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Report on the European Economy 2005

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EEAG Report

Foreword

This is the fourth annual report of the European Economic Advisory Group (EEAG) at CESifo. CESifo is one of the world's largest research networks of professional economists incorporating more than 430 university professors from 24 countries. Its home base includes the Ifo Institute for Economic Research and the Center for Economic Studies (CES) of Ludwig Maximilian's University, Munich, with about 90 researchers in all fields of economics.

The EEAG which is in toto responsible for this report consists of a team of eight economists from seven European countries. It is chaired by Seppo Honkapohja (Universities of Helsinki and Cambridge) and includes Lars Calmfors (University of Stockholm, vice chairman), Giancarlo Corsetti (European University Institute, Florence), John Kay (St. John's College, Oxford), Willi Leibfritz (OECD, Paris), Gilles Saint-Paul (University of Toulouse), Xavier Vives (INSEAD, Fontainebleau), and myself. All members participate on a personal basis. They do not represent the views of the organisations they are affiliated with.

The aim of this report is to comment on the state and prospects of the European economy. With the support of the Ifo Institute it provides a European business forecast and discusses topical economic issues which are of general interest to policy makers, managers, academics and the European public in general. This year's report centres on increasing work time, housing, pensions and outsourcing, all topics of vital interest for Europe.

I wish to thank the members of the group for investing their time in a challenging project and I also gratefully acknowledge valuable assistance provided by Doina Radulescu and Frank Westermann (assistants to the group); Gebhard Flaig, Wolfgang Nierhaus, Timo Wollmershäuser and Oscar-Erich Kuntze (business forecast); Volker Rußig and Martin Werding (comments); Paul Kremmel and Heidi Sherman (editing); as well as Elsita Walter (statistics and graphics) and Elisabeth Will (typesetting and layout).

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Munich, 1 March 2005

Executive Summary

This is the fourth annual report by the European Economic Advisory Group (EEAG) at CESifo. It contains four chapters addressing different topics of policy concern for the European Union and the euro area and also a macroeconomic outlook for the European economy. This executive summary provides a synopsis of the analysis and policy proposals of the report.

Chapter 1 discusses the current situation and economic outlook for 2005 for the European economy. As a main scenario, it is forecasted that GDP in the euro area will grow at about the same rate as in 2004, that is around 1¾ percent on average. The recovery remains fragile and depends on continued growth in the world economy. The recent rise of the euro against the dollar and any additional oil price hikes represent significant downside risks to the basic scenario. For economic policy the basic scenario is that interest rates remain at current levels and that the stance of fiscal policy is similar to 2004. An appendix to the chapter reviews the current problems with the Stability and Growth Pact of the EU.

Chapter 2 is devoted to the widely debated topic of outsourcing of production and jobs from the Western EU member countries to the new member countries and also to the rest of the world. This trend is clearly visible in the manufacturing sector in the European Union. Outsourcing is mainly a consequence of the trade integration of ex-communist countries as well as other producers that offer their labour at low cost. While outsourcing can bring benefits from increased international trade and division of labour, these benefits may not materialise fully given the labour market rigidities in many Western EU countries. These rigidities may induce outsourcing to overshoot its optimal level and destroy more jobs than can be created in other parts of the economy.

Chapter 3 reviews working time developments in Western Europe. The main issue is whether recent agreements on longer working time (at unchanged pay) in Germany represent a reversal of the earlier trend towards shorter working time that could also spread to other Western European countries with low working hours, such as Belgium, France and the Netherlands. The chapter views the agreements on longer working hours in Germany as a response to credible employer threats of outsourcing jobs. Increases in working time will certainly raise output, but they are also likely to increase the number of jobs, especially in the long run.

Chapter 4 is a primer of key economic issues in the reform of pension systems in the EU. The chapter begins with an overview on the strains on European pension systems that loom ahead as a result of the ageing populations in the EU countries. The old-age dependency ratios are forecasted to grow to very high levels, which has major fiscal implications, as the pension system is, to a large extent, a part of the public sector. The chapter discusses principles for reforms of the pension systems that are needed to fix the emerging budget problems and to improve efficiency. The strain can be relieved to some extent by increasing the retirement age and lowering pension benefits, as well as by adopting more general structural policies that enhance economic growth. Our key recommendation is to add a funded pillar to the existing pay-as-you-go systems, to mitigate the missing human capital (due to ageing) by adding incentives for real capital formation. Moreover, the pay-as-you-go pension could be differentiated according to the number of children, provided individually tailored savings plans for the funded pillar are designed to ensure a sufficient level of overall pensions for the childless.

Chapter 5 considers recent developments of house prices in different European countries. There has been widespread worry that house prices might collapse as happened in Japan, the United Kingdom and the Nordic countries in the early 1990s. The country experiences in the last ten years are far from uniform, with rapid price rises in some countries (for example, Ireland, Spain, the Netherlands and the UK) and only small price increases in other countries (for example, France and Germany). A variety of different economic determinants influence the level of house prices.

Houses provide accommodation services, and, being durable assets, investment motives also affect house prices. Analysis of these economic factors suggests that, while current house prices may be overvalued to some extent in some EU countries, there is little evidence of major speculative bubbles in house prices in these countries. In our view, there is no scientific basis for claims that house prices are about to collapse due to a bursting bubble.

The European economy: current situation and economic outlook for 2005 (Chapter 1)

In 2004 the European economy strengthened and output growth was close to its trend, although the output gap remained large and unemployment increased further. The recovery was export-led with spending shifting only gradually to domestic demand. In the first half of 2004, growth was stronger than expected, but the expansion lost momentum in the second half as oil prices increased and the world economy slowed.

Boosted by stronger export growth, investment started to increase in the euro area after a decline in the two preceding years, although its pace of recovery remained moderate. Private consumption remained subdued reflecting low real income growth, which was depressed by higher energy prices and poor labour market conditions. Consumer spending developments were, however, not uniform. In a few countries, such as France, Spain and Portugal, consumer spending recovered – partly reflecting a decline in household savings – while in others, in particular Germany, it remained weak.

Economic growth was again higher in the United Kingdom than in the three big euro countries France, Italy and Germany and was also above average in all Nordic countries and in Ireland as well as in Spain. Central and Eastern European economies also achieved higher growth than the EU average – reflecting their catching-up from low income levels – with the highest growth being recorded in the Baltic states, Poland and Slovakia.

During the course of 2005, the ongoing expansion of the world economy should continue to support export growth in Europe, although on average euro area exports are expected to increase somewhat less than in 2004. Private consumption is expected to increase moderately, supported by – after the oil price effect has subsided – a decline in consumer price inflation and also in some countries by additional tax reductions.

With the continued strength in exports, further improving profit margins and favourable financing conditions, the recovery in investment that began in 2004 is expected to strengthen in 2005. Capacity utilisation in the export sector has increased, and in domestically oriented sectors, where capacity utilisation is still low, there is mounting pressure to modernise the capital stock.

On average, output in the euro area is expected to grow at about the same rate as in 2004, namely 1¾ per cent. The output gap will continue to remain relatively large and improvements in labour markets will be modest as unemployment is forecasted to fall only a little. The growth gap between Europe and the United States will narrow somewhat but only because growth in the United States is forecasted to decelerate more than in Europe.

The recovery in Europe remains fragile and depends on the global upturn remaining intact without any additional oil price hike and on the assumption that the appreciation of the euro will be contained. The forecast also assumes that the European Central Bank will leave interest rates unchanged during 2005 and that the structural fiscal deficit will decline somewhat. With less favourable assumptions about the world economy, oil prices, exchange rates and monetary policies, growth of the European economy would be even weaker.

As to the Stability and Growth Pact, the development is very worrisome. We seem to be witnessing a gradual dismantling of fiscal discipline within the EU through contagion effects, where high deficits in one country are seen as an excuse for high deficits also in others. The on-going discussions on the reform of the pact are likely to result in a further loosening of the rules. The main problem with most reform proposals is that they do not address the key issue of ex post enforcement. Credible enforcement would require either that the decision-making in the excessive deficit procedure is moved to the judicial system, that is to the European Court of Justice, or that sanctions are lowered and made more gradual such that politicians dare use them.

Since a political agreement on credible enforcement of the stability pact is improbable, one had probably better acknowledged that the attempts to impose fiscal

discipline through the EU have largely failed. The lesson is then that the foundations for sound fiscal policy must be built through better institutions at the national level. Such reforms should learn from monetary policy and imply more transparent policy frameworks, including reliance on independent national fiscal policy committees that could either be given a consultative role or be entrusted with some decision-making powers, as suggested in earlier EEAG reports.

Outsourcing (Chapter 2)

Since the fall of the Iron Curtain and the integration of China into the world trading system, international trade in goods and services has increased significantly. This is a consequence of the large differences in factor endowments and hence in relative prices between the earlier OECD countries and the countries that have been opened up to international trade. Trade in intermediary products has developed particularly rapidly due to outsourcing activities of firms that have tried to make use of the huge wage differences between the formerly separated parts of the world. Major improvements in information and communication technologies in the 1990s are a second reason for the increases in outsourcing. The new international production patterns have caused the domestic value added per unit of output, the so-called production depth, to decline in many sectors.

This trend towards a reduction in domestic production depth has been particularly strong in the manufacturing sector, the importance of which has declined significantly in recent years in most western European countries where it now usually accounts for about one quarter of total production and one fifth of aggregate employment. Furthermore, the share of manufacturing value added in GDP has been declining in recent years. A closer look at the input-output tables shows that this trend of deindustrialisation is related to outsourcing activities of domestic firms. Parts of the production process have been moved to low-wage countries. In particular, the new members of the European Union in Eastern Europe are at the receiving end of outsourcing done by Western European firms.

Outsourcing is not limited only to manufacturing. In Germany, for example, it has been shown that these phenomena apply to the export sector as a whole. From 1991 to 2002, an additional unit of real exports induced, on average, a 55 percent increase in intermediate imports. Only 45 percent of the increase in exports implied additional value added in Germany, a phenomenon that has been caricatured as the "bazaar effect". Nevertheless, export-induced value added grew relative to GDP, which is a natural implication of increased specialisation.

In principle, outsourcing activities can lead to gains from trade for all countries involved. The low-wage countries of Eastern Europe and Asia find new and profitable employment activities for their large labour forces and are able to increase their wages. And the high-wage countries of the West are able to withdraw part of their endowments of labour and capital from labour-intensive sectors to use them more productively in the service and high-tech sectors where they may have comparative advantages.

Outsourcing is a special form of international trade that can be expected to boost world GDP and world welfare, because it allows countries to specialise on the basis of their comparative advantages. However, for the gains from trade to occur it is essential that the domestic factor markets in the West are flexible enough to allow for the necessary factor migration between shrinking and expanding sectors.

While capital markets in Europe do seem largely to meet this requirement, labour markets are rather rigid. For one thing, national job protection measures prevent workers from moving easily between sectors. For another, collective wage agreements and welfare-state provisions that ensure high replacement payments for the non-employed prevent the necessary wage flexibility. Gains from trade go hand in hand with a tendency towards factor price equalisation. In particular, the specialisation in more capital-intensive production requires lower wages of the less-skilled workers relative to wages of skilled workers in order to prevent unemployment. If wages are rigid, this process cannot take place. The sectors where the West has a comparative disadvantage shrink too quickly, setting more labour free than is useful, and the growing sectors where there is a comparative advantage do not create enough additional jobs. A growing level of unemployment results.

In some European countries we see strong signs for such a deficiency of the adjustment process. Thus, we advocate policies to make the labour market more flexible. The necessary measures are the ones we have recommended in our earlier reports. The measures range from more limited job protection policies via opening clauses for collective wage agreements

towards policies of activating social aid that reduce labour costs and give further incentives to work, thereby changing the role of the welfare state from a competitor to a partner of private enterprises.

Longer working hours – the beginning of a new trend? (Chapter 3)

Both hours worked per capita and hours worked per employee are low in several continental European countries, such as Germany, France, Belgium and the Netherlands, as compared to the United States. This accounts for a large part of the income difference between Western Europe and the United States. The low working hours in Europe reflect to a large extent low standard working hours for full-time employees.

Recent company-level deals in Germany on longer working time may represent a reversal of the earlier trend towards shorter working time that could spread also to other Western European countries with low working hours. It seems that especially the French discussion has been much affected by working time developments in Germany, but also employer demands in Belgium and the Netherlands have been influenced. The agreements in Germany have implied longer working hours without pay compensation. The deals can be seen as cost-cutting measures made necessary by both increased international competition in product markets and credible employer threats to outsource jobs abroad associated with on-going globalisation in general and EU enlargement in particular, as analysed in Chapter 2.

One way of thinking about the deals on longer working time is as a convenient way of reducing hourly wages without reducing the pay per employee. It is natural that such agreements take place at the decentralised level of firms exposed to harsh competitive pressures rather than at more centralised levels of bargaining. The deals on longer working time can also be viewed as a labour supply response in collective bargaining to a reduction in the hourly wage that is required as a response to the forces of globalisation. The desired working time on the part of trade unions may respond differently to a wage change than the desired working time on the part of employees when acting on their own. We argue that it is likely to be in the interest of unions (workers acting collectively) to accept increases in working time when real wages per unit of time have to fall.

When analysing the effects of longer working hours, it is essential to distinguish between the short run and the long run. In the short run, longer working hours at unchanged pay, as in Germany, will by definition prevent job losses in firms where there is an acute risk of outsourcing production because costs are too high. Also in firms where this is not the case, such agreements will have positive employment effects, provided that the longer working time of employees leads to a large enough increase in the utilisation of capital, because the capital stock can be operated for longer hours. Indeed, such an increase in capital utilisation is one of the major advantages of longer working hours. The capital utilisation effect makes an immediate output increase possible without the need to restructure the production process. In other firms where the operating time of capital does not increase with working time (for example, because shift work or overlapping working times of employees have detached the operating time of capital from working time) or where it takes time to restructure the production process, the employment effects are likely to be negative in the short run. Lower wages per hour will, however, make it profitable even for these firms to expand output.

In the long run, the hourly real wage level in an open economy must be such that capital earns the same rate of return as abroad. It follows that the long-run feasible hourly wage depends on the world market rate of return to capital. A critical factor for the long-run employment effects of an economy-wide lengthening of working hours is therefore how wage-setting incentives are affected. If longer working time creates stronger incentives for wage moderation, lower unemployment is needed in equilibrium to discourage wages from rising above the feasible level. Although neither theoretical nor empirical research gives unambiguous conclusions, there is a presumption that longer working hours would contribute to wage moderation. If so, one should expect positive employment effects in the long run from longer working time. This would then add to the positive long-run output effects of an increase in working time that would arise already at an unchanged employment level.

Pensions and children (Chapter 4)

Public pension systems in most countries are currently based on the pay-as-you-go principle, in which current contributions are used to pay the pensions of people in retirement. Under current conditions, most pay-as-you-go pension systems in Europe are not sustainable:

the old-age dependency ratios are forecasted to grow from the current 0.2-0.3 range to as high as 0.4-0.68 pensioners per worker in 2050, which would eventually require a very large increase in tax rates, and/or a reduction in pensions. Reform is required and it should aim not only at fixing the budget problem but also at designing a more efficient pension system.

A general slowdown in the growth of living standards associated with ageing is inevitable. Pension reform that entails a move to a partially funded system (in which workers make savings in personal accounts toward their future pensions) will not prevent the slowdown and cannot benefit all generations. However, such a move may help stimulate national savings and smooth the pension burden across generations. The pension crisis results from a lack of human capital. Partial funding means filling the human capital gap with real capital. It thus helps mitigate the provision crisis to be expected when the baby boomers receive their pensions. Funded pension components may also increase the scope for individual flexibility by allowing people to choose their pension level and retirement age at an actuarially fair rate, and thus alleviate political conflicts associated with ageing.

One should ensure that private pension funds have an appropriate risk structure. That includes limiting exposure to stock market fluctuations and minimising the correlation between the financial risk of pension wealth and labour market risk. Thus portfolios of pension funds should be adequately diversified, with a critical mass of risk-free assets and a very limited exposure to assets in the firm and sector in which the worker is employed. Simple legal rules should be designed to supervise and regulate fund management so as to minimise budget risks and social costs associated with financial instability and moral hazard in financial markets. These rules should also provide strong incentives to contain the managing costs of pension funds. Especially in the initial phase of a reform, these costs may levitate in a privatised system because of aggressive advertising by an excessive number of providers. The introduction of an individually based, privately managed, funded pillar of the pension system would allow for a great deal of individual flexibility, provided it satisfies these requirements. It would be a good idea for those European countries that have not already done so to complement the existing pay-as-you-go system with such a pillar.

A number of other margins of manoeuvre also exist that would contribute to fixing the problem of sustainability of the pension system. To the extent that part of ageing is due to an increase in life expectancy and that people are healthier, it is perfectly natural to raise the retirement age, which has trended downwards for many years in most countries. Pre-retirement schemes that are meant to artificially reduce registered unemployment, while increasing the burden on pensions, should be avoided altogether. Structural reform in the labour market, although desirable in its own right, will also have a positive effect on pension finance by increasing employment, thus increasing the tax base for contributions.

The fiscal system could be amended so as to reduce its distortionary impact on people's decision to have children. Specifically, when deciding on the number of children, people may ignore the fiscal benefits brought by children to society in the form of contributions to pensions and may therefore have fewer children than is socially desirable. One could envisage reforms to address this issue. A partial indexation of pay-as-you-go pension claims on the number of children is one possibility. Additional self-financed mandatory funded pensions for those who have no or only few children could then supplement the pay-as-you-go pension for those with no or only few children. People who do not raise children have on average more funds to save for their old-age pension. Also, personal income taxation can be differentiated according to the number of children and systems of child allowance be used to provide stronger incentives towards having children.

House prices in Europe (Chapter 5)

In the last ten years, home prices have risen in all EU member states, and especially in Ireland, Spain, the Netherlands and the United Kingdom. But the variety of experience demonstrates that Europe is still far from a single housing market, and it raises particular questions for the implementation of a common monetary policy.

There has been growing concern that there is a house price "bubble". There is an important distinction between a bubble – when prices are high because buyers believe prices will rise further and in which prices become entirely divorced from fundamental values – and a period of rapid price increase, or even over-valuation. In this chapter, we look at the fundamental determinants of house prices. We ask whether there is evidence of a bubble in house prices: do present levels

and recent increases take them to levels, which cannot be sustained by a reasonable view of these fundamental determinants?

The housing market is complex because housing is both a consumption good and an asset. We employ both perspectives, asking whether housing consumption now represents an implausibly and unsustainably high proportion of overall household expenditure, and whether house prices are now valued on a basis inconsistent with the valuation basis applied to other assets. Our answer to both questions is negative – current levels of house prices do not make housing unaffordable for typical households, nor do houses seem markedly expensive relative to other assets. Commentators who emphasise the ratio of house prices to incomes, which is historically high in many countries, have not taken sufficient account of the effect of falling real and nominal interest rates on both the price of housing services and the valuation of other assets. In this sense, current house prices are not outside the range of reasonable estimates of fundamental value, and there is no house price bubble.

This does not mean that we believe that house prices will continue to rise at the rate that has recently been experienced. Many speculative asset prices, and the housing market in particular, tend to follow a pattern of positive serial correlation in the short run and negative serial correlation in the long run. This means that a month in which house prices rise is more often than not followed by another month in which house prices rise, but a long period of above-average rises is normally followed by a similarly long period of below-average rises. Thus the longer the present rise continues, the more certain it is that we will see some years of relatively stable or even falling prices. Moreover, future macroeconomic developments can affect house prices. For example, high public deficits in several countries may lead to higher real rates of interest, which in turn can have a negative impact on house prices. It is, however, notoriously difficult to determine when the long run begins or to predict the impact of uncertain macro developments. It is not necessarily the case that houses in any or all EU states are overvalued at current prices.

THE EUROPEAN ECONOMY: CURRENT SITUATION AND ECONOMIC OUTLOOK FOR 2005*

In 2004, the European economy strengthened and output growth of 1¾ percent in the euro area was close to its trend, although the output gap remained large and unemployment increased further. The recovery was export-led with spending shifting only gradually to domestic demand. After a weakening in the second half of 2004, mainly because of higher oil prices and lower growth in world trade, the economic expansion is expected to continue at a moderate pace during 2005 with growth in the euro area averaging again only 1¾ percent. This will once more be insufficient to reduce the output gap and unemployment will remain high. The recovery in Europe remains fragile, depending on the global upturn remaining intact without major exchange-rate turmoil and on oil prices not rising further. Despite some narrowing of growth between Europe, the United States and Asia, external imbalances between the regions remain large and could trigger a further fall of the US dollar and a strengthening of the euro. Under such circumstances growth of the European economy could be even weaker.

1. The current situation

In 2004, the European economy strengthened and output in the euro area increased on average by 1.8 percent (after only around ½ percent in 2003). Growth was close to the trend rate (of 2 percent), so that the output gap – a measure of the underutilisation of resources – did not shrink. This development was only slightly weaker than our forecast in last year's report (we had forecast growth of 2 percent). Indeed, most of our assumptions in the report did materialise. In particular, the global recovery strengthened and nominal and real interest rates remained at historically low levels. However, oil prices increased more than expected.[1]

The sharp appreciation of the euro in 2003 (by around 12 percent against the currencies of major trading partners) came to a halt in 2004, although towards the end of the year the euro began to strengthen again.

In the first half of 2004, growth was stronger than expected, but the expansion lost momentum in the second half and business expectations weakened again and more recently the assessment of the present situation also declined slightly (Figure 1.1). In Germany, where the combination of both components of the Ifo business climate indicator (assessment of actual conditions and expectations) tends to move in a clockwise manner over the business cycle, the current level neither points to a downturn of the economy nor to a strong upturn that would help lift growth in Europe as a whole (Figure 1.2). (For further details on business confidence in individual countries and regions see Appendix 2.)

Boosted by stronger export growth, investment in the euro area started to increase after a decline in the two preceding years, albeit at a moderate pace. Private consumption remained subdued reflecting low real income growth, which was depressed by higher energy prices and poor labour market conditions. Consumer spending, however, was not uniform and in a few countries such as France, Spain and Portugal it recovered – partly reflecting a decline in household savings – while in others, in particular Germany, it remained weak. (For the contribution of domestic demand to quarterly eurozone GDP growth see Figure 1.3.)

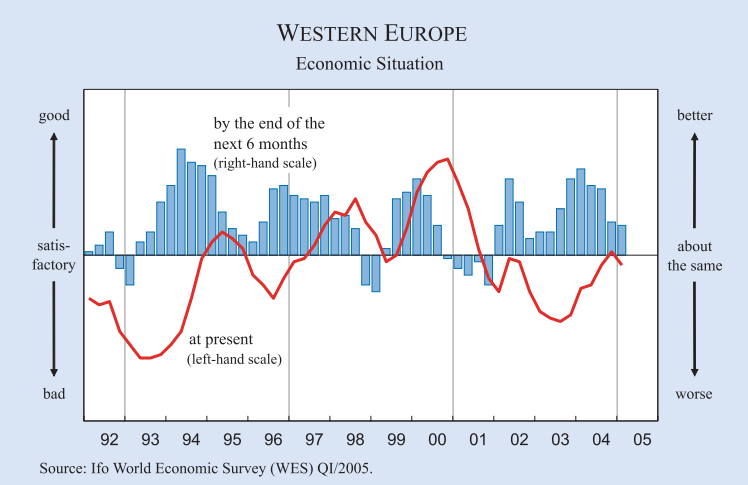
Economic growth continued to be higher in the United Kingdom than in the three big euro countries France, Italy, and Germany and was also above average in all the Nordic countries and in Ireland as well as in Spain.

Central and Eastern European economies also achieved higher growth than the EU average – reflect-

*The forecast is based on data available until 10th of February 2005.

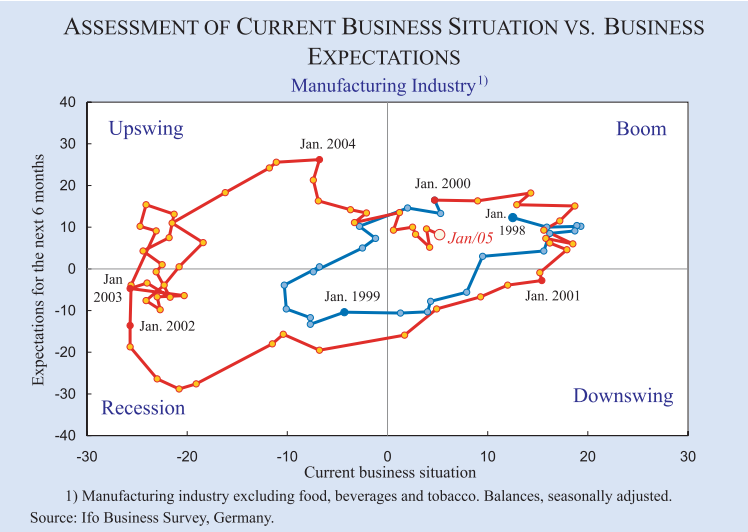
[1] Growth was stronger in the first half and weaker in the second half of 2004 than projected, being related to the unexpected increase in oil prices. During the year, the oil price (Brent) increased to between 45 and 50 US dollars per barrel, while last year's forecast assumed that it would remain at around 28 US dollars.

Figure 1.1



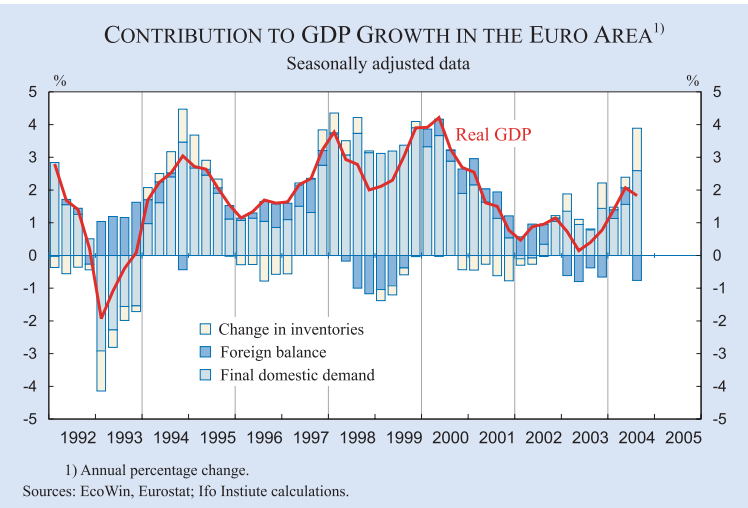
Source: Ifo World Economic Survey (WES) QI/2005.

Figure 1.2



1) Manufacturing industry excluding food, beverages and tobacco. Balances, seasonally adjusted.
Source: Ifo Business Survey, Germany.

Figure 1.3



1) Annual percentage change.
Sources: EcoWin, Eurostat; Ifo Institute calculations.

ing their catching-up from low income levels – with the highest growth being recorded in the Baltic states, Poland, and the Slovak Republic.

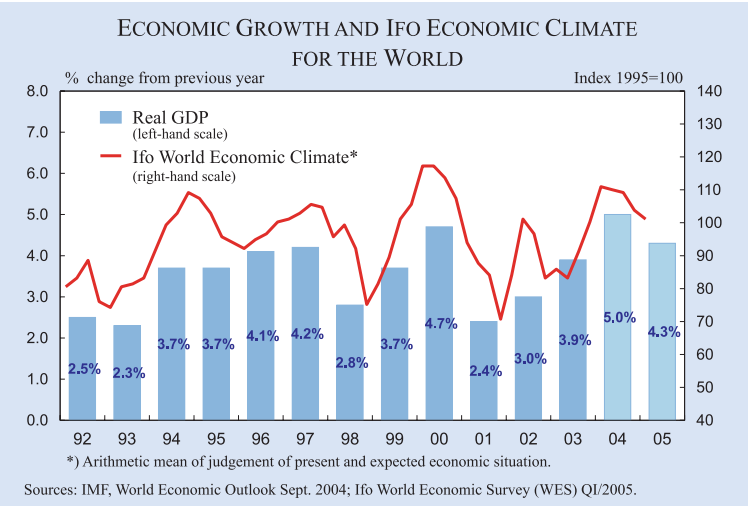
1.1 The United States and Asia as engines for European growth

In 2004, European growth depended – once more – on the strength of the world economy. World output increased by 5 percent (after almost 4 percent in 2003) and the strengths of the US and Asian economies were again the main forces behind the global expansion. Growth of the world economy was stronger than expected in our last year's report.[2] But the sharp rise in oil prices has raised concerns about the sustainability of the global recovery.

In the *United States*, despite some deceleration during the course of the year, GDP growth in 2004 is expected to have reached 4.4 percent (after 3 percent in 2003). Growth was supported by all major demand components. Business investment remained strong throughout the year boosted by low interest rates, higher profits and rising capacity utilisation. Housing investment also remained buoyant, supported by low interest rates. Private consumption benefited from additional tax cuts, rising real wages, higher employment, low interest rates, and further rising house prices. A huge public sector deficit continued to add to aggregate demand. Exports were driven by higher global demand and the depreciation of the US dollar, but as imports increased again faster than exports, the contribution of net exports to output growth remained negative and the current account deficit reached a new record high of 5¾ percent of GDP (after 4¾ percent in 2003). This also re-

[2] In last year's report we projected GDP growth of 3.4 percent for the world economy, 4.2 percent for the United States, 1.9 percent for Japan, and 8.1 percent for China. In all three regions, growth turned out to be higher (4.4, 2.9, and 9 percent, respectively).

Figure 1.4



flects the growing gap between domestic savings and investment. While investment continues to rise, domestic savings remain low. The low savings rate is caused by both low savings of private households, declining to around 1 percent of disposable income, and high negative government savings. Compared with earlier upswings, job creation remained sluggish, raising concerns about jobless growth, but employment improved later in the year.

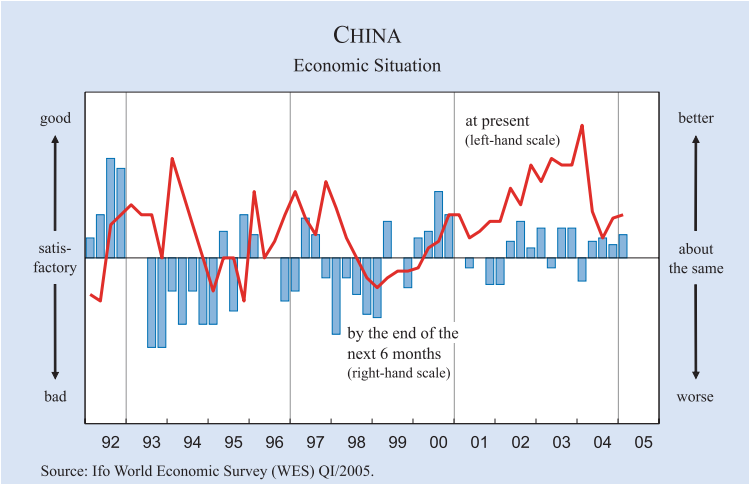
In *Japan*, the economic expansion, which had started in 2003, strengthened further. Output growth reached a record 5.2 percent annual rate in the first quarter of 2004, but stagnated in the second and third quarters. It may have reached almost 3 percent for the year as a whole (after 2.5 percent in 2003). In contrast to previous short-lived recoveries, the expansion was not driven by additional fiscal stimulus.[3] The major driving forces of output growth were exports, in particular to China, and business investment, which was stimulated by higher profits resulting from exports and from ongoing corporate restructuring. Private consumption also recovered and was supported by a decline in household savings and a moderate increase in employment. Nominal and real wage rates, however, continued to decline. Despite higher annual growth and higher oil prices, deflation has not yet come to an end. While the decline of consumer prices has almost stopped, the decline of the GDP deflator has not.[4] The fall in land prices continued for the thirteenth consecutive year, although rising land prices in some metropolitan areas may be signalling the end of land price deflation. As bank loans are often backed by real estate as collateral, land price deflation continued to have a negative impact on banks' balance sheets. At the same time, banks reduced the amount of non-performing loans. While the fall in bank lending continued in its six consecutive year, it was no obstacle to the recovery of business investment as this was mainly financed by retained profits.

During recent years, *China* has become an important engine of growth for the global economy as its rising demand for imports has been fuelling the export-led recoveries in other countries. China's share in world trade doubled over the past ten years and is now above five percent; China's increase in trade currently accounts for around one quarter of world trade

[3] The structural deficit declined slightly by around 0.5 percentage points of GDP and public investment declined by 14 percent. Japan's fiscal deficit remained very high, however (almost 7 percent of GDP after 7¾ percent in 2003). Japan's gross government debt increased from 65 percent of GDP in 1991 to more than 160 percent in 2004 and is now the highest in the OECD. During the same period, government net debt increased from 13 percent of GDP to 85 percent. Given the historically low interest rates on government bonds, government net interest payments, however, only increased from 1.1 to 1.8 percent of GDP during this period. But debt interest could become a significant burden in the future.

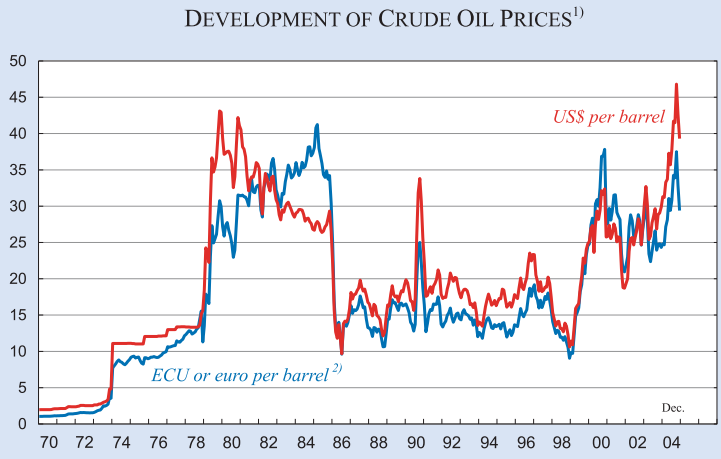
[4] The continued fall in the GDP deflator (by around 1 percentage point) can be explained by the decline in unit labour costs (as wages fall while productivity increases). However, after the recent introduction of chain-linked indices, the decline in the GDP deflator was lower (and growth in real GDP was also lower) than previously measured.

Figure 1.5



growth. While aggregate demand in neighbouring countries such as Japan and South Korea profits most from trade with China, aggregate demand in other countries and regions, including Europe, also benefits.[5] As China's imports increased again more than its exports, its current account surplus declined from around 3.1 percent of GDP in 2003 to around 1.1 percent in 2004. Given the mounting inflationary pressures, credit conditions were tightened to reduce growth. This together with the increase in oil prices have had some effect and business confidence weakened and showed only a moderate improvement in recent months (Figure 1.5). Nevertheless, annual growth remained at around 9 percent. China's growth was again driven by booming business investment, reflecting high domestic saving and a large influx of foreign direct investment, and by booming exports, reflecting low labour costs.

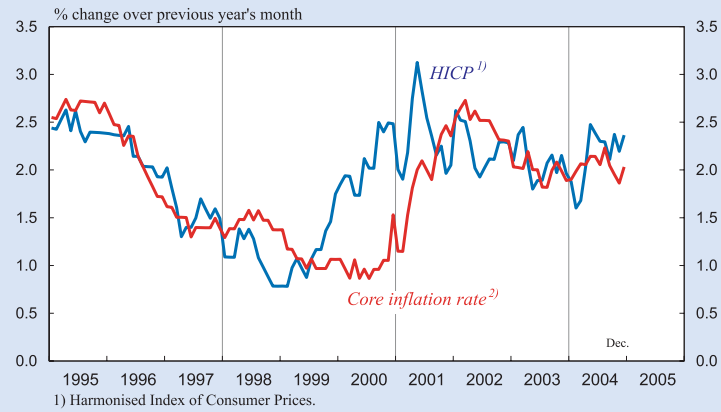
Figure 1.6



1) Average of Brent, Dubai and WTI.- 2) From 1999 euro.

Sources: HWWA, European Central Bank; Ifo Institute calculations.

Figure 1.7



1) Harmonised Index of Consumer Prices.
2) HICP excluding energy and unprocessed food.

Source: Eurostat.

1.2 The latest oil price hike

The strong recovery of the world economy has increased demand for raw materials and in particular crude oil. The rising demand for oil, in particular by China and the United States, met with supply disruptions in Iraq and uncertainties over the fate of Russia's top producer Yukos. In addition, speculative purchases and, perhaps, the response of oil producers to the decline in the dollar exchange rate, pushed oil prices to record levels of around 50 US dollars per barrel in October (Figure 1.6). The hike in oil prices has raised fears that the recovery of the world economy may slow. Indeed, the inflationary pressures stemming from the increase in energy prices brought the process of disinflation to a halt (Figure 1.7) and dampened real spending in a number of countries. More recently, oil prices have declined again and, assuming that the increase in oil prices will be contained, energy prices will only have a transitional impact on inflation and growth. However, if oil demand should continue to rise more than supply, oil prices will rise again and the impact on inflation and growth could become more significant than assumed in our projection.

1.3 The international policy mix

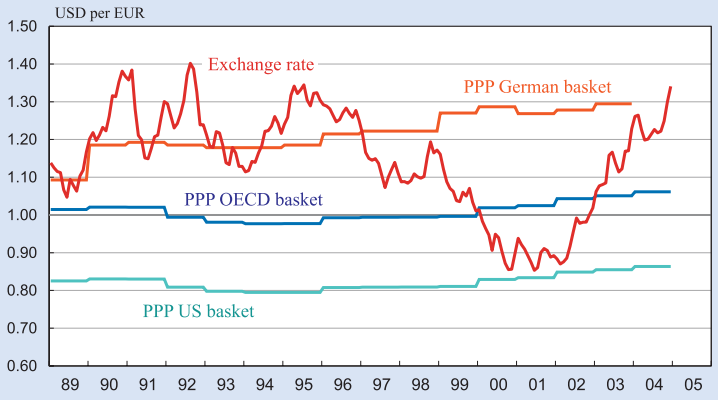
In the industrial countries, the stance of macro policies continued to be accommodative, even more so in the United States and Japan than in Europe. With respect to fiscal policy, the difference between structural deficits remained large. In the euro area, the (average) structural and actual deficits remained broadly constant (at around 2 percent of

[5] During 2003 and 2004, exports to China accounted for about a third of the rise in total Japanese exports and over 40 percent of the rise of South Korean exports, but less than 10 percent of the rise in total German exports and less than 5 percent of the rise in total French exports. The main reason is that in Japan and Korea the share of exports to China is much higher than in Europe. While Japanese and South Korean exports to China amount to around a quarter of their total exports, exports of the euro area to China only amount to around 3 percent of total exports (excluding intra-area trade).

GDP for the structural and around 2¾ percent for the actual deficit), reflecting a rather neutral stance of fiscal policy.[6] Countries with better fiscal positions tended to provide a larger fiscal stimulus than countries where deficits were already above the Maastricht ceiling. An exception, however, was Greece where the surge in spending for the Olympic Games led to an increase in the actual deficit from around 4½ to 5½ percent of GDP and of the cyclically-adjusted deficit from 5¼ to 5¾ percent of GDP (see Appendix 3 on the Stability Pact).[7] In 2005 the structural deficit in the euro area will decline by about ½ percentage point to 1½ percent of GDP. In the *United States,* the structural deficit remained at 4¼ percent of GDP providing no additional boost to domestic demand, although between 2000 and 2003/2004 US fiscal policy had provided a historically large stimulus with a deterioration of the structural fiscal balance by 5½ percentage points of GDP and of the actual fiscal balance by around 6 percentage points. *Japan* continued to run the largest structural fiscal deficit, which is clearly unsustainable; in 2004, the structural deficit amounted to 6¼ percent of GDP and the actual deficit to 6½ percent of GDP

Figure 1.9

EXCHANGE RATES OF THE EURO AND PPPS[1)]



1) Exchange rate are monthly data, while PPPs are given at an annual frequency. Different PPPs are computed with respect tot the different consumption baskets in the United States, the OECD and Germany.

Sources: European Central Bank, Federal Statistical Office, OECD, Ifo Institute calculations.

Monetary conditions remained favourable everywhere in 2004 but – given the lower real interest rates and the depreciation of the US dollar against the euro – continued to be more accommodative in the United States than in the euro area. Towards the end of 2004, the euro further strengthened against the dollar, reaching very high levels. Only after German unification was the respective deutschemark exchange rate (expressed in ECU) higher. Figure 1.9 shows the value of the euro in terms of dollars as well as the purchasing power parity (PPP) of the euro for alternative commodity baskets.[8] As a rule, a country's commodity basket contains many of those goods that are cheap there. The exchange rate of another country's currency must

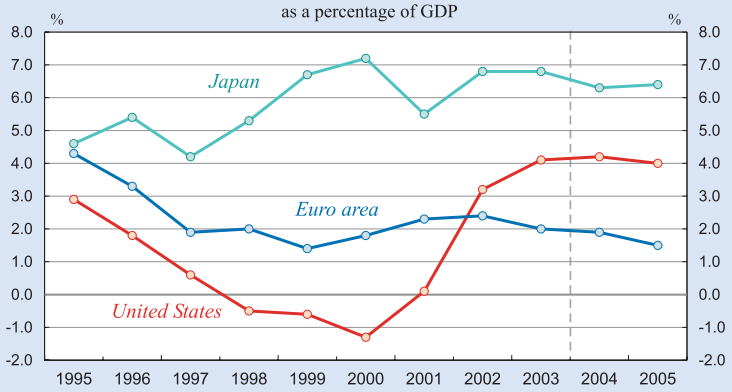
[6] The decomposition of the government budget into a cyclical and non-cyclical or structural component aims at separating cyclical influences on the budget balances resulting from the divergence between actual and potential output (the output gap) from those which are non-cyclical. Changes in the latter can be seen as a cause rather than an effect of output fluctuations and may be interpreted as a proxy for discretionary policy changes. The structural budget balance is derived by (re-)calculating government revenues and expenditures which would be obtained if output (GDP) were at its potential (or trend) level. We follow here the approach used by the OECD. See also Chapter 2 of our 2003 report.

[7] Greece has significantly revised its deficit and debt-to-GDP ratios. The deficit ratio has been raised from around 1½ percent on average between 2000 and 2003 to 4 percent, which is above the Maastricht ceiling and – had it been known at the time – would not have allowed Greece to enter the euro area. The debt ratio has been revised upwards from an average of around 105 percent of GDP to around 113 percent for the same period.

Figure 1.8

GOVERNMENT STRUCTURAL BUDGET DEFICIT IN THE EURO AREA, JAPAN AND THE UNITED STATES

as a percentage of GDP

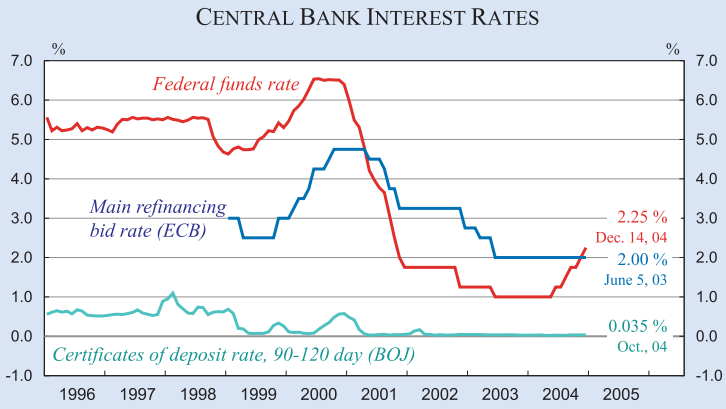


Source: OECD, Economic Outlook 76, Dec. 2004, Annex Table 28; Euro area , 2004 and 2005: Ifo estimates.

[8] Note that the series do not represent an index that is normalized at any point in time. The reported values are computed for a standard basket of goods consumed in the respective countries with city prices in the capitals of the countries normalized to one. A value of 1.30 in 2004 therefore means that a resident of Berlin would pay 1.3 times the price of the basket consumed at home if he moved to the United States and purchased the same basket of goods in Washington DC. The calculations are based on prices of identical goods weighted by their share in a typical consumption bundle in the respective country.

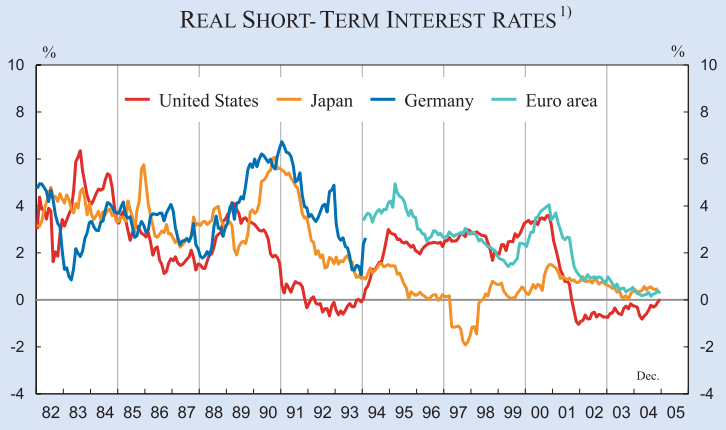
be low if that country's commodity basket is to be as expensive as the home country's. Thus, the PPP value of the euro is low when the American basket is chosen and high when the German basket is chosen. The lower and upper PPP lines in the figure reflect this. In addition, the figure contains an intermediate PPP line that refers to a standardised international basket as defined by the OECD. In 2004, the PPP value of the euro was 1.06 according to the OECD basket and 0.86 according to the US basket. As the figure shows, the euro exchange rate is now much higher than the OECD basket PPP and even higher than the German basket PPP. Hence, at the current exchange rate, it is relatively cheap for Europeans to spend their money in the United States rather then at home or to import goods and services, while exporting becomes more difficult (Figure 1.9).

Figure 1.10



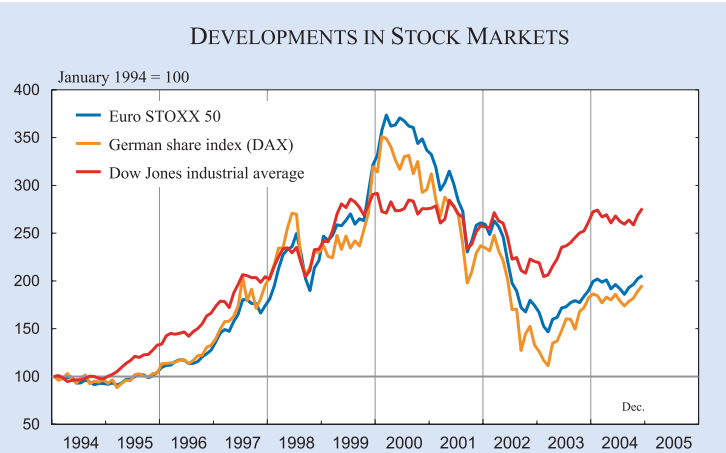
Sources: Bank of Japan, European Central Bank, Federal Reserve Bank of St. Louis.

Figure 1.11



1) 3-month interest rates minus core inflation rate (CPI excluding food and energy).
Sources: Deutsche Bundesbank, European Central Bank, Eurostat, Federal Reserve Bank of St. Louis, Federal Statistical Office, OECD; Ifo Institute calculations.

Figure 1.12



Sources: Deutsche Bundesbank, Dow Jones & Co., Inc.

While the European Central Bank left its target interest rate unchanged at 2 percent and the Bank of Japan continued its zero interest rate policy, the US Federal Reserve began, in the summer of 2004, to reduce the monetary stimulus by raising the Federal funds rate in consecutive steps (Figure 1.10). In the United Kingdom, where economic growth has remained stronger than in continental Europe, the central bank also gradually raised interest rates in an attempt to cool activity and, in particular, to dampen the boom in the housing market (see Chapter 5 of this report). In most countries, real short-term interest rates continue much below their equilibrium levels, currently being close to zero in the euro area, Japan, and the United States (Figure 1.11).

The increase in oil prices has raised the issue whether monetary authorities should raise interest rates to fight inflation or keep rates low to support growth. The fact that in the United States the rate hikes have

been relatively modest and that the ECB and the Bank of Japan have not yet raised rates at all suggests that central banks are generally interpreting the oil price hike as temporary and not affecting long-term inflation expectations, in particular as the recent weakening of growth has slowed down the closing of output gaps. In our view this is a realistic assumption.

Nominal and real government bond yields edged up temporarily in 2004, but this development was reversed later in the year. In the euro area nominal long-term rates remained on average at 4¼ percent and real rates at 2½ percent. At the same time, the risk premium of industrial bonds remained low. Although the increase in share prices came to a halt at the beginning of 2004, overall financing conditions remained favourable (Figure 1.12). Nevertheless, bank lending to corporations remained low in the euro area. This could reflect low credit demand as investment could be financed by retained profits. It could also reflect more cautious lending behaviour by banks, which were still strained by earlier stock market declines.

2. Economic outlook 2005: Recovery in the world economy and in Europe continues

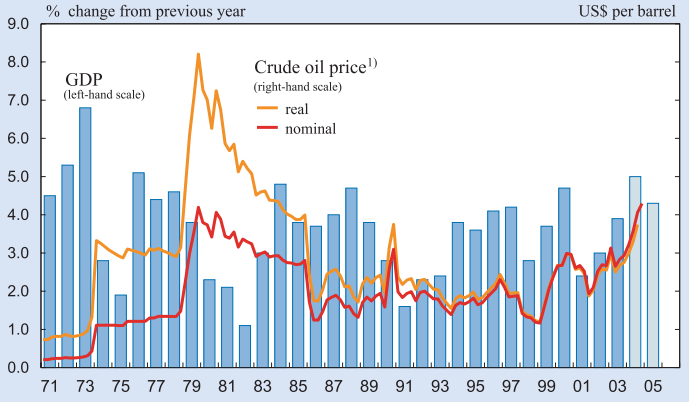
2.1 The global economy

In 2005, we expect the expansion of the world economy to continue at a moderate pace. This is based on the following assumptions:

- In the United States, the Federal Reserve is assumed to increase interest rates further, but real short-term interest rates will remain below the so-called neutral rate[9] so that monetary conditions will continue to support an increase in demand. The structural fiscal deficit is expected to decline only marginally (by ¼ percentage points of GDP), implying only a modest fiscal tightening. Relatively strong productivity growth will continue to raise corporate profits and also boost real wages. Household income will also be supported by a further rise in employment. Business investment will remain strong as capacity utilisation and profit expectations increase further, but growth in housing investment is expected to decline significantly. Output is assumed to increase by 3 percent in 2005, after 4.4 percent in 2004, but this will still not fully close the output gap in 2005.
- Growth in the Asian economies, in particular in Japan and in China, will also decelerate – from 2.9 percent to 1.2 percent in Japan and from 9 percent to 8 percent in China – but there will be no "hard landing" of these economies.
- The continued recovery in the United States, Asia and Europe will help the world economy to continue its expansion albeit at a somewhat lower rate than in 2004. World trade is expected to increase by around 7½ percent in 2005, after around 10 percent in 2004.
- Oil prices (composite index) are assumed to remain on average at a similar level as in 2004 (37 US dollars in 2005 after 38 dollars in 2004). In nominal terms the oil price would be still similar to the levels which triggered recessions in many countries in the early 1980s, but the real oil price (in constant 1995 dollars) is significantly lower than during earlier peaks and the appreciation of the euro against the dollar has also dampened the increase in the euro oil price (Figure 1.13). The importance of oil to the economies, as measured by the oil import bill as a percentage of GDP, has been reduced significantly

Figure 1.13

WORLD ECONOMIC GROWTH AND CRUDE OIL PRICE IN US$ PER BARREL



1) Average: Dubai, Brent and WTI, deflated with the US GDP deflator.

Sources: HWWA, U.S. Department of Commerce, IMF: World Economic Outlook Database, Sept. 2004; Ifo Institute calculations.

[9] In the United States, in the past, a real short-term interest rate of around 3 percent was commonly thought to reflect the neutral rate at which monetary policy is neither expansionary nor restrictive. According to more recent estimates, however, the neutral rate has fallen below 2½ percent. See Thomas Laubach and John C. Williams, "Measuring the natural rate of interest," *The Review of Economics and Statistics*, November 2003, 85(4): 1063–1070; *OECD Economic Outlook* No. 76, November 2004, Box 1.4.

over the past decades, in many countries by more than half. Furthermore, oil producing countries are assumed to spend a good part of their additional revenues on imports from industrial countries so that the net effect on world output growth will be muted (see Appendix 4).

- The euro exchange rate is assumed to remain on average below 1.35 dollars in 2005 after averaging 1.24 dollars in 2004.

Risks and uncertainties

The following forecast for the European economy is based on relatively favourable external assumptions, but major downside risks remain. Oil prices could start to rise again and this could hurt business confidence and reduce global growth. In addition, the existing external imbalances with the high US current account deficit (at around 6 percent of GDP) could trigger sharp exchange rate movements with a further dollar depreciation and euro appreciation. This could erode the price competitiveness of European exporters and bring the export-led recovery in Europe to a sudden end. Job creation in industrial countries may also remain lower and households may increase savings, so that consumption remains weaker than assumed. Furthermore, in countries that are currently experiencing a boom in the housing market housing investment could slump. Finally, China's economy could face a hard landing rather than the assumed soft slowdown. This would also reduce growth in the global economy.

Should some of these risks materialise, European growth would be lower than projected below. While there are also upside risks to the forecast – confidence effects and accelerator effects on domestic demand might be larger, so that the rebound of the European economy could be stronger than expected as is often the case during early recovery periods – we believe the downside risks currently to be somewhat higher than the upside risks.

2.2 The European economy in 2005

Policy assumptions

Despite the continued recovery of the eurozone, the cyclical slack will remain large and put downward pressure on the inflation rate. Under these conditions, the ECB is assumed to keep interest rates unchanged during 2005.

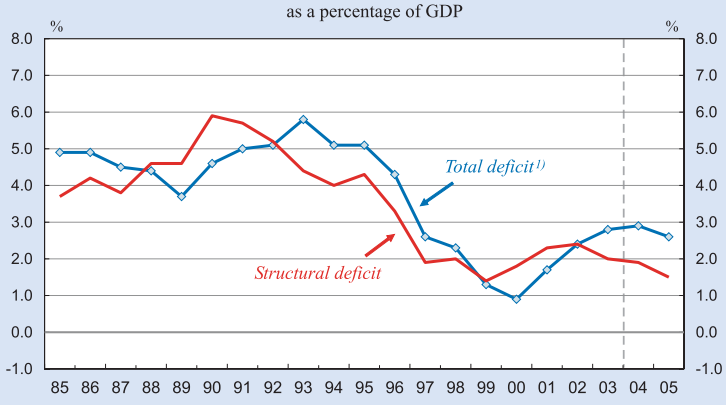
The stance of *fiscal policy* in the euro area is assumed to remain broadly similar to that of 2004 with only a modest tightening. Countries seem to be reluctant to reduce structural deficits significantly in view of high unemployment, and the fiscal rules in the Stability and Growth Pact are in effect becoming less firm (see Appendix 3) (Figure 1.14). The degree of already achieved consolidation and of additional efforts differ quite substantially among countries, however. For example, Finland is continuing to run a budget surplus and in Spain and Ireland government budgets will be broadly balanced. On the other hand, Greece, France, Germany, Italy and Portugal will continue to run deficits at or above the three-percent limit of the Maastricht Treaty (Table A3). Outside the euro area, government budgets in some countries (Sweden and Denmark) will remain in surplus, while the United Kingdom will continue to record a deficit of above three percent. The new EU member states also tend to run relatively high fiscal deficits and six of them have deficits in excess of three percent of GDP. As the output gap has been closed in the United Kingdom, its entire deficit is structural, while in France, Germany, Italy and Portugal, where output gaps prevail – according to OECD estimates – between one fifth and one half of the deficits are cyclical.

Supply-side improvements and risks

The challenge facing the European economy is to continue reducing the cyclical slack, and to improve the growth potential. Whereas the former requires a continued accommodative stance of macro policies, in particular easy monetary conditions, the latter

Figure 1.14

GOVERNMENT BUDGET DEFICIT IN THE EURO AREA
as a percentage of GDP



1) Excluding one-off revenues from the sale of the mobile telephone licenses in 2000.
Sources: OECD Economic Outlook 76, Dec. 2004, Annex Table 27; Euro area, 2004 and 2005: Ifo estimates.

Box 1.1

Labour Market Reform in Germany

Starting from January 2005, a number of changes in labour market institutions that were enacted in 2003 and 2004 will now become effective (see EEAG 2003, Box on p. 31 and EEAG 2004, Box 2.4). The most important of these changes is a fundamental reform of the benefit system for the long-term unemployed and other non-employed individuals living on general welfare benefits. According to official estimates, between 3 and 3.5 million individuals, or about 7 to 8 percent of the total labour force, will be affected by this reform (*IAB* 2004).

Starting from 2005, the maximum duration of unemployment insurance benefits *(Arbeitslosengeld I)* for older workers is reduced from up to 32 months to 18 months; the period of benefit payments for younger workers remains at 12 months. More importantly, unemployment assistance is integrated with social assistance to form one comprehensive scheme *(Arbeitslosengeld II)* that is basically modelled on the less generous scheme of former social assistance and covers all non-employed individuals of working age except those with unemployment insurance entitlements and those unfit for work or engaged in a number of specific home responsibilities. For former recipients of social assistance who did not work, the level of benefits remains largely unchanged. For former recipients of unemployment assistance, which is now abolished, there can be substantial reductions of benefits. Unemployment assistance was based on earlier net wages and amounted to 53–57 percent of these, depending on whether beneficiaries had children or not. By contrast, the new benefit is defined by the subsistence level of income of a given household. For the average unemployment assistance recipient, the reduction of benefits is about 8 percentage points. Benefit withdrawal rates are also slightly reduced (from between 85 and 100 percent to between 70 to 80 percent) over a certain range of low incomes, but withdrawal rates are unchanged for higher incomes. In certain income ranges they may now even exceed 100 percent for family households. Because of the reduction of withdrawal rates, former recipients of social assistance who worked may now receive higher benefits.

In addition to changes in benefit entitlements, requirements to search for a job and to accept jobs proposed by case managers are being tightened: benefit sanctions in cases of non-compliance are higher and shall be applied more strictly under the new framework than according to past practices. For the jobs offered to be acceptable, the new law specifies no limits regarding qualifications demanded (compared to the job searcher's formal skills or actual job experience), wages paid (compared to wages earned in previous jobs, wage levels defined in collective agreements, etc.), or the number of working hours regularly covered (in full-time, part-time, or even "mini" jobs).

Public protests against the reforms that were vigorous in the Summer of 2004 have now largely subsided. As the latest reform steps that become effective now are unprecedented, assessing their consequences is difficult. In our view, they mark an important step in the right direction, whereas earlier, less fundamental changes enacted since 2002 have largely proven to be ineffective in reducing unemployment and promoting job creation (*see* Council of Economic Advisors 2004 and 2004 Joint Forecast of the Institutes).

An immediate consequence of the current changes could be that officially recorded unemployment rises by about 300,000 to 400,000, or by 0.7 to 0.9 percentage points, in January 2005 because individuals of working age who formerly received social assistance, but did not register as being unemployed are now included in the statistics. As some of these individuals will find a job during the course of the year, registered unemployment will fall again, but the annual average may be higher than in 2004 by about 100,000 to 150,000. Hence by eliminating hidden unemployment of the social assistance system, the reform would have reduced effective unemployment by 200,000 to 250,000, or by about half a percentage point. However, benefit levels in the new scheme are still relatively generous, and withdrawal rates still very high, so that beneficiaries may not accept jobs at low wages. It may therefore be necessary to further reduce benefit rates and withdrawal rates to stimulate both labour supply and demand in an expanding low-wage sector of the labour market, as has been suggested by, for example, the Council of Economic Advisors (2002), the Advisory Board of the Federal Ministry of Economics (2002) and Sinn et al. (2002).

References:

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requires structural reforms, in particular improved conditions for a better utilisation of the labour force. Looking at cyclical conditions, aggregate demand and capacity utilisation are still relatively low, but profit margins are improving and overall conditions for investment financing are favourable. Furthermore, following a long period of weak business investment, there is mounting pressure to modernise the capital stock. In addition, a number of European countries have implemented – or are in the process of implementing – labour-market reforms that should make labour markets more flexible. Although past reforms have already shown positive results in some countries, the new measures require time to have their full effects (see Box 1.1). With the current cyclical weakness, labour demand is relatively low, which makes it more difficult to quickly absorb a reform-induced increase in labour supply. This also creates political headwinds

against such reforms and risks that reform efforts will wane. Nevertheless, such reforms are urgent in order to raise employment rates over the medium-term, in particular as the employment targets for 2010 set in Lisbon in 2000 seem currently out of reach.[10]

Under conditions of continued cyclical slack, pressure for wage moderation will continue and this could be reinforced by recent tendencies in some countries (in particular Germany) to lengthen working hours (see Chapter 3 of this report). As a result, unit labour costs will be restrained and profit margins should widen further, leading to an increase in investment and employment. Given low inflation expectations and high unemployment, the increase in oil prices is unlikely to trigger higher wage claims that would squeeze profits, even if such a risk cannot fully be excluded.

There is also a tendency that with European enlargement a greater share of total business investment will be shifted to the accession countries where labour costs are much lower than in the old EU states. Investment in the euro area could therefore remain lower than in previous economic recoveries and concerns about outsourcing have been raised. Indeed, many of the accession countries are recording high foreign direct investment inflows, a good part of which are from neighbouring western countries. As already mentioned in last year's report, such mobility of capital should not be a major concern for long-term growth of Europe as a whole, since it results in an improved allocation of capital, incorporating those regions of the continent that previously had been artificially excluded from international investment flows by the Iron Curtain. Mobility of capital also helps maintain the competitiveness of western companies that succeed in keeping their wage bills under control and withstand competition from other parts of the world by outsourcing labour intensive parts of their production to Eastern Europe. However, flexible labour markets in Western Europe are a prerequisite for the reallocation of capital not to result in unemployment in the West and to boost economic growth in the EU aggregate. Chapter 2 will discuss this in more detail.

The development of demand components in the euro area

During the course of 2005, the ongoing expansion of the world economy will probably continue to support *export growth.* On average, euro area exports are likely to increase somewhat less than in 2004.

Private consumption is expected to be supported by an improvement in labour market conditions and – after the oil price effect has subsided – a decline in consumer price inflation and in some countries also by additional tax reductions. But there are also factors which continue to restrain consumer spending. In particular, fiscal consolidation measures will continue to place strains on private households by reducing transfers and raising contributions to social security systems or to private pension and health care schemes. Hence, we expect a continued moderate increase in private consumption.

With the continued strength in exports and further improving profit margins as well as favourable financing conditions, the recovery in *investment* that began in 2004 is expected to strengthen in 2005. Capacity utilisation in the export sector has increased and in domestically oriented sectors, where capacity utilisation is still low, there is mounting pressure to modernise the capital stock.

Growth, employment and inflation

On average, output in the euro area is expected to grow at a similar rate as in 2004 (1¾ percent)[11] (Figure 1.15). The growth gap between Europe and the United States will narrow somewhat, but only because growth in the United States will decelerate more than in Europe (Figure 1.16).[12]

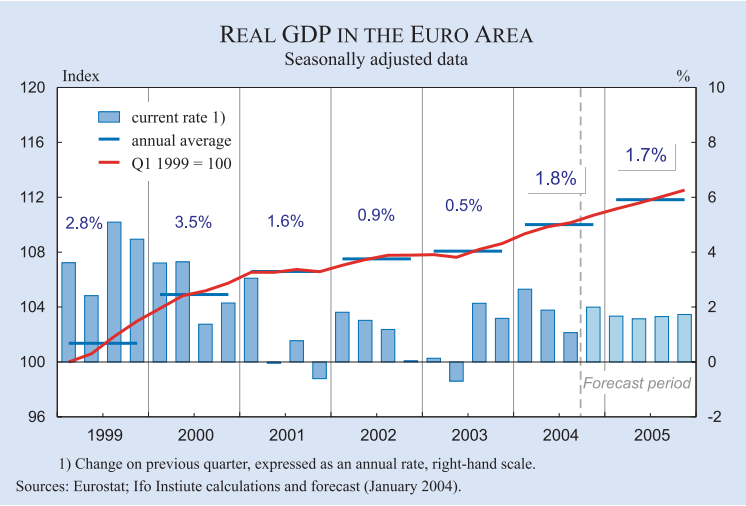
Output growth will remain too weak to significantly improve labour markets and in the euro area employment growth will continue to remain very small. Unemployment will continue to remain high and is expected to decline only marginally towards the end of the year (Figures 1.17 and 1.18). Structural reforms of the labour market, which have been implemented in some countries, like Germany, should help to

[10] In March 2000, the EU member countries fixed numerical employment targets. The total employment rate (of those aged 15 to 64) was targeted to increase on average by 6½ percentage points to 70 percent between 2000 and 2010, the employment rate of women by around six percentage points to 60 percent, and the employment rate of older workers (55 and older) by 12 percentage points to 50 percent. However, the employment rate in EU-15 increased only by less than 1½ percentage points over the past four years and is unlikely to increase by another five percentage points over the next five years.

[11] The precise numbers are 1.7 percent for 2005 and 1.8 percent in 2004 but this small difference lies well within the uncertainty range of forecasting.

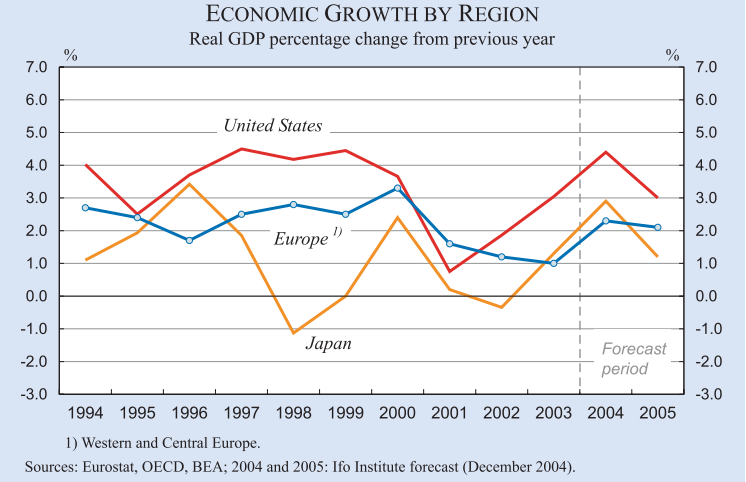
[12] It should be noted that the growth differential between Europe and the United States is smaller with respect to GDP per capita than GDP, as population growth in the United States is higher by ¾ percentage points (almost 1 percent against ¼ percent in Europe). Thus in 2005, GDP per capita will increase by 1½ percent in Europe compared with around 2¼ percent in the United States, implying a further widening of the income gap between Europe and the United States.

Figure 1.15



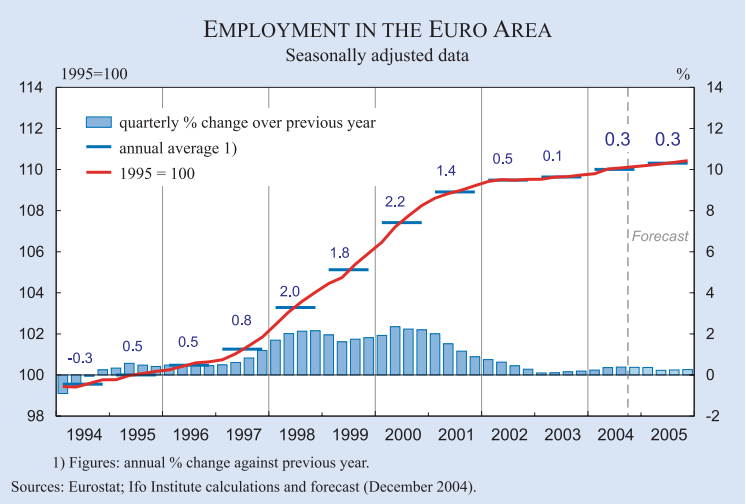
1) Change on previous quarter, expressed as an annual rate, right-hand scale.
Sources: Eurostat; Ifo Instiute calculations and forecast (January 2004).

Figure 1.16



1) Western and Central Europe.
Sources: Eurostat, OECD, BEA; 2004 and 2005: Ifo Institute forecast (December 2004).

Figure 1.17



1) Figures: annual % change against previous year.
Sources: Eurostat; Ifo Institute calculations and forecast (December 2004).

reduce unemployment over the medium-term, although their short-term impact may be small and at the beginning of the year the reform in Germany has increased unemployment as more of the formerly hidden unemployed are now registered as unemployed (see Box 1.1 on labour market reform in Germany).

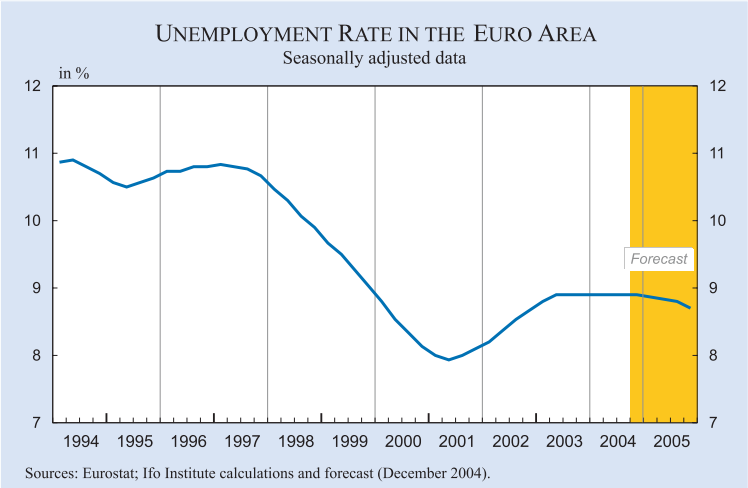
2.3 Differences in output growth within Europe

Despite the general recovery in the euro area (and in Europe as a whole) in 2004, there were significant differences in the output growth of individual countries. Among the countries with below-average growth in 2003, a few (Germany and France) achieved almost average or above-average growth in 2004, while in others (Portugal, Italy and the Netherlands) growth remained below average. In three countries of the euro area (Greece, Ireland and Spain) and in the UK, growth was above 2½ percent, with Greece achieving the highest growth rate, at 3¾ percent (boosted by the Olympic games). Growth in the four major new EU member countries was also uneven, with the highest growth in Poland (at around 5½ percent), followed by the Slovak Republic (at around 5 percent), and Hungary and the Czech Republic (at almost 4 percent). Growth was even higher in the Baltic States, at between 5¾ and 7 percent.

The differences in the growth performance of individual European countries reflect a number of factors, including statistical differences as the number of working days in 2004 increased more in some countries than in others.[13] The new EU member countries benefit from relatively favourable supply conditions related to a

[13] This calendar effect was particularly marked in Germany where it amounted to 0.5 percent in 2004. As in some countries GDP is adjusted for the number of working days, growth rates are not fully comparable.

Figure 1.18



Sources: Eurostat; Ifo Institute calculations and forecast (December 2004).

normal catching-up process (i.e. lower initial levels of GDP per capita, low wage levels and relatively high capital productivity).

Wage moderation, as measured by the development of nominal and real wages, continued in the euro area in 2004. With moderate nominal wage growth and higher productivity growth, the increase in unit labour costs was lower than in 2003, although this was not a uniform pattern across countries (Table 1.1). In countries like Italy and Spain, increases in unit labour costs remained above-average, reflecting higher nominal wage increases and low productivity growth. Outside the euro area, the increase in wage costs was also relatively high in the United Kingdom despite higher productivity growth. Among the new EU member countries, the increase in wage costs was high in Hungary but low in Poland. Unit labour costs measured in a common currency, relative to those of trading partners (an indicator often used as a proxy for the real effective exchange rate) continued to increase in the euro area as a result of the strengthening of the euro in contrast to the United States where they declined. As a result, European countries lost shares in their export markets although these losses differed substantially across countries. Due to wage

Table 1.1.

The development of various measures of wages and wage costs

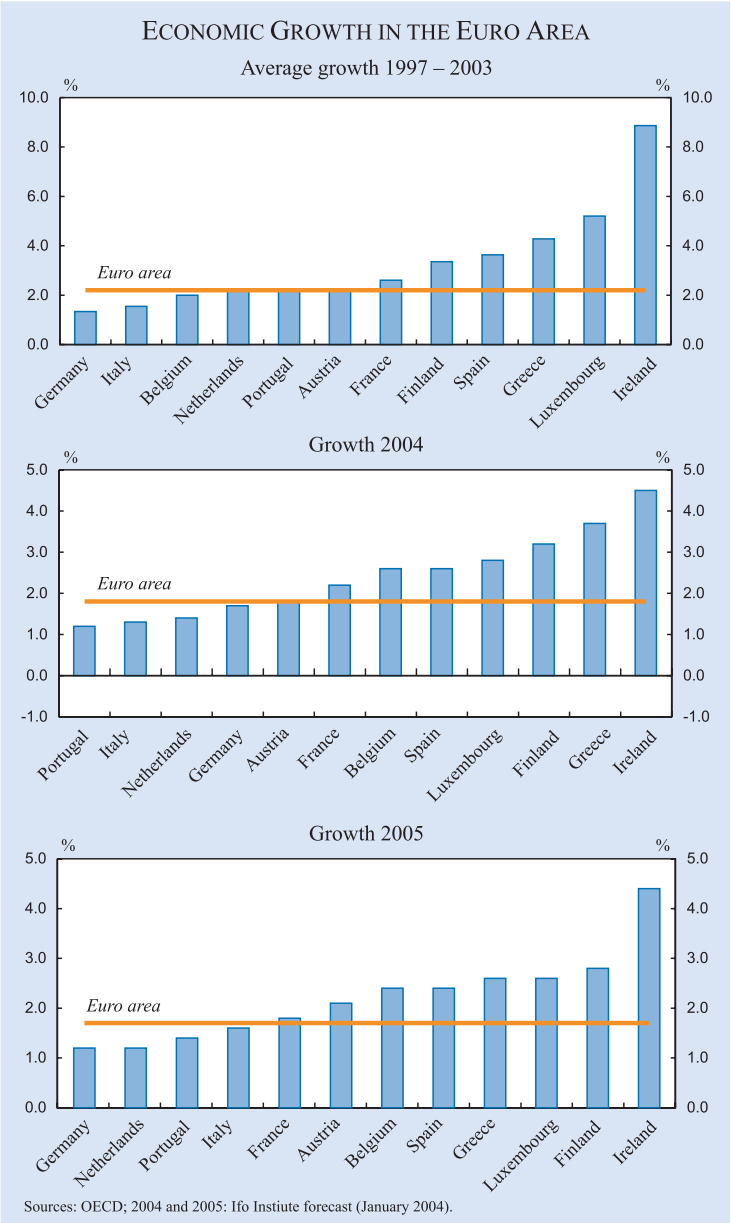
Annual average changes in per cent

		Nominal wage[1]	Real wage [1,2]	Labour productivity [1]	Unit labour costs[1]	Relative unit labour costs[3]	Export performance[4]
Euro area	2001-2003	2.4	0.1	0.4	2.0	6.4	
	2004	1.9	0.0	1.2	0.7	5.1	
of which:							
Germany	2001-2003	1.6	0.3	0.6	1.0	1.6	1.0
	2004	1.0	0.1	1.0	0.0	1.8	-0.5
France	2001-2003	2.5	0.7	0.5	2.0	0.9	-2.2
	2004	2.7	0.8	2.8	0.1	-1.1	-3.9
Italy	2001-2003	2.9	0.0	-0.4	3.3	5.5	-4.7
	2004	2.5	-0.3	0.3	2.2	4.6	-4.0
Finland	2001-2003	3.2	1.9	1.3	1.9	2.4	-1.8
	2004	3.1	2.3	3.8	-0.7	1.3	-6.7
Netherlands	2001-2003	4.5	0.7	-0.4	4.9	6.2	-1.3
	2004	1.8	1.0	2.6	-0.8	0.7	-0.7
Ireland	2001-2003	3.6	-0.3	3.4	0.2	0.2	2.1
	2004	5.2	1.6	3.5	1.6	2.4	-0.9
Spain	2001-2003	4.6	0.4	0.7	3.9	3.2	0.7
	2004	4.5	1.4	0.7	3.8	4.4	-2.1
United Kingdom	2001-2003	4.3	1.5	2.7	1.6	-0.9	-1.3
	2004	5.6	3.4	3.7	1.8	4.8	-5.3
Sweden	2001-2003	2.9	1.0	1.3	1.6	-1.3	-0.5
	2004	2.8	1.7	4.5	-1.6	3.1	2.4
Poland	2001-2003	3.8	1.9	4.8	-1.0	-8.6	3.2
	2004	2.8	-1.1	5.4	-2.5	-10.9	3.5
Hungary	2001-2003	11.2	2.6	3.3	7.7	9.4	3.2
	2004	9.3	4.1	3.0	6.1	4.1	5.9
United States	2001-2003	3.1	1.1	2.7	0.4	-2.0	-3.7
	2004	4.1	2.1	3.7	0.4	-5.8	-0.8
Japan	2001-2003	-1.4	0.3	1.5	-2.9	-5.8	0.6
	2004	-0.3	2.0	4.0	-4.3	-1.1	2.8

Notes: 1. Business sector.
2. Nominal wage deflated by GDP deflator (as a measure of the real product wage).
3. Competitiveness-weighted relative unit labour costs in dollar terms.
4. Export performance is the ratio between export volumes and (trade-weighted) export markets for goods and services.

Source: OECD, estimate for 2004, calculations by the Ifo Institute.

Figure 1.19



Sources: OECD; 2004 and 2005: Ifo Instiute forecast (January 2004).

moderation and a favourable commodity structure, Germany's export growth was only marginally lower than the growth of its export markets, while Italy, Finland, and the United Kingdom experienced larger losses in export market shares. The new EU member countries achieved further gains in market shares, although (as in Hungary) the real exchange rate of some countries appreciated.

Domestic demand remained relatively weak in many countries of the euro area. This was especially the case in Germany and the Netherlands, where real income growth was particularly low and households continued to increase their savings rates (in response to a deteriorating labour market, policy uncertainties, reforms of social security systems, and earlier losses in equity wealth). In some other countries, such as France and Spain, domestic demand was stronger. While in Spain private consumption benefited from buoyant income growth, in France consumption was supported by a decline in household savings.

In 2005, growth differentials will continue to remain significant (Figure 1.19).

Appendix 1:
Forecasting Tables

Table A1

Real gross domestic product, consumer prices and unemployment rates

	Weighted (GDP) in %	Gross domestic product in %			Consumer prices in %			Unemployment rate in %		
		2003	2004	2005	2003	2004	2005	2003	2004	2005
EU25	33.7	1.0	2.3	2.1	2.0	2.0	2.0	9.1	9.0	8.9
Switzerland	0.9	-0.4	1.7	1.7	0.6	0.8	1.1	3.7	3.9	3.8
Norway	0.7	0.4	3.2	2.8	2.0	0.8	1.5	4.5	4.4	4.2
Western and Central Europe	35.3	1.0	2.3	2.1	1.9	1.9	2.0	8.9	8.8	8.7
USA	33.6	3.0	4.4	3.0	2.3	2.6	2.6	6.0	5.5	5.6
Japan	13.2	1.3	2.9	1.2	-0.3	-0.2	-0.1	5.3	4.7	4.5
Canada	2.7	2.0	3.0	2.7	2.8	1.8	1.9	7.6	7.3	7.1
Industrialised countries total	84.7	1.9	3.2	2.3	1.8	1.9	1.9	7.6	7.1	7.0
Newly industrialised countries										
Russia	1.3	7.3	6.8	5.3	13.6	11.0	10.6	8.7	7.8	7.0
East Asia[a)]	4.6	3.7	6.2	5.4	.	.	.	.	.	.
China	4.8	9.1	9.1	8.2	.	.	.	.	.	.
Latin America[b)]	4.6	1.7	5.1	3.9	.	.	.	.	.	.
Newly industrialised countries total	15.3	5.1	6.8	5.8	.	.	.	.	.	.
Total[c)]	100.0	2.3	3.8	2.9	.	.	.	.	.	.
World trade, volume		4.2	10.0	7.5	.	.	.	.	.	.

[a)] Weighted average of: Korea, Taiwan, Indonesia, Thailand, Malaysia, Singapore, Philippines. Weighted with the gross domestic product of 2003 in US dollars. – [b)] Weighted average of: Brasil, Mexico, Argentina, Columbia, Venezuela, Chile, Peru. Weighted with the gross domestic product of 2003 in US dollars. – [c)] Sum of the listed groups of countries. Weighted with the gross domestic product of 2003 in US dollars.

Sources: EU; OECD; ILO; IMF; National Statistical Offices; 2004 and 2005: calculations by the Ifo Institute.

Table A2

Real gross domestic product, consumer prices and unemployment rates in European countries

	Weighted (GDP) in %	Gross domestic product in			Consumer prices[a)] in			Unemployment rate[b)] in %		
		2003	2004	2005	2003	2004	2005	2003	2004	2005
Germany	21.9	-0.1	1.7	1.2	1.0	1.6	1.4	9.6	9.7	9.8
France	15..9	0.5	2.2	1.8	2.2	2.3	1.9	9.4	9.6	9.5
Italy	13..4	0.3	1.3	1.6	2.8	2.3	2.2	8.6	8.3	7.9
Spain	7.6	2.5	2.6	2.4	3.1	3.1	3.0	11.3	10.8	10.5
Netherlands	4.7	-0.9	1.4	1.2	2.2	1.5	1.4	3.8	4.6	4.5
Belgium	2.8	1.3	2.6	2.4	1.5	1.9	1.7	8.0	7.8	7.6
Austria	2.3	0.8	1.8	2.1	1.3	1.9	1.7	4.3	4.5	4.3
Greece	1.6	4.5	3.7	2.6	3.4	3.1	3.4	9.3	8.9	8.9
Finland	1.5	2.0	3.2	2.8	1.3	0.1	1.6	9.0	8.9	8.8
Ireland	1.4	3. 7	4.5	4.4	4.0	2.3	2.8	4.6	4.5	4.3
Portugal	1.3	-1.2	1.2	1.4	3.3	2.5	2.3	6.3	6.5	6.5
Luxembourg	0.2	2.9	2.8	2.6	2.5	3.3	2.9	3.7	4.3	4.1
Euro area[c)]	74.5	0.5	1.8	1.7	2.1	2.1	1.9	8.9	8.8	8.7
United Kingdom	16.3	2.2	3.2	2.7	1.4	1.3	1.6	5.0	4.6	4.7
Sweden	2.7	1.5	3.5	3.0	2.3	1.2	1.6	5.6	6.3	6.1
Denmark	1.9	0.4	2.3	2.3	2.0	0.9	1.7	5.6	5.4	5.1
European Union[c)]	95.5	0.8	2.2	2.0	1.9	1.9	1.9	8.1	8.0	7.9
Poland	1.9	3.8	5.4	4.4	0.7	3.5	3.1	19.2	18.8	18.5
Czech Republic	0.8	3.7	3.8	3.3	-0.1	2.6	2.7	7.8	8.4	8.4
Hungary	0.8	3.0	3.9	3.5	4.7	6.8	5.3	5.8	5.8	5.7
Slovakia	0.3	4.0	4.9	4.6	8.5	7.5	4.1	17.5	18.0	17.5
Slowenia	0.2	2.5	3.8	3.5	5.7	3.8	3.3	6.5	6.0	5.7
Lithuania	0.2	9.7	7.0	6.6	-1,1	1.0	2.5	12.7	10.8	10.2
Cyprus	0.1	1.9.	3.6	3.8	4.0	2.1	2.5	3.9	4.4	4.2
Latvia	0.1	7.5	6.5	5.9	2.9	6.2	5.5	10.5	9.8	9.4
Estonia	0.1	5.1	5.7	5.4	1.4	2.9	3.1	10..1	9.2	8.4
Malta	0.0	-0.3	0.9	1.1	1.9	2.9	2.7	8.2	7.3	6.9
EU Acceding countries	4.5	3.7	4.7	4.1	2.7	2.1	3.4	14.4	14.1	13.8
EU25[c)]	100.0	1.0	2.3	2.1	2.1	2.0	1.8	8.8	9.1	9.0

[a)] Western Europe (except for Switzerland): harmonised consumer price index (HCPI). – [b)]Standardised. – [c)] Sum of the listed countries. Gross domestic product and consumer prices weighted with the gross domestic product of 2003 in US dollars; unemployment rate weighted with the number of employees in 2003.

Sources: EUROSTAT; OECD; ILO; IMF; National Statistical Offices; 2004 and 2005: calculations by the Ifo Institute.

Table A3

Indicators of the public budgets in the euro area

	Gross debt[1]					Financial Balance[1]				
	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
Germany	59.4	60.9	64.2	65.6	66.5	-2.8	-3.7	-3.8	-3.9	-3.1
France	56.5	58.8	63.7	65.0	65.7	-1.5	-3.2	-4.1	-3.7	-3.0
Italy	110.6	107.9	106.2	106.1	105.5	-2.6	-2.3	-2.4	-3.0	-3.5
Spain	57.5	54.4	50.7	48.6	45.9	-0.4	-0.1	0.4	-0.9	-0.5
Netherlands	52.9	52.6	54.1	56.0	58.1	-0.1	-1.9	-3.2	-3.0	-2.3
Belgium	108.1	105.8	100.7	95.5	94.2	0.6	0.1	0.4	-0.1	-0.2
Austria	67.1	66.6	65.1	64.2	63.8	0.3	-0.2	-1.1	-1.3	-2.0
Greece	114.7	112.5	109.9	112.5	110.5	-3.7	-3.7	-4.6	-5.5	-4.4
Finland	43.8	42.6	45.6	44.1	43.5	5.2	4.3	2..3	2.1	2.1
Ireland	35.9	32.7	32.1	30.4	29.6	0.9	-0.2	0.1	-0.3	-0.6
Portugal	55.8	58.4	60.3	60.7	61.7	-4.4	-2.7	-2.8	-2.9	-3.4
Luxembourg	5.5	5.7	5.4	5.0	5.1	6.4	2.8	0.8	-0.9	-1.8
Euro area[2]	69.5	69.4	70.7	71.3	71.3	-1.7	-2.4	-2.7	-2.7	-2.6
United Kingdom	38.8	38.3	39.8	40.5	41.1	0.7	-1.6	-3.3	-2.9	-2.7
Sweden	54.4	52.6	52.	51.1	49.5	2.8	0.0	0.3	0.5	0.6
EU-15	63.3	62.7	64.3	64.8	64.8	-1.1	-2.1	-2.7	-2.6	-2.4

[1] As a % of gross domestic product; in accordance with the delimitation according to the Maastricht Treaty. Financial balances without the special revenue gains from the sales of mobile phone licences in 2000-2002. – [2] Sum of the countries: weighted with the gross domestic product of 2003 in euro.

Source: Eurostat; 2004 and 2005: forecasts by the Ifo Institute.

Table A4

Key forecast figures for the euro area

	2003	2004	2005
	Percentage change over previous year		
Real gross domestic product	0.5	1.8	1.7
Private consumption	1.0	1.2	1.4
Government consumption	1.7	1.6	1.1
Gross fixed capital formation	-0.6	1.8	2.6
Exports[1]	0.9	5.7	5.1
Imports[1]	2.1	5.6	4.9
Consumer prices[2]	2.1	2.1	1.9
	Percentage of nominal gross domestic product		
Current account balance	0.4	0.3	0.4
Government financial balance	-2.7	-2.7	-2.6
	Percentage of employees		
Unemployment rate[3]	8.9	8.8	8.7

[1] Exports and imports contain products and services including the trans-border market within the euro area. - [2] Harmonised consumer price index (HCPI). [3] Standardised.

Source: Eurostat; 2004 and 2005: forecasts by the Ifo institute

Appendix 2:
The Ifo World Economic Survey (WES)[14]

In January 2005 the World Economic Climate slightly deteriorated for the fourth time in succession since April 2004. Both components of the economic climate index – current economic situation and expectations for the coming six moths – have been downgraded somewhat. However, the climate indicator, at 101.1 (after 103.8 in October; 1995=100), is still higher than its long-term average (1990–2004: 93.0). In the following we summarize the results of the latest survey. The two components of the climate indicator, the assessment of the current situation and the expectations for the next six months, are depicted in the figures below.

World economy is losing steam

According to the latest WES results, growth is expected to slow down further in the coming months. Although assessments of the current economic situation as well as economic expectations for the first half of 2005 have been slightly downgraded by experts surveyed in January, the change is not expected to result in a strong downturn. Most determinants of the short-term prospects remain positive. However, further downward pressures remain: possible disruption in oil supplies as result of terrorism or other military actions in the Near East. Nevertheless, a soft-landing of the economic climate index is seen by surveyed experts to be the most likely scenario for 2005.

Western Europe: Economic performance remains sluggish

The overall economic climate indicator slipped in January for the second time in succession. The assessments of the present economic situation have fallen slightly below the satisfactory mark, on average for all Western European countries. Also the economic expectations for the coming six months have been slightly downgraded but remained generally positive. This pattern also holds true for the majority of countries of the euro area. However, in *Belgium, Finland, Spain* and *Greece*, surveyed experts assessed the present economic state somewhat better than in the October survey. The best marks for the current economic performance in the euro area were again given by experts surveyed in *Ireland* and *Finland*. The lowest marks for the present economic situation were given by experts in *Portugal, Italy* and *the Netherlands.* Though, *Germany's* economy experienced an upturn in 2004 thanks to strong exports and the world economic recovery, its present economic situation is assessed once again as below satisfactory. An important aspect for the lagging economy in the euro zone is the euro's 50 percent appreciation against the dollar over the past three years, as the cheaper dollar makes European goods more expensive in global export markets. For 2005 experts in the euro zone are expecting the export sector to develop less dynamically than in 2004. But the exchange rate is not the only dampening factor. Unemployment and weak private consumption are the other problem areas. However, surveyed experts see an improvement in both aspects for the first half of 2005.

The economic climate in the Nordic countries outside the euro area *(Denmark, Sweden, Norway* and *Iceland)* remained very favourable. The assessments of the present economic situation continued to improve in *Denmark* and *Norway* and have been slightly downgraded in *Sweden*, though remaining far above the satisfactory level. Also, the *United Kingdom's* economy has begun 2005 on course to continue its period of growth, with low inflation and interest rates, and the government continuing to meet its fiscal goals. The current economic situation in the UK has been assessed as highly satisfactory by WES experts. The economic expectations for the next six months point to further stabilization. Also in *Switzerland*, the economic recovery continues to gain momentum, according to the January survey.

North America: Still the driving force in the world economy

According to the latest survey results, the economic climate indicator in North America has improved in

[14] The World Economic Survey (WES) assesses worldwide economic trends by polling transnational as well as national organizations worldwide on current economic developments in their respective countries. This allows for a rapid up-to-date assessment of the economic situation prevailing around the world. In January 2005 some 1,130 economic experts in 90 countries were polled. The survey questionnaire focuses on qualitative information: assessments of a country's general economic situation and expectations regarding important economic indicators. It has proved to be a useful tool in that it reveals economic changes earlier than traditional business statistics. The individual replies are combined for each country without weighting. The grading procedure consists in giving a grade of 9 to positive replies (+), a grade of 5 to indifferent replies (=) and a grade of 1 to negative (-) replies. Overall grades within the range of 5 to 9 indicate that positive answers prevail or that a majority expects trends to increase, whereas grades within the range of 1 to 5 reveal predominantly negative replies or expectations of decreasing trends. The survey results are published as aggregated data. The aggregation procedure is based on country classifications. Within each country group or region, the country results are weighted according to the share of the specific country's exports and imports in total world trade.

January, due to higher marks for the present economic situation in the *US*. The country's economy is still fairly strong despite the slippage in business sentiments in the preceding October poll. However, the economic expectations for the coming six moths have been downgraded again, reflecting that business confidence remains weakened though no sharp downturn is expected. Concerns persist that the rising interest rates and oil prices combined with federal budget deficits and fears of expanded military activity in the Near East may slow the US economy in 2005.

In *Canada* both components of the economic climate index have deteriorated. However, the assessments of the current economic situation remain favourable. Economic expectations, though slightly downgraded, are still generally positive.

Eastern Europe: Further economic stabilization

The sluggish Western European economic performance has evidently had no far-reaching effect on its neighbours, particularly in Central and Eastern Europe. According to the January survey, the overall economic climate index followed its positive trend, with the assessments of the current economic situation continuing to improve and economic expectations for the coming six months pointing upward. The general present economic conditions as well as business sentiments are regarded as positive, on average, for Eastern Europe.

As already in the October survey, the assessments of the present economic situation in almost all new EU countries – *Czech Republic, Cyprus, Estonia, Latvia, Lithuania, Poland, Slovenia* and *Slovakia* – were above the satisfactory level in January. The present economic performance has considerably improved also in *Hungary*, though the satisfactory level has not yet been reached, according to WES experts. The forecasts for the coming six months remain positive throughout. The strongest economies in the region, according to WES experts, are *Estonia, Poland, the Czech Republic* and *Slovenia*. The surveyed economists remained optimistic about the near-term future. Particularly capital expenditures and exports are expected to boost the overall economic expansion in the coming six months.

Also in Eastern European countries outside the EU, economic trends observed in January are generally positive. The economic climate is particularly favourable, according to WES experts, in *Bulgaria* and *Croatia*. In *Romania, Albania, Bosnia Herzegovina* and *Serbia-Montenegro* the present economic performance is also rated "satisfactory" or above. The outlook for the next six months points to a continuation of the economic revival.

CIS: Moderate economic slowdown expected

According to preliminary official figures *Russia's* economy grew at about 7 percent in 2004, benefiting from the rising prices for oil, gas and metals. In the beginning of 2005 the economic climate in *Russia* deteriorated somewhat, according to the recent WES results. The present economic situation is judged less favourably than in the preceding October survey. Also the economic expectations, though remaining positive, have been slightly downgraded. Economic growth is expected to slow in 2005, partly due to constraints on oil export capacity. This implies that for achieving sustainable growth, Russia's economy needs restructuring away from its dependence on energy resources. At present, investors are still suspicious about the country's corporate governance and President Vladimir Putin's commitment to reforms.

Less positive signals than in the October survey have also been reported from the Ukraine. The present economic situation has been described by WES experts as slightly below satisfactory, but the prospects for the coming six month have been upgraded here and are now displaying optimism. Yushchenko, the new President, wants EU membership talks to start in 2007 and thus there is more confidence among panelists that *Ukraine* is now on course towards becoming a full-fledged democracy and market economy.

Very positive marks for the present economic performance were given by experts in *Kazakhstan*. The economy grew at about 9 percent in 2004, making the Central Asian country one of the fastest growing economies in the CIS. The current situation is judged at a highly favourable level and is expected to improve further in the course of the next six months. Similarly to *Russia*, much of the growth has been fuelled by oil production. The extraction of natural resources remains the most attractive sector for investors and the main driving force for exports. However, other sectors are also emerging, and the favourable general economic outlook includes higher corporate activity outside the oil sector as well as growth in private consumption.

Asia: Economic soft-landing

Asia was the most rapidly growing economic region in 2004, largely driven by China's and India's economic expansions, making the Western economies increasingly dependent on their Southeast Asian counterparts. In January, the economic climate index in Asia deteriorated slightly for the third time in succession. The assessments of the current economic situation have deteriorated somewhat, on average, for the Asian countries surveyed by WES, mostly reflecting an economic cooling-down in *Japan*. However, economic expectations for the first half of 2005 point to an only moderate slowdown of economic growth. The December 26 earthquake and the giant tsunami that shattered coastal regions in 11 Asian countries, killing some 250,000 people and leaving millions homeless, has caused no major damage to the economic infrastructure of the affected countries, while the costs in human life remain, of course, appalling by any measure.

The economic recovery in *Japan*, the world's second largest economy, appears to be losing momentum, according to WES experts. A further appreciation of the yen against the dollar poses a downside risk, making it difficult to keep Japanese exports attractive on the global market. The *Chinese* economy was also expected to achieve a soft-landing in 2005. But as it seems, there has been no landing at all, as the assessments of WES experts polled in the country in January are more positive than in the October survey, reflecting that optimism has the upper hand. But economic near-term expectations remain subdued, signalling concerns that slowing global growth may reduce demand for goods made in *China*. Nevertheless, *China's* long-term prospects remain very promising. Particularly consumer spending is expected to continue benefiting from the country's economic growth. Closely related to the economic growth of the Chinese mainland are the business sentiments in *Hong Kong,* where private consumption and investment in fixed assets gave momentum to economic growth last year and are predicted to remain strong, though to a slightly lesser degree than in 2004. Also *India* will again record healthy economic performance this year, according to WES experts. The overall economic situation was assessed considerably above satisfactory. The outlook for the coming six months is generally positive and implies further growth of corporate activity and private consumption.

In *Malaysia, Singapore* and *Taiwan* the assessments of the present economic situation, though slightly deteriorated, remained far above the satisfactory level. In *Thailand* major tourist areas were severely affected by the tsunami. However, the assessments of the present economic situation here even improved somewhat from an already favourable level of the October survey. From an economic point of view, the impact of the tsunami on *Indonesia* is also limited, since the Aceh province contributes only 2.1 percent of *Indonesia's* GDP, and its oil and gas production industries have not been affected. But the country's tourism industry has been strongly hit again, though experts expect that the region's tourism will recover faster than after the Bali bombings in 2002 and the SARS outbreak in 2003. Production and international trade flows were not affected in these countries, as manufacturing production facilities and major ports weren't damaged and economic expectations for the first half of 2005 remain generally positive.

Latin America: Economic rebound continues

According to the latest WES results, the assessments of the present economic situation continue to improve in all surveyed countries of the region without exception. Economic expectations are pointing to further stabilisation in 2005. Further strengthening in imports and exports is expected to support economic growth in Latin America. Private consumption and capital expenditures are also forecast to boost further in the coming six months.

Except for *Costa Rica* and *Paraguay*, where the assessments of the present economic situation have not yet reached the satisfactory level, all countries have contributed to the improvement of the economic climate in the region. *Chile* again topped the list of expanding economies. The present economic situation is regarded as highly satisfactory and experts are confident that the country's economy will grow further in the coming months. In the three major regional economies, *Brazil, Argentina* and *Mexico*, WES experts also reported an improvement of the current economic situation. Economic expectations for the coming six months, though slightly downgraded, point to further stabilization. Particularly, *Brazil's* economic performance is surpassing economists' forecasts, as President Lula da Silva has implemented enormous structural reforms since coming to power in January, 2003. But also *Argentina's* economy is making considerable progress, according to surveyed economists. *Venezuela's* economic performance has also become noticeably better, with assessments of the

present economic situation approaching the satisfactory level and economic expectations for the first half of 2005 being, except for the export sector, generally optimistic. For the coming six months experts forecast a decrease in exports. One reason may be that *Venezuela*, the world's fifth-largest producer of oil and a major supplier to the United States, is planning to reduce its dependence on the United States as the main consumer of its oil.

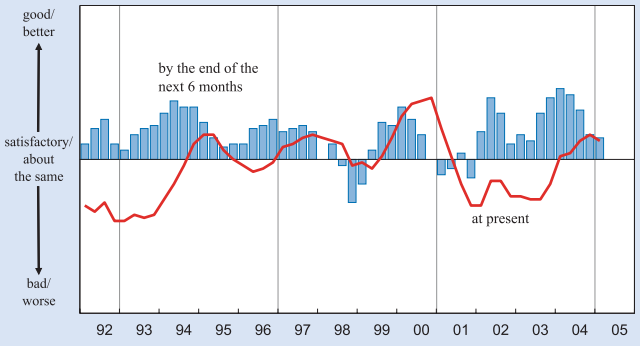
Near East: Economic situation remains favourable

The economic situation in the Near East region has further improved and continues to be highly favourable in all countries covered by WES. However, the near-term prospects for the first half of 2005 have been slightly downgraded resulting in a lower value of the economic climate index.

The highest marks of business confidence were again given by experts surveyed in the *United Arab Emirates, Saudi Arabia, Bahrain* and *Kuwait*, followed by *Lebanon, Iran* and *Jordan*. The prospects for further economic stabilisation are, except in *Iran*, very bright. According to the January WES results, the economic climate in *Israel* further improved. Both components of the climate index – present economic situation as well as economic expectations for the next six months – received very positive marks. *Turkey's* GDP expanded by about 10 percent in 2004, making it's economy one of the world's fastest-growing. Much of the GDP growth is due to rising productivity and corporate investment that are expected to strengthen further. In 2005 the country's economy will remain on the strong stabilization course that it set in 2002, according to WES experts polled in January.

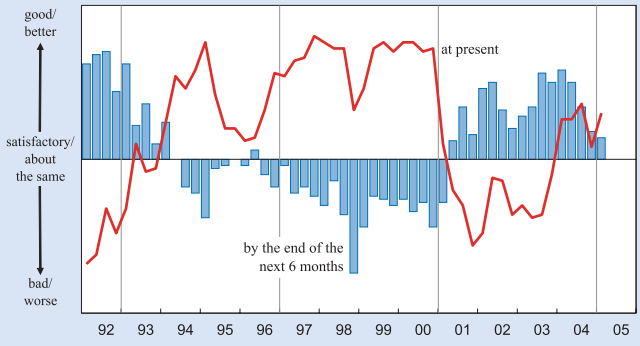
IFO WORLD ECONOMIC SURVEY (WES)

WORLD ECONOMY
Economic Situation



Source: Ifo World Economic Survey (WES) QI/2005.

USA
Economic Situation



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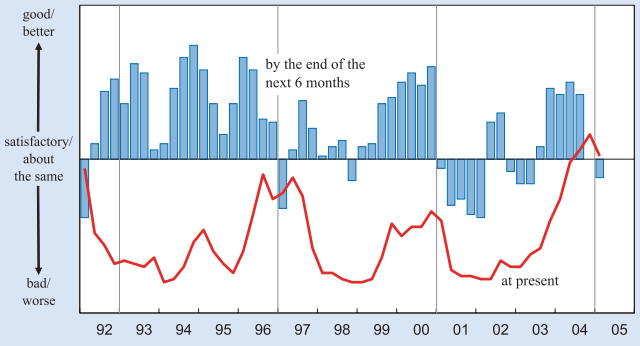
JAPAN
Economic Situation



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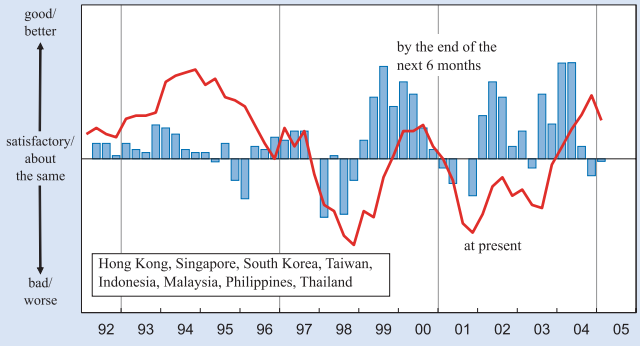
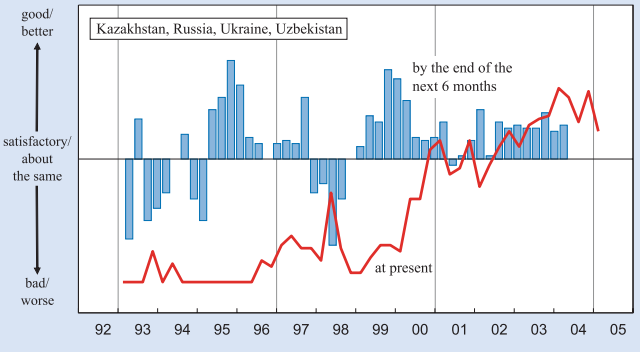
ASEAN AND EAST ASIAN NICS
Economic Situation



Source: Ifo World Economic Survey (WES) QI/2005.

CIS
Economic Situation



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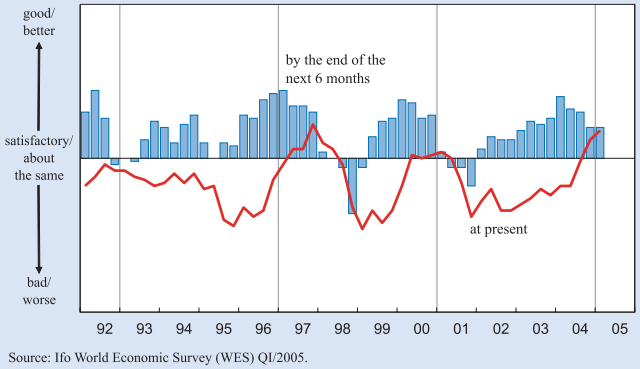
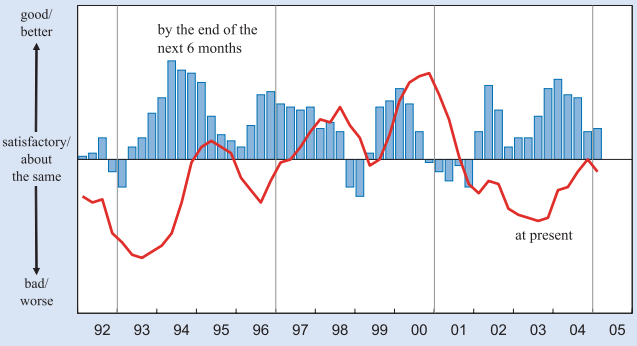
LATIN AMERICA
Economic Situation



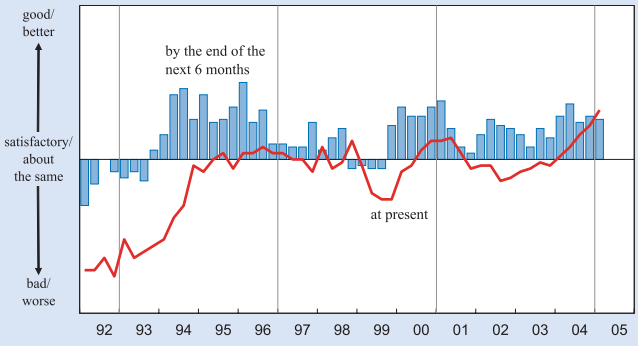
Source: Ifo World Economic Survey (WES) QI/2005.

EUROPEAN UNION (15)
Economic Situation



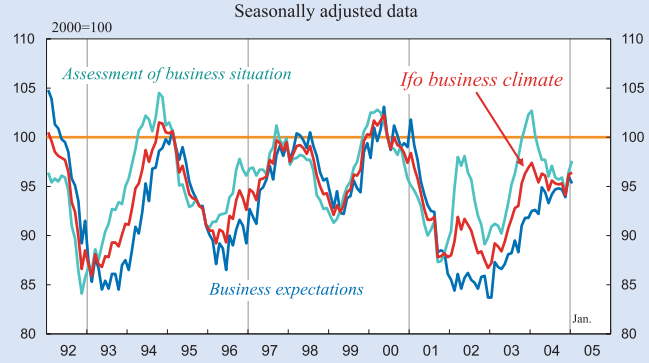
Source: Ifo World Economic Survey (WES) QI/2005.

EASTERN EUROPE
Economic Situation



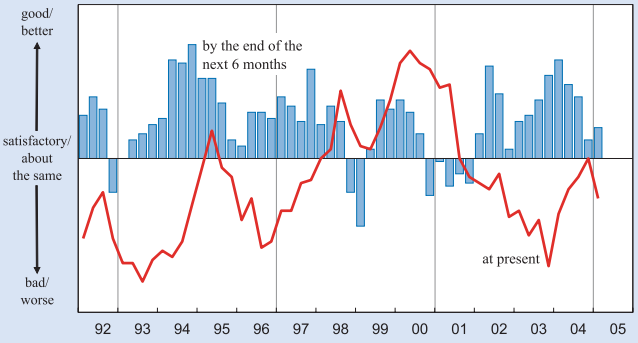
Source: Ifo World Economic Survey (WES) QI/2005.

GERMANY: IFO BUSINESS CLIMATE [1)]
Seasonally adjusted data



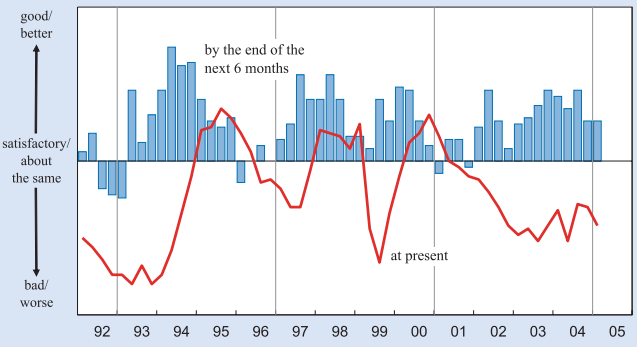
1) Manufacturing industry, construction, wholesale and retail trade.
Source: Ifo Business Survey.

FRANCE
Economic Situation



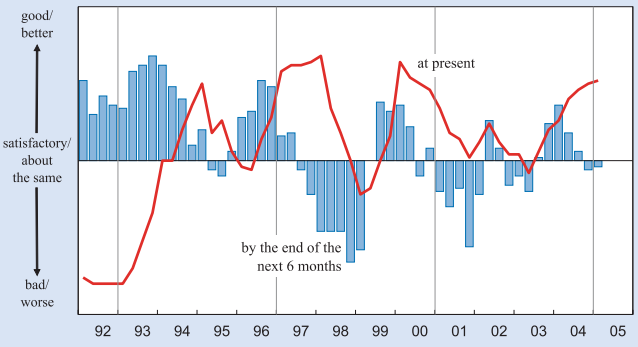
Source: Ifo World Economic Survey (WES) QI/2005.

ITALY
Economic Situation



Source: Ifo World Economic Survey (WES) QI/2005.

UNITED KINGDOM
Economic Situation



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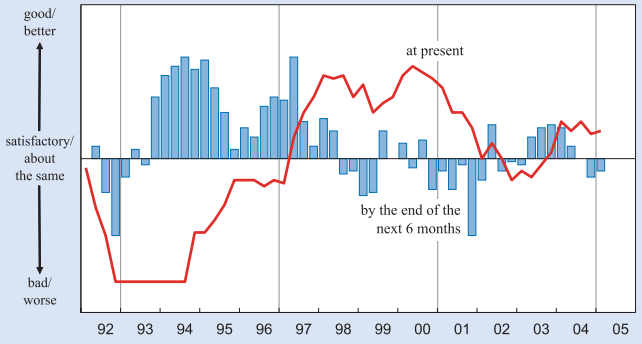
SPAIN
Economic Situation



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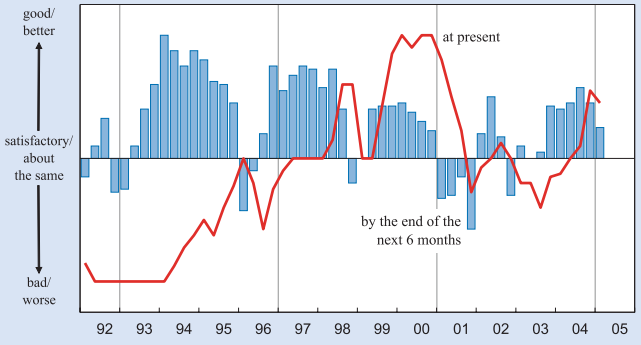
SWEDEN
Economic Situation



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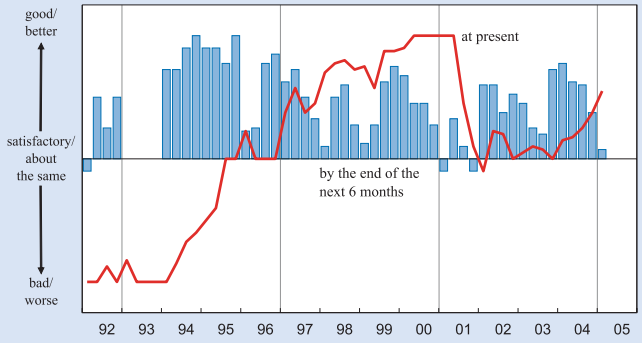
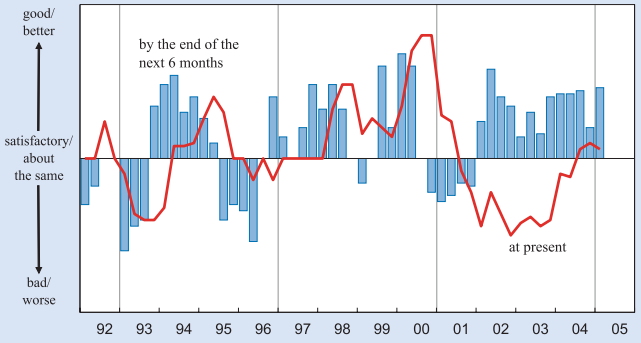
FINLAND
Economic Situation



Source: Ifo World Economic Survey (WES) QI/2005.

AUSTRIA
Economic Situation



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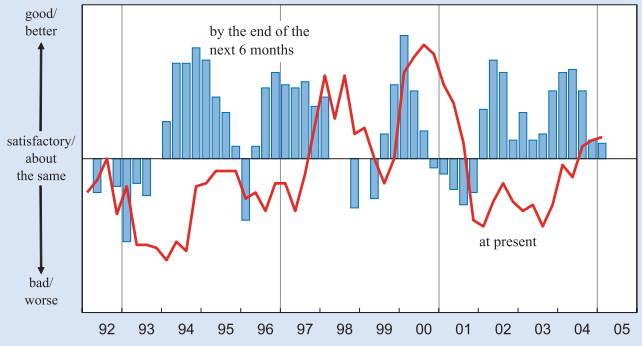
BELGIUM
Economic Situation



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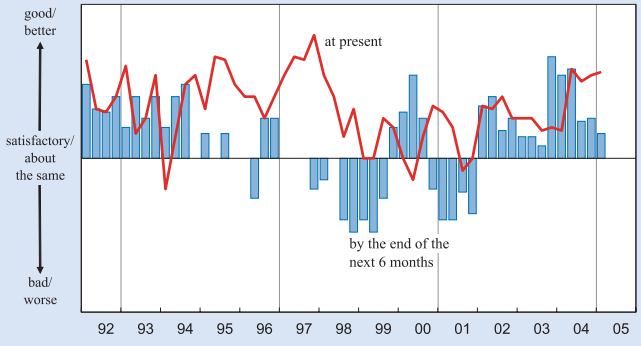
DENMARK
Economic Situation



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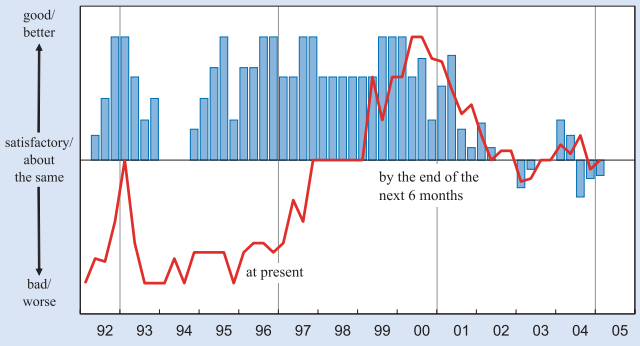
GREECE
Economic Situation



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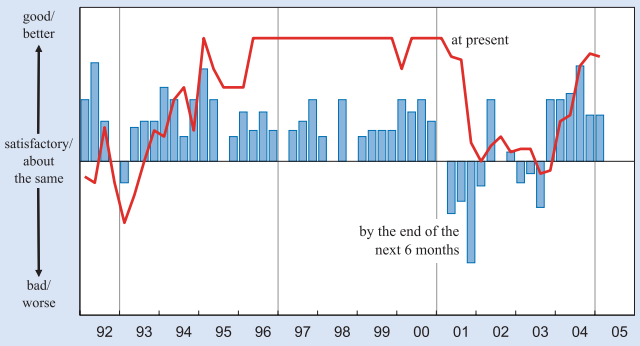
IRELAND
Economic Situation



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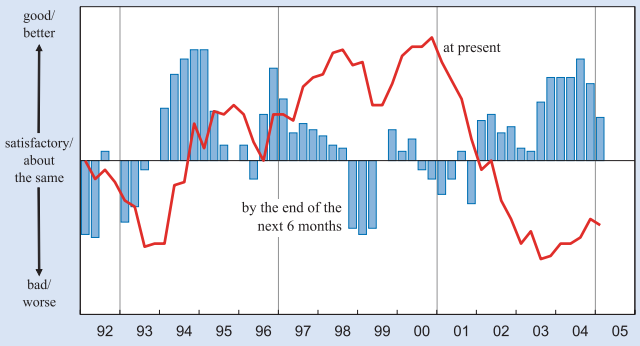
NETHERLANDS
Economic Situation



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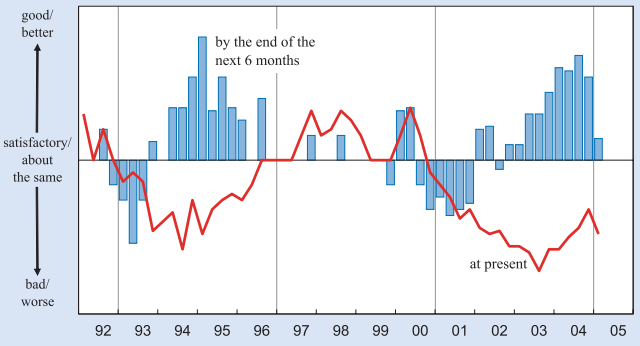
PORTUGAL
Economic Situation



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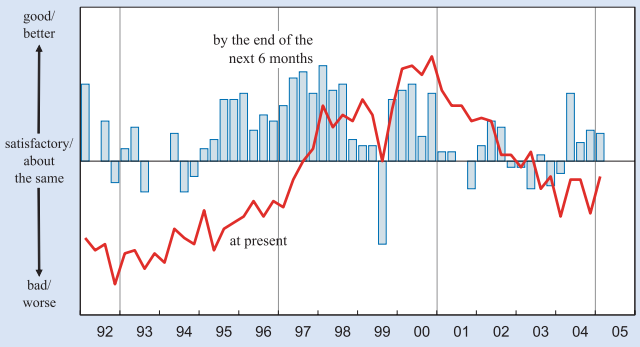
HUNGARY
Economic Situation



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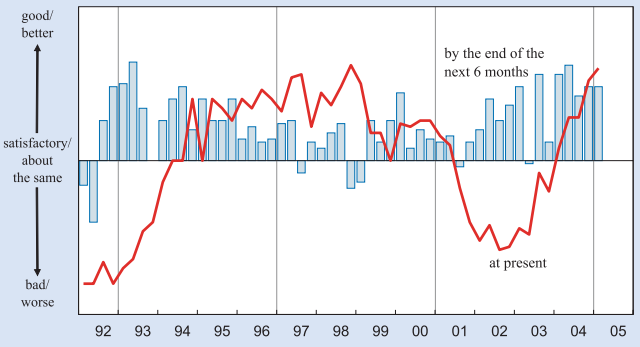
POLAND
Economic Situation



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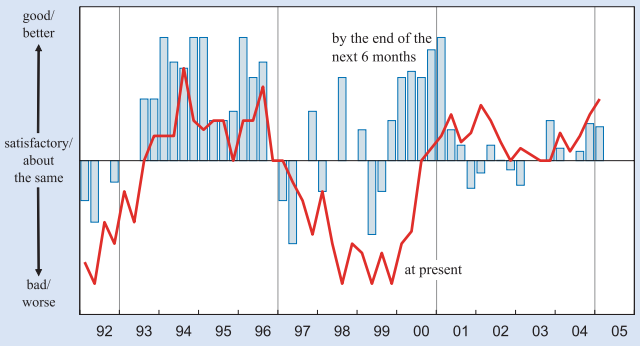
CZECH REPUBLIC
Economic Situation



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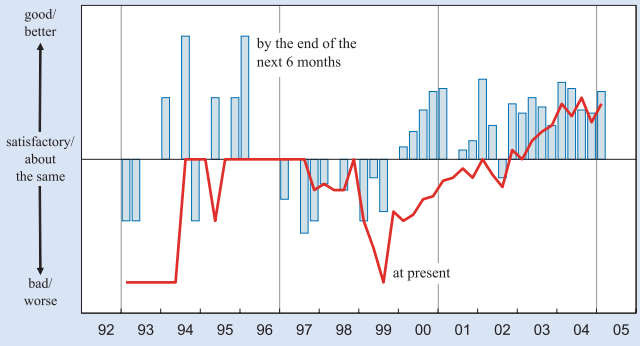
SLOVAK REPUBLIC
Economic Situation



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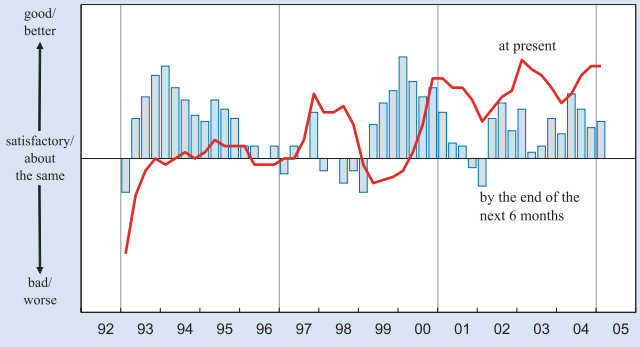
ESTONIA
Economic Situation



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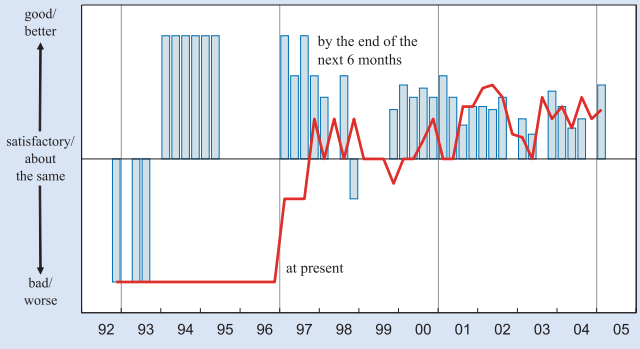
LATVIA
Economic Situation



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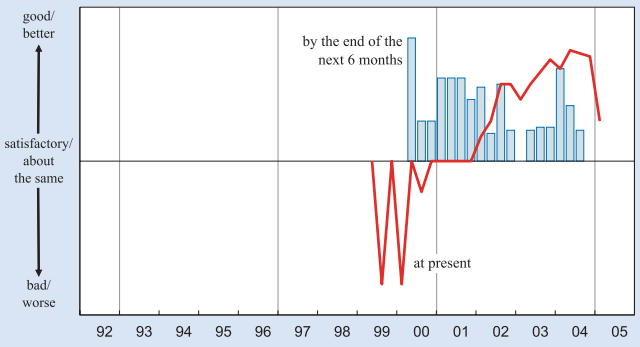
LITHUANIA
Economic Situation



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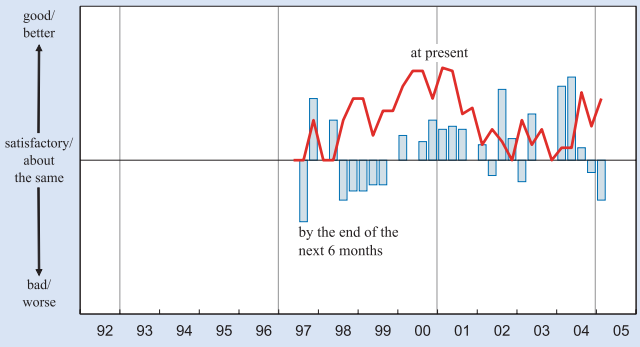
SLOVENIA
Economic Situation



Source: Ifo World Economic Survey (WES) QI/2005.

Appendix 3:
Is the Stability and Growth Pact dead?

The EU fiscal policy framework, encompassed in the Maastricht Treaty and the Stability and Growth Pact, is in crisis. In 2004, France and Germany ran budget deficits in excess of the three-percent-of-GDP deficit ceiling for the third consecutive year and they are likely to do so in 2005 as well. The two countries are also violating the stipulation that if government debt is above 60 percent of GDP it must be decreased. Yet, the excessive deficit procedures against these countries were put on hold in late 2003, when the Ecofin Council (the EU ministers of finance) did not heed the recommendation of the Commission to give notice to these countries to reduce their deficits in 2005. In a ruling in the summer of 2004, the European Court of Justice did in principle accept the right of the Ecofin Council to take such a political decision.

Several other EU countries have serious budgetary problems as well. Greece, Portugal, and possibly Italy, will also exceed the three-percent-of-GDP limit in 2005. Debt ratios in both Greece and Portugal have been increasing, even though they are already above 60 percent of GDP. Greece has been underreporting its deficits, which have in effect been above three percent of GDP, for several years. There remain a number of question marks regarding the fiscal accounting of other EU countries, for example Italy, too. In addition, six of the new EU member states (Cyprus, the Czech Republic, Hungary, Malta, Poland, and Slovakia) had budget deficits in excess of the three-percent limit in 2004 and are likely to continue them in 2005 as well.

The EU fiscal rules were established as a counterweight to the excessive accumulation of government debt in most European countries in the 1980s and early 1990s. There were also fears that the common currency would aggravate this deficit bias. Current fiscal developments seem to represent a gradual dismantling of fiscal discipline through contagion effects, where higher deficits in one country are seen as an excuse for higher deficits in others. This process is further fuelled by the lax attitude towards the even larger deficits in the United States.

There seems to have emerged a consensus that the Stability Pact needs to be reformed. Many proposals have been put forward and some of them are currently being discussed among the EU finance ministers. There could be a revision of the Stability Pact early this year.

When evaluating reform ideas, it is helpful to distinguish between three aspects:

1. The economic contents of the rules.
2. *Ex-ante* measures to prevent violations of the rules.
3. *Ex-post* enforcement once the rules have been violated.

Clearly, the main problem with the stability pact is the lack of *ex-post* enforcement. Yet, most reform proposals have focused on the two other aspects.

The economic contents of the rules

The European Commission has come up with a number of proposals to modify the economic contents of the rules (European Commission 2004a). These include a larger emphasis on the debt level: a clarification of what the requirement means that debt must be "decreasing at a satisfactory pace" when it is above 60 percent of GDP; to make the budget target over the cycle dependent on the debt situation and more refined assessments of the long-run sustainability of public finances; and to give countries with low debt and sustainable finances longer time to correct excessive deficits.

There is a case for changes in the direction proposed by the Commission. But changes in the rules must be transparent. Modifying the rules in such a way that they are left open to interpretation would in effect mean that case-by-case decision-making is substituted for a rules-based system. That would, for example, happen if "country-specific circumstances" were taken into account when evaluating fiscal performance and deciding how fast excessive deficits must be corrected. There should instead be a clear rule linking the maximum permitted deficit to the amount of debt, as suggested by EEAG (2003) and Calmfors and Corsetti (2003). Discretionary decision-making works well for monetary policy, which has been delegated to independent central banks. It does not work for fiscal-policy decisions by politicians, who could then always find excuses for lax policies.

The Commission has also proposed a revision of the so-called "exceptional circumstances clause" so that it

would allow countries to exceed the three-percent limit not only in the case of negative growth but also in the case of sluggish growth in a protracted slowdown. Such a change could be motivated by the increased diversity of the EU after enlargement. A deep downturn in the new fast-growing EU states might very well be associated only with a large drop in the growth rate, but not with negative growth. However, such a rule must again be clearly formulated. It should allow exceptions only when there is a large *temporary* decline in GDP growth. A *sustained* decline in growth is not an argument for permitting larger deficits, as a given deficit-to-GDP ratio implies a higher long-run debt ratio the lower is the trend rate of growth.

It would be very unwise at this stage to start exempting various types of government spending from the calculation of deficits. As shown by the ongoing discussion, the list of suggested exemptions is endless: real capital investment, military spending, expenditure on innovation and R&D, expenditure on education, net transfers to the EU budget, costs related to the reform of social security and the tax systems, and "specific burdens borne by the member states" (such as the costs of unification in the case of Germany). In fact, the introduction of any such exemption would just trigger demands for additional exemptions. The end result would be that the rules become entirely toothless.

It is often argued that softer budgetary requirements would command more legitimacy and therefore be easier to enforce. However, a softening of the budgetary requirements in the current situation would be perceived as an endogenous response to the violations that have occurred and would further undermine the credibility of any fiscal rules at the EU level. The proper way of preventing violations of the rules designed to promote fiscal discipline cannot be to relax them to such an extent that no one violates them any more.

Ex-ante prevention

There appears to be a consensus on the desirability of strengthening budgetary surveillance in the Stability Pact with the aim of enhancing peer pressure to avoid that excessive deficits arise in the first place. For example, the European Commission has proposed firmer commitments to pursue restrictive fiscal policy in upswings, greater interaction between the EU and national levels in preparing the budgets in the member states, and increasing the visibility of Commission assessments of the budgetary situations in member states by using the European Parliament as a forum for presentations. In addition, the provision in the proposed EU constitution that the Commission alone could issue so-called early warnings would serve to increase *ex-ante* pressure to avoid violations of the fiscal rules.

The underreporting of fiscal deficits in Greece has highlighted the need for common rules ensuring that national fiscal statistics are produced by independent and reliable authorities, as well as the need to give the European Commission and Eurostat large enough resources to monitor the accuracy of national reporting more effectively. There appears also to be a need for clear rules specifying which sanctions should apply against countries that provide false data to disguise budgetary problems.

Stronger *ex-ante* measures to prevent excessive deficits from emerging would be welcome. But a key problem is the "disconnect" between the political processes at the national and the EU levels. One could try better to connect the two processes by organising the "physical" presentations of Commission evaluations and Council opinions in the national arena and by commitments of national parliaments to hold public hearings in the case of a formal critique from EU bodies. However, no *ex-ante* preventive measures are likely to make much difference in the absence of credible *ex-post* enforcement once violations have occurred.

Ex-post enforcement

If the stability pact is to remain an important disciplinary force, reforms must also address *ex-post* enforcement. The root of the current problems is that the excessive deficit procedure in the stability pact suffers from an inherent contradiction: it is in essence a judicial process administered by politicians (see also Lindbeck and Niepelt 2004). The legalistic approach is revealed by the terminology used: unless "corrective action" against excessive deficits is taken, "sanctions" in the form of "fines" should ultimately apply and so on.

In principle, there are two ways of addressing the enforcement problem. The first is to be consistent about the judicial character of the process. In that case one ought to move all decisions on sanctions from the EU finance ministers to the European Court of Justice. Such a proposal was put forward in EEAG (2003).

The second option is to keep political decision-making as it is, but acknowledge that the ultimate sanctions are now so harsh (an "atomic bomb") that politicians dare not employ them. A lowering of the fines as compared to the present situation, in which they could in principle amount to as much as 0.5 percent of GDP, would make their use more credible. Lower fines should also apply at an earlier stage than is presently envisaged in the Stability Pact.

In addition, the rules should be re-interpreted so that the "fines" are instead regarded as "fees", designed as a *disincentive* to undesirable fiscal behaviour rather than as a "punishment for crimes". This would contribute to flexibility. It would clarify that a country may exceed the three-percent-of-GDP deficit limit in a downturn, but that this can be done only at a cost.

One idea that has been raised in the debate is that deficits above three percent of GDP should not be regarded as excessive if they can be "explained" by forecast errors (made by the Commission). In our view, there is no need for such exceptions, as the procedures that already exist (in theory) give ample time for reducing deficits due to expectational errors. Rather, we see a considerable risk that such exception possibilities would increase the risks of biased forecasts. An illustration of this risk is provided by the Commission's judgement in December 2004 that France and Germany are "on track to correct their excessive deficits in 2005", which seems designed to avoid further political conflict on how the ongoing excessive deficit procedures against these countries should be handled (European Commission 2004b).

An issue that ought to be addressed is the tendency of violators of the budgetary rules to "collude": as recent experiences have shown, countries with excessive deficits are likely to oppose sanctions against other member states with excessive deficits in exchange for getting a lenient treatment themselves. This problem could be solved if countries that have been formally declared to have excessive deficits were not allowed to vote in the excessive deficit procedure for other countries.[15]

[15] As of now, the formal decision on whether a larger deficit than three percent of GDP should be regarded as *excessive* is taken by the Ecofin Council with a qualified majority after a *recommendation* by the Commission. According to the proposed constitution, the Ecofin Council decision on whether a country has an excessive deficit should instead be based on a proposal from the Commission, which can only be voted down if there is unanimity in the Council.

Is there a future for the Stability Pact?

The first-best solution would be a package solution involving some modifications of the budgetary requirements as well as reforms strengthening *ex-post* enforcement. Such a package deal needs to be accompanied by a resumption of the excessive deficit procedures against France and Germany, as long as these countries violate the rules, and a proper handling of the Greek violations.

Unfortunately, political agreement among the EU countries on credible enforcement is highly improbable. Such an agreement may presuppose that decisions are taken under a *veil of ignorance* of which countries are likely to be exposed to enforcement measures, which is not the current situation. Reforms to make enforcement credible would probably also require changes in the EU treaty (constitution), which are not now politically realistic. The most likely outcomes are either a softening of the budgetary requirements or that no formal changes are made at all, leaving a wide discrepancy between stipulations and implementation. In that case the Stability Pact may remain as a benchmark, but the disciplinary impact will be slight.

Without credible enforcement we had better acknowledge that the attempts to impose fiscal discipline through the EU have largely failed. This interpretation gains support from recent political demands by, for example, the German Chancellor to limit "intervention of European institutions in the budgetary sovereignty of national parliaments" (Schröder 2005). The lesson would be that the foundations for sound fiscal policy must be built through better institutions at the national level. As discussed in EEAG (2003) and Calmfors (2003), one can think of several more or less radical reforms of national fiscal policy making inspired by monetary policy making:

- A more transparent fiscal policy framework involving the adoption of clear long-run national fiscal policy objectives as well as guidelines for the use of fiscal policy as a stabilisation tool. Such a framework could also specify appropriate procedures when governments violate their own commitments, such as requirements to give a formal explanation to the parliament, stipulations that the parliament must arrange public hearings with the finance minister and outside experts etc.
- An obligation on the part of governments and parliaments to base budget decisions on economic forecasts made by an independent forecasting

authority (see also Jonung and Larch 2004). Such forecasts could be published in regular stabilisation reports of a similar type as the inflation reports of many central banks.

- An obligation on the part of government to consult with an independent economic advisory council before presenting budget proposals. Such a council should work on the basis of economic policy objectives defined by the parliament. The government could be required to respond formally to the recommendations of the council. The recommendations could be given more "bite" by stipulating that the government should deviate from them only in exceptional circumstances. If this happens, the parliament could commit to holding public hearings.
- Formal delegation of parts of fiscal policy making to an independent fiscal policy committee that would be given a well-defined mandate by parliament. The fiscal policy committee could be given sole responsibility for the use of fiscal policy for stabilisation purposes. Such a mandate could imply the right to vary some tax rate(s) within a pre-specified band in order to smooth the business cycle. The government would retain responsibility for fiscal policy decisions designed to affect the size of government consumption, income distribution, and social efficiency, but should commit in advance to a rule for the long-run development of government debt (with well-specified procedures in case this commitment is not upheld, as discussed above).

Even if budgetary discipline must build mainly on the insight that it is in the national interest, the EU can make an important contribution by trying to promote the adoption of best-practice solutions. But this role will be much more limited than originally envisaged in the Maastricht Treaty and the Stability Pact. However, a process where countries gradually learn from "good examples" may be the best we can hope for. Unfortunately, experience suggests that radical reforms of national fiscal policy institutions come only after serious crises. That is why fiscal discipline in the EU countries may have to deteriorate further before it can improve.

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Appendix 4:
VAR analysis of the effects of an increase in the oil price and an appreciation on the euro zone

This appendix analyses the effects of an increase in the oil price and a real effective appreciation on gross domestic product and the inflation rate in the euro zone using a Vector Autoregression (VAR). In reduced form a VAR model has the following representation:

$$Y_t = A(L)\, Y_{t-1} + B(L)\, X_t + \varepsilon_t$$

where Y_t is the vector of endogenous variables and X_t is a vector of exogenous variables. The vector of endogenous variables contains the Brent oil price in US dollars (OIL), real gross domestic product (GDP), the harmonised index of consumer prices (HICP), the nominal 3-month interest rate (EURIBOR) and the real effective exchange rate of the euro against 42 countries (REER).The vector of exogenous variables only consists of a constant and a linear trend. The data, which is at a quarterly frequency, is taken from Eurostat, the European Central Bank and the OECD database. The VAR was estimated in levels using OLS over the period I/1980 – III/2004. By doing the analysis in levels we allow for implicit cointegrating relationships in the data. With the exception of the interest rate, which is in percent, the data are expressed in logarithms and are seasonally adjusted. A likelihood ratio test and the Akaike information criterion were used to determine the lag order of the VAR which turns out to be of order five. The residuals of the OLS estimation were free of autocorrelation which was tested using a correlogram and the related Ljung-Box Q-statistic.

The effects of an unexpected increase in the oil price and a real appreciation of the euro are investigated by means of impulse response functions of the estimated VAR. In order to identify these structural shocks from the reduced-form residuals of the estimated VAR (ε_t), we use a standard recursive identification scheme with the endogenous variables ordered as described above.

The impulse responses, which are shown in Figure 1.1, give the effect of a 20 percent increase in the oil price (left column) and a 10 percent real effective appreciation of the euro in period 0 on the remaining variables of the model, together with the 10 and 90 percent percentiles obtained through a standard bootstrapping procedure with 100 draws. Thus, the true impulse response function lies within the confidence band (which is bounded by the two blue lines) with a probability of 80 percent, and the red line is computed as the median of the confidence band. The horizontal axis depicts the quarters following the shocks. Since GDP, HICP, OIL and REER enter the model in log-levels, deviations of these variables from the zero line can be interpreted as a percentage deviation from an

Figure 1.1

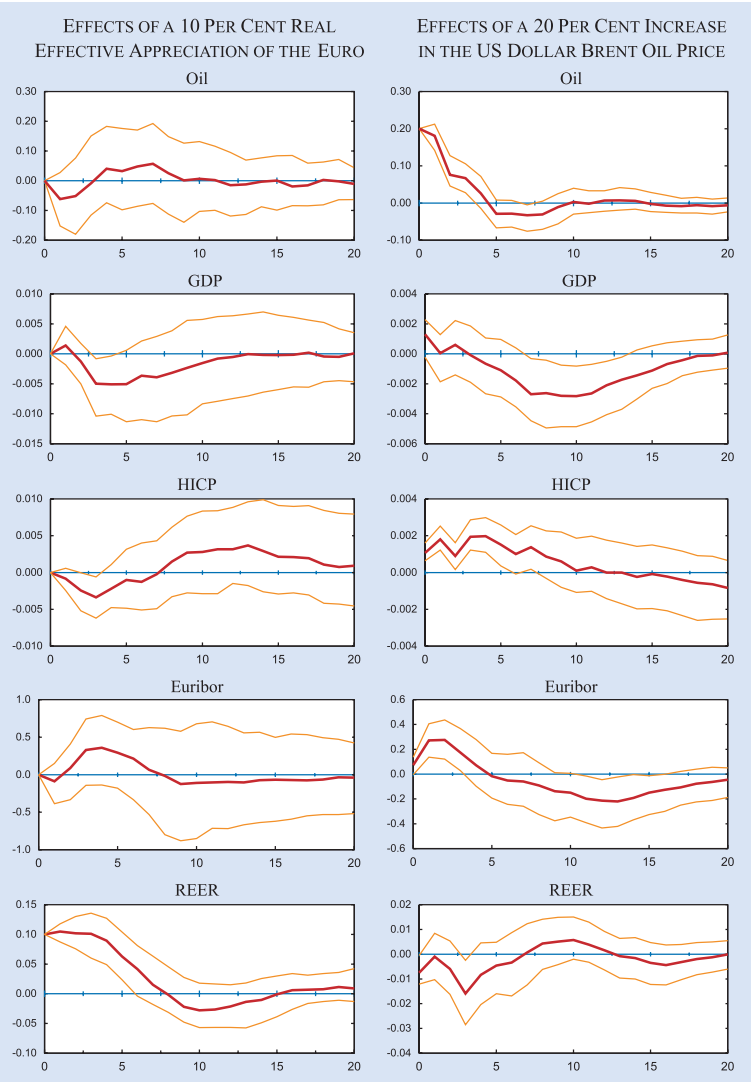

Table 1.1
Effects of a 10 per cent real effective appreciation of the euro

	OIL[1)]	GDP growth[2)]	HICP inflation[2)]	EURIBOR[3)]	REER[1)]
1st year	-3.1	-0.12*	-0.17*	0.08	10.2*
2nd year	4.4	-0.32	0.05	0.23	5.2*
3rd year	0.9	0.25	0.37	-0.09	-2.0

Notes: * significant at the chosen significance level (see text).
[1)] average deviation from a long-run trend in per cent.
[2)] average deviation of the year-on-year changes from the long-run trend growth rates in percentage points.
[3)] average deviation from the neutral nominal interest rate in percentage points.
Source: Ifo Institute.

implicit long-run trend. The EURIBOR, by contrast, enters the model in percent, so that its deviations from the zero line indicate a deviation from the neutral nominal interest rate in percentage points.

The impulse responses show that, following a real effective appreciation of the euro by 10 percent, GDP and HICP fall below their long-run trends (see Figure 1.1). The effect reaches its maximum after about three quarters and becomes insignificant thereafter. In terms of average annual growth rates (see Table 1.1), GDP growth and HICP inflation fall by about 0.12 and 0.17 percentage points, respectively, below their long-run growth rates in the year following the unexpected appreciation. As the reaction of the EURIBOR to the exchange rate shock is insignificant, we conclude that the European Central Bank (and the average monetary policy of its predecessors) did not react to exchange rate shocks.

Following an increase in the US dollar Brent oil price, GDP falls and HICP increases. The effects on GDP only become significant in the second year after the shock when they also reach their maximum. HICP, by contrast, immediately reacts to the increase in the oil price and becomes insignificant after three years. The maximum deviation of HICP from its long-run trend is reached after four quarters. In terms of average annual growth rates (see Table 1.2), GDP growth falls by 0.20 percentage points in the second year after the shock and by 0.12 percentage points in the third year compared to its long-run growth rate. HICP inflation accelerates by 0.06 percentage points in the first year. Concerning the reaction of monetary policy, the VAR analysis shows that in the past the central banks of today's euro zone (whose average interest rate policy is depicted for the period I/1980 – IV/1998) and the ECB followed a more restrictive stance after an increase in the oil price and raised interest rates by 0.20 percentage points in the first year. The fact that we did not observe any change in the monetary policy stance of the ECB in the course of 2004 despite the surge in oil prices can be explained by the one-dimensional view of our estimation method. VARs only describe the effects of an isolated shock, i.e. a shock that occurs independently of any other shock, and the shock hits the economy in a situation in which all the variables are on their long-run path. Thus, a possible explanation of the ECB's interest rate policy in 2004 is that the euro zone had already been hit by an adverse shock before the oil price started to rise, which induced the ECB to lower nominal interest rates to the current two percent level, and hence a level which is clearly below the neutral level.

Table 1.2
Effects of a 20 per cent increase in the US dollar Brent oil price

	OIL[1)]	GDP growth[2)]	HICP inflation[2)]	EURIBOR[3)]	REER[1)]
1st year	13.1*	-0.05	0.06*	0.20*	-0.8
2nd year	-1.6	-0.20*	0.00	-0.01	-0.4
3rd year	-1.0	-0.12*	-0.10	-0.14	0.5

Notes: * significant at the chosen significance level (see text).
[1)] average deviation from a long-run trend in per cent.
[2)] average deviation of the year-on-year changes from the long-run trend growth rates in percentage points.
[3)] average deviation from the neutral nominal interest rate in percentage points.
Source: Ifo Institute

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Outsourcing

1. Introduction

With the fall of the Iron Curtain in Europe and the opening of China, the percentage of the world population integrated with the Western trading system has increased dramatically. Regions with very different endowments of capital and labour as well as very different commodity price ratios have been merged, creating huge potentials for gains from trade. And international trade indeed has grown rapidly. While world GDP increased by 50 percent in nominal terms from 1990 to 2002, the trading volume grew by 90 percent.

Among the increasing trading activities, international outsourcing and offshoring activities have received particular attention in the public debate in Western countries. Both relate to the so-called intra-industry trade of intermediate products. Outsourcing means that domestic firms give up parts of their intermediate production chains and instead buy parts from foreign suppliers (Feenstra and Hansen 2001). Offshoring means that domestic firms set up new factories abroad to produce the intermediary products themselves.[1] As the economic implications of these two phenomena are the same, we treat the two equally in our analysis.

Both phenomena involve a reduction in domestic production depth. Downstream activities close to consumers such as the final assembly of parts typically remain in the country, but labour-intensive upstream activities are often moved abroad in order to benefit from lower wages. Cars are good examples. Renault, Porsche and Audi are national brand names that require national content. But in fact, parts from Nissan or from own plants in Slovakia and Hungary account for substantial fractions of the value added. An extreme example is a car like the Porsche Cayenne. The car appears to be produced in Leipzig. However, in Leipzig only the steering, the gear box and a few other parts are added, while the main assembly line as such is in Bratislava. Leipzig accounts for only 12 percent of the value of the Cayenne; 88 percent of the value is already contained in what comes from Bratislava.

Comprehensive empirical information on outsourcing and offshoring developments in the United States is provided by Feenstra (1996). Reviewing evidence of long-run changes in trade and production structures in manufacturing, he finds that there have been tendencies for more use of imported intermediate inputs in production. Related results have been obtained by Hild (2004) and Sinn (2004a) for Germany (see the appendix to this chapter).

Outsourcing and offshoring activities not only apply to production for domestic use but also to production for exports. Increasing fractions of the value added content of exports seem to be coming from abroad indicating that trade in intermediaries is growing even faster than trade on average. Evidence for this is given by Ng and Yeats (2002). They show that between 1984 and 1996 East Asian imports and exports of manufactured components grew annually two to three times as fast as imports and exports of traditional production. Related results have been found for Germany. Sinn called this the "bazaar economy effect", a term which has triggered off a wide debate among German researchers.[2] If a country specializes in "bazaar" activities, its factors of production move from other sectors towards activities in which their value added rises, but the export and import volumes rise even faster than this.

International outsourcing and offshoring have gained importance in Europe since the mid-1990s, in particular after the ex-communist countries in Eastern Europe had overcome their transformation crises and EU membership came in sight. The public in western EU countries has been alarmed by potential job losses and low-wage competition from the east. By contrast, business representatives have tended to play down these fears, pointing to the advantages the new

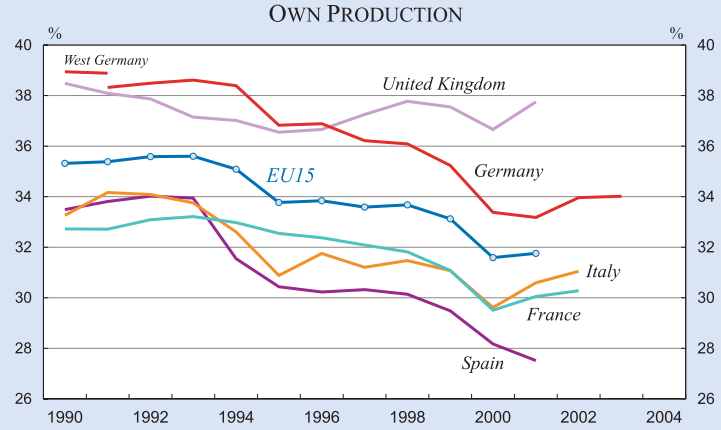
[1] Offshoring differs from foreign direct investment (FDI) in so far as FDI need not imply that the goods produced in an owned or partly owned company abroad are used in the domestic production process, although this could be the case as well. We follow the definition of Feenstra and Hansen. See also Feenstra (1996), who speak of outsourcing as international production sharing.

[2] The term was first used in H.-W. Sinn, Deutsche Rede, Stiftung Neu Hardenberg, live radio transmission, Deutschland Radio, 15.11.2003, reprinted in Sinn (2004b). An extensive discussion of the critics' arguments can be found in Sinn (2005).

trading opportunities are creating and to the possibility of cutting production cost, thus saving jobs in the west that otherwise would have been lost. This chapter tries to shed some more light on this issue.

Figure 2.1

SHARE OF VALUE ADDED IN THE MANUFACTURING SECTOR'S OWN PRODUCTION



Source: OECD, STAN database for Industrial Analysis, Vol. 2004 release 07; Germany: Federal Statistical Office, National Accounts: Special series 18, series S.21 and series 3.1; Ifo Institute calculations.

2. The decline in the share of value added in production

Outsourcing and offshoring activities, which reduce the domestic production depth, seem to be particularly important for the manufacturing sector. Outsourcing of services which also has received much attention in the media, does not (yet) seem to be an important empirical phenomenon.[3]

The reduction in domestic production depth is demonstrated quite clearly by the decline in the share of the manufacturing sector's value added in its own production. As Figure 2.1 shows, this decline is a pronounced empirical trend in all other major EU countries. In Germany, for instance, the own value added share in production declined from 40 percent in 1970 to less than 34 percent in 2003.

In principle, the observed deviation of value added from production could be a result of domestic outsourcing to other sectors rather than international outsourcing and offshoring. In fact, this has been the position taken by the *Financial Times Deutschland* in a series of articles countering the bazaar economy view.[4] However, Table 2.1, which refers to all countries for which Eurostat data are available, shows that foreign outsourcing plays a more than proportionate role in explaining the development. In all major Western European countries, the share of foreign intermediate products in the total value of intermediate products increased from 1995 to 2000. This shows that the declining share of value added is indeed primarily due to the increased share of foreign, rather than domestic, outsourcing activities.

As the reader can easily verify, the strength of this development differs among countries with Germany being more affected than others. The reason could be that Germany's geographic and cultural proximity to the new EU member countries makes it particularly attractive for German firms to locate part of their production activities there.[5]

Table 2.1

International outsourcing
– The share of foreign intermediate products in total intermediate products (in percent) –

	Year	Share
Italy	1995	17
	2000	19
Denmark	1995	22
	2000	26
Finland	1995	20
	2000	24
Netherlands	1995	29
	2000	30
Austria	1995	25
	2000	29
Sweden	1995	23
	2000	28
Germany	1995	20
	2000	26

Note: The values reported above refer to the total economy.

Source: Eurostat and own calculations. The underlying data are stored in CIRCA, the Intranet of Eurostat, and can be purchased at the Eurostat data shop.

[3] For studies on service outsourcing, see Bhagwati et al. (2004) and Amiti and Wei (2004). The latter paper contains some data on international outsourcing of services. The authors find that (i) service outsourcing is still low, though increasing, (ii) some rich countries, for example USA and UK, have had more "insourcing" of services than outsourcing, and (iii) in the UK, job growth at the sectoral level is not negatively related to service outsourcing. Jones and Kierzkowski (2003) emphasize that the IT revolution and reductions in regulations have allowed firms to exploit potential increasing returns in service links between different stages of production. A cautious conclusion on the significance of service outsourcing might be that while it is discussed very much in the media, its role in the aggregate is still relatively small. Naturally, the phenomenon is of far greater significance for specific firms, jobs and industries. See also the discussion of outsourcing services in Chapter 1.

[4] See e.g. articles "Banker zweifeln an Basar-Ökonomie", *Financial Times Deutschland* 16.7.2004, p. 16, and "Der orientalische Basar und die deutsche Krise Ökonomen finden neue Erklärung für Wirtschaftsmisere", *Financial Times Deutschland,* 25.6.2004, p. 18.

[5] Further indicators for Germany's special role can be found in Sinn (2005).

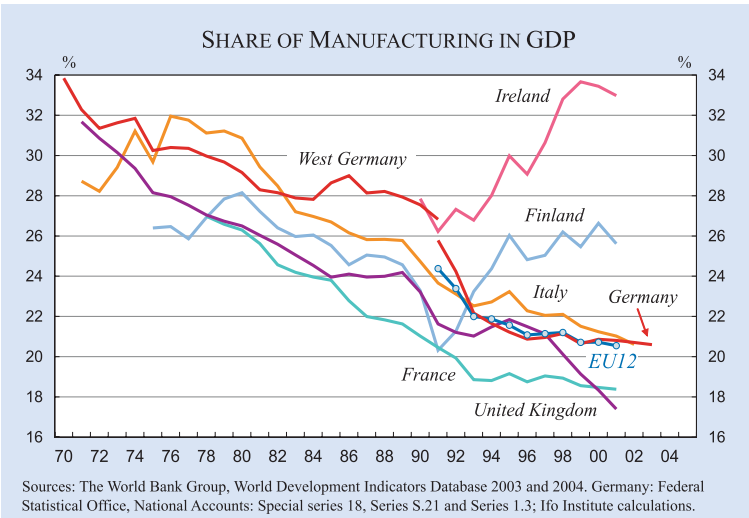
While the Eurostat information in Table 2.1 refers to the whole economy, the German Statistisches Bundesamt and the Council of Economic Advisors recently showed that the same tendency holds true for total exports as well as for exports of manufacturing goods.[6] From 1991 to 2002, the fraction of foreign intermediary inputs in German exports, including the import of exported merchandise, increased from 26.7 percent to 38.8 percent, that is, by about 11 percentage points. More than eight of these 11 percentage points can be attributed to the period from 1995 to 2002. Similarly, the fraction of foreign intermediary inputs in the exports of the manufacturing sector increased from 26.7 percent to 38.1 percent in the period from 1990 to 2000. We are not aware that similar statistical information is available for other countries, but the tendency is strong enough to expect a phenomenon of wider importance for many European countries. Regressing real export-induced imports on real exports, where the export price index is used as a deflator, the results – published by the German Federal Statistical Office – imply a marginal intermediary import propensity of exports of 55 percent. This means that 55 percent of an additional real euro of German exports is value added coming from abroad and only 45 percent is produced in Germany.[7]

Less value added per unit produced in the manufacturing sector does not necessarily imply that GDP is growing more slowly than it otherwise would. A development towards a bazaar economy could well be accompanied by an increasing prosperity of the exporting sector in general and the manufacturing sector in particular. In principle, at least some countries could specialise in engineering, final assembly and industrial sales activities with an ever increasing share of income earned this way. Figure 2.2 shows a mixed picture in this regard. While the downward trend of the manufacturing value added share in GDP is a general phenomenon for the old EU, there are substantial differences among the various countries. Most countries, for instance Italy, Great Britain and Germany, display long-term reductions in their share of manufacturing value added in GDP. The overall decline since 1970 is very pronounced indeed. Only in France has the share stabilised, albeit at a very low level.

Exceptions to the general pattern appear to be Ireland and Finland. Ireland as one of the fastest growing economies in Europe has experienced a substantial increase in the share of manufacturing in total GDP. In Finland, the share fell up to 1991. However, thereafter it increased over much of the 1990s along with the "Finish miracle" boom that was particularly driven by the IT and other high-tech industries.[8] The Finnish and Irish development may also, to some extent, have to do with the EU single market, which has removed the disadvantage of a limited domestic market size from which the smaller European countries had suffered before.

Interestingly however, Germany, where the outsourcing and offshoring activities are particularly pronounced, seems to have succeeded in stabilising the share of manufacturing value added in GDP to some extent. However, Germany has had the slowest growth among all EU countries since 1995. Part of the stabilisation of the share may therefore simply reflect the weak performance of the rest of the economy.

Figure 2.2

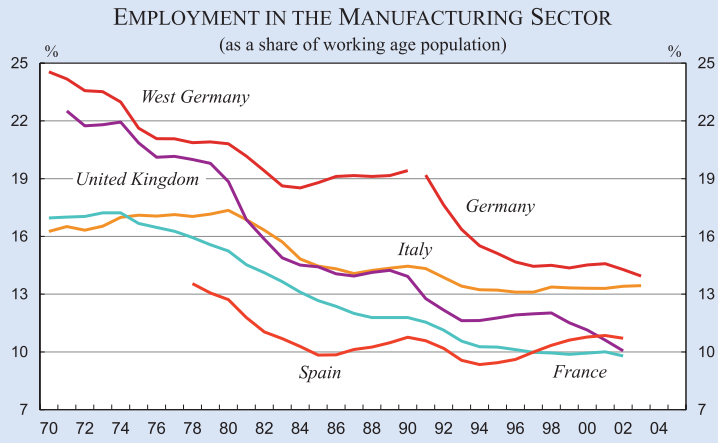


Sources: The World Bank Group, World Development Indicators Database 2003 and 2004. Germany: Federal Statistical Office, National Accounts: Special series 18, Series S.21 and Series 1.3; Ifo Institute calculations.

The value-added shares are only approximate indicators of employment shares, as firms in the old EU countries may react to the competitive pressures by increasing the capital intensity of their production and dismissing unskilled labour with relatively

[6] Statistisches Bundesamt (2004) and Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung (2004), pp. 361–364.
[7] See Flaig et al. (2004).
[8] Other factors contributing to the extraordinary pattern in Finland were the fall of exports to the Soviet Union that contributed to the large fall in 1989–91 and the recovery from the deep Finnish recession in the early 1990s, that contributed to the recovery in the share of manufacturing in GDP.

Figure 2.3



Sources: OECD, STAN database for Industrial Analysis, Vol 2004 release 07; Working Age Population (Between 15 and 64 years old): OECD Economic Outlook database; Germany: Federal Statistical Office, National Accounts: Special Series 18, series S.21 and Series 1.3; Ifo Institute calculations.

low value added per capita. Indeed, Figure 2.3 shows that the decline in manufacturing employment shares is more pronounced than the decline in value added shares.

3. The general motives for outsourcing and offshoring activities

Despite the media attention that outsourcing and offshoring is currently receiving, the academic literature on this topic is mostly recent, diverse and relatively scarce.

Outsourcing as a reason for change in industrial structures, with outsourcing as a particular form of vertical disintegration, is emphasized by Grossman and Helpman (2002, 2003). They argue that outsourcing has been increasing in recent years due to improvements in communication technologies and the reduction of transaction costs between intermediate and final goods producers. In related work, McLaren (2000, 2003) argues that globalisation has increased the thickness of markets and that thicker markets imply less vertical integration.[9]

Another related idea is suggested by Casella and Rauch (2002) and Rauch and Casella (2003), who argue that outsourcing helps reduce informational barriers to trade and that foreign intermediaries have access to information that domestic firms would otherwise not have. According to these hypotheses, trading services are an important aspect of outsourcing. This is similar in spirit to Feenstra, Hanson and Lin (2002). These authors show that Chinese imports to the United States are to a large extent channeled through intermediaries in Hong Kong and they view this as a form of outsourcing trading services that indicates benefits to firms from informational advantages of the Hong Kong intermediaries.

A related question is that, given that a firm has decided to outsource and offshore part of the production process, where to outsource. Hanson, Mataloni and Slaughter (2001) show that distance is among the most important factors in the decision to outsource in US data, next to tax differences and differences in labour cost. While not surprising, this finding is particularly important for Europe, as the proximity of Eastern Europe allows small and medium-sized firms to outsource parts of their production processes to the new members of the European Union, which are close-by neighbours.

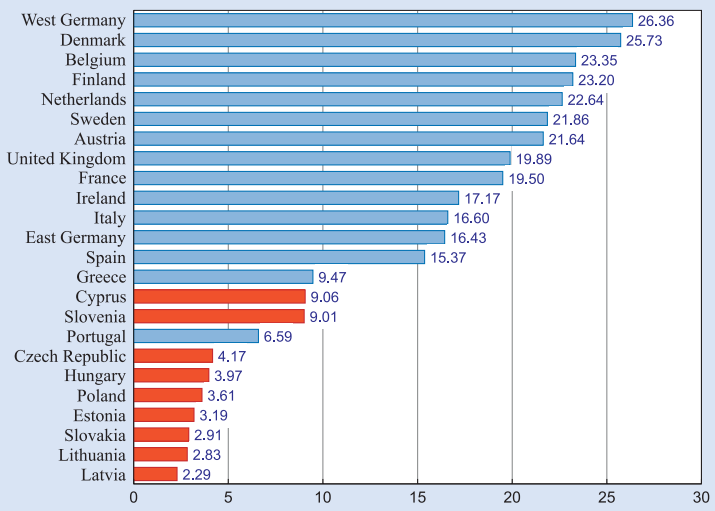
4. Opening trade with the ex-communist countries: Low-wage competition at the extreme

While these are important motives that certainly play a role in explaining outsourcing, it seems to us that the idiosyncratic shock to the world trading system that came about with the end of the communist regimes in the late 1980s and early 1990s was of particular importance. The more or less sudden opening of trade between devastated, poor ex-communist countries and the highly productive and rich western countries was like opening the weirs between two lakes of different height. Much of what has happened to international trade since that time can be explained by this picture, including the rapid emergence of outsourcing and offshoring activities.

In particular, outsourcing and offshoring is one way of taking advantage of the low labour cost in the eastern European accession countries. Figure 2.4 gives an idea of how large the relocation incentives may be by comparing the wage costs for industrial workers across the EU countries.

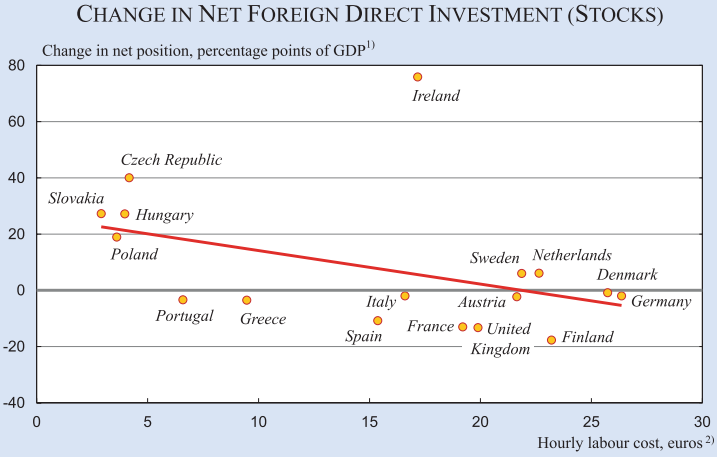
[9] See also the CESifo Forum (summer 2004) for a further discussion on the consequences of outsourcing.

Figure 2.4



Sources: Cologne Institute for Business Research: Deutschland in Zahlen 2004, Table 12.13; East Germany: Ifo Institute calculations.

Figure 2.5



1) Change of inward FDI stocks (as percentage of GDP) during the same period (1995–2002).
2) 2002, euros.

Source: OECD.

Figure 2.4 shows that the hourly labour cost in most Western European countries exceeds the labour cost in the new EU member countries by a factor of five to ten.[10,11] Moving parts of the production process to Eastern Europe is therefore not a marginal saving for the firms but a large discrete jump in reducing total labour costs. Clearly this plays a major role in the location choice of newly established firms and is large enough in magnitude to justify a relocation of already existing plants if the share of labour cost in total production cost is large enough.[12]

Figure 2.5 indicates that the share of FDI in GDP that flows to the countries in net terms is negatively related to the hourly labour cost. In particular the eastern European countries, which have the lowest wages within the EU, are the ones that have received the largest share of FDI. This is not identical but likely to be highly correlated with offshoring and outsourcing.[13]

A strong link between wages and direct investment flows has also been found by Marin, Lorentowicz and Raubold (2003) and in a most recent study of the Ifo Institute by Becker, Ekholm, Jäckle and Muendler (2004). The latter have exploited the voluminous direct investment data base of the Bundesbank that had not previously been accessible. They found that German and Eastern European workers are close substitutes rather than complements and that a wage increase in Germany has a significant and sizable positive impact on the number of jobs created by German firms in Eastern Europe.[14]

[10] Wages for workers in the new industrial locations of Eastern Europe are higher than average wages as shown above. Outsourcing and offshoring from Western Europe imply substantial wage differences within the new accession countries.
[11] For a more detailed analysis for the economic performance of the accession countries, see our 2004 EEAG Report.
[12] In Chapter 3, we make suggestions on how to overcome the high labor cost problems of the Western European countries.

[13] Normally FDI statistics give little information of green-field investment. The lion's share of measured investment is purchases of existing firms and retained earnings within such firms. In Eastern Europe, these items are unlikely to be large, however, due to the fact that communism did not leave many functioning existing firms.
[14] In the recent literature there is a consensus that domestic and foreign workers are substitutes. However previous studies, some came to different conclusions. Braconier and Ekholm (2000) found a substitutability for high income countries, but not for low income countries. Braconier and Ekholm (2001) found in the same data set, however, that outsourcing of Swedish firms to Eastern Europe has triggered both a relocation of jobs from Sweden to Eastern Europe and, to an even larger extent, a relocation of jobs of Swedish companies that where already outsourced to Southern Europe. Brainard and Riker (1997 and 2001) found for a set of US multinationals that parent employment and affiliate employment in low-wage countries are weak substitutes, while affiliate employment in different low-wage countries are strong substitutes. However, they also reported complementarity between affiliate employment in different types of countries. In particular in their 2001 paper, which uses an updated data set, they confirmed the evidence of substitutability. Konings and Murphy (2001) found evidence of substitutability, although only at the 10 percent significance level, for a set of EU firms. See Ekholm (2003) for an overview.

5. Impact on wages

While it is clear that outsourcing and offshoring activities are driven by wage differences, there is less evidence for the reverse causality. Theoretically, outsourcing reflects changes in international cost structures and productivity and thereby major shifts in comparative advantage. Such shocks will have the initial impact that some factors will earn lower income or lose employment if factor prices are rigid.

Outsourcing is like technical progress, which may or may not hurt the different types of labour in the economy. The effects on the income distribution depend, among other things, on the relative capital intensities of the sectors that experience and do not experience outsourcing. In particular whether a factor will gain or lose depends on whether it is a complement or a substitute to the factor that has become more abundant by opening trade (see, for example, Jones 2003, Kohler 2004 and Bhagwati et al. 2004). Clearly those wage earners who are substitutes to the low-wage earners who offer their labour abroad and who trigger off outsourcing and offshoring are hurt. They have to accept wage reductions to preserve their jobs. By contrast, those who offer labour that is complementary to the low-wage earners abroad will gain. Theoretically, it is even possible that the average wage rate rises.

From an empirical perspective it seems clear that low-skilled wage earners, basically industrial workers, will lose, as there is an abundance of people in the ex-communist countries including China who are now offering their labour for low-skilled industrial jobs.[15] And it may also seem plausible that highly skilled individuals whose services are complements to these large numbers of low-skilled workers will gain. However, it is unclear where the borderline between skilled and unskilled labour lies. According to a study of Geishecker and Görg (2004), even German workers with a normal school degree and accomplished vocational training programme belong to the group of losers, and only workers with a university degree can clearly be identified as winners. If this is true, then substantial fractions of wage earners in Germany are likely to belong to the group of losers.

This view is implicitly confirmed by Marin (2004) who found that outsourcing to Eastern Europe does not only involve low-skilled labour, as is often assumed, but includes high-skilled labour, too. Labour markets in Eastern Europe are not comparable to labour markets in third-world countries. Rather a high degree of skill abundance seems to prevail. However, Marin finds only few negative effects on jobs of outsourcing from Germany and Austria.

The empirical studies that try to estimate the impact of international outsourcing on wages face the difficulty of separating the effects of outsourcing from the technological changes in cost and production that often are the initial reason for outsourcing. These studies must also consider the closely related issue of skill-biased technical change and its role in the wage gap between skilled and unskilled workers that widened in the 1980s and 1990s.[16] Feenstra and Hanson (2001) survey the empirical literature that has attempted to estimate the reasons behind the widened wage gap between skilled and unskilled workers in the US. This literature has employed several related methodologies, for example estimations of demand for skilled labour, price-cost conditions or economy-wide GDP functions to study the role of outsourcing. Feenstra and Hanson conclude that in addition to skill-biased technical change, "international trade is an important explanation of the increased wage gap". However, the quantitative results in these studies are sensitive to the framework employed and also to the variables used to measure skill-biased technical progress.

6. Outsourcing, factor price equalisation and the welfare state: how to evaluate the process

The question that arises is how to evaluate the patterns of industrial restructuring documented above. In principle, there is a strong presumption that the countries between which trade is opened up will experience gains from trade, because they can specialise in those sectors where they have comparative advantages and move away from others where they have disadvantages. As a rule, a country will gain more the further the price ratios of its products move away from the price ratios that prevailed, or would have prevailed, in autarchy, because then they can specialise more and buy imports at increasingly lower prices in terms of exported goods. Outsourcing and offshoring

[15] Meshcheryakova (2004) attempts to estimate the income losses of low-skilled workers in a two-country version of a neoclassical growth model. In a calibration exercise with data from the United States and China she finds that outsorcing reduces the lifetime utility of low-skilled workers in the US.

[16] Katz and Autor (1999) give the estimates that between 1979 and 1995 the real wages of U.S. workers with more than 16 years of education rose by 3.4 percent, while those with less than 12 years of education fell by 20.2 percent.

are important elements that contribute to gains from trade.

If one sees the world as consisting of two kinds of countries, the highly industrialised countries of the West and the ex-communist countries that recently joined the world trading system, both groups of countries will unambiguously gain if they open up trade under free competition, since before trade was opened, the commodity price ratios differed widely. Both groups of countries will be able to import goods more cheaply than it would have been possible for them to produce these goods themselves.

However, when the world is seen in a more disaggregated way and if various institutional constraints that limit the role of free competition are taken into account, the gains from trade are less obvious.

Consider, for example, a third group of countries, say the resource-rich developing countries of the south. Then it may well be the case that the terms of trade will not improve for the countries of the West if the ex-communist countries join the trade between the West and the developing countries as a third partner. Suppose, for example, that the West has specialised in skill-intensive goods and that the ex-communist countries will do the same. Then the terms of trade for the West may worsen in the sense that the price of skill-intensive goods in terms of natural resources falls, moving closer to the level that would have prevailed in the West in autarchy. In this case. the West's gains from trade will decline. This is the fear that Samuelson (2004) expressed recently. The recent rise of the world oil price, which many have attributed to increasing demand from China, can be interpreted in the light of this argument. However, as has been shown by Dixit and Grossman (2004), the empirical conditions for this scenario to be relevant are unlikely to be satisfied.

A more relevant concern for the countries of Europe seems to be that the condition that the markets in the countries among which trade is opened operate competitively is not satisfied. Gains from trade and specialisation require that the countries internally be organised such that the factors of production, capital and labour in particular, can freely move from the disadvantaged to the advantaged sectors. There are always disadvantaged sectors with dying firms and growing unemployment. The crucial test for gains from trade is how quickly a country is able to return to full employment after trade is opened and jobs in the import-competing industries are destroyed by creating new jobs in the rising export sectors.

This test applies to outsourcing and offshoring activities in particular. The domestic job losses they incur must be compensated for by new jobs that are established in other parts of the economy. To be concrete, an efficient process of international outsourcing and offshoring would imply that the work time set free in the firms that dislocate their labour is used in other sectors such as services or construction whose output cannot easily be provided by the ex-communist low-wage countries or in downstream manufacturing sectors that specialise in bazaar activities.

Some European countries seem to meet the test. The UK where unemployment declined despite substantial job losses in manufacturing is a good example. The UK seems to have succeeded well in managing the structural change towards a service-based economy. Its growth and employment performance in the last ten years has been outstanding.

Other countries seem to be having more difficulties. Germany, which has been growing more slowly than any other EU country since 1995, is the most prominent example. However, the views on Germany differ widely. A number of German researchers have argued that Germany is able to master the current period of globalisation well and to capture gains from trade since the exporting sectors' employment and value-added shares are growing relative to the rest of the economy. The Federal Statistical Office has been able to demonstrate that this is the case in Germany despite the pronounced tendency to reduce the value added per unit of export. The growth in the export volume overcompensated the declining production depth due to outsourcing and offshoring. The same researchers see it as a confirmation of Germany's gains that the export surplus has increased in recent years.[17]

This line of reasoning escapes our understanding of how economies function. As explained, opening trade with a number of previously excluded countries means specialisation, and specialisation means increased exports and imports. Sectors where a country has a comparative advantage expand, export their products and absorb more factors of production such that their value added increases. Other sectors where a country has a disadvantage decline, giving way to

[17] Sinn (2005).

imports. They lose the factors of production, and hence their value added falls behind. Showing that value added and employment in the exporting sectors have increased relative to the rest of the economy is close to a tautology. It implies that countries specialise, but it does not in itself imply gains from trade, let alone an optimal reaction to international trade.

One reason why increasing exports cannot, by themselves, be interpreted as signs of gains from trade has been given by Brecher (1974) in a Heckscher-Ohlin trade model with a minimum wage constraint. If the minimum wage constraint applies in the high-wage, capital-abundant country, the labour-intensive sector of that country has difficulties surviving the low-wage competition from abroad, setting free an excessive amount of capital and labour. The capital-intensive exporting sector then expands more rapidly, and the country overspecialises. The capital intensive goods are used to buy more labour intensive goods abroad, replacing the reduced national production of such goods. Both imports and exports grow beyond their optimal size. There is an export boom, but it is a sign of a pathologic reaction of the economy rather than of a successful reaction to international trade, because the capital-intensive sector is unable to absorb the workforce set free in the labour-intensive sector. This example shows that it is not always better to export more and to generate more export-induced value added.[18] While it is debatable whether this case already applies to Europe, the argument makes it clear that a high level of exports in itself cannot possibly be interpreted as a sign for gains from trade if wages are sticky.

Similarly, the mere fact that a country has an export surplus does not show gains from trade either. By definition, an export surplus is a capital export. While a capital export could be the sign of welfare-improving intertemporal trade, it could also be the consequence of bad national policies.[19] When wages are fixed above the market clearing level and factor proportions cannot react to the forces of globalisation, a capital export can even be taken as an indicator of job exports. It is difficult to say to what extent this case applies to the European economies, but it is clear that a trade surplus in itself cannot be interpreted as a sign of gains from trade.

An indication that the case of inflexible labour markets is relevant for Europe is the increasing unemployment from which many European countries have suffered in recent years. Germany, whose unemployment has risen for more than three decades, is a characteristic example. In the period from 1995 to 2003, when the reduction in domestic production depth was particularly pronounced, 1.9 billion hours of work disappeared from the German manufacturing sector (industrial production without construction), which is a decline of 14 percent. However, only 290 million additional hours of work were created in the rest of the economy. There was a net loss of 1.61 billion hours of work in the period under consideration. This undoubtedly was not a sound development that speaks of gains from trade.

Outsourcing and offshoring per se do not cause unemployment. The problem is instead the inflexibility of the labour market. In order for the structural change accompanying specialisation to operate efficiently and bring about gains from trade, wages would have to give way as a reaction to increased low-wage competition from abroad. However, both trade unions and the relatively high replacement incomes of the welfare state have prevented wages from falling. Replacement incomes, such as unemployment benefits and social aid, act as lower bounds on the wage distribution. They were not a problem when growth was high and wages were rising, because they then followed wages at a sufficient distance. However, when trade is opened with huge low-wage areas like China and Eastern Europe, wages come under pressure while the replacement incomes stemming from better times prevent them from giving way. Thus, too much outsourcing and offshoring activity may have been induced, and too few jobs may have been created in the rest of the economy. This has added to the already existing unemployment problems caused by the interaction of macroeconomic shocks in the past and unfavourable institutional conditions.

This is the general dilemma of market integration between high-wage and low-wage countries. Such integration will bring about gains from trade, but only

[18] For a more extensive discussion, see Sinn (2005).

[19] A current account surplus by definition is equal to an export of capital. Suppose we start with the identity Y-T=C+I+G+(X-M), where Y (income) –T (taxes) is the disposable income, C is consumption, I is investment, G is government expenditure and X (exports) –M (imports) is the current account surplus. A reformulation of this equation yields (Y-T-C)+(T-G)=I+(X-M), where private and public saving stand on the left hand side and investment and the current account surplus on the right hand side. National savings are obviously allocated in the open economy towards domestic investment and net exports. Therefore, by definition, an export surplus is a capital outflow. This identity of course says nothing about the causality. Part of the current European export surplus may result from the attempt to export capital, part may be due to low internal demand which implies low imports. However, the low internal demand may in turn result from the low investment volume which itself may reflect the availability of attracting outsourcing and offshoring alternatives.

Box 2.1

Competitiveness

In the discussion on outsourcing, and the process of globalisation in general, the term "competitiveness" is often used in a misleading way. Often, it is argued that the lower cost of inputs from Eastern Europe makes Western European firms more competitive and therefore gives them an advantage in placing their products on the world markets. This undoubtedly is the case However, it is not the most interesting and relevant form of competitiveness. While the firms – and the owners of capital in general – including perhaps skilled workers remain competitive and even increase their competitiveness through outsourcing, it is the unskilled workers who are unable to compete. The main concerns raised about competitiveness in this chapter is that workers in a highly regulated labour market may not be able to compete with the low-wage alternatives that are opening up for internationally mobile capital in Eastern Europe.

in the sense that the winners gain more than the losers lose. The reason is that market integration tends to bring about factor price equalisation or at least a narrowing of the gap in factor prices. As argued above, at least wages for unskilled labour in the EU-15 come under pressure, and by the same mechanism wages in the new accession countries are lifted. Thus there are losers in the west, and in the current situation the losers may well comprise substantial fractions of the workforce of the Western European countries.

It is understandable that unions and politicians try to stem the tide and prevent the distributional consequences.[20] However, if they do that by fixing wages and social replacement incomes, they prevent the necessary adjustments of the economy and hence the gains from trade from occurring. There are no gains from trade if political constraints make the corresponding convergence of factor prices impossible.

Nevertheless, the exporting sector of such an economy may flourish for the reasons given by Brecher (1974), as cited above. Also many firms in such an economy may stay competitive. However, unemployment shows that an increasing fraction of the workforce may at the same time have lost its competitiveness (see Box 2.1)

In this sense, the judgment of international outsourcing and offshoring is not trivial. In principle, these are good and natural consequences of a fruitful integration of markets. However, the inflexibility of wages in the west may create more shifts in production processes and a more rapid reduction in domestic production depth than is optimal. The subtle truth is that a process that is good in principle may go too far because of the inflexibility of Western labour markets.

The EEAG had previously argued that one of the most powerful tools in the fight against unemployment is a partial conversion of the welfare state from the payment of wage replacement incomes to a policy of permanently paying wage subsidies to the very low-skilled, and it had presented a system of activating social aid to accomplish this without increasing the cost of the welfare state. This strategy remains the appropriate medicine against an overly rapid process of outsourcing and offshoring, because it establishes the wage flexibility necessary to bring about the gains from trade while at the same time compensating the victims of factor price equalisation.[21]

7. Conclusions

Since the fall of the Iron Curtain and the integration of China into the world trading system, international trade in goods and services has increased significantly, given that the factor endowments and hence relative prices differ substantially. Trade in intermediate products has developed particularly rapidly due to outsourcing and offshoring activities of firms that have tried to make use of the huge wage differences between the formerly separated parts of the world. This has caused the domestic value added per unit of output – the so-called production depth – to decline in many sectors.

This trend towards a reduction in production depth has been particularly strong in the manufacturing sector. This trend of de-industrialisation is related to outsourcing and offshoring activities of domestic firms. Parts of the production process have been moved to low-wage countries. In particular the new members of the European Union in Eastern Europe are the focus of a new restructuring of the economy.

Outsourcing and offshoring are not limited to manufacturing only. In Germany, for example, it has been

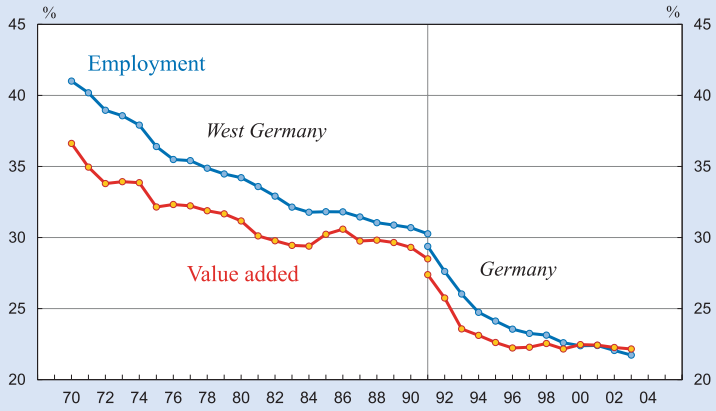
[20] The implications of labour market unionisation on the effects of outsourcing are considered by Skaksen (2004). He shows that potential outsourcing makes the members of trade unions worse off relative to capital, while the reverse is true after realised outsourcing. Zhao (2001) argues that unionisation in vertically related markets gives firms incentives to outsource.

[21] See Chapter 6 of our 2002 report.

shown that these phenomena apply to the export sector as a whole. From 1991 to 2002, the additional unit of real exports, on average, induced a 55 percent increase in intermediate imports. Only 45 percent of the increase in real exports implied additional value added in the exporting country, a phenomenon that has been caricatured as the "bazaar effect". If a country specialises in bazaar activities, its factors of production move from other sectors towards such activities such that their value added rises, but the export and import volumes rise even faster than this.

Figure 2.6

SHARE OF MANUFACTURING VALUE ADDED IN TOTAL VALUE ADDED AND MANUFACTURING EMPLOYMENT IN TOTAL EMPLOYMENT[1)]



1) Total Employment: Domestic employees in total economy, including public sector.
Sources: Federal Statistical Office, National Accounts: Special series 18, Series S.21., Table 1.2.1 and 1.2.6.

In principle, outsourcing activities may lead to gains from trade for all countries involved. The low-wage countries of Eastern Europe and Asia find new and profitable employment activities for their affluent labour forces and are able to increase their wages. And the high wage countries of the West are able to withdraw part of their endowments of labour and capital from labour intensive sectors to use them more productively in the service and high-tech sectors where they may have comparative advantages. Outsourcing and offshoring is just a special form of international trade that can be expected to boost world GDP and world welfare, because it allows the countries to specialise in their comparative advantages.

However, for the gains from trade to occur it is essential that the domestic factor markets in the West are flexible enough to allow for the necessary factor migration between shrinking and expanding sectors. While capital markets in Europe do seem to meet this requirement, labour markets are quite rigid. For one thing, national job protection measures prevent workers from moving easily between sectors. For another, the repercussions of collective wage agreements and the welfare state that is based on wage replacement payments prevent the necessary wage flexibility. Gains from trade go hand in hand with a tendency towards factor price equalisation. In particular, the specialisation on more capital intensive production requires lower wages so as to prevent unemployment. If wages are rigid, this process cannot take place. The sectors where the West has a comparative disadvantage shrink too quickly setting more labour free than useful, and the growing sectors where there is a comparative advantage do not create enough additional jobs even though they grow faster than optimal. A growing level of unemployment results.

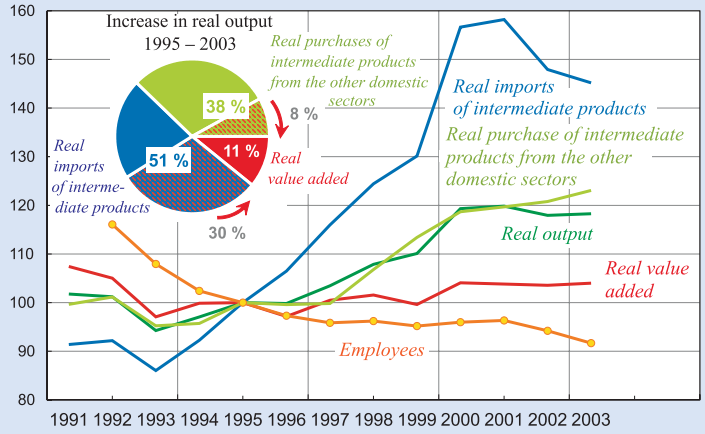
In some European countries we see strong signs of such a deficiency of the adjustment process. Thus the EEAG advocates policies to make the labour market more flexible. The necessary measures include the measures it recommended in earlier years' reports. They range from more limited job protection policies via opening clauses for collective wage agreements towards a policy of activating social aid that changes the role of the welfare state from a competitor to a partner of private enterprises. In addition, of course, increasing daily work times as recommended in Chapter 3 of this report, would be an easy way to alleviate the problems.

Appendix on Germany

As argued above, for Germany the process of international outsourcing and offshoring seems to be particularly pronounced. Figure 2.6 illustrates that the value-added share of the manufacturing sector has decreased from more than 40 percent in 1970, to less than 25 percent in 2003. Comparably, the share of employment of the manufacturing sector in total employment (including government, without self-employed) has declined from 36 percent in 1970 to only 20 in 2002.

Figure 2.7 illustrates the patterns of industrial changes in Germany in more detail. Particularly important are the developments of real output and real value added as reported in the input-output sta-

Figure 2.7



Note: Real output net of transactions within the manufacturing sector, as reported by the Federal Statistical Office. The shaded areas in the cake diagram show the extent to which the reduction in production depth can be traced to more than proportional increases in the intermediate products delivered from internal sectors and from other countries. 2003: Ifo estimate.

Sources: Federal Statistical Office, Input-output tables 1995 and 2000: Special series 18, Series 2 and Sinn (2004a) on the basis of Ifo Institute calculations and estimates.

tistics of the German Federal Statistical Office (the nominal shares are also reported in Figure 2.6). Real output is the inflation-adjusted total value of industrial products in a given year. The value added is that part of the value that was generated by the manufacturing sector itself. Value added is equivalent to the primary income of the industrial production sector, plus taxes, which is in principle identical to the gross profits, interest payments, wage payments, gross salaries, including social insurance payments and indirect taxes. Not included are intermediate goods obtained elsewhere. Due to these intermediate goods, the real output is always larger than value added. This does not imply that the indexed real output figure need to lie above the index of value added. If both values were to grow at the same rate, the share of intermediate goods would remain constant over time. As Figure 2. 7 illustrates, this is clearly not the case in Germany.

Instead, one can see that the two lines drift apart in the course of the late 1990s. While real output has grown by 18.3 percent, which is roughly equal to the EU average GDP growth, value added has only grown by 4 percent. Apparently, a growing share of German manufacturing production is due to a process of outsourcing to other sectors and countries and to offshoring. In the light of these developments, it is not surprising that employment in the German manufacturing sector has been reduced by 8.3 percent.

The question is where the production of intermediate goods has moved to. In principle, both domestic and foreign sectors could be supplying the intermediate products. Figure 2.7 shows that the latter of the two is more important. Imported intermediate products have grown by 45 percent in the time period from 1995 to 2003, twice as fast as industrial production and about 10 times as fast as value added. Despite the cyclical downturn in 2002 and 2003, this shows that increasing fractions of industrial output have been moving abroad.

The share that the German manufacturing industry had in its own increase in real output was merely 11 percent; 38 percent was due to intermediate products from other branches in the domestic economy, and a remarkable 51 percent was due to intermediate products imported from other countries. This corresponds to the data provided by the Federal Statistical Office, as cited above in the main text, according to which 55 cents of each real additional euro of German export is directly used for the purchase of imported intermediate goods.

The shaded parts of the pie-diagram in Figure 2.7 indicate which shares of manufacturing production have been crowded out by other sectors and other countries, respectively. Had all three components of real output (domestic production, foreign and domestic intermediate goods) changed proportionately, the share of the manufacturing sector's own value added in the increase in production would have been 49 percent. The fact that the share is actually only 11 percent is explained by an 8 percentage point increase of domestic outsourcing, and a 30 percentage point increase in foreign outsourcing and offshoring. The reduction in the domestic depth of production is therefore to an extent of four-fifths explained by shifting production to foreign countries and only to one-fifth by shifting production to other sectors in the domestic economy that are not part of the manufacturing sector.

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Longer Working Hours – The Beginning of a New Trend?*

A number of company-level agreements on longer working hours have recently been concluded in Germany. Such deals, for example, at Siemens and DaimlerChrysler have been widely publicised. The increases in working time have taken place without – or with only partial – pay compensation and thus represent cuts in hourly wages. They have in many cases occurred in response to employer threats of outsourcing production to lower-cost facilities abroad.

The working-time agreements in Germany have provoked a lot of debate, not only in that country but also in France as well as in other Western European countries. A key question is whether the German agreements imply a reversal of the earlier trend towards shorter hours that could spread to other countries as well. Potentially, this could happen both via psychological demonstration effects and via direct competitive pressures as production sites in different countries compete for jobs.

A controversial issue concerns the effects of longer working hours on jobs. It has been claimed both that a lengthening of working hours will raise employment and that it will reduce it. A related issue is whether or not an increase in working time will be an effective way of counteracting the future tendencies to falling labour supply in the ageing European societies (see Chapter 4 of this report).

This chapter analyses both the causes and the consequences of the recent working-time agreements in Germany. The aim is to align the discussion better with available research than has so far been done.

* We are grateful for comments on this chapter from Bertil Holmlund, Ann-Sofie Kolm, and Oskar Nordström Skans.

Table 3.1
Real income, labour productivity, and labour input in EU-15 in per cent of US levels

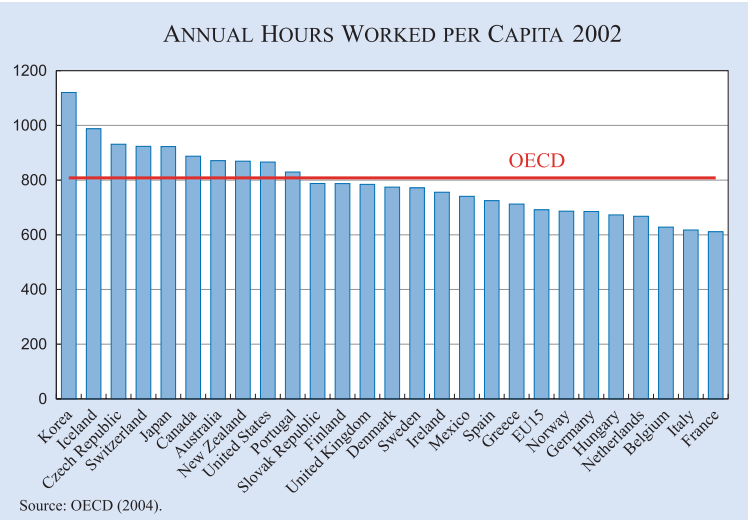
	1970	2002
GDP per capita	71	72
GDP per hour worked	65	90
Hours worked per capita	101	79

Source: Eurostat Structural Indicators (2004).

1. Background

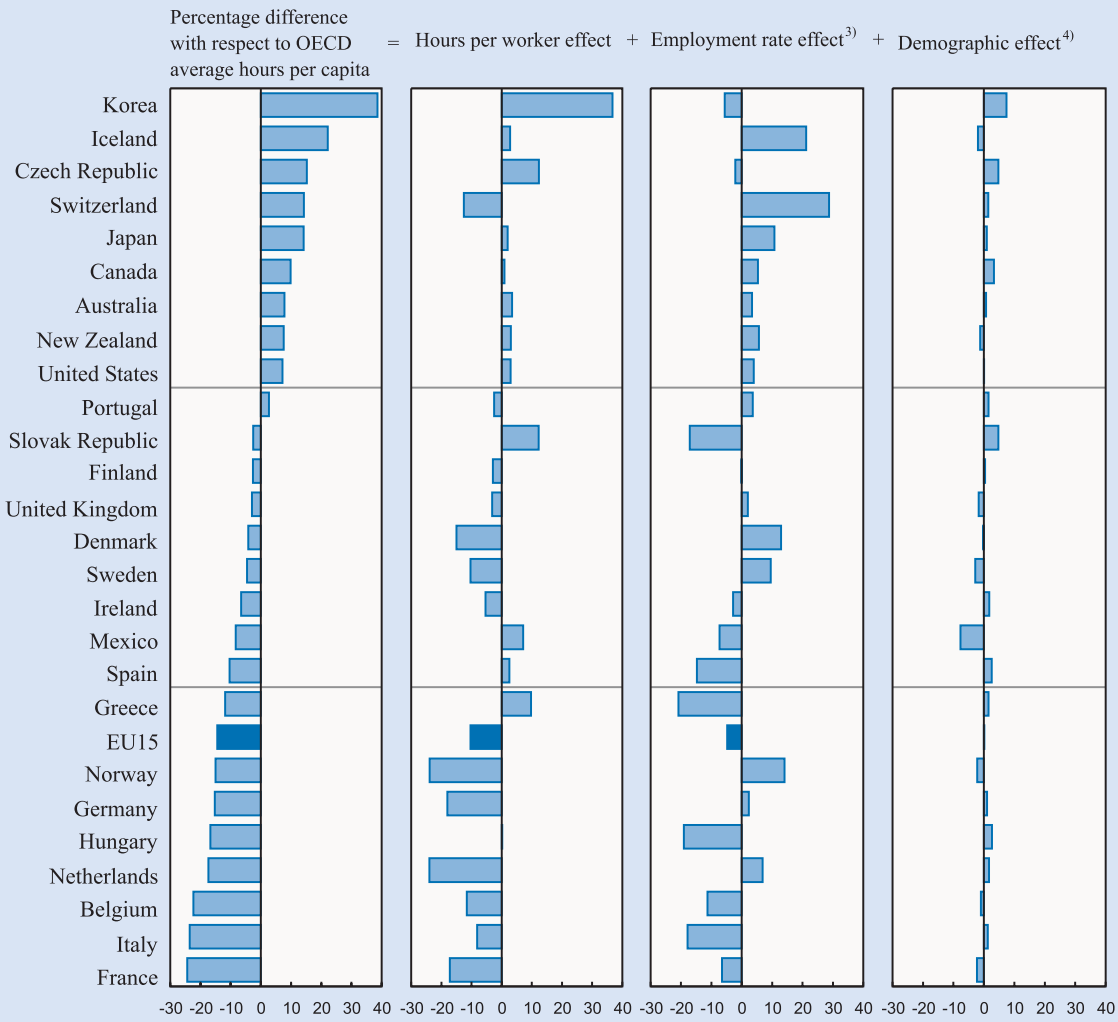
Recent research on income differences among countries has shown that the main factor behind the higher income per capita in the US than in Western Europe is higher labour input, not higher productivity (Gordon 2002, OECD 2003, Blanchard 2004). This is illustrated by Table 1. Whereas GDP per hour worked in the EU-15 was 90 percent of the US level in 2002, the number of hours worked per capita in the EU-15 was only 79 percent of that in the US. The difference in income between the US and Western Europe was more or less unchanged between 1970 and 2002: GDP per capita in the EU-15 was about 70 percent of the level in the US in both years. The unchanged income differential, however, masks two offsetting developments. Over the 1970–2002 period, labour productivity in Europe increased relative to that in the US, reflecting considerably faster produc-

Figure 3.1



Source: OECD (2004).

Figure 3.2



1) OECD averages are calculated as the population-weighted average for the countries shown for hours per capita and the demographic effects, employment-weighted average for hours per worker and working-age population-(15-64 years)-weighted average for the employment effect.
2) Countries in descending order of the percentage difference from OECD average hours per capita.- 3) Based on the ratio of employment to working-age population (15-64 years).- 4) Based on the ratio of working-age population (15-64 years) to total population.
Source: OECD (2004).

tivity growth up until the mid-1990s and somewhat slower growth after that. In contrast, hours worked per capita fell continuously in Europe relative to the US.

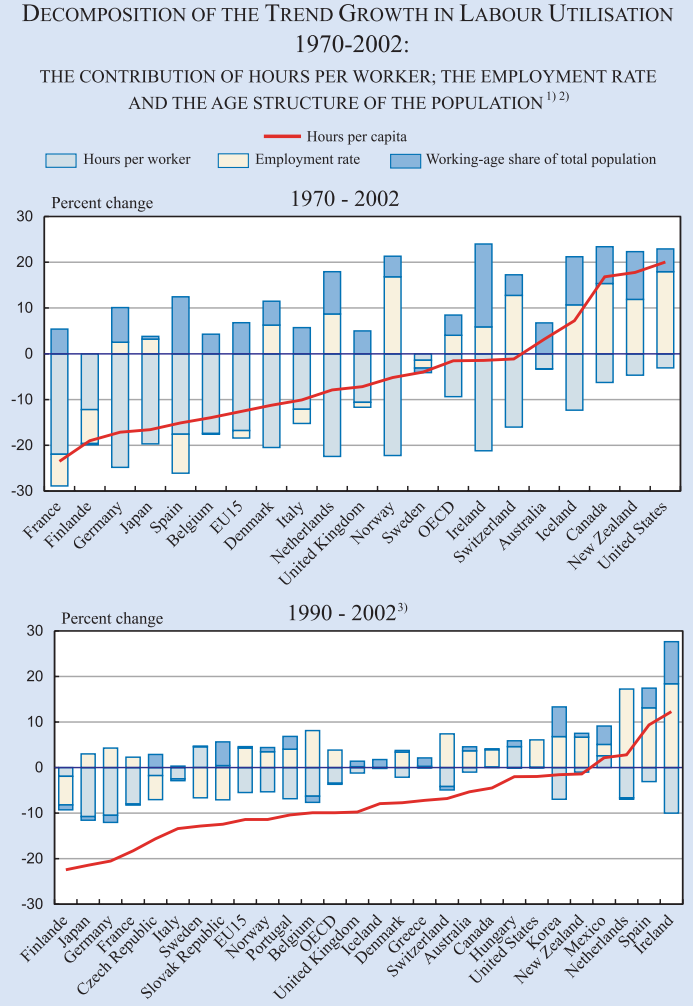
1.1. Working time in different countries

Figure 3.1 illustrates the differences in working time per capita among the OECD countries. The number of annual hours worked per capita is particularly low in some of the continental Western European countries (France, Italy, Belgium, the Netherlands and Germany) as well as in Hungary and Norway.

Figure 3.2 decomposes the differences in hours worked per capita among OECD countries into: (1) differences in hours per employee; (2) differences in the employment rate (the ratio of employment to working-age population); and (3) differences in demography (the ratio of working-age population to total population). A low number of working hours per employee is the most important factor behind the low number of working hours per capita in most of the European countries at the bottom of the diagram (France, Belgium, the Netherlands, Germany and Norway).

Figure 3.3 shows that hours per capita over the whole 1970–2002 period have declined in all OECD coun-

Figure 3.3



1) Growth decomposition for trended variables which were calculated using a Hodrick Prescott filter with a smoothing parameter of 1 000.- 2) Countries in ascending order by the trend growth in hours per capita during the period indicated. 3) Data for the Czech Republic, Hungary, Mexico and the Slovak Republic cover the period 1995 to 2002 only.

Source: OECD (2004).

tries except the US, New Zealand, Canada, Iceland and Australia. Over the same period, hours per employee have fallen everywhere. The reductions have, however, been much larger in Western Europe than in the US (particularly so in Germany, the Netherlands, Ireland, Norway, France, Denmark Spain, Belgium, Switzerland, Denmark, and Italy). Most of the reductions in both hours per capita and hours per employee took place in the 1970–1990 period. Working hours per capita actually rose in about half the OECD countries in the 1990–2002 period, mainly because of rising employment rates. Working hours per employee continued to fall in most European countries but at a slower pace than before.

Actual hours worked per employee depend to a large extent on the incidence of part-time work, which we shall not discuss here.[1] It is clear, however, that low standard working time for full-timers is an important explanation for the low working hours per employee in some Western European countries. This is illustrated in Table 3.2. Whereas annual standard working time for a full-time worker in 2003 was around 1900 hours in the US and around 1800 as an average in the new EU member states, the EU-15 average is only 1700 hours. The countries with the lowest annual standard working hours are France (1568), Denmark (1613), the Netherlands (1648), and (west) Germany (1648). As can be seen, the low annual standard working time in these countries reflects a short working week.

In general, actual working time exceeds standard working time. One reason is the existence of both paid and unpaid overtime. Another reason, when working time is determined through collective agreements, is that not all firms are covered by such agreements and that working time tends to be longer in non-covered firms. The average actual as well as standard weekly hours for a number of Western European countries are shown in Table 3.3.[2] The UK shows the largest discrepancy between the two measures with actual weekly working time exceeding standard working time by as much as 6.1 hours, but there are sizable differences in Germany (2.5 hours), France (2 hours), the Netherlands (1.9 hours) and Spain (1.9 hours) as well. Countries with shorter standard hours tend to have larger differences between actual and standard hours. A similar pattern appears to exist also within countries, with, for example, a larger discrepancy between actual and standard hours in Germany in the metal and engineering sector, which has the shortest standard working time, than in other sectors (Lehndorff 2004).

[1] An increase in the incidence of part-time work can be associated with both rises and falls in working hours per capita. It will be associated with a fall if the employment rate is constant, but more employees choose – or are forced to choose – part-time instead of full-time work. It will be associated with a rise if it reflects an increase in labour market flexibility leading to a higher employment rate among the population.

[2] The table refers to 2002, which is the latest year for which we have data on actual working time.

Reductions in standard working time took place in a number of European countries in the 1980s and 1990s through either collective agreements or legislation. Table 3.4 gives an overview of cuts in the standard working week. The most far-reaching reductions took place in Germany and France. In Germany, the standard working week in the metal working and engineering industry was reduced from 40 to 35 hours in a series of collective agreements between 1984 and 1995. Working time reductions occurred also in most other sectors. In France, there were legislated cuts in the working week in 1982 (from 40 to 39 hours) and then again in 2000 and 2002 (from 39 to 35 hours). Cuts in the standard working week have also taken place in Austria, Belgium, Denmark, Greece, Hungary, the Netherlands, Norway and the UK.

1.2 Theoretical considerations

The differences in working time developments between Western Europe and the US over recent decades have initiated a lively research discussion. Basically, three types of theoretical explanations for these differences have been put forward.

- *Differences in preferences.* For example, Blanchard (2004) argues that the most important cause of the differences in the development in working hours between Western Europe and the US are basic differences in the preferences regarding labour and leisure. According to this interpretation, Europeans have a stronger preference for shorter working hours than Americans. This view has received some support from

Table 3.2
Standard working time for full-time workers according to collective agreements and/or legislation, 2003

	Per year, average for the whole economy	Per week, average for the whole economy	Per week, metal working
US[a)]	1904	40.0	-
Estonia	1840	40.0	-
Hungary	1840	40.0	40.0
Latvia	1840	40.0	-
Poland	1840	40.0	-
Slovenia	1816	40.0	40.0
Japan[a)]	1803	39.2	-
Ireland	1802	39.0	39.0
EU-8	**1801**	**39.6**	-
(new EU states)			
Greece	1800	40.0	40.0
Malta	1776	40.0	-
Belgium	1748	38.0	38.0
Portugal	1748	39.0	40.0
Slovakia	1748	38.5	37.5
Germany (east)	1730	39.1	38.0
Spain	1729	38.6	38.5
Luxembourg	1728	39.0	39.0
Austria	1717	38.5	38.5
Cyprus	1710	38.0	38.0
EU-15	**1700**	**38.1**	**37.9**
UK	1693	37.2	37.3
Sweden	1676	38.8	40.0
Finland	1673	37.5	36.5
Italy	1672	38.0	39.1
Germany (west)	1648	37.4	35.0
Netherlands	1648	37.0	35.2
Denmark	1613	37.0	37.0
France	1568	35.0	35.0

Note: [a)] The figure refers to 2002.

Source: All countries except Japan and the US: *Working Time Developments* (2003), EIROnline;
Japan and the US: *Deutschland in Zahlen* (2004), Institut der Wirtschaft, Cologne

Table 3.3
Average actual and standard working time for full-time employees in EU-15, 2002

	Actual working time	Standard working time	Difference between actual and standard working time
UK	43.3	37.2	6.1
Greece	41.0	40.0	1.0
Spain	40.4	38.5	1.9
Portugal	40.3	39.0	1.3
Austria	40.1	38.5	1.6
EU-15	**40.0**	**38.5**	**1.5**
Sweden	39.9	38.8	1.1
Germany	39.9	37.4	2.5
Ireland	39.5	39.0	0.5
Luxembourg	39.5	39.0	0.5
Belgium	39.3	38.5	0.8
Finland	39.2	39.3	-0.1
Denmark	39.1	39.0	0.1
Netherlands	38.9	37.0	1.9
Italy	38.5	38.0	0.5
France	37.7	35.7	2.0

Source: Actual working time: *European Labour Force Survey* (2002); Standard working time: *Working-Time Developments* (2003), EIROnline.

survey studies of employee attitudes towards changes in working time (see Bell and Freeman 1994 and OECD 1998).

- *Higher tax wedges in Europe.* An alternative explanation focuses instead on the differences in tax wedges between Western Europe and the US. Labour taxes are higher and have risen by more in Europe than in the US over the last three decades. In a calibrated model of the labour-leisure choices of households, Prescott (2004) finds that the whole difference in the development of working hours per capita between a number of large European countries and the US can be explained by the differential development of labour taxes. Olovsson (2004) obtains similar results for Sweden: focusing on households' choices between market work and "home production", he is able to explain all of the difference in working hours to the US with the higher Swedish tax wedges. These results are not undisputed however. Econometric estimates on panel data usually attribute a much smaller role to taxes in explaining the fall in hours per capita in Europe (Nickell 2003).
- *Higher coverage of collective agreements in Europe.* A third possible explanation is the higher degree of unionisation and the larger role for collective agreements in Europe than in the US (see Chapter 3 of the 2004 EEAG report). Reductions in working time are a common objective of trade unions. Cuts in working hours can be viewed as a way of raising wages by restricting labour supply. They can also

Table 3.4
Major reductions in the standard work week in European economies, 1980–2004

	Year	Change	Legislation	Collective Agreements
Austria	1990	40 → 38,5		x
Belgium[b)]	1999	40 → 39	x	x (inter-industry agreement)
	2003	39 → 38	x	x (inter-industry agreement)
Denmark	1987	39 → 37		x (70% of employees)
France	1982	40 → 39		
	2000	39 → 35	x (large firms)	
	2002	39 → 35	x (all firms)	
Germany[a)]	1984	40 → 38.5		x (metal working and engineering)
	1987	38.5 → 37.5		x (metal working and engineering)
	1989	37.5 → 37		x (metal working and engineering)
	1993	37 → 36		x (metal working and engineering)
	1995	36 → 35		x (metal working and engineering)
Greece	1980	45 → 43	x	
	1981	43 → 42	x	
	1983	42 → 40	x	
Hungary	2003	40 → 38	x	
Ireland	1989-90	40 → 39		x (tripartite national framework agreement)
Nether-lands	1982	40 → 38		x (Waasenaar agreement)
	1985	40 → 38	x (government civil servants)	
Norway	1987	40 → 37,5		x (blue-collar-workers in manufacturing)
UK	1979	40 → 39		x (engineering)
	1989-90	39 → 37		x (shipbuilding and engineering)

Notes:[a)] Working time reductions also occurred in other sectors than in the metal and engineering sector during the 1984–98 period, but are not shown in the table. [b)] The entries in the table represent inter-industry agreements involving the government, which have been codified into law. The inter-industry agreements, have, however, only confirmed earlier concluded collective agreements at the sectoral level. For example, the reduction in the standard work week from 40 to 39 hours in such sectoral agreements took place mainly in 1980/81.

Source: EIRO Online; Institut der deutschen Wirtschaft;
http://www.eiro.eurofound.eu.int/2004/03/feature/tn0403108f.html
http://www.reformmonitor.org/downloads/brochure/refmon_e.pdf
http://www.reformmonitor.org/pdf-cache/doc_reports-cc-0-cm-3-cs-0.pdf
http://www.reformmonitor.org/index.php3?mode=reform
http://www.issa.int/pdf/jeru98/theme2/2-1b.pdf

be seen as a method of distributing the unemployment following from wages above the market-clearing level more evenly among workers. Indeed, ideas of work sharing have been an important factor behind the working time reductions in continental European countries. There is also empirical research (from the US) showing that a higher coverage of collective agreements co-varies with shorter standard working hours (Earle and Pencavel 1990). This finding is consistent with a positive correlation among countries between, on the one hand, the working time reductions that took place in the 1980s and early 1990s and, on the other, union density and the coverage of collective bargaining (OECD 1998). Recent observations from Germany also show that weekly working time has increased in firms that have withdrawn from employers' associations relative to firms that continue to be covered by a collective agreement (Kölling and Lehmann 2002).

2. The driving forces behind recent deals on longer working time

In 2004, several widely publicised agreements on longer working hours were concluded in large German companies. These deals followed a debate triggered by the Ifo Institute (Sinn 2003a, 2003b).[3] An agreement at Siemens (involving two mobile phone plants) raised standard weekly hours from 35 to 40 hours without pay compensation. At Daimler Chrysler there was an agreement (involving one car plant) to gradually raise the weekly working time from 35 to 39 hours without pay compensation for some workers and to increase the threshold at which overtime premia start to be paid. Another deal, encompassing all Volkswagen plants in Germany, included, beside a wage freeze, both a rise in the standard working time by 1.5 hours without pay compensation (but with deferred compensation in terms of enhanced possibilities to retire earlier) and an effective reduction of the threshold at which overtime premia are paid. Agreements on longer working hours have also been concluded at, for example, the truck manufacturer MAN, the Thomas Cook tourist group, Lufthansa, and many small and medium-sized firms.[4]

[3] See also a sizeable number of Ifo newspaper interviews on this issue as recorded on www.ifo.de.

[4] An agreement on an increase in working time without pay compensation was also concluded in 2004 at the German-owned Bosch factory in Venissieux in France. Currently, longer working hours are being discussed as a cost-cutting measure at the German Opel factory in Rüsselsheim, which is competing within the GM concern with the Swedish Saab factory in Trollhättan about future car production.

The state governments in Bavaria and Hessen have increased the weekly working time for civil servants and discussions on similar increases are also taking place in other states.

The company-level agreements on longer working hours that have been concluded in the German metal working and engineering sectors were made possible by an opt-out clause in the latest industry collective agreement. The clause allows plant-level deals that deviate from the sectoral agreement on working hours in certain cases in order to safeguard jobs (Münchau 2004, EIROnline 2004). In line with this, several of the deals on longer working hours have also contained explicit employment guarantees on the part of firms and sometimes also commitments to invest in the existing production facilities.

The recent agreements in Germany have intensified the debate on working time in that country as well as in other European countries. It appears, however, that the discrepancy between actual and collectively agreed working hours in western Germany widened already in the second half of the 1990s. This is likely to have been the consequence of increases in working time both in firms leaving employers' associations and in firms encompassed by sectoral collective agreements but entering into deals with their employees in violation of these agreements (Lehndorff 2004; Zimmermann 2004).

The deals to lengthen working time are a response to pressures to reduce labour costs. High unemployment and international competitive pressures have, for a long time, exerted such pressures. The new feature is that employees are, to a larger extent than before, exposed to credible threats from employers that production sites will be closed down and jobs outsourced abroad, either to the new EU countries or elsewhere. This is a reflection of the ongoing "globalisation", which has progressively lowered the obstacles to international capital mobility (see the discussion in Chapter 2 of this report). The enlargement of the EU may represent a "discontinuous jump" in this direction: by increasing access to EU-15 product markets as well as promoting a more stable institutional framework, the expected returns to investment in the new EU states have increased and the risks associated with such investment decreased.

Against this background, there are two useful – and complementary – ways of viewing the company-level agreements on longer working hours in Germany: (1)

as a convenient way of reducing hourly wage costs; and (2) as an induced labour supply response to a reduction of the hourly wage.

2.1 Company deals on longer working hours as a way of cutting labour costs

Both real and nominal wages tend to be rigid downwards. Most employees are likely to resist cuts in real wages that endanger the consumption standards to which they are accustomed. The resistance to real pay cuts through reductions in nominal pay may be even greater, because psychological self-esteem of employees often seems to be linked more to nominal rather than real pay (Bewley 1999).

A lengthening of working time without pay compensation can obviously be a convenient way of reducing hourly wages, since it leaves the total pay per employee unchanged. No reduction in real consumption standards is then required. Nor has the nominal wage income per employee to be reduced. The option of reducing hourly wage costs through an increase in working time is likely to be seen as more favourable the shorter the working time is to start with, as marginal disutility of work is then lower. From this point of view it is logical that it is in Germany that working time increases have occurred.

Increases in working time at unchanged pay can give rise to very substantial cuts in hourly wages. For example, an increase in weekly hours from 35 to 40 hours represents a reduction of hourly wages by as much as 12.5 percent. An increase from 35 to 37 hours represents a reduction by 5.4 percent.

It is natural that the agreements to cut labour costs through longer working hours have come about at the company rather than the sectoral level. There are well-known obstacles to wage moderation at the latter level. Most union members in a sector will be employed "insiders", whose jobs are not threatened. Hence, the majority of union members in a sector will be unwilling to concede across-the-board wage cuts in order to preserve threatened jobs in some firms or create new ones for the unemployed (which is a process that will take time and where the future winners cannot be identified ex ante).[5] The incentives for wage moderation are, of course, much stronger at an individual production site that the employer threatens to close down: then all the employees can be identified as "winners" already in the short run. For this reason, concession bargaining resulting in wage cuts in order to preserve existing jobs typically take place at the company level.

Chapter 3 of last year's EEAG report pointed to the strong decentralisation forces set in motion by increased international competition. Employers in Western Europe used to be favourable to industry-level collective bargaining because it provided them with a level playing field, eliminating domestic competition in terms of wages. But this attitude reflected a situation where the bulk of competition was domestic. When competition instead is mainly international, the uniformity of national sectoral collective agreements prevents adjustment of wage costs to the specific competitive situation of the individual firm. One way of viewing the company-level agreements on working time (as well as other cost-cutting measures) is therefore as a kind of "decentralisation revolt" from below.

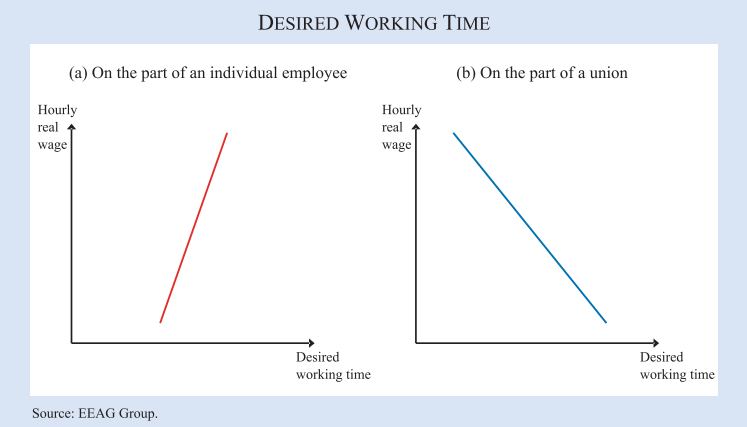
The agreements on working time at, for example, Siemens, DaimlerChrysler, and Volkswagen, have all included some form of employment guarantee from the employer. It is well-known from the theory of collective bargaining that bargaining between employers and unions over both wages and employment leads in general to more efficient outcomes (with higher employment) than bargaining only over wages (McDonald and Solow 1981; Layard, Nickell and Jackman 1991). The explanation is that simultaneous bargaining about both wages and employment allows greater possibilities of trading off wage restraint against higher employment. Centralised bargaining at the sectoral (or multi-sectoral) level is not consistent with such efficient bargaining over both wages and employment, since it would require mechanisms, which do not exist, for allocating the aggregate employment agreed at the centralised level among firms. This is the reason why such wage-employment deals are observed only at the level of the firm.

2.2 Longer working hours as a labour supply response to a real wage reduction

A complementary way of looking at the agreements on longer working hours is as a labour supply response to a reduction in hourly real wages necessary to preserve the competitiveness of domestic production facilities.

[5] These obstacles to wage moderation at the sectoral level are similar to the political-economy obstacles to labour market reforms with the aim of promoting wage moderation at the national level. These obstacles were analysed in Chapter 2 of last year's EEAG report.

Figure 3.4



Source: EEAG Group.

Standard theory tells us that we should analyse the supply of working hours as the labour-leisure choice of individual employees (and/or as an issue of allocating time between market work and "home production"). According to standard analysis, a cut in the hourly wage has an income and a substitution effect. The income effect tends to increase the number of hours supplied, because the employee's demand for leisure, as well as for all other goods, tends to fall when income is reduced.[6] The substitution effect tends to reduce hours supplied, because (market) work becomes less attractive relative to leisure (and home production). Theoretically, one cannot tell which effect dominates, but empirical work suggests a small negative net effect of wage reductions on labour supply (for prime-aged males; the effect is larger for females).[7] This is the same as saying that the labour supply curve is weakly positively sloped, as depicted in Figure 3.4a. According to this reasoning, one should thus expect a fall – and not a rise – in working hours as a response to a reduction in hourly wage rates.

However, the conventional labour supply framework is not the appropriate one for analysing recent increases in working time as these have resulted from collective, and not individual, bargaining between employers and employees. The appropriate framework is instead the theory of collective bargaining. It is standard to use this for analysing wage setting.[8] According to this framework, unions try to trade off the benefits of real wage increases for the members who remain employed against the utility losses for the members that become unemployed if wages are raised (too much). The utility loss from unemployment for a worker equals the difference between utility when employed (which depends on both wage income and working time) and utility when unemployed (which depends on unemployment benefits).

The theory of collective bargaining can also be used for analysing working-time decisions.[9] Obviously, a union, which acts in the interest of its members, will care about the labour-leisure trade-offs of employees. But unlike individuals acting alone, it will also be concerned about the effect of working-time decisions on the number of jobs: in the jargon of economists, a union internalises the effects of a change in working time of one union member on other union members. To provide more jobs (or prevent job losses), the union (workers acting collectively) has an incentive to restrict working time as compared to what workers would do when acting individually (Calmfors 1985, 1987; Holmlund 1987): given the hourly wage, shorter working time forces employers to satisfy their total demand for working hours by employing more workers. The desire of unions to hold back working time is a way of reducing the negative employment effects of wages that are set above the market-clearing level. The union incentive to restrict hours of work in order to raise employment is stronger, the more attractive it is to have a job (that is the higher the utility associated with a job).[10]

According to the described theory, unions will in general respond differently to changes in hourly real wages than individual employees acting on their own as regards desired working time. The ordinary income and substitution effects that arise for employees acting individually will also affect the desired working time on the part of a union. But there is also an additional effect. A cut in the hourly wage means that the attractiveness (utility) of holding a job decreases, since a job

[6] This assumes that leisure is a so-called "normal" good.
[7] See, for example, Aronsson and Walker (1997) for a recent review of empirical work on labour supply.
[8] See, for example, Oswald (1985), Layard and Nickell (1991), Nickell and Layard (1999), Calmfors and Holmlund (2000), or Naylor (2003) for reviews of this literature.
[9] Contributions to this literature include among others Calmfors (1985, 1987), Holmlund (1987), Earle and Pencavel (1990), and Booth and Ravaillon (1993).
[10] Under some assumptions, legislative regulation of working time produces similar outcomes as collective bargaining. The reason is that employees – making up the political majority – have similar incentives to restrict working hours when they act as voters in the political process as when they act as members of a trade union. This has been analysed by Marimon and Zilibotti (2000), who show that legislation restricting working time relative to the "laissez-faire" outcome from bargaining between firms and individual workers is in the interest of workers.

then tends to be associated with a lower income. This effect weakens the incentive of a union to restrict working hours in order to promote employment and thus tends to counteract the ordinary substitution effect of a wage change on working time. Therefore, there are stronger forces working in the direction of increasing working time when there is a cut in the hourly wage if working time is determined in collective bargaining between unions and firms than when it is determined in bargaining between individual employees and firms.

Under some theoretical assumptions – most importantly that the total number of working hours demanded by employers depends only on the hourly wage rate but is independent of working time per employee[11] – the change-in-the-attractiveness-of-a-having-a-job effect on the desired working time exactly offsets the ordinary substitution effect for a union (Calmfors 1985). Hence, in such an analysis only the income effect remains, so that a reduction in the hourly wage must lead to an increase in working time.[12] This is equivalent to saying that the schedule showing how the desired working time of a union depends on the wage is negatively sloped, as shown in Figure 3.4b.

Our theoretical reasoning provides a possible explanation of the recent agreements on longer working hours in Germany. These are then viewed as an endogenous labour supply response in collective agreements to a required reduction in the hourly real wage. Provided that the hourly wage must fall, longer working hours, which help maintain members' incomes, are in the interest of unions.

3. The effects of working hours on employment and output

A key issue is how agreements on longer working hours of the type that have been concluded in Germany affect employment and output. The views in the public debate diverge fundamentally. Proponents of longer working time tend to argue that more jobs will be created, whereas opponents usually claim the opposite. To sort out the arguments, it is important to distinguish between short-run and long-run effects. In a short-run analysis, one can take the reductions in hourly wages implied by the agreements as given. In a long-run analysis, one must consider how wage-setting incentives will respond over time to longer working hours: in long-run equilibrium, aggregate employment must be such that the parties to wage bargaining have an incentive to set wages that are consistent with the return to capital required by the international capital market.

3.1 Short-run employment and output effects of longer hours

To illustrate the short-run effects of longer working hours, it is instructive to analyse a very stylised example. Think of a profit-maximising firm that produces an output the price of which the firm cannot affect. This would, for example, be the case if the firm is one of many producers of an identical good in the world market. To begin with, assume that the physical capital stock as well as the degree of capital utilisation in the firm are given. Assume also that hours and workers are perfect substitutes to the firm, so that it is indifferent to whether a given output is produced by more employees working fewer hours per employee or by fewer employees working more hours per employee.

How would employment in such a firm respond to an increase in working time at unchanged pay per worker, where the pay per worker is the product of the hourly wage and the number of working hours? The firm employs workers up to the point at which the productivity of the marginal worker (the increase in output from an additional worker) equals the pay of a worker. The effect on employment of an increase in working time at unchanged pay depends on whether the productivity of a marginal worker rises or falls. There are two counteracting effects.

- On the one hand, the productivity of a marginal worker tends to increase when he/she works more hours.
- On the other hand, the productivity of a marginal worker tends to fall because longer working time for all workers implies a lower productivity of the marginal hour (the increase in output from an additional hour worked). The reason is that the productivity of the marginal hour depends positively on the ratio between capital and the total number of hours worked (the number of workers x

[11] This is equivalent to assuming that working hours and workers are perfect substitutes (within a relevant range), so that employers are indifferent to whether a given output is produced by fewer employees working more hours or more employees working fewer hours. See Section 3.1 below.
[12] The implicit assumption is then again that leisure is a "normal good", that is a good for which demand increases when income increases. A similar theoretical result as above holds when working time is determined through legislation and employees make up the political majority. See also footnote 10.

working time) and that this ratio tends to fall when working time increases.[13]

The net effect on the productivity of a marginal worker of an increase in working time depends on which of the two effects dominates. If the productivity of a marginal hour falls only slowly when hours increase, the first effect dominates and the productivity of a marginal worker increases. This makes it profitable for the firm to increase employment. If instead the productivity of a marginal hour falls quickly as hours increase, the second effect dominates, so that the productivity of a marginal worker falls and the firm reduces employment.

What is clear, however, is that, independently of how the number of workers is affected, output increases. This follows because a profit-maximising firm chooses the total number of hours worked such that the productivity of a marginal hour worked equals the hourly wage. Obviously, when the hourly wage falls, it becomes profitable for the firm to increase the total number of hours.

Another way of thinking about the employment effects of a lengthening of working time at unchanged pay per worker is in terms of the wage elasticity of labour demand (the percentage increase in the total number of working hours demanded by the firm when the hourly wage falls by one percent). As discussed in Box 3.1, the condition for an increase in working time at unchanged pay per worker to raise employment in our stylised example is that the labour demand elasticity exceeds one (see also Sachverständigenrat 2003). When the capital stock is fixed, the labour demand elasticity equals the ratio between, on the one hand, the elasticity of substitution between capital and labour and, on the other, the profit share in output. Typical values for these parameters are 0.6 and 0.3, respectively, which would give a labour demand elasticity of around two. This presupposes, however, that the firm can restructure the given capital stock and adopt more labour-intensive production methods. Since this may be a time-consuming process, the elasticity is likely to be well below unity in the short run (say within a year). This could be taken to suggest that, in the short run, the output increase achieved through longer working hours must be bought at the cost of a reduction in employment. This conclusion does not follow, however. There are two main reasons for this. The first is that the degree of capital utilisation is likely to increase when working time increases. The second reason is that longer working time could affect the size of the capital stock.

Working time and the utilisation of capital

It is important to distinguish between the physical capital stock and the capital services produced by this physical capital stock – just as we distinguish between the "stock" of workers employed (employment) and the labour services produced (the total number of hours worked). The volume of capital services depends on the degree of utilisation of the capital stock, that is on the length of time during which the capital stock is operated (the operating time). It is reasonable to assume that longer working time for employees increases the operating time of capital. This can indeed be seen as one of the major advantages of longer working hours since it implies an output increase similar to that of an otherwise cumbersome accumulation of capital (Sinn 2004a, 2004b). The increase in the volume of capital services produced by a given physical capital stock counteracts the tendency to a fall in the productivity of a marginal hour when the working time of all employees increases and thus makes a positive employment effect much more likely (see Box 3.1).

A special case of interest is when the operating time of capital equals the working time of employees. This holds when there is no shiftwork (or, more generally, no overlapping of the working times of different employees in order to lengthen operating time relative to working time). In this case, the productivity of a marginal hour is independent of working time: a *ceteris paribus* change in working time changes the amount of capital services (operating time x the physical capital stock) and the total amount of labour (working time x the number of workers) proportionally by as much and therefore leaves the ratio between the amount of capital services and the total input of labour unchanged. The productivity of a marginal hour then depends only on the ratio between workers and physical capital. Under these conditions, it follows that an increase in working time at unchanged pay per worker must always raise employment: the productivity of a marginal worker, to be set against the constant pay, increases proportionally by as much as working time. This happens already in the short run without any need for restructuring of the capital stock and adoption of new production methods.

[13] Here, as well as below, we make the standard assumption that the production function exhibits constant returns to scale: a, say, ten percent increase in the inputs of both capital and labour (the total number of hours worked) increases output also by ten percent. Under this assumption, the marginal products of both labour (hours) and capital depend only on the capital-labour ratio.

Box 3.1

Some formulas for the short-run employment effects of longer working hours at unchanged pay per worker

If (1) a firm produces output with the help of (a fixed) capital (stock) and labour, (2) hours and workers are perfect substitutes in production within the ranges of variation in hours and employment that are relevant, (3) there are no fixed costs of employment (costs that are fixed per worker independently of the length of working time), (4) there is a given output price at which the firm can sell all that it produces, and (5) employment is determined by the demand for workers, the following formula for the employment effect of an increase in working time at unchanged (nominal) pay per worker applies:

Percentage change in the number of workers = Percentage increase in working time x (Elasticity of labour demand with respect to the hourly real product wage – 1).

The elasticity of labour demand measures the percentage increase in total working hours demanded when the hourly real product wage falls by one percent. The real product wage is the wage in units of the firm's own output, that is the ratio between the nominal wage and the output price. With a given output price, the percentage change in the nominal wage equals the percentage change in the real product wage.

The formula is easy to understand. If the hourly wage were held constant (which implies that the total number of hours worked = employment x working time is also constant), then a one percent increase in working time would reduce employment by one percent: a direct negative "work-sharing effect". But when instead the lengthening of working time takes place at unchanged pay per employee, a one percent increase in working time implies a one percent decrease in the hourly wage. Hence, there is a percentage increase in the total number of hours worked which equals the elasticity of labour demand. The percentage change in employment is obtained as the difference between the percentage increase in total hours due to the fall in the hourly wage and the one percent reduction in employment that would occur at an unchanged hourly wage.

When the operating time of capital depends on the working time of employees – so that the total amount of *capital services* produced by the fixed capital stock increases when working time increases – and the production function exhibits constant returns to scale, the change in employment following from an increase in working time at unchanged pay can be reformulated as:

Percentage change in the number of workers = Percentage increase in working time x (Elasticity of labour demand with respect to the hourly real product wage + Elasticity of operating time of capital with respect to working time – 1).

The difference to the first formula arises because, with a constant-returns-to-scale production function, a one percent increase in the volume of capital services increases the total number of working hours demanded also by one percent. The percentage increase in the operating time following from a one percent increase in working time is given by the elasticity of operating time with respect to working time. The larger is this elasticity, the greater is the probability of a positive employment effect.

In the special case when the operating time of capital equals working time, the elasticity of operating time with respect to working time is unity and the formula becomes:

Percentage change in the number of workers = Percentage increase in working time x Elasticity of labour demand with respect to the hourly real product wage.

In this case, an increase in working time at unchanged pay per worker always increases employment. The direct negative "work-sharing effect" on the demand for workers of longer working time is exactly offset by an increase in demand associated with the increase in the volume of capital services following from longer operating time. So, the only remaining effect on employment is the increase that follows from the lower hourly wage.

The formulas above have rested on the assumption that the *real* pay of a worker in terms of the price of output produced is unchanged when working time increases. If the output price is given, constant *nominal* pay also holds real pay constant. Most firms cannot, however, sell an increase in output neither in domestic nor in world markets at an unchanged price. Instead, prices must be lowered relative to competitors in order to gain market shares. Such a relative price decrease is indeed the optimal response of a profit-maximising firm to a reduction in its relative wage cost vis-à-vis competitors. One has then to distinguish between changes in the nominal and in the real product wage, as a given percentage reduction in the nominal wage is associated with a smaller percentage reduction in the real product wage (the nominal wage deflated by the firm's own output price) when the output price falls, too.

An analysis of the employment effects of an increase in working time with constant *nominal* pay per worker in the case when output prices fall, thus requires a slight change in the formulas: the elasticity of labour demand with respect to the real product wage has to be multiplied by the *elasticity of the real product wage with respect to the nominal wage* (the percentage reduction in the real product wage when the nominal wage falls by one percentage point). The latter elasticity is a positive number below unity (but closer to unity, the closer substitutes in demand the outputs of different firms are). It follows that a higher elasticity of labour demand with respect to the real product wage is required for employment to rise when working time is increased at constant nominal pay per worker when the output price is flexible than when it is fixed. The conclusion that employment always increases when the operating time of capital equals the working time of employees still holds however.

Therefore, it pays unambiguously for the firm to hire more workers.

Working hours and the size of the capital stock

A second reason why an increase in working time at unchanged pay could have a positive employment effect already in the short run is that the physical capital stock may not be fixed, even over this time horizon, but may respond to wages. Indeed, this is exactly the case when employees are (credibly) threatened by a closedown of the production site and an outsourcing of jobs abroad unless wage costs are lowered. Then the short-run wage elasticity of labour demand is *infinite*, that is *all* jobs will disappear unless hourly wages are cut. This is not, of course, the usual situation in most firms, but it will be the situation at some firms at some points of time: for example, when a car maker makes a "one-shot" decision on at which location to invest in the production of new car models that will replace older ones. Such one-shot investment decisions seem indeed to have been part of the picture in connection with some of the recent agreements on longer working hours in Germany.

There is an additional advantage of an increase in working time over a longer time horizon. As the output increase that occurs with fixed pay per worker implies an increase in profits, firms may accumulate capital out of the retained earnings and expand their capital stock faster than would otherwise be the case.

Other considerations

A full analysis needs to consider a number of additional aspects. One is the use of overtime. Economic modelling explains the use of (paid) overtime with the existence of fixed costs of employment, that is costs per employee that are independent of the length of working time (these include the daily set-up and closing-down costs as well as in-work benefits and costs for training, human resource management, hiring, and firing etc.). Employers have an incentive to economise on these fixed costs through the use of overtime. More exactly, