CHAPTER 1

PROSPECTS AND POLICY CHALLENGES FOR THE EU ECONOMY

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1. Introduction

Sudden change of fortunes.

Looking back into the previous (2000) Review, the change in economic prospects and the main policy preoccupations during this past year is striking. The rapid and continuous deterioration of short-term economic prospects is one of the most prominent features of economic developments over the past year. Only a year ago, conditions in the EU appeared to be in place for a continued robust economic performance and the main economic policy challenge was to sustain the strong growth, while increasing its potential. Internal dynamics seemed robust, as employment creation was vigorous in a setting of price stability, while export growth surged and domestic demand was strong. Moreover, after a rather lacklustre performance of fixed capital formation in the first half of the 1990s, investment growth seemed to be picking up steam. Currently, policy attention is focussed on avoiding a prolonged downturn and revitalising the economy. In this context it is important that the medium and long-term policy challenges are not put to the back and that previous achievements and sound fundamentals are preserved.

Although some risks were apparent last year, the EU economy seemed resilient.

Last year, some dark clouds had already appeared on the horizon. Oil prices had tripled in 18 months to peak in autumn 2000 at 35 dollars a barrel, casting some shadows on the optimistic outlook. However, the higher oil price and increased short-term interest rates were expected to affect growth only mildly. Improved labour market performance, strong job growth and some acceleration in real wage growth was expected to underpin consumer confidence and continue to stimulate private consumption. Taking into account the increased profitability in the EU, companies were expected to absorb the oil price rise more easily than in the past, while the generated cash flow seemed to have diminished their dependence on the prevailing financing conditions for external funds. Moreover investment growth seemed further supported by limited spare capacity. A balanced macroeconomic policy mix, a stable macroeconomic environment and the successful introduction of the euro in 1999 were also expected to have strengthened the resilience of the EU economy. Furthermore, as a large and relatively closed economic entity, the euro area was expected to be in a good position to withstand the external shocks. Obviously, further reform efforts were needed in conformity with the Lisbon strategy.

However, resilience was insufficient to weather the global slowdown.

Now, a year later, even without taking the consequences of the dramatic events of 11th September 2001 into account, the economic situation and prospects give less ground for optimism. Growth in both 2001 and 2002 is foreseen to be considerably below potential. The unexpectedly sharp downturn and the lack of resilience pose important policy challenges.

2. Macroeconomic developments in the EU

Chill winds blow across the world stiffened by a number of adverse economic shocks …

Since the second half of 2000, the world economy has experienced a sharp, universal and protracted economic slowdown. The world economy is now expected to grow only by about 2 percent in 2001. This is sharply down from the growth rate of 4½ percent recorded in 2000 and it represents the lowest rate since 1993. A number of common factors are at the origin of the slowdown. First, the hike in oil prices in 1999/2000 fuelled inflation and implied an important drop in purchasing power, thereby dampening consumption. It also squeezed company profits, which together with the sharp drop in share prices, affected investment adversely. Furthermore, the accompanying rise in headline inflation prompted a monetary reaction by the major central banks to dampen the risk of second round effects and increased inflationary expectations. Second, there was the simultaneous bursting of the ICT-bubble and the related dramatic fall in share prices. The resulting sharp decline in international trade growth from 11½ percent last year to an estimated 1 percent in 2001, was a further compounding factor that added to the adverse effects.

… exacerbated by the terrorist attacks of 11th September 2001 and the aftermath …

This economic slowdown had set in long before the dramatic events of 11th September 2001. Just before the terrorist attacks there were even some first, tentative signs that the slowdown was bottoming out. The effects of the terrorist attacks on the USA and its aftermath will deteriorate the international economic environment further and postpone a recovery of world growth by at least two or three quarters. Direct damage to US infrastructure, though dramatic for persons and firms involved, is limited. However, the terrorist attacks and its aftermath have created a feeling of insecurity world-wide. Consequently, risk perception and aversion have increased and confidence has dropped, further depressing consumption and investment.

The medium and longer run effects of the attacks are far from clear yet. Were there, for instance, to be an increase in risk perception, transaction and transportation costs on a longer term, then the effects on world trade growth and therefore allocation and potential output could be more protracted. Probably, the level of productivity undergoes a one-time downward adjustment as the economy responds to higher levels of perceived risk. Moreover, a shift in preferences and needs towards security related goods and services may have some impact on the structure of the economy and the composition of economic growth.

…while heightened interdependence reinforced the global downturn.

The propagation of the slowdown around the world has been much more rapid than expected, giving leeway to a downward spiral as the effects are mutually reinforcing. The synchronicity of business cycles around the globe, which was primarily due to the common causes, was further strengthened by the increased integration of financial markets and the internationalisation of firms. Financial and confidence linkages via stock markets have been reinforced through the cross-country holdings of shares.

The EU has not escaped a growth slowdown.

Consequently, despite strong macroeconomic fundamentals, the EU has not escaped the slowdown. The continuous high level of oil prices, aggravated by the weakness of the euro and the sudden rise in European food prices, dented real disposable income and private consumption in the EU. Financial linkages and the internationalisation of firms increased the effects, in particular on investment, and speeded up the transmission of the external shocks. As a result, y-o-y GDP growth has declined from a top 3.8 percent in the second quarter of 2000 to 1.7 percent in the second quarter of 2001, as GDP growth came to a virtual standstill in that quarter. Employment growth also slowed down and came to a standstill in some Member States. The continuous decline in the unemployment rate since the end of 1996 lost its momentum in the first quarter of 2001, stabilising just below 7¾ per cent. Weak employment growth can be expected to result in a higher unemployment rate in 2002.

Inflation eases after hiccup.

Clearly, the development of inflation, eroding household's purchasing power, has played a major role in the euro-area growth slowdown. Headline inflation in the euro area peaked in May 2001 at 3.4 percent. Core inflation rose more moderately to just over 2 per cent, owing to the stability culture of EMU and limited second-round effects, as wage rises remained moderate due to improved labour market functioning. Currently, some of the forces driving headline inflation are fading out, notably the higher oil and food prices and the exchange rate effects. The economic slowdown has further reduced upward pressure on prices considerably. Therefore, inflation in the euro area, already down to 2.4 per cent in October 2001, is expected to return below 2 per cent by the beginning of 2002.

EU needs to rely on domestic policy responses which reflect the nature of the downturn and preserve the stability-oriented framework of EMU.

Since the slowdown is global, the cyclical turnaround will have to come predominantly from domestic sources of growth, rather than from external forces as occurred on previous occasions. In this context, an appropriate response of domestic economic policies is key to restoring confidence and improving growth prospects. The policy response needs to reflect the nature of the shocks, which were largely symmetric and have been propagated via confidence effects on private consumption and investment. An appropriate policy mix should involve a cautious fiscal policy. With monetary policy aimed at maintaining price stability and

responding to receding inflationary risks, this would secure low interest rates. This would help stimulate business investment, the key to triggering a recovery in growth, thus contributing to the Union's objective of full employment. It would also ensure a continued reduction in public debt and thus help prepare for the budgetary impact of ageing populations.

The reduced risks to price stability have facilitated a monetary policy response …

Monetary conditions in the euro area have eased gradually in the course of this year and at a more rapid pace in recent months. As the balance of risks to price stability improved gradually, the European Central Bank reduced its monetary policy rates by 25 basis points on 10th May and 31st August. Following the terrorist attacks in the USA, the ECB cut its policy rates more aggressively by 50 basis points each on 17th September and 8th November. Thus, the main refinancing rate was reduced to 3.25 percent, as the detrimental impact on confidence and growth further reduced the risks to price stability in the euro area. Initially, in the aftermath of the 11th of September, the ECB also provided ample liquidity to assure the proper functioning of financial markets. Decreasing price pressures and the declining trend in inflation may provide further scope for monetary policy, depending on the continuation of wage moderation, the development of oil and other commodity prices, the exchange rate and the budgetary discipline.

… which counters the effects of increased risk aversion …

In this context, it is noteworthy that the development of short-term interest rates is not fully reflected in the change in actual financing conditions. First, due to the large volatility and downward adjustment of stock markets, financing through issuance of new shares has become much less advantageous. Second, a steepening of the yield curve implies that real financing costs, for instance for mortgage loans, have not fallen much. Third, monetary conditions may be tighter than indicated by short-term rates as corporate bond spreads have increased on average in the euro area over the last few months, partly as a result of downgrading of heavily indebted telecommunication companies, but also because of increased risk aversion.

… while the euro remains undervalued.

Despite the sharp turnaround in economic prospects and increased economic risks in the major economic areas, exchange rate volatility of the major currencies has been rather muted throughout the year. As the weakness of the exchange rate of the euro had previously been attributed largely to the impressive performance and the bright prospects of the US economy, the lack of a decisive euro appreciation in response to the rapidly deteriorating prospects in the US is surprising. Especially, the very short-lived reaction to the 11th September attacks is puzzling. This underlines that short-run exchange rate movements cannot consistently be predicted. However, based on fundamental, long-run factors, that have more predicting power, there seems to be consensus that the euro remains undervalued against the US dollar as well as in real effective

terms. Still, there is uncertainty about the timing and speed at which the euro might close the gap to its equilibrium level.

Fiscal policy activism has numerous limitations and…

While fiscal policy is commonly seen as bearing a higher responsibility for cyclical stabilisation in a currency union, this does not imply a return to fiscal fine-tuning. One of the clearest messages from recent literature is the growing scepticism vis-à-vis fiscal policy activism. First, most studies reveal longer and more uncertain impact lags than was previously assumed. As a result, the impact of discretionary fiscal measures may only materialise long after an economy needs stimulation. Consequently, they may inadvertently have a pro-cyclical impact. Second, the most "effective" fiscal measures to boost demand in the short term are also those which are most detrimental to growth in the medium term. Third, fiscal discretionary actions appear inappropriate to tackle temporary shocks, as the reversal of policy choices is very costly. Finally, to avoid debt accumulation, discretionary fiscal policy would have to act symmetrically during recessions and booms: this implies tax increases or expenditure cuts during upswings, which may be politically unrealistic and thus generate a bias towards running deficits which contributes to the accumulation of public debt. Experiences in previous decades have exposed these limitations.

…fiscal fine-tuning is not the answer to the waning growth prospects.

Given the numerous drawbacks of fiscal fine-tuning to stabilise output, the norm for budgetary behaviour should be to let automatic stabilisers operate freely, thereby avoiding pro-cyclical policy. Moreover, a strong commitment to controlling public expenditure, while upgrading the quality of public finances and implementing reforms of tax and welfare systems would be consistent with a medium-term orientation of budgetary policy. It would also help prepare for the budgetary and economic impact of ageing. Such a cautious fiscal policy further increases the scope for a monetary policy conducive to reviving growth by contributing to price stability. This approach should not be put into question by the current cyclical developments. To strengthen resilience and ensure sustainability of government finances, it is essential to maintain the credibility of the fiscal framework in the Stability and Growth Pact (SGP), especially given the substantial fiscal challenges posed by the ageing populations in the coming years and decades.

The budgetary framework of the SGP enables automatic budgetary stabilisation …

This medium-term orientation of budgetary policies and the scepticism on fine-tuning are embodied in the SGP. This provides an appropriate framework for conducting budgetary policy both in good and in bad times. It not only strives for the consolidation of sound public finances in the medium and long run, but also provides leeway for cyclical stabilisation through the output smoothening impact of automatic fiscal stabilisers. Automatic stabilisers in the euro area provide a relatively high degree of stabilisation, especially in the case of shocks to private

consumption. This is reflected in the deterioration of the expected actual budget balances compared to forecasts in the beginning of the year. For the euro area as a whole, a deficit of 1.1 per cent of GDP is now expected in 2001, increasing to 1.4 per cent of GDP in 2002, one percentage point higher than what was forecast in spring, before the extent of the economic slowdown was known. The deterioration of the government finances as a result of the operation of the automatic stabilisers in a context of faltering growth should however not lead to the appearance of an excessive deficit (3 per cent of GDP). Therefore, the SGP requires that Member States' budgets are 'close to balance or in surplus' over the cycle, such that they have sufficient room for a deterioration in government finances.

… however, lack of consolidation efforts in the major countries limits their leeway for stabilisation.

However, in contrast with a number of Member States that have moved decisively into budget surpluses, the major euro-area economies have shown a virtual lack of progress on budgetary consolidation in recent years. As a consequence, the budgetary consolidation process for the euro area as a whole has come to a standstill since 1998. As these economies were growing robustly in 1999 and 2000, the budgetary dividends of their economic performance have not been used to "put the budgetary house in order", i.e. to achieve a budgetary position 'in balance or in surplus' over the medium term. The cyclically-adjusted primary balance, that shows the consolidation efforts, has actually worsened a bit over the past couple of years, reflecting mainly implemented tax cuts in some Member States. Still, both the structural consolidation paths and the balanced budget target for 2003/2004, set out in the Stability Programs, need to be maintained.

Market mechanisms play a key role in economic adjustment to country-specific developments.

The aforementioned drawbacks of fiscal fine-tuning should be taken into account as well with regard to adjustment policies to country-specific economic developments. For example, in the case of overheating pressures in individual Member States, market adjustment through changes in relative prices and wages, in addition to the full operation of automatic stabilisers, limits the burden of policy induced adjustment. Further increasing flexibility on labour and product markets, while assuring adequate financial supervision and increasing international integration of financial markets, is essential to enhance the economic adjustment processes in individual Member States in EMU.

Stepping up the process of structural reforms is essential to increase potential growth, strengthen resilience and assure smooth economic

Moreover, the pace of structural reforms needs to be stepped up to increase potential growth and contribute to the overcoming of the global slowdown. Some progress on reforms has been made, thereby improving the euro-area's market functioning. Yet, structural rigidities continue to sap the resilience and the potential growth of the euro area economy. Although in 2000 economic growth in the euro area clearly exceeded 3 percent, it is doubtful whether a growth rate well above 2.5 percent would

adjustment.

have been sustainable, even if resilience would have been strong or adverse shocks had not occurred. The growth performance in 2000 was characterised by some exceptional circumstances, such as a spur in world trade growth, a decline in private savings and a catching-up effect of investment growth from the lows of the early 1990s. Moreover, growth has been job rich. In the absence of a meaningful acceleration in reforms, there is a risk that beyond the cyclical downturn, trend growth will again be unsatisfying. In its paper for the Ghent European Council, the Commission stressed therefore that despite "economic and labour market reforms and modernising social policies are already improving the way the Union's economic and labour markets function, the continuation of such reforms is all the more important now the Union faces economic conditions very different from the ones prevailing when the Lisbon Strategy was launched." This strategy emphasises the mutually reinforcing interaction of economic, employment and social policies and provides the basic orientations for policies pursued in order to reach the Union's agreed objectives in these three fields.

Expectations of gradual rebound based on sound fundamentals and progressive unwinding of shocks.

However, looking ahead, macroeconomic fundamentals still look rather strong in the euro area and the existence of the euro has proven to be a major factor of stability. The turnaround in growth is expected to take place earlier than in the USA, as the economy is free of major imbalances. Contrary to the USA, private households are not highly indebted, over-investment in technology was more contained and the current account is broadly balanced. As inflation is rapidly declining, household's disposable income in the euro area increases. Against this background private consumption could pick up, further helped by the already implemented tax cuts in some member states. Moreover, as spare capacity remains limited, investment should also resume when demand strengthens. Nevertheless, growth can be expected to be disappointingly low in 2002, with the growth rate gaining momentum only in the second half of the year. Further support should come from the decline in interest rates, while automatic stabilisers work on the budgetary side. Apart from the cyclical stabilisation issues, medium and longer term policy challenges should remain in the forefront of attention. Strengthening internal dynamics and resilience, while increasing potential growth and ensuring sustainability represent broadly the main economic policy objectives.

Investing in the future.

In this broad context, four selected issues that play an important role are being discussed in-depth in this 2001 Review: investment, financial markets, pensions and information and communication technologies. These issues are strongly interrelated and support the broad policy objectives. Moreover, stepping up structural reforms in labour and product markets and adhering to the stability-oriented macroeconomic framework are essential for success.

3. Determinants of investment growth

Mediocre investment performance over the 1990s …

Despite the high rate of capacity utilisation and the internal growth dynamics in the euro area, investment growth has not been resilient to the recent adverse economic shocks. Assessing investment in the euro area over a somewhat longer period also shows a disappointing performance, both in comparison with the USA and with the previous investment cycle. As investment is a crucial element of economic performance in the short and in the long run, the lacklustre investment performance in the euro area during the 1990s is often considered a major factor behind relatively poor economic growth and limited growth potential in the euro area. During the 1990s, the share of fixed capital formation in GDP in the USA has caught up with the traditionally significantly higher level in the euro area. In the late 1990s, as economic performance improved, investment growth in the euro area picked up to the levels seen during the economic expansion in the late 1980s. An examination of the composition of investment shows that most of the difference in investment growth between the USA and the euro area can be attributed to equipment investment, notably in ICT-equipment.

It should be noted, however, that the impressive investment growth in the USA is not without pitfalls, as the economy is now suffering from severe excess capacity due to over-investment. A sharp drop in investment is currently the main driver of the US downturn. The slowdown in the growth rate of fixed capital formation in the euro area is expected to be more benign as there has not been an investment boom similar to that in the USA.

… cannot be explained by macroeconomic fundamentals.

Traditional macroeconomic variables cannot explain the diverging developments of investment growth in the euro area and the USA in the 1990s. Although profitability remains traditionally higher in the USA, the gap with the euro area has not changed much over the 1990s. The relative price of investment goods is one of the few macroeconomic indicators that does provide some explanation for the diverging developments, as it declined significantly faster in the USA than it did in the euro area.

Less flexible product and labour markets and less developed financial markets seem to be the origin of the different investment performance in the USA and the euro

Structural rigidities seem to be at the origin of the rather poor performance of investment growth in the euro area in the wake of the rapid developments in the ICT-sector. The available evidence suggests that improving the flexibility of product and labour markets in the euro area will contribute to the incentive to invest. Moreover, well-developed financial markets, in particular stock markets, play an important role in the financing of investment particularly for enterprises in the ICT sector. A closer examination of financial markets in relation to investment, and growth in general, can shed some light on the role of the financial

area.

markets in enhancing growth.

4. Financial market integration in the EU

Gradually, the EU financial markets are integrating, …

The EU financial system is being transformed by the interaction of several phenomena, including the wider process of globalisation, the harmonisation of the regulatory framework across the Union and the implementation of financial reforms in the Member States. Together, these developments contribute to the progressive integration of the EU financial system. This process is reflected in more homogenous markets, a wave of consolidation among financial intermediaries and the emergence of new and innovative products and techniques. Since 1999, the euro has also helped in this transformation by eliminating exchange risk for financial flows across most of the Union.

… stimulating its long-term economic performance.

There are important economic benefits of the integration of the EU financial system. While the link between financial development and economic growth is still under investigation in the economic literature, there is increasing empirical evidence suggesting that the long-term performance of an economy is positively related to the level of development of its financial system. By extension, to the extent that financial integration raises the level of financial development, it is most likely to result in an improved economic performance. This two-step rationale underlies previous analysis of EU financial integration by the Commission services (e.g. "The Economics of 1992" (1988)) which estimated a substantial increase in the value-added from financial services following the integration of financial markets. As the estimate was based on a comparative static analysis, including dynamic gains from integration would probably result in even higher benefits.

The introduction of the euro accelerates the integration process …

The effect of the euro in accelerating the process of financial integration is already evident in the main financial markets, among the key financial intermediaries and in market infrastructure. Recent developments in the different market segments reveal that the extent of integration across market segments is not uniform.

First, the introduction of a single monetary policy in EMU has ensured a substantial integration of the euro-area money market, in which all market segments are highly integrated except the secured money market segment. Second, the homogeneity of the euro-area government bond market is evident in highly convergent yields across the Member States and the effects of integration are reflected in many aspects of market activity. Third, the integration in EU equity markets has been mainly apparent in a more sectorally correlated movement in equity prices across the various Member State markets. The trend toward cross-border trade is also driven

by the broader internationalisation of equity issuance, more mergers and acquisitions across borders and the need for formal stock exchanges to consolidate. Fourth, banks increasingly are involved in offering financial services to foreign businesses and individuals. The introduction of the euro has further intensified competition in an already highly competitive environment for financial intermediaries.

… yet, integration is far from complete …

Full financial market integration in Europe is, however, far from being a done deal. A substantial amount of work remains to be done. The increase in the international ownership of assets reflects the pace of financial market integration. While the share of international financial assets in total financial wealth is still relatively small, an acceleration of the trend towards international asset holdings is notable after 1996. Cross border asset holding of banks and in banks have increased. Still, institutional investors have evolved as key drivers of financial market integration. Investment companies and pension funds hold a larger share of wealth in foreign assets than banks and households, which show a quite pronounced home bias.

… and the implementation of the FSAP risks falling behind schedule.

The economic benefits of financial integration have been recognised by successive European Councils. Hence, facilitating the integration process has been recognised as a priority of economic reform. This priority is reflected in the deadline of 2005 (decided by the Lisbon European Council), set for implementing the Financial Services Action Plan as the blueprint for an integrated EU financial system and in the target date of 2003 (agreed by the Stockholm European Council) for the integration of the securities markets. Despite encouraging progress on a number of individual dossiers, the overall progress in implementing the FSAP has been rather slow. Against the background of the slowdown in economic growth and an uncertain financial environment, progress must now be speeded up. Any weakening in the commitment of Member States to the integration process would be likely to undermine financial-market confidence.

Three priority actions to enhance financial market integration.

Three main lines of action can be identified to reassure financial markets. First, there is a need to accelerate the implementation of the FSAP so as to ensure that the Lisbon deadline is respected. Second, the adoption of the Lamfalussy proposals on the regulation of EU securities markets is an essential step in accelerating implementation of the FSAP. Third, some issues relating to arrangements for cross-border financial supervision should be resolved. The higher systemic risk associated with financial-sector integration and consolidation implies a need for close co-operation among national supervisors and central banks regarding matters of financial crisis prevention and management.

Well functioning financial markets will help to cope with the ageing challenge.

Over the next few decades, the transition to an aged society will change savings and investment behaviour on a macro-scale. Transparent, liquid and well-functioning financial markets will contribute to ensure financial and macroeconomic stability during this transition. The functioning and efficiency of financial market channelling of savings and investment throughout the transition period are important, not least because they influence the internal rates of return of both funded and pay-as-you-go (PAYG) pension systems.

5. Options for pension reforms

Additional reforms are needed to meet the challenges posed by population ageing.

Ageing will pose challenges for budgetary, labour and financial market policies as well as for the overall economic performance and social cohesion. A central element in the challenges posed by ageing is the increase in the old age dependency ratio and its consequences for pension systems. Between 2000 and 2040 the ratio of people over the age of 65 relative to the working age population increases from 24 percent to 49 per cent in the EU. The economic and budgetary consequences will be immense for the traditional PAYG pensions systems, which are prevalent around Europe. As the number of workers will be reduced, fewer resources will be available to pay for a rapidly increasing number of pensioners. Moreover, current systems provide relatively few incentives to work until the official retirement age, further limiting the number of available workers. The design and structure of public pension systems play a crucial role in determining the scale of the budgetary and growth impact of ageing. Notwithstanding the wide range of reforms that Member States have introduced up until the end of the 1990s in order to tackle the ageing problems, the latest estimates of the impact of ageing on growth and public expenditure confirm that additional reforms will be needed.

Wide-ranging pension reforms are an important element in a comprehensive strategy to address these challenges.

There is a widespread consensus on the need for major reforms to cope with the challenges of ageing in Europe. This reform strategy should aim at three main goals. Firstly, increase overall economic and employment growth. Secondly, public debt should be reduced so as to make more resources available in the future. And thirdly, social protection systems, including pension systems should adequately meet their social objectives and be adapted to respond to changing needs of the economy, society and individuals while ensuring equal treatment between women and men. Reforms of pension systems should particularly focus on improving incentives to work, for instance by strengthening the actuarial link between contributions and benefits. In order to avoid over-burdening future active generations, benefit levels of first pillar schemes are frequently lowered. This increases the need for second and third pillar

provision.

Reforms not only aim at ensuring budgetary sustainability, but also improving economic growth prospects and assuring a balanced income distribution.

Assuring the budgetary sustainability of pension systems is a major challenge for the reforms, with the objective of ensuring macroeconomic stability in the long run and avoiding the crowding out of private investment and consumption. However, broadening the assessment framework to the three objectives mentioned above and notably by including the economic growth impact and income distribution is - in the long run - vital for the political sustainability of the reform process. Taking account of these major policy objectives, no single 'best' approach to pension reforms exists. There is no clear-cut answer regarding the optimal form and extent of reforms, as economic, social and political considerations do not always point in the same direction.

Increasing the effective retirement age is the single most potent reform option.

Reforms that reduce generosity, while providing clear budgetary gains, are less successful in terms of easing the growth loss associated with ageing, and income distribution difficulties are evident. No such problems exist with increasing the effective retirement age, as it simultaneously meets all three policy objectives. Growth is boosted, budgetary pressures are reduced and political sustainability in terms of income distribution can be assured. With regard to the fiscal gain, the retirement simulation suggests that the public expenditure impact of an increase in the effective retirement age is of the order of 1 for 1. In other words, for each additional year worked before retiring, the public expenditure impact on pensions is reduced by close to 1 percentage point of GDP. Linking the retirement age to the development of life expectancy over the next few decades can ensure that all three main policy objectives can continue to be met over time.

Costs and benefits of a partial shift to funding need to be carefully examined.

Regarding 'systemic' reforms, a partial shift to a funded system seems preferable to either a 100 percent PAYG or a fully funded system. A mixed approach will be able to draw on both the returns to human capital investment in the PAYG system (i.e. real wage growth) and returns to physical capital in the funded system (i.e. the real interest rate). Consequently, such a partial shift exploits the expected higher return in the funded system, while diversifying the risks. The extent of the partial shift to funding needs to be assessed taking account of both the costs and benefits of such a change. While an estimated higher internal rate of return calls for increased funding, increasing volatility of the return calls for risk diversification and greater reliance on PAYG. Furthermore, funded systems result in additional administration costs. Moreover, a shift to increased funding implies that at least one generation of workers must lose in the process, as both current PAYG obligations need to be paid for and pension fund assets need to be built up. The operational demands of any shift to funding need therefore to be carefully examined in order to make certain that the natural benefits of funding are not partly or

completely eroded. A politically feasible shift to partial funding over the next fifty years will bring significant gains in terms of budgetary sustainability. The size of the gains in terms of economic growth should not be exaggerated, however, especially when compared to a broad based 'parametric' reforms scenario, which also provides impressive budgetary relief.

The underlying economics of pension systems need to be re-equilibrated

From a growth perspective it is essential, that the fundamental real economy measures are introduced which are necessary for economies to adjust to the changes brought about by ageing populations. In terms of pension reform, ageing has significantly altered the underlying economics of the pension system. The system needs to be re-equilibrated, reflecting the twin "certainties" of ongoing increases in life expectancy and lower birth rates compared with previous decades. In this regard, action is necessary to firstly bring the relationship between the number of years spent in employment relative to the years spent in retirement (i.e. the passivity ratio) back to the levels witnessed when the PAYG system was in its infancy. Secondly, it needs to be recognised that whilst budgetary sustainability is an important measuring rod for pension reform measures, economic growth considerations must be retained as the central objective.

6. The microeconomic impact of ICT in Europe

Undoubtedly ICT has made a substantial contribution to growth in the 1990s…

Recent developments in stock markets and the economic downturn have led many observers and policy-makers to wonder whether the potential economic benefits of information and communication technologies (ICTs) might have been exaggerated. However, the technological driving forces behind the investment boom in ICTs remain intact. As for stock prices, economic history suggests that these tell us next to nothing about the wider economic benefits of 'general-purpose technologies'. There is little doubt now that ICTs made a substantial contribution to growth during the 1990s in the US economy and in several EU Member States, even though revisions to recent economic data mean that the contribution of ICTs to growth was less than it seemed in 2000.

…though its effects were smaller in the EU than in the USA.

In the EU as a whole, the contribution of ICTs to growth has been smaller, partly because of a smaller ICT production sector and partly because ICT-using sectors have invested less than their US counterparts. There are signs that ICT investment in the EU was catching up immediately prior to the current economic downturn. However, there is little evidence at the macroeconomic level of productivity improvements due to network effects or improved business organisation enabled by ICTs – changes that should show up in the form of higher total factor productivity in ICT-using sectors.

To ensure that ICTs positively affect employment, human capital is of vital importance.

Employment creation in ICT-producing and -using sectors in the EU has also been disappointing compared to the US. However, there are grounds for cautious optimism that ICTs could have a positive impact on employment in the longer term, to the extent that they facilitate greater adaptability in the workforce. There are also significant risks that need to be managed, in particular the risk that lower-skilled workers will be displaced. Human capital is of paramount importance, in terms of both providing basic information society skills (not only ICT skills) and ensuring that employers, social partners and individuals have appropriate incentives to invest in specific training.

Productivity rises due to enhanced market transparency and business processes.

At the microeconomic level, there does seem to be considerable potential for ICTs to raise productivity. E-commerce, or ICT-supported systems for handling transactions, raises the prospect of enhanced transparency across markets. Empirically, it seems that price levels are declining as a result of e-commerce, although it is nowhere near the watershed that had been predicted by some commentators. This may be due to increased product differentiation. But contrary to the traditional view, such strategies may actually enhance welfare to the extent they satisfy demand for variety. The automation of business processes, or e-business, further promises to boost production efficiency. This is powered by seamless information flows across computer-mediated networks, both inside firms and connected to externals. But firm-level studies reveal that the acquisition of sophisticated ICT systems will come to nothing without complementary investments in human capital and organisational change.

Increased flexibility in product and labour markets is key to facilitate organisational changes and fully reap the benefits of ICT.

A key policy perspective is the need to focus as much on organisational changes as on technologies themselves. A lack of flexibility is often put forward as the reason why the EU as a whole has lagged the US in the application of some ICTs, and there may well be some truth in this. Certainly, if the largest benefits are indeed still to come, in the form of organisational improvements in ICT-using sectors, then it is essential to examine product and labour market policies and institutions to ensure that flexibility is not unduly restricted. If ICTs can indeed improve the functioning of markets, then Europe potentially has much to gain. The global nature of e-commerce and e-business means that the process of market integration, initiated by the Single Market Programme, could shift up a gear. These improvements are not automatic, but they could be fostered by progress on economic reforms to create an environment conducive to confidence in on-line transactions, investment in ICTs and the necessary complementary investments in business, human capital and work organisation.