5. GDP deflator	4.4	6.7	1.8	3.5	2.7
7.6. Private consumption deflator	3.0	7.4	2.1	3.2	1.6
7.7. Terms of trade	0.1	– 1.1	– 0.3	0.3	0.6
8. General government budget, % of GDP					
8.1. Expenditure ⁽³⁾	29.6	45.1	:	45.2	42.1
8.2. Current revenues ⁽³⁾	31.5	47.0	:	46.8	45.7
8.3. Net borrowing (–) or lending (+) ⁽³⁾	1.8	1.8	:	1.6	3.6
8.4. Net borrowing cyclically adjusted ⁽³⁾	:	2.6	:	0.8	3.3
8.5. Debt (end of period) ⁽³⁾	16.8	11.7	5.4	6.7	5.5
9. Monetary conditions					
9.1. Long-term interest rate	:	8.1	8.0	7.5	5.4
9.4. Real long-term interest rate ⁽⁴⁾	:	1.5	6.1	3.9	2.6

⁽¹⁾ Manufacturing industry.

⁽²⁾ Private consumption deflator.

⁽³⁾ Break in 1990 (ESA 95 data).

⁽⁴⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
6.6	2.6	4.6	5.1	3.2	1.6	2.2	2.6	3.0
1.3	7.3	4.8	6.5	3.2	5.0	3.6	3.5	3.5
11.8	14.6	-3.5	10.0	-1.1	-6.3	6.3	5.2	5.0
14.1	14.8	17.3	1.8	-0.6	1.8	6.3	6.1	6.0
15.3	14.6	15.4	3.7	-2.6	1.6	6.0	6.2	6.0
6.9	7.8	9.0	1.5	2.5	2.9	4.0	3.5	3.6
3.3	2.4	2.8	3.2	1.9	1.6	1.6	1.7	1.9
2.7	3.4	-0.9	2.2	-0.3	-1.5	1.3	1.1	1.1
0.4	-0.3	2.3	-1.7	-1.9	2.2	-0.3	-0.3	-0.4
6.4	5.8	4.5	3.6	-0.1	2.4	2.6	2.6	2.6
16.7	18.7	23.3	2.7	-0.9	2.6	8.7	8.7	8.7
23.1	24.3	27.4	6.4	-1.0	5.0	11.3	11.2	11.2
-16.2	-16.7	-18.8	-4.7	3.4	-2.0	-7.3	-7.8	-7.7
0.5	2.0	4.5	-2.0	2.5	0.5	1.3	0.9	1.0
:	:	:	:	:	:	:	:	:
8.6	8.9	10.7	10.0	8.7	6.7	5.2	4.4	4.0
:	:	:	:	:	:	:	:	:
23.7	24.5	23.5	23.8	21.2	21.1	21.0	20.9	20.5
:	:	:	:	:	:	:	:	:
88.0	84.9	87.8	88.7	85.1	84.7	:	:	:
-0.9	1.7	5.8	2.8	1.0	0.0	0.2	0.1	0.4
0.3	2.2	5.8	2.0	-0.1	-1.5	-1.9	-3.0	-4.3
207.8	219.2	241.1	203.8	186.7	193.2	198.3	198.9	201.4
5.9	7.2	5.8	6.3	5.3	4.3	4.6	4.6	4.7
1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.9
1.3	2.1	0.1	0.6	2.3	2.4	2.5	2.2	1.9
2.3	2.6	3.2	-3.9	-0.5	1.1	1.9	1.1	0.9
1.8	1.8	3.1	-4.1	-1.4	0.1	0.9	0.2	0.1
4.5	5.0	5.7	5.7	3.0	1.8	2.0	2.4	2.7
63.1	63.7	64.6	65.4	66.3	66.8	67.9	69.2	70.3
83.5	86.7	90.3	94.3	96.2	97.1	98.2	99.8	101.6
58.0	59.1	60.4	60.0	60.9	58.8	:	:	:
2.7	2.4	2.3	2.1	2.8	3.7	4.3	4.6	4.4
1.6	3.6	4.7	3.9	3.7	2.1	3.3	3.2	3.2
0.6	2.1	2.1	0.7	1.5	0.2	1.0	1.1	1.2
-0.7	1.0	1.5	8.1	4.2	1.0	1.3	2.1	2.3
-3.3	-1.2	-2.5	6.1	3.1	-1.0	-0.9	-0.3	-0.6
2.7	2.2	4.2	1.9	1.1	2.1	2.3	2.4	2.9
1.1	1.5	2.6	3.2	2.1	1.9	2.3	2.1	2.0
1.5	0.3	0.3	-1.0	-0.2	0.5	0.1	0.2	0.6
42.0	41.2	38.7	38.8	43.1	44.9	45.5	46.1	46.2
45.1	44.9	44.7	45.2	45.9	45.6	44.7	44.5	44.2
3.2	3.7	6.0	6.4	2.8	0.8	-0.8	-1.6	-2.0
3.0	2.5	2.7	5.2	2.9	1.7	0.4	0.3	0.7
6.3	6.0	5.5	5.5	5.7	5.3	4.9	4.8	4.7
4.7	4.7	5.5	4.9	4.7	3.3	:	:	:
2.0	2.4	1.3	2.9	3.6	1.2	:	:	:

Table 86

Main economic indicators 1961–2006

Netherlands

	1961–73	1974–85	1986–90	1991–95	1996–2000
1. Growth of GDP and its components (real)					
1.1. Private consumption	5.6	1.8	2.4	1.6	4.0
1.2. Government consumption	3.2	3.1	3.0	2.1	2.2
1.3. Gross fixed capital formation	5.3	0.2	4.1	0.8	5.2
1.4. of which equipment	:	2.8	3.8	1.3	5.5
1.5. of which construction	:	-1.6	3.8	0.8	3.9
1.6. Exports of goods and services	8.9	3.1	5.5	6.1	7.4
1.7. Imports of goods and services	9.2	2.4	5.2	5.3	7.7
1.8. GDP	4.8	1.9	3.4	2.1	3.7
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	3.7	1.7	2.0	1.3	2.5
2.2. Investment	1.3	0.0	0.9	0.2	1.1
2.3. Stockbuilding	0.0	-0.1	0.2	0.0	-0.1
2.4. Domestic demand	5.0	1.6	3.1	1.4	3.5
2.5. Exports	3.1	1.2	2.4	3.1	4.5
2.6. Final demand	8.2	2.9	5.6	4.6	8.0
2.7. Imports	-3.4	-0.9	-2.2	-2.5	-4.3
2.8. Net exports	-0.3	0.3	0.3	0.7	0.3
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	24.0	22.3	25.7	25.9	24.3
3.2. Net savings of households	:	:	8.8	8.4	6.3
3.3. General government savings	4.0	1.6	-0.4	-0.4	2.3
3.4. National savings	28.0	23.9	25.3	25.6	26.7
3.5. Gross capital formation	27.9	21.6	22.5	21.2	22.0
3.6. Current account	1.0	2.4	2.9	4.4	4.7
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	80.1	84.9	83.2	84.5
4.2. Trend GDP gap	-0.1	-0.1	0.0	-0.5	1.1
4.3. Potential GDP gap	:	-0.7	-0.4	-0.7	1.2
4.4. Profitability index (1961–73 = 100)	100.0	77.7	85.1	87.9	101.4
5. Growth potential					
5.1. Growth of net capital stock (real)	5.1	2.7	2.2	1.7	2.2
5.2. Net capital/output ratio (real)	3.1	3.3	3.3	3.2	3.0
5.3. Growth of capital intensity	4.2	2.8	0.2	0.9	-0.3
5.4. Labour productivity growth	3.9	2.0	1.3	1.3	1.2
5.5. Total factor productivity growth	2.3	0.9	1.2	0.9	1.3
6. Employment and unemployment					
6.1. Employment	1.4	0.1	3.5	1.3	2.6
6.2. Activity rate	68.7	64.7	66.6	70.5	75.2
6.3. Employment rate (benchmark)	68.1	60.6	62.3	66.4	72.3
6.4. Employment rate (full-time equivalent)	61.7	53.7	51.2	53.2	57.4
6.5. Unemployment rate (Eurostat definition)	1.1	6.9	7.0	6.1	4.2
7. Prices and wages					
7.1. Nominal wages per head	11.4	6.8	1.7	3.5	3.0
7.2. Real wages per head ⁽²⁾	6.2	1.1	0.7	0.9	0.9
7.3. Nominal unit labour costs	7.2	4.7	0.4	2.2	1.9
7.4. Real unit labour costs	1.1	-0.7	-0.3	0.0	-0.2
7.5. GDP deflator	6.0	5.4	0.7	2.3	2.1
7.6. Private consumption deflator	5.0	5.6	1.0	2.6	2.1
7.7. Terms of trade	0.5	-0.6	-0.2	0.0	-0.3
8. General government budget, % of GDP					
8.1. Expenditure ⁽³⁾	37.1	54.8	56.3	54.3	47.5
8.2. Current revenues ⁽³⁾	36.7	51.5	51.4	50.9	47.3
8.3. Net borrowing (-) or lending (+) ⁽³⁾	-0.7	-3.3	-4.9	-3.5	-0.2
8.4. Net borrowing cyclically adjusted ⁽³⁾	:	-2.8	-4.6	-3.0	-1.1
8.5. Debt (end of period) ⁽⁴⁾	:	70.3	76.9	77.2	55.9
9. Monetary conditions					
9.1. Long-term interest rate	5.9	9.4	7.1	7.4	5.3
9.2. Short-term interest rate	4.1	7.7	6.4	7.0	3.4
9.3. Yield curve (9.1–9.2)	1.8	1.7	0.7	0.4	1.9
9.4. Real long-term interest rate ⁽⁵⁾	-0.1	3.8	6.3	5.0	3.1
9.5. Nominal effective exchange rate	0.8	1.9	3.2	2.0	-2.2
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	89.8	107.9	96.2	95.6	94.7

⁽¹⁾ Manufacturing industry.

⁽²⁾ Private consumption deflator.

⁽³⁾ From 1970 (ESA 95 data), 1961–73 average according to the former definition.

⁽⁴⁾ Break in 1990 (ESA 95 data).

⁽⁵⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
4.8	4.7	3.5	1.4	1.3	-0.9	0.5	0.9	1.2
3.6	2.5	2.0	4.8	3.6	1.8	0.8	0.5	2.5
4.2	7.8	1.4	0.2	-3.6	-3.1	1.6	2.0	3.5
2.7	10.3	-3.5	-1.3	-3.5	1.3	2.7	2.5	3.7
3.6	6.2	4.9	1.9	-2.8	-5.2	0.8	2.0	3.5
7.4	5.1	11.3	1.6	0.8	0.0	6.8	6.2	5.8
8.5	5.8	10.5	2.2	0.8	0.6	6.3	6.1	5.7
4.3	4.0	3.5	1.4	0.6	-0.9	1.4	1.7	2.4
3.2	2.9	2.2	1.7	1.5	-0.1	0.4	0.6	1.2
0.9	1.7	0.3	0.1	-0.8	-0.6	0.3	0.4	0.7
0.4	-0.5	0.0	-0.1	-0.2	0.2	0.0	0.2	0.0
4.5	4.1	2.5	1.7	0.5	-0.5	0.7	1.2	2.0
4.5	3.2	7.2	1.1	0.6	0.0	4.7	4.5	4.4
9.1	7.3	9.5	2.8	1.1	-0.5	5.5	5.7	6.4
-4.7	-3.3	-6.1	-1.4	-0.5	-0.4	-4.0	-4.1	-4.0
-0.2	-0.1	1.1	-0.3	0.1	-0.4	0.7	0.5	0.4
23.4	23.2	22.5	21.9	21.6	22.3	23.5	23.9	24.1
7.3	5.3	3.6	5.2	5.5	5.6	:	:	:
1.8	3.4	4.6	3.5	1.7	0.5	0.6	1.1	1.4
25.2	26.6	27.1	25.4	23.3	22.8	24.1	25.0	25.5
22.2	22.6	22.2	21.6	20.6	20.2	20.4	20.8	21.0
3.0	4.0	4.9	3.8	2.8	2.7	3.7	4.2	4.5
85.3	84.0	84.7	84.6	82.9	81.7	:	:	:
1.2	2.5	3.6	2.8	1.4	-1.3	-1.6	-1.6	-0.9
1.3	2.4	3.1	1.8	0.2	-2.0	-2.2	-2.1	-1.6
102.6	101.4	103.8	103.6	96.1	92.0	94.7	97.2	100.9
2.2	2.5	2.4	2.2	1.8	1.5	1.5	1.5	1.6
3.0	3.0	3.0	3.0	3.0	3.1	3.1	3.1	3.1
-0.7	0.2	0.5	0.8	1.9	2.4	3.2	1.0	0.4
1.4	1.6	1.6	0.1	0.7	0.1	3.2	1.1	1.2
1.7	1.6	1.4	-0.2	0.0	-0.9	1.9	0.7	1.0
2.6	2.6	2.2	1.8	0.9	-0.4	-1.3	0.5	1.0
75.1	76.2	77.3	77.9	78.3	79.0	78.4	79.0	79.1
72.4	74.0	75.2	76.1	76.3	76.2	75.0	75.2	75.9
57.7	58.7	59.5	59.9	59.4	59.0	57.8	58.0	58.6
3.8	3.2	2.9	2.5	2.7	3.8	4.6	5.0	4.4
3.5	3.7	4.7	5.5	6.2	3.9	2.4	0.7	1.0
1.7	1.9	1.4	0.8	3.4	1.5	1.3	-0.5	-0.3
2.0	2.1	3.1	5.4	5.4	3.8	-0.8	-0.4	-0.1
0.3	0.5	-0.8	0.1	2.3	0.8	-1.6	-1.2	-1.1
1.7	1.6	3.9	5.2	3.1	3.0	0.9	0.8	1.0
1.7	1.8	3.3	4.6	2.7	2.3	1.1	1.2	1.4
0.2	-1.2	-0.1	1.0	0.0	0.7	-0.7	-0.3	0.0
47.2	46.9	45.3	46.6	47.8	48.9	48.6	48.4	47.7
46.4	47.6	47.5	46.6	45.9	45.8	45.7	46.0	45.7
-0.8	0.7	2.2	-0.1	-1.9	-3.2	-2.9	-2.4	-2.1
-1.6	-0.9	-0.5	-1.3	-2.0	-1.8	-1.4	-1.0	-1.0
66.8	63.1	55.9	52.9	52.6	54.1	55.7	58.0	58.4
4.6	4.6	5.4	5.0	4.9	4.1	:	:	:
3.4	3.0	4.4	4.3	3.3	2.3	:	:	:
1.2	1.7	1.0	0.7	1.6	1.8	:	:	:
2.9	3.0	1.4	-0.3	1.7	1.1	:	:	:
0.1	-1.3	-3.2	0.6	0.8	3.6	0.7	0.3	:
94.9	94.5	92.8	96.0	100.5	106.1	105.6	103.9	:

Table 87

Main economic indicators 1961–2006

Austria

	1961–73	1974–85	1986–90	1991–95	1996–2000
1. Growth of GDP and its components (real)					
1.1. Private consumption	4.6	2.6	4.2	2.1	2.2
1.2. Government consumption	3.2	2.7	1.6	2.8	2.0
1.3. Gross fixed capital formation	6.5	0.8	4.0	2.2	3.2
1.4. of which equipment	5.5	2.1	4.2	0.1	6.3
1.5. of which construction	7.2	-0.1	3.6	3.5	0.7
1.6. Exports of goods and services	8.6	5.8	4.2	2.7	8.2
1.7. Imports of goods and services	8.6	4.7	4.1	3.4	6.7
1.8. GDP	4.9	2.3	3.5	2.2	2.9
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	3.1	2.0	2.7	1.8	1.6
2.2. Investment	1.7	0.2	0.9	0.5	0.7
2.3. Stockbuilding	0.0	-0.1	0.2	0.0	-0.1
2.4. Domestic demand	4.9	2.1	3.4	2.4	2.3
2.5. Exports	2.3	1.6	1.4	0.9	3.2
2.6. Final demand	7.2	3.7	5.1	3.2	5.4
2.7. Imports	-2.3	-1.4	-1.3	-1.1	-2.5
2.8. Net exports	0.0	0.2	0.1	-0.2	0.6
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	21.2	21.3	21.9	20.9	20.3
3.2. Net savings of households	:	:	:	:	5.2
3.3. General government savings	7.3	3.8	1.7	1.0	1.5
3.4. National savings	28.5	25.1	23.5	21.9	21.7
3.5. Gross capital formation	28.9	26.7	23.6	23.2	23.1
3.6. Current account	0.1	-1.5	-0.1	-1.3	-1.4
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	:	:	82.5
4.2. Trend GDP gap	-0.1	0.1	-0.9	0.7	0.3
4.3. Potential GDP gap	:	-0.2	-0.5	0.4	0.4
4.4. Profitability index (1961–73 = 100)	100.0	99.4	113.4	122.1	132.2
5. Growth potential					
5.1. Growth of net capital stock (real)	4.0	3.5	2.7	3.0	2.7
5.2. Net capital/output ratio (real)	2.8	2.9	3.1	3.1	3.1
5.3. Growth of capital intensity	4.0	3.5	2.0	2.9	1.8
5.4. Labour productivity growth	4.9	2.3	2.8	2.0	2.0
5.5. Total factor productivity growth	3.4	1.0	2.0	1.0	1.3
6. Employment and unemployment					
6.1. Employment	0.0	0.1	0.6	0.2	1.1
6.2. Activity rate	80.3	78.6	75.8	76.6	77.8
6.3. Employment rate (benchmark)	79.1	77.4	73.6	73.9	74.8
6.4. Employment rate (full-time equivalent)	:	:	62.3	62.5	62.7
6.5. Unemployment rate (Eurostat definition)	1.8	1.9	3.2	3.7	4.2
7. Prices and wages					
7.1. Nominal wages per head	9.4	7.8	4.8	4.9	1.6
7.2. Real wages per head ⁽²⁾	5.1	1.9	2.6	1.8	0.2
7.3. Nominal unit labour costs	4.3	5.4	2.0	2.8	-0.4
7.4. Real unit labour costs	-0.3	0.0	-0.7	-0.1	-1.1
7.5. GDP deflator	4.6	5.4	2.6	3.0	0.7
7.6. Private consumption deflator	4.1	5.7	2.1	3.1	1.4
7.7. Terms of trade	0.3	-1.0	0.2	0.0	-0.6
8. General government budget, % of GDP					
8.1. Expenditure ⁽³⁾	37.6	47.0	54.0	55.1	53.2
8.2. Current revenues ⁽³⁾	38.4	44.7	50.5	51.2	50.8
8.3. Net borrowing (-) or lending (+) ⁽³⁾	0.8	-2.3	-3.4	-3.9	-2.3
8.4. Net borrowing cyclically adjusted ⁽³⁾	0.8	-2.3	-3.3	-4.0	-2.5
8.5. Debt (end of period) ⁽⁴⁾	17.0	49.2	56.1	67.9	65.8
9. Monetary conditions					
9.1. Long-term interest rate	:	8.9	7.4	7.5	5.4
9.2. Short-term interest rate	:	7.1	6.1	7.0	3.6
9.3. Yield curve (9.1–9.2)	:	1.8	1.4	0.5	1.8
9.4. Real long-term interest rate ⁽⁵⁾	:	3.3	4.7	4.4	4.6
9.5. Nominal effective exchange rate	0.6	2.8	2.8	1.7	-1.8
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	81.7	87.8	92.2	95.0	90.5

⁽¹⁾ Manufacturing industry.

⁽²⁾ Private consumption deflator.

⁽³⁾ Break in 1975 (ESA 95 data), 1974–85 average according to the former definition.

⁽⁴⁾ Break in 1990 (ESA 95 data).

⁽⁵⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
1.6	2.0	3.9	1.0	-0.1	0.6	1.2	2.1	2.4
2.3	3.0	0.2	-1.4	1.1	0.4	0.3	0.5	0.5
3.5	2.3	6.5	-2.1	-3.4	6.2	2.9	4.0	4.3
5.8	5.6	12.3	0.6	-7.8	5.5	4.6	4.3	5.9
0.7	-0.2	2.1	-5.0	-0.8	7.0	1.6	3.9	3.2
8.6	5.7	10.5	6.8	3.8	1.4	5.6	5.7	5.6
5.6	5.0	10.1	5.0	-0.2	4.8	5.0	5.6	6.1
3.6	3.3	3.4	0.7	1.2	0.8	1.9	2.4	2.4
1.4	1.7	2.2	0.3	0.1	0.4	0.7	1.2	1.4
0.8	0.5	1.4	-0.5	-0.7	1.3	0.6	0.9	1.0
0.2	0.6	-0.6	-0.2	-0.2	0.2	0.0	0.0	0.0
2.3	3.0	2.9	-0.2	-0.7	2.2	1.3	2.1	2.3
3.4	2.3	4.4	3.1	1.8	0.7	2.8	2.9	3.0
5.7	5.1	7.5	2.8	1.0	2.5	4.1	5.0	5.3
-2.1	-2.0	-4.0	-2.1	0.1	-2.1	-2.2	-2.6	-2.9
1.2	0.4	0.4	1.0	1.9	-1.4	0.5	0.3	0.1
20.5	20.7	20.8	18.6	20.6	21.6	22.1	23.1	23.0
5.2	5.0	5.1	4.5	5.0	:	:	:	:
1.7	1.5	1.6	3.6	2.8	1.8	1.6	0.7	1.0
22.2	22.2	22.4	22.1	23.4	23.4	23.6	23.8	24.0
23.2	23.4	23.4	22.4	21.0	21.9	21.8	21.9	22.1
-0.8	-1.0	-1.0	-0.4	2.5	1.5	1.9	1.9	1.9
83.7	81.9	84.5	83.1	82.7	81.9	:	:	:
0.0	1.1	2.3	0.9	0.1	-1.0	-1.0	-0.5	0.1
0.3	1.2	2.2	0.8	0.1	-1.1	-1.1	-0.6	-0.2
130.0	132.8	138.7	137.3	138.6	139.4	141.4	144.3	146.1
2.7	2.7	2.9	2.5	2.1	2.3	2.4	2.5	2.6
3.1	3.1	3.1	3.1	3.2	3.2	3.2	3.2	3.2
1.5	1.0	1.6	2.1	2.0	2.3	1.9	1.8	1.8
2.3	1.7	2.0	0.3	1.1	0.7	1.4	1.7	1.6
1.7	1.3	1.4	-0.5	0.3	-0.1	0.7	1.0	0.9
1.3	1.8	1.0	0.6	-0.1	0.1	0.5	0.7	0.8
77.9	78.6	78.8	78.8	78.7	78.5	78.4	78.5	78.6
74.7	75.8	76.2	76.3	75.8	75.5	75.5	75.8	76.3
62.6	63.4	63.9	63.9	63.6	63.3	63.4	63.6	64.0
4.5	3.9	3.7	3.6	4.2	4.3	4.2	3.9	3.4
2.4	1.9	1.8	1.4	1.7	2.1	2.5	2.5	2.6
2.0	1.1	-0.7	-0.4	0.6	0.6	0.5	0.7	1.1
0.1	0.2	-0.1	1.2	0.7	1.4	1.1	0.8	1.0
-0.3	-0.4	-1.9	-0.6	-0.7	-0.2	0.0	-0.4	-0.2
0.3	0.6	1.8	1.7	1.3	1.6	1.1	1.2	1.2
0.3	0.7	2.5	1.9	1.2	1.5	2.0	1.8	1.5
0.1	0.0	-1.4	0.3	1.8	1.1	-0.2	-0.4	0.0
53.3	53.1	51.3	50.7	50.4	50.6	50.5	49.5	48.5
51.0	50.8	49.8	51.0	50.2	49.5	49.1	47.4	46.7
-2.3	-2.2	-1.5	0.3	-0.2	-1.1	-1.3	-2.0	-1.7
-2.4	-2.6	-2.5	0.0	-0.2	-0.8	-1.0	-1.9	-1.7
63.1	66.5	65.8	66.1	65.7	64.5	64.0	63.9	63.4
4.7	4.7	5.6	5.1	5.0	4.2	:	:	:
3.6	3.0	4.4	4.3	3.3	2.3	:	:	:
1.1	1.7	1.2	0.8	1.7	1.8	:	:	:
4.4	4.0	3.7	3.3	3.6	2.6	:	:	:
0.4	-1.2	-2.9	0.3	0.8	3.1	0.9	0.2	:
91.3	89.4	85.4	84.6	84.4	86.5	87.9	87.5	:

Table 88

Main economic indicators 1961–2006

Portugal

	1961–73	1974–85	1986–90	1991–95	1996–2000
1. Growth of GDP and its components (real)					
1.1. Private consumption	6.0	1.4	5.4	2.3	3.9
1.2. Government consumption	9.1	6.7	6.0	2.7	3.9
1.3. Gross fixed capital formation	7.9	-1.3	10.9	2.2	8.2
1.4. of which equipment	:	:	13.3	0.0	11.2
1.5. of which construction	:	:	8.5	3.5	6.5
1.6. Exports of goods and services	12.0	3.4	9.6	3.6	6.8
1.7. Imports of goods and services	11.7	0.6	15.5	6.1	8.6
1.8. GDP	6.9	2.2	5.7	1.7	3.9
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	5.4	1.9	4.4	2.0	3.2
2.2. Investment	1.7	-0.3	2.5	0.5	2.1
2.3. Stockbuilding	0.9	-0.2	1.1	0.0	-0.1
2.4. Domestic demand	8.0	1.4	8.0	2.7	5.1
2.5. Exports	2.4	1.1	2.7	1.0	2.2
2.6. Final demand	10.5	2.6	10.8	3.5	7.2
2.7. Imports	-3.5	-0.3	-5.1	-2.0	-3.4
2.8. Net exports	-1.1	0.8	-2.3	-0.9	-1.2
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	18.4	22.9	29.4	24.5	19.2
3.2. Net savings of households	:	:	:	:	2.5
3.3. General government savings	3.5	-2.5	-2.1	-3.1	0.6
3.4. National savings	21.9	20.3	27.3	21.4	19.7
3.5. Gross capital formation	25.6	28.9	27.5	24.1	27.0
3.6. Current account	0.4	-6.6	-0.2	-2.6	-7.3
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	:	77.5	80.6
4.2. Trend GDP gap	0.2	-0.5	0.2	0.1	0.9
4.3. Potential GDP gap	:	-1.1	0.1	-0.6	0.7
4.4. Profitability index (1961–73 = 100)	100.0	52.8	105.5	105.9	88.5
5. Growth potential					
5.1. Growth of net capital stock (real)	2.7	4.7	3.7	3.4	4.3
5.2. Net capital/output ratio (real)	2.3	2.1	2.2	2.3	2.4
5.3. Growth of capital intensity	2.4	5.1	2.6	4.0	2.2
5.4. Labour productivity growth	6.6	2.6	4.6	2.3	1.8
5.5. Total factor productivity growth	5.7	0.8	3.6	0.8	1.0
6. Employment and unemployment					
6.1. Employment	0.0	0.7	1.8	-0.4	1.9
6.2. Activity rate	68.9	69.1	69.6	70.1	70.8
6.3. Employment rate (benchmark)	67.1	64.2	65.2	66.1	66.8
6.4. Employment rate (full-time equivalent)	:	:	:	63.8	61.8
6.5. Unemployment rate (Eurostat definition)	2.5	7.0	6.4	5.7	5.6
7. Prices and wages					
7.1. Nominal wages per head	10.9	24.1	16.7	12.3	5.9
7.2. Real wages per head ⁽²⁾	6.7	1.6	4.2	4.5	2.9
7.3. Nominal unit labour costs	4.0	20.9	11.6	9.8	4.0
7.4. Real unit labour costs	0.1	0.1	-1.3	1.8	0.5
7.5. GDP deflator	3.9	20.8	13.0	7.9	3.4
7.6. Private consumption deflator	3.9	22.2	11.9	7.5	3.0
7.7. Terms of trade	0.3	-1.7	3.2	2.3	-0.7
8. General government budget, % of GDP					
8.1. Expenditure ⁽³⁾	18.5	35.2	40.1	46.0	45.0
8.2. Current revenues ⁽³⁾	19.7	28.4	34.4	39.3	41.6
8.3. Net borrowing (-) or lending (+) ⁽³⁾	1.2	-6.8	-5.7	-6.7	-3.4
8.4. Net borrowing cyclically adjusted ⁽³⁾	1.1	-6.6	-5.7	-6.5	-3.7
8.5. Debt (end of period) ⁽⁴⁾	15.3	61.5	58.3	64.3	53.3
9. Monetary conditions					
9.1. Long-term interest rate	:	:	15.1	12.3	6.0
9.2. Short-term interest rate	:	14.7	14.6	13.6	5.0
9.3. Yield curve (9.1–9.2)	:	:	0.5	-1.3	1.1
9.4. Real long-term interest rate ⁽⁵⁾	:	:	1.9	4.1	2.5
9.5. Nominal effective exchange rate	0.5	-11.6	-4.8	-1.1	-1.5
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	81.1	81.9	69.9	92.2	104.1

⁽¹⁾ Manufacturing industry 2000.

⁽²⁾ Private consumption deflator.

⁽³⁾ Break in 1977 (ESA 95 data), 1974–85 average according to the former definition.

⁽⁴⁾ Break in 1990 (ESA 95 data).

⁽⁵⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
5.0	5.1	2.9	1.2	1.0	-0.5	2.1	1.8	2.0
4.1	5.6	4.1	3.3	2.2	-0.4	0.6	0.5	0.4
11.5	6.4	3.8	0.8	-4.9	-9.8	2.4	3.3	4.8
18.5	9.2	4.7	-3.2	-10.6	-5.8	5.6	5.4	7.4
6.9	3.7	4.0	3.2	-2.8	-12.1	0.3	1.9	3.0
9.1	2.9	7.8	1.0	2.0	4.0	7.9	7.0	7.0
14.2	8.5	5.5	1.1	-0.3	-0.9	7.8	5.5	6.1
4.6	3.8	3.4	1.6	0.4	-1.2	1.3	2.2	2.4
3.9	4.2	2.6	1.4	1.0	-0.4	1.5	1.2	1.3
2.9	1.7	1.1	0.2	-1.4	-2.6	0.6	0.8	1.2
0.2	0.3	-0.3	0.1	0.0	0.0	0.0	0.0	0.0
7.2	6.4	3.2	1.8	-0.4	-3.0	2.0	2.0	2.5
2.9	1.0	2.6	0.3	0.7	1.4	2.9	2.7	2.9
10.1	7.3	5.9	2.1	0.3	-1.6	5.0	4.8	5.4
-5.5	-3.6	-2.5	-0.5	0.1	0.4	-3.5	-2.6	-3.0
-2.6	-2.6	0.1	-0.2	0.8	1.8	-0.6	0.1	-0.1
19.4	18.3	17.3	18.5	18.2	17.7	18.6	18.4	19.1
2.2	1.3	2.8	3.6	:	:	:	:	:
1.2	1.3	0.7	-0.7	-0.4	-1.0	-2.2	-1.5	-1.5
20.6	19.6	18.0	17.8	17.9	16.7	16.5	16.9	17.6
27.7	28.3	28.8	27.9	25.7	23.0	23.3	23.4	23.8
-7.1	-8.7	-10.8	-10.1	-7.8	-6.3	-6.8	-6.5	-6.2
81.4	80.8	81.2	81.7	79.4	79.0	:	:	:
1.2	2.5	3.5	3.0	1.3	-1.7	-2.3	-2.0	-1.6
0.9	2.0	2.8	2.1	0.5	-2.3	-2.9	-2.8	-2.7
93.2	91.6	78.2	74.5	75.7	66.3	64.4	64.3	64.8
4.8	4.9	4.6	4.2	3.3	2.1	2.1	2.2	2.4
2.3	2.4	2.4	2.5	2.5	2.6	2.6	2.6	2.6
2.0	3.0	2.5	2.8	3.0	2.5	1.7	1.2	1.2
1.8	1.9	1.2	0.3	0.1	-0.8	0.9	1.1	1.2
1.1	0.8	0.3	-0.7	-0.9	-1.7	0.3	0.7	0.7
2.7	1.9	2.1	1.3	0.3	-0.4	0.4	1.0	1.2
70.7	71.2	72.1	72.7	73.3	73.3	72.9	72.8	72.8
67.0	67.9	69.1	69.7	69.4	68.5	68.1	68.0	68.2
64.8	65.7	66.7	67.5	67.6	66.5	:	:	:
5.1	4.5	4.1	4.0	5.0	6.3	6.3	6.2	6.1
5.3	5.4	6.7	5.7	4.4	4.1	3.1	3.6	3.8
2.4	3.2	3.4	1.8	0.9	0.6	0.8	1.3	1.5
3.4	3.4	5.5	5.4	4.3	4.9	2.2	2.5	2.6
-0.4	0.3	1.9	1.0	-0.2	2.5	0.2	0.2	0.1
3.8	3.1	3.5	4.4	4.5	2.3	1.9	2.3	2.4
2.8	2.1	3.3	3.8	3.5	3.4	2.3	2.4	2.3
2.0	0.5	-2.6	1.9	2.4	-0.7	-1.9	-0.2	0.4
44.1	45.2	45.1	46.3	45.9	47.7	46.7	47.0	47.0
41.0	42.4	42.3	41.9	43.2	44.9	43.8	43.2	43.3
-3.2	-2.8	-2.8	-4.4	-2.7	-2.8	-2.9	-3.7	-3.8
-3.5	-3.5	-4.1	-5.1	-2.9	-1.9	-1.9	-2.7	-2.8
55.0	54.3	53.3	55.8	58.4	60.3	60.8	62.0	62.9
4.9	4.8	5.6	5.2	5.0	4.2	:	:	:
4.3	3.0	4.4	4.3	3.3	2.3	:	:	:
0.6	1.8	1.2	0.9	1.7	1.9	:	:	:
1.0	1.6	2.1	0.8	0.5	1.8	:	:	:
-1.1	-1.2	-2.9	0.4	0.8	3.3	0.7	0.2	:
104.1	104.9	105.4	108.6	111.8	118.6	120.9	122.2	:

Table 89

Main economic indicators 1961–2006

Finland

	1961–73	1974–85	1986–90	1991–95	1996–2000
1. Growth of GDP and its components (real)					
1.1. Private consumption	5.2	2.6	3.6	-1.1	3.6
1.2. Government consumption	5.4	3.9	3.2	-0.4	1.8
1.3. Gross fixed capital formation	4.8	1.2	4.8	-9.1	7.0
1.4. of which equipment	4.6	1.9	6.5	-9.8	4.4
1.5. of which construction	5.1	0.6	3.6	-9.9	8.7
1.6. Exports of goods and services	7.2	4.3	2.4	7.9	10.7
1.7. Imports of goods and services	7.3	3.0	6.2	1.4	9.0
1.8. GDP	5.0	3.0	3.1	-0.9	4.7
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	3.7	2.2	2.5	-0.7	2.2
2.2. Investment	1.4	0.3	1.2	-2.1	1.3
2.3. Stockbuilding	0.1	0.0	0.1	0.3	-0.1
2.4. Domestic demand	5.4	2.7	4.1	-2.8	3.2
2.5. Exports	1.3	1.0	0.6	2.5	4.4
2.6. Final demand	6.6	3.7	4.5	-0.5	7.5
2.7. Imports	-1.4	-0.7	-1.5	-0.5	-2.8
2.8. Net exports	0.0	0.3	-0.9	2.0	1.6
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	18.8	18.4	16.3	18.6	20.7
3.2. Net savings of households	:	:	0.4	3.4	0.6
3.3. General government savings	7.5	7.8	8.7	-1.0	4.3
3.4. National savings	26.3	26.2	24.9	17.6	25.0
3.5. Gross capital formation	28.0	28.4	27.6	18.5	19.3
3.6. Current account	-1.5	-2.2	-3.3	-1.3	5.7
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	:	:	86.4
4.2. Trend GDP gap	0.1	-0.3	4.8	-5.0	0.9
4.3. Potential GDP gap	:	-0.8	3.3	-5.3	1.3
4.4. Profitability index (1961–73 = 100)	100.0	77.1	81.5	75.7	133.6
5. Growth potential					
5.1. Growth of net capital stock (real)	5.3	3.4	3.1	-0.2	0.7
5.2. Net capital/output ratio (real)	3.2	3.3	3.2	3.5	3.0
5.3. Growth of capital intensity	4.8	3.0	2.7	3.6	-1.5
5.4. Labour productivity growth	4.5	2.6	2.8	2.9	2.4
5.5. Total factor productivity growth	2.8	1.5	1.8	1.6	2.9
6. Employment and unemployment					
6.1. Employment	0.2	1.0	0.5	-3.5	2.2
6.2. Activity rate	72.6	74.7	76.3	73.1	73.1
6.3. Employment rate (benchmark)	70.9	70.9	73.1	63.4	64.5
6.4. Employment rate (full-time equivalent)	:	:	:	:	57.5
6.5. Unemployment rate (Eurostat definition)	2.3	4.9	4.1	13.3	11.7
7. Prices and wages					
7.1. Nominal wages per head	11.1	13.1	8.7	3.2	2.9
7.2. Real wages per head ⁽²⁾	5.1	2.3	4.1	0.1	0.8
7.3. Nominal unit labour costs	6.3	10.3	5.8	0.3	0.5
7.4. Real unit labour costs	-0.4	0.0	-0.1	-2.1	-1.1
7.5. GDP deflator	6.7	10.3	5.9	2.5	1.6
7.6. Private consumption deflator	5.7	10.6	4.4	3.1	2.1
7.7. Terms of trade	0.1	-0.6	1.8	0.0	-1.5
8. General government budget, % of GDP					
8.1. Expenditure ⁽³⁾	30.0	39.7	47.4	61.5	54.0
8.2. Current revenues ⁽³⁾	32.9	43.3	52.1	56.8	55.4
8.3. Net borrowing (-) or lending (+) ⁽³⁾	2.9	3.7	4.6	-4.7	1.3
8.4. Net borrowing cyclically adjusted ⁽³⁾	2.9	3.9	2.6	-0.8	0.5
8.5. Debt (end of period) ⁽⁴⁾	7.8	16.2	14.2	57.1	44.6
9. Monetary conditions					
9.1. Long-term interest rate	8.0	11.2	11.8	10.1	5.6
9.2. Short-term interest rate	:	12.2	11.6	9.0	3.6
9.3. Yield curve (9.1–9.2)	:	-1.0	0.1	1.0	2.0
9.4. Real long-term interest rate ⁽⁵⁾	1.2	0.9	5.5	7.4	3.9
9.5. Nominal effective exchange rate	-2.4	-0.4	1.6	-2.7	-2.7
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	106.2	101.8	116.6	100.7	89.7

⁽¹⁾ Manufacturing industry 2000.

⁽²⁾ Private consumption deflator.

⁽³⁾ Break in 1975 (ESA 95 data), 1974–85 average according to the former definition.

⁽⁴⁾ Break in 1990 (ESA 95 data).

⁽⁵⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
4.3	3.5	3.1	1.8	1.5	4.3	3.3	2.7	2.4
2.0	1.4	0.0	2.4	3.8	0.7	1.5	1.5	1.4
8.4	2.5	4.1	3.9	-3.1	-2.3	2.6	2.8	3.1
6.0	-3.2	-1.0	12.0	-9.1	-10.4	2.6	3.6	3.0
10.0	5.0	6.2	-0.7	-2.4	0.6	2.9	2.8	3.4
9.2	6.5	19.3	-0.8	5.1	1.3	3.0	5.1	4.7
7.9	3.5	16.9	0.2	1.9	0.9	2.0	3.5	4.0
5.0	3.4	5.1	1.1	2.3	1.9	3.0	3.1	2.7
2.6	2.0	1.5	1.4	1.5	2.2	2.0	1.7	1.5
1.6	0.5	0.8	0.7	-0.6	-0.4	0.5	0.5	0.6
0.8	-1.2	1.0	-0.7	0.2	0.2	-0.1	-0.2	0.0
3.8	1.8	2.2	1.6	0.5	1.5	2.4	2.0	2.0
3.7	2.7	8.2	-0.4	2.4	0.6	1.3	2.2	2.1
8.3	3.9	10.7	1.2	3.4	2.4	3.7	4.2	4.1
-2.4	-1.1	-5.4	-0.1	-0.7	-0.3	-0.7	-1.1	-1.3
1.2	1.6	2.9	-0.5	1.8	0.3	0.6	1.0	0.7
21.2	20.8	18.2	19.5	19.4	19.1	19.0	19.0	18.9
0.3	0.9	0.1	-0.1	0.2	0.5	:	:	:
4.6	5.0	9.7	8.0	7.0	4.9	4.8	4.4	4.4
25.8	25.8	27.8	27.5	26.4	24.0	23.7	23.4	23.3
20.1	19.6	20.6	20.6	19.3	18.5	18.4	18.1	18.1
5.7	6.2	7.2	6.9	7.4	5.2	4.9	4.9	4.9
88.9	86.1	86.8	85.7	82.7	82.8	:	:	:
1.8	2.0	4.0	1.9	1.1	0.0	0.1	0.2	0.2
2.4	2.1	3.6	1.1	0.2	-0.8	-0.6	-0.3	-0.1
142.9	137.8	147.9	139.9	147.3	145.7	148.2	153.1	156.9
1.0	1.0	1.2	1.4	1.0	0.7	0.8	1.0	1.1
2.9	2.9	2.8	2.8	2.7	2.7	2.6	2.6	2.6
-1.0	-1.5	-1.0	-0.1	0.1	0.8	1.3	0.5	0.4
2.9	0.8	2.8	-0.4	1.3	1.9	3.5	2.6	2.0
3.3	1.4	3.2	-0.4	1.3	1.6	3.0	2.4	1.9
2.4	3.3	1.7	1.4	0.2	-0.3	-0.4	0.4	0.7
72.6	73.7	74.4	74.8	74.8	74.4	73.8	73.8	74.0
64.3	66.2	67.1	67.9	67.9	67.6	67.2	67.4	67.8
60.6	64.2	64.9	65.7	65.8	65.2	:	:	:
11.4	10.2	9.8	9.1	9.1	9.0	8.8	8.6	8.3
4.4	2.2	3.7	4.7	1.9	3.3	4.1	3.7	3.6
2.4	0.9	0.1	1.1	-1.2	2.8	3.5	1.8	1.6
1.5	1.3	0.9	5.1	0.6	1.3	0.6	1.1	1.5
-2.0	1.5	-2.2	2.1	-0.3	1.3	0.2	0.0	0.1
3.5	-0.2	3.2	3.0	0.9	0.1	0.4	1.1	1.5
2.0	1.2	3.6	3.5	3.1	0.5	0.6	1.9	2.0
1.6	-3.1	-3.3	0.3	-2.0	-5.5	-2.4	-1.5	-1.0
52.8	52.1	49.1	49.2	50.1	51.0	50.9	50.6	50.0
54.5	54.3	56.1	54.4	54.4	53.2	53.2	52.7	52.2
1.6	2.2	7.1	5.2	4.3	2.3	2.3	2.1	2.2
0.1	0.8	4.6	4.5	4.1	2.8	2.8	2.3	2.3
48.6	47.0	44.6	43.8	42.6	45.6	44.8	43.4	42.2
4.8	4.7	5.5	5.0	5.0	4.1	:	:	:
3.6	3.0	4.4	4.3	3.3	2.3	:	:	:
1.2	1.8	1.1	0.8	1.7	1.8	:	:	:
1.2	4.9	2.2	2.0	4.0	4.1	:	:	:
-0.5	-2.1	-4.6	1.2	1.3	4.9	1.4	0.2	:
90.2	88.4	83.4	86.4	86.7	90.6	92.1	92.0	:

Table 90

Main economic indicators 1961–2006
EUR-12 ⁽¹⁾

	1961–73	1974–85	1986–90	1991–95	1996–2000
1. Growth of GDP and its components (real) ⁽²⁾					
1.1. Private consumption	5.4	2.2	3.5	1.3	2.5
1.2. Government consumption	4.3	3.0	2.5	1.8	1.7
1.3. Gross fixed capital formation	5.7	0.1	5.7	-0.1	4.0
1.4. of which equipment	:	1.7	7.4	-1.5	7.2
1.5. of which construction	:	-1.1	4.2	0.6	1.3
1.6. Exports of goods and services	8.7	4.5	5.2	5.7	7.8
1.7. Imports of goods and services	9.8	2.9	7.5	4.1	8.1
1.8. GDP	5.1	2.1	3.3	1.5	2.6
2. Demand components: Contribution to changes in GDP (%) ⁽³⁾					
2.1. Consumption	3.8	1.8	2.5	1.1	1.8
2.2. Investment	1.4	0.0	1.1	0.0	0.8
2.3. Stockbuilding	0.1	-0.1	0.1	0.0	-0.1
2.4. Domestic demand	5.3	1.8	3.7	1.1	2.5
2.8. Net exports	-0.1	0.4	-0.4	0.5	0.1
3. Gross savings and investment in % of GDP at current prices ⁽³⁾					
3.1. Private sector savings	:	22.6	23.0	22.6	22.5
3.2. Net savings of households	:	:	:	:	:
3.3. General government savings	:	0.4	-0.2	-1.3	-1.5
3.4. National savings	26.2	22.9	22.8	21.3	21.8
3.5. Gross capital formation	26.8	23.6	22.2	21.5	21.0
3.6. Current account	0.6	-0.5	0.6	-0.2	0.8
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽³⁾ ⁽⁴⁾	:	79.3	82.8	80.8	82.0
4.2. Trend GDP gap ⁽³⁾	0.2	-0.2	0.0	0.5	-0.1
4.3. Potential GDP gap ⁽³⁾	:	-0.5	-0.1	0.0	-0.1
4.4. Profitability index (1961–73 = 100) ⁽²⁾	100.0	71.0	88.9	93.5	108.1
5. Growth potential					
5.1. Growth of net capital stock (real) ⁽²⁾	4.9	3.0	2.5	2.3	2.2
5.2. Net capital/output ratio (real) ⁽³⁾	2.9	3.1	3.1	3.2	3.2
5.3. Growth of capital intensity ⁽²⁾	4.6	2.9	1.0	2.6	0.8
5.4. Labour productivity growth ⁽²⁾	4.8	2.1	1.9	1.9	1.2
5.5. Total factor productivity growth ⁽²⁾	3.2	1.1	1.5	0.9	0.9
6. Employment and unemployment					
6.1. Employment ⁽²⁾	0.3	0.1	1.5	-0.3	1.6
6.2. Activity rate ⁽³⁾	64.2	63.0	63.3	65.4	67.0
6.3. Employment rate (benchmark) ⁽³⁾	62.8	59.2	57.7	59.2	60.4
6.4. Employment rate (full-time equivalent) ⁽³⁾	:	:	:	:	54.3
6.5. Unemployment rate (Eurostat definition) ⁽³⁾	:	:	:	9.6	9.9
7. Prices and wages ⁽²⁾					
7.1. Nominal wages per head	10.3	11.3	5.2	4.9	2.1
7.2. Real wages per head ⁽³⁾	5.6	1.4	1.4	0.9	0.3
7.3. Nominal unit labour costs	5.2	9.0	3.2	3.0	0.9
7.4. Real unit labour costs	0.1	-0.3	-1.1	-0.6	-0.7
7.5. GDP deflator	5.1	9.3	4.4	3.7	1.6
7.6. Private consumption deflator	4.5	9.7	3.8	4.0	1.9
8. General government budget, % of GDP ⁽³⁾					
8.1. Expenditure ⁽⁶⁾	:	45.1	48.2	50.6	51.0
8.2. Current revenues ⁽⁶⁾	:	41.2	44.0	45.6	45.9
8.3. Net borrowing (-) or lending (+) ⁽⁶⁾	:	-3.9	-4.2	-5.0	-5.1
8.4. Net borrowing cyclically adjusted ⁽⁶⁾	:	-3.8	-4.2	-5.2	-4.7
8.5. Debt (end of period) ⁽⁷⁾	:	51.7	57.8	73.8	70.6
9. Monetary conditions					
9.1. Long-term interest rate ⁽³⁾	6.9	11.6	9.6	9.1	5.7
9.2. Short-term interest rate ⁽³⁾	5.2	11.0	9.3	9.1	4.3
9.3. Yield curve (9.1–9.2) ⁽³⁾	1.7	0.6	0.3	0.1	1.4
9.4. Real long-term interest rate ⁽³⁾ ⁽⁸⁾	1.6	1.5	4.6	:	3.9
9.5. Nominal effective exchange rate ⁽²⁾	1.4	-1.9	6.0	-0.2	-4.6
9.6. Real effective exchange rate (1995 = 100; ULC in total economy) ⁽²⁾	88.5	95.5	94.2	97.1	88.3

⁽¹⁾ EU-15 excluding DK, SE and UK.

⁽²⁾ 1961–91: including West Germany.

⁽³⁾ 1961–90: including West Germany.

⁽⁴⁾ Manufacturing industry.

⁽⁵⁾ Private consumption deflator.

⁽⁶⁾ Break in 1995 (ESA 95 data), 1991–95 average according to the former definition.

⁽⁷⁾ Break in 1990 (ESA 95 data).

⁽⁸⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
3.0	3.5	2.8	1.9	0.7	1.1	1.5	1.7	2.0
1.4	1.8	2.4	2.6	3.1	1.6	1.5	1.1	1.6
5.3	6.0	5.0	-0.1	-2.4	-0.5	2.2	3.2	3.6
9.5	8.5	8.4	-0.9	-4.8	-1.3	3.1	5.3	5.9
1.6	3.7	2.5	-0.1	-1.2	-0.1	1.7	1.5	1.6
7.3	5.1	12.1	3.3	1.8	0.1	6.6	6.2	5.9
10.0	7.3	11.0	1.6	0.5	1.9	6.2	6.5	6.5
2.8	2.8	3.5	1.6	0.9	0.5	2.1	2.0	2.2
2.0	2.3	2.1	1.5	1.0	0.9	1.2	1.2	1.5
1.1	1.3	1.1	0.0	-0.5	-0.1	0.4	0.7	0.7
0.4	-0.2	-0.1	-0.5	-0.1	0.3	0.2	0.1	0.1
3.5	3.5	3.0	1.0	0.4	1.2	1.8	2.0	2.3
-0.6	-0.6	0.5	0.7	0.5	-0.6	0.3	0.0	-0.1
21.1	19.9	19.4	19.6	20.1	20.1	20.8	20.8	20.9
:	:	:	:	:	:	:	:	:
0.9	2.0	2.3	1.8	0.8	0.2	0.1	0.5	0.7
22.0	21.9	21.8	21.3	20.9	20.2	20.9	21.3	21.6
21.0	21.4	21.9	20.9	19.9	19.8	20.3	20.9	21.1
1.0	0.6	-0.2	0.4	1.0	0.4	0.8	0.8	0.7
82.9	81.8	83.8	83.6	81.4	81.1	:	:	:
-0.3	0.4	1.9	1.5	0.5	-0.9	-0.7	-0.5	-0.3
-0.3	0.4	1.6	1.0	0.0	-1.3	-1.2	-1.1	-1.0
110.9	112.0	110.9	109.9	109.7	108.9	112.5	114.4	116.4
2.1	2.3	2.4	2.2	1.8	1.7	1.7	1.8	1.9
3.2	3.2	3.1	3.1	3.2	3.2	3.2	3.2	3.2
0.2	0.7	0.2	0.9	1.3	1.6	1.3	0.9	1.0
0.9	1.2	1.3	0.3	0.4	0.5	1.7	1.1	1.2
0.8	0.9	1.2	-0.1	-0.1	-0.2	1.2	0.8	0.8
1.9	2.2	2.4	1.5	0.6	0.3	0.5	1.0	1.0
66.9	67.6	68.4	68.9	69.4	69.8	70.0	70.5	70.9
60.1	61.3	62.7	63.5	63.6	63.7	63.8	64.3	64.8
55.0	56.0	57.0	57.5	57.8	57.6	:	:	:
10.2	9.4	8.4	8.0	8.4	8.9	8.9	8.9	8.6
1.2	2.2	2.6	2.9	2.7	2.6	2.2	2.3	2.4
-0.2	1.0	0.4	0.5	0.5	0.6	0.2	0.4	0.7
0.3	1.0	1.3	2.5	2.3	2.1	0.6	1.2	1.2
-1.4	-0.1	-0.1	0.1	-0.2	0.0	-1.4	-0.6	-0.5
1.7	1.1	1.4	2.4	2.5	2.0	1.9	1.8	1.7
1.5	1.1	2.2	2.3	2.2	2.0	2.0	1.9	1.7
49.3	48.8	47.1	48.2	48.5	49.0	48.5	48.0	47.7
47.0	47.5	47.2	46.5	46.1	46.3	45.6	45.5	45.2
-2.2	-1.3	0.1	-1.7	-2.4	-2.7	-2.9	-2.5	-2.5
-2.2	-1.5	-1.7	-2.3	-2.4	-2.2	-2.5	-2.1	-2.2
74.3	72.9	70.6	69.6	69.6	70.9	71.3	71.3	71.1
4.8	4.7	5.4	5.0	4.9	4.1	:	:	:
4.2	3.1	4.5	4.3	3.3	2.3	:	:	:
0.6	1.5	1.0	0.7	1.6	1.8	:	:	:
2.9	3.4	3.8	2.5	2.3	2.0	:	:	:
0.5	-4.7	-10.2	1.2	3.1	11.7	3.1	0.7	:
89.5	84.9	75.5	76.6	79.8	89.4	91.6	91.1	:

Table 91

Main economic indicators 1961–2006

Czech Republic

	1993	1994	1995	1996	1997
1. Growth of GDP and its components (real)					
1.1. Private consumption	1.2	6.9	5.9	8.8	1.3
1.2. Government consumption	3.6	0.2	-4.3	1.5	1.4
1.3. Gross fixed capital formation	0.2	9.1	19.8	7.6	-3.4
1.4. of which equipment	-5.0	16.2	30.0	14.1	-2.9
1.5. of which construction	1.8	2.8	9.1	9.7	-2.9
1.6. Exports of goods and services	15.8	1.7	16.7	5.5	8.5
1.7. Imports of goods and services	23.8	14.7	21.2	12.1	7.0
1.8. GDP	0.1	2.2	5.9	4.2	-0.7
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	1.4	3.4	2.0	4.7	1.0
2.2. Investment	0.1	2.4	5.6	2.4	-1.1
2.3. Stockbuilding	0.7	2.3	1.0	0.9	-1.0
2.4. Domestic demand	2.1	8.1	8.6	8.0	-1.1
2.5. Exports	6.7	0.8	8.1	2.8	4.4
2.6. Final demand	8.8	8.9	16.8	10.8	3.3
2.7. Imports	-8.7	-6.7	-10.8	-6.7	-4.1
2.8. Net exports	-2.0	-5.9	-2.7	-3.9	0.2
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	20.7	21.3	23.3	21.8	19.9
3.2. Net savings of households	:	:	4.9	3.3	4.7
3.3. General government savings	7.0	6.0	5.7	4.8	4.6
3.4. National savings	27.7	27.3	29.0	26.5	24.5
3.5. Gross capital formation	26.2	28.4	32.5	33.0	30.6
3.6. Current account	0.7	-2.5	-2.5	-6.7	-6.3
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	:	:	82.6
4.2. Trend GDP gap	:	:	1.4	3.7	1.1
4.3. Potential GDP gap	:	:	:	:	-1.7
4.4. Profitability index (1961–73 = 100)	:	:	:	:	:
5. Growth potential					
5.1. Growth of net capital stock (real)	:	:	:	:	:
5.2. Net capital/output ratio (real)	:	:	:	:	:
5.3. Growth of capital intensity	:	:	:	:	:
5.4. Labour productivity growth	:	:	:	4.6	-0.9
5.5. Total factor productivity growth	:	:	:	:	:
6. Employment and unemployment					
6.1. Employment	:	1.2	0.9	0.1	-0.6
6.2. Activity rate	:	:	72.1	72.0	72.2
6.3. Employment rate (benchmark)	69.0	69.4	69.7	69.5	68.9
6.4. Employment rate (full-time equivalent)	:	:	:	:	:
6.5. Unemployment rate (Eurostat definition)	:	:	3.9	3.8	4.7
7. Prices and wages					
7.1. Nominal wages per head	:	:	:	18.2	11.1
7.2. Real wages per head ⁽²⁾	:	:	:	10.0	2.2
7.3. Nominal unit labour costs	:	:	:	13.0	12.1
7.4. Real unit labour costs	:	:	:	3.9	3.5
7.5. GDP deflator	21.0	13.4	10.2	8.7	8.3
7.6. Private consumption deflator	16.8	10.1	9.2	7.4	8.6
7.7. Terms of trade	6.6	5.6	0.5	0.5	0.3
8. General government budget, % of GDP					
8.1. Expenditure	67.0	47.5	54.4	42.8	42.4
8.2. Current revenues	45.0	44.3	41.0	39.7	40.0
8.3. Net borrowing (-) or lending (+)	-22.0	-3.2	-13.4	-3.1	-2.4
8.4. Net borrowing cyclically adjusted	:	:	:	:	:
8.5. Debt (end of period)	:	:	:	13.1	12.7
9. Monetary conditions					
9.1. Long-term interest rate	:	:	:	:	:
9.2. Short-term interest rate	13.1	9.1	11.0	12.0	16.0
9.3. Yield curve (9.1–9.2)	:	:	:	:	:
9.4. Real long-term interest rate ⁽³⁾	:	:	:	:	:
9.5. Nominal effective exchange rate	:	:	:	:	:
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	:	:	:	:	:

⁽¹⁾ Manufacturing industry 2000.

