

## **CHAPTER 2**

# **MACROECONOMIC DEVELOPMENTS IN THE EURO AREA**

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## 1. INTRODUCTION

Economic performance in 2001 has not met expectations. A year ago, conditions in the euro area appeared to be in place for continued robust economic growth. Strong domestic demand, vigorous employment creation and price stability were seen as important assets conducive to sustained economic growth. After having posted real GDP growth of 3.4 per cent in 2000, a certain moderation of growth in the euro area was anticipated for 2001 on the back of three main factors: the sharp increase in oil prices, the tightening of monetary policy and the slowdown of economic activity in the USA. Furthermore, it seemed probable that headline inflation would recede below the ECB's 2 per cent threshold in the course of the year. An abrupt cooling off of economic activity with real GDP growth posting a meagre 1½ per cent in 2001 and a hiccup in inflation to 3½ per cent in mid-2001 was not foreseen.

This chapter looks at recent macroeconomic developments in the euro area, with the different sections focusing on economic growth, inflation, macroeconomic policies and economic adjustment in euro-area countries. Section 2 looks at the origin of the unexpected slowdown focusing on the underestimation of the magnitude of the relevant shocks and the working of international propagation mechanisms. Section 3 analyses recent and prospective inflation trends. A key issue addressed in this section is the continuous moderate wage growth in the euro area despite higher rates of inflation and declining unemployment. The stance of and challenges for current macroeconomic policies are dealt with in Section 4. The final section elaborates on economic differences among the euro-area Member States and discusses national policy adjustments when there is overheating.

## 2. CAUSES OF THE GROWTH SLOWDOWN

### 2.1 IDENTIFYING THE ECONOMIC SHOCKS AFFECTING THE EURO AREA

Although the quarterly profile of real GDP growth resembles those of the two slowdowns experienced in the 1990s, the present one is driven by different elements. Compared to previous cyclical downturns, the quarterly profile of demand components reveals a rather atypical pattern. In the past, the slowdown showed up first in a deceleration of export and investment growth. This time, the first signs of weakening activity became apparent in private consumption, which started to slow in the third quarter of 2000. Investment weakened in the fourth quarter and export growth in the first quarter of 2001. This sequencing indicates that the current weakness is rooted in more than one cause and although demand components are interdependent by nature, their deterioration can be related to the impact of three major economic shocks, which have been acting on a global scale.

- The *oil price surge* - Private consumption was hit in autumn 2000 by the considerable drag on the purchasing power of euro-area households from the impact of the surge in oil prices, aggravated initially by the weakness of the euro and later by the persistence of the high level of oil prices. In addition to this global shock, consumer spending in the euro-area economy was adversely affected by the sudden rise in food prices in spring 2001.
- The *crisis in the ICT sector* - The previously buoyant economic activity in the ICT sector has deteriorated sharply since the reversal in equity market valuation of ICT firms in spring 2000. Concerns about over-investment and excess-capacity as a consequence of the boom-and-bust development in ICT stock prices have been prominently voiced only in the USA. But euro-area enterprises also suffered from the tightening of financial conditions on equity markets and the subsequent re-assessment of the profitability of investment in ICT.

- The *collapse in world trade* - Economic activity slowed not only in the euro area but also in the USA and in other regions of the world. The synchronised weakening of economic activity resulted in the steepest deceleration in world trade growth since the early 1980s.

The terrorist attack in the USA can be assessed as a further economic shock. Its consequences are still quite uncertain.<sup>1</sup> Since previous forecasts underestimated the impact of the disruptions on economic activity, a cautious stance on the impact of this event is warranted.

### ***The impact of price hikes on private consumption***

Subdued consumer spending is mainly the result of two serious price shocks. In 2000, surging oil prices and a weakening euro entailed a sharp deterioration of the terms of trade.<sup>2</sup> Contrary to earlier expectations, the oil price hike was more enduring. Moreover, it was followed in early 2001 by a sharp increase in meat and other food prices in reaction to crises in the agricultural sector (BSE, foot and mouth disease).

These price surges exerted significant pressure on households' purchasing power in 2000 and 2001. The worsening of the terms of trade shaved off about 1 percentage point of consumers' real income in 2000 through a direct increase in the households' energy bill. It also led to further rounds of price increases as producers endeavoured to restore their margins depressed by higher input costs. This pass-through effect remained limited in 2000 but was more pronounced in 2001 as evidenced by the delayed increase of core inflation to the rising energy bill (see Section 3). Finally, the increase in food prices curbed households' purchasing power by at least 0.5 percentage point in 2001. Overall, the two price hikes caused a reduction in household's purchasing power of about 1 percentage point in 2000 and 0.5 to 1.0 percentage point in 2001, which translated into lower growth in real consumption spending.

Furthermore, the surge in prices had a bearing on consumer confidence. A first decline in consumer confidence occurred at the time of the peak of the oil prices. Consumer confidence was further hit as the crisis in the agricultural sector unfolded and the worsening in general economic conditions materialised. Already in autumn 2000, households' expectation in terms of unemployment had deteriorated significantly more than during the previous downturn. The labour market registered its first signs of weakness at the beginning of 2001; the rate of unemployment ceased to decline and employment growth decelerated, aggravating the impact of the price shocks on real disposable income.

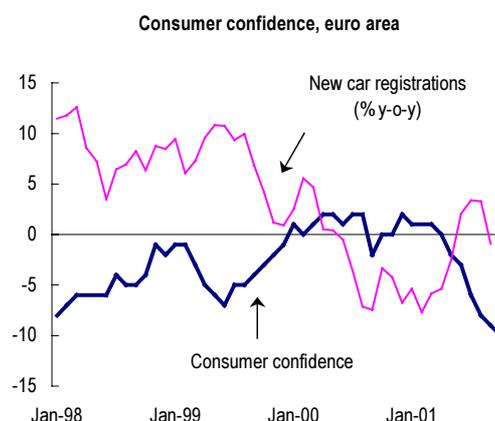
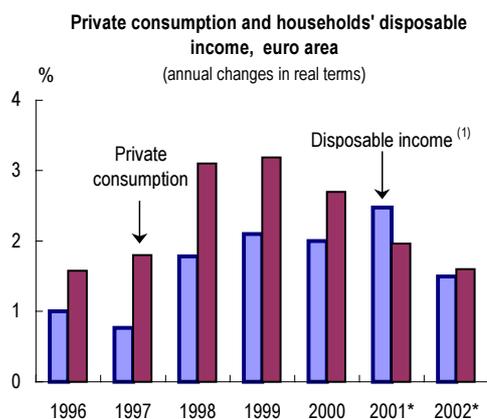
Further evidence of a reduced propensity to consume can be drawn from the relatively unfavourable and atypical developments in household's saving behaviour. The euro-area household's saving rate began to drift upwards at the end of 2000 and increased slightly further in 2001. Faced with a temporary decline in purchasing power, consumers usually try to maintain their level of consumption by reducing saving. Hence, households must either have perceived the reduction in real disposable income through the increase in oil prices as permanent or other forces must have been at work.

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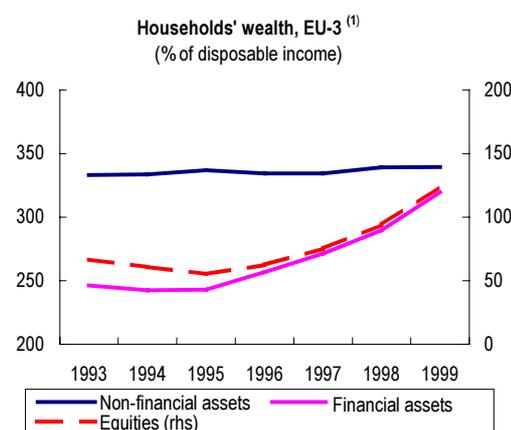
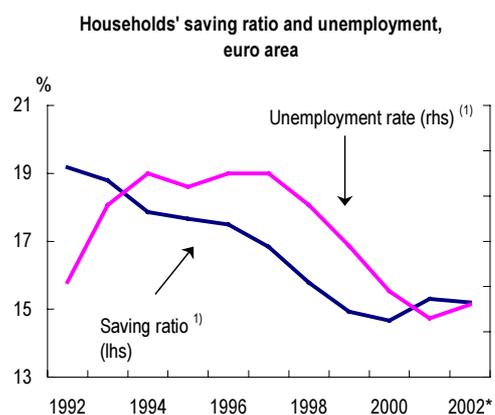
<sup>1</sup> At the time of writing, official economic data for the euro area post 11 September are still scarce. In the euro area, business and consumer confidence have plummeted and the Commission's business climate indicator dropped in October 2001 to a 5 year low, the steepest fall ever. First data releases from Member States confirm a weakening in industrial production.

<sup>2</sup> For a more detailed analysis of the impact of the surge in oil prices, see EU ECONOMY 2000 REVIEW, Chapter 2, Section 2.

Graph 1: Determinants of private consumption in the euro area



(1) euro area excl. IRL, I and A.  
\* European Commission Autumn 2001 Forecasts.



(1) D, EL, F, I, FIN.  
\* European Commission Autumn 2001 Forecasts.

(1) D, F, I.

Source : Commission services, ECB and OECD.

Among those other factors, effects related to uncertainty and financial wealth may have played an important role. With progress in budgetary consolidation coming to a halt and deteriorating employment prospects, households were faced with a more uncertain economic environment. Normally, the immediate adjustment to increased uncertainty is an increase in precautionary saving and a postponement of major purchases of durable goods. Furthermore, falling stock prices have reduced financial wealth, which may have induced households to reduce spending in order to restore their wealth position.<sup>3</sup> The share of equity wealth in households' total financial wealth has surged in the past few years and, although equity wealth effects are generally estimated to have been limited in the 1990s, their importance has increased in recent years.

<sup>3</sup> Virtually independent from the exact form of the consumption function, the impact of stock price developments on the saving ratio depends on the propensity to consume out of wealth, the share of equity in wealth and the ratio of wealth to disposable income.

Table 1: **Impact of a 12\$ increase in oil prices, euro area**

	Year 1	Year 2	Year 3
- GDP growth (% p.a.)	-0.2	-0.4	-0.2
- Inflation (% p.a.)	0.7	0.4	0.2

*Source:* Commission services, QUEST simulations.

Table 1 reproduces the result of a simulation with the Commission’s macro-econometric model QUEST, which was used to assess the magnitude of the impact of the oil price hike in the EU Economy 2000 Review. The simulation indicates that the impact on GDP growth is largest in year 2, and is still considerable in year 3. Taking into account that due to the weakening of the euro the actual increase in consumer inflation has been larger than the one yielded by the simulation,<sup>4</sup> the actual effect on GDP is likely to have also been larger than estimated.

### *The ICT shock undermined the prospects for investment*

A key source of the recent investment weakness appears to be the crisis in the ICT sector.<sup>5</sup> The ICT shock originated in the USA but has been spreading rapidly to the rest of the world. Stock valuations of ICT firms experienced a bubble-like increase in the late 1990s. This trend reversed in spring 2000 under the impact of sharp revisions to expected profitability in the technology-producing sector and also to expected profitability of ICT investment in “traditional” sectors. Hence the ICT shock is not limited to high-tech sectors but is impinging on investment by both “new” and “old-economy” companies.

Table 2: **Gains (+) and losses (-) of stock market value until August 2001**  
if the portfolio was invested in stock indices \ time of engagement (in per cent)

	1H 96	1H 99	1 Q 00	2 Q 00
Dow Jones broad Euro Stoxx	120	5	-24	-24
Dow Jones Euro Stoxx 50	140	8	-23	-25
Dow Jones Euro technology index	184	8	-56	-58
Dow Jones Euro telecom index	135	-32	-67	-61
US S& P 500	82	-9	-17	-19
US Dow Jones industrial average	86	2	-4	-4
US NASDAQ	71	-21	-56	-48

*Source:* ECB.

Global equity prices have registered heavy declines since spring 2000. Between the first half of 2000 and August 2001 euro-area stock market valuations declined by 25 per cent. Especially share prices of ICT firms, which had displayed a bubble-like increase until March 2000, were strongly hit. The market valuation of technology and telecommunication firms declined by about 60 per cent between the first half of 2000 and August 2001.<sup>6</sup>

<sup>4</sup> For the impact of rising energy prices on inflation, see Section 3.

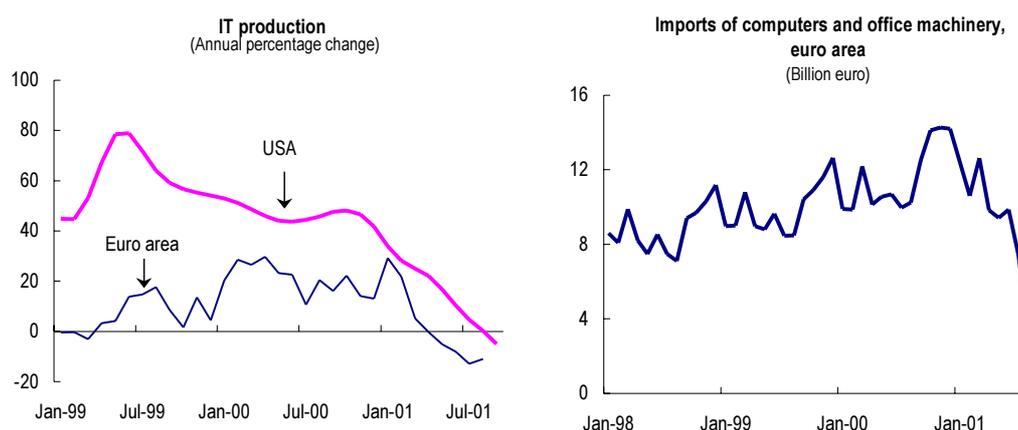
<sup>5</sup> For an analysis of the contribution of ICT to growth in the EU, see EU ECONOMY 2000 REVIEW, Chapter 3.

<sup>6</sup> A puzzling difference between the USA and euro-area share prices is in the timing of the turn-around. European shares started the downward trend already in March/April 2000 while most US share prices resisted the downward

Traditionally, the impact of equity prices (if any) on business investment and private consumption in the euro area has been assessed as modest.<sup>7</sup> A recent empirical study revealed, however, that the economic effects of equity valuations in the ICT markets on investment are similar in Anglo-Saxon countries and continental Europe.<sup>8</sup> Furthermore, ICT firms are heavily dependent on external finance and in particular on conditions in equity markets.<sup>9</sup> In consequence, the stock market decline had a strong adverse effect on investment in this sector. Moreover, the role of equity prices may have recently become more important through its impact on confidence. The correlation between changes in stock prices and industrial confidence has increased noticeably since the late 1990s (see Graph 6). Against this background, there is reason to believe that investment in the euro area was significantly affected by the events in the ICT sector.

With expected returns on both investment in ICT by “traditional” sectors and investment of ICT firms having been strongly revised downward in the euro area, the ICT shock has likely had a crucial impact on economic activity. Due to a lack of detail in national accounts data, there is not yet direct evidence of a collapse in ICT investment spending in the euro area. However, the available data point to a sharp decrease in both production of IT hardware and imports in the ICT sector in the euro area since the beginning of 2001. The cost in terms of GDP growth will ultimately depend on the size of the ICT sector in total value added. Although estimates of this size vary significantly depending on the source considered, the euro area is generally deemed to be less exposed than the USA.

Graph 2: Activity in the ICT sector



Source: Commission services, Federal Reserve Board.

trend until August/September 2000. The exceptions were shares traded on the NASDAQ, a market dominated by US high-tech enterprises, which also peaked in March 2000 and declined afterwards.

<sup>7</sup> In't Veld (2000) simulates the effect of a stock market crash with the Quest model. His estimates of the wealth effect indicate that a 20 per cent drop in global equity prices, without counterbalancing monetary policy responses, reduces private consumption in the USA by 1.7 percentage points and in the EU by 0.8 percentage point in the first year. The effect after 5 years is -0.7 in the USA and -0.2 in the EU. However, a reduction of short-term interest rates by 1 per cent in the first year almost neutralises the negative impact of the wealth effect on consumption in the euro area.

<sup>8</sup> Edison and Sløk (2001).

<sup>9</sup> IMF (2001a).

Table 3: **Impact of a loss in financial wealth and an increase in the risk premium on investments, equivalent to a decline of stock prices by 10 % in Year 1 and a further 10 % in Year 2**

	Year 1	Year 2	Year 3
<b>USA</b>			
- GDP growth (% p.a.)	-1.5	-0,3	0.8
- Private investment growth (% p.a.)	-5.8	0.4	1.9
- Inflation (% p.a.)	-1.2	0.0	0.9
- Short-term interest rate (%)	-0.5	-1.7	-2.0
<b>Euro area</b>			
- GDP growth (% p.a.)	-1.3	-0.4	0.9
- Private investment growth (% p.a.)	-4.9	-0.9	1.9
- Inflation (% p.a.)	-0.8	-0.2	0.6
- Short-term interest rate (%)	-0.3	-1.3	-1.8

*Source:* Commission services.

Note: Due to the forward-looking behaviour of the agents in the Quest model, the largest impact of the shock is in the first year.

In order to get an impression of the quantitative impact of a sharp re-assessment in the profitability of investment, Table 3 presents simulations with the Commission's macro-econometric model QUEST of a reduction in financial wealth and a permanent increase in the risk premium.<sup>10</sup> The size of the shock was designed to yield a reduction in share prices by 10 per cent in year 1 and a further 10 per cent in year 2, similar to the actual developments on stock markets in 2000 and 2001. The simulation shows a strong decline of investment in both the USA and the euro area. The effect on real GDP growth is of a similar magnitude in both economic entities in the simulations because, although the reduction in investment growth is larger in the USA in year 1, GDP in the euro area is depressed by declining exports in response to an appreciation of the euro.<sup>11</sup> Concerning the response of central banks, an inflation targeting strategy is assumed, which allows cuts in short-term interest rates to cushion the impact of the shock on economic activity.

### *The sharp deceleration of global trade dented exports*

After a period of extraordinarily high rates of world trade growth, the pace of global trade decelerated sharply in the beginning of 2001. The more enduring than initially expected increase in oil prices, the re-assessment of prospects in the ICT sector and the associated correction in equity prices had weakened domestic demand in the euro area and other regions of the world. Against this exposure, and triggered by faltering US import demand, economic activity and import demand elsewhere in the world declined significantly. Neither the still ailing Japanese economy, nor the dynamic Asian economies and most of the economies in Latin America have been able to withstand<sup>12</sup> and in consequence, output and import demand have been sharply revised down for both industrial and developing countries.

<sup>10</sup> In the QUEST model, the real interest rate plus the risk premium is the factor used in discounting future profits. The increase in the risk premium accounts for a decline in stock prices by 5 per cent. The decline in financial wealth alone has almost no impact on economic activity in the euro area. For the effect of a pure financial wealth shock in a comparable setting with the QUEST model, see In't Veld (2000).

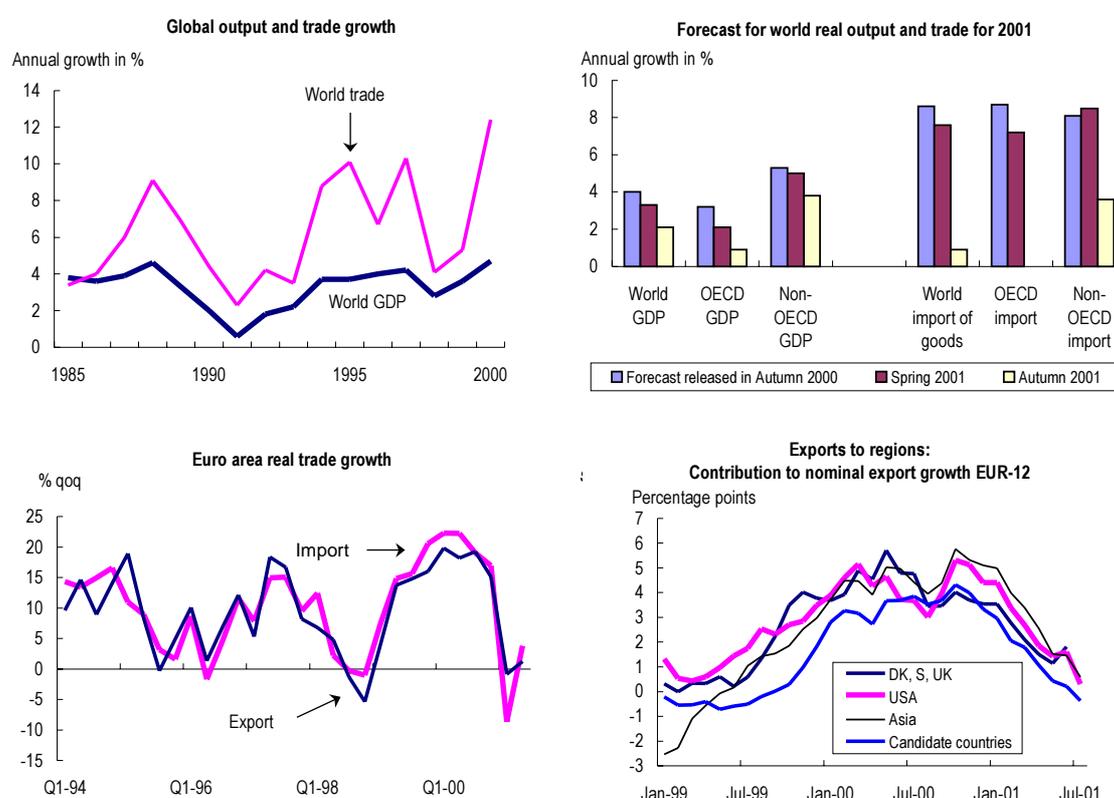
<sup>11</sup> The simulation yields a larger decline in prices in the USA compared to the euro area. In consequence, interest rates are reduced more strongly in the USA, which leads to an appreciation of the euro in the QUEST model via the uncovered interest parity.

<sup>12</sup> These regions have close trade and production links with the USA. Together they account for 19.1 per cent of world trade, which is roughly the share of the USA.

The timing of the so-called global trade shock coincided with a further decline in economic activity in the USA. Initially, only a small reduction of external demand in the euro area was expected. For instance, since exports to the USA account for only 15 per cent of the euro-area's external trade in goods and services, and with the share of extra-euro-area exports of goods and services being about a fifth of GDP, a mere 3 per cent of euro-area GDP was directly affected via the trade channel by the deteriorating US outlook.

However, it turned out that the euro-area's real export growth declined from double-digit annual rates in 2000 to negative ones in the first half of 2001. Underestimating the size and the speed with which second-round effects materialised has led to a too positive assessment of the euro-area's trade outlook. Indeed, the decline in the euro-area's exports has been evenly spread across trade regions, indicating that the decline in import demand was a global phenomenon, which has not been restricted to a single region.

Graph 3: The impact of the global trade shock on euro area exports



Source: Commission services, IMF.

## 2.2 THE PROPAGATION MECHANISMS OF THE GLOBAL SHOCKS

Before the severity of the global trade shock unfolded, it was widely expected that the euro area could weather the adverse shocks. Unlike the USA, the euro-area economy does not seem to be beleaguered by domestic supply or demand imbalances, which would hamper a fast recovery. Furthermore, the implementation of a macroeconomic policy framework conducive to stability and the elimination of intra-euro-area exchange rate volatility as a potential device for aggravating the impact of external shocks, represent important structural breaks with the past. As a large and

relatively closed economic entity possessing sound fundamentals, the euro area was expected to be in a good position to withstand the external disturbances.

The larger-than-expected downturn since summer 2000 has cast doubts on the resilience of economic activity in the euro area. Especially, domestic demand has weakened more than in previous externally-induced slowdowns. The reason could be either that confidence in the strength of the euro-area economy was exaggerated, that the propagation mechanisms of the economic shocks were stronger than in the past, or simply that the magnitude of the shocks was underestimated (as discussed above). The following sub-sections look at the evidence in favour of two alternative hypotheses concerning the resilience of domestic demand and the propagation mechanism of the shocks.

### ***Resilience of domestic demand***

The belief in resilient economic activity in the euro area was underpinned by the fact that domestic demand had proven increasingly robust to the previous external shocks.<sup>13</sup> In particular robust growth in private consumption, expanding by more than 3 per cent annually from the last quarter of 1997 to the first half of 2000, fuelled expectations that strong internal dynamics in the euro area would largely cushion the decline in external demand.

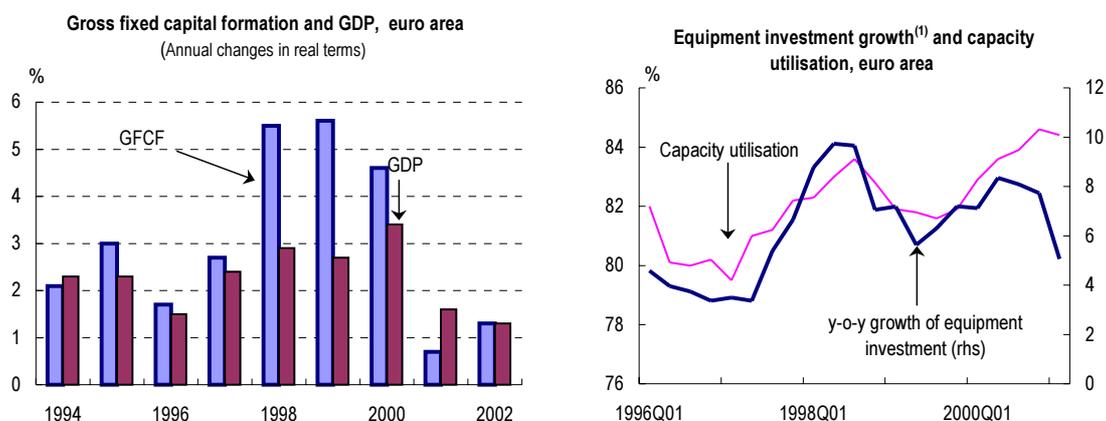
The good performance of private consumption was closely linked to strong employment growth. Thanks to structural reforms in the labour market and wage moderation, growth has become more employment intensive during the second half of the 1990s in the euro area (See Box 1 and European Commission (2001b)). This trend was particularly marked in recent years, allowing employment to grow by 1.9 per cent in 2000, a rate not registered since the late 1980s. Improvements in the labour market fuelled consumer spending through two channels. Firstly, rapid employment growth, which was accompanied by an increase in real wages, led to robust gains in disposable income. Secondly, the decline in unemployment since 1998 boosted households' confidence.

Private consumption in 2001 was expected to benefit in particular from the fiscal stimulus provided by income tax cuts in several euro-area countries. According to preliminary estimates, lower taxes on income and wealth added about 0.6 percentage point to growth in disposable income in 2001. Given that some of the deceleration of tax payments may be attributed to slower income growth and smaller wealth increases, the impact of tax cuts on disposable income probably did not exceed 0.5 percentage point in 2001. This was only enough to offset the negative impact of the food price shock. Indeed, private consumption growth was quite strong ahead of the food price shock in the first quarter of 2001, but weakened again in the second quarter of 2001. In consequence, real private consumption is forecast to grow by only 2 per cent in 2001 and to decelerate further to 1.6 per cent in 2002.

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<sup>13</sup> The slowdowns in the mid and late-1990s related to the currency turbulence triggered by Mexico's financial crisis in 1995 and to the global financial turbulence that started in Asia and spread to Russia and Brazil in 1998/99.

Graph 4: Capital formation in the euro area



Note: European Commission Autumn 2001 Forecasts.

(1) EU-12 excluding B, EL, E, IRL, I and P.

Source: Commission services, ECB and OECD.

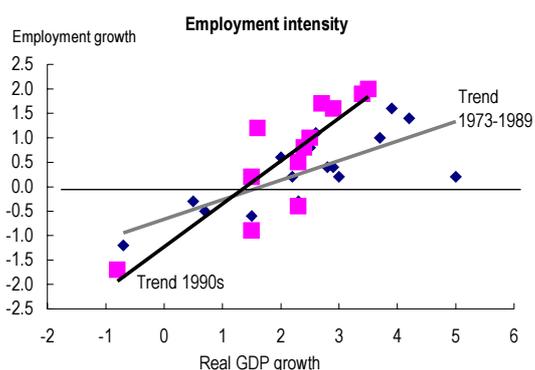
Recent developments suggest that the current downturn is taking a much heavier toll on investment than previously anticipated. Its growth in 2001 as a whole is unlikely to exceed 1 per cent, the weakest performance for the euro area since 1993. The sharp weakening of investment can only partly be attributed to cyclical forces.<sup>14</sup> Less favourable developments in terms of profitability and cost of capital since the late 1990s have added to the negative impact of the cyclical downswing. However, the worsening of the terms of trade in 2000 has been largely absorbed by consumers and has weighed much less on profitability than similar disturbances in the past.

### Box 1: Job-rich growth

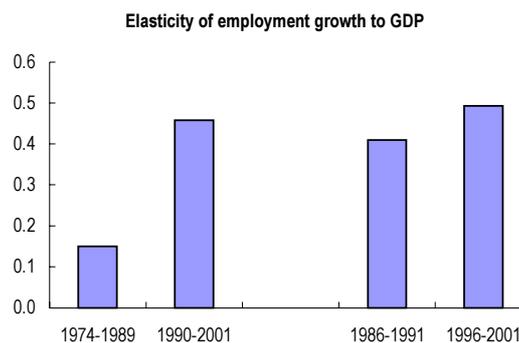
It was primarily buoyant job creation that boosted euro-area output growth in the second half of the 1990s. Between 1996 and 2000 about 7.6 Mio extra jobs were created in the euro area, of which around 2.5 Mio jobs were newly established in 2000. The rate of unemployment declined from 11.5 per cent in 1996 to 8.3 in 2001. High employment growth contributed to a steady expansion in the euro-area growth potential as well as to robust growth in domestic demand. In consequence, private consumption growth remained healthy during the Asian crisis, which was a decisive factor in weathering this external shock.

The remarkable change in euro-area labour market conditions is reflected in a rising employment content of growth, i.e. employment growth responded more strongly to output growth in the 1990s than in the 1980s. The trend lines derived from annual observations for the euro area in the graph below show that the threshold above which output growth spurs additional employment seems to have remained stable at about 1.5 per cent for a quarter of a century. But compared to the period 1974-89, real output growth exceeding this threshold resulted in much higher employment growth in the 1990s. Output growth translates into higher employment growth in comparison with past decades; and also the elasticity of employment to growth was higher during the last five years than during the pronounced cyclical upswing in 1986-91.

<sup>14</sup> Simulations made with an accelerator equation estimated for the euro area confirm that investment decelerated more markedly in 2000-01 than what would be expected on the basis of developments in aggregate demand. For details, see Chapter 3.



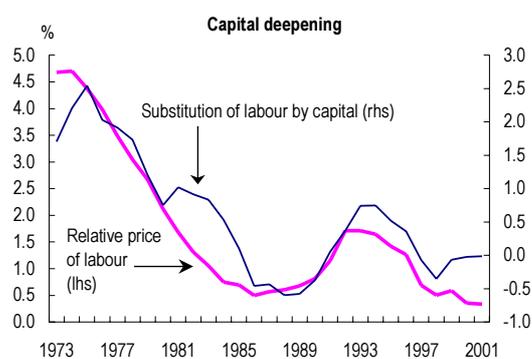
Note: Large dots are observations of the 1990s, small dots are observations of earlier years.



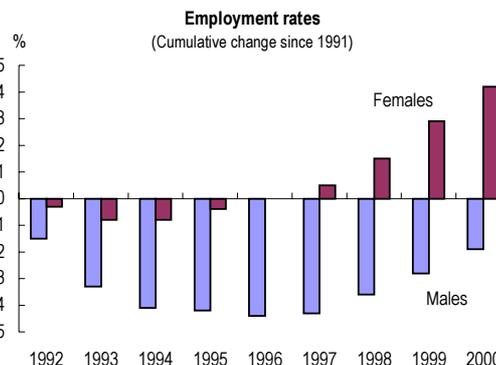
Note: The elasticity of employment growth to GDP growth is calculated as the ratio of employment growth to GDP growth.

In view of the two-way causality between employment and output, the above findings fall short of explaining strong job creation in the euro area. Instead a closer look at structural determinants of labour demand and supply is warranted.

*Labour demand forces* - Driven by the failure of labour costs to adjust instantaneously to shocks to productivity and capital costs in the 1970s and early 1980s, firms turned to using more capital-intensive production technology, implying a downward shift of the labour demand curve.<sup>1</sup> Actually, as the left-hand side graph below demonstrates, the extent of capital-labour substitution is linked to the relative price of labour to capital. In the second half of the 1990s, capital-labour substitution has slowed under the impact of a protracted period of wage moderation, thereby contributing to a better employment performance. Jobs have been created almost exclusively in the service sector, in which employment grew by 1 per cent per year between 1991 and 1999. Labour shedding continued in manufacturing until 1996. Since then, 250 000 new jobs have been created in the euro-area industry (excluding construction). A more dis-aggregated view reveals that employment creation was driven in particular by high-skilled non-manual activity and concentrated in the high-tech, high-education and knowledge-intensive services sectors.<sup>2</sup>



Note: Capital-labour substitution and the relative price of labour are smoothed 5 years averages. Capital-labour supply is labour productivity growth minus TFP growth adjusted for changes in the wage share. The relative price of labour is real wage growth corrected for changes in the user costs of capital. Source: Commission services.



*Labour supply forces* - Over the long run, changes in employment have been closely linked to changes in working age population. In the second half of the 1990s, employment growth clearly outpaced working-age population growth, principally due to an increasing labour market participation of women. Over the period 1996-2000, 4.6 Mio women net entered into employment compared to 3 Mio men. The spread of part-time jobs and of temporary contracts has supported rising labour force participation of women. Typically, the share of women in both categories is higher than that of men. Overall, the share of part-time jobs in total employment increased from 13.7 per cent in 1995 to 16 per cent in 2000, and the share of temporary contracts rose from 13 per cent to 15.1 per cent. The long-term upward trend in female participation is likely due to social factors,

i.e. improved gender equality, better education, better childcare facilities. Over the business cycle, labour market participation tends to increase in line with declining rates of unemployment. In particular some groups (women, youth and elderly) are encouraged to enter the labour force when they have a real chance of obtaining a job and leave it when the search for employment tends to be unsuccessful. In view of this behavioural pattern, the low participation rate in the first half of the 1990s and the marked increase in the second half are at least partially due to cyclical factors. Furthermore, structural reforms endeavouring to reduce the tax wedge and lowering reservation wages are likely to have contributed to rising participation since the mid-1990s.

Whereas the recent downturn has clouded the prospects for employment growth, there is not yet evidence that it has affected the fundamental change in the employment-output relationship in the euro area. Provided that the trend of continued wage moderation remains intact and labour market reforms continue, conditions bode well for a swift pick-up in employment growth once the economy rebounds.

<sup>1</sup> See EU Economy 1999 Review, Study 1.

<sup>2</sup> For a comprehensive review of labour market trends, see European Commission (2001b).

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### ***Factors shaping the impact of the global trade shock***

The deceleration in growth of world trade is considerably larger than could have been expected from income effects alone. Over the past decade, world trade grew at approximately twice the pace of output. According to the European Commission's Autumn 2001 Forecast, real world trade has expanded by only 0.9 per cent in 2001 compared to a 2.1 per cent increase in real world GDP. Thus, for the first time since 1985, the growth in world output will exceed that of foreign trade. The over-proportional large deterioration in world trade could be due to either the origin of the impulse in the USA, or to the fact that cross-border production linkages have increased the magnitude of income effects.

A decisive difference between the current slowdown and those of the 1990s consists in the cyclical situation of the USA. Economic growth in the USA was hardly affected by the growth pauses in 1995 and 1998-99, whereas this time economic activity in the USA has decelerated precipitously. Undoubtedly, economic activity in the USA is an important determinant of growth abroad, and in particular of growth conditions in developing countries.<sup>15</sup> Whilst the US import share in GDP rose from about 10 per cent in the 1980s to 12 per cent in 1995 and an envisaged 13.5 per cent in 2001, this effect alone cannot explain the extent to which the interdependency of economic activity has increased over the past decade.<sup>16</sup>

Although it is well known that production has become increasingly linked across borders, the economic impact of international production linkages seems to have been underestimated in the current juncture.<sup>17</sup> Recent academic research concludes that cross-border production linkages have

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<sup>15</sup> Including US growth as a parameter in standard cross-country growth regressions, Arora and Vamvakidis (2001) find that "a 1 per cent increase in US growth is correlated with an average 0.8 to 0.9 per cent increase in growth in other countries". In this study, the coefficient is highly significant for the sample of developing countries, but not if the sample is restricted to industrial countries. Furthermore, if trade-weighted growth of partner countries is included, the US coefficient becomes insignificant for the whole sample, suggesting that it is not growth in the USA per se, but global output growth that matters.

<sup>16</sup> The observed increase in import shares has been too small to be responsible for the heightened interdependency between economic activity in the USA, the euro area and the rest of the world (see Doyle et al (2001)).

<sup>17</sup> Potentially, this underestimation is due to the fact that trade in intermediate goods, which can be considered as the category of goods typically involved in cross-country production linkages, did grow just in proportion with overall trade. However, the category of intermediate goods consists of several items, i.e. primary commodities, in which trade declined in importance. Thus, trade in intermediate goods may not adequately reflect the upward trend in cross-border production.

substantially increased with in particular those of the USA with developing countries having intensified notably, increasing their exposure towards demand conditions in the USA. For instance, intra-industry trade has grown considerably and vertical specialisation seems to account for up to 30 per cent of world exports.<sup>18</sup> Furthermore, the observation that export and import growth usually move in tandem suggests that a large part of imports is used in the production of goods for export.

Interdependency between industries and firms does not only show up in external trade figures, but also in foreign ownership. Foreign direct investment (FDI) from abroad into the euro area and abroad from the euro area increased considerably during the 1990s.<sup>19</sup> As a result, affiliates of foreign firms now play a larger role than in the past. For instance, euro-area affiliates generated almost 2 per cent of the US gross product in 1999 with more than 2 Mio employees. With only 12 per cent of their sales being imported, the majority of these affiliates cannot be classified as just sales offices. Comprehensive and timely data on the activity of foreign affiliates in the euro area is not available. In 1998, foreign affiliates of US enterprises alone accounted for 3.5 per cent of gross product in the euro-area Member States.<sup>20</sup> Despite the problems of timeliness, the statistical sources unanimously indicate a rapid increase of foreign ownership over the most recent periods.<sup>21</sup>

Anecdotal evidence points to important adjustment of sales, production and investment activity by many enterprises in the face of the downturn in world demand. Vertical integration and expanding activity of multinational enterprises raise the interdependence of output across borders, even if the share of overall trade in output would remain constant. The transmission channels are manifold:

- With rising vertical integration, a fall in demand for the final product abroad reduces immediately demand for intermediate imports. Thus, a decline in demand has a larger impact on trade the more vertically integrated the production. For instance, lower demand for computer equipment in the USA had a severe effect on the production of semi-conductors in the Asian dynamic economies and in consequence on income in these countries.
- If demand falls short, multinational enterprises may not only cut production in the area concerned, but relocate production to the most profitable location.<sup>22</sup> The effect of falling demand on profitability exceeds that of declining revenues because most industrial production relies on the exploitation of scale economies. In consequence, enterprises will not only respond by cutting actual production but also by re-assessing production capacity.
- Crucially, a profound weakening of sales in a key market, such as the US market represents for most multinationals, reduces overall cash-flows and may enforce a downward adjustment of investment plans throughout the enterprise.

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<sup>18</sup> This number was estimated by Hummels, Ishii and Yi (1999) on the basis of input-output tables. On intra-industry trade, see Markusen and Maskus (2001), who calculated concentration indices for foreign affiliate sales and intra-industry trade, showing that the richer the economy, the more sales from foreign affiliates matter relative to trade.

<sup>19</sup> In 2000, FDI outflows from the euro area were 6.0 per cent of GDP, whilst FDI inflows reached 6.2 per cent. In 1997, the numbers were 1.7 and 0.9 per cent respectively.

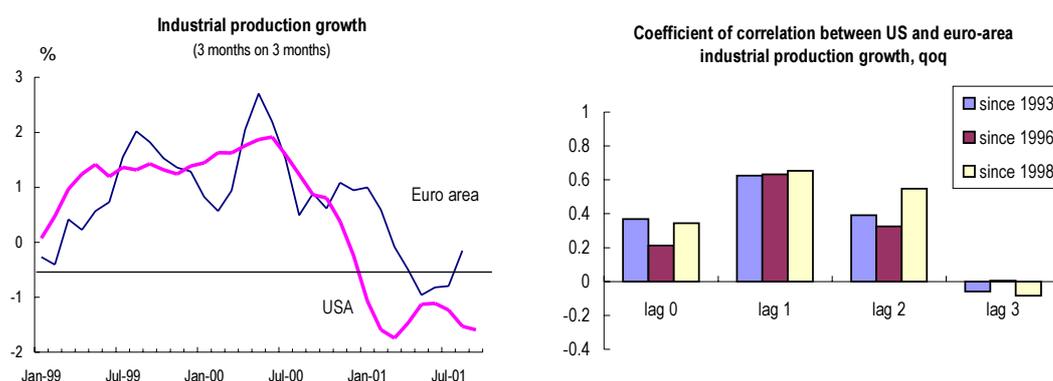
<sup>20</sup> A pilot study carried out by Eurostat (2001) covers foreign ownership in the service sector. Only for two euro area Member States were data on foreign ownership in the manufacturing sector available. For the US data on foreign affiliates, see US Bureau of Economic Analysis (2000, 2001).

<sup>21</sup> Gross product of all foreign non-bank affiliates in the USA grew by about 7 per cent per annum between 1990 and 1999. The Eurostat (2001) study points to an increase of the contribution of foreign owned firms to value added by 1.1 percentage points in the Netherlands and 0.4 percentage point in Finland from 1997 to 1998.

<sup>22</sup> The analysis of the behaviour of 1200 European multinational enterprises by Konings and Murphy (2001) finds evidence in favour of substitution between employment at home and abroad. However, according to their results, substitution occurs mainly in the manufacturing sector and takes place between parent firms and affiliates within the EU rather than between the EU and candidate countries.

Increased linkage between production in different areas should also be seen in cross-border co-movement in industrial production. In autumn 2000, the euro area recorded steady growth in industrial production whereas it decelerated rapidly in the USA (see Graph 5). Growth of industrial production in the euro area turned negative in spring 2001, three months after the US rate had dropped into negative territory. This pattern suggests that only severe downturns in the USA affect industrial production in the euro area while mild ones do not show up in the data. A similar pattern can be observed for the production of computers and office machinery, which is the best-measured part of IT production. It is only since winter 2000-01 that growth in IT production has declined in tandem in both areas.

Graph 5: Production linkages between the USA and the euro area



Source: Commission services and Federal Reserve Board.

### *The transmission through global financial markets*

Financial markets have played an important role in triggering or transmitting impulses across borders. In the present juncture, the financial situation is less supportive than during the Asian crisis, in which the flight-to-quality phenomenon reduced capital costs in industrial countries and bolstered growth conditions. Comparing the development since the peak of economic activity in the second quarter of 2000, government bond yields declined less than in the previous slowdowns, indicating less scope to benefit from flight to quality. While the correction of stock prices was initially perceived as a welcome reversal towards more sustainable levels, the boom and bust development on global stock markets may have accelerated the transmission of shocks across borders.

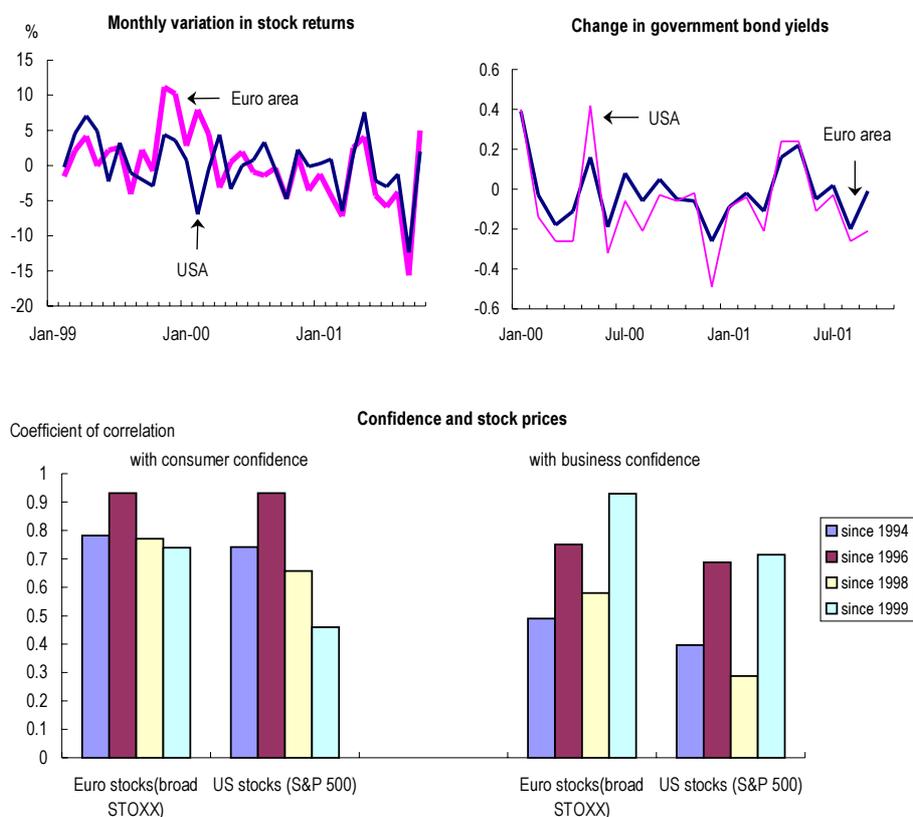
The euro-area's integration into the world capital market has progressed considerably as evidenced by the remarkable, and recently even accelerating, growth of investment income received from abroad and paid to abroad.<sup>23</sup> Although balance of payments data for the euro-area aggregate do not yet have a long history, the data indicate the importance of international financial linkages and the acceleration of financial market integration over the recent past.<sup>24</sup> Considering both that the expansion of FDI flows has outpaced that of portfolio flows and that a rising share of portfolio

<sup>23</sup> Financial market integration within the EU has also progressed considerably, see Chapter 4.

<sup>24</sup> The enormous surge in FDI (see footnote 19) has dwarfed the growth in international portfolio flows, at least to the extent that net flows of portfolio capital are concerned. Net outflows of portfolio capital were at 7.4 per cent of GDP in 2000 and net inflows reached 4.7 per cent of GDP, just 0.3 and 0.4 percentage point respectively higher than in 1998.

flows is in equity, it is reasonable to assume that international financial flows are increasingly reflecting real economic linkages.<sup>25</sup>

Graph 6: Financial market linkages between the USA and the euro area



Source: Commission services, ECB.

Furthermore, financial interdependence between the US and euro-area economies manifests itself in the development of financial prices. Bond rates have moved broadly in parallel for several years now and virtually converged in 2001. The co-movement is remarkable when instead of their level, the change in bond yields is considered. But also stock market returns have been highly synchronised in 2001 and the coefficient of correlation of monthly stock returns is considerably higher in 2001 than in previous years.<sup>26</sup>

<sup>25</sup> Given that the euro-area debt market is dominated by government bonds, which are exposed to inflation risk rather than to economic risk, whereas the opposite holds for stocks, a rise in the share of equity in the portfolio increases the exposure towards “real” economic distress.

<sup>26</sup> Even on perfect financial markets, a synchronisation of yields across borders relies on the absence of exchange rate variations. Actually, the euro’s effective exchange rate appreciated by about 7 per cent from September 2000 to January 2001 in accordance with the observed differences in the growth outlook. However, the appreciation of the euro was moderate and prematurely choked off (see sub-section 4.1).

Table 4: **The importance of financial assets and liabilities in the euro-area**

	Financial assets (% of GDP)				Shares (% of financial assets)	
	Economy		Households		Economy	Households
	Total assets	Shares	Total assets	Shares		
1995	546.8	106.7	165.8	38.9	19.5	23.4
1999	741.9	242.1	215.6	83.6	32.6	38.8
Financial liabilities (% of GDP)						
	Total economy	Financial corporations	Non-financial corporations	Households	General government	
1995	548.1	264.5	153.3	47.5	82.7	
1999	744.0	353.5	253.2	54.1	83.2	
<i>Average annual growth</i>	<i>6.3</i>	<i>6.0</i>	<i>10.5</i>	<i>2.6</i>	<i>0.1</i>	

Note: Non-consolidated figures for Euro 9, without EL, IRE, L.

**Source:** Commission services.

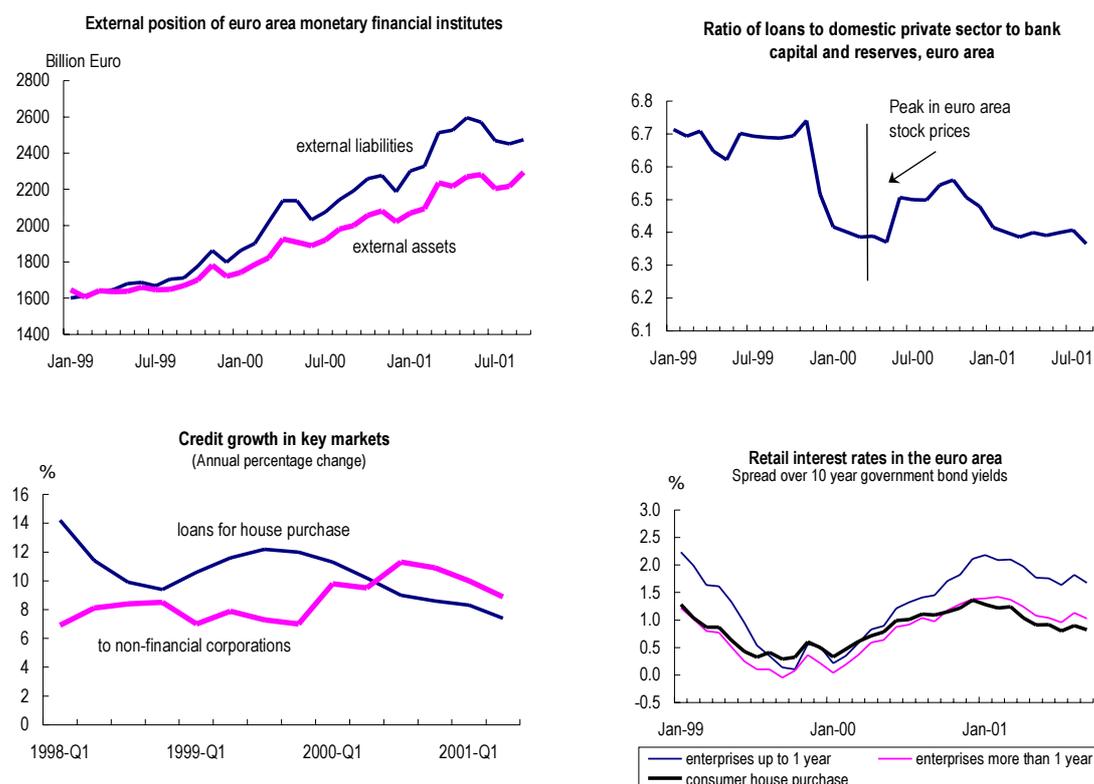
Traditionally, developments on stock markets have been considered to be of minor importance for economic activity in the euro area because the share holdings by households were relatively small and the issuance of stocks was not a major source of enterprises' financing. However, financial wealth and liabilities have become much more important in the course of the recent years (see Table 4) and there is a strong positive relationship between stock prices and confidence indicators. Thus, international stock market linkages may have contributed to the weakening of domestic consumption and investment through their impact on business and consumer confidence.

International financial market linkages may transmit external impulses through the exposure of financial intermediaries. For instance, the decline in stock prices may have eroded the capital position of banks and this may force them to reduce their supply of loans. Furthermore, bad loans abroad may enforce banks to adjust domestic lending. Actually, the increase in euro-area banks' external liabilities has outpaced that of external assets, making the euro-area banking system potentially vulnerable to a deterioration in external conditions.<sup>27</sup>

However, so far there is no evidence of credit rationing to domestic enterprises in the euro area. Banks have allocated more loans relative to capital and reserves after the downturn of international stock prices, thereby providing credit to enterprises in face of rising demand (see Graph 7). Conditions for short-term credit to enterprises seem to have tightened markedly relative to government bond conditions or in relation to money market rates. Given that short-term credit is an instrument to bridge unexpected declines in cash flows, the increase in demand and the relative level of lending rates cannot be assessed as an abnormal market response.

<sup>27</sup> External assets and liabilities are derived from the aggregate balance sheet of euro-area monetary financial institutions (excluding Eurosystem).

Graph 7: Developments in the euro-area banking system



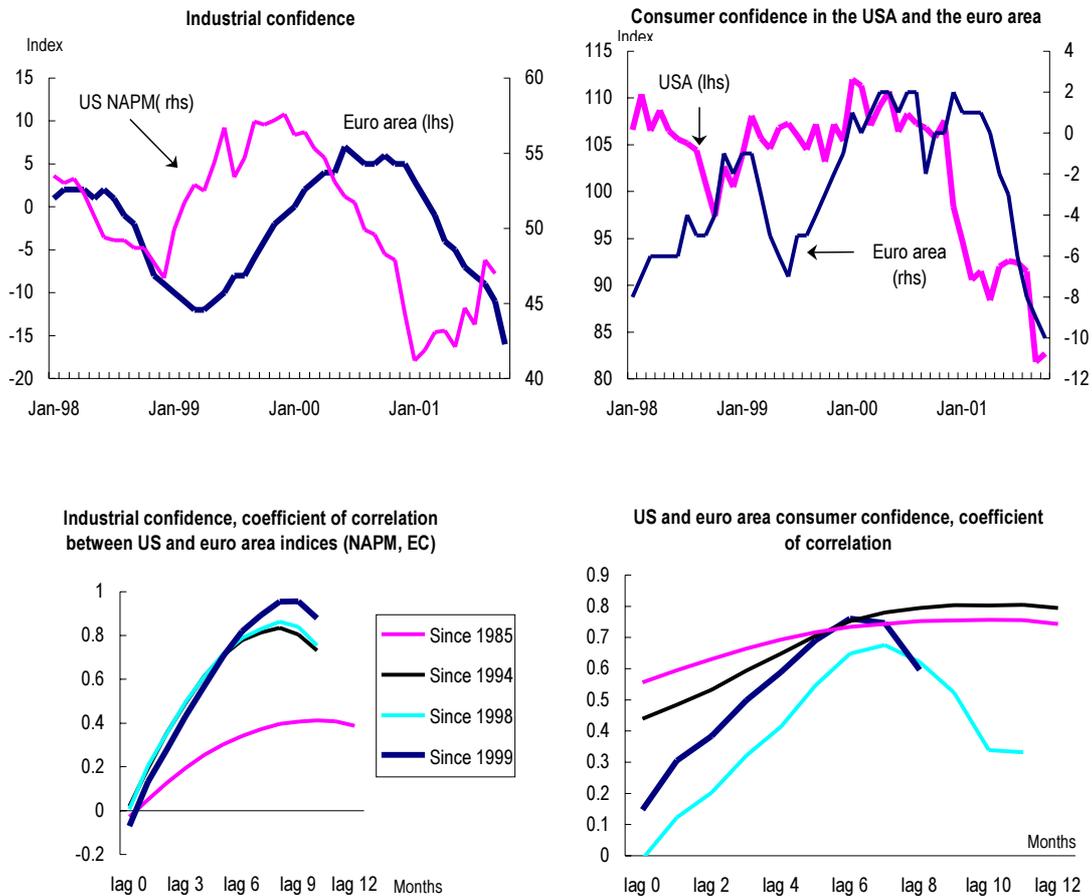
Source: ECB.

### *Confidence contagion effects may have played a role*

The speed with which the recent slowdown in the USA affected economic activity in the euro area has drawn attention on the working of another mechanism, namely whether the contagion of confidence across borders constitutes an additional propagation channel of external shocks. The theoretical justification is clear-cut. In face of intrinsic uncertainty, imitating other agents' decisions and following herd behaviour can be a rational strategy. Accordingly, agents may base their assessment of the domestic economic situation on developments abroad. Given its size and role in the world economy, news from the USA may have a relatively strong bearing on business and consumer confidence abroad. Consequently, the decline in US business and consumer confidence may have sparked pessimism elsewhere.

Quantitative evidence for a direct contagion effect between confidence in the USA and the euro area is ambiguous and does not yet allow drawing strong conclusions. Co-movement between confidence indicators has consistently been interpreted as evidence of the strength of underlying business-cycle linkages between the euro area and the USA. Thus, it is not easy to disentangle this effect from confidence contagion.

Graph 8: Confidence linkages



Source: Commission services, NAPM, University of Michigan Survey Research Center.

Correlation analysis indicates very low co-movement between contemporaneous US and euro-area industrial confidence indicators, which has not consistently increased over time. The connection is quite strong and has increased considerably if one accepts that euro-area business confidence responds to changes in the USA with a delay of several months. However, the maximum correlation at a lag of six to ten months is too long to be aligned with spontaneous “contagion” effects, even if the US indicators may be considered as more forward looking than their euro-area counterparts.<sup>28</sup> The result is not materially different for contagion in consumer confidence. Using more sophisticated methods, IMF (2001b) reports indirect evidence in favour of confidence linkages, arguing that the observed increase in co-movement of confidence indicators goes beyond that explained by business-cycle linkages.

<sup>28</sup> Regression analysis reveals that contemporary US confidence has an impact on euro-area business confidence, while lagged US confidence does not if domestic confidence is included in the estimate. However, the coefficient is too small to be considered as evidence for a substantial contagion effect. Furthermore, the US variable becomes insignificant if the sample is restricted to the period after 1998.

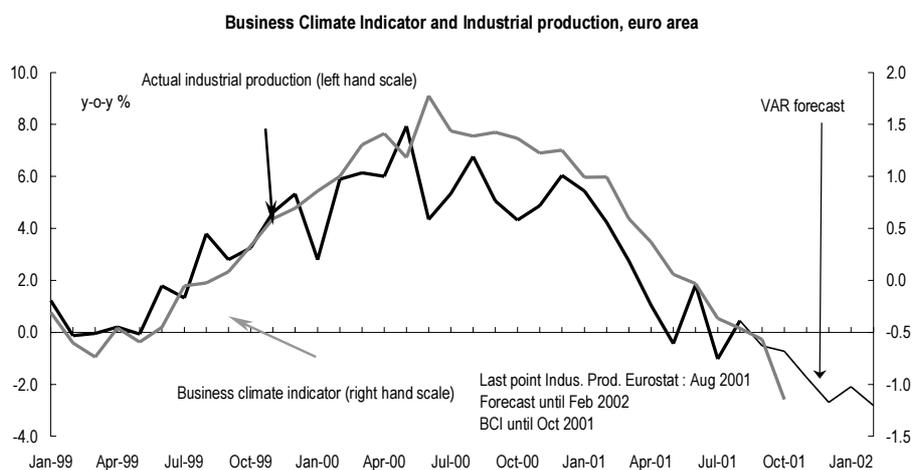
## 2.3 IMPLICATIONS FOR THE SHORT-TERM GROWTH OUTLOOK

The analysis above reveals the complexity of the factors at work, which makes it hard to identify a single decisive element for the slowdown in the euro area. It also complicates an assessment about the duration of the downturn and the forces shaping the recovery. Forecasts for economic growth in the euro area had to be strongly revised downward in 2001 due to an underestimation of the impact of the adverse impulses on the one hand and the overestimation of the robustness of domestic demand on the other hand. Favourable dynamics on the supply side, such as the spread of ICT capital and the increased utilisation of the labour force, apparently came to a halt and seem to have not yet contributed to a sufficient resilience of the euro area towards external disturbances.

With no fundamental imbalances and equipped with sound economic framework conditions, the euro-area economy should be capable to recover soon. The Commission services' Autumn 2001 forecasts show a further slight deterioration in growth to a rate of 1.3 per cent in 2002 and project real GDP growth to reach 2.9 per cent in 2003. However, the uncertainty surrounding the forecast is considerable. The effects of the terrorist attacks in the USA and their aftermath have created a feeling of insecurity world wide. Consequently, risk aversion has increased and confidence has dropped.

### Box 2: Leading indicators for the euro area

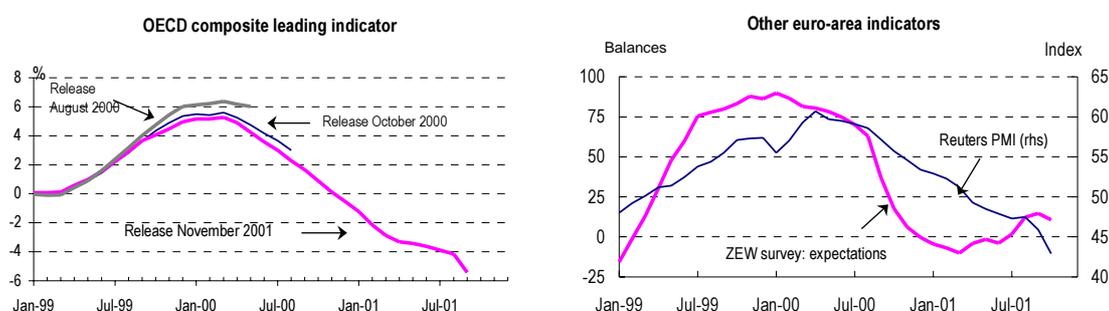
Prior to Stage 3 of EMU, business cycle analysis was usually carried out from a national point of view, which continued in the first two years of EMU due to the virtual absence of quantitative tools for assessing the business cycle in the euro area as a whole. The first two years of the euro-area's existence have seen a proliferation of interest in indicators summarising or anticipating the economic situation of the euro area as a whole. Some of these combine a number of series into a single number and when the series used contain information about future cyclical developments, the composite can be used as a leading indicator.



Source: Commission services.

The European Commission's Business Climate Indicator (BCI) is based on a different approach. It is designed to deliver a clear assessment of the cyclical situation within the euro area by extracting information from business surveys only. Being based on a factor model approach, the indicator identifies the, *a priori*, unknown variable underlying the survey results. Thereby, it can be considered as a coincident indicator of the euro-area industrial production, which is, however only available with a delay of 2 months. Further to this indicator, and by taking advantage both of the earlier availability of the BCI and the dynamics of the industrial production series, a VAR model combining BCI and industrial production statistics delivers a rough forecast of the growth rate of the industrial production for the 6 months ahead.

When the BCI was released for the first time in November 2000, the business climate had already peaked, indicating that industrial firms were "less optimistic about the economic situation in the area than was the case before the summer".<sup>1</sup> The 6-months forecast of industrial production pointed to a slowdown in the growth rate of industrial output, which was confirmed later by the actual outcome. From that first publication, the BCI constantly deteriorated, thus pointing to a decline in industrial firms' confidence. No clear signs of recovery appeared before the September 2001 terrorist attacks in the USA. The October 2001 BCI fully integrates the impact of these events, showing the steepest fall of the indicator ever. According to the VAR-based forecast, this could translate into negative growth of industrial production until February 2002 at least.



Other indicators for the entire euro area released over the last two years give the same overall picture. They indicated a strong economic growth at the beginning of the year 2000. In the course of 2000 gradually signs emerged that pointed to a cooling off of buoyant economic activity. These signs have become clearer over time as, e.g. successive releases of the OECD's indicator demonstrated.<sup>2</sup> It appeared that surveys asking specifically for expectations gave an early indication of slowing economic activity in 2000. Furthermore, signals for an improvement noticed in summer 2001 show up in particular in expectations data. For the euro area this is suggested by the series on economic expectations of analysts and portfolio managers compiled by the Mannheim-based ZEW institute.<sup>3</sup>

<sup>1</sup> Press release accompanying the first publication of the BCI, 26 November 2000.  
<sup>2</sup> New releases encompass also revisions of earlier data due to more complete and revised component series and regular statistical revisions. Indicators based on surveys are less liable to revisions.  
<sup>3</sup> The ZEW indicator is built as the average of the institute's series for expectations and for the assessment of the current situation.

### **3. FORCES BEHIND THE INFLATION HICCUP**

Following very subdued price increases in the first year of EMU, consumer price inflation in the euro area increased substantially in the course of the second and third year. Indeed, in contrast with an increase of just 1.1 per cent for the euro area in 1999, the average yearly HICP inflation rate was 2.4 per cent in 2000 and is estimated in the Commission services' Autumn 2001 forecasts to amount to 2.8 per cent in 2001. However, since June 2001 headline HICP inflation has abated. The discussion in this section is organised as follows. Sub-section 3.1 reviews recent inflation developments, whilst sub-section 3.2 discusses the main determinants, paying particular attention to the role of the euro exchange rate, oil prices and domestic food prices. Sub-section 3.3 assesses the inflation outlook in the euro area. Finally, sub-section 3.4 looks in some detail, and from a longer time perspective, at the surprisingly subdued reaction of wages to inflation developments. It highlights the crucial role of inflationary expectations and institutional changes.

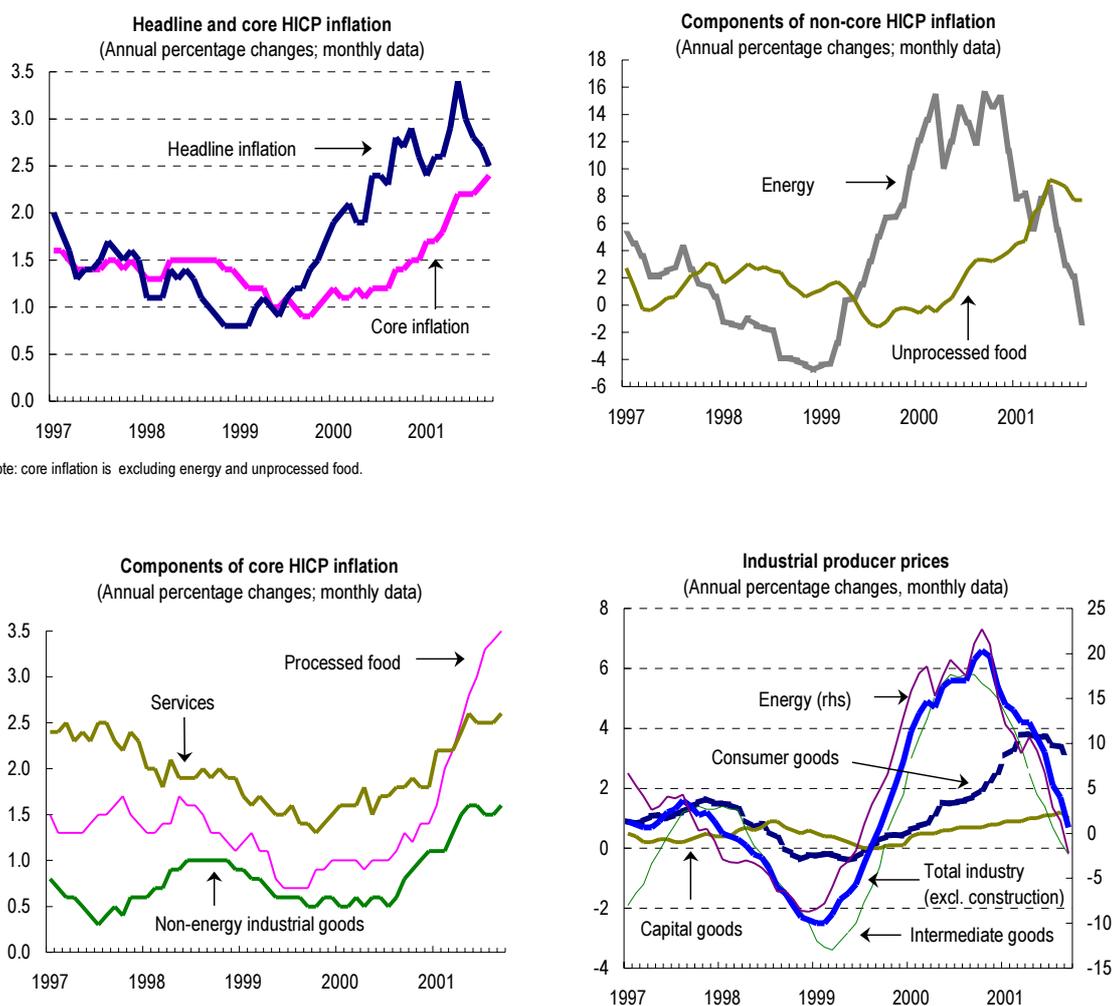
#### **3.1 ACCELERATING INFLATIONARY PRESSURES AND MAIN DETERMINANTS**

2001 has witnessed a "hiccup" pattern in consumer price inflation in the euro area. During the first months of the year, headline HICP inflation continued its accelerating trend, peaking at 3.4 per cent (year-on year) in May. Subsequently, a reversal set in, with headline inflation falling by 1 percentage point between May and October. The picture for core inflation, defined as HICP excluding the volatile energy and unprocessed food components, is different, as there are no signs yet of a change in the rising trend. It is noteworthy that since June 2000 headline inflation has remained above the ECB's 2 per cent upper limit for price stability and since May 2001 core inflation has also broken that threshold (see Graph 9).

From the beginning of EMU, consumer price inflation in the euro area could be characterised in three phases. A first one in which headline inflation accelerated, but core inflation remained low, essentially the first year of EMU. A second phase in which both headline and core inflation accelerated, from the last months of 1999 to May 2001. And a third one in which headline inflation is slowing but core inflation continues to move upwards, from June 2001 until autumn.

Two main factors have dominated the observed developments in consumer price inflation in the euro area since its creation: an import price and a domestic food price surge. Rises in import prices were due to surging oil prices observed in 1999 and 2000 as well as to the depreciation of the euro during most of that time period. Rises in domestic food prices were caused by the BSE and foot-and-mouth outbreaks as well as by unusually bad weather.

Graph 9: Headline and core HICP inflation in the euro area



Source: Commission services.

Table 5: Inflation (y-o-y) in consumer prices

	1999		2000		October 2001	
	Y-o-Y growth rate, %	Contribution to total	Y-o-Y growth rate, %	Contribution to total	Y-o-Y growth rate, %	Contribution to total
Total HICP	1.1		2.4		2.4	
<i>Of which:</i>						
Non-core	1.2	0.2	7.8	1.3	0.1	0.3
Energy	2.3	0.2	13.4	1.2	-2.7	-0.3
Unprocessed food	0.1	0.0	1.7	0.1	7.8	0.6
Core	1.1	0.9	1.3	1.1	2.5	2.0
Processed food	1.0	0.1	1.2	0.2	3.6	0.4
Services	1.6	0.6	1.7	0.6	2.8	1.1
Non-energy industrial goods	0.7	0.2	0.7	0.2	1.6	0.5

Source: Commission services.

Developments in the foreign exchange rate of the euro and oil prices have played a predominant role in inflation behaviour. From its launch, the euro saw a depreciating trend for almost two consecutive years. Oil prices reached a peak in September 2000 at 32½ USD per barrel Brent, making price rises in 1999 and 2000 one of the major hikes in the history of this market. During 2001, however, oil prices have dropped, and have been generally trading within the OPEC target band of 22-28 USD per barrel. In Autumn 2001, oil prices have considerably weakened. Due to the lower euro exchange rate, the domestic cost (in euro) of imported energy rose over and above international quoted prices, worsening the impact on domestic inflation during 1999 and 2000.

As can be seen from a decomposition of core and non-core HICP inflation, surging import prices had a direct and immediate impact on domestic energy prices, which drove up headline inflation during 1999 and much of 2000. As energy price inflation decelerated towards the end of 2000 unprocessed food inflation picked up, contributing importantly to the continued acceleration of headline inflation in the final months of 2000 and the early months of the year 2001. Indeed, the average monthly contribution of energy prices to overall inflation increased from 0.2 percentage point in 1999 to 1.2 percentage points in 2000. In 2000, unprocessed and processed food each contributed on average 0.15 percentage point, although towards the end of the year unprocessed food was contributing twice that amount to overall inflation. During the first ten months of 2001 the average contribution of energy dropped to 0.5 percentage point, while for unprocessed and processed food it increased further to 0.5 and 0.3 percentage point respectively, mainly due to strong increases in the first half of the year. Since then their respective contributions seem to be stabilising at those high levels.

Hence, the recent slowing of inflation is almost entirely due to a significant fall in the contribution of energy prices. While during the first part of 2001 its annual rate of change was between 6 and 9 per cent, from June it decelerated to 5.5 per cent and in September it stood at -1.3 per cent, signalling base effects from last year's increases. For food prices, the latest observations suggest that the upward pressure on prices from the BSE and food-and-mouth outbreaks might be coming to an end. However, the indirect and second-round effects of the food price and import price hikes might not have completed their pass-through yet. This is indicated by the continued strong acceleration in the processed food component. Indeed, processed food inflation is the main driving force behind the continued acceleration in core inflation. Noticeably, however, services and non-energy industrial goods inflation have also been accelerating since mid-2000.

Industrial producer prices in the euro area displayed a more marked swing than consumer prices. Having followed a distinct upward trend from early 1999, they peaked at 6.6 per cent year-on-year in October 2000 and have been decelerating since. They were rising at just 0.7 per cent in the year to September 2001, compared with 6.3 per cent in September 2000. The acceleration and subsequent deceleration in total industry inflation is due largely to similar developments in the energy and intermediate goods sectors. Inflation in these sectors peaked at 22.7 per cent and 5.8 per cent year-on-year, respectively, during the second half of 2000. By September 2001 year-on-year rates became negative, -2.2 per cent and -0.2 per cent respectively. The graph also indicates that the pass-through of past oil price increases has been mainly concentrated in these two sectors. While capital goods have been little affected so far, consumer goods prices have showed higher pass-through effects, with annual inflation at 2.8 per cent in September 2001, but seem to have stabilised at that level. Given that producer prices usually lead consumer price developments, these movements point to an easing of core consumer price inflation by the first half of 2002.

### **3.2 PROSPECTS FOR RECEDING INFLATIONARY PRESSURES**

At this juncture, the outlook for inflation seems rather favourable. Decelerating growth at home and abroad, slowing producer price inflation, and weaker oil and commodity prices all point to a

continuation of the recent downward trend of headline HICP inflation and to a forthcoming trend reversal in core inflation. The European Commission's Autumn 2001 forecast expects HICP inflation to fall to 1.8 per cent in 2002 and 2003.

The salient element in the external environment that has important implications for inflation is the deterioration in world economic prospects, led by the sharp slowdown of economic activity in the USA and a recession in Japan. Slower world economic growth, lower oil prices and a stable exchange rate point to forthcoming relief on imported inflation, with the deceleration in producer prices already having started to feed through to consumer prices.

For 2001 and 2002 growth prospects for the euro area have been revised down. The slowdown in economic activity means that the euro-area output gap that was previously estimated, by the Commission services, to close in 2000 and turn positive in 2001 and 2002 is unlikely to materialise. The implication is that domestic inflationary pressure from overall domestic supply and demand conditions should be lower than originally expected. Domestic prices are expected to benefit from lower taxes, deregulation in the service sector and overall increased competition among firms. Moreover, the slowdown in the reduction of unemployment rates, the higher flexibility and the desire to maintain employment in the presence of weaker output growth suggests a continuation of wage moderation. Nominal compensation per head is forecast to increase at about 3 per cent in 2002 and 2003 resulting in a deceleration of unit labour costs from 2.5 per cent in 2001 to 1.9 per cent in 2002 and 1.2 per cent in 2003.

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### Box 3: Macroeconomic economic effects of the euro cash changeover

Euro-area companies and individuals have been living with the euro already for almost three years. Nevertheless, it will only be with the introduction of euro banknotes and coins at the beginning of 2002 that they will need to cope in full with the modification in the basic functions of money – unit of account, store of value, medium of exchange – which the euro implies. This box looks at the impact of this event on inflation and money demand.

#### *The impact on inflation*

There are widespread fears, supported mostly by anecdotal evidence from consumers' associations and the media, that the euro changeover will result in unjustified price increases. Three types of concern are voiced most often. First, there is the fear that suppliers and retailers will take advantage of the unfamiliarity with the new currency to plainly increase prices. Second, there is the fear that the widespread use of "psychological prices" will lead to a generalised rounding up in euro. Finally, there is the fear that the price hikes due to the changeover will not be an isolated phenomenon, but generalised and spread over time, leading to an acceleration of inflation and, in turn, demands for higher wages in compensation for the loss of purchasing power.

*The microeconomics of the changeover* – According to standard microeconomic theory a permanent increase in prices results from, for example, a permanent increase in marginal costs or an increase in market power. The euro changeover, however, is unlikely to have these effects. The costs of the changeover are mostly fixed costs, akin to the costs of installing new technologies. Once the new currency is in circulation, it will cost roughly the same to produce one more unit of output as it does now. In the transition there might be some temporary increases in handling costs per unit of output, which could be reflected in higher prices. Competition should ensure that these increases remain temporary. In terms of market power, the new currency is likely to accentuate competitive pressures, as consumers and firms find it easier to compare prices across borders.

*Rounding effects* – The fear concerning rounding is that companies may exploit the changeover to round up the new euro prices to the next higher "psychological price". The potential to increase prices, including by rounding, depends on several factors. An important one is the intensity of competition in the respective markets. In an environment with a high degree of competition, firms taking advantage of the changeover to

raise prices would run the risk of losing market share to competitors. Such firms may also face loss of market share in less competitive markets, if consumers decide to “punish” abusive brands.

*The macroeconomic impact* – So far, there is little macroeconomic evidence lending support to generalised and sustained price increases due to the euro changeover. In fact, consumer price inflation in the euro area has peaked in May 2001 and has been fallen since. In addition, comparing the path of the euro-area price index with the Member States that remain outside the area reveals that the paths are broadly similar, indicating the absence of a noticeable euro changeover effect. Another important element that determines the potential to raise prices is the cyclical condition of the economy. If aggregate demand is weak, it is generally hard to impose higher prices, by rounding up or otherwise. In this sense, slowing growth in the euro area should help to keep in check unjustified price hikes.

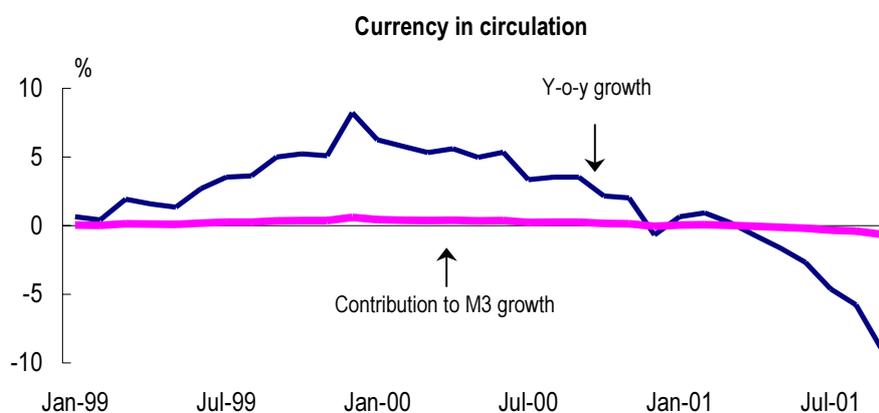
In sum, despite the anecdotal evidence and the media coverage of it, there is little basis in theory and macroeconomic data supporting the fears mentioned above. Even if some of those fears materialise to some extent, the risks that the euro changeover will lead to a sustained general increase in prices are small.

#### ***How does the changeover affect money demand?***

The cash changeover is affecting demand for cash already this year and it will likely continue to do so in the first part of 2002. The ECB observed that euro-area citizens have been reducing their cash holdings ahead of the changeover already since the end of 2000. Supportive evidence is the deep decline in currency in circulation, which cannot be explained by nominal GDP or interest rate developments. If the stock of currency in circulation had grown at the same rate of nominal GDP since the 4<sup>th</sup> quarter of 2000, in July 2001 it would have been some EUR 25-30 billion above the actual stock.

At the beginning of 2002, it is expected that the changeover will produce a peak in the demand for cash, mainly because during the dual circulation period retailers will have to operate in two currency units. It seems likely that the ECB will accommodate the increased demand for cash so as not to change interest rate conditions. All in all, the impact on the rate of growth of the reference aggregate M3 will probably be small, as cash in circulation constitutes only 6-7 per cent of M3.

A more interesting question is whether there will be some permanent changes in behaviour beyond the changeover period. The main reason is that use of electronic means of payment is likely to increase with the changeover. Both the public and the private sector are actively promoting such electronic means of payment as a way to facilitate transactions in the new currency. In principle, a significant change in behaviour could alter the velocity of money with respect to income, and thus affect the alleged stability of money demand which underpins the first pillar of the ECB’s monetary policy strategy. This would happen if the reduced need for cash for transaction purposes is directed to assets not included in M3. In any case, as noted above, the share of currency in circulation in M3 is small, limiting the potential for distortions in the growth of M3.



Source: ECB.

### 3.3 SUSTAINED WAGE MODERATION IN THE EURO AREA

A striking feature of the euro-area inflation picture so far has been the continued wage moderation observed in the face of rising consumer price inflation, and until early 2001 a depreciating euro and tightening labour markets. Nominal wages per employee in the euro area increased by 2.5 per cent in 2000 and are expected to increase by 3 per cent in 2001. At the same time, labour productivity gains were 1.5 per cent in 2000 and are expected to be 0.5 per cent in 2001. These figures are consistent with HICP inflation below 2 per cent in the medium term.

Given the crucial role of expectations, as embodied in the wage-formation process, for the inflation outlook, a key question is whether this sustained wage moderation is the result of fundamental changes in the wage formation process. If so, a related issue is whether these changes are a response to the preparation for, and finally the launch of, the single currency.

#### *The euro-area Phillips curve in the 1990s*

Recent work in monetary economics has been building stronger theoretical foundations to a relationship long thought discredited: the Phillips curve. Models of the so-called New Keynesian school have shown that starting from a setting with explicit dynamics, where firms optimise having some degree of market power but also facing costs to adjust prices, the result is a reduced form that resembles loosely the Phillips curve formulation familiar from the work of Friedman and Phelps in the 1970s.<sup>29</sup> Moreover, recent empirical work has shown that even as a forecasting tool, expectations-augmented Phillips curves are remarkably stable and relatively accurate predictors of inflation.<sup>30</sup> Much of this work has been sparked by the experience of robust growth and muted inflation in the USA during the second part of the 1990s.

*Price Phillips curve* – Looking at data on inflation and unemployment for the euro area in the 1990s, two observations become apparent. Firstly, as shown in Graph 10, the data seem to confirm the existence of a short-run Phillips curve. Secondly, the euro area appears to be currently on a lower short-run Phillips curve than 8-10 years ago. This descriptive evidence suggests that the euro-area economy may have moved to a sustainable lower inflation path with general inflationary expectations at a correspondingly lower level. It is interesting to note that the shift seems to have taken place in the run-up to EMU.

Since mid-1997 the euro-area Phillips curve has been broadly flat and is moving leftwards. Some steepening of the curve can be witnessed from mid-1999, but this can be attributed to some second round effects of oil prices on inflation, a weakening euro and the spike of food prices related to BSE and foot-and-mouth disease, not necessarily to wage pressures. A further interesting aspect of the 1990s data is that, if compared to the 1980s, the short-run Phillips curve seems not only to be changing position but also changing slope. In particular the data points to a flattening Phillips curve, implying a lower sensitivity of price inflation to unemployment. This suggests that unemployment could now be further reduced without a substantial accompanying rise in inflation.<sup>31</sup>

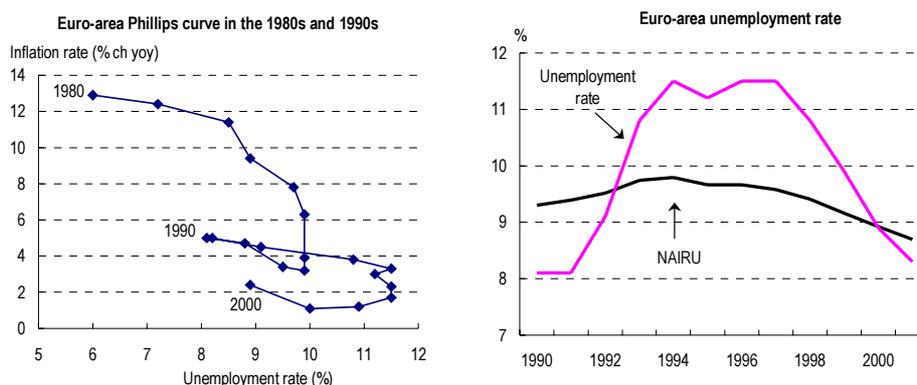
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<sup>29</sup> According to Phelps and Friedman, the Phillips curve has a negative slope only in the short run whereas there is no trade-off between inflation and unemployment in the long run. The discussion has been taken up again in Mankiw (2001), Ball and Moffit (2001).

<sup>30</sup> See Stock and Watson (1999).

<sup>31</sup> However, as is often the case, the picture for the euro area masks different experiences at the Member States level. For example, while most Member States display short-run Phillips curves shifting down, Ireland and Spain have done so from a much worse initial trade-off (higher inflation associated with higher unemployment) than other countries. This is indicative of a sort of “catching-up” effect in the inflation-unemployment trade-off whereby structural reforms would permit countries having an initially worse trade-off to achieve a better one as fast as countries that had at the outset a more favourable trade-off.

Graph 10: Euro area Phillips curve



Source: Commission services.

An argument often advanced to explain the absence of significant wage inflation is the relatively high unemployment rate still observed in the euro area. However, unemployment has been declining since mid-1997. At 8.3 per cent in September 2001, it is even lower than recent estimates for the NAIRU (See Graph 10). Yet little wage pressure has appeared over the last 12 months, providing a first piece of evidence that something may have changed in the wage inflation process of the euro area.

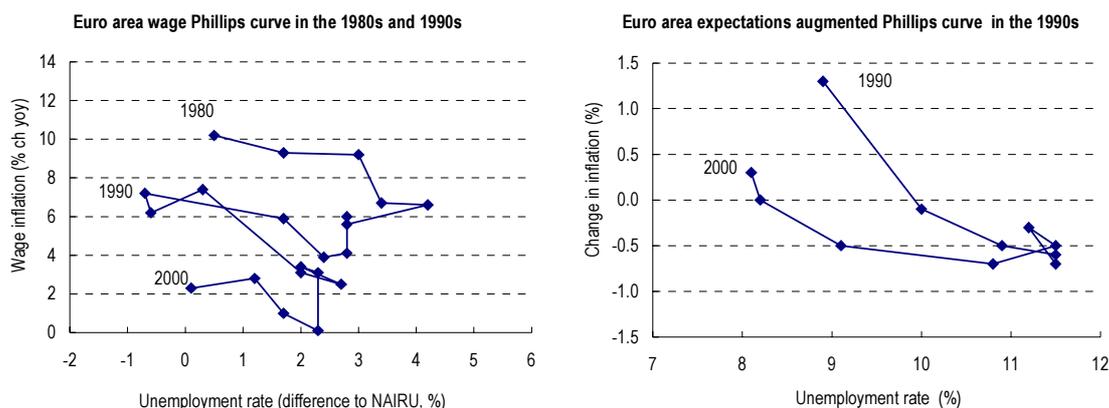
*Wage Phillips curve* – The traditional short- to medium-term relation implies co-movement of these two variables, i.e. as unemployment goes down, wage inflation should go up and vice-versa. As shown in Graph 11, the wage Phillips curve seems also to exhibit shifts down and to the left from the early 1980s. In particular, in the run-up to EMU a second favourable shift seems to have taken place. This is a second piece of evidence pointing to a possible change in the unemployment-wage relation in the euro area. There are two distinct and not mutually exclusive possibilities. First, there might have been a regime change in inflationary expectations. Second, it is possible that structural reforms have favourably altered the NAIRU.

*Expectations-augmented Phillips curve* – The expectations-augmented version of the Phillips curve (Graph 11) suggests a shift to the left of the NAIRU.<sup>32</sup> In the early 1990s, inflation would have been constant at a rate of unemployment at around 10 per cent, while the latter part of that decade it moved down to around 8 per cent. Interestingly, this shift is in line with more sophisticated estimations carried out by the European Commission and international organisations such as the IMF and the OECD. Using time-varying methodologies, all institutions find a declining NAIRU in the latter part of the 1990s. Moreover, a recent study by the IMF, using system estimates, finds evidence in favour of a structural break in the wage formation process of the euro area.<sup>33</sup>

<sup>32</sup> The non-accelerating inflation rate of unemployment (NAIRU) relates unemployment to the change in inflation whereas the Phillips curve relates unemployment to the change in the price level.

<sup>33</sup> See IMF (2001b).

Graph 11: Euro area wage Phillips curve and expectations augmented Phillips curve



Source: Commission services.

### *Inflation expectations*

As illustrated in the previous section, a confirmation of subdued inflation expectations is obtained by examining the euro-area Phillips curve. It indicates a regime of stable inflation expectations at around 2 per cent. Additional evidence of subdued inflationary expectations can be found in a relatively flat, by historical standards, yield curve as well as a stable “break-even” inflation rate on 10-year index linked French government bonds, which serve as a proxy for the euro area.

Among the possible explanations of a regime change in inflationary expectations, two explanations clearly stand out:

- Low inflationary expectations might be the result of a credibility effect. The new euro-area monetary policy framework, with an independent central bank having price stability as a clear objective, has certainly caused a structural break in the way the private sector perceives monetary policy formulation. At least in principle, this change should lead to a lowering of the steady state (expected) inflation bias of discretionary policy making.
- A related explanation is linked to the wage formation process in the euro area. With a common currency and monetary policy, wage negotiations need to take into account more than ever of the likely externalities of wage increases over and above productivity gains. In a policy setting such as EMU, wage increases that are not compatible with the inflation objective are necessarily going to be felt in higher unemployment. There is evidence that wage setters are taking these considerations on board.<sup>34</sup>

### *Institutional trends in wage bargaining*

This sub-section looks in more detail at the changing institutional set up of labour markets across the euro area and at how those changes may have favoured the shift in the Phillips curve relations. In general, reforms of wage formation systems in the euro area in the 1990s were limited, with only a few cases of reforms to industrial relations legislation. Nevertheless, there has been a gradual evolution of the process of wage determination. The overall trend has been one of gradual decentralisation of effective wage setting. One important element of wage formation in the 1990s

<sup>34</sup> Observed continued wage moderation is perhaps the most conspicuous piece of evidence, while formal agreements like the 1996 Doorn Initiative between unions from Germany and Benelux to avoid “beggar-thy-neighbour” outcomes by pursuing increases equal to productivity plus inflation are also noticeable.

was the extensive use of new forms of tripartite income policy agreements – in some Member States these agreements served as vehicles for changes in the wage determination process as well as for agreements on reforms of other labour market policies.

*Decentralisation of bargaining* – The flexibility at lower bargaining levels has increased as bargaining is slowly but clearly being shifted more towards the company level. This happens mostly informally through “opening” or “hardship” clauses that allow firms (sectors) to deviate from sectoral (central) wage agreements according to the financial situation of the firm (sector) or in exchange for job creation and job security. In several countries, an increasing share of - formal or informal - firm level bargaining substituting higher-level agreements is also noted. In two Member States, wage bargaining procedures have formally moved towards more decentralisation in the 1990s. Reforms in Spain have led to a multi-layer bargaining system where peak-level guidelines are supplemented by regional, sectoral agreements. In Italy, the 1993 tripartite agreement introduced a two-tier system where sectoral wages are oriented at the official inflation target and the inflation rate of the best performing trade partners, while company-level agreements should take company performance into account.

*Central bargaining co-ordination* – At the same time, the co-ordination of bargaining at the central level has gained importance. While central co-ordination of wage bargaining is common to a majority of Member States, there are considerable differences in form and scope. In several Member States, formal wage agreements are concluded at the central level, leaving a varying degree of flexibility for lower-level negotiations. In other countries, co-ordination leads merely to wage recommendations, or central consultations on wages which are entirely informal. While the academic literature points to a considerable impact of EMU on incentives in collective wage bargaining, there has been little actual change since the start of EMU.<sup>35</sup> Newer developments include the recommendation for wage moderation by the German “Alliance for Jobs” – a call that has been respected by the Social Partners at the sectoral level in the 2000 wage round. The Finnish Social Partners had dropped national bargaining in 1999, but returned to it after one year of sectoral bargaining.

*Co-ordination across countries* – Belgium was the first country to formally link national wage developments to wage developments of its main trade partners. Under the 1996 Employment and Competitiveness Law, the central wage norm takes into account the wage developments in Germany, France and the Netherlands. Trade union initiatives like the Doorn declaration or the agreement within the European Metalworkers’ Federation have followed. At Community level, the macro-economic dialogue brings together representatives of the Council, the Commission, the European Central Bank and the social partners in order to foster mutually supportive interaction between wage developments and monetary, budget and fiscal policy. In the same vein as the multilateral surveillance, it can contribute to wage moderation via the exchange of information and peer pressure.

*Longer-term agreements* – In the 2000 bargaining rounds in Germany and Austria, wage agreements covering more than one year became prominent. This trend towards longer-term agreements may be a reflex to credible, lower inflation expectations. Moreover, it may be the consequence of a modified strategic interaction between wage bargaining and monetary policy in EMU.<sup>36</sup> Namely, it could be argued that the Social Partners, by committing themselves to wage moderation for a period that roughly covers the length of the lag with which monetary policy affects prices, try to

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<sup>35</sup> Fajertag and Pochet (2001) argue that the pressure that had favoured social pacts in the past has eased with the launch of the single currency and the favourable growth conditions in 1999-2000. Booth et al. (2000) stress the contradictions that arise from the attempt at co-ordination against the backdrop of the ongoing decentralisation and lower unionisation. According to these arguments, the future of central co-ordination would seem to be rather open.

<sup>36</sup> For a brief overview on the strategic interaction of wages, wage bargaining institutions and monetary policy, see Pichelmann (2001b) and Calmfors (2001).

provide the ECB with leeway to pursue a more accommodating interest rate policy. In fact, (framework) agreements for two years or more have predated EMU in some other countries. It is, however, still too early to identify anything like a general tendency to longer-term agreements and it is definitely premature to draw conclusions on a changed wage and monetary policy mix.

### ***Changes in bargaining structures and wage moderation***

The discussion of how wage bargaining structures affect wage developments has to a large extent been shaped by the Calmfors and Driffill (1988) hypothesis. It predicts a 'hump-shaped' relationship of unemployment and the centralisation of wage bargaining, where fully centralised and fully decentralised bargaining produce the most employment-friendly outcomes.<sup>37</sup> Co-ordination, whether formal (e.g. through wage norms agreed with government involvement) or informal (e.g. through pattern bargaining), can be understood as a way of overcoming the potential disadvantage of bargaining at an intermediate level.

Formal or *de facto decentralisation* helps better taking into account the firm's competitiveness as well as local levels of unemployment and productivity. It should result in wage moderation in regions with high unemployment and / or low productivity and contribute to the absorption of structural and regional unemployment. Indeed, the share of the long-term unemployed in total unemployment in the euro area has decreased from 51.3 per cent in 1997 to 47.2 per cent in 2000. The regional disparity of unemployment has however increased over the same period, indicating that the regional flexibility of wages is still insufficient.

*Central co-ordination* has the advantage that the aggregate employment perspective is more easily internalised in wage negotiations and should therefore be a major contribution to sustained wage moderation also after the launch of the single currency. In fact, from 1999 to 2001 euro-area real wages increased at a rate below the EU average. Real wage developments were moderate (i.e. below productivity growth) in a large majority of Member States already from 1993 onwards.<sup>38</sup>

Graph 12 shows a tentative grouping<sup>39</sup> of EU Member States according to their degree of wage bargaining co-ordination (1 is the lowest and 5 the highest degree) and relates it with the change of the wage share from 1991 to 2001. The inverse relationship suggests that central co-ordination has contributed to wage restraint.

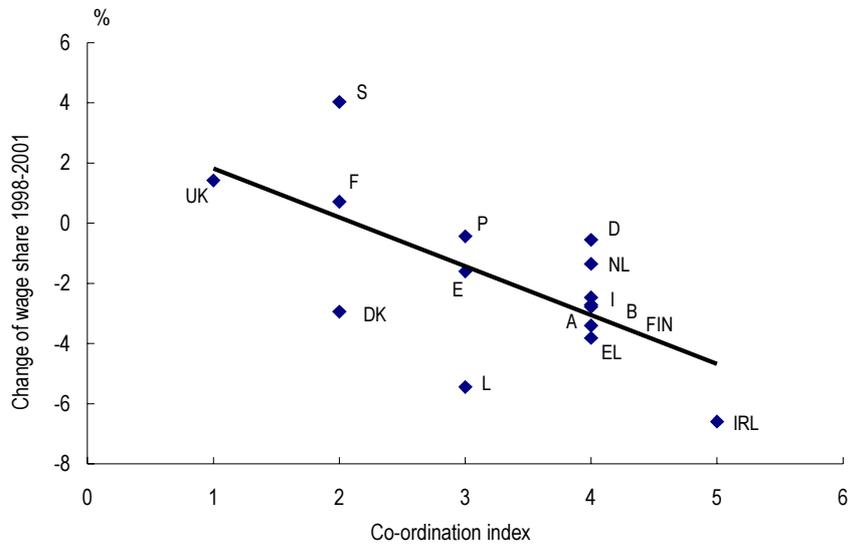
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<sup>37</sup> Empirical evidence for the hump-shaped relationship is, however, weak (see OECD (1997)).

<sup>38</sup> Looking at unit labour costs, indeed an impressive degree of synchronisation emerges during the 1990s (see Pichelmann (2001a)).

<sup>39</sup> This is an attempt to update and refine the 1998 OECD indicator, see OECD (2000).

Graph 12: Co-ordination and wage restraint



Source: Commission services.

The impact of the various other forms of wage co-ordination at the transnational or euro-area-wide level on actual wage developments is difficult to assess. National experiences with informal co-ordination of economic policy in tripartite bodies show that the exchange of views may well contribute to preclude wage growth which is inconsistent with aggregate developments. The spread of formal or informal orientation at wage development in neighbouring countries is an attempt to internalise the impact of wage growth on international competitiveness. Finally, the commitment of wage policy through longer-term wage agreements may reduce inflation expectations and facilitate the tasks of monetary policy. However, it is premature to back these theoretical conjectures with empirical evidence.

## 4. TESTING TIME FOR THE MACROECONOMIC POLICY MIX

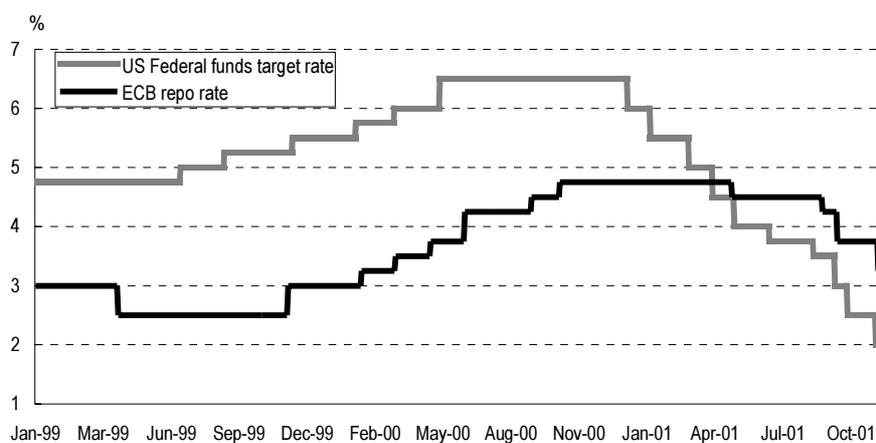
### 4.1 MONETARY POLICY: RESPONDING TO IMPROVED INFLATION PROSPECTS

#### *International monetary policy decisions and the ECB*

Starting in early 2001, the deteriorating economic situation and outlook in the world economy and in the USA in particular have triggered a series of interest rate cuts in major economies. US interest rates have been reduced by a cumulative 450 basis points, more than offsetting the tightening of policy which took place between June 1999 and May 2000 and bringing US interest rates to their lowest level since 1961. Largely as a response to the deteriorating external environment, the Bank of England has lowered rates by 200 basis points so far this year while the Bank of Canada has cut interest rates by 300 basis points. In March, the Bank of Japan announced new operating procedures for monetary policy which returned short-term interest rates to zero.

The ECB left interest rates on hold between October 2000 and May 2001 at 4.75 per cent. Beginning on 10 May 2001, the ECB has cut its main refinancing rate in four steps by 150 basis points to 3.25 per cent motivated by the marked improvement in the balance of risks to price stability. Lower inflationary pressures have been originating from the demand side and wage developments are less of a risk than in the past.<sup>40</sup> Recent increases in M3 growth can be considered transitory and the ECB expects them not to imply risks to price stability in the medium term.<sup>41</sup>

Graph 13: Official interest rates



Source: ECB and US Federal Reserve Board.

<sup>40</sup> See ECB Monthly Bulletin, September 2001.

<sup>41</sup> The interest rate cut on 17 September by 50 basis points was aimed at stabilising financial markets after the terrorist attack in the USA and justified by the detrimental impact on confidence and growth, which was expected to reduce further the risks to price stability in the euro area.

### *Assessing the stance of monetary policy in the euro area*

*M3 growth* has shown considerable fluctuations over the past two years. It decelerated until May 2001 when it almost met the 4.5 per cent ECB reference value. Since then, M3 growth accelerated sharply to 6.9 per cent for the July-September 2001 period.<sup>42</sup> It appears that strong monetary growth is primarily caused by adjustments of portfolios to increased risk and a flat yield curve rather than by rising intentions to spend, as for instance indicated by the actual weakening of credit growth. Among those factors that reduce the information content of M3 in the current juncture are a portfolio shift towards short-term instruments owing to financial factors (including a flat yield curve and the decline in stock prices), a preference for liquidity in response to the increased uncertainty and higher nominal money demand due to the transactions motive triggered by higher energy and food prices.

Monetary conditions on financial markets have changed relatively little over the last two years. Since the middle of last year, *nominal long-term interest rates* have declined some 85 basis points to a level of 4.3 per cent in the beginning of November 2001, which is less than the fall during past slowdowns.<sup>43</sup> However, in 1995 as well as in 1998, the level of nominal capital market rates was higher. The *yield curve* has remained flat until early summer, and has become only marginally positive since then.<sup>44</sup> The flatter, in comparison with past slowdowns, slope of the yield curve in 2001 suggests that short-term rates are expected to remain at lower levels for a longer time. In terms of policy, one interpretation could be that the ECB gained low-inflation credibility. However, the expectation of lower future interest rates could also reflect pessimism about prospects for the real economy.

Since mid-2000, the *Monetary Conditions Index* (MCI) has changed relatively little, with a small decline in real short-term interest rates and a moderate appreciation of the real effective euro exchange rate cancelling out each other.<sup>45</sup> The smaller decline in long-term benchmark rates over recent months, as well as the upward path of corporate bond spreads, and the fall in stock markets may imply that the overall financing situation for the private sector has actually become tighter, rather than remaining little changed as suggested by the MCI.

The *Taylor rule* describes an “optimal” short-term interest rate corresponding to the cyclical situation and the deviation of the inflation rate from its target, thereby representing a benchmark for assessing the stance of monetary policy against the prevalent economic situation.<sup>46</sup> For the euro area, short-term interest rates started in the upper half of the corridor for the “optimal” short-term interest rate implied by the Taylor rule in 2000, if “core inflation”<sup>47</sup> is taken as the relevant inflation rate for the normative rule. In 2000, short-term interest rates were clearly above the level suggested by the Taylor rule. Since October 2000, the time of the ECB’s last interest hike, three-month

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<sup>42</sup> The ECB’s benchmark series is the seasonally-adjusted, three-month, centred moving average of M3.

<sup>43</sup> The benchmark series used is the German ten-year government bond rate.

<sup>44</sup> The shape and movement of the yield curve contains some information about the expected path of future short-term interest rates, and implicitly also about expected inflation. The slight inversion at medium maturities reflects investors increased liquidity preference, possibly because of the high degree of uncertainty currently attached to the future.

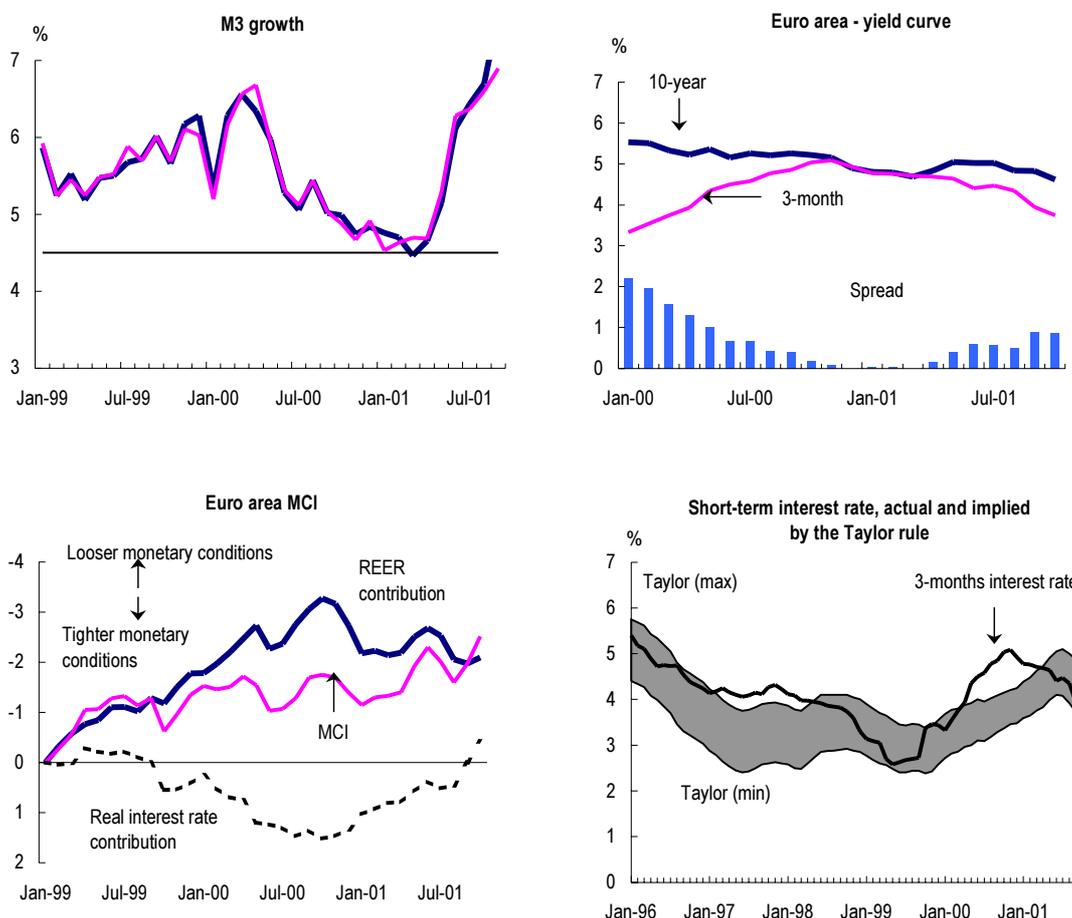
<sup>45</sup> The MCI reflects movements in the weighted sum of a real short-term interest rate and the real effective exchange rate of the euro against major trading partners. The absolute level of the MCI is uninformative for the assessment of the appropriateness of monetary conditions. See EU Economy 2000 Review, Chapter 2.

<sup>46</sup> The Taylor rule describes how the short-term interest rates could be adjusted in a systematic way to keep inflation close to the target and to respond to fluctuations of final demand around potential growth. See EU Economy 2000 Review, Chapter 2.

<sup>47</sup> For the purpose of this analysis “core inflation” is defined as the HICP excluding energy and unprocessed food. The precise measurement of underlying or core inflation is not simple. For a discussion of measurement concepts, see ECB (2001).

interest rates have come down, and re-entered the Taylor corridor by April 2001. By August 2001 they have reached neutral territory, and after the recent cuts actual rates became accommodative.

Graph 14: Monetary indicators in the euro area



Source: Commission services and ECB.

Note: Taylor rule based on core inflation, monthly figures.

#### Box 4: EMU and asymmetries in monetary policy transmission

The decision to launch EMU has focused attention on possible asymmetries in output and price responses to the single monetary policy across EU countries. Unfortunately, the numerous attempts to estimate the extent of such asymmetries in the context of empirical macroeconomic models have not provided a consistent and robust picture of cross-country differences in monetary transmission and they are affected by methodological problems. This state of affairs has revamped interest in microeconomic studies comparing economic and financial structures across countries, as these are ultimately responsible for any differences in the way monetary impulses are transmitted throughout the economy.

The insights and the empirical evidence from a recent study suggests that the structural differences across six euro-area countries (Belgium, Germany, Spain, France, Italy, the Netherlands) are significant but of a moderate scale.<sup>1</sup> Looking ahead, it seems likely that asymmetries in monetary transmission within the euro area could become smaller over time. It is possible to identify areas where one can expect national structures

to converge over time, hence reducing the potential for asymmetries in monetary transmission, and areas in which structural differences are likely to persist.

<b>Main determinants of the transmission of monetary policy to output</b>	
<i>Interest rate channel</i>	
Interest rate pass-through	A quicker and fuller pass-through from policy interest rates to market and bank lending rates increases the power of transmission.
Interest sensitivity of production	A higher share of interest-sensitive sectors in GDP strengthens the effect of monetary policy.
Price and wage rigidity	The more rigid nominal price and wages, the larger the impact of any given demand fall on output. Real rigidities magnify the effect of nominal rigidities.
Income effect	The impact of higher interest rate on disposable income depends on households' debt position, the maturity of their interest-bearing assets and liabilities, as well as the pass-through from policy interest rates to average interest rates.
Wealth effect	The wealth effect on consumption will be stronger in countries where households' wealth is large and held in the form of assets with volatile prices. Given the weight of real assets in total wealth, the size and speed of the response of real estate prices to interest rate changes is also crucial.
<i>Exchange rate channel</i>	
Openness to trade	More open economies experience a stronger reduction in output from a real exchange rate appreciation. In these economies, however, the exchange rate will also have a comparatively larger impact on prices (a positive terms of trade effect), and exports may have a higher import content.
<i>Credit view: Bank lending channel</i>	
Impact of monetary policy on loan supply	A monetary policy tightening may reduce loan supply, especially if bank health is poor. However, banks which have large holdings of securities and/or can acquire loanable funds (e.g. by issuing market securities) can keep their loan supply unchanged.
Degree of bank dependence	A high share of bank loans in business financing and a large number of small firms (which have less alternative sources of finance) would point to a potentially strong bank lending channel.
<i>Credit view: Balance-sheet channel</i>	
Size structure of firms	Smaller firms, more prone to suffer from information asymmetries, are likely to experience a larger increase in the external finance premium (the difference in the cost of external versus internal finance).
Use of collateral	A monetary tightening that reduces the value of collateral will have a stronger effect where collateral is more extensively used.
Firms' leverage	Firms in financial distress (e.g. measured by a high ratio of interest payments over operating income), are more likely to suffer from the negative cash-flow impact of higher interest rates. A high leverage ratio may be an indicator of financial distress. On the other hand, it may also suggest ease of financing.
Efficiency of legal system and contract enforcement	Credit rationing is more likely in countries with inefficient legal systems and weak enforcement of contracts. In such cases, a low level of outstanding credit would suggest liquidity constraints.

The biggest changes are undoubtedly taking place in financial structures, under the combined effect of the single monetary policy regime and of the wider forces of globalisation and technological change. These changes are blurring the traditional contrast between the Anglo-Saxon "market-based" financial system and a continental European "bank-centred" financial system. The degree of approximation of financial structures, however, will be constrained by three obstacles: the varying effectiveness and efficiency of national legal systems; the difference in the institutions governing the housing markets; the different national choices made, with regard to the funding of the pension system; and the role of pension funds.

With the euro, asymmetries originating from the external side are by definition reduced (but not eliminated), as for all participating countries any given monetary policy shock will be associated with a smaller response of the effective exchange rate. As for economic structures, while the single market and the euro are bringing about changes in the pricing behaviour of companies and in the behaviour of social partners, there seems to be little ground to foresee that these changes will reduce the existing cross-country differentiation in production structures, labour market institutions and firm size.

All in all, although the cross-country heterogeneity in the effects of monetary policy could decrease over time as financial structures become more similar and economic agents adjust their behaviour to the new policy environment, it will remain to some extent a persistent feature of the euro area, as in any other large monetary union. In practical terms, however, it is probable that asymmetries in transmission will be a lesser concern, than the issues raised by having the same nominal interest rates in countries that are at different phases of the business cycle.

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<sup>1</sup> This box relies on Suardi (2001). His result has been confirmed by a number of studies, most recently by Clements et al. (2001).

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### ***Developments in the euro exchange rate***

Given the dramatic changes, which have taken place in the world economy, the relative stability of exchange rates in 2001 is surprising. Towards the end of 2000, bilateral exchange rates amongst the three main world areas seemed to follow the revision in the relative growth prospects and the euro strengthened against all major currencies. However, the euro appreciation against the dollar came to a halt at the beginning of January 2001. In the following months, the euro fell from USD 0.95 at the beginning of 2001 to USD 0.85 at the beginning of July. Since mid-August, the euro has been trading in a range of 0.88 and 0.92 against the US dollar, with some volatility as the market reacted to actual and expected monetary policy decisions and to the increased uncertainty in the aftermath of the terrorist attack in the USA. However, focusing on the exchange rate of the euro with the US dollar does not give a proper view on the actual development of the euro on foreign exchange markets. The effective exchange rate, i.e. the exchange rate weighted with the trade share towards 23 economies, has remained fairly constant between January and October 2001.

The inability of standard economic and empirical models to explain recent movements in exchange rates has led to a search for *ad hoc* explanations, in particular with reference to the USD/EUR exchange rate. In view of the correlation of the exchange rate with net capital flows, the question emerges what factors have been driving capital flows into the USA and of the euro area. A number of hypotheses, which have been formulated, do not seem fully convincing on theoretical and empirical grounds. A promising route to explain the USD/EUR exchange rate might be a combination of Balassa-Samuelson effects and portfolio diversification effects, although at times biased market perceptions have probably played a role.<sup>48</sup>

*Higher productivity growth in the USA* – According to this view, the significant gains in productivity growth underpinning the long US expansion have increased the current and expected real rate of return on investment in the USA and attracted savings from the rest of the world. In the long run, a positive technology shock would lead to a higher equilibrium real exchange rate only if it were asymmetric, i.e. it raises productivity in the tradable sector relative to the non-tradable sector (Balassa-Samuelson effect). Over the past decades, productivity increases in the USA have been on averaged biased towards the tradable sector, while in Europe productivity advances have been more evenly distributed across sectors. According to some estimates, the annual increase in the US tradable sector in 1990-99 was 4.6 per cent compared to 1.2 per cent in the non-tradable sector. In the euro area the corresponding figures are 2.9 per cent for the tradable sector and 0.9 per cent for non-tradables.<sup>49</sup>

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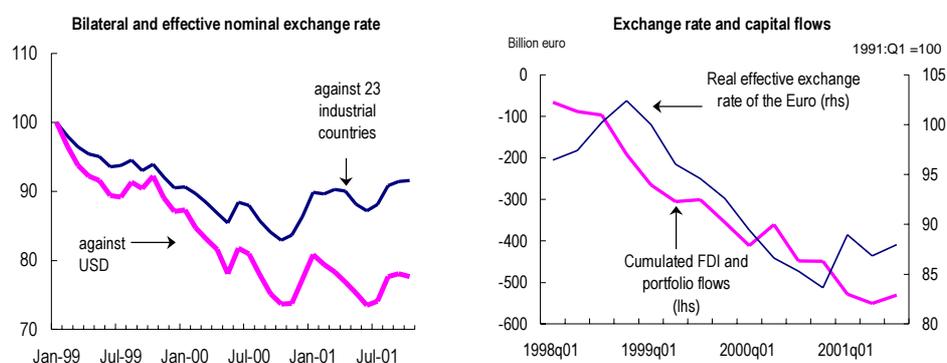
<sup>48</sup> For estimates of equilibrium exchange rates on the basis of the net foreign asset position and the Balassa-Samuelson effect, see Hansen and Roeger (2000).

<sup>49</sup> See Tille et al. (2001).

*Portfolio shift associated with the start of the monetary union* – The introduction of the euro has led to a surge in international borrowing in euro, especially in 1999 (+250 per cent over the combined amount of issuance in the euro legacy currencies). At the same time, the introduction of the euro has led euro-area investors to diversify into other currencies. This increase in the demand for borrowing in euro relative to supply of investors' funds may have depressed the euro.

*Biased market perceptions* – The depreciation that started in January 1999 seemed about to be reversed on several occasions, but eventually all these recoveries aborted, inflicting losses on investors exposed in euro. The repeated failure of the euro to recover may have increased the risk premium attached to investing in euro-denominated assets relative to USD-denominated investments. There is some evidence that news on the USA and the euro-area economy have been treated asymmetrically by foreign exchange market participants. For instance, while relative GDP growth appeared the overriding “fundamental” driving the USD/EUR exchange rate in 1999-2000, the dollar continued to appreciate when expected relative growth moved in the euro-area's favour in early 2001.

Graph 15: Trends in the euro exchange rate



Note: Capital flow data of Q3-2001 is July and August only. Euro area enlargement in 2001.  
Source: Commission services.

## 4.2 PUBLIC FINANCES : USING THE FLEXIBILITY OF THE STABILITY AND GROWTH PACT

### *Slower growth takes its toll on public finances*

While growth in the euro area was widely expected to come down from the 3.4 per cent recorded in 2000, the sharp reduction by  $1\frac{3}{4}$  percentage points to about 1.6 per cent in 2001 is much larger than previously anticipated. A further small decline in the average growth rate is foreseen for 2002 (see Table 6).

After having touched a new low of 0.8 per cent of GDP in 2000, the deficit for the euro area as a whole is expected to widen in both 2001 and 2002. The widening government deficit in 2001 results both from a certain loosening in the fiscal policy stance in 2001, reflecting tax cuts in several Member States, and from the adverse effects of slower growth on budgets through lower tax revenues and additional expenditures.

The negative impact of below-trend growth on public finance positions is expected to be slightly higher in 2002. However, as the cyclically-adjusted balance is expected to stabilise and thanks to

further savings on interest payments, the further widening in the deficit is expected to be of similar magnitude as in 2001 (i.e. 0.3 percentage point).

Table 6: **Budgetary outlook in the euro area**  
(% of GDP)

	1998	1999	2000	2001*	2002*	2003*
Real GDP growth	2.9	2.7	3.4	1.6	1.3	2.9
Actual budget balance excl. UMTS proceeds**	-2.2	-1.3	-0.8	-1.1	-1.4	-1.0
Cyclically-adjusted balance	-2.0	-1.3	-1.3	-1.3	-1.1	-0.9
Cyclically-adjusted primary balance	2.7	3.0	2.8	2.6	2.6	2.7
Gross debt	73.7	72.7	70.2	68.8	68.4	66.7

\* = Autumn 2001 Forecasts for 2001-2003.

\*\* = Including UMTS receipts, the actual balance was +0.3% of GDP in 2000 and -1.1% of GDP in 2001.

Source: Commission services.

Against the background of slower-than-expected growth, a slight majority of the euro-area Member States is expected to miss the budget targets earlier set in their stability and convergence programmes (see Table 7). Likely shortfalls are considerable (more than 0.5 per cent of GDP) in Germany, Greece, France, Ireland and Portugal and, outside the euro area, in Denmark. Luxembourg, the Netherlands and Austria are, however, expected to overachieve their earlier targets.

Table 7: **General government net lending(+)/ borrowing(-) in % of GDP**

	Target* 2001	Forecast** 2001	Difference
B	0.2	-0.2	-0.4
DK	2.8	2.0	-0.8
D	-1.5	-2.5	-1.0
EL	0.5	-0.4	-0.9
E	0.0	0.1	0.1
F	-1.0	-1.6	-0.6
IRL	4.3	2.4	-1.9
I	-0.8	-1.2	-0.4
L	2.6	4.4	1.8
NL	0.7	1.3	0.6
A	-0.8	-0.2	0.6
P	-1.1	-2.0	-0.9
FIN	4.7	4.8	0.1
S	3.5	3.9	0.4
UK	0.6	1.2	0.6
Euro area	-0.6	-1.1	-0.5
EU-15	-0.2	-0.5	-0.3

Source: Commission services.

\* From the stability/convergence programmes.

\*\* Commission autumn 2001 economic forecasts.

Note: B, DK, EL, F, Euro area and EU-15 excl. UMTS.

Considering the steep deceleration in growth, the deterioration in budget balances in 2001 remains relatively limited. Several factors can explain this result. Firstly, although growth decelerated precipitously, it fell from a record high level that was clearly above potential. The drop in growth below potential has led to a reduction in the positive output gap, though by far less than the drop in growth itself. Secondly, compared to earlier expectations at the time of the 2001 spring economic forecast, the deterioration in the cyclically-adjusted primary balance is somewhat less than earlier foreseen. Thirdly, again compared to earlier expectations, government interest payments seem to have come down more quickly.

It is encouraging to note that, by and large, Member States seem to have been able to prevent slippage from the implied path for their structural budget positions. Among the Member States still having a structural deficit, Belgium, Greece, Spain, Italy and Austria are expected to reduce them in 2001.

Developments in Member States' budgetary policies imply a continuation of the overall broadly neutral budgetary stance<sup>50</sup> for the euro area. In view of the still important consolidation needs in public finances, a steady and prudent budgetary policy course committed to sound public finances and budgetary discipline appears appropriate in the present circumstances. It signals a continuing commitment to the stability-oriented framework, thereby facilitating the task of monetary policy in maintaining price stability and contributing to low interest rates.

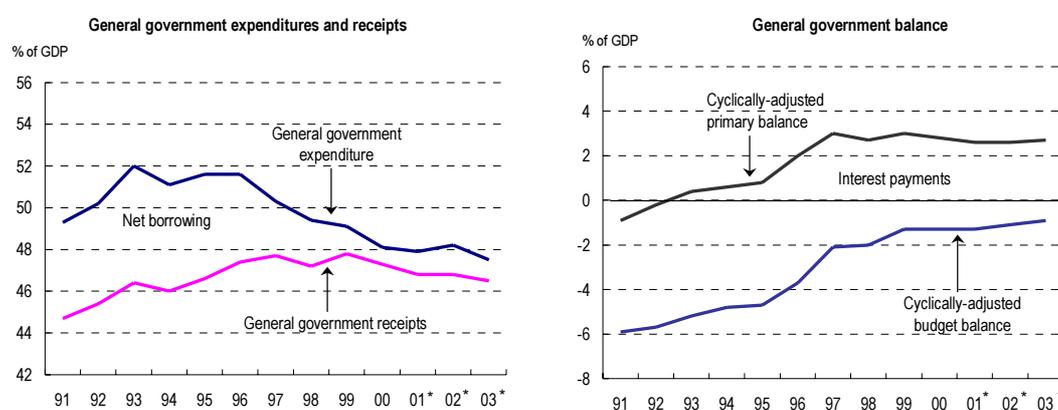
### *Holding on to a medium-term approach to public finances*

Current budgetary developments imply an end to the steady improvement in public finances since 1993. In the years leading up to the qualification for EMU, the improvement in public finances was underpinned by a steady improvement in the cyclically-adjusted primary balance whilst growth was generally weak. Since 1997, the cyclically-adjusted primary balance of the euro area has not improved (see Graph 16).<sup>51</sup>

This is not to say that governments have not pursued further budgetary adjustment efforts. There has been a further steady decline in government expenditure. Besides falling interest payments and lower outlays on unemployment benefits, these are also the result of sometimes-difficult policy measures. It is, however, indicative of a shift in priority from deficit reduction towards tax reduction.

Further reductions in the government deficit for the euro area as a whole thus became totally dependent upon further savings on interest payments and the beneficial impact on budgets of the operation of automatic stabilisers. With growth now falling away as a supportive factor, the lack of improvement in underlying budget positions has been exposed and shows up in the renewed widening in the deficit.

Graph 16: Budgetary outlook in the euro area



Note: Data exclude mobile phone licences (UMTS) proceeds.

Source: Commission services. \*Forecasts.

Developments in the deficit for the euro area as a whole do, however, conceal different developments at Member State level. Some Member States show a steady reduction in their structural deficits. In some other euro-area Member States, among which the biggest ones, the

<sup>50</sup> Measured by the change in the cyclically-adjusted primary balance. A change smaller than +/- 0.5 per cent of GDP is considered as being indicative of a broadly neutral fiscal stance.

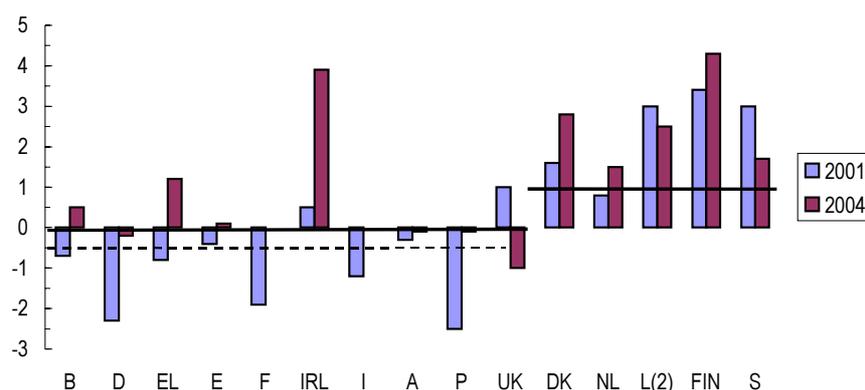
<sup>51</sup> The cyclically-adjusted primary balance improved by 0.3 percentage point of GDP in 1999 but this was progressively lost in the subsequent two years.

process of budget consolidation is, however, very slow. As a result, there are still several Member States that have not yet achieved sufficiently sound budgetary positions to allow for the free play of the automatic stabilisers without risking developing an excessive government deficit. Failure to sufficiently capitalise on good growth in recent years to make more progress towards balanced budgets has left them vulnerable to the consequences of faltering economic growth.

While current budget developments do not jeopardise the medium-term approach to public finances underlying the Stability and Growth Pact, they imply the need for strengthened consolidation efforts for several Member States over the coming years.

Member States agreed<sup>52</sup> that medium-term budgetary positions that respect the close-to-balance-or-in-surplus rule of the Stability and Growth Pact must also take account of unforeseen risks and other sources of variability and uncertainty in budgets and the need to ensure a rapid decline in high debt ratios. On this account, Member States would need to aim for cyclically-adjusted budget positions in balance or in surplus.<sup>53</sup> To achieve those, several Member States would have to undertake further adjustment efforts over the coming years (see Graph 17). The expected return of growth in the course of the 2002 and its further acceleration in 2003 will provide an opportunity to give full priority to deficit reduction and make up for the current shortfalls.

Graph 17: "Close-to-balance" requirement, budgetary positions in 2001 and medium-term budgetary targets set in the last updates of the stability and convergence programmes (SCPs)<sup>(1)</sup>



(1) Budgetary positions for 2001 and SCPs targets for 2004 are presented in cyclically-adjusted terms.

(2) 2003 target.

Source: 2001 - European Commission 2001 autumn forecasts. 2004 - Commission services calculations on the basis of the 2000/2001 updates of the SCPs.

Renewed commitment from Member States' authorities to sound public finances, further improvements in the surveillance of budgetary policies and improvements in budgetary procedures

<sup>52</sup> See the recently agreed revised "Code of conduct on the format and content of the stability and convergence programmes", the main features of which are explained in Box 6.

<sup>53</sup> Indeed, in the context of the 2001 Broad Economic Policy Guidelines, the Council agreed that "all Member States, within compliance with the Stability and Growth Pact, need to ensure that cyclically-adjusted budgetary positions move towards, or remain in, balance or surplus in the coming years" (see Council Recommendation of 15 June 2001 on the Broad Guidelines of the Economic Policies of the Member States and the Community (OJ No L 179 of 2 July 2001).

and institutions will help to support the adjustment efforts that still have to be made. These issues are dealt with in the next section.

### ***Improving the implementation of the Stability and Growth Pact***

The current slowdown and the pressures it entails on budgets have caused considerable tension over the appropriate course of budgetary policy and in particular on the extent to which it should contribute to stabilising output. While fiscal policy is commonly seen as bearing a greater responsibility for cyclical stabilisation in a currency union, its contribution to stabilisation of output should come through the full and symmetric play of the automatic stabilisers over the cycle rather than through discretionary measures (see Box 5). This is the basic philosophy underlying the Stability and Growth Pact.

The Stability and Growth Pact has been instrumental in fostering improvements in public finances in the Member States. Most Member States, admittedly the smaller ones, have already achieved budgetary positions which allow for the full play of the automatic stabilisers without risking to develop deficits in excess of the 3% limit. For those that have not yet made sufficient progress to the medium-term objective, the current experience during the slowdown and the pressures this can create on policies demonstrate the importance of getting to the medium-term objective as quickly as possible and avoiding pro-cyclical policies, especially during the expansionary phase of the cycle.

Recent developments, rather than pointing to shortcomings in the architecture of the Stability and Growth Pact itself, indicate shortcomings in its implementation and in the way in which several Member States are adjusting to it.

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### **Box 5: Stabilisation of output in EMU**

Traditionally, one of the main macroeconomic policy objectives has been to limit the amplitude and duration of fluctuations of output around potential. Within EMU, the single monetary policy - by maintaining price stability - contributes to the stabilisation in economic activity on an area-wide basis. National budgetary policies are, however, in the frontline when it comes to dealing with country-specific shocks to real output.

The current economic slowdown has led to renewed calls for more activist budgetary policies which should help to limit the slowdown and re-invigorate growth. The answer as to how ambitious governments should be in attempting to stabilise economic activity depends crucially on the supposed effectiveness of budgetary policy in influencing income and output and on the possibilities to do so at the right moment.

#### *Effectiveness of budgetary policy in influencing real output ...*

Economic theory does not provide an unambiguous answer. While traditional Keynesian macroeconomic theory suggests that budgetary policies are very effective in influencing real income and output in the economy, other theories, taking account of the way in which individuals form expectations, suggest that budgetary policy is incapable of influencing aggregate demand in the economy. As always, the reality is likely to be somewhere in the middle and mainstream macroeconomic theory suggests that budgetary policy has some influence on the level of aggregate demand in the economy, at least in the short term.

The question on just how effective budgetary policy is in influencing aggregate demand is essentially an empirical one. Most recent studies and simulations with state of the art macroeconomic models conclude that fiscal policy multipliers are generally positive but small. Recent simulations by the Commission services, presented in its latest Public Finance Report<sup>1</sup> suggest that the short-term effect of a 1 per cent of GDP increase in government expenditure on real GDP is in the order of 0.3 to 0.7 percentage point. A 1 per cent of GDP impulse on the revenue side (essentially tax cuts) would only yield an effect of 0 to 0.3 percentage point depending on the country. Overall, it would thus appear that the effectiveness of budgetary policy in influencing real output is limited. Furthermore, the measures that are most “effective” in boosting demand in the short term (e.g. stepping up public employment) are also the ones that are most detrimental to growth in the medium term.

*... at the right moment*

Beyond issues of effectiveness, the scope for successful stabilisation policies depends crucially on the possibilities to influence output at just the right moment. On this account, discretionary fiscal policy actions have generally met with little success. Informational and analytical requirements for active stabilisation policy are enormous and relative to these requirements very little is known. For instance, policy makers would have to know where the economy is relative to the cycle and by what kinds of shocks it is hit (demand and/or supply, temporary or permanent) to devise an optimal policy response. Furthermore, long and uncertain lags, institutional constraints and irreversibility of fiscal decisions combine to make discretionary fiscal policy in practice ill-suited for stabilisation purposes.

Against this background, it is widely recognised that discretionary policies are largely ruled out for stabilisation purposes and that governments should instead rely on the automatic budget stabilisers to do the job. They do not suffer from the drawbacks of discretionary policies. By being automatic, they do not require any decision to be taken and no lags are involved in their implementation. Ideally, and given the lack of suitable alternatives, governments should therefore allow for the full play of the automatic stabilisers so that they can have their maximum effect in cushioning fluctuations in economic activity. In this respect, history is not encouraging. Empirical evidence indicates that, over the last three decades, Member States have tended to behave in a distinctly pro-cyclical way. Failure to let the automatic stabilisers operate freely, especially in good times, has led to an upward ratcheting of underlying deficits and the accumulation of debt. Ultimately, this has led to unsustainable public finances, which eliminated the room for the play of automatic stabilisers on the downside forcing governments to take pro-cyclical corrective action. It is against this background, that the Stability and Growth Pact actively seeks to promote sound public finances precisely so as to reinstate the necessary room for the operation of the automatic stabilisers and to ensure their full and symmetric play over the cycle.

The above discussion shows that the possibilities of governments to limit fluctuations of output around potential by using budgetary policy are rather limited. Furthermore, automatic stabilisers are mainly effective in cushioning the effects on economic activity resulting from temporary domestic demand shocks. Especially in the case of permanent supply shocks, other policies may be called upon to facilitate the move towards a new equilibrium situation.

*Strengthening the resilience of economies in the face of shocks to output*

This points to another way in which governments can help to diminish the impact of shocks on the economy and the concomitant fluctuations in output around potential. By making sure that necessary adjustments occur as quickly as possible, the lasting effects on output of shocks may be minimised. In this respect, governments can play a useful role in fostering structural reform that enhances the flexibility of product, labour and capital markets. While this requires sustained, rather than punctual, policy action, it is likely to be more productive in the long run in terms of stabilising the economy than budgetary policy responses.

<sup>1</sup> For a fuller discussion, the reader is referred to Part III of the report "Public Finances in EMU – 2001" (published in European Economy No 3 of 2001).

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*A sharper focus on structural developments in public finance would be in line with the spirit of the Pact ...*

A sharper focus on structural developments in public finances may be helpful in maintaining budgetary discipline during good times and in increasing the transparency in Member States budgetary policies. It should be clear from the outset, however, that a greater focus on structural budget positions does not in any way detract from the importance of respecting the 3% excessive deficit limit.

While the underlying logic of the Stability and Growth Pact would suggest assessing public finance developments in cyclically-adjusted terms, it has in practice been difficult to do so. Member States

have continued to present the budgetary adjustment paths in their stability and convergence programmes in nominal rather than in cyclically-adjusted terms. Nominal targets fit rather better with existing budgetary practices in Member States. Even if nominal targets can be understood as being conditional on growth projections, it has not always been clear how they should be adjusted for - inevitable - deviations of growth from those projections. Furthermore, most Member States have little experience with cyclical adjustment methods and it has proven difficult to foster a broad consensus on a common methodology.

The focus on nominal balances has been convenient for Member States during the last couple of years, marked by relatively strong growth and declining interest payments on government debt. It made it possible to increase certain types of expenditure, to cut taxes and yet show a continued improvement in government budget balances. Such policies imply, however, that contrary to the fiscal policy philosophy underlying the Stability and Growth Pact, the beneficial impact on budget positions of the operation of the automatic stabilisers on the upside has been partially nullified.

In the context of the current growth slowdown there has been, however, an increasing recognition of the merits of correcting nominal budgets for the impact of the cycle and there are some positive developments in this regard. In a first step, Member States agreed in the context of the 2001 Broad Economic Policy Guidelines that, over the coming years, budgetary positions should move towards balance or surplus in cyclically-adjusted terms. A further step was taken in July 2001, when the Ecofin Council agreed a new code of conduct for the preparation of stability and convergence programmes in which the importance of taking explicit account of the cyclical position and its effect on the budget was underlined (see Box 6). Beyond that, the revised code of conduct offers some hope for more transparency and higher-quality updates of stability and convergence programmes, which could be instrumental in organising stronger and more effective surveillance and peer pressure.

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#### **Box 6: The revised code of conduct on the format and content of the stability and convergence programmes**

On 10 July 2001, the Ecofin Council endorsed a revised code of conduct on the content and format of stability and convergence programmes, which replaces the former one of 12 October 1998. This revised code of conduct builds upon the former, while taking account of the experience gathered during the first three years of the implementation of the Stability and Growth Pact with the stability and convergence programmes.

To allow for a better assessment and comparability of the programmes, the new code of conduct asks Member States to:

- submit their programme updates each year between 15 October and 15 December so as to allow for a more clustered examination;
- provide quantitative information on macroeconomic and budgetary developments in the form of standardised tables;
- use common basic assumptions on the main extra-EU variables or, for comparability reasons, present sensitivity analysis based on the common assumptions for these variables where these differences are significant; and
- include projections on the impact of longer-term demographic developments (ageing) on the sustainability of public finances.

These procedural improvements should allow for a better assessment of Member States' budgetary policies and of the resulting budgetary policy stance of the euro area, and thereby facilitate the co-ordination of budgetary policies. However, strengthened and more effective surveillance and peer pressure require also a deeper and shared understanding of some of the basic concepts involved. In this context, it is worth underlining that the new code:

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- recognises more clearly the importance of taking explicit account of the impact of the changes in economic activity in assessing budgetary developments; and
  - is more specific on the budgetary objectives; it distinguishes more clearly between the Stability and Growth Pact's obligation to achieve medium-budgetary positions that respect the close-to-balance-or-in-surplus rule and the need for appropriate medium-term budgetary targets; the latter would be consistent with the recommendations given in the Broad Economic Policy Guidelines and allow to deal with the impact of ageing populations or providing room for discretionary budgetary policy action (e.g. tax cuts).
- 

However, a greater focus on structural budget developments is hard to organise without a better and wider shared understanding of the impact of cyclical developments on budgets. The Ecofin Council took a welcome third step when it endorsed on 6 November 2001 a new method for assessing the impact of the cycle on public finances. The Commission, in co-operation with Member States, has over the last few years developed this method within a working group of the Economic Policy Committee. It amounts to a shift in the way trend output, and therewith output gaps, are calculated. While thus far the Commission has relied upon a statistical extraction method using the Hodrick-Prescott filter (HP filter) to determine trend output, in the new method this will be done through a production function approach. It will allow better identifying the driving forces behind the results and thus improving the economic analysis. The method will be further developed during the next months in order to be fully ready for application in time for the 2002-03 round of stability and convergence programmes.

These developments will hopefully induce Member States to place more emphasis on such concepts in budgetary policy formation at national level and in their stability and convergence programmes as this would also facilitate discussions at European level.

*... and could be supported at Member State level by rules on government spending*

The introduction of rules on the growth of expenditure may also help in arriving at budgetary policies that fit better with the requirements and the underlying budgetary policy philosophy of the Stability and Growth Pact. As by far the biggest part of the effect of the automatic stabilisers occurs on the revenue side, the adherence to pluri-annual rules for the growth in real spending whilst letting revenues fluctuate with economic activity comes close to targeting a structural budget balance.

Spending rules, as policy instruments aimed at better controlling the medium-term path of expenditure, can help to foster budgetary discipline. They are used by several Member States (see Table 8). Stronger budgetary discipline would appear to be particularly important when growth is buoyant and government revenues increase as a result of the operation of automatic stabilisers. Whilst the logic of the Stability and Growth Pact would imply that the resulting proceeds accrue fully to the budget, there is in practice a strong tendency to use the extra revenue to finance additional spending or tax cuts. Explicit spending rules would provide for an institutional solution to the inherent fiscal bias on the spending side. Credible and well-designed spending rules would thus seem largely consistent with the rationale of the EU fiscal framework which emphasises the role of budgetary discipline and the role of national automatic stabilisers in smoothing the business cycle. Furthermore, they would make it less important to worry about nominal changes in the budget balance, as the medium-term commitment is better anchored.

Table 8: **General government medium-term budgeting frameworks used in Member States** <sup>(1)(2)</sup>

	<b>Multi-annual spending targets/ guidelines/ objectives</b>	<b>Additional budget rules and targets</b>
<b>B</b>	Annual CG+SS exp. Growth 1.5% in real terms over medium term.	Primary balance objective.
<b>DK</b>	Annual GG consumption growth of 1% in real terms over medium term.	Average GG budget surplus of 2-3% of GDP. Reduce debt levels.
<b>D</b>	Annual GG 2% exp.growth in real terms.	Golden rule for federal government.
<b>F</b>	GG exp. 4.5% real growth target over 3 years (2002-2004). Growth target set to be below potential growth of economy.	
<b>NL</b>	CG+SS to grow 9% in real terms over 1999-2002.	Rules on how to deal with growth dividends on the revenue side.
<b>FIN</b>	CG expenditures constant at 1999 real level over 2001-2004 period.	CG budget in surplus in structural and ESA terms.
<b>P</b>	4% nominal growth of current primary expenditure.	
<b>S</b>	CG exp. growth not higher than projected nominal GDP.	GG 2% surplus over the cycle.
<b>UK</b>	-	-Golden rule for public sector. -Sustainable investment rule (40% net debt).

<sup>(1)</sup> GG: general government, CG: central government and SS: social security

<sup>(2)</sup> Member States not mentioned in the Table do not yet apply a medium term budgeting mechanism domestically.

**Source:** 2000/2001 updated stability and convergence programmes and Commission services.

However, while spending targets can help in fostering budget discipline and a correct implementation of the Stability and Growth Pact, they cannot substitute for abiding by the Treaty requirement to avoid excessive government deficits or the Stability and Growth Pact's requirement to reach a medium-term budgetary position of close-to-balance or in surplus. Put more concretely, when Member States have not sufficient leeway relative to the 3 per cent excessive deficit limit, adherence to an expenditure rule may not be sufficient and revenue developments cannot be disregarded. Furthermore, compatibility with the Stability and Growth Pact implies that spending rules are consistent with continued fiscal consolidation until the transition to a cyclically-adjusted budget in balance or surplus has been completed.

## 5. POLICY ADJUSTMENT IN THE EURO-AREA COUNTRIES: THE RISK OF OVERHEATING

In the 2001 Broad Economic Policy Guidelines (BEPGs), excessive demand, endogenous price pressures and risks of overheating were identified in most of the small euro-area economies. In particular Greece, Spain, Ireland, Luxembourg, the Netherlands, Portugal and Finland seemingly suffered from excessive demand pressures. Their cyclical positions were well ahead of the euro-area average. Although the current global economic slowdown slashes the risks of overheating, some important policy questions remain.<sup>54</sup> Moreover the current externally-induced slowdown of these economies will show whether the risks that are attributed to overheating will materialise, or whether economic adjustment to sustainable output growth levels will come about smoothly.

For individual Member States, the creation of a single currency area implies the loss of monetary adjustment mechanisms in response to economic shocks. Nominal interest and exchange rates can no longer assist cyclical and structural adjustment as the equilibrium state of the economy is altered. Adjustment to an equilibrium state now has to occur through other price variables, such as - the more inert - goods prices and wages and through real adjustment in the economy.

This section reassesses the importance of the loss of the monetary policy instruments, based on theoretical considerations and the experiences in the first years of the monetary union. It briefly presents the main economic divergences between the Member States that occurred prior to the present economic slowdown. The difficulties in determining the degree of overheating, its causes and the attendant risks are discussed more in depth, as it elaborates on the 'natural' economic mechanisms that tend to stabilise and destabilise the national economies. It then focuses on the possibilities for national and common policies to limit the risks of overheating.

### 5.1 MACROECONOMIC ADJUSTMENT AND RISKS OF OVERHEATING

#### *Diverging economic performance in the euro area*

In recent years, a number of euro-area economies have consistently experienced real output growth exceeding the euro-area average, sometimes by a wide margin. Differences in economic growth between the Member States are to a large extent due to dissimilar supply conditions.<sup>55</sup> As such, these growth disparities represent broadly sustainable differences and do not hamper the well-functioning of the monetary union. Differences in economic growth can become a matter of concern, however, if growth in a Member State substantially deviates from its potential growth. If growth in a Member State is persistently above its potential for a number of years, a significant positive output gap arises, leading to increasing stress in the economy. For example, a stretched labour market can induce nominal wage increases exceeding a rate that is consistent with price stability and the rate of productivity growth. Similarly, imbalances on other markets may trigger price pressures.

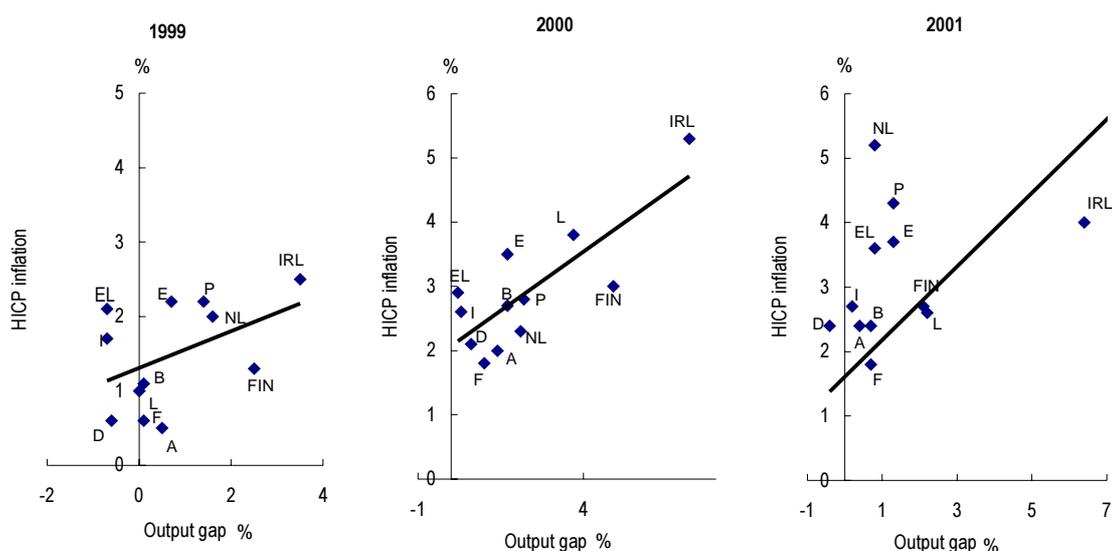
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<sup>54</sup> At the time the 2001 BEPGs were published, the extent of the global economic slowdown and its asymmetric effect on the euro-area economies were not yet apparent. As the small open economies are relatively more influenced by the externally-induced slowdown, and most notably the sharp reduction in world trade growth, the risks of overheating have been strongly reduced in the course of 2001.

<sup>55</sup> Labour supply growth can differ, for example due to the effects of ageing, immigration or improved labour market functioning. Labour productivity growth in a Member State can deviate substantially from the euro-area average due to catching-up effects, structural reforms, more flexible labour and product market and better developed financial markets.

If the output gap is in line with the euro-area output gap, exchange and interest rate adjustment for the euro area as a whole will contribute to stabilisation. Moreover, the resulting wage and price developments do not necessarily alter relative competitiveness within EMU, as these may be broadly symmetric. In the event of country-specific circumstances, though, the nominal interest rate and exchange rate can no longer provide for cyclical and structural adjustment. Therefore, price pressures will arise, changing the real exchange rate and, as a consequence, relative competitiveness. The next sub-section will argue that such a deterioration of relative competitiveness within EMU is not *per se* undesirable, as relative prices and wages are an essential economic adjustment mechanism in the monetary union.

Graph 18: Output gap and inflation in the euro area economies



Source: Commission services.

### *Macroeconomic adjustment in theory*<sup>56</sup>

When output in a Member State exceeds its equilibrium value in a monetary union, there are - in theory - two macroeconomic ways in which the country can adjust. Firstly, by letting wage and price inflation increase above the euro-area average, leading to an appreciation of the real exchange rate and a decrease in foreign demand. This is a passive, market-based, adjustment policy. Secondly, by using active fiscal policy to decrease domestic demand instead. Which policy is most appropriate depends on the specific circumstances, notably on the nature of the high level of demand, domestic or external.

This simple theoretical picture of overheating yields an important insight. Domestic inflation may well be a desirable part of an adjustment process in a monetary union. If external demand is the main source of overheating, inflation is the natural instrument to return to equilibrium. If overheating is caused by excessive domestic demand, (fiscal) policy action might be required. Thus, the choice between the - active - domestic policy and the - passive - external policy, only seems to depend on the identification of the source of the excessive demand.

<sup>56</sup> On the basis of a simple neo-Keynesian model, Alesina et al. (2001) present the different policy options very clearly. This analysis provides a useful starting point for a more elaborate assessment of policy options.

The insight that inflation due to overheating is not necessarily damaging is important, but - in reality - determining the required policy action is not as simple as in theory. Determining whether output is above potential, whether price and wage inflation actually deteriorate relative competitiveness, or are countered by productivity rises in the “tradable sectors” (Balassa-Samuelson effect<sup>57</sup>) and whether the real exchange rate is at or close to equilibrium, is not a clear-cut exercise. Even assuming that the extent of (the risk of) overheating can be determined, translating the theoretical analysis to the actual economic environment is very difficult. Distinguishing between domestic and external sources of overheating is troublesome.

### ***Risks and costs related to overheating***

The main risks related to overheating stem from inefficient price developments leading to sub-optimal intertemporal and interregional allocation and the resulting build up of macroeconomic and financial imbalances.

*Loss of competitiveness* - overshooting the real exchange rate is the most apparent potential cost of overheating. The demand pressures reduce unemployment below the NAIRU, thereby triggering wage increases and inflation. As cyclical conditions might be more pronounced and longer lasting due to destabilising feedbacks in a monetary union (e.g. pro-cyclical monetary conditions) and inflation is inert, overshooting of equilibrium price levels is a risk.

Consequently, if price levels diverge from equilibrium due to overheating, changes in relative competitiveness can hamper economic growth in the euro area. The accompanying developments in real interest rates due to the persistent inflationary differences can influence resource allocation adversely as well, both in the overheating phase and during the downturn. Most of the burden will be on the overheating country itself, but dependent on its size, it can influence aggregate price developments in the euro area and thereby the common monetary policy. However, it is important to stress that inflation *differentials*, as such, do not affect the monetary policy stance of the ECB.

The stickiness of prices and inertia of inflation, due to market rigidities, imply high potential costs of price level overshooting. The Member State suffering from overheating is vulnerable to a protracted period of sluggish economic performance, mainly as a result of poor allocation due to the price disturbances and slow adjustment of relative prices and wages back to equilibrium.<sup>58</sup> Downward adjustment of relative prices vis-à-vis euro-area competitors after overshooting of

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<sup>57</sup> In an open economy with both tradable and non-tradable goods, a difference in the rate of productivity growth between sectors can induce inflation without influencing the relative price competitiveness of the Member State if nominal wages develop in parallel in both sectors. This is the so-called Balassa-Samuelson effect. The higher productivity growth in the tradable sector induces steady real wage rises in terms of tradables. The increase in the real wage and the lower productivity growth in the non-tradable sector combine to imply an increase in the relative price of non-tradables, raising the overall price index. The Balassa-Samuelson effect can be expected to be the strongest in less-advanced small economies, as the scope for technological catch-up is relatively large, and the influence of productivity advances on the world prices for tradables is negligible. Estimates of the Balassa Samuelson effect in the euro area vary between countries. While De Grauwe and Skudelny (2001) estimate the contribution of the Balassa-Samuelson effects on inflation differentials not to have exceeded 1 percentage point, Sinn and Reutter (2001) find significantly stronger effects of up to nearly 3 percentage points.

<sup>58</sup> Alberola and Marqués (1999), Obstfeld (1998) and Cecchetti et al. (2000) find that deviations of relative prices from equilibrium can be very persistent in a monetary union. Alberola and Marqués analyse regional inflation differentials using data for 50 Spanish provinces, while Obstfeld looks at the individual euro-area Member States as being currency unions to assess the price adjustment capacity and transposes that to EMU. Obstfeld finds that within EMU-Member States, regional real price changes have been relatively small compared to the USA. He finds that this does not reflect efficient operation of natural currency area's, but price rigidities in labour and product markets that impede adjustment. Cecchetti uses a panel of 19 US cities and finds that significant inflation differentials can exist for a long period, with average yearly inflation differences between US cities over a 10 year interval of between 1 and 1.5 per cent. He estimates the half-life of price adjustment at nearly 9 years, what he considers to be a lower bound for the euro area.

equilibrium relative price levels is further hampered by the rather low level of average inflation in the euro area. This leaves only limited leeway for a quick adjustment without deflation setting in.

*Increased financial sector vulnerability* represents another risk of overheating. Financial crises are generally associated with overheating, boom-and-bust cycles and limited -or absent- monetary or exchange rate adjustment in response to the cyclical pressures. The lack of financial adjustment mechanisms and tailored monetary policy in individual euro-area Member States increases the risk of pronounced financial cycles. Both the role of financial cycles in the building up of overheating pressures and the potentially high costs in the downturn require the focus of attention in overheating economies.

The occurrence of banking and financial sector crises in the aftermath of overheating is related to the interactions between developments in the financial sector and the real economy. Financial cycles can contribute to the amplification of traditional macroeconomic cycles and in the past have often ended in costly banking crisis, affecting both industrialised and emerging markets.<sup>59</sup> Most recent financial and banking crises were preceded by clear overheating and loose credit conditions. At the root of these financial cycles typically lies a wave of optimism, generated by favourable developments in the real economy. This optimism contributes to the underestimation of risk, over-extension of credit, excessive increases in asset prices (including property prices), over-investment in physical capital and overly buoyant consumer expenditures. Eventually, when more realistic expectations emerge, often initiated by an external shock, the imbalances built up in the boom need to be unwound, sometimes causing significant disruption to both the financial system and the real economy.<sup>60</sup>

In general, cycles in credit and asset prices are mutually reinforcing. Rising asset prices can stimulate economic activity and, by raising the value of collateral, reduce the cost of borrowing and increase the availability of finance for both firms and households. Faster growth and additional borrowing can then feed back into higher asset prices. These mutually reinforcing cycles exacerbate the effects of the low cost of credit due to the low real interest rate. This interaction between credit and asset markets can be even more powerful when asset prices are falling and economic conditions are deteriorating.<sup>61</sup>

The financial and banking system often seems extremely healthy in periods of buoyant economic growth and rapidly rising asset prices, as the measures of solvency and liquidity tend to be highly pro-cyclical. This pro-cyclicality of capital requirements is challenging for all economies but more so for small Member States in a monetary union that risk overheating, due to the lack of interest and exchange rate equilibration.

Limited cross-border financial integration in EMU and significant home-market dependence of financial institutions imply still important financial sector exposure to country-specific macroeconomic developments and overheating. The extent of the interactions and mutual reinforcement of financial and macroeconomic cycles depends largely on the degree of home-market dependence of the financial sector. The deepness of financial markets and their size, relative

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<sup>59</sup> See BIS (2001).

<sup>60</sup> The experiences in the Japanese economy provide further examples of possible strong interactions between credit markets, asset markets and real economic development in an advanced economy.

<sup>61</sup> See BIS (2001). In particular, falling prices reduce the value of existing collateral held by financial institutions, and can thus lead to substantial losses by these institutions. This, in turn can lead to the need for strengthening BIS solvability rates and “forced” sale of assets, further depressing the value of collateral. Ultimately, it may result in a significant contraction in the supply of credit. However, not only the supply of credit is affected when imbalances in the economy are unwound. The falling asset prices and deteriorating economic conditions also increase the severity of the recession through credit demand, as it aggravates the financial position of households and firms.

to the real economy, are other factors that determine the importance of their influence on real economic developments.

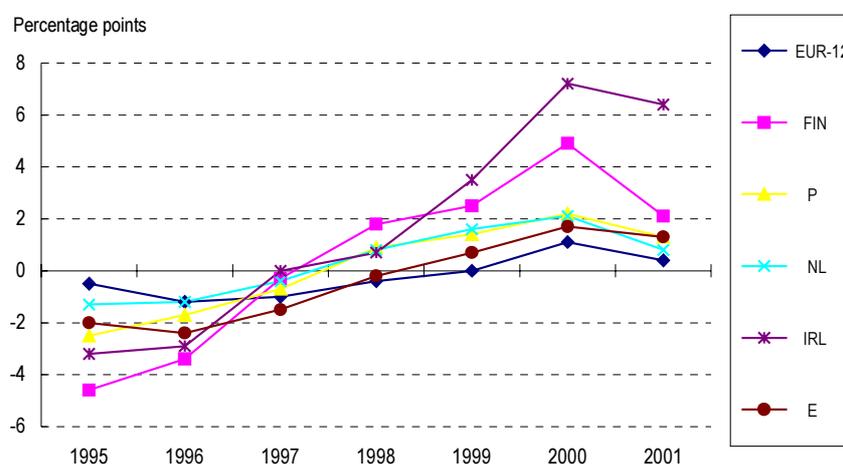
## 5.2 IDENTIFYING OVERHEATING PRESSURES IN PRACTICE

To determine whether and what kind of economic policy is appropriate, the extent to which an economy is facing excessive demand pressures and risks overheating needs to be assessed. Moreover, a distinction needs to be made between real exchange rate adjustment to equilibrium, which is essential in EMU, and harmful overheating that leads to financial and macroeconomic imbalances. Furthermore, an analysis of the causes and dynamics of overheating can shed more light on the required policy adjustment. Therefore, the traditional indicators of overheating are briefly assessed below for the countries in which excessive demand pressures have been identified. The external balance is analysed to attempt to make the crucial distinction between externally- and domestically-induced demand pressures. To have a firm foundation for policy options, the origins and causes of overheating and its dynamics are examined more thoroughly.

### *Traditional indicators of overheating*

A first glance at developments in the countries in which risks of overheating have been identified, shows that the macroeconomic developments have varied significantly from country to country. Basic indicators of actual overheating pressures, such as the output gap, inflation, wage developments, asset price inflation, unemployment, capacity utilisation and the current account balances, reveal that there are significant differences between the cyclically advanced economies (see Table 9).

Graph 19: Output gap development



Source: Commission services.

Some have experienced inflationary pressures, while prices were relatively stable in others. In some, asset (house) prices have risen sharply, but in others, asset prices have grown only modestly. The rise in property prices (notably commercial property) and the credit-to-GDP ratio can reveal risks to the financial sector. In the second half of the 1990s, credit growth has grown particularly rapidly in the countries that have also recorded unusual property price inflation, signalling risks of domestic overheating. Again, this cannot be considered conclusive evidence of overheating, as an

acceleration of credit growth can be expected in fast growing countries and structural factors might explain rapidly increasing property prices.<sup>62</sup>

Table 9: **Qualitative overview of overheating indicators**

	Spain	Ireland	Netherlands	Portugal	Finland
Consumer price inflation	+	++	++	++	0
Wage inflation	+	++	+	+	+
Property price inflation	++	++	++	+	+
Domestic credit growth	+	++	++	++	0
Labour market constraints	0	++	++	+	+
Capacity utilisation	+	++	+	+	+
Current account balance	+	0	--	++	--

*Source:* BIS and Commission Services.

Note: Of the aforementioned cyclically-advanced economies, Greece and Luxembourg are not analysed here. The indicators are based on the 2001 country-specific BEPGs, Commission 2001 Spring Forecasts (for 2001) and BIS data. The judgement on consumer price inflation, wage inflation and property price inflation is based on a comparison with the euro-area average. Labour market constraints are characterised as unemployment-below-NAIRU estimates. Capacity utilisation is compared to historical highs. The current account is assessed on the basis of deviation from balance.

Because of this heterogeneity, general conclusions are hard to draw. Furthermore, the assessment of cyclical tensions is subject to significant uncertainties and difficulties. Measures of macroeconomic capacity (e.g. NAIRU, potential growth) are notoriously subject to uncertainty, and other indicators (e.g. asset prices, credit growth, wage and price inflation, and current account balances) lend themselves to ambiguous interpretation. Moreover, the macroeconomic dynamics of overheating economies are complex, as they are subject to various stabilising and destabilising forces.

### ***Assessing external balances***

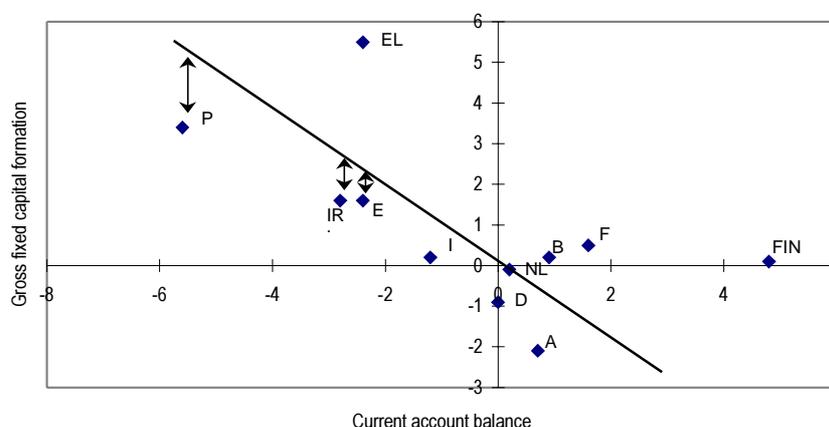
The external balance is the most obvious indicator to determine whether excessive demand is primarily externally or domestically caused. At first glance, a noteworthy surplus or deficit on the current account seems a good indicator to determine whether domestic (i.e. policy) or external (i.e. real exchange rate) macroeconomic adjustment is needed. There are however a number of reasons why a current account deficit can be in line with the economic fundamentals, especially in fast growing countries. Savings and investment might develop very differently due - for example - to a relatively slow ageing time path or higher profitability attracting investment. Thus, the welfare- or growth-optimal current account path may deviate considerably from balance. Inflation can therefore be the appropriate adjustment mechanism, even though it leads to a current account deficit at equilibrium output. Determining the appropriate dynamic external balance requires complex modelling. Even such complex models can only present indicative results.

Observing and analysing *changes* in the current account balances over time is an alternative or complement to assessing levels (see Graph 20). If a deterioration in the current account is in line with fundamentals, higher (or increased) profitability prospects in a Member State vis-à-vis others can be expected to induce additional capital formation. As long as the deterioration in the current account is matched by increasing investment, the deterioration may be mainly due to a competitive advantage. Countries that are in the upper-left quadrant of the graph and below the line (i.e. Portugal, Ireland, Spain) show some signs of domestically-induced overheating, according to this

<sup>62</sup> In Ireland, significant immigration flows have supported labour supply and subdued labour market pressures as the economy was booming. Due to the inelasticity of housing supply, this might have added to price pressures in the property market.

indicator. In these countries, the deterioration in the current account is not matched by an increase in investment.

Graph 20: **Changes in investment versus changes in current account**



**Source:** Commission services.

Note: The graph shows the change in the current account balances of the member states between, 1995 and 2000, versus the change in gross fixed capital formation. Symmetrical euro area wide cyclical effect have been filtered out in the graph by adjusting for the euro zone average.

Unfortunately, like most indicators of overheating, this indicator is subject to ambiguous interpretation. For instance, the *level* (this is not shown in the graph) of the Irish current account, does not seem to call for domestic policy action, as it is still balanced. The balanced current account might indicate that there is still scope for further appreciation of the real exchange rate, before it reaches some equilibrium level. Due to the advanced cyclical state and high level of potential growth, one might expect that a dynamic external equilibrium would imply a significant current account deficit. Portugal, and to a lesser extent Spain, do have both negative and deteriorating current account positions, possibly indicating a need for domestic policy action to reduce the risk of overheating. In Portugal both the level of the deficit (about 10 per cent GDP) and the extent to which the deterioration is not matched by an increase in investment is alarming. The development of the current account balances shows no signs of stress for the other countries in an advanced cyclical position (i.e. Netherlands, Finland).

Although an assessment of the risk of overheating by analysing changes in the current account relative to investment can give additional insights, the results have to be regarded with caution. Taking account of the life-cycle hypothesis of consumption, a deterioration in the current account due to increased consumption can be welfare optimal and does not need to trigger policy action. The increased consumption demand can be based on expected higher income in the future due to increases in investment or rapid technological advances, notably catching-up effects. On the other hand, even if the deterioration in the current account is matched by increasing investment, it does not necessarily indicate that no policy action is necessary. If agents - in particular companies, investors and creditors - are to some extent myopic, the increases in investment might reflect misallocation and over-investment, eventually resulting in a bust. During such a period of over-investment and misallocation, inflation can be subdued due to productivity advances as a result of an increase in the capital-intensity above equilibrium.

Due to these ambiguous interpretations of current account developments, overheating signals need to be combined with other indicators to determine which policy strategy might be appropriate. Moreover, determining whether overheating stems from external or domestic demand is not sufficient to understand the causes of excessive demand. Excessive external demand can originate

from domestic policy action. For example, lowering taxes can reduce unit costs and improve competitiveness, leading to increasing net exports. Similarly, excessive domestic demand can originate from external developments that have initiated internal dynamics (e.g. a financial cycle).

### *Causal indicators and overheating dynamics*

Most existing analyses fall short of determining the causes of overheating. Finding the origins of overheating pressures, might contribute to determining which form of adjustment is necessary; a passive market based approach or active policy intervention. What might cause significant imbalances in competitiveness in the euro area, requiring external demand adjustment by inflation? And what causes excessive domestic demand and financial cycles?

### *Improved competitiveness and external demand*

When the external demand pressures arise from relatively low unit production costs of tradable goods relative to trading partners, external adjustment through the real exchange rate may be required. Lower unit production costs of tradable goods can be attributed to faster productivity growth (Balassa-Samuelson), nominal and real effective exchange rate effects (such as a low entry rate), and enhanced competitiveness due to tax cuts or wage moderation. The competitiveness vis-à-vis other euro-area Member States, results in upward demand pressures. If improved competitiveness leads to an under-valuation of the real exchange rate, output can increase above potential, implying labour market tightness, resulting in wage and price pressures, and an equilibrating (regarding competitiveness) increase in inflation. The size of the impact of the real exchange rate on demand is related to the openness of the economy. The effect of improved competitiveness on the current account is ambiguous, as investment opportunities within the country increase, while exports strengthen.<sup>63</sup>

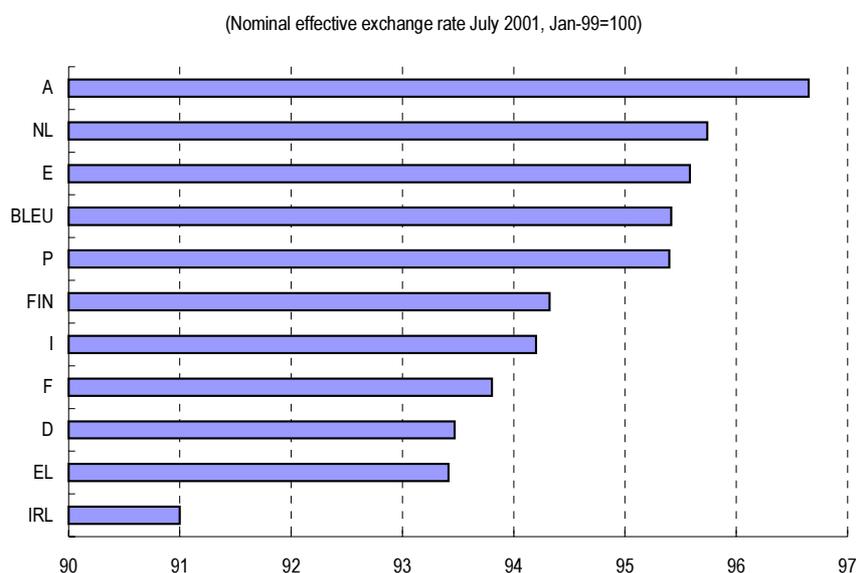
The real exchange rate at which countries entered the third phase of EMU might not have fully reflected the competitive position of some Member States. Estimates of equilibrium real exchange rates are subject to great uncertainty; confidence intervals are usually very wide. Estimates of the deviation of the observed real effective exchange rate from equilibrium at the start of Stage 3 on 1<sup>st</sup> January 1999 show large differences between the economies that have been identified as cyclically advanced in late 2000. The Finnish real exchange rate was estimated to be the most undervalued, while the Portuguese was the most overvalued of all euro-area countries. The real exchange rates of Spain, Ireland and the Netherlands were slightly, but not significantly, undervalued vis-à-vis euro-area competitors.<sup>64</sup> Thus, among the five analysed cyclically-advanced economies, only the Portuguese real exchange rate was overvalued at the start of Stage 3. However, conclusions can hardly be drawn considering the limited extent of under-valuation in most cases.

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<sup>63</sup> If some large country characteristics were to be assumed for the tradable sector, a terms of trade effect stemming from the improved relative competitiveness could be another depressing factor for the current account.

<sup>64</sup> See Hansen and Röger (2000) for estimates of the observed and equilibrium real exchange rates of EU Member States, the USA, Japan and Canada, between 1980 and 2000.

Graph 21: **Development of nominal effective exchange rates since the introduction of the euro**



Note: The nominal effective exchange rates are shown to illustrate the scope for price and wage inflation that leave the real exchange rate at the 1999 level. The different developments of the nominal effective exchange rate are due to the differences in the share of exports to non-euro area countries (mainly US and UK). The influence on aggregate demand depends mostly on the openness of the economy.

Source: Commission services.

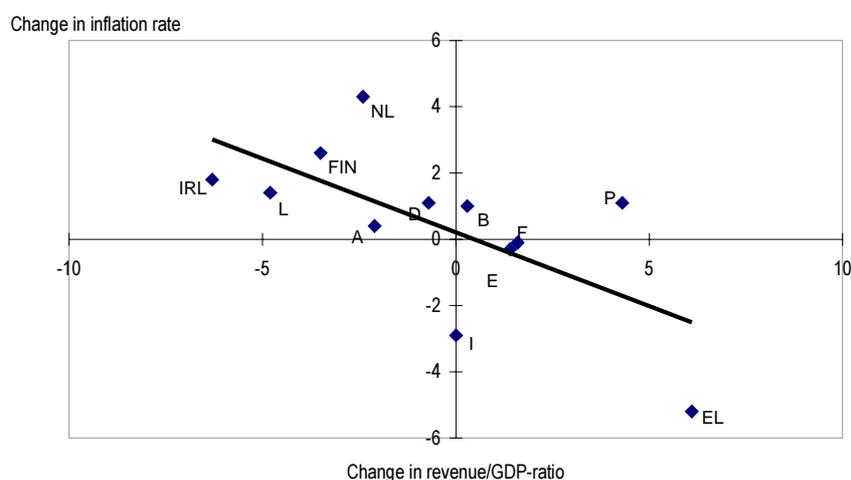
Related to this explanation of relative competitiveness differences, the continuing ascent of the pound and the US dollar versus the euro after the introduction of the euro changed the *nominal* effective exchange rates of the euro-area Member States and thereby their equilibrium real exchange rate to the euro. Graph 21 clearly shows how the exchange rate development of the euro has resulted in diverging paths for the nominal effective exchange rates of the Member States. In Ireland the euro depreciation has contributed to a greater extent to increased competitiveness than in other economies, as the nominal effective exchange rate has depreciated 3 to 4 per cent more than the euro-area average. Following the basic theoretical reasoning, an increase in inflation (and thus a real appreciation), would counter the nominal effective depreciation and thus be the appropriate response to the increase in foreign demand in the case of Ireland. To leave the real effective exchange rates unaffected by the nominal effective euro depreciation, prices (or wages) in Ireland should have increased 3 to 4 percentage points more than the euro-area average, regardless of other factors that might have justified higher Irish inflation (e.g. Balassa-Samuelson, low entry rate into EMU, enhanced competitiveness due to tax cuts or wage moderation).

However, if adjustment to the excessive external demand caused by the nominal effective depreciation were to take place through a strong increase in wage and price inflation (i.e. a real exchange rate appreciation), it would leave Ireland vulnerable to a sharp euro appreciation. The extent to which the exchange rate movements are cyclical and can be reversed in the short term is uncertain. Rather surprisingly, the nominal effective exchange rate effect has not played a role in the other countries that seem to suffer from overheating. Their nominal effective exchange rates have not depreciated more than the average of euro-area countries. It might indicate that these countries require a larger domestic demand adjustment, unless other factors have influenced their equilibrium real exchange rate.

Competitiveness, and thus external demand, can be further shaped by tax and wage developments. Both changes in corporate and labour taxes lower unit costs and thus improve competitiveness,

inducing pressures for a real appreciation to restore relative price competitiveness. Graph 22 shows a clear correlation between changes in taxation (revenue-to-GDP ratio) and relative price developments.<sup>65</sup>

Graph 22: Inflation versus revenue developments 1995-2000



Source: Commission services. Own calculations.

Real wage developments are reflected in real exchange rate developments. The wage moderation in both the Netherlands (since the early 1980s) and Ireland has contributed to a depreciation of the real exchange rate. The upward pressure on wages in recent years due to the tightening labour market contributes to an equilibrium adjustment. Lowering labour tax rates in exchange for continued wage moderation by trade unions is not likely to be sustainable in a stretched labour market. A reduction in labour tax rates may increase labour supply to some extent, but the continued wage moderation also improves competitiveness and further stimulates labour demand. Eventually wages will adjust to ensure a return to equilibrium on the labour market.

### *The policy mix and domestic demand*

It is not easy to distinguish between domestic and external causes of excessive demand, as the effects may be similar and mutually reinforcing. The above-mentioned causes of improved relative competitiveness can also directly contribute to increasing domestic demand. Increasing profitability induces additional investment. Obviously, domestic demand can also be affected through the secondary effects of increased foreign demand, such as employment growth, real wage rises, and growth expectations. Other sources of domestic overheating are more clearly attributable to the domestic side, such as loose monetary conditions or fiscal policy.

Monetary conditions in a single Member State can be inappropriate considering the cyclical conditions, as the single euro-area interest rate may not be in line with the individual needs. This effect can be further analysed using Taylor-rate estimates of the appropriate interest rates in the different individual Member States. Taylor-rate estimates, presented in Table 10, show that

<sup>65</sup> Note that a causal relationship in this graph can go either way. The first possibility has been explained, namely that a declining tax burden improves competitiveness and allows or even initiates a real appreciation through inflation. Another possibility is that higher inflation increases nominal growth and improves budget balances, thereby allowing a declining tax burden.

monetary policy has been rather appropriate for all large Member States. For the small cyclically-advanced Member States, a significantly higher interest rate would have been more appropriate.

Table 10: **Required interest rate change relative to euro-area**  
(Taylor rule; annual average)

	2000	2001
Germany	- ½	- ½
France	- ½	- ½
Austria	0	- ½
Belgium	½	0
Italy	0	0
Greece	*	½
Luxembourg	1	½
Spain	1	½
Portugal	1	1
Finland	1 ½	1
Netherlands	½	1 ½
Ireland	4	3

*Source:* Commission Services.

By presenting the difference between the Taylor rate of the euro area as a whole and the individual Member States, the estimates are rather robust to changes in assumptions on the targeted inflation (in the range 0-2 per cent) and the equilibrium interest rate (range 2.5-3.5 per cent), as these are levelled out in the comparison. Taking differences with the euro-area Taylor rate also diminishes the importance of the lack of an exchange rate variable in the Taylor rule. Symmetric effects of nominal exchange rate developments do not influence the outcomes.

In some countries, interest rates needed to come down from high levels to converge to the core euro-area level in the run-up to the start of Stage 3 of EMU on 1<sup>st</sup> January 1999. Due to this monetary policy convergence, interest rates were brought down rapidly in Ireland, Spain and Portugal. Nominal short-term interest rates were brought down from 5 to 6 per cent levels at the start of 1998 to 3 per cent in January 1999. This monetary easing has significantly influenced GDP growth and inflation in 1999 and 2000. Breuss and Weber (2001) estimate the effects in the second year after easing at 0.4 per cent to 0.8 per cent of GDP per 100 basis points decrease. The highest values are found for Portugal and Ireland.

The effects of relatively low nominal interest rates for countries that face overheating are exacerbated by the - often - loose credit conditions in the economic boom. Moreover, increasing inflation rates lower real interest rates further as the extent of overheating increases, thereby providing a destabilising factor. Furthermore, secondary effects of the low interest rates and the financial cycle reinforce the macroeconomic cycle, most notably increasing asset prices.

As overheating sets in, the budgetary position often improves dramatically, as nominal growth exceeds expectations during some years. The political pressure to increase expenditure can mount, such that resisting a pro-cyclical budgetary policy proves to be difficult.

### 5.3 DIFFICULTIES SURROUNDING THE REQUIRED POLICIES

Considering the risks of overheating, an attentive mode by policymakers is essential vis-à-vis overheating and inflation divergence. Even if the theoretically required adjustment mechanism (i.e. active policy intervention or market based real exchange rate adjustment) could be determined despite the difficulties surrounding the different indicators, additional challenges arise when applying these in practice. Both external adjustment through inflation and internal adjustment through budgetary policy face severe pitfalls. This leaves policy measures to prevent pronounced

overheating and diminish its risks, such as structural reforms aimed at increasing market flexibility and close monitoring and supervision of the financial sector.

### ***Real exchange rate adjustment and inflation inertia***

Adjustment of macroeconomic imbalances through inflation is delicate due to inflation inertia. The empirical importance of inflation inertia and persistence of price level divergence has been elaborated above. The risk of overshooting the equilibrium price level is significant. It is increased by a number of destabilising forces.

The higher inflation in a cyclically-advanced country implies lower real interest rates. If economic agents are to some extent myopic, investment opportunities in a period of overheating thus may seem more rosy than they are in reality. In general, producers tend to be myopic in assessing their profit prospects based on price developments and therefore may over-invest at low interest rates, underestimating a possible build-up of macro-economic imbalances. The importance of this effect depends on the interest sensitivity of demand and the demand sensitivity of inflation.<sup>66</sup>

Moreover, as asset prices are flexible compared to product prices, demand pressures and wage inflation together with low real interest rates and easy credit conditions may boost domestic asset prices - in particular housing prices - before feeding into product prices. This tends to boost demand by the wealth effect, further pushing up housing prices. So, although inflation might be the theoretically appropriate adjustment mechanism, if it is accompanied by a boom in the asset markets, it sows the seeds for a severe financial cycle. Such asset price inflation makes the return of inflation to the euro-area average at the right time a very delicate and uncertain process.

The overshooting of equilibrium relative price levels when there is real exchange rate adjustment can be costly in terms of lost growth. Therefore, even though external adjustment through inflation might be the theoretically optimal adjustment mechanism, the need for domestic policy action cannot be ruled out.

### ***Disadvantages of discretionary policy adjustment***

The disadvantages of using discretionary fiscal policy for economic stabilisation have been widely discussed in economic literature since the 1980s. The dominant view is at present that the expected costs are greater than the benefits. If both fiscal and monetary policy are available, the latter should be used for cyclical stabilisation and the former for structural purposes. But what if monetary policy is not available? A short recapitulation of the main pitfalls of discretionary fiscal policy might give some insights.

First, the time lag between the recognition of the need for action and the actual effect of policy measures on output and inflation can be large. This time lag is likely to be even larger than usual in the case of overheating. As mentioned before, it is difficult to assess the extent of overheating due to uncertainty about potential growth. Moreover, even if output is significantly above potential, policy measures are not necessarily required, if the overheating is externally induced. The appropriate remedy to overheating (inflation or fiscal policy) and its size, have to be determined on the basis of ambiguous indicators. Therefore, policy action to reduce the pace of economic growth is most likely to be very controversial and difficult to implement swiftly. As the current

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<sup>66</sup> If long-term interest rates are most important for demand and if the inflation and wage increases are expected to be temporary, while producers are not myopic, then there may be little effect, as main (long-term) real interest rates remain broadly constant.

deterioration of economic prospects in the course of 2001 shows, the effect of policy measures targeted at reducing economic growth may well set in at a time when they are actually pro-cyclical.

Second, the effectiveness of budgetary policy is limited, especially in small open economies, due to import leakage. The short run multipliers are small. On the revenue side usually between 0.1 and 0.2; on the expenditure side around 0.5.<sup>67</sup> The effect on inflation is also very limited. A very large fiscal contraction is needed to get a significant effect on output.

Moreover, politically, a (large) fiscal contraction might be very difficult to push through, especially as needs for public provisions tend to increase when the economy is growing rapidly. Furthermore, the initial budgetary position when the economy is overheating is likely to be above the long-term requirements due to growth dividends. This might weaken the political case for tightening budgetary policies. However, a minimum requirement for budgetary policy of an economy that shows signs of overheating is the full working of automatic stabilisers and avoidance of pro-cyclical fiscal policy, thereby lessening the risk of further fuelling a potentially overheating economy.

All in all, discretionary fiscal policy adjustment is problematic. Although across-the-board discretionary fiscal policy should be avoided, the effectiveness of addressing the causes of overheating through targeting fiscal measures on microeconomic channels has to be further investigated.<sup>68</sup>

### ***Alternative policy measures: structural efforts and prevention***<sup>69</sup>

As policies to counter overheating are subject to numerous drawbacks, the importance of prevention and diminishing the risks is apparent. Considering that the main risks stem from sluggish price adjustment and financial sector vulnerability, prevention policies should aim to increase market flexibility and improve financial sector resilience to shocks.

#### *Increasing flexibility*

The merits of improving the functioning of labour, goods and capital markets and increasing flexibility are numerous. Diminishing the risk and costs of overheating by improving the capacity for economic adjustment is one of many, but it is a crucial factor in a monetary union as it facilitates real and price adjustments. The importance of structural reform to improve market adjustment has been stressed by the Cardiff II report: “*Structural reform, in conjunction with a sound macroeconomic policy, is also essential to the success of Economic and Monetary Union; by improving the operation of markets, macroeconomic policy will not be left to bear the burden of market adjustment in the face of shocks alone.*” (European Commission (1999a)). The fact that, in the theoretical case of perfectly flexible markets, stabilisation policy is actually irrelevant illustrates this point.<sup>70</sup> For instance, increased labour market flexibility may assure that effective labour supply breathes with the economic situation, resulting in

<sup>67</sup> See European Commission (2001a). The estimate of short-run multipliers is strongly dependant on the choice of the model. The more traditional Keynesian models have significantly higher estimates than those which attach greater importance to rational expectations. The size of the multipliers also depends crucially on the composition of the budgetary contraction, the kind of expenditure and tax changes.

<sup>68</sup> Examples of fiscal measures that affect the economy through micro-channels include: reducing the eligibility, duration or level of unemployment benefits, which will increase effective labour supply (justifiable by the tight labour market); similarly reducing the expenses on labour demand subsidies and other subsidised employment; or reducing subsidies (or tax exemptions) that fuel asset price inflation.

<sup>69</sup> The issue of a European transfer union, a mechanism of cross-border income transfers in EMU, has been debated among academics as a means to cushion the importance of asymmetric shocks. Due to political impracticability in the near or medium term this option is not discussed in this analysis. It should be noted that, apart from political arguments, there are also practical and economic objections to an EMU-wide fiscal stabilisation mechanism.

<sup>70</sup> See Beetsma, Debrun and Klaassen (2001).

smaller swings in the unemployment rate and less severe cycles. Efficient wage formation processes also play an important role in the economic adjustment as wage development are a crucial element, both in the build-up phase and in the adjustment during the unwinding of macroeconomic imbalances.

Illustrative for the importance of flexible markets are the numerous examples of adjustment processes to regional asymmetric shocks and boom-bust cycles in US states (e.g. California's Silicon Valley boom, Texas' oil cycles, New England's property crisis and the 1980s' Rust Belt's slump). The existence of regional boom-bust cycles cannot be excluded in monetary unions such as the USA and EMU, but the extent of the boom and the risks of the bust can be limited by market flexibility and financial integration. For instance, in the USA, regional wages and migration flows respond rapidly to shifts in regional unemployment, thereby influencing labour supply and demand, and stimulating a rather swift return of unemployment to equilibrium. By contrast, labour markets are much less flexible and migration is very limited in Europe, hampering adjustment.<sup>71</sup>

### *Diminishing financial risks*

The most significant risks and costs of overheating stem from the financial cycle that often accompanies it. In principle, supervisory, regulatory and targeted budgetary policies could be used to respond to the problems created by the financial cycle aspects of overheating. The extent to which the economies' sensitivity to financial cycles can be reduced by structural or discretionary changes in regulatory, supervisory or targeted fiscal instruments needs further investigation.

Rigorous financial sector supervision and realistic stress testing of capital adequacy in prolonged recession scenario's is a first requirement in economies that show signs of overheating. With regard to targeted discretionary financial policy changes to counter the build up of imbalances when the economy is overheating, the feasibility and desirability is closely related to that of general discretionary budgetary policy. Again, it depends on the policymakers' ability to identify (financial) imbalances and on the time lag until the measure takes effect. Policymakers' assessments of asset price misalignments and other financial imbalances might be even more uncertain than their assessment of the real economy. As asset prices are more flexible and no rigidities hinder adjustment to equilibrium, policymakers are unlikely to make consistently better judgements about the sustainability of current trends than are private institutions. On the other hand, the effectiveness and political feasibility might be greater than that of general discretionary budgetary policy.

Structural financial policy efforts may contribute more effectively to diminishing the risk of pronounced financial cycles. The EU's Financial Services Action Plan (European Commission (1999b) summarises a large set of policy initiatives aimed at integrating national financial markets and improving the functioning of the EU financial system. It is to be implemented by the year 2005.

Increased financial integration in EMU diminishes the significance of the interactions between financial and macroeconomic cycles, that represent an important element in the dynamics of overheating and macroeconomic adjustment. Increasingly integrated European capital markets and internationally operating financial institutions decrease the influence of country-specific macroeconomic developments on the vulnerability of the financial sector. Although pro-cyclicality

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<sup>71</sup> See Fitzgerald et al (2000).

in the financial sector will remain a risk even after full integration of financial markets, financial risks due to asymmetric conditions in individual Member States will be smoothed out.<sup>72</sup>

Furthermore, the pro-cyclicality of the capital requirements can be reduced. For instance, incentives to increase the ratio of actual versus required capital during periods of strong growth and diminish it during recessions could be strengthened. Additionally, provisioning rules for bank credit can be designed to act as a form of built-in stabiliser.

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<sup>72</sup> Moreover, internationally spread equity holdings are a stabilising mechanism as well. They can provide for consumption smoothing as part of the personal income and wealth is insured against domestic slack. The outgoing dividend payments breathe with the economy, while the incoming dividends are rather constant if it is a local boom-bust. More importantly, wealth might not be affected. Although there is increased cross-boarder shareholding, the size of this adjustment mechanism is still likely to be rather moderate.

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