⁽²⁾ Private consumption deflator.

⁽³⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
-1.5	2.1	2.9	2.6	2.8	4.9	3.9	3.7	3.8
-1.0	5.4	0.2	3.8	4.5	2.2	-0.2	-0.1	0.1
-1.1	-3.5	4.9	5.4	3.4	7.4	11.7	8.8	6.8
0.3	-1.8	11.8	-5.6	1.7	2.6	9.7	8.0	6.4
1.3	-11.5	-5.3	21.1	0.2	5.8	13.9	9.8	7.4
10.6	5.7	16.8	11.8	2.7	6.2	15.0	10.7	7.9
8.4	5.0	16.2	12.9	4.9	7.8	15.0	10.7	7.2
-1.1	1.2	3.9	2.6	1.5	3.1	3.8	3.8	4.0
-1.0	2.3	1.6	2.2	2.5	3.1	2.1	2.0	2.1
-0.4	-1.1	1.5	1.6	1.1	2.4	3.9	3.2	2.6
-0.4	-0.2	1.3	0.4	0.1	-0.4	0.7	0.1	-0.2
-1.8	0.9	4.4	4.3	3.6	5.1	6.6	5.3	4.4
6.0	3.6	11.1	8.7	2.2	5.0	12.6	9.9	7.8
4.1	4.5	15.4	13.0	5.8	10.1	19.2	15.2	12.2
-5.4	-3.5	-11.7	-10.5	-4.4	-7.2	-14.5	-11.4	-8.2
0.6	0.1	-0.7	-1.8	-2.2	-2.2	-1.9	-1.5	-0.4
22.3	21.3	21.7	21.0	20.3	19.2	19.5	20.1	20.4
3.8	3.0	2.0	1.4	2.6	1.8	:	:	:
4.2	3.2	2.2	2.5	2.0	2.2	2.8	3.4	3.9
26.5	24.5	23.9	23.5	22.3	21.4	22.3	23.5	24.3
28.5	26.9	28.8	28.9	27.9	27.6	28.4	29.5	30.0
-2.1	-2.5	-4.9	-5.4	-5.6	-6.2	-6.1	-6.0	-5.7
82.6	81.5	84.6	85.7	83.3	85.1	:	:	:
-1.9	-2.6	-1.0	-0.7	-1.7	-1.4	-0.6	0.2	1.0
-4.3	-4.3	-1.9	-0.9	-1.5	-1.1	-0.6	-0.2	0.3
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
0.9	4.3	4.6	2.2	0.0	3.3	4.7	3.9	3.9
:	:	:	:	:	:	:	:	:
-1.4	-2.3	-0.7	0.7	1.1	-0.7	-0.9	-0.1	0.1
72.4	72.2	71.5	71.4	71.5	71.1	70.5	70.0	69.7
67.7	66.0	65.3	65.6	66.3	65.5	64.6	64.3	64.1
65.0	63.9	63.2	63.4	64.7	64.1	:	:	:
6.4	8.6	8.7	8.0	7.3	7.8	8.3	8.2	8.0
9.0	7.7	5.7	7.6	6.2	6.7	6.4	7.9	6.6
0.3	5.0	2.6	4.0	5.4	7.4	4.1	5.8	4.6
8.0	3.3	1.1	5.3	6.2	3.3	1.7	3.9	2.6
-2.9	0.5	-0.3	0.3	3.4	1.6	-3.0	0.8	-0.1
11.2	2.8	1.4	4.9	2.8	1.7	4.8	3.1	2.7
8.7	2.6	3.0	3.5	0.7	-0.7	2.2	2.0	1.9
6.2	-0.7	-3.1	1.9	2.6	1.3	1.1	0.2	0.0
43.8	42.9	42.1	45.0	46.9	54.5	46.7	46.3	45.8
38.8	39.2	38.5	39.1	40.2	41.9	41.9	41.6	41.5
-5.0	-3.6	-3.7	-5.9	-6.8	-12.6	-4.8	-4.7	-4.3
:	:	:	:	:	:	:	:	:
15.0	16.0	18.2	25.3	28.8	37.8	37.8	39.4	40.6
:	:	6.9	6.3	4.9	4.1	:	:	:
14.3	6.9	5.4	5.2	3.5	2.3	:	:	:
:	:	1.6	1.1	1.3	1.9	:	:	:
:	:	5.5	1.3	2.1	2.4	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:

Table 92

Main economic indicators 1961–2006

Denmark

	1961–73	1974–85	1986–90	1991–95	1996–2000
1. Growth of GDP and its components (real)					
1.1. Private consumption	3.7	1.2	0.3	2.3	1.5
1.2. Government consumption	5.7	2.7	0.3	2.1	2.0
1.3. Gross fixed capital formation	6.7	-1.0	1.7	1.8	6.6
1.4. of which equipment	:	2.5	0.6	2.6	7.9
1.5. of which construction	:	-3.0	-0.5	-0.7	3.9
1.6. Exports of goods and services	6.5	4.3	5.2	2.7	7.6
1.7. Imports of goods and services	7.1	2.3	3.9	3.8	8.2
1.8. GDP	4.4	1.5	1.3	2.0	2.7
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	3.4	1.4	0.3	1.7	1.3
2.2. Investment	1.5	-0.2	0.3	0.3	1.3
2.3. Stockbuilding	-0.1	0.0	-0.1	0.1	0.0
2.4. Domestic demand	-4.8	1.1	0.8	2.2	2.6
2.5. Exports	1.3	1.0	1.6	1.0	2.9
2.6. Final demand	6.2	2.2	1.9	3.1	5.5
2.7. Imports	-1.7	-0.6	-1.0	-1.1	-2.8
2.8. Net exports	-0.4	0.5	0.5	-0.2	0.1
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	17.6	17.1	16.5	21.2	19.2
3.2. Net savings of households	:	:	0.1	1.3	-1.3
3.3. General government savings	6.2	1.0	2.8	-1.4	2.1
3.4. National savings	23.8	18.1	19.3	19.8	21.3
3.5. Gross capital formation	26.0	21.6	21.4	18.2	20.4
3.6. Current account	-1.9	-3.5	-2.2	1.6	0.8
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	64.8	80.2	82.9
4.2. Trend GDP gap	0.6	-0.7	1.4	-1.6	1.0
4.3. Potential GDP gap	:	-1.3	0.5	-2.1	0.9
4.4. Profitability index (1961–73 = 100)	100.0	76.9	86.6	96.8	122.1
5. Growth potential					
5.1. Growth of net capital stock (real)	4.3	1.9	1.9	0.7	1.5
5.2. Net capital/output ratio (real)	2.9	3.2	3.1	3.1	2.9
5.3. Growth of capital intensity	3.1	1.6	1.7	0.7	0.4
5.4. Labour productivity growth	3.3	1.2	1.0	2.0	1.6
5.5. Total factor productivity growth	2.0	0.6	0.4	1.8	1.4
6. Employment and unemployment					
6.1. Employment	1.3	0.5	0.9	-0.6	1.0
6.2. Activity rate	72.1	76.9	81.5	80.0	78.8
6.3. Employment rate (benchmark)	71.4	72.2	76.7	73.4	74.7
6.4. Employment rate (full-time equivalent)	:	:	:	66.0	67.0
6.5. Unemployment rate (Eurostat definition)	1.0	6.1	5.9	8.1	5.1
7. Prices and wages					
7.1. Nominal wages per head	10.8	10.6	5.3	3.0	3.7
7.2. Real wages per head ⁽²⁾	4.0	0.8	1.3	0.6	1.5
7.3. Nominal unit labour costs	7.3	9.3	4.2	0.9	2.0
7.4. Real unit labour costs	0.3	-0.2	0.1	-1.2	0.0
7.5. GDP deflator	7.0	9.5	4.1	2.1	2.1
7.6. Private consumption deflator	6.6	9.7	4.0	2.3	2.1
7.7. Terms of trade	0.4	-1.3	1.7	0.5	1.0
8. General government budget, % of GDP					
8.1. Expenditure ⁽³⁾	34.7	52.1	56.0	60.0	56.6
8.2. Current revenues ⁽³⁾	38.4	50.0	57.3	56.9	57.0
8.3. Net borrowing (-) or lending (+) ⁽³⁾	2.1	-2.1	1.3	-3.1	0.4
8.4. Net borrowing cyclically adjusted ⁽³⁾	:	-1.2	0.9	-1.5	-0.3
8.5. Debt (end of period) ⁽⁴⁾	9.1	76.4	63.1	71.0	52.3
9. Monetary conditions					
9.1. Long-term interest rate	9.0	16.0	10.3	8.3	5.8
9.2. Short-term interest rate	7.0	12.6	9.6	8.7	4.0
9.3. Yield curve (9.1–9.2)	2.0	3.4	0.8	-0.3	1.8
9.4. Real long-term interest rate ⁽⁵⁾	1.8	5.9	6.0	6.1	3.6
9.5. Nominal effective exchange rate	0.1	-1.1	3.0	1.8	-1.9
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	76.6	90.9	96.7	96.9	98.3

⁽¹⁾ Manufacturing industry.

⁽²⁾ Private consumption deflator.

⁽³⁾ From 1974 (ESA 95 data), 1961–73 average according to the former definition.

⁽⁴⁾ Break in 1990 (ESA 95 data).

⁽⁵⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
2.3	0.7	-0.7	-0.2	0.6	0.8	3.2	2.9	1.9
3.1	2.0	0.9	2.7	2.1	1.0	0.3	0.5	0.5
10.0	1.4	7.1	4.9	4.5	0.1	3.2	3.5	2.6
13.8	5.5	8.4	7.0	6.5	0.8	3.5	4.3	2.6
4.2	-5.7	6.9	3.4	1.7	-0.8	3.1	2.7	2.5
4.3	12.2	13.4	4.4	4.8	0.0	5.6	5.2	4.6
8.9	5.5	13.5	3.4	7.3	-0.6	6.4	5.6	4.4
2.5	2.6	2.8	1.6	1.0	0.5	2.3	2.4	2.0
1.9	0.8	-0.1	0.6	0.8	0.7	1.6	1.5	1.0
2.0	0.3	1.5	1.1	1.0	0.0	0.8	0.9	0.6
-0.1	-1.1	0.9	-0.7	0.0	-0.4	0.0	0.0	0.0
3.9	0.1	2.4	1.0	1.8	0.3	2.4	2.4	1.7
1.6	4.5	5.5	2.0	2.2	0.0	2.7	2.5	2.3
5.5	4.6	7.8	3.0	4.0	0.2	5.1	4.9	4.1
-3.0	-2.0	-5.0	-1.4	-3.0	0.3	-2.8	-2.5	-2.1
-1.4	2.6	0.5	0.6	-0.8	0.3	-0.1	0.0	0.2
18.9	17.4	19.2	20.1	20.9	20.9	20.5	20.3	20.7
-0.6	-2.9	-1.6	0.5	1.0	:	:	:	:
1.8	4.1	3.3	3.5	1.9	1.7	2.3	3.0	3.2
20.8	21.5	22.5	23.6	22.9	22.6	22.8	23.3	23.9
21.7	19.7	21.0	20.5	20.8	19.7	19.6	19.8	20.0
-0.9	1.8	1.5	3.1	2.0	2.9	3.2	3.5	3.9
85.5	82.2	82.5	82.8	81.2	80.6	:	:	:
0.9	1.3	1.9	1.4	0.4	-1.0	-0.7	-0.3	-0.2
0.8	1.2	1.8	1.3	0.2	-1.1	-0.7	-0.3	-0.2
118.6	124.6	133.6	130.6	130.6	134.7	141.4	144.3	145.4
1.8	1.6	1.8	1.8	1.9	1.7	1.8	2.0	2.0
2.9	2.8	2.8	2.8	2.8	2.9	2.9	2.9	2.9
0.1	-0.5	1.5	1.5	2.3	2.6	1.4	1.4	1.7
0.8	0.5	2.5	1.3	1.4	1.4	1.9	1.8	1.6
0.8	0.7	1.9	0.7	0.5	0.4	1.3	1.3	1.0
0.4	0.5	0.7	0.2	-0.4	-0.8	0.4	0.6	0.3
78.7	79.0	79.1	79.1	78.9	79.0	79.5	79.5	79.4
74.8	75.1	75.6	75.7	75.2	74.5	74.8	75.2	75.4
67.8	69.7	69.3	69.8	69.7	68.4	:	:	:
4.9	4.8	4.4	4.3	4.6	5.6	5.8	5.3	4.9
3.6	2.2	4.2	4.6	3.2	3.6	3.3	3.3	3.5
2.2	-0.2	1.6	2.1	1.0	1.8	1.8	1.5	1.7
2.8	1.8	1.6	3.3	1.8	2.2	1.4	1.5	1.8
1.8	-0.1	-1.3	1.2	0.2	-0.1	-0.4	-0.5	-0.2
1.0	1.8	3.0	2.1	1.6	2.2	1.9	1.9	2.0
1.3	2.4	2.6	2.5	2.1	1.8	1.4	1.7	1.7
0.0	1.4	1.1	0.2	0.4	2.2	0.4	0.1	0.2
56.8	55.5	54.1	54.4	55.0	55.3	54.7	53.7	52.8
57.0	58.0	55.8	56.4	55.7	55.6	55.7	55.3	54.6
0.2	2.4	1.7	2.1	0.7	0.3	1.0	1.5	1.7
-0.4	1.5	0.3	0.9	0.5	1.2	1.5	1.8	1.9
59.2	55.8	52.3	49.2	48.8	45.9	43.4	40.3	38.0
4.9	4.9	5.6	5.1	5.1	4.3	:	:	:
4.1	3.4	5.0	4.7	3.5	2.4	:	:	:
0.8	1.5	0.6	0.4	1.5	1.9	:	:	:
3.9	3.0	2.6	3.0	3.4	2.0	:	:	:
1.0	-1.7	-4.5	1.5	1.2	4.3	1.0	-0.2	:
100.0	99.0	94.2	96.2	97.5	102.2	104.5	104.6	:

Table 93

Main economic indicators 1961–2006

Estonia

	1993	1994	1995	1996	1997
1. Growth of GDP and its components (real)					
1.1. Private consumption	:	0.6	5.0	10.1	10.5
1.2. Government consumption	:	4.0	13.5	-3.1	-1.3
1.3. Gross fixed capital formation	:	9.2	5.6	9.6	19.9
1.4. of which equipment	:	:	:	4.5	10.1
1.5. of which construction	:	:	:	13.5	7.7
1.6. Exports of goods and services	:	3.5	5.3	2.8	28.9
1.7. Imports of goods and services	:	11.1	6.4	7.5	29.3
1.8. GDP	:	-1.6	4.5	4.5	10.5
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	:	1.3	6.1	4.8	5.8
2.2. Investment	:	2.1	1.4	2.5	5.4
2.3. Stockbuilding	:	-1.3	0.2	0.4	2.3
2.4. Domestic demand	:	3.5	5.7	8.2	13.9
2.5. Exports	:	2.3	3.6	1.9	19.5
2.6. Final demand	:	4.3	11.4	9.7	32.2
2.7. Imports	:	-7.3	-4.8	-5.7	-22.9
2.8. Net exports	:	-5.1	-1.1	-3.7	-3.4
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	13.4	9.3	13.8	13.8	11.6
3.2. Net savings of households	1.7	1.3	1.1	1.1	0.2
3.3. General government savings	14.4	10.9	7.1	4.6	7.5
3.4. National savings	27.7	20.2	20.9	18.4	19.1
3.5. Gross capital formation	26.1	27.0	26.6	27.0	30.5
3.6. Current account	1.2	-6.8	-4.2	-8.6	-11.4
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	:	:	62.8
4.2. Trend GDP gap	:	:	-0.4	-1.5	2.9
4.3. Potential GDP gap	:	:	-7.3	-7.3	-0.9
4.4. Profitability index (1961–73 = 100)	:	:	:	:	:
5. Growth potential					
5.1. Growth of net capital stock (real)	:	:	:	:	:
5.2. Net capital/output ratio (real)	:	:	:	:	:
5.3. Growth of capital intensity	:	:	:	:	:
5.4. Labour productivity growth	:	1.8	11.4	7.0	10.5
5.5. Total factor productivity growth	:	:	:	:	:
6. Employment and unemployment					
6.1. Employment	-7.9	-3.3	-6.2	-2.3	0.0
6.2. Activity rate	76.3	76.3	74.5	74.1	74.3
6.3. Employment rate (benchmark)	71.0	70.2	67.1	66.4	67.1
6.4. Employment rate (full-time equivalent)	:	:	:	:	66.9
6.5. Unemployment rate (Eurostat definition)	6.6	7.6	9.7	10.0	9.6
7. Prices and wages					
7.1. Nominal wages per head	:	56.6	42.6	24.0	20.1
7.2. Real wages per head ⁽²⁾	:	9.3	14.0	-1.1	10.4
7.3. Nominal unit labour costs	:	53.8	28.0	15.9	8.7
7.4. Real unit labour costs	:	10.7	-2.5	-6.8	-1.6
7.5. GDP deflator	:	38.9	31.3	24.3	10.5
7.6. Private consumption deflator	:	43.3	25.1	25.4	8.7
7.7. Terms of trade	:	-0.5	4.0	-0.9	2.4
8. General government budget, % of GDP					
8.1. Expenditure	35.9	41.9	43.4	42.1	39.2
8.2. Current revenues	45.9	47.4	43.9	40.4	40.9
8.3. Net borrowing (-) or lending (+)	9.7	4.4	0.4	-1.7	1.7
8.4. Net borrowing cyclically adjusted	:	:	:	:	:
8.5. Debt (end of period)	:	:	:	7.5	6.3
9. Monetary conditions					
9.1. Long-term interest rate	:	:	:	:	:
9.2. Short-term interest rate	:	:	:	8.1	8.6
9.3. Yield curve (9.1–9.2)	:	:	:	:	:
9.4. Real long-term interest rate ⁽³⁾	:	:	:	:	:
9.5. Nominal effective exchange rate	:	:	:	:	:
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	:	:	:	:	:

⁽¹⁾ Manufacturing industry 2000.

⁽²⁾ Private consumption deflator.

⁽³⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
5.2	-2.5	8.6	6.2	10.3	5.7	6.5	5.2	5.2
1.7	2.9	1.1	1.8	5.9	5.8	5.1	4.8	4.6
14.0	-15.6	14.3	13.0	17.2	5.4	5.5	6.0	6.2
-1.9	-5.8	:	:	:	:	:	:	:
9.0	-18.1	:	:	:	:	:	:	:
12.0	0.7	28.3	-0.2	0.9	5.7	13.0	11.7	12.5
12.3	-5.2	28.3	2.1	3.7	11.0	9.1	9.7	10.2
5.2	-0.1	7.8	6.4	7.2	5.1	5.9	6.0	6.2
3.4	-0.8	5.1	3.9	7.1	4.5	4.8	4.0	4.0
4.1	-5.0	3.9	3.7	5.2	1.8	1.8	2.0	2.1
-2.6	-0.2	2.6	0.3	1.4	-0.2	0.6	-0.4	-0.5
7.1	-5.7	10.1	8.8	10.4	11.3	7.3	5.6	5.5
9.4	0.6	23.8	-0.2	0.8	5.1	11.6	11.1	12.5
14.2	-5.4	34.3	7.8	14.6	11.1	18.9	16.7	18.0
-11.3	5.1	-26.2	-2.3	-3.9	-11.2	-9.8	-10.8	-11.8
-1.9	5.7	-2.3	-2.5	-3.1	-6.2	1.8	0.3	0.7
16.0	17.3	17.8	16.7	13.7	12.1	10.5	11.4	12.8
0.8	0.9	1.0	1.0	-1.3	:	:	:	:
6.0	3.6	4.6	5.8	7.2	7.2	6.3	6.6	6.2
22.0	20.9	22.4	22.6	20.9	19.3	16.8	18.0	19.0
30.2	25.0	27.9	29.2	31.8	31.1	29.8	29.7	29.1
-8.6	-4.4	-5.5	-5.6	-10.2	-13.2	-13.0	-11.6	-10.2
63.8	63.5	66.7	72.6	74.5	73.7	:	:	:
2.4	-3.2	-1.3	-0.7	0.7	0.1	0.3	0.6	1.2
0.1	-3.6	-0.8	0.2	1.1	-0.2	-0.7	-1.3	-1.7
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
7.6	4.9	11.0	5.6	5.6	4.3	5.6	5.6	5.8
:	:	:	:	:	:	:	:	:
-1.9	-4.4	-1.5	0.8	1.3	1.5	1.6	1.2	1.0
73.0	71.7	71.7	71.7	70.8	72.3	73.4	74.2	74.9
66.2	63.4	62.4	62.9	63.8	64.7	65.9	66.9	67.7
65.8	62.8	61.0	61.5	62.4	62.9	63.3	63.7	64.2
9.2	11.3	12.5	11.8	9.5	10.1	9.7	9.4	9.1
15.7	14.4	10.0	7.7	10.2	8.9	8.6	8.5	7.9
6.7	7.8	7.2	1.5	6.6	8.1	5.1	4.9	5.0
7.6	9.1	-0.9	2.0	4.3	4.4	2.9	2.7	2.0
-1.3	4.7	-5.9	-3.5	-0.1	2.0	-0.9	-1.2	-1.0
9.0	4.3	5.3	5.8	4.4	2.4	3.8	3.9	3.0
8.5	6.2	2.6	6.1	3.4	0.8	3.3	3.4	2.7
1.8	0.1	1.9	2.5	-2.3	3.9	0.1	-0.4	-0.2
39.3	42.6	38.2	36.9	36.6	35.8	38.8	39.4	38.9
38.9	38.8	37.7	37.2	38.0	38.9	39.3	39.6	39.0
-0.3	-3.7	-0.6	0.3	1.4	3.1	0.5	0.2	0.1
:	:	:	:	:	:	:	:	:
5.6	6.0	4.7	4.4	5.3	5.3	4.8	4.4	4.2
13.2	11.4	10.5	10.2	8.4	5.3	:	:	:
13.9	7.8	5.7	5.3	3.9	2.9	:	:	:
-0.7	3.6	4.8	4.8	4.5	2.3	:	:	:
3.8	6.8	4.9	4.1	3.8	2.8	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:

Table 94

Main economic indicators 1961–2006

Cyprus

	1993	1994	1995	1996	1997
1. Growth of GDP and its components (real)					
1.1. Private consumption	:	:	18.1	3.5	3.9
1.2. Government consumption	:	:	1.3	12.6	4.0
1.3. Gross fixed capital formation	:	:	-0.6	7.2	-4.1
1.4. of which equipment	:	:	-2.3	24.6	-4.8
1.5. of which construction	:	:	:	0.6	-3.9
1.6. Exports of goods and services	:	:	24.8	3.6	1.7
1.7. Imports of goods and services	:	:	32.1	6.6	1.2
1.8. GDP	0.7	5.9	6.5	1.9	2.3
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	:	:	10.6	4.2	3.2
2.2. Investment	:	:	-0.1	1.4	-0.8
2.3. Stockbuilding	:	:	-1.9	-0.8	-1.1
2.4. Domestic demand	:	:	10.0	3.8	2.1
2.5. Exports	:	:	11.7	2.0	0.9
2.6. Final demand	:	:	20.4	6.8	2.2
2.7. Imports	:	:	-15.2	-3.9	-0.7
2.8. Net exports	:	:	-3.5	-1.9	0.2
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	:	:	:	:	:
3.2. Net savings of households	:	:	:	:	:
3.3. General government savings	:	:	:	:	:
3.4. National savings	:	27.0	21.6	17.9	16.5
3.5. Gross capital formation	24.0	25.4	22.1	22.5	20.1
3.6. Current account	:	1.2	-2.1	-5.7	-4.2
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	:	:	:
4.2. Trend GDP gap	:	:	1.1	-0.6	-1.8
4.3. Potential GDP gap	:	:	1.4	-0.7	-1.9
4.4. Profitability index (1961–73 = 100)	:	:	:	:	:
5. Growth potential					
5.1. Growth of net capital stock (real)	:	:	:	:	:
5.2. Net capital/output ratio (real)	:	:	:	:	:
5.3. Growth of capital intensity	:	:	:	:	:
5.4. Labour productivity growth	:	:	:	1.1	2.2
5.5. Total factor productivity growth	:	:	:	:	:
6. Employment and unemployment					
6.1. Employment	:	:	:	:	:
6.2. Activity rate	:	:	:	:	:
6.3. Employment rate (benchmark)	:	:	:	:	:
6.4. Employment rate (full-time equivalent)	:	:	:	:	:
6.5. Unemployment rate (Eurostat definition)	:	:	3.4	4.5	4.9
7. Prices and wages					
7.1. Nominal wages per head	:	:	7.4	6.3	11.8
7.2. Real wages per head ⁽²⁾	:	:	5.0	3.8	9.0
7.3. Nominal unit labour costs	:	:	:	5.1	9.4
7.4. Real unit labour costs	:	:	:	3.3	6.5
7.5. GDP deflator	5.1	5.3	3.0	1.8	2.7
7.6. Private consumption deflator	:	:	2.3	2.4	2.5
7.7. Terms of trade	:	:	0.3	-2.2	1.7
8. General government budget, % of GDP					
8.1. Expenditure	:	:	:	:	:
8.2. Current revenues	:	:	:	:	:
8.3. Net borrowing (-) or lending (+)	:	:	:	:	:
8.4. Net borrowing cyclically adjusted	:	:	:	:	:
8.5. Debt (end of period)	:	:	:	:	:
9. Monetary conditions					
9.1. Long-term interest rate	:	:	:	:	6.9
9.2. Short-term interest rate	:	:	:	:	:
9.3. Yield curve (9.1–9.2)	:	:	:	:	:
9.4. Real long-term interest rate ⁽³⁾	:	:	:	:	4.1
9.5. Nominal effective exchange rate	:	:	:	:	:
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	:	:	:	:	:

⁽¹⁾ Manufacturing industry 2000.

⁽²⁾ Private consumption deflator.

⁽³⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
8.6	2.8	8.2	4.6	2.5	2.4	3.2	3.4	3.5
7.3	-7.7	-0.1	10.4	8.5	1.7	-3.2	2.3	2.7
7.9	-1.0	3.8	3.2	8.0	-3.4	5.3	6.4	6.6
24.3	-3.4	11.6	1.8	14.4	-16.6	5.0	6.5	6.5
0.4	0.4	-1.2	3.8	4.2	5.8	5.4	6.4	6.7
0.0	6.5	9.0	3.4	-5.1	0.3	4.7	5.1	5.4
7.7	-1.6	9.0	3.8	1.5	-1.2	2.8	4.8	4.8
4.8	4.7	5.0	4.0	2.0	2.0	3.5	3.9	4.2
6.9	0.5	5.4	4.8	3.1	2.0	1.7	2.8	2.9
1.5	-0.2	0.7	0.6	1.5	-0.7	1.0	1.2	1.3
0.8	0.1	0.9	-1.2	0.2	-0.2	0.1	0.0	0.0
9.5	0.2	5.4	4.4	5.8	1.1	2.7	4.0	4.1
0.0	3.5	4.9	1.9	-2.9	0.2	2.4	2.6	2.8
9.3	3.8	11.9	6.1	1.9	1.3	5.1	6.6	7.0
-4.7	1.0	-5.3	-2.3	-0.9	0.7	-1.7	-2.8	-2.8
-4.7	4.5	-0.4	-0.4	-3.8	0.9	0.7	-0.2	0.0
15.1	19.5	15.8	13.6	:	17.4	17.3	16.2	16.6
:	:	:	:	:	:	:	:	:
-0.8	-1.3	1.1	1.2	-0.9	-2.4	-1.1	1.0	1.7
14.3	18.2	16.9	14.7	:	15.1	16.2	17.2	18.3
21.2	20.1	20.0	18.7	20.0	18.4	20.9	21.7	22.2
-6.8	-1.7	-3.5	-4.0	:	-3.5	-4.5	-4.4	-3.7
:	:	:	:	68.9	68.7	:	:	:
-0.7	0.3	1.6	2.0	0.5	-1.0	-1.1	-0.8	-0.3
-0.9	0.2	1.4	1.8	-0.2	-1.4	-1.1	-0.7	-0.1
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
3.8	2.6	2.5	1.9	0.8	1.1	2.4	2.5	2.8
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	62.7	64.0	66.2	67.4	67.8	:	:	:
5.0	5.3	5.2	4.4	3.9	4.4	4.2	4.0	3.7
0.1	4.8	7.2	4.7	4.4	4.9	4.0	4.5	4.5
-0.9	2.7	2.1	2.8	2.0	1.0	1.5	2.0	2.4
-3.5	2.1	4.5	2.7	3.6	3.7	1.6	2.0	1.7
-5.9	-0.1	0.1	0.4	0.8	-1.5	-1.4	-0.8	-0.8
2.5	2.2	4.5	2.3	2.8	5.3	3.0	2.8	2.5
1.1	2.1	4.9	1.8	2.4	3.8	2.4	2.4	2.1
3.3	0.0	-3.4	1.8	1.1	1.0	-3.1	-0.5	0.4
38.6	38.7	38.7	40.4	41.9	46.1	45.6	44.4	43.9
34.3	34.2	36.3	38.0	37.3	39.7	40.4	41.4	41.4
-4.3	-4.5	-2.4	-2.4	-4.6	-6.4	-5.2	-3.0	-2.4
:	:	:	:	:	:	:	:	:
61.6	62.0	61.6	64.3	67.4	70.9	72.6	72.4	69.4
6.7	7.4	7.6	7.7	5.4	4.7	:	:	:
:	6.3	6.4	5.9	4.4	3.9	:	:	:
:	1.1	1.1	1.7	1.0	0.8	:	:	:
4.1	5.0	2.9	5.2	2.5	-0.5	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:

Table 95

Main economic indicators 1961–2006
Latvia

	1993	1994	1995	1996	1997
1. Growth of GDP and its components (real)					
1.1. Private consumption	:	:	:	10.6	5.0
1.2. Government consumption	:	:	:	1.8	-5.9
1.3. Gross fixed capital formation	:	:	:	22.3	20.7
1.4. of which equipment	:	:	:	:	:
1.5. of which construction	:	:	:	:	:
1.6. Exports of goods and services	:	:	:	20.2	13.1
1.7. Imports of goods and services	:	:	:	28.5	6.8
1.8. GDP	-11.4	2.2	-0.9	3.8	8.3
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	:	:	:	7.1	1.9
2.2. Investment	:	:	:	3.1	3.4
2.3. Stockbuilding	:	:	:	-1.3	-1.4
2.4. Domestic demand	:	:	:	7.9	5.6
2.5. Exports	:	:	:	8.6	6.5
2.6. Final demand	:	:	:	15.8	12.1
2.7. Imports	:	:	:	-12.8	-3.8
2.8. Net exports	:	:	:	-4.2	2.7
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	32.0	29.3	13.8	8.0	10.8
3.2. Net savings of households	1.6	0.9	-1.4	0.3	1.8
3.3. General government savings	5.1	2.3	0.2	2.1	3.1
3.4. National savings	37.0	31.6	13.9	10.2	13.9
3.5. Gross capital formation	8.3	17.3	14.3	15.2	19.5
3.6. Current account	17.8	5.0	-0.4	-5.0	-5.6
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	:	:	57.6
4.2. Trend GDP gap	:	:	1.8	-0.5	1.6
4.3. Potential GDP gap	:	:	-3.1	-2.5	1.1
4.4. Profitability index (1961–73 = 100)	:	:	:	:	:
5. Growth potential					
5.1. Growth of net capital stock (real)	:	:	:	:	:
5.2. Net capital/output ratio (real)	:	:	:	:	:
5.3. Growth of capital intensity	:	:	:	:	:
5.4. Labour productivity growth	-4.8	13.7	10.6	5.8	3.7
5.5. Total factor productivity growth	:	:	:	:	:
6. Employment and unemployment					
6.1. Employment	:	:	:	:	:
6.2. Activity rate	:	:	:	:	:
6.3. Employment rate (benchmark)	:	:	:	:	:
6.4. Employment rate (full-time equivalent)	:	:	:	:	:
6.5. Unemployment rate (Eurostat definition)	8.7	16.7	18.9	20.6	15.2
7. Prices and wages					
7.1. Nominal wages per head	138.1	63.9	8.8	27.3	13.0
7.2. Real wages per head ⁽²⁾	:	:	:	9.5	4.0
7.3. Nominal unit labour costs	150.2	44.2	-1.7	20.4	8.9
7.4. Real unit labour costs	51.8	5.8	-14.6	4.8	1.8
7.5. GDP deflator	64.8	36.2	15.1	14.9	7.0
7.6. Private consumption deflator	:	:	:	16.3	8.7
7.7. Terms of trade	:	:	:	-3.0	-6.2
8. General government budget, % of GDP					
8.1. Expenditure	35.1	38.5	39.3	37.4	36.8
8.2. Current revenues	37.3	37.1	37.3	37.0	38.3
8.3. Net borrowing (-) or lending (+)	2.2	-1.3	-2.0	-0.5	1.5
8.4. Net borrowing cyclically adjusted	:	:	:	:	:
8.5. Debt (end of period)	:	:	:	13.8	11.1
9. Monetary conditions					
9.1. Long-term interest rate	:	:	:	:	:
9.2. Short-term interest rate	:	:	:	:	6.0
9.3. Yield curve (9.1–9.2)	:	:	:	:	:
9.4. Real long-term interest rate ⁽³⁾	:	:	:	:	:
9.5. Nominal effective exchange rate	:	:	:	:	:
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	:	:	:	:	:

⁽¹⁾ Manufacturing industry 2000.

⁽²⁾ Private consumption deflator.

⁽³⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
0.7	4.3	6.3	7.3	7.4	8.6	9.0	8.5	8.0
13.1	0.0	-1.9	0.3	2.4	2.5	2.7	3.5	3.3
61.4	-6.8	10.2	11.4	13.0	7.8	12.0	11.0	10.5
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
4.9	-6.4	12.0	6.9	6.3	4.3	11.9	8.6	7.7
19.0	-5.2	4.9	12.6	4.5	13.1	14.3	10.4	9.2
4.7	3.3	6.9	8.0	6.4	7.5	7.5	6.7	6.7
3.1	2.7	3.6	4.7	5.1	5.9	6.2	6.1	5.8
11.1	-1.9	2.6	3.0	3.5	2.2	3.4	3.3	3.2
-1.3	-1.0	-4.4	2.6	3.9	4.5	0.8	-0.2	0.0
12.6	3.4	4.0	11.7	6.0	12.9	10.5	9.1	9.0
2.5	-3.3	5.6	3.4	3.1	2.1	5.6	4.2	3.8
14.5	0.4	9.7	14.8	9.1	14.7	16.1	13.3	12.9
-10.4	3.2	-2.8	-7.0	-2.6	-7.5	-8.6	-6.6	-6.1
-7.9	-0.1	2.8	-3.6	0.4	-5.5	-3.0	-2.4	-2.3
12.7	15.5	16.8	16.9	19.1	18.5	18.1	19.5	20.1
1.2	-0.9	0.5	0.4	:	:	:	:	:
1.6	-1.3	0.3	1.1	0.8	1.7	0.7	-0.8	-1.1
14.3	14.2	17.0	18.0	19.8	20.3	18.7	18.7	19.0
24.1	23.2	23.4	26.9	26.8	28.8	28.9	28.8	28.9
-9.7	-9.0	-6.4	-8.9	-7.0	-8.6	-9.9	-9.8	-9.6
61.8	57.1	59.4	63.3	71.0	69.9	:	:	:
0.2	-2.6	-2.1	-0.7	-0.7	0.1	0.9	1.0	1.2
-0.7	-2.7	-1.3	0.1	-0.2	0.4	0.7	-0.2	-1.1
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
5.0	5.2	10.1	5.7	4.8	5.6	6.7	6.1	6.1
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
58.2	57.2	56.0	57.6	59.9	61.1	:	:	:
14.3	14.0	13.7	12.9	12.6	10.5	9.9	9.7	9.4
6.2	7.5	6.9	3.4	4.4	10.8	14.0	10.0	7.0
1.5	5.7	3.3	0.7	2.2	7.7	6.8	5.0	3.4
1.1	2.2	-2.9	-2.2	-0.4	4.9	6.9	3.7	0.8
-3.3	-2.4	-6.5	-4.2	-3.7	1.5	0.1	-2.8	-4.0
4.6	4.8	3.8	2.1	3.4	3.4	6.7	6.8	5.1
4.7	1.7	3.5	2.6	2.2	2.9	6.7	4.8	3.5
4.8	3.6	-2.8	0.1	-0.2	3.0	0.5	0.5	1.3
41.3	42.3	37.9	36.5	35.8	36.0	36.0	38.1	37.7
40.6	37.4	35.1	34.4	33.1	34.5	34.0	35.3	34.8
-0.6	-4.9	-2.8	-2.1	-2.7	-1.5	-2.0	-2.8	-2.9
:	:	:	:	:	:	:	:	:
9.8	12.6	12.9	14.9	14.1	14.4	14.6	15.4	16.6
:	:	:	7.6	5.4	4.9	:	:	:
8.4	8.4	5.4	6.9	4.4	3.8	:	:	:
:	:	:	0.7	1.1	1.1	:	:	:
:	:	:	5.3	1.9	1.5	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:

Table 96

Main economic indicators 1961–2006

Lithuania

	1993	1994	1995	1996	1997
1. Growth of GDP and its components (real)					
1.1. Private consumption	:	:	:	6.5	5.3
1.2. Government consumption	:	:	:	2.5	6.3
1.3. Gross fixed capital formation	:	:	14.9	15.2	24.5
1.4. of which equipment	:	:	:	51.5	45.1
1.5. of which construction	:	:	:	2.1	18.3
1.6. Exports of goods and services	:	:	:	19.3	18.7
1.7. Imports of goods and services	:	:	:	23.3	25.0
1.8. GDP	- 16.2	- 9.8	3.3	4.7	7.0
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	:	:	:	4.6	4.8
2.2. Investment	:	:	2.1	2.4	4.2
2.3. Stockbuilding	:	:	:	- 0.4	1.6
2.4. Domestic demand	:	:	:	6.6	10.6
2.5. Exports	:	:	:	7.9	8.7
2.6. Final demand	:	:	:	14.4	19.3
2.7. Imports	:	:	:	- 9.8	- 12.3
2.8. Net exports	:	:	:	- 1.9	- 3.6
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	:	:	9.9	10.2	12.9
3.2. Net savings of households	:	- 6.1	0.7	- 1.3	2.3
3.3. General government savings	:	:	2.9	1.5	1.7
3.4. National savings	:	16.3	12.8	11.8	14.6
3.5. Gross capital formation	19.2	18.4	22.4	20.7	24.6
3.6. Current account	:	- 2.1	- 9.6	- 9.0	- 10.0
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	:	:	51.0
4.2. Trend GDP gap	:	:	1.0	0.4	2.1
4.3. Potential GDP gap	:	:	- 5.3	- 4.4	- 1.8
4.4. Profitability index (1961–73 = 100)	:	:	:	:	:
5. Growth potential					
5.1. Growth of net capital stock (real)	:	:	:	:	:
5.2. Net capital/output ratio (real)	:	:	:	:	:
5.3. Growth of capital intensity	:	:	:	:	:
5.4. Labour productivity growth	- 12.6	- 4.2	5.3	3.7	6.4
5.5. Total factor productivity growth	:	:	:	:	:
6. Employment and unemployment					
6.1. Employment	- 4.2	- 5.8	- 1.9	0.9	0.6
6.2. Activity rate	73.4	69.3	70.8	72.8	72.9
6.3. Employment rate (benchmark)	65.8	62.5	61.8	62.9	63.8
6.4. Employment rate (full-time equivalent)	:	:	:	:	:
6.5. Unemployment rate (Eurostat definition)	10.4	9.9	12.7	13.6	12.5
7. Prices and wages					
7.1. Nominal wages per head	:	67.7	67.5	32.7	23.3
7.2. Real wages per head ⁽²⁾	:	:	:	12.3	12.6
7.3. Nominal unit labour costs	:	75.1	59.1	28.0	15.9
7.4. Real unit labour costs	:	8.3	8.6	6.1	1.7
7.5. GDP deflator	306.2	61.6	46.4	20.6	14.0
7.6. Private consumption deflator	:	:	:	18.2	9.5
7.7. Terms of trade	:	:	:	6.7	4.4
8. General government budget, % of GDP					
8.1. Expenditure	:	:	36.1	37.9	38.3
8.2. Current revenues	:	:	34.2	34.3	37.1
8.3. Net borrowing (-) or lending (+)	- 0.8	- 0.9	- 1.9	- 3.6	- 1.2
8.4. Net borrowing cyclically adjusted	:	:	:	:	:
8.5. Debt (end of period)	:	:	:	:	15.8
9. Monetary conditions					
9.1. Long-term interest rate	:	:	:	:	:
9.2. Short-term interest rate	:	:	:	:	:
9.3. Yield curve (9.1–9.2)	:	:	:	:	:
9.4. Real long-term interest rate ⁽³⁾	:	:	:	:	:
9.5. Nominal effective exchange rate	:	:	:	:	:
9.6. Real effective exchange rate	:	:	:	:	:

⁽¹⁾ Manufacturing industry 2000.

⁽²⁾ Private consumption deflator.

⁽³⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
4.8	4.1	6.1	3.6	6.1	12.4	9.1	6.5	5.9
6.0	-8.1	3.9	0.3	1.8	4.0	6.8	6.7	4.1
21.8	-6.1	-9.0	13.5	11.1	14.0	14.2	10.0	8.9
11.6	-3.8	-0.2	22.3	10.8	5.4	11.0	8.9	8.8
23.7	-7.8	-16.8	8.7	11.3	15.2	17.0	10.7	9.0
4.6	-16.8	9.8	21.2	19.5	6.9	9.7	9.2	8.9
6.2	-12.4	4.7	17.7	17.6	10.2	13.4	10.6	8.8
7.3	-1.7	3.9	6.4	6.8	9.7	7.1	6.4	5.9
4.3	0.6	4.8	2.4	4.2	8.6	7.1	5.5	4.6
4.3	-1.4	-1.9	2.5	2.2	2.9	3.1	2.3	2.1
-0.2	0.4	-0.7	0.9	0.4	0.6	-0.1	0.4	0.0
8.5	-0.3	2.2	5.9	6.8	12.1	10.1	8.2	6.8
2.4	-8.4	4.2	9.5	10.0	4.0	5.4	5.3	5.2
10.9	-8.8	6.3	15.4	16.8	16.1	15.6	13.5	12.0
-3.6	7.1	-2.4	-9.1	-10.0	-6.4	-8.4	-7.1	-6.1
-1.2	-1.3	1.8	0.5	-0.1	-2.4	-3.0	-1.8	-0.8
13.2	10.9	12.6	15.0	15.0	13.6	13.2	14.5	15.0
13.1	0.0	-0.2	-2.1	-2.3	:	:	:	:
0.7	0.6	1.0	0.7	1.5	2.0	1.0	0.8	1.3
13.9	11.4	13.6	15.8	16.6	15.5	14.2	15.2	16.2
25.6	22.5	19.6	20.5	21.7	22.4	23.6	24.5	24.9
-11.7	-11.0	-5.9	-4.7	-5.2	-6.9	-8.7	-8.5	-7.9
53.0	51.5	53.6	60.6	63.6	66.9	:	:	:
4.1	-2.9	-4.3	-3.6	-2.8	0.6	1.6	1.9	1.8
0.7	-4.8	-4.5	-2.8	-1.6	1.7	2.1	1.7	0.7
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
8.1	0.5	8.3	10.0	2.7	7.2	5.5	5.3	5.0
:	:	:	:	:	:	:	:	:
-0.8	-2.2	-4.0	-3.3	4.0	2.3	1.6	1.1	0.9
73.4	72.8	72.4	70.2	70.3	71.2	71.3	71.4	71.5
63.8	62.7	60.4	58.5	60.7	62.0	63.0	63.7	64.3
:	:	:	:	:	:	:	:	:
13.2	13.7	16.4	16.4	13.5	12.7	11.4	10.6	9.9
18.5	5.2	0.0	3.4	1.4	8.2	7.8	8.1	7.5
12.4	5.6	1.6	1.0	1.7	11.0	6.7	5.2	4.7
9.6	4.6	-7.6	-6.0	-1.2	0.9	2.2	2.6	2.4
4.3	5.3	-8.6	-5.9	-1.2	1.7	0.5	-0.3	-0.8
5.0	-0.6	1.0	-0.1	0.0	-0.8	1.7	2.9	3.3
5.4	-0.4	-1.5	2.4	-0.2	-2.6	1.0	2.8	2.7
-3.2	4.6	5.2	0.0	-1.3	2.4	0.2	0.0	0.5
40.4	42.9	38.4	35.0	34.3	34.1	35.7	36.2	35.1
37.4	37.3	35.8	33.0	32.8	32.3	33.2	33.7	33.2
-3.0	-5.6	-2.5	-2.0	-1.5	-1.9	-2.6	-2.5	-1.9
:	:	:	:	:	:	:	:	:
16.8	23.0	23.8	22.9	22.4	21.4	21.1	21.7	21.3
:	:	:	8.2	6.1	5.3	:	:	:
:	13.9	8.6	5.9	3.7	2.8	:	:	:
:	:	:	2.2	2.3	2.5	:	:	:
:	:	:	8.3	6.1	6.2	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:

Table 97

Main economic indicators 1961–2006

Hungary

	1993	1994	1995	1996	1997
1. Growth of GDP and its components (real)					
1.1. Private consumption	3.2	0.3	-6.5	-3.5	1.9
1.2. Government consumption	9.8	-7.4	-6.7	-2.3	3.1
1.3. Gross fixed capital formation	2.0	12.5	-4.3	6.7	9.2
1.4. of which equipment	:	:	:	:	:
1.5. of which construction	:	:	:	:	:
1.6. Exports of goods and services	-10.3	13.6	48.2	12.1	22.3
1.7. Imports of goods and services	20.0	8.8	22.3	9.4	23.1
1.8. GDP	-0.6	2.9	1.5	1.3	4.6
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	4.4	-1.9	-5.5	-2.5	1.7
2.2. Investment	0.4	2.4	-0.9	1.4	1.9
2.3. Stockbuilding	4.5	1.6	0.4	1.5	1.3
2.4. Domestic demand	8.4	2.2	-5.0	0.1	4.7
2.5. Exports	-3.2	3.8	14.7	5.4	11.0
2.6. Final demand	5.2	6.0	9.8	5.5	15.7
2.7. Imports	-5.8	-3.1	-8.3	-4.2	-11.1
2.8. Net exports	-9.0	0.7	6.5	1.2	-0.1
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	:	:	:	:	:
3.2. Net savings of households	:	:	:	:	:
3.3. General government savings	:	:	:	:	:
3.4. National savings	:	:	:	:	:
3.5. Gross capital formation	20.0	22.2	22.4	25.5	26.6
3.6. Current account	:	:	:	:	:
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	:	:	79.6
4.2. Trend GDP gap	:	:	1.0	-1.6	-1.0
4.3. Potential GDP gap	:	:	1.8	-1.2	-1.0
4.4. Profitability index (1961–73 = 100)	:	:	:	:	:
5. Growth potential					
5.1. Growth of net capital stock (real)	:	:	:	:	:
5.2. Net capital/output ratio (real)	:	:	:	:	:
5.3. Growth of capital intensity	:	:	:	:	:
5.4. Labour productivity growth	6.1	5.0	5.1	1.8	4.5
5.5. Total factor productivity growth	:	:	:	:	:
6. Employment and unemployment					
6.1. Employment	-6.4	-3.3	-1.9	-0.5	0.3
6.2. Activity rate	61.2	58.3	56.8	56.4	56.2
6.3. Employment rate (benchmark)	54.1	52.2	51.2	50.9	51.1
6.4. Employment rate (full-time equivalent)	:	:	:	:	52.1
6.5. Unemployment rate (Eurostat definition)	11.8	10.5	10.0	9.6	9.0
7. Prices and wages					
7.1. Nominal wages per head	23.0	17.9	21.6	20.2	21.0
7.2. Real wages per head ⁽²⁾	1.7	-1.2	-4.9	-2.2	2.6
7.3. Nominal unit labour costs	15.9	12.3	15.7	18.0	15.9
7.4. Real unit labour costs	-4.5	-6.1	-8.7	-2.6	-2.2
7.5. GDP deflator	21.3	19.5	26.7	21.2	18.5
7.6. Private consumption deflator	20.9	19.3	27.8	22.9	18.0
7.7. Terms of trade	2.9	2.6	0.9	-1.3	1.5
8. General government budget, % of GDP					
8.1. Expenditure	:	:	:	:	:
8.2. Current revenues	:	:	:	:	:
8.3. Net borrowing (-) or lending (+)	:	:	:	:	:
8.4. Net borrowing cyclically adjusted	:	:	:	:	:
8.5. Debt (end of period)	:	:	:	73.6	63.9
9. Monetary conditions					
9.1. Long-term interest rate	:	:	:	:	:
9.2. Short-term interest rate	:	27.8	31.3	24.3	20.4
9.3. Yield curve (9.1–9.2)	:	:	:	:	:
9.4. Real long-term interest rate ⁽³⁾	:	:	:	:	:
9.5. Nominal effective exchange rate	:	:	:	:	:
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	:	:	:	:	:

⁽¹⁾ Manufacturing industry 2000.

⁽²⁾ Private consumption deflator.

⁽³⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
4.9	5.6	5.5	5.7	10.2	8.0	3.1	3.4	3.7
1.8	1.5	1.9	6.2	5.0	5.4	0.0	1.0	2.2
13.2	5.9	7.7	5.0	8.0	3.4	10.0	6.0	6.5
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
17.6	12.2	21.0	7.8	3.7	7.6	12.3	9.5	8.2
23.8	13.3	19.4	5.1	6.2	10.4	12.1	8.7	8.2
4.9	4.2	5.2	3.8	3.5	3.0	3.9	3.7	3.8
2.8	3.1	3.2	4.1	6.3	5.6	1.8	2.1	2.5
2.9	1.4	1.9	1.2	2.0	0.9	2.6	1.7	1.8
2.5	0.7	0.0	-3.3	-2.8	-0.9	-0.1	-0.5	-0.3
8.2	5.1	4.7	1.7	5.6	5.6	4.3	3.3	4.1
10.2	7.9	14.6	6.3	3.1	6.3	10.7	8.9	8.2
18.4	13.1	19.3	8.0	8.7	12.0	15.0	12.3	12.2
-13.5	-8.9	-14.1	-4.2	-5.2	-8.9	-11.1	-8.6	-8.5
-3.3	-1.0	0.5	2.1	-2.1	-2.6	-0.4	0.4	-0.3
:	:	:	:	18.6	18.0	18.9	18.9	17.1
:	:	:	:	:	:	:	:	:
:	:	2.5	1.9	-0.5	-1.2	-1.1	-0.7	1.0
:	:	:	:	18.2	16.8	17.8	18.2	18.0
28.9	28.7	30.9	26.8	25.2	25.3	26.5	26.7	26.5
:	:	:	:	-7.1	-9.0	-8.7	-8.5	-8.5
79.9	78.6	82.0	81.7	78.8	79.4	:	:	:
-0.2	-0.1	1.1	1.0	0.6	-0.1	0.0	0.0	0.1
-0.6	-0.6	0.6	0.4	0.0	-0.7	-0.6	-0.7	-0.6
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
3.0	0.9	3.9	3.2	2.9	2.2	3.4	3.1	3.2
:	:	:	:	:	:	:	:	:
1.9	3.1	1.7	0.4	0.1	1.2	0.0	0.0	0.0
57.0	57.8	58.4	58.2	58.3	59.2	59.3	59.4	59.5
52.1	53.8	54.8	55.0	55.0	55.8	55.8	55.9	55.9
53.1	55.4	56.0	56.0	56.2	56.9	:	:	:
8.4	6.9	6.3	5.6	5.6	5.8	5.8	5.9	6.0
13.8	5.3	15.6	15.7	12.1	12.8	8.8	7.0	6.2
0.2	-4.4	5.9	6.9	8.1	7.8	1.7	2.1	1.8
10.5	4.4	11.2	12.1	8.9	10.4	5.2	3.7	2.9
-1.9	-3.8	1.2	3.3	0.0	2.6	-0.9	-0.5	-1.0
12.6	8.4	9.9	8.6	8.9	7.6	6.2	4.3	3.9
13.6	10.2	9.1	8.2	3.7	4.6	7.0	4.8	4.3
0.9	-0.9	-2.3	0.4	0.9	-0.4	-0.4	-0.4	0.0
:	:	47.6	48.7	52.6	49.8	48.7	47.6	46.7
:	:	44.6	44.3	43.4	43.6	43.3	42.5	42.0
:	:	-3.0	-4.4	-9.2	-6.2	-5.5	-5.2	-4.7
:	:	:	:	:	:	:	:	:
61.6	60.9	55.4	53.5	57.2	59.1	59.7	59.5	58.9
:	9.9	8.6	7.9	7.1	6.8	:	:	:
17.9	15.1	11.4	10.9	9.2	8.5	:	:	:
:	-5.2	-2.8	-2.9	-2.1	-1.7	:	:	:
:	1.4	-1.2	-0.6	-1.7	-0.7	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:

Table 98

Main economic indicators 1961–2006

Malta

	1993	1994	1995	1996	1997
1. Growth of GDP and its components (real)					
1.1. Private consumption	:	:	:	7.1	1.6
1.2. Government consumption	:	:	:	8.4	-1.1
1.3. Gross fixed capital formation	:	:	:	-8.4	-4.5
1.4. of which equipment	:	:	:	:	:
1.5. of which construction	:	:	:	:	:
1.6. Exports of goods and services	:	:	:	-5.9	4.0
1.7. Imports of goods and services	:	:	:	-5.9	-1.7
1.8. GDP	4.5	5.7	6.2	4.0	4.9
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	:	:	:	6.1	0.8
2.2. Investment	:	:	:	-2.7	-1.3
2.3. Stockbuilding	:	:	:	-0.2	0.4
2.4. Domestic demand	:	:	:	3.2	-0.2
2.5. Exports	:	:	:	-5.5	3.4
2.6. Final demand	:	:	:	-2.1	2.9
2.7. Imports	:	:	:	6.4	1.6
2.8. Net exports	:	:	:	0.8	5.0
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	:	:	:	:	:
3.2. Net savings of households	:	:	:	:	:
3.3. General government savings	:	:	:	:	:
3.4. National savings	:	:	:	:	:
3.5. Gross capital formation	27.5	27.7	29.8	26.8	23.7
3.6. Current account	:	:	:	:	:
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	:	:	:
4.2. Trend GDP gap	:	:	-3.2	-2.2	-0.2
4.3. Potential GDP gap	:	:	-2.3	-1.7	-0.1
4.4. Profitability index (1961–73 = 100)	:	:	:	:	:
5. Growth potential					
5.1. Growth of net capital stock (real)	:	:	:	:	:
5.2. Net capital/output ratio (real)	:	:	:	:	:
5.3. Growth of capital intensity	:	:	:	:	:
5.4. Labour productivity growth	3.6	5.2	3.0	2.5	5.0
5.5. Total factor productivity growth	:	:	:	:	:
6. Employment and unemployment					
6.1. Employment	:	:	:	:	:
6.2. Activity rate	:	:	:	:	:
6.3. Employment rate (benchmark)	:	:	:	:	:
6.4. Employment rate (full-time equivalent)	:	:	:	:	:
6.5. Unemployment rate (Eurostat definition)	5.7	5.7	5.2	5.5	6.5
7. Prices and wages					
7.1. Nominal wages per head	10.2	6.4	9.0	6.3	3.5
7.2. Real wages per head ⁽²⁾	:	:	:	4.3	0.1
7.3. Nominal unit labour costs	6.4	1.1	5.9	3.7	-1.4
7.4. Real unit labour costs	3.5	-2.3	1.0	2.9	-3.6
7.5. GDP deflator	2.8	3.5	4.8	0.8	2.3
7.6. Private consumption deflator	:	:	:	2.0	3.4
7.7. Terms of trade	:	:	:	-1.3	-0.2
8. General government budget, % of GDP					
8.1. Expenditure	:	:	:	:	:
8.2. Current revenues	:	:	:	:	:
8.3. Net borrowing (-) or lending (+)	:	:	:	:	:
8.4. Net borrowing cyclically adjusted	:	:	:	:	:
8.5. Debt (end of period)	:	:	:	40.0	48.1
9. Monetary conditions					
9.1. Long-term interest rate	:	:	:	:	:
9.2. Short-term interest rate	:	:	4.8	5.0	5.1
9.3. Yield curve (9.1–9.2)	:	:	:	:	:
9.4. Real long-term interest rate ⁽³⁾	:	:	:	:	:
9.5. Nominal effective exchange rate	:	:	:	:	:
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	:	:	:	:	:

⁽¹⁾ Manufacturing industry 2000.

⁽²⁾ Private consumption deflator.

⁽³⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
2.5	6.1	7.4	-0.7	-0.4	1.5	-0.3	0.6	1.1
-4.0	-0.6	5.4	0.0	4.0	2.2	0.7	0.2	0.2
-3.4	4.0	17.5	-8.9	-11.7	19.0	6.9	2.9	1.2
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
8.1	8.2	5.6	-4.9	4.8	-2.0	2.0	2.6	3.1
2.5	10.1	10.4	-8.7	-2.3	7.0	1.6	1.8	2.0
3.4	4.1	6.4	-2.2	1.8	0.2	1.0	1.5	1.8
0.7	3.6	5.5	-0.4	0.5	1.4	-0.1	0.4	0.7
-0.9	1.0	4.2	-2.0	-2.4	3.4	1.5	0.7	0.3
-1.0	1.4	1.6	:	:	:	-0.5	-0.2	-0.1
-1.1	6.0	11.3	-6.5	-4.8	8.6	0.9	0.9	0.9
6.9	7.2	5.1	-4.6	4.3	-1.9	1.8	2.4	2.9
6.7	11.8	14.8	-11.1	-0.5	6.7	2.6	3.3	3.8
-2.3	-9.1	-10.0	8.9	2.3	-6.5	-1.6	-1.8	-2.0
4.6	-1.9	-4.9	4.4	6.6	-8.4	0.2	0.6	0.9
:	:	:	:	:	:	20.3	20.6	20.9
:	:	:	:	:	:	:	:	:
:	:	-2.4	-2.1	-1.3	-1.5	0.8	1.2	1.5
:	:	:	:	:	:	21.1	21.8	22.5
22.9	21.8	27.5	21.6	17.0	23.2	25.2	25.4	25.4
:	:	:	:	:	:	-4.0	-3.6	-2.8
0.4	1.9	5.8	1.4	1.2	-0.4	-1.0	-1.1	-0.9
0.6	2.1	4.7	-0.6	0.2	-1.0	-1.8	-2.0	-1.9
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
2.9	4.5	4.0	-4.1	2.5	1.2	0.4	1.2	1.0
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
6.9	7.4	7.0	6.7	7.5	8.2	8.6	8.5	8.4
4.7	6.7	13.8	5.9	1.5	1.5	0.6	2.4	2.4
1.9	4.7	5.0	2.7	0.4	0.5	-2.7	0.0	0.2
1.8	2.1	9.4	10.4	-0.9	0.3	0.2	1.2	1.4
-0.5	-0.6	7.8	5.2	-1.2	-3.8	-3.1	-1.1	-0.7
2.3	2.7	1.5	5.0	0.3	4.2	3.4	2.4	2.1
2.7	1.9	8.4	3.1	1.1	1.0	3.4	2.4	2.2
-2.0	2.0	0.3	0.0	-1.2	2.6	-1.4	-0.2	-0.1
:	:	41.9	43.8	45.5	49.4	52.4	50.7	49.2
:	:	35.6	37.4	39.7	39.8	47.3	46.7	45.9
:	:	-6.2	-6.4	-5.8	-9.6	-5.1	-4.0	-3.3
53.1	56.8	56.4	62.0	62.3	70.4	72.4	73.7	74.2
5.4	5.2	5.8	6.1	5.7	5.0	:	:	:
:	:	4.9	4.9	4.0	3.3	:	:	:
:	:	0.9	1.2	1.7	1.7	:	:	:
:	:	4.1	1.1	5.4	0.7	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:

Table 99

Main economic indicators 1961–2006

Poland

	1993	1994	1995	1996	1997
1. Growth of GDP and its components (real)					
1.1. Private consumption	5.4	3.9	3.7	8.5	6.9
1.2. Government consumption	2.4	1.2	4.8	2.3	3.3
1.3. Gross fixed capital formation	2.9	9.2	16.6	19.7	21.7
1.4. of which equipment	:	:	:	24.8	23.7
1.5. of which construction	:	:	:	12.2	19.1
1.6. Exports of goods and services	3.2	13.1	22.9	12.0	12.2
1.7. Imports of goods and services	13.1	11.3	24.2	28.0	21.4
1.8. GDP	3.7	5.3	7.0	6.0	6.8
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	3.8	2.7	3.3	5.6	4.9
2.2. Investment	0.5	1.5	2.7	3.4	4.3
2.3. Stockbuilding	1.4	0.0	1.2	0.2	0.1
2.4. Domestic demand	5.6	4.1	7.2	9.2	9.3
2.5. Exports	0.6	2.6	4.8	2.8	3.1
2.6. Final demand	6.3	6.7	12.0	12.0	12.3
2.7. Imports	-2.2	-2.0	-4.6	-6.0	-5.6
2.8. Net exports	-1.5	0.5	0.2	-3.2	-2.5
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	14.4	17.9	19.4	18.7	18.4
3.2. Net savings of households	:	:	:	:	:
3.3. General government savings	-0.1	1.2	0.5	0.7	1.1
3.4. National savings	14.3	19.0	19.9	19.4	19.6
3.5. Gross capital formation	14.5	16.5	18.4	20.5	23.0
3.6. Current account	0.2	2.3	1.4	-1.1	-3.5
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	:	:	75.1
4.2. Trend GDP gap	:	:	-2.8	-1.1	1.4
4.3. Potential GDP gap	:	:	-3.9	-2.2	-0.2
4.4. Profitability index (1961–73 = 100)	:	:	:	:	:
5. Growth potential					
5.1. Growth of net capital stock (real)	:	:	:	:	:
5.2. Net capital/output ratio (real)	:	:	:	:	:
5.3. Growth of capital intensity	:	:	:	:	:
5.4. Labour productivity growth	6.2	4.2	5.1	4.0	3.9
5.5. Total factor productivity growth	:	:	:	:	:
6. Employment and unemployment					
6.1. Employment	-1.9	-1.6	0.9	1.2	1.5
6.2. Activity rate	68.8	67.6	66.9	67.0	65.8
6.3. Employment rate (benchmark)	59.1	57.8	58.0	58.3	58.7
6.4. Employment rate (full-time equivalent)	:	:	:	:	:
6.5. Unemployment rate (Eurostat definition)	14.5	14.6	13.4	12.2	10.9
7. Prices and wages					
7.1. Nominal wages per head	33.0	40.4	34.0	28.6	21.0
7.2. Real wages per head ⁽²⁾	1.1	1.8	5.3	7.7	5.7
7.3. Nominal unit labour costs	25.1	34.7	27.5	23.7	16.5
7.4. Real unit labour costs	-4.2	-1.8	-0.4	4.2	2.3
7.5. GDP deflator	30.6	37.2	28.0	18.6	13.9
7.6. Private consumption deflator	31.5	37.9	27.2	19.4	14.5
7.7. Terms of trade	7.1	3.7	1.3	-2.5	-1.5
8. General government budget, % of GDP					
8.1. Expenditure	:	:	51.3	51.2	50.2
8.2. Current revenues	:	:	47.4	46.5	45.7
8.3. Net borrowing (-) or lending (+)	-4.2	5.9	-2.3	-3.6	-4.0
8.4. Net borrowing cyclically adjusted	:	:	:	:	:
8.5. Debt (end of period)	:	:	:	:	:
9. Monetary conditions					
9.1. Long-term interest rate	:	:	:	:	:
9.2. Short-term interest rate	:	:	27.6	21.4	23.7
9.3. Yield curve (9.1–9.2)	:	:	:	:	:
9.4. Real long-term interest rate ⁽³⁾	:	:	:	:	:
9.5. Nominal effective exchange rate	:	:	:	:	:
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	:	:	:	:	:

⁽¹⁾ Manufacturing industry 2000.

⁽²⁾ Private consumption deflator.

⁽³⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
4.8	5.2	2.8	2.0	3.4	3.1	4.0	4.2	4.4
2.0	1.9	1.3	0.6	0.4	0.4	1.8	1.4	1.0
14.2	6.8	2.7	-8.8	-5.8	-0.9	6.5	10.0	12.0
18.4	5.1	4.0	-10.4	-9.6	:	:	:	:
11.0	7.3	1.0	-8.5	-2.2	:	:	:	:
14.3	-2.6	23.2	3.1	4.8	14.7	13.3	11.9	10.4
18.5	1.0	15.6	-5.3	2.6	9.3	11.6	12.6	12.6
4.8	4.1	4.0	1.0	1.4	3.8	5.8	4.9	4.5
3.3	3.5	2.0	1.4	2.2	2.0	2.8	2.8	2.9
3.2	1.7	0.7	-2.2	-1.3	-0.2	1.3	2.0	2.5
0.1	-0.1	0.3	-1.2	-0.2	0.6	0.9	0.1	-0.1
6.5	5.2	2.8	-1.9	0.7	2.0	5.0	4.9	5.3
3.8	-0.7	6.2	1.0	1.6	4.9	4.9	4.7	4.4
10.3	4.4	9.2	-0.9	2.2	7.4	10.0	9.6	9.7
-5.5	-0.3	-5.0	1.9	-0.9	-3.2	-4.2	-4.8	-5.1
-1.7	-1.1	1.2	2.9	0.7	1.8	0.8	-0.1	-0.7
19.1	17.4	17.3	17.0	17.0	16.3	19.6	19.0	18.6
:	:	:	:	:	:	:	:	:
1.6	2.2	1.4	0.9	-0.7	0.2	-2.3	-1.1	0.1
20.7	19.7	18.7	17.9	16.2	16.5	17.3	17.9	18.7
24.6	24.9	24.7	20.7	18.9	18.7	19.8	20.9	22.1
-3.9	-5.2	-6.0	-2.9	-2.6	-2.2	-2.6	-3.1	-3.3
76.7	73.6	72.4	69.3	69.9	72.9	:	:	:
2.2	2.3	2.4	-0.3	-2.6	-2.5	-0.6	0.5	1.2
-0.1	-0.3	-0.1	-2.2	-3.4	-2.5	-0.4	0.4	0.7
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
2.4	7.0	6.4	1.7	3.7	5.0	6.0	4.1	3.3
:	:	:	:	:	:	:	:	:
1.1	-3.9	-1.6	-2.2	-3.0	-0.8	-0.1	0.8	1.2
65.5	64.8	65.5	65.3	64.5	63.6	62.9	62.7	62.8
58.8	56.1	54.8	53.2	51.7	51.3	50.9	51.0	51.4
:	:	:	52.9	50.7	50.3	:	:	:
10.2	13.4	16.4	18.5	19.8	19.2	19.0	18.7	18.1
16.0	13.2	11.9	13.3	2.0	5.0	4.7	5.3	5.4
4.3	6.3	2.6	8.3	0.4	4.4	1.3	2.0	2.3
13.2	5.8	5.2	11.5	-1.6	0.0	-1.3	1.1	2.0
1.5	-0.5	-1.5	7.2	-2.9	-0.5	-4.0	-1.7	-1.2
11.6	6.4	6.7	4.0	1.3	0.5	2.8	2.9	3.3
11.2	6.5	9.0	4.7	1.6	0.6	3.4	3.3	3.0
2.2	-1.1	-5.6	0.0	-0.4	-1.1	-0.6	-0.2	1.7
46.6	47.0	44.2	47.7	48.1	47.6	51.3	49.9	48.3
44.5	44.9	42.5	43.8	43.9	43.7	45.6	45.7	45.2
-2.1	-1.4	-0.7	-3.8	-3.6	-3.9	-5.6	-4.1	-3.1
:	:	:	:	:	:	:	:	:
:	40.1	36.8	36.7	41.1	45.4	47.7	49.8	49.3
:	9.5	11.8	10.7	7.3	5.8	:	:	:
20.4	14.7	18.8	16.1	9.0	5.7	:	:	:
:	-5.2	-7.0	-5.4	-1.7	0.1	:	:	:
:	3.0	4.7	6.4	5.9	5.2	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:

Table 100

Main economic indicators 1961–2006

Slovenia

	1993	1994	1995	1996	1997
1. Growth of GDP and its components (real)					
1.1. Private consumption	13.8	4.0	9.1	2.6	2.5
1.2. Government consumption	5.3	2.1	2.5	3.4	2.4
1.3. Gross fixed capital formation	10.7	14.1	16.8	11.3	13.5
1.4. of which equipment	27.8	23.9	19.7	2.1	17.0
1.5. of which construction	- 5.2	1.8	10.2	21.8	8.0
1.6. Exports of goods and services	0.6	12.3	1.1	2.8	11.3
1.7. Imports of goods and services	17.6	13.1	11.3	2.3	11.5
1.8. GDP	2.8	5.3	4.1	3.6	4.8
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	8.2	2.7	5.7	2.3	1.9
2.2. Investment	1.7	2.4	3.1	2.3	3.0
2.3. Stockbuilding	1.3	0.3	1.2	- 1.1	0.2
2.4. Domestic demand	9.7	5.3	9.2	3.4	5.1
2.5. Exports	0.3	6.2	0.6	1.4	5.8
2.6. Final demand	11.7	11.7	10.7	4.9	10.8
2.7. Imports	- 7.2	- 6.1	- 5.7	- 1.2	- 6.1
2.8. Net exports	- 6.9	0.0	- 5.1	0.2	- 0.3
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	:	:	:	:	:
3.2. Net savings of households	:	:	:	:	:
3.3. General government savings	:	:	:	:	:
3.4. National savings	21.5	24.8	22.1	22.6	23.9
3.5. Gross capital formation	19.3	20.9	22.5	22.4	23.7
3.6. Current account	2.2	3.9	- 0.4	0.2	0.3
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	:	:	78.9
4.2. Trend GDP gap	:	:	- 0.8	- 1.0	- 0.2
4.3. Potential GDP gap	:	:	:	:	0.0
4.4. Profitability index (1961–73 = 100)	:	:	:	:	:
5. Growth potential					
5.1. Growth of net capital stock (real)	:	:	:	:	:
5.2. Net capital/output ratio (real)	:	:	:	:	:
5.3. Growth of capital intensity	:	:	:	:	:
5.4. Labour productivity growth	:	:	:	5.2	5.5
5.5. Total factor productivity growth	:	:	:	:	:
6. Employment and unemployment					
6.1. Employment	:	:	:	:	:
6.2. Activity rate	:	:	:	:	:
6.3. Employment rate (benchmark)	:	:	:	:	:
6.4. Employment rate (full-time equivalent)	:	:	:	:	60.5
6.5. Unemployment rate (Eurostat definition)	:	:	7.0	6.9	6.9
7. Prices and wages					
7.1. Nominal wages per head	:	:	:	12.9	10.6
7.2. Real wages per head ⁽²⁾	:	:	:	2.2	1.4
7.3. Nominal unit labour costs	:	:	:	7.3	4.8
7.4. Real unit labour costs	:	:	:	- 3.3	- 3.7
7.5. GDP deflator	37.1	22.6	23.0	10.9	8.8
7.6. Private consumption deflator	31.5	20.3	23.4	10.5	9.0
7.7. Terms of trade	6.0	2.6	2.4	1.3	0.7
8. General government budget, % of GDP					
8.1. Expenditure	:	:	:	:	:
8.2. Current revenues	:	:	:	:	:
8.3. Net borrowing (-) or lending (+)	:	:	:	:	:
8.4. Net borrowing cyclically adjusted	:	:	:	:	:
8.5. Debt (end of period)	:	:	:	:	:
9. Monetary conditions					
9.1. Long-term interest rate	:	:	:	:	:
9.2. Short-term interest rate	:	:	:	:	:
9.3. Yield curve (9.1–9.2)	:	:	:	:	:
9.4. Real long-term interest rate ⁽³⁾	:	:	:	:	:
9.5. Nominal effective exchange rate	:	:	:	:	:
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	:	:	:	:	:

⁽¹⁾ Manufacturing industry 2000.

⁽²⁾ Private consumption deflator.

⁽³⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
3.0	5.9	0.4	2.3	0.3	2.7	3.5	3.3	3.3
5.4	2.9	2.3	3.9	1.7	2.6	1.7	2.5	2.7
9.9	21.0	0.6	4.1	3.1	6.3	6.9	5.7	5.9
15.4	25.7	3.0	6.6	2.7	7.1	8.1	5.5	5.3
5.4	13.8	-1.3	1.2	3.1	5.6	5.3	6.0	6.5
7.4	1.6	13.0	6.3	6.7	3.2	8.6	5.6	6.7
10.3	8.0	7.6	3.0	4.9	6.8	9.7	6.5	7.2
3.6	5.6	3.9	2.7	3.3	2.5	4.0	3.6	3.8
2.8	4.0	0.7	2.0	0.5	2.0	2.2	2.2	2.3
2.4	5.4	0.2	1.2	0.9	1.8	2.0	1.7	1.8
0.2	0.1	0.6	-2.2	1.1	1.1	0.6	0.5	0.5
5.4	9.4	1.5	0.9	2.3	4.9	4.9	4.5	4.6
4.0	0.9	7.1	3.7	4.1	2.0	5.5	3.7	4.5
9.4	10.4	8.6	4.5	6.7	7.0	10.3	8.2	9.1
-5.8	-4.8	-4.7	-1.9	-3.1	-4.4	-6.5	-4.6	-5.3
-1.8	-3.9	2.4	1.8	1.0	-2.4	-1.1	-0.9	-0.8
:	:	23.1	23.4	23.8	23.1	25.2	25.8	26.3
:	:	:	:	:	:	:	:	:
:	:	0.8	0.7	1.4	1.9	1.4	1.3	1.4
24.1	24.0	23.9	24.1	25.2	25.0	26.6	27.1	27.7
24.7	27.3	26.7	23.9	23.8	25.3	26.9	28.0	28.9
-0.6	-3.3	-2.8	0.2	1.4	-0.4	-0.2	-0.8	-1.0
80.4	77.9	79.7	80.9	81.0	80.9	:	:	:
-0.4	1.3	1.4	0.5	0.3	-0.6	-0.1	0.1	0.7
0.1	1.3	1.1	0.0	-0.3	-1.4	-0.9	-0.6	-0.1
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
3.5	4.5	0.7	2.2	3.7	2.8	3.8	3.1	3.4
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
61.8	60.8	61.5	62.4	62.7	60.9	:	:	:
7.4	7.2	6.6	5.8	6.1	6.5	6.3	6.1	5.8
9.0	7.5	11.8	11.6	10.0	7.8	6.0	5.4	5.3
1.3	1.4	3.2	3.3	2.0	2.6	2.1	2.0	2.3
5.3	2.9	11.1	9.2	6.0	4.8	2.2	2.2	1.8
-2.1	-2.9	5.1	0.1	-1.9	-0.6	-1.9	-1.2	-1.2
7.6	5.9	5.6	9.1	8.0	5.5	4.1	3.4	3.1
7.5	6.0	8.3	8.1	7.8	5.0	3.8	3.3	2.9
1.4	0.6	-2.9	1.9	2.0	0.7	-0.2	-0.3	0.0
:	:	48.2	47.9	48.1	48.2	47.5	46.8	46.3
:	:	44.7	45.1	45.7	46.2	45.3	44.6	44.3
:	:	-3.5	-2.8	-2.4	-2.0	-2.3	-2.2	-1.9
:	:	:	:	:	:	:	:	:
23.6	24.9	27.4	28.1	29.5	29.4	30.9	30.8	30.6
:	:	:	:	:	6.4	:	:	:
10.3	8.6	10.9	10.9	8.0	6.8	:	:	:
:	:	:	:	:	-0.4	:	:	:
:	:	:	:	:	0.9	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:

Table 101

Main economic indicators 1961–2006

Slovakia

	1993	1994	1995	1996	1997
1. Growth of GDP and its components (real)					
1.1. Private consumption	:	1.0	5.4	7.9	5.5
1.2. Government consumption	5.9	- 10.7	3.6	17.2	- 5.4
1.3. Gross fixed capital formation	- 1.2	- 2.5	0.6	29.1	15.0
1.4. of which equipment	:	- 2.5	1.4	27.2	36.9
1.5. of which construction	:	- 2.5	- 1.1	29.1	- 8.3
1.6. Exports of goods and services	0.7	14.8	4.5	- 1.1	17.6
1.7. Imports of goods and services	0.2	- 4.7	11.6	19.7	14.2
1.8. GDP	7.2	6.2	5.8	6.1	4.6
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	:	- 2.1	3.6	7.7	1.7
2.2. Investment	- 0.4	- 0.7	0.2	7.3	4.6
2.3. Stockbuilding	0.0	- 2.2	6.7	1.8	- 2.8
2.4. Domestic demand	6.9	- 4.6	9.3	17.8	4.0
2.5. Exports	0.4	8.1	2.7	- 0.7	9.6
2.6. Final demand	:	3.4	12.0	17.1	13.6
2.7. Imports	- 0.1	2.8	- 6.2	- 11.0	- 8.9
2.8. Net exports	0.3	10.9	- 3.5	- 11.6	0.6
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	23.6	24.6	20.4	22.3	22.8
3.2. Net savings of households	6.9	6.5	3.9	4.5	4.8
3.3. General government savings	- 3.1	1.7	7.5	3.5	3.0
3.4. National savings	20.5	26.3	27.8	25.8	25.8
3.5. Gross capital formation	24.7	21.0	24.8	34.8	34.4
3.6. Current account	- 4.1	5.3	3.0	- 9.0	- 8.7
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	:	:	80.9
4.2. Trend GDP gap	:	:	- 1.4	0.8	1.7
4.3. Potential GDP gap	:	:	:	- 6.8	- 7.9
4.4. Profitability index (1961–73 = 100)	:	:	:	:	:
5. Growth potential					
5.1. Growth of net capital stock (real)	:	:	:	:	:
5.2. Net capital/output ratio (real)	:	:	:	:	:
5.3. Growth of capital intensity	:	:	:	:	:
5.4. Labour productivity growth	:	:	5.6	3.7	5.9
5.5. Total factor productivity growth	:	:	:	:	:
6. Employment and unemployment					
6.1. Employment	:	:	:	:	:
6.2. Activity rate	:	:	:	:	:
6.3. Employment rate (benchmark)	:	:	:	:	:
6.4. Employment rate (full-time equivalent)	:	:	:	:	:
6.5. Unemployment rate (Eurostat definition)	:	13.7	13.3	11.6	12.3
7. Prices and wages					
7.1. Nominal wages per head	:	:	20.6	7.2	15.4
7.2. Real wages per head ⁽²⁾	:	:	10.4	2.1	8.9
7.3. Nominal unit labour costs	:	:	14.1	3.3	9.0
7.4. Real unit labour costs	:	:	3.9	- 1.0	2.1
7.5. GDP deflator	15.5	13.4	9.9	4.3	6.7
7.6. Private consumption deflator	:	13.4	9.2	5.0	6.0
7.7. Terms of trade	- 2.4	- 1.4	1.1	- 3.0	- 0.6
8. General government budget, % of GDP					
8.1. Expenditure	78.8	57.8	54.1	61.5	65.0
8.2. Current revenues	47.6	51.7	53.3	54.1	58.8
8.3. Net borrowing (-) or lending (+)	- 31.2	- 6.1	- 0.9	- 7.4	- 6.2
8.4. Net borrowing cyclically adjusted	:	:	:	:	:
8.5. Debt (end of period)	:	:	:	30.3	33.0
9. Monetary conditions					
9.1. Long-term interest rate	:	:	:	:	:
9.2. Short-term interest rate	:	:	8.4	11.9	21.8
9.3. Yield curve (9.1–9.2)	:	:	:	:	:
9.4. Real long-term interest rate ⁽³⁾	:	:	:	:	:
9.5. Nominal effective exchange rate	:	:	:	:	:
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	:	:	:	:	:

⁽¹⁾ Manufacturing industry 2000.

⁽²⁾ Private consumption deflator.

⁽³⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
6.5	3.2	-0.8	4.7	5.3	-0.4	3.6	4.1	4.3
12.5	-7.1	1.6	4.6	4.7	2.9	0.9	1.5	2.4
11.0	-19.6	-7.2	13.9	-0.9	-1.2	6.3	7.4	5.2
21.1	-17.1	-6.6	-2.0	1.4	0.9	6.3	7.4	5.2
-5.1	-26.2	-8.7	40.5	-8.2	-4.2	6.3	7.4	5.2
12.8	5.0	13.7	6.3	5.5	22.6	13.1	12.2	14.3
16.5	-6.7	10.5	11.0	5.2	13.8	13.1	12.8	13.6
4.2	1.5	2.0	3.8	4.6	4.0	4.9	4.5	5.2
6.0	0.2	-0.1	3.5	3.8	0.4	2.1	2.4	2.7
3.7	-7.0	-2.0	3.6	-0.3	-0.3	1.6	1.9	1.4
-2.0	-0.2	2.3	0.4	0.9	-2.4	0.9	0.4	0.0
7.7	-7.0	0.1	7.5	4.6	-2.4	4.6	4.7	4.1
7.8	3.3	9.4	4.8	4.3	17.8	12.1	12.2	15.4
15.6	-3.6	9.5	12.2	8.8	15.4	16.7	16.9	19.5
-11.4	5.1	-7.4	-8.4	-4.3	-11.4	-11.9	-12.4	-14.3
-3.5	8.4	1.9	-3.7	0.0	6.4	0.3	-0.2	1.1
21.6	21.7	23.4	23.0	22.1	24.3	23.6	23.8	24.1
4.1	3.5	3.1	1.3	:	:	:	:	:
3.4	2.4	0.6	-0.1	-0.7	-0.6	-0.8	-0.5	-0.5
25.0	24.1	24.0	22.9	21.4	23.6	22.8	23.3	23.6
33.9	27.5	26.0	29.8	29.2	25.1	25.9	26.7	26.8
-9.0	-3.5	-2.5	-7.4	-8.2	-1.1	-2.9	-3.3	-3.0
82.3	79.5	84.5	84.9	78.4	74.2	:	:	:
2.2	-0.1	-1.7	-1.7	-1.0	-0.9	-0.1	0.3	1.5
-5.2	-3.5	-2.1	-0.9	0.0	0.1	0.7	0.6	1.2
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
4.7	4.3	3.9	3.2	5.2	2.2	5.0	3.9	4.2
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
60.6	58.0	56.4	55.7	55.8	57.4	:	:	:
13.0	16.7	18.7	19.4	18.7	17.5	18.4	17.9	17.2
13.2	6.9	11.9	6.3	9.3	9.9	9.9	6.7	6.5
7.0	-1.5	1.8	0.2	6.0	2.1	2.8	3.3	3.6
8.2	2.5	7.7	3.0	3.9	7.6	4.7	2.7	2.2
2.8	-3.7	-0.7	-1.1	-0.1	2.8	0.7	0.4	0.6
5.2	6.5	8.5	4.2	4.0	4.7	4.0	2.3	1.6
5.8	8.6	10.0	6.1	3.1	7.7	6.9	3.3	2.8
2.3	-2.2	0.6	-2.7	0.9	0.1	-1.2	-0.3	-0.3
60.8	56.9	59.9	51.5	50.9	39.2	38.3	38.3	37.9
57.1	49.8	47.6	45.5	45.2	35.4	34.4	34.3	33.7
-3.8	-7.1	-12.3	-6.0	-5.7	-3.7	-3.9	-4.0	-4.1
:	:	:	:	:	:	:	:	:
34.0	47.2	49.9	48.7	43.3	42.6	44.2	45.2	45.9
:	:	8.3	8.1	6.9	5.0	:	:	:
21.1	15.7	8.6	7.8	7.8	6.2	:	:	:
:	:	-0.2	0.3	-0.9	-1.2	:	:	:
:	:	-0.1	3.7	2.8	0.3	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:

Table 102

Main economic indicators 1961–2006

Sweden

	1961–73	1974–85	1986–90	1991–95	1996–2000
1. Growth of GDP and its components (real)					
1.1. Private consumption	3.4	1.1	2.8	-0.2	3.2
1.2. Government consumption	4.9	2.7	1.9	0.8	0.7
1.3. Gross fixed capital formation	4.4	0.9	5.4	-4.1	5.1
1.4. of which equipment	:	3.2	7.4	0.5	8.2
1.5. of which construction	:	-1.1	4.0	-8.3	-0.2
1.6. Exports of goods and services	7.7	3.4	3.1	6.7	8.9
1.7. Imports of goods and services	6.0	2.5	4.8	2.6	8.5
1.8. GDP	4.1	1.8	2.5	0.7	3.2
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	3.1	1.3	2.0	0.1	1.8
2.2. Investment	0.9	0.1	1.0	-0.8	0.9
2.3. Stockbuilding	-0.1	0.0	0.0	0.2	-0.1
2.4. Domestic demand	3.9	1.6	2.9	-0.7	2.4
2.5. Exports	1.3	0.9	0.9	2.3	4.0
2.6. Final demand	5.3	2.3	3.9	1.6	6.2
2.7. Imports	-1.2	-0.6	-1.3	-0.8	-3.1
2.8. Net exports	0.2	0.3	-0.4	1.5	0.8
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	:	16.9	16.7	21.2	17.1
3.2. Net savings of households	:	:	:	:	1.9
3.3. General government savings	:	2.8	5.4	-3.8	4.1
3.4. National savings	24.7	19.8	22.0	17.3	21.3
3.5. Gross capital formation	26.0	21.6	22.2	17.5	17.2
3.6. Current account	0.2	-1.1	-0.2	-0.1	4.1
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	:	:	85.8
4.2. Trend GDP gap	0.2	-0.5	2.7	-1.9	0.0
4.3. Potential GDP gap	:	-1.0	2.1	-3.9	-1.6
4.4. Profitability index (1961–73 = 100)	100.0	85.3	100.3	106.7	123.0
5. Growth potential					
5.1. Growth of net capital stock (real)	4.2	2.6	2.7	1.4	1.5
5.2. Net capital/output ratio (real)	2.9	3.2	3.3	3.5	3.3
5.3. Growth of capital intensity	3.6	1.8	1.7	3.6	0.7
5.4. Labour productivity growth	3.5	1.0	1.5	2.9	2.5
5.5. Total factor productivity growth	2.1	0.4	0.8	1.5	2.2
6. Employment and unemployment					
6.1. Employment	0.6	0.9	0.8	-2.2	0.9
6.2. Activity rate	73.9	80.2	82.3	79.2	77.2
6.3. Employment rate (benchmark)	72.5	78.2	80.6	73.5	70.9
6.4. Employment rate (full-time equivalent)	:	:	:	:	62.8
6.5. Unemployment rate (Eurostat definition)	1.9	2.4	2.0	7.2	8.0
7. Prices and wages					
7.1. Nominal wages per head	8.4	10.7	9.2	4.7	4.7
7.2. Real wages per head ⁽²⁾	3.5	0.4	2.5	-0.1	3.4
7.3. Nominal unit labour costs	4.7	9.6	7.6	1.8	2.2
7.4. Real unit labour costs	-0.2	-0.2	0.7	-1.9	1.0
7.5. GDP deflator	4.9	9.8	6.9	3.7	1.1
7.6. Private consumption deflator	4.8	10.2	6.5	4.8	1.3
7.7. Terms of trade	-0.5	-1.4	0.9	-0.5	-1.4
8. General government budget, % of GDP					
8.1. Expenditure ⁽³⁾	:	57.5	57.9	63.8	61.3
8.2. Current revenues ⁽³⁾	:	55.7	61.0	56.5	62.4
8.3. Net borrowing (-) or lending (+) ⁽³⁾	:	-1.7	3.1	-7.4	1.2
8.4. Net borrowing cyclically adjusted ⁽³⁾	:	-1.3	1.2	-6.0	2.3
8.5. Debt (end of period) ⁽⁴⁾	26.8	61.9	42.0	73.7	52.8
9. Monetary conditions					
9.1. Long-term interest rate	6.3	11.0	11.5	9.8	6.0
9.2. Short-term interest rate	:	:	11.0	10.1	4.4
9.3. Yield curve (9.1–9.2)	:	:	0.5	-0.3	1.6
9.4. Real long-term interest rate ⁽⁵⁾	1.4	1.2	4.3	5.9	4.8
9.5. Nominal effective exchange rate	0.3	-2.2	-0.1	-4.1	0.2
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	131.3	122.7	115.8	111.4	107.1

⁽¹⁾ Manufacturing industry.

⁽²⁾ Private consumption deflator.

⁽³⁾ Break in 1993 (ESA 95 data), 1991–95 average according to the former definition.

⁽⁴⁾ Break in 1995 (ESA 95 data).

⁽⁵⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
3.0	3.8	5.0	0.4	1.4	1.9	2.3	3.0	3.0
3.4	1.7	-1.2	0.9	3.2	0.6	0.9	0.9	0.8
7.8	8.2	5.7	-1.0	-3.0	-2.0	2.5	6.0	6.4
10.3	12.4	5.2	-4.4	-5.7	-3.2	1.9	7.5	7.6
1.9	0.3	4.3	5.9	1.9	-2.2	3.3	4.6	5.5
8.6	7.4	11.5	0.2	1.2	5.5	10.2	7.3	6.5
11.3	4.9	11.3	-2.5	-1.9	5.0	5.8	8.3	7.6
3.6	4.6	4.3	0.9	2.1	1.6	3.7	3.1	2.9
2.3	2.3	2.1	0.4	1.4	1.1	1.4	1.7	1.7
1.2	1.4	1.0	-0.2	-0.5	-0.3	0.4	0.9	1.0
0.3	-0.5	0.5	-0.4	-0.2	0.2	-0.3	0.2	0.0
3.9	3.0	3.3	-0.2	0.7	0.7	1.5	2.9	2.7
3.8	3.4	5.5	0.1	0.6	2.8	4.4	3.4	3.2
7.5	6.4	8.6	-0.1	1.4	3.5	5.9	6.3	5.9
-4.1	-1.9	-4.4	1.0	0.7	-1.9	-2.2	-3.1	-3.0
-0.3	1.5	1.1	1.1	1.4	0.9	2.3	0.3	0.1
17.1	16.1	14.8	16.3	18.9	18.5	19.1	19.5	19.4
1.6	1.0	1.5	4.4	5.3	4.6	:	:	:
4.2	5.6	7.8	5.8	2.9	3.2	3.6	3.5	3.7
21.3	21.7	22.6	22.1	21.8	21.7	22.7	23.0	23.1
17.2	17.5	18.5	17.7	16.8	16.0	15.4	15.9	16.4
4.0	4.2	4.2	4.4	5.1	5.7	7.3	7.1	6.7
85.0	85.8	87.5	83.6	83.1	83.6	:	:	:
-0.6	1.3	2.8	1.0	0.3	-0.9	-0.1	0.2	0.2
-2.2	-0.4	1.3	-0.5	-0.9	-1.5	0.0	0.3	0.2
124.1	128.8	119.0	108.5	110.0	119.4	130.8	138.5	142.2
1.4	1.6	1.7	1.4	1.1	1.0	1.1	1.3	1.6
3.3	3.3	3.2	3.2	3.2	3.1	3.1	3.0	3.0
-0.1	-0.5	-0.8	-0.5	1.0	1.2	1.6	1.0	0.6
2.1	2.4	1.9	-1.0	1.9	1.8	4.3	2.8	1.9
2.1	2.6	2.2	-0.8	1.5	1.4	3.7	2.4	1.6
1.5	2.2	2.2	1.9	0.1	-0.2	-0.5	0.4	1.0
76.7	76.9	77.3	77.8	77.4	77.3	77.0	76.3	75.8
70.3	71.6	72.9	73.9	73.5	72.9	72.0	71.8	71.9
62.4	63.8	65.1	68.4	68.1	67.6	:	:	:
8.2	6.7	5.6	4.9	4.9	5.6	6.3	5.8	5.0
2.6	1.3	7.5	4.5	2.7	2.4	3.4	3.7	3.9
1.8	0.1	6.3	2.1	0.9	-0.1	1.9	1.9	2.0
0.5	-1.1	5.5	5.5	0.8	0.5	-0.9	0.9	2.0
-0.2	-1.7	4.1	3.2	-0.7	-1.7	-1.9	-1.0	0.1
0.8	0.7	1.3	2.3	1.4	2.3	1.1	2.0	1.9
0.8	1.2	1.1	2.4	1.8	2.5	1.5	1.8	1.9
-0.8	-2.7	-2.2	-1.5	-1.9	0.1	-0.8	-0.3	-0.3
60.8	60.2	57.3	57.2	58.1	58.1	57.3	56.6	56.3
62.7	62.7	62.4	60.0	58.1	58.4	57.9	57.2	57.1
1.8	2.5	5.1	2.8	0.0	0.3	0.6	0.6	0.8
3.4	2.8	4.2	3.1	0.6	1.4	0.7	0.4	0.6
68.1	62.8	52.8	54.4	52.6	52.0	51.6	50.6	49.7
5.0	5.0	5.4	5.1	5.3	4.6	:	:	:
4.3	3.3	4.1	4.1	4.2	3.2	:	:	:
0.7	1.7	1.3	1.0	1.1	1.5	:	:	:
4.2	4.3	4.0	2.7	3.8	2.3	:	:	:
-1.6	-1.8	-0.5	-8.3	2.1	5.9	1.7	1.1	:
106.1	101.6	104.7	98.8	100.0	104.6	104.9	105.5	:

Table 103

Main economic indicators 1961–2006

United Kingdom

	1961–73	1974–85	1986–90	1991–95	1996–2000
1. Growth of GDP and its components (real)					
1.1. Private consumption	3.1	1.6	4.7	1.3	4.0
1.2. Government consumption	2.6	1.4	1.0	1.1	1.6
1.3. Gross fixed capital formation	4.6	0.9	5.7	-0.3	6.0
1.4. of which equipment	:	1.9	4.9	1.1	9.3
1.5. of which construction	:	-0.7	8.1	-1.8	2.9
1.6. Exports of goods and services	5.4	3.3	4.2	5.4	6.7
1.7. Imports of goods and services	5.2	2.6	7.0	3.3	9.1
1.8. GDP	3.3	1.4	3.3	1.7	3.2
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	2.5	1.3	3.2	1.1	2.9
2.2. Investment	0.7	0.1	0.9	-0.1	0.9
2.3. Stockbuilding	0.0	-0.1	-0.1	0.2	0.0
2.4. Domestic demand	3.2	1.2	4.0	1.2	3.9
2.5. Exports	0.7	0.6	0.8	1.1	1.7
2.6. Final demand	3.9	1.9	4.7	2.4	5.6
2.7. Imports	-0.7	-0.4	-1.3	-0.7	-2.3
2.8. Net exports	0.0	0.1	-0.5	0.4	-0.6
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	16.0	17.8	15.2	17.7	15.1
3.2. Net savings of households	:	:	:	4.7	2.0
3.3. General government savings	4.1	0.5	1.8	-2.8	1.0
3.4. National savings	20.2	18.3	17.0	14.9	16.1
3.5. Gross capital formation	20.0	19.1	20.2	16.5	17.5
3.6. Current account	0.2	-0.3	-3.2	-1.6	-1.3
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	79.1	84.6	81.0	82.1
4.2. Trend GDP gap	0.2	-0.8	2.8	-1.7	0.2
4.3. Potential GDP gap	:	-0.9	2.2	-1.9	0.5
4.4. Profitability index (1961–73 = 100)	100.0	75.8	92.3	104.2	135.6
5. Growth potential					
5.1. Growth of net capital stock (real)	3.0	1.7	2.2	1.3	2.3
5.2. Net capital/output ratio (real)	3.0	3.1	2.9	2.9	2.7
5.3. Growth of capital intensity	2.7	1.7	0.4	2.4	0.9
5.4. Labour productivity growth	2.9	1.5	1.4	2.7	1.7
5.5. Total factor productivity growth	2.0	0.9	1.2	1.9	1.4
6. Employment and unemployment					
6.1. Employment	0.3	-0.1	2.0	-0.7	1.5
6.2. Activity rate	71.0	72.6	75.2	75.8	76.4
6.3. Employment rate (benchmark)	69.6	67.6	68.5	68.8	71.4
6.4. Employment rate (full-time equivalent)	:	:	:	59.2	59.4
6.5. Unemployment rate (Eurostat definition)	1.9	6.8	8.8	9.2	6.5
7. Prices and wages					
7.1. Nominal wages per head	8.2	13.8	8.3	5.1	4.6
7.2. Real wages per head ⁽²⁾	3.3	1.7	2.7	0.8	2.3
7.3. Nominal unit labour costs	5.1	12.1	6.8	2.3	2.9
7.4. Real unit labour costs	0.1	-0.2	0.8	-1.1	0.4
7.5. GDP deflator	5.1	12.4	6.0	3.5	2.5
7.6. Private consumption deflator	4.8	11.9	5.4	4.3	2.3
7.7. Terms of trade	-0.4	0.5	0.0	-0.3	1.2
8. General government budget, % of GDP					
8.1. Expenditure ⁽³⁾	35.7	47.0	42.5	45.2	40.3
8.2. Current revenues ⁽³⁾	35.4	43.3	41.6	39.2	40.0
8.3. Net borrowing (-) or lending (+) ⁽³⁾	-0.3	-3.7	-1.0	-6.0	-0.3
8.4. Net borrowing cyclically adjusted ⁽³⁾	-0.3	-3.2	-2.0	-5.1	-1.0
8.5. Debt (end of period) ⁽⁴⁾	64.9	52.7	34.0	51.8	42.0
9. Monetary conditions					
9.1. Long-term interest rate	7.6	13.0	10.3	8.6	6.2
9.2. Short-term interest rate	6.8	11.9	11.9	7.9	6.4
9.3. Yield curve (9.1–9.2)	0.8	1.2	-1.6	0.8	-0.2
9.4. Real long-term interest rate ⁽⁵⁾	2.4	0.7	4.1	5.0	3.6
9.5. Nominal effective exchange rate	-2.1	-2.2	-1.0	-3.0	4.6
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	107.1	100.6	107.8	109.3	123.7

⁽¹⁾ Manufacturing industry.

⁽²⁾ Private consumption deflator.

⁽³⁾ From 1970 (ESA 95 data), 1961–73 average according to the former definition.

⁽⁴⁾ Break in 1990 (ESA 95 data).

⁽⁵⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
3.9	4.4	4.6	2.9	3.3	2.3	3.3	2.3	2.1
1.2	3.5	2.3	2.6	3.8	3.5	3.8	2.2	2.8
12.7	1.6	3.6	2.6	2.7	2.2	6.7	5.1	4.5
17.2	7.9	1.8	0.8	-6.7	-3.3	5.6	5.7	4.2
3.5	2.7	4.3	-6.7	6.9	6.6	7.5	4.8	4.8
2.8	4.3	9.4	2.9	0.1	0.1	2.5	6.6	6.1
9.3	7.9	9.1	4.9	4.1	1.3	4.5	5.2	5.1
3.1	2.9	3.9	2.3	1.8	2.2	3.3	2.8	2.8
2.8	3.5	3.4	2.4	2.9	2.2	3.0	2.0	2.0
2.0	0.3	0.6	0.4	0.4	0.4	1.1	0.9	0.8
0.1	0.2	-0.1	0.1	-0.4	0.0	-0.1	-0.1	0.1
4.9	3.9	4.0	3.0	3.0	2.6	4.0	2.7	2.8
0.7	1.1	2.4	0.8	0.0	0.0	0.6	1.7	1.6
5.6	5.0	6.4	3.8	3.0	2.6	4.6	4.5	4.5
-2.3	-2.1	-2.6	-1.4	-1.2	-0.4	-1.4	-1.6	-1.6
-1.6	-1.0	-0.1	-0.7	-1.2	-0.4	-0.7	0.1	0.0
15.9	12.5	12.1	12.6	14.9	15.7	15.8	15.6	15.6
1.3	0.3	0.3	1.3	0.3	0.5	:	:	:
1.8	2.6	2.9	2.4	0.0	-1.1	-0.7	-0.2	0.1
17.7	15.1	15.0	15.1	14.9	14.7	15.1	15.4	15.7
18.2	17.8	17.5	17.3	16.7	16.5	17.1	17.2	17.5
-0.5	-2.7	-2.5	-2.3	-1.7	-1.9	-2.0	-1.8	-1.9
83.7	79.4	81.3	79.7	79.0	78.2	:	:	:
0.2	0.3	1.3	0.9	0.0	-0.4	0.2	0.4	0.7
0.5	0.4	1.4	0.8	-0.1	-0.7	-0.3	-0.3	-0.5
139.3	138.2	135.5	133.9	136.9	140.4	140.2	139.1	136.3
2.7	2.5	2.5	2.4	2.4	2.4	2.7	2.9	3.0
2.8	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
1.5	1.0	1.1	1.7	2.2	1.4	2.0	2.4	2.5
1.9	1.3	2.5	1.6	1.6	1.3	2.6	2.4	2.4
1.3	1.0	2.1	1.0	0.8	0.8	1.9	1.5	1.5
1.2	1.4	1.6	1.0	0.2	0.9	0.7	0.5	0.5
76.2	76.7	77.1	77.2	77.0	77.0	76.9	76.8	76.7
71.5	72.1	73.0	73.3	73.0	73.1	73.2	73.1	72.9
60.7	61.2	61.7	62.2	62.1	62.0	:	:	:
6.2	5.9	5.4	5.0	5.1	5.0	4.9	4.9	4.9
5.6	4.4	5.6	5.4	4.5	4.1	5.2	5.3	5.2
2.9	2.6	4.4	2.9	2.9	2.2	3.5	3.2	3.0
3.7	3.0	3.0	3.7	2.9	2.7	2.6	2.8	2.7
0.9	0.7	1.7	1.4	-0.3	-0.3	0.2	0.5	0.6
2.8	2.3	1.3	2.2	3.2	3.0	2.4	2.3	2.1
2.6	1.7	1.1	2.4	1.6	1.8	1.7	2.0	2.1
2.1	0.6	-0.9	-0.6	2.7	0.8	0.6	0.2	-1.3
40.1	39.6	37.4	40.9	41.7	43.6	43.4	43.3	43.4
40.2	40.6	41.2	41.5	40.0	40.3	40.5	40.7	41.0
0.1	1.0	3.8	0.7	-1.7	-3.3	-2.8	-2.6	-2.4
-0.2	0.8	0.8	0.3	-1.7	-2.9	-2.7	-2.4	-2.1
47.7	45.1	42.0	38.8	38.3	39.8	40.4	40.9	41.2
5.6	5.0	5.3	5.0	4.9	4.6	:	:	:
7.3	5.5	6.2	5.0	4.1	3.7	:	:	:
-1.7	-0.5	-0.9	0.0	0.9	0.9	:	:	:
2.7	2.7	3.9	2.7	1.7	1.5	:	:	:
3.9	-0.5	2.8	-1.7	0.7	-4.3	4.5	-1.8	:
128.8	130.6	135.7	135.1	137.9	133.4	142.6	142.0	:

Table 104

Main economic indicators 1961–2006

EU-25

	1993	1994	1995	1996	1997
1. Growth of GDP and its components (real)					
1.1. Private consumption	:	:	:	2.1	2.0
1.2. Government consumption	:	:	:	1.7	1.1
1.3. Gross fixed capital formation	:	:	:	2.4	3.4
1.4. of which equipment	:	:	:	:	:
1.5. of which construction	:	:	:	:	:
1.6. Exports of goods and services	:	:	:	5.1	10.3
1.7. Imports of goods and services	:	:	:	4.7	9.5
1.8. GDP	:	2.8	2.5	1.7	2.6
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	:	:	:	1.5	1.4
2.2. Investment	:	:	:	0.5	0.7
2.3. Stockbuilding	:	:	:	-0.5	0.1
2.4. Domestic demand	:	:	:	1.6	2.2
2.5. Exports	:	:	:	1.5	3.1
2.6. Final demand	:	:	:	3.0	5.3
2.7. Imports	:	:	:	-1.2	-2.7
2.8. Net exports	:	:	:	0.2	0.4
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	:	:	:	:	:
3.2. Net savings of households	:	:	:	:	:
3.3. General government savings	:	:	:	:	:
3.4. National savings	:	:	:	:	:
3.5. Gross capital formation	19.5	20.0	20.4	19.8	19.9
3.6. Current account	:	:	:	:	:
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	:	:	:
4.2. Trend GDP gap	:	:	-0.7	-1.2	-0.8
4.3. Potential GDP gap	:	:	:	:	-0.8
4.4. Profitability index (1961–73 = 100)	:	:	:	:	:
5. Growth potential					
5.1. Growth of net capital stock (real)	:	:	:	:	:
5.2. Net capital/output ratio (real)	:	:	:	:	:
5.3. Growth of capital intensity	:	:	:	:	:
5.4. Labour productivity growth	:	:	:	1.2	1.6
5.5. Total factor productivity growth	:	:	:	:	:
6. Employment and unemployment					
6.1. Employment	:	:	:	0.7	1.0
6.2. Activity rate	:	:	69.3	69.6	:
6.3. Employment rate (benchmark)	:	:	62.4	62.7	:
6.4. Employment rate (full-time equivalent)	:	:	:	:	:
6.5. Unemployment rate (Eurostat definition)	:	:	10.6	10.5	10.1
7. Prices and wages					
7.1. Nominal wages per head	:	:	:	3.4	3.0
7.2. Real wages per head ⁽²⁾	:	:	:	0.3	0.5
7.3. Nominal unit labour costs	:	:	:	2.2	1.4
7.4. Real unit labour costs	:	:	:	-0.5	-0.8
7.5. GDP deflator	:	3.3	3.4	2.7	2.1
7.6. Private consumption deflator	:	:	:	3.1	2.5
7.7. Terms of trade	:	:	:	:	:
8. General government budget, % of GDP					
8.1. Expenditure	:	:	:	:	:
8.2. Current revenues	:	:	:	:	:
8.3. Net borrowing (-) or lending (+)	:	:	:	:	:
8.4. Net borrowing cyclically adjusted	:	:	:	:	:
8.5. Debt (end of period)	:	:	:	:	:
9. Monetary conditions					
9.1. Long-term interest rate	:	:	:	:	:
9.2. Short-term interest rate	:	:	:	:	:
9.3. Yield curve (9.1–9.2)	:	:	:	:	:
9.4. Real long-term interest rate ⁽³⁾	:	:	:	:	:
9.5. Nominal effective exchange rate	:	4.6	8.0	8.5	4.3
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	:	:	100.0	104.6	99.4

⁽¹⁾ Manufacturing industry 2000.

⁽²⁾ Private consumption deflator.

⁽³⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
3.2	3.6	3.1	2.0	1.4	1.5	2.0	2.0	2.2
1.5	2.0	2.2	2.5	3.1	1.9	1.8	1.3	1.7
6.7	5.2	4.8	0.3	-1.4	0.0	3.2	3.8	4.0
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
7.0	5.2	12.1	3.3	1.8	0.9	6.6	6.5	6.1
10.2	7.1	11.1	2.1	1.4	2.3	6.4	6.6	6.5
2.9	2.9	3.6	1.8	1.1	1.0	2.5	2.3	2.4
2.2	2.5	2.3	1.7	1.4	1.3	1.5	1.4	1.6
1.3	1.1	1.0	0.1	-0.3	0.0	0.6	0.8	0.8
0.3	-0.1	0.0	:	:	:	0.2	0.1	0.0
3.8	3.5	3.2	1.3	1.0	1.5	2.3	2.3	2.5
2.3	1.7	4.2	1.2	0.7	0.4	2.5	2.6	2.5
6.1	5.2	7.3	2.5	1.7	1.9	4.8	4.9	5.0
-3.1	-2.3	-3.7	-0.8	-0.5	-0.9	-2.4	-2.6	-2.6
-0.8	-0.5	0.4	0.5	0.2	-0.5	0.1	0.0	-0.1
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	2.6	2.0	0.7	0.1	0.1	0.5	0.7
:	:	:	:	:	:	:	:	:
20.7	20.8	21.2	20.3	19.4	19.3	19.8	20.3	20.6
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
-0.2	0.5	1.8	1.4	0.3	-0.8	-0.5	-0.3	-0.1
-0.2	0.3	1.5	0.9	-0.1	-1.2	-1.0	-0.9	-0.8
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
1.3	1.8	2.1	0.7	0.8	0.8	2.0	1.5	1.5
:	:	:	:	:	:	:	:	:
1.6	1.1	1.5	1.0	0.3	0.3	0.4	0.8	0.9
:	70.9	71.3	71.7	71.9	72.1	72.1	72.4	72.6
:	64.6	65.3	65.8	65.8	65.7	65.8	66.1	66.5
:	57.0	57.8	58.2	58.2	58.1	:	:	:
9.4	9.2	8.7	8.5	8.9	9.1	9.1	9.1	8.8
2.6	3.2	4.1	4.0	3.2	3.1	3.0	3.1	3.2
0.6	1.8	1.8	1.5	1.1	1.1	1.0	1.1	1.3
1.3	1.4	1.9	3.2	2.3	2.2	0.9	1.6	1.6
-0.8	-0.1	0.3	0.7	-0.3	-0.1	-1.1	-0.4	-0.3
2.2	1.5	1.6	2.5	2.6	2.2	2.1	2.0	1.9
2.0	1.4	2.2	2.5	2.1	1.9	2.0	2.0	1.8
:	:	:	:	:	:	:	:	:
:	:	45.7	47.2	47.6	48.4	48.0	47.5	47.2
:	:	46.5	46.0	45.4	45.6	45.1	45.1	44.9
:	:	0.8	-1.2	-2.3	-2.8	-2.8	-2.4	-2.3
:	:	:	:	:	:	:	:	:
:	66.7	62.9	62.1	61.6	63.2	63.5	63.5	63.3
:	:	:	:	:	4.3	:	:	:
:	4.3	5.4	5.0	3.8	2.8	:	:	:
:	:	:	:	:	1.5	:	:	:
:	:	:	:	:	2.0	:	:	:
6.2	-1.8	-8.1	4.3	6.0	12.4	5.7	0.9	:
98.6	92.0	81.9	83.8	88.8	98.8	103.7	102.9	:

Table 105

Main economic indicators 1961–2006

EUR-15

	1961–73	1974–85	1986–90	1991–95	1996–2000
1. Growth of GDP and its components (real) ⁽¹⁾					
1.1. Private consumption	4.8	2.1	3.6	1.3	2.7
1.2. Government consumption	4.0	2.8	2.2	1.6	1.7
1.3. Gross fixed capital formation	5.6	0.2	5.6	-0.3	4.3
1.4. of which equipment	:	:	:	:	7.5
1.5. of which construction	:	-1.0	4.6	0.0	1.5
1.6. Exports of goods and services	8.0	4.2	5.0	5.6	7.7
1.7. Imports of goods and services	8.6	2.8	7.3	3.9	8.2
1.8. GDP	4.7	2.0	3.3	1.5	2.7
2. Demand components: Contribution to changes in GDP (%) ⁽²⁾					
2.1. Consumption	3.5	1.7	2.5	1.1	1.9
2.2. Investment	1.2	0.0	1.1	-0.1	0.9
2.3. Stockbuilding	0.0	-0.1	0.1	0.0	0.0
2.4. Domestic demand	4.8	1.7	3.7	1.1	2.7
2.5. Exports	0.4	0.4	0.0	0.7	0.7
2.6. Final demand	5.2	2.1	3.7	1.8	3.4
2.7. Imports	-0.5	-0.1	-0.4	-0.2	-0.7
2.8. Net exports	-0.1	0.3	-0.4	0.5	0.0
3. Gross savings and investment in % of GDP at current prices ⁽²⁾					
3.1. Private sector savings	:	21.6	21.6	21.9	19.8
3.2. Net savings of households	:	:	:	:	:
3.3. General government savings	:	0.4	0.3	-1.6	1.0
3.4. National savings	25.0	22.1	21.9	20.2	20.8
3.5. Gross capital formation	25.5	22.9	21.9	20.6	20.3
3.6. Current account	0.5	-0.6	0.0	-0.4	0.5
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽²⁾ ⁽³⁾	:	79.3	83.1	80.7	82.2
4.2. Trend GDP gap ⁽²⁾	0.2	-0.3	0.5	0.1	0.0
4.3. Potential GDP gap ⁽²⁾	:	-0.6	0.3	-0.4	-0.1
4.4. Profitability index (1961–73 = 100) ⁽¹⁾	100.0	73.4	89.2	94.5	111.2
5. Growth potential					
5.1. Growth of net capital stock (real) ⁽¹⁾	4.5	2.8	2.4	2.1	2.2
5.2. Net capital/output ratio (real) ⁽²⁾	2.9	3.1	3.1	3.1	3.1
5.3. Growth of capital intensity ⁽¹⁾	4.2	2.7	0.9	2.7	0.8
5.4. Labour productivity growth ⁽¹⁾	4.4	1.9	1.8	2.1	1.3
5.5. Total factor productivity growth ⁽¹⁾	3.0	1.0	1.4	1.1	1.0
6. Employment and unemployment					
6.1. Employment ⁽¹⁾	0.3	0.1	1.5	-0.4	1.5
6.2. Activity rate ⁽²⁾	65.8	65.2	65.9	67.5	68.8
6.3. Employment rate (benchmark) ⁽²⁾	64.4	61.2	60.3	61.2	62.5
6.4. Employment rate (full-time equivalent) ⁽²⁾	:	:	:	:	55.4
6.5. Unemployment rate (Eurostat definition) ⁽²⁾	:	:	:	9.5	9.2
7. Prices and wages ⁽¹⁾					
7.1. Nominal wages per head	9.7	11.6	5.8	4.9	2.6
7.2. Real wages per head ⁽⁴⁾	5.0	1.5	1.6	0.8	0.7
7.3. Nominal unit labour costs	5.1	9.5	4.0	2.8	1.3
7.4. Real unit labour costs	0.0	-0.2	-0.6	-0.8	-0.4
7.5. GDP deflator	5.1	9.7	4.7	3.6	1.7
7.6. Private consumption deflator	4.6	10.0	4.1	4.1	1.9
8. General government budget, % of GDP ⁽²⁾					
8.1. Expenditure ⁽⁵⁾	:	45.5	47.4	50.0	48.4
8.2. Current revenues ⁽⁵⁾	:	41.8	44.2	44.9	46.8
8.3. Net borrowing (-) or lending (+) ⁽⁵⁾	:	-3.7	-3.3	-5.1	-1.6
8.4. Net borrowing cyclically adjusted ⁽⁵⁾	:	-3.5	-3.6	-5.1	-1.9
8.5. Debt (end of period) ⁽⁶⁾	:	52.4	53.9	70.8	64.2
9. Monetary conditions					
9.1. Long-term interest rate ⁽²⁾	7.1	11.9	9.8	9.1	5.8
9.2. Short-term interest rate ⁽²⁾	5.6	11.2	9.8	8.9	4.6
9.3. Yield curve (9.1–9.2) ⁽²⁾	1.3	0.7	0.0	0.2	1.1
9.4. Real long-term interest rate ⁽²⁾ ⁽⁷⁾	1.8	1.2	4.5	:	3.8
9.5. Nominal effective exchange rate ⁽¹⁾	0.3	-3.8	6.4	-2.2	-3.7
9.6. Real effective exchange rate (1995 = 100; ULC in total economy) ⁽¹⁾	93.8	96.8	98.0	101.9	95.6

⁽¹⁾ 1961–91: including West Germany.

⁽²⁾ 1961–90: including West Germany.

⁽³⁾ Manufacturing industry.

⁽⁴⁾ Private consumption deflator.

⁽⁵⁾ Break in 1995 (ESA 95 data), 1991–95 average according to the former definition.

⁽⁶⁾ Break in 1995 (ESA 95 data).

⁽⁷⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
3.2	3.6	3.1	2.0	1.2	1.4	1.9	1.9	2.1
1.5	2.0	2.2	2.5	3.2	1.9	1.8	1.3	1.7
6.4	5.3	4.9	0.3	-1.5	-0.1	2.9	3.6	3.7
10.9	8.5	7.1	-0.6	-4.9	-1.6	3.4	5.4	5.6
1.9	3.3	2.9	-0.9	-0.1	0.8	2.6	2.1	2.2
6.6	5.2	11.7	3.1	1.6	0.3	6.2	6.2	5.9
9.9	7.3	10.8	2.0	1.2	1.8	6.0	6.3	6.3
2.9	2.9	3.6	1.7	1.1	0.9	2.3	2.2	2.3
2.1	2.5	2.3	1.7	1.4	1.2	1.5	1.4	1.6
1.2	1.1	1.0	0.1	-0.3	0.0	0.6	0.7	0.8
0.4	-0.1	-0.1	-0.4	-0.1	0.3	0.1	0.1	0.1
3.7	3.5	3.2	1.3	0.9	1.4	2.2	2.2	2.4
0.1	-0.8	1.8	0.5	0.2	-0.1	1.0	1.0	0.8
3.8	2.7	5.0	1.9	1.1	1.3	3.2	3.1	3.2
-0.8	0.2	-1.4	-0.1	0.0	-0.5	-0.8	-0.9	-0.9
-0.8	-0.6	0.4	0.4	0.2	-0.5	0.1	0.0	-0.1
20.0	18.5	18.0	18.2	19.1	19.3	19.9	19.9	19.9
:	:	:	:	:	:	:	:	:
1.2	2.3	2.6	2.0	0.8	0.1	0.1	0.5	0.7
21.2	20.7	20.6	20.2	19.9	19.4	20.0	20.3	20.6
20.4	20.6	21.0	20.1	19.2	19.1	19.6	20.1	20.3
0.8	0.1	-0.5	0.1	0.6	0.2	0.5	0.6	0.5
83.3	81.6	83.4	83.1	81.1	80.7	:	:	:
-0.2	0.5	1.8	1.4	0.4	-0.8	-0.5	-0.4	-0.1
-0.2	0.4	1.5	1.0	0.0	-1.2	-1.0	-0.9	-0.8
113.8	114.9	113.4	111.8	112.0	112.1	115.3	116.9	118.2
2.2	2.3	2.4	2.2	1.9	1.7	1.8	1.9	2.0
3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
0.4	0.7	0.4	1.0	1.5	1.6	1.4	1.1	1.2
1.1	1.2	1.5	0.5	0.6	0.6	1.9	1.4	1.4
1.0	1.0	1.4	0.1	0.1	0.0	1.3	0.9	1.0
1.7	2.0	2.3	1.4	0.5	0.4	0.5	0.9	0.9
68.7	69.4	70.1	70.5	70.9	71.2	71.3	71.7	72.0
62.3	63.4	64.7	65.4	65.5	65.5	65.6	66.0	66.4
56.2	57.2	58.1	58.7	58.9	58.7	:	:	:
9.4	8.6	7.8	7.4	7.7	8.1	8.1	8.1	7.9
2.1	2.5	3.4	3.4	3.0	2.9	2.8	3.0	3.0
0.4	1.3	1.4	1.1	1.0	0.9	0.9	1.0	1.2
0.9	1.3	1.8	2.9	2.3	2.2	0.9	1.5	1.5
-0.9	0.0	0.4	0.5	-0.2	-0.1	-1.0	-0.4	-0.3
1.9	1.3	1.4	2.4	2.6	2.2	2.0	1.9	1.8
1.6	1.3	2.0	2.3	2.1	1.9	1.9	1.9	1.8
48.2	47.7	45.8	47.2	47.6	48.5	48.0	47.5	47.3
46.6	47.0	46.7	46.2	45.5	45.8	45.3	45.2	45.0
-1.7	-0.7	1.0	-1.1	-2.1	-2.7	-2.7	-2.4	-2.3
-1.6	-0.9	-1.1	-1.6	-2.2	-2.2	-2.3	-2.0	-2.0
69.0	68.0	64.2	63.4	62.8	64.4	64.6	64.6	64.4
4.9	4.7	5.4	5.0	4.9	4.2	:	:	:
4.7	3.5	4.7	4.4	3.5	2.6	:	:	:
0.3	1.2	0.7	0.6	1.4	1.6	:	:	:
2.9	3.3	3.8	2.5	2.2	1.9	:	:	:
2.4	-6.2	-11.3	-0.3	4.3	12.8	5.9	0.1	:
99.6	93.4	82.6	83.4	88.6	100.7	107.0	106.2	:

Table 106

Main economic indicators 1961–2006

Bulgaria

	1993	1994	1995	1996	1997
1. Growth of GDP and its components (real)					
1.1. Private consumption	- 0.8	- 2.6	- 0.5	- 3.9	- 10.7
1.2. Government consumption	- 12.5	- 11.8	- 8.2	- 28.9	- 1.3
1.3. Gross fixed capital formation	:	:	16.1	- 21.2	- 20.9
1.4. of which equipment	:	:	:	:	:
1.5. of which construction	:	:	:	:	:
1.6. Exports of goods and services	:	:	:	11.8	12.8
1.7. Imports of goods and services	:	:	:	- 1.9	10.9
1.8. GDP	- 1.5	1.8	2.9	- 9.4	- 5.4
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	- 3.4	- 4.3	- 1.8	- 7.2	- 8.2
2.2. Investment	:	:	2.2	- 3.2	- 2.8
2.3. Stockbuilding	:	:	4.7	- 5.3	3.8
2.4. Domestic demand	:	:	5.2	- 15.7	- 7.1
2.5. Exports	:	:	:	5.3	7.0
2.6. Final demand	:	:	:	- 10.3	0.1
2.7. Imports	:	:	:	0.9	- 5.5
2.8. Net exports	:	:	:	6.2	1.6
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	12.0	10.1	13.6	12.3	6.5
3.2. Net savings of households	:	:	:	:	:
3.3. General government savings	- 6.1	- 3.2	- 2.7	- 1.8	6.9
3.4. National savings	5.9	6.9	10.9	10.6	13.4
3.5. Gross capital formation	15.3	9.4	15.7	8.1	9.9
3.6. Current account	- 9.4	- 2.4	- 4.8	2.4	3.5
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	:	:	59.3
4.2. Trend GDP gap	:	:	:	:	:
4.3. Potential GDP gap	:	:	:	:	:
4.4. Profitability index (1961–73 = 100)	:	:	:	:	:
5. Growth potential					
5.1. Growth of net capital stock (real)	:	:	:	:	:
5.2. Net capital/output ratio (real)	:	:	:	:	:
5.3. Growth of capital intensity	:	:	:	:	:
5.4. Labour productivity growth	0.1	1.2	1.6	- 9.5	- 1.5
5.5. Total factor productivity growth	:	:	:	:	:
6. Employment and unemployment					
6.1. Employment	:	:	:	:	:
6.2. Activity rate	:	:	:	:	:
6.3. Employment rate (benchmark)	:	:	:	:	:
6.4. Employment rate (full-time equivalent)	:	:	:	:	:
6.5. Unemployment rate (Eurostat definition)	13.9	12.3	9.7	9.3	12.3
7. Prices and wages					
7.1. Nominal wages per head	:	:	:	72.7	848.0
7.2. Real wages per head ⁽²⁾	:	:	:	- 21.3	- 12.6
7.3. Nominal unit labour costs	:	:	:	90.8	862.6
7.4. Real unit labour costs	:	:	:	- 13.6	- 8.0
7.5. GDP deflator	51.1	72.7	62.8	120.8	946.0
7.6. Private consumption deflator	68.0	81.9	60.7	119.6	985.1
7.7. Terms of trade	:	:	:	0.7	- 3.7
8. General government budget, % of GDP					
8.1. Expenditure	62.5	59.7	50.5	50.9	39.8
8.2. Current revenues	52.3	54.3	47.1	49.1	45.1
8.3. Net borrowing (-) or lending (+)	- 10.2	- 5.4	- 3.4	- 1.8	5.3
8.4. Net borrowing cyclically adjusted	:	:	:	:	:
8.5. Debt (end of period)	:	:	:	:	105.1
9. Monetary conditions					
9.1. Long-term interest rate	:	:	:	:	:
9.2. Short-term interest rate	:	:	:	:	:
9.3. Yield curve (9.1–9.2)	:	:	:	:	:
9.4. Real long-term interest rate ⁽³⁾	:	:	:	:	:
9.5. Nominal effective exchange rate	:	:	:	:	:
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	:	:	:	:	:

⁽¹⁾ Manufacturing industry 2000.

⁽²⁾ Private consumption deflator.

⁽³⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
2.7	9.6	4.3	5.2	3.6	6.4	6.0	7.5	4.0
4.0	2.0	11.6	1.3	4.0	7.3	7.0	8.0	4.0
35.2	20.8	15.4	23.3	8.5	13.8	15.0	16.0	9.0
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
-4.7	-5.0	16.6	10.0	7.0	8.0	11.1	8.7	8.5
12.1	9.3	18.6	14.8	4.9	14.8	13.8	12.8	8.4
3.9	2.3	5.4	4.1	4.9	4.3	5.5	6.0	4.5
2.4	7.0	4.7	4.0	3.2	5.7	5.5	6.8	3.6
3.9	3.0	2.6	4.3	1.9	3.1	3.7	4.3	2.7
5.4	-1.2	-0.1	-0.2	-0.8	0.8	1.4	1.3	0.8
11.8	8.8	7.2	8.2	4.2	9.6	10.6	12.4	7.1
-3.1	-3.0	9.3	6.2	4.6	5.3	7.7	6.3	6.3
11.0	8.2	18.0	15.3	9.0	16.7	18.3	18.7	13.4
-7.1	-5.9	-12.6	-11.3	-4.1	-12.5	-12.8	-12.8	-9.0
-10.2	-8.9	-3.3	-5.1	0.5	-7.1	-5.1	-6.4	-2.6
7.5	5.4	7.8	10.8	:	:	:	:	:
:	:	:	:	:	:	:	:	:
9.1	7.7	4.9	3.7	:	:	:	:	:
16.6	13.1	12.7	14.6	15.1	12.9	14.3	14.7	16.2
16.9	17.9	18.3	20.7	19.8	21.7	22.6	23.4	23.9
-0.2	-4.8	-5.5	-6.1	-4.7	-8.8	-8.0	-8.5	-7.5
59.8	53.7	59.9	57.7	56.9	59.6	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
4.1	4.5	9.2	4.5	4.1	0.8	4.0	3.9	3.5
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
10.6	12.2	16.4	19.2	17.8	13.6	12.2	10.7	10.0
52.5	6.0	10.2	12.3	7.1	2.9	8.4	10.5	7.8
31.6	3.7	5.4	6.0	3.0	2.5	3.2	6.2	4.7
46.5	1.4	0.9	7.5	3.0	2.2	4.2	6.3	4.2
18.4	-2.2	-5.4	0.8	-0.8	0.1	-1.5	1.3	-0.2
23.8	3.7	6.7	6.7	3.8	2.1	5.9	4.9	4.4
15.8	2.2	4.5	6.0	4.0	0.5	5.0	4.0	3.0
8.9	1.3	4.8	0.7	-1.0	1.1	1.9	1.8	2.3
52.4	56.2	58.7	53.3	:	:	:	:	:
54.1	56.6	58.2	53.5	:	:	:	:	:
1.7	0.4	-0.5	0.2	-0.8	-0.1	0.5	-1.0	0.0
:	:	:	:	:	:	:	:	:
79.6	79.3	73.6	66.2	53.2	46.2	38.1	35.3	32.3
:	:	:	:	8.3	6.4	:	:	:
5.9	5.9	4.6	5.1	4.9	3.6	:	:	:
:	:	:	:	3.4	2.8	:	:	:
:	:	:	:	4.3	4.3	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:

Table 107

Main economic indicators 1961–2006

Romania

	1993	1994	1995	1996	1997
1. Growth of GDP and its components (real)					
1.1. Private consumption	0.9	2.4	12.9	8.1	-3.5
1.2. Government consumption	2.7	11.0	1.0	1.5	-8.5
1.3. Gross fixed capital formation	8.3	20.7	6.9	5.7	1.7
1.4. of which equipment	11.0	22.8	-7.1	6.9	23.8
1.5. of which construction	:	:	:	:	:
1.6. Exports of goods and services	10.6	19.0	17.0	2.0	11.4
1.7. Imports of goods and services	4.4	-1.2	29.7	8.7	7.5
1.8. GDP	1.5	3.9	7.1	3.9	-6.1
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	1.0	3.0	8.4	5.7	-3.6
2.2. Investment	1.4	3.8	1.5	1.2	0.4
2.3. Stockbuilding	-4.2	-9.1	-3.6	-0.6	-2.6
2.4. Domestic demand	0.6	-0.6	11.0	6.3	-6.5
2.5. Exports	2.1	4.2	4.3	0.6	3.1
2.6. Final demand	0.3	2.0	10.6	6.8	-2.7
2.7. Imports	-1.2	0.3	-8.2	-2.9	-2.6
2.8. Net exports	0.9	4.5	-3.8	-2.3	0.5
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	:	:	:	:	:
3.2. Net savings of households	:	:	:	:	:
3.3. General government savings	:	:	:	:	:
3.4. National savings	26.9	24.9	19.9	18.3	14.3
3.5. Gross capital formation	28.9	24.8	24.3	25.9	20.6
3.6. Current account	:	:	:	:	:
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	:	:	:
4.2. Trend GDP gap	:	:	:	:	:
4.3. Potential GDP gap	:	:	:	:	:
4.4. Profitability index (1961–73 = 100)	:	:	:	:	:
5. Growth potential					
5.1. Growth of net capital stock (real)	:	:	:	:	:
5.2. Net capital/output ratio (real)	:	:	:	:	:
5.3. Growth of capital intensity	:	:	:	:	:
5.4. Labour productivity growth	5.5	4.5	13.0	5.2	-2.3
5.5. Total factor productivity growth	:	:	:	:	:
6. Employment and unemployment					
6.1. Employment	:	:	:	:	:
6.2. Activity rate	:	:	:	:	:
6.3. Employment rate (benchmark)	:	:	:	:	:
6.4. Employment rate (full-time equivalent)	:	:	:	:	:
6.5. Unemployment rate (Eurostat definition)	7.2	7.6	6.1	3.1	5.3
7. Prices and wages					
7.1. Nominal wages per head	207.6	132.6	54.3	53.5	103.1
7.2. Real wages per head ⁽²⁾	-8.0	-3.8	12.8	7.0	-20.9
7.3. Nominal unit labour costs	191.6	122.7	36.5	45.9	108.0
7.4. Real unit labour costs	-10.9	-6.8	0.9	0.4	-15.9
7.5. GDP deflator	227.3	139.0	35.3	45.3	147.2
7.6. Private consumption deflator	234.5	141.9	36.7	43.5	156.9
7.7. Terms of trade	1.1	-6.8	-0.2	-1.4	0.9
8. General government budget, % of GDP					
8.1. Expenditure	:	:	:	:	:
8.2. Current revenues	:	:	:	:	:
8.3. Net borrowing (-) or lending (+)	:	:	:	:	:
8.4. Net borrowing cyclically adjusted	:	:	:	:	:
8.5. Debt (end of period)	:	:	:	:	16.5
9. Monetary conditions					
9.1. Long-term interest rate	:	:	:	:	:
9.2. Short-term interest rate	:	:	43.0	53.7	80.8
9.3. Yield curve (9.1–9.2)	:	:	:	:	:
9.4. Real long-term interest rate ⁽³⁾	:	:	:	:	:
9.5. Nominal effective exchange rate	:	:	:	:	:
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	:	:	:	:	:

⁽¹⁾ Manufacturing industry 2000.

⁽²⁾ Private consumption deflator.

⁽³⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
1.0	-2.1	-0.6	7.1	4.7	7.0	8.0	5.5	4.5
1.8	-4.5	11.9	2.8	-8.9	6.1	6.5	4.0	4.0
-5.7	-4.8	5.5	10.1	7.3	9.2	10.0	10.0	9.0
-4.2	-7.8	7.4	6.3	:	:	:	:	:
:	:	:	:	:	:	:	:	:
-1.7	10.5	23.4	12.1	17.6	11.1	17.9	13.8	12.5
11.3	-1.5	27.1	18.4	12.0	16.3	18.9	13.6	11.8
-4.8	-1.2	2.1	5.7	5.0	4.9	7.2	5.6	5.1
1.0	-2.3	1.2	5.6	2.3	6.0	6.7	4.6	3.8
-1.3	-1.1	1.2	2.3	1.8	2.3	2.2	2.3	2.1
0.0	-0.7	1.5	1.1	0.2	0.0	0.0	0.0	0.0
0.2	-5.3	6.0	10.9	4.4	10.2	9.3	6.9	6.1
-0.6	3.5	8.7	5.4	8.3	5.9	7.1	6.0	5.9
-1.5	-1.0	14.0	15.2	12.0	17.9	16.4	12.9	12.0
-4.5	0.7	-12.5	-10.6	-7.8	-11.2	-9.2	-7.3	-6.8
-5.1	4.2	-3.8	-5.2	0.6	-5.3	-2.1	-1.3	-1.0
:	:	:	:	:	:	:	:	:
-5.9	-1.1	0.9	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
10.5	14.4	15.4	16.9	:	:	19.6	20.7	22.3
17.7	16.1	19.5	22.6	23.5	24.6	25.6	26.8	28.1
-7.3	-1.7	-4.1	-5.7	-3.4	-5.9	-6.0	-6.1	-5.8
:	:	:	64.3	66.7	72.5	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
-2.5	3.5	-0.3	6.6	7.9	5.0	7.3	5.8	5.4
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
65.6	64.5	63.8	62.9	58.4	58.5	:	:	:
5.4	6.2	6.8	6.6	7.5	6.6	6.6	6.6	6.7
128.1	41.2	74.9	44.8	23.5	25.0	20.5	16.4	12.6
52.7	-3.5	25.2	6.7	1.5	6.9	7.1	6.1	5.2
134.0	36.5	75.5	35.8	14.4	19.1	12.3	10.1	6.8
50.7	-7.6	21.7	-1.1	-7.3	-0.1	-0.9	-0.4	-1.4
55.3	47.7	44.2	37.4	23.4	19.2	13.3	10.6	8.4
49.4	46.2	39.7	35.6	21.6	16.9	12.5	9.7	7.0
3.9	3.0	3.0	0.4	1.2	-0.3	0.2	-0.6	0.4
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	-4.4	-3.5	-2.0	-2.0	-1.6	-1.7	-2.2
:	:	:	:	:	:	:	:	:
18.0	24.0	23.9	23.2	23.3	21.8	21.8	22.2	23.3
:	:	:	:	:	:	:	:	:
69.5	79.6	50.7	41.3	27.3	17.7	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:

Table 108

Main economic indicators 1961–2006

Turkey

	1993	1994	1995	1996	1997
1. Growth of GDP and its components (real)					
1.1. Private consumption	8.6	- 5.4	4.7	8.5	8.6
1.2. Government consumption	8.6	- 5.5	6.8	8.6	4.1
1.3. Gross fixed capital formation	26.4	- 16.0	9.1	14.1	14.8
1.4. of which equipment	57.1	- 38.2	32.8	28.2	25.5
1.5. of which construction	9.5	1.5	- 2.2	4.9	6.3
1.6. Exports of goods and services	7.7	15.2	8.0	22.0	19.1
1.7. Imports of goods and services	35.8	- 21.9	29.6	20.5	22.4
1.8. GDP	8.0	- 5.5	7.2	7.0	7.5
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	7.3	- 4.6	4.3	7.1	6.8
2.2. Investment	5.4	- 3.9	2.0	3.1	3.5
2.3. Stockbuilding	1.0	- 3.8	4.3	- 1.9	- 0.8
2.4. Domestic demand	13.0	- 12.1	11.0	7.8	9.3
2.5. Exports	1.0	2.0	1.3	3.6	3.5
2.6. Final demand	14.0	- 10.0	12.3	11.3	12.8
2.7. Imports	- 6.0	4.6	- 5.1	- 4.3	- 5.3
2.8. Net exports	- 5.0	6.6	- 3.8	- 0.7	- 1.8
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	:	:	:	:	:
3.2. Net savings of households	:	:	:	:	:
3.3. General government savings	:	:	:	:	:
3.4. National savings	18.7	18.9	20.1	22.6	21.6
3.5. Gross capital formation	27.6	21.5	25.5	24.6	25.1
3.6. Current account	- 4.9	1.5	- 3.3	- 4.9	- 3.9
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	:	:	:
4.2. Trend GDP gap	:	:	:	:	:
4.3. Potential GDP gap	:	:	:	:	:
4.4. Profitability index (1961–73 = 100)	:	:	:	:	:
5. Growth potential					
5.1. Growth of net capital stock (real)	7.5	5.4	5.7	6.3	7.0
5.2. Net capital/output ratio (real)	2.9	3.3	3.2	3.2	3.2
5.3. Growth of capital intensity	7.7	2.9	1.9	4.1	9.7
5.4. Labour productivity growth	8.2	- 7.7	3.4	4.8	10.3
5.5. Total factor productivity growth	5.5	- 8.6	2.7	3.4	6.8
6. Employment and unemployment					
6.1. Employment	- 5.4	7.5	2.5	2.5	- 0.1
6.2. Activity rate	53.6	55.9	55.4	54.8	53.6
6.3. Employment rate (benchmark)	48.9	51.2	51.2	51.2	50.0
6.4. Employment rate (full-time equivalent)	:	:	:	:	:
6.5. Unemployment rate (Eurostat definition)	8.0	8.0	7.1	6.2	6.5
7. Prices and wages					
7.1. Nominal wages per head	75.2	61.8	71.2	90.3	103.0
7.2. Real wages per head ⁽²⁾	5.6	- 22.5	- 11.1	13.4	11.7
7.3. Nominal unit labour costs	61.9	75.3	65.6	81.5	84.2
7.4. Real unit labour costs	- 3.5	- 15.1	- 11.5	2.0	1.4
7.5. GDP deflator	67.8	106.5	87.2	77.8	81.5
7.6. Private consumption deflator	65.9	108.9	92.6	67.8	81.8
7.7. Terms of trade	7.4	0.6	- 6.5	- 6.3	7.4
8. General government budget, % of GDP					
8.1. Expenditure	:	:	:	:	:
8.2. Current revenues	:	:	:	:	:
8.3. Net borrowing (-) or lending (+)	:	:	:	:	:
8.4. Net borrowing cyclically adjusted	:	:	:	:	:
8.5. Debt (end of period)	:	:	:	:	53.1
9. Monetary conditions					
9.1. Long-term interest rate	:	:	:	:	:
9.2. Short-term interest rate	:	:	:	:	:
9.3. Yield curve (9.1–9.2)	:	:	:	:	:
9.4. Real long-term interest rate ⁽³⁾	:	:	:	:	:
9.5. Nominal effective exchange rate	:	:	:	:	:
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	:	:	:	:	:

⁽¹⁾ Manufacturing industry 2000.

⁽²⁾ Private consumption deflator.

⁽³⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
0.3	-3.1	6.1	-9.2	1.9	7.2	11.7	5.7	6.2
7.8	6.5	7.1	-8.5	5.4	-2.4	-1.8	-0.5	2.0
-3.9	-15.7	16.9	-31.5	-1.1	10.0	39.4	16.7	16.5
-10.5	-23.3	41.3	-52.9	9.1	43.7	41.0	16.0	15.0
2.3	-9.4	-0.1	-10.5	-6.4	-10.4	37.5	17.7	18.3
12.0	-7.0	19.2	7.4	11.1	16.0	12.0	13.0	13.2
2.3	-3.7	25.4	-24.8	15.8	27.1	23.3	16.0	16.8
3.1	-4.7	7.4	-7.5	7.9	5.8	8.5	5.0	5.3
1.1	-1.4	5.4	-7.8	2.1	4.4	7.3	3.7	4.2
-1.0	-3.6	3.5	-7.1	-0.2	1.5	7.8	4.2	4.6
0.7	1.7	0.9	-3.3	5.9	2.5	-2.0	-1.2	-1.0
1.3	-4.1	10.1	-17.1	8.9	8.6	13.1	6.8	7.8
2.5	-1.6	4.2	1.8	3.1	4.6	5.2	5.8	6.3
3.7	-5.7	14.2	-15.3	12.0	13.2	18.3	12.6	14.2
-0.6	1.0	-6.9	7.8	-4.1	-7.4	-9.8	-7.6	-8.8
1.8	-0.6	-2.7	9.6	-0.9	-2.8	-4.6	-1.8	-2.5
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
20.6	13.7	15.2	12.6	18.7	18.9	19.2	20.0	20.6
24.2	23.4	24.5	16.8	21.3	22.8	25.4	26.0	26.4
-1.1	-2.5	-6.7	1.3	-2.4	-4.1	-4.9	-4.4	-4.0
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
6.1	4.4	5.1	2.6	2.2	2.5	4.3	5.1	5.9
3.3	3.6	3.5	3.9	3.7	3.6	3.5	3.5	3.5
3.2	2.3	5.5	3.6	3.0	3.5	2.3	2.0	2.9
0.3	-6.7	7.8	-6.5	8.8	6.8	6.4	1.9	2.4
-0.8	-7.4	5.8	-7.7	7.7	5.6	5.6	1.2	1.4
2.5	2.6	-3.9	-4.1	2.8	-1.1	2.0	3.0	2.9
53.9	54.6	50.5	49.6	50.2	48.9	49.1	49.8	50.3
50.2	50.4	47.2	44.4	44.9	43.6	43.8	44.3	44.9
:	:	:	:	:	:	:	:	:
6.7	7.6	6.5	8.3	10.3	10.6	10.5	10.6	10.3
76.2	84.4	53.1	40.5	45.4	30.1	19.1	12.4	7.6
-4.1	15.4	2.0	-11.6	3.2	7.4	7.8	3.2	0.7
75.7	97.6	42.1	50.3	33.6	21.8	11.9	10.3	5.1
0.0	27.0	-5.2	-2.9	-7.3	-0.6	0.5	0.9	-2.3
75.7	55.6	49.9	54.8	44.1	22.5	11.3	9.3	7.6
83.6	59.8	50.1	58.9	40.8	21.2	10.5	8.9	6.9
-1.5	2.6	-7.1	-1.2	-7.9	2.7	0.9	3.4	3.8
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	-6.1	-29.8	-9.4	-8.7	-7.2	-5.7	-5.0
:	:	:	:	:	:	:	:	:
50.1	65.9	57.4	105.2	94.9	87.1	83.3	79.1	73.7
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:

Table 109

Main economic indicators 1961–2006

United States

	1961–73	1974–85	1986–90	1991–95	1996–2000
1. Growth of GDP and its components (real)					
1.1. Private consumption	4.5	3.1	3.3	2.6	4.4
1.2. Government consumption	2.5	2.4	2.8	0.0	1.8
1.3. Gross fixed capital formation	5.3	2.7	1.5	4.2	8.2
1.4. of which equipment	8.0	4.7	3.7	7.7	11.7
1.5. of which construction	3.9	1.4	-0.3	1.0	4.7
1.6. Exports of goods and services	6.7	3.8	11.0	7.1	7.1
1.7. Imports of goods and services	7.4	5.0	5.3	6.9	11.7
1.8. GDP	4.4	2.8	3.2	2.5	4.1
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	3.7	2.6	2.8	1.8	3.3
2.2. Investment	0.8	0.4	0.3	0.6	1.5
2.3. Stockbuilding	0.1	0.0	0.0	0.0	0.1
2.4. Domestic demand	4.4	2.9	2.9	2.5	4.8
2.5. Exports	0.3	0.2	0.7	0.6	0.7
2.6. Final demand	4.7	3.1	3.6	3.1	5.5
2.7. Imports	-0.4	-0.4	-0.5	-0.7	-1.4
2.8. Net exports	-0.1	-0.1	0.3	0.0	-0.7
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	18.1	20.7	18.2	18.4	15.1
3.2. Net savings of households	:	:	:	:	:
3.3. General government savings	1.7	-1.0	-1.8	-2.2	2.2
3.4. National savings	19.8	19.6	16.4	16.3	17.3
3.5. Gross capital formation	19.3	20.0	18.7	17.1	19.7
3.6. Current account	0.5	-0.3	-2.3	-0.8	-2.4
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	:	:	:
4.2. Trend GDP gap	:	:	:	:	:
4.3. Potential GDP gap	:	:	:	:	:
4.4. Profitability index (1961–73 = 100)	100.0	87.2	99.8	111.3	124.7
5. Growth potential					
5.1. Growth of net capital stock (real)	3.3	2.7	2.7	2.2	3.4
5.2. Net capital/output ratio (real)	2.8	2.7	2.6	2.6	2.5
5.3. Growth of capital intensity	1.4	0.9	0.4	1.1	1.3
5.4. Labour productivity growth	2.4	1.0	1.0	1.3	2.0
5.5. Total factor productivity growth	1.9	0.6	0.8	0.9	1.5
6. Employment and unemployment					
6.1. Employment	2.0	1.8	2.2	1.1	2.0
6.2. Activity rate	70.4	75.0	80.3	82.0	83.9
6.3. Employment rate (benchmark)	67.3	69.8	75.9	77.2	80.6
6.4. Employment rate (full-time equivalent)	60.9	62.6	68.1	69.1	72.7
6.5. Unemployment rate (Eurostat definition)	4.9	7.5	5.9	6.5	4.6
7. Prices and wages					
7.1. Nominal wages per head	5.6	7.7	4.2	3.5	4.2
7.2. Real wages per head ⁽²⁾	2.7	0.7	0.5	0.8	2.4
7.3. Nominal unit labour costs	3.2	6.6	3.2	2.1	2.2
7.4. Real unit labour costs	-0.1	-0.2	0.0	-0.3	0.5
7.5. GDP deflator	3.3	6.8	3.2	2.5	1.7
7.6. Private consumption deflator	2.9	6.9	3.8	2.6	1.8
7.7. Terms of trade	-0.3	-1.9	-1.4	0.4	0.4
8. General government budget, % of GDP					
8.1. Expenditure	30.5	34.1	35.8	36.2	33.4
8.2. Current revenues	29.2	30.8	31.6	31.7	33.4
8.3. Net borrowing (-) or lending (+)	-1.3	-3.3	-4.1	-4.5	0.0
8.4. Net borrowing cyclically adjusted	:	:	:	:	:
8.5. Debt (end of period)	46.0	59.5	67.2	74.8	59.1
9. Monetary conditions					
9.1. Long-term interest rate	5.0	9.5	8.6	7.0	6.0
9.2. Short-term interest rate	4.5	8.6	7.0	4.6	5.7
9.3. Yield curve (9.1–9.2)	0.5	0.9	1.6	2.4	0.3
9.4. Real long-term interest rate ⁽³⁾	1.7	2.6	5.2	4.4	4.3
9.5. Nominal effective exchange rate	-1.0	4.4	-4.2	0.4	4.7
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	156.4	117.2	111.4	100.3	116.2

⁽¹⁾ Manufacturing industry 2000.

⁽²⁾ Private consumption deflator.

⁽³⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
5.0	5.1	4.7	2.5	3.1	3.3	3.5	2.3	2.6
1.7	3.3	1.9	3.3	4.4	3.2	1.7	2.3	2.5
9.3	8.3	6.2	-1.9	-3.5	4.4	9.1	5.5	4.5
13.3	12.6	9.0	-4.2	-4.7	6.0	11.6	8.0	6.7
5.3	4.0	3.2	0.4	-2.3	3.0	6.5	2.8	2.0
2.4	4.3	8.7	-5.4	-2.4	1.9	8.7	7.5	7.7
11.6	11.5	13.1	-2.7	3.4	4.4	10.0	6.1	5.7
4.2	4.5	3.7	0.8	1.9	3.1	4.4	3.0	2.9
3.7	4.0	3.5	2.2	2.8	2.8	2.8	2.0	2.1
1.7	1.6	1.2	-0.4	-0.7	0.8	1.7	1.1	0.9
0.0	0.0	-0.1	-0.9	0.4	-0.1	0.5	0.1	-0.1
5.3	5.5	4.5	0.9	2.6	3.5	5.0	3.1	3.0
0.3	0.5	0.9	-0.6	-0.2	0.2	0.9	0.8	0.8
5.6	5.9	5.5	0.3	2.3	3.7	5.9	3.9	3.8
-1.4	-1.5	-1.8	0.4	-0.5	-0.7	-1.5	-1.0	-0.9
-1.1	-1.0	-0.9	-0.2	-0.7	-0.5	-0.6	-0.2	-0.1
15.1	14.1	12.4	13.0	14.7	15.2	15.3	15.3	15.8
:	:	:	:	:	:	:	:	:
2.6	3.2	4.0	2.1	-1.2	-1.9	-1.0	-0.7	-1.0
17.7	17.3	16.3	15.1	13.6	13.3	14.3	14.6	14.9
19.9	20.3	20.4	18.8	17.9	17.9	19.3	19.9	20.0
-2.2	-3.0	-4.1	-3.7	-4.4	-4.7	-5.5	-5.8	-5.7
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
125.4	126.1	120.2	117.7	123.7	128.4	134.1	131.9	130.5
3.5	3.7	3.8	3.1	2.7	2.8	3.3	3.5	3.6
2.5	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5
1.2	1.6	1.7	2.9	3.8	2.9	2.3	2.6	2.8
1.9	2.4	1.6	0.5	3.0	3.2	3.3	2.1	2.1
1.4	1.8	1.0	-0.5	1.6	2.1	2.5	1.1	1.1
2.2	2.0	2.0	-0.1	-0.9	0.0	1.0	0.9	0.8
83.9	84.4	85.0	82.0	81.1	80.2	79.9	79.8	79.6
80.7	81.4	82.1	78.7	77.0	76.1	76.1	76.0	75.9
72.8	73.5	74.2	71.4	69.7	68.8	68.8	68.7	68.6
4.5	4.2	4.0	4.8	5.8	6.0	5.5	5.5	5.4
4.9	4.2	5.7	2.4	3.2	4.0	4.2	4.9	4.7
3.9	2.5	3.1	0.3	1.7	2.1	1.7	2.2	2.6
2.9	1.8	4.0	1.9	0.2	0.9	0.8	2.8	2.5
1.8	0.3	1.8	-0.5	-1.4	-1.0	-1.4	0.2	0.3
1.1	1.4	2.2	2.4	1.7	1.8	2.3	2.5	2.1
0.9	1.7	2.5	2.1	1.4	1.9	2.4	2.7	2.0
3.3	-1.2	-2.4	2.2	0.9	-1.2	-1.6	-0.6	1.2
33.0	32.7	32.5	33.5	34.3	34.4	34.0	33.8	33.6
33.4	33.6	34.2	33.1	30.5	29.8	29.8	29.8	29.3
0.4	0.9	1.6	-0.4	-3.8	-4.6	-4.2	-4.0	-4.3
:	:	:	:	:	:	:	:	:
68.3	64.9	59.1	58.7	60.8	63.1	64.2	65.0	:
5.3	5.6	6.0	5.0	4.6	4.0	:	:	:
5.5	5.4	6.5	3.8	1.8	1.2	:	:	:
-0.2	0.2	-0.5	1.2	2.8	2.8	:	:	:
4.2	4.1	3.8	2.5	2.9	2.1	:	:	:
6.1	-0.6	4.6	5.1	-1.1	-9.2	-5.6	-1.1	:
119.2	118.4	127.5	133.2	129.9	117.0	111.3	112.3	:

Table 110

Main economic indicators 1961–2006

Japan

	1961–73	1974–85	1986–90	1991–95	1996–2000
1. Growth of GDP and its components (real)					
1.1. Private consumption	8.7	3.2	4.3	2.3	0.9
1.2. Government consumption	4.9	4.2	3.4	3.4	3.1
1.3. Gross fixed capital formation	14.0	1.4	8.4	-0.8	1.0
1.4. of which equipment	:	4.2	9.9	-0.7	3.4
1.5. of which construction	:	0.6	8.6	-1.6	-1.1
1.6. Exports of goods and services	14.1	8.5	2.7	3.1	5.7
1.7. Imports of goods and services	14.3	2.1	11.5	3.3	3.8
1.8. GDP	9.4	3.3	4.8	1.5	1.4
2. Demand components: Contribution to changes in GDP (%)					
2.1. Consumption	6.0	2.4	2.9	1.7	1.0
2.2. Investment	3.6	0.4	2.4	-0.2	0.3
2.3. Stockbuilding	0.1	0.0	0.0	0.0	-0.1
2.4. Domestic demand	9.7	2.8	5.3	1.5	1.2
2.5. Exports	0.7	0.7	0.2	0.3	0.6
2.6. Final demand	10.3	3.5	5.6	1.8	1.7
2.7. Imports	-0.9	-0.2	-0.7	-0.2	-0.3
2.8. Net exports	-0.3	0.5	-0.5	0.0	0.3
3. Gross savings and investment in % of GDP at current prices					
3.1. Private sector savings	:	:	:	27.1	28.4
3.2. Net savings of households	:	:	:	8.9	6.6
3.3. General government savings	:	:	:	5.3	1.3
3.4. National savings	36.1	32.1	33.3	32.4	29.7
3.5. Gross capital formation	35.9	31.4	30.6	29.8	27.4
3.6. Current account	0.6	0.9	2.7	2.6	2.4
4. Determinants of investment					
4.1. Capacity utilisation (survey) ⁽¹⁾	:	:	:	:	:
4.2. Trend GDP gap	:	:	:	:	:
4.3. Potential GDP gap	:	:	:	:	:
4.4. Profitability index (1961–73 = 100)	100.0	67.5	96.3	85.6	78.8
5. Growth potential					
5.1. Growth of net capital stock (real)	7.0	5.8	4.9	3.9	2.6
5.2. Net capital/output ratio (real)	2.4	2.8	3.0	3.3	3.5
5.3. Growth of capital intensity	5.6	5.1	3.9	3.1	2.6
5.4. Labour productivity growth	7.9	2.6	3.7	0.8	1.4
5.5. Total factor productivity growth	6.1	0.9	2.5	-0.2	0.6
6. Employment and unemployment					
6.1. Employment	1.3	0.7	1.0	0.8	0.0
6.2. Activity rate	77.1	75.9	75.4	78.3	80.4
6.3. Employment rate (benchmark)	76.2	74.3	73.7	76.4	77.2
6.4. Employment rate (full-time equivalent)	:	:	:	:	:
6.5. Unemployment rate (Eurostat definition)	1.2	2.2	2.5	2.6	4.1
7. Prices and wages					
7.1. Nominal wages per head	14.2	8.3	4.1	2.0	0.2
7.2. Real wages per head ⁽²⁾	7.6	1.7	2.7	0.9	0.4
7.3. Nominal unit labour costs	5.8	5.6	0.4	1.2	-1.2
7.4. Real unit labour costs	-0.4	-0.1	-1.1	0.3	-0.4
7.5. GDP deflator	6.2	5.7	1.5	0.9	-0.8
7.6. Private consumption deflator	6.1	6.5	1.4	1.1	-0.2
7.7. Terms of trade	-0.1	-3.8	4.7	1.6	-2.3
8. General government budget, % of GDP					
8.1. Expenditure	:	:	:	34.5	38.9
8.2. Current revenues	:	:	:	32.9	32.0
8.3. Net borrowing (-) or lending (+)	:	:	:	-1.6	-6.9
8.4. Net borrowing cyclically adjusted	:	:	:	:	:
8.5. Debt (end of period)	17.2	72.1	68.6	87.1	134.1
9. Monetary conditions					
9.1. Long-term interest rate	:	7.8	5.5	4.7	2.0
9.2. Short-term interest rate	:	7.8	5.2	3.6	0.5
9.3. Yield curve (9.1–9.2)	:	0.0	0.3	1.0	1.5
9.4. Real long-term interest rate ⁽³⁾	:	2.1	3.9	3.7	2.8
9.5. Nominal effective exchange rate	1.6	3.8	6.6	9.4	0.3
9.6. Real effective exchange rate (1995 = 100; ULC in total economy)	38.6	57.8	76.2	87.2	81.1

⁽¹⁾ Manufacturing industry 2000.

⁽²⁾ Private consumption deflator.

⁽³⁾ GDP deflator.

(annual percentage change, unless otherwise stated)

1998	1999	2000	2001	2002	2003	2004	2005	2006
-0.1	0.2	1.0	1.7	0.9	0.8	3.1	2.0	2.0
2.0	4.6	4.9	3.0	2.4	1.0	1.6	1.4	1.4
-3.9	-0.9	2.7	-1.1	-6.2	3.1	3.6	1.1	1.9
-6.6	-0.6	7.4	1.0	:	:	:	:	:
-3.8	-1.3	-1.2	-3.5	:	:	:	:	:
-2.4	1.5	12.4	-6.1	8.0	10.1	15.7	9.3	8.9
-6.6	3.3	9.2	0.1	2.0	5.0	8.9	6.9	7.9
-1.1	0.1	2.8	0.4	-0.3	2.4	4.2	2.1	2.3
0.3	0.8	1.3	1.4	0.9	0.6	2.0	1.3	1.3
-1.1	-0.2	0.7	-0.3	-1.7	0.8	0.9	0.3	0.5
-0.6	-0.4	0.3	0.0	-0.3	0.3	0.2	-0.1	0.0
-1.4	0.2	2.3	1.1	-1.0	1.7	3.1	1.5	1.8
-0.2	0.1	1.3	-0.7	0.8	1.1	1.9	1.3	1.3
-1.7	0.3	3.6	0.4	-0.2	2.9	5.0	2.7	3.1
0.6	-0.3	-0.8	0.0	-0.2	-0.4	-0.8	-0.7	-0.8
0.3	-0.1	0.5	-0.7	0.7	0.7	1.1	0.6	0.5
28.6	28.8	29.0	27.8	28.9	29.6	30.1	30.1	30.6
7.1	6.8	5.9	4.0	3.8	:	:	:	:
1.4	-0.2	-0.2	0.0	-2.2	-2.4	-2.9	-3.3	-3.7
29.9	28.6	28.8	27.9	26.7	27.2	27.2	26.8	26.9
26.9	26.0	26.3	25.8	23.9	24.0	23.9	23.5	23.3
3.0	2.6	2.5	2.1	2.8	3.2	3.3	3.3	3.6
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
75.8	76.2	77.3	74.5	78.8	83.5	94.3	98.2	104.8
2.4	2.2	2.1	1.8	1.3	1.2	1.4	1.4	1.4
3.6	3.6	3.6	3.7	3.7	3.7	3.6	3.5	3.5
3.1	3.1	2.2	2.4	2.7	1.4	0.5	1.1	1.2
-0.5	0.9	3.0	1.0	1.1	2.6	3.2	1.8	2.1
-1.5	-0.1	2.2	0.3	0.2	2.2	3.1	1.4	1.7
-0.7	-0.8	-0.1	-0.6	-1.4	-0.2	0.9	0.3	0.2
80.6	80.5	81.0	80.8	80.4	80.4	81.0	81.5	81.9
77.4	76.9	77.3	76.9	76.2	76.3	77.3	77.8	78.3
:	:	:	:	:	:	:	:	:
4.1	4.7	4.7	5.0	5.4	5.3	4.8	4.7	4.6
-0.2	-1.1	0.2	-0.5	-2.1	-0.7	-1.2	-0.6	0.0
-0.1	-0.4	1.5	1.1	-0.8	0.7	0.1	0.3	0.8
0.3	-2.0	-2.7	-1.5	-3.1	-3.3	-4.3	-2.4	-2.0
0.4	-0.6	-0.7	0.0	-2.0	-0.8	-1.7	-0.8	-1.4
-0.1	-1.5	-2.0	-1.5	-1.2	-2.5	-2.6	-1.6	-0.6
-0.1	-0.7	-1.3	-1.6	-1.3	-1.4	-1.3	-0.9	-0.8
3.7	-0.2	-5.3	-1.5	0.2	-2.4	-6.1	-3.0	2.8
42.5	39.0	39.6	39.2	39.8	39.1	38.2	38.1	37.8
31.8	31.8	32.2	33.1	31.9	31.6	31.1	31.1	31.0
-10.8	-7.2	-7.5	-6.1	-7.9	-7.5	-7.1	-7.0	-6.8
:	:	:	:	:	:	:	:	:
112.2	125.7	134.1	142.3	149.3	156.9	162.8	169.4	173.6
1.3	1.8	1.8	1.3	1.3	1.0	:	:	:
0.8	0.2	0.3	0.2	0.1	0.1	:	:	:
0.6	1.5	1.5	1.2	1.2	0.9	:	:	:
1.4	3.3	3.8	2.9	2.5	3.6	:	:	:
-5.7	17.1	11.8	-9.3	-5.2	-0.4	1.4	0.8	:
73.1	82.4	87.1	76.0	68.9	65.2	62.8	60.5	:

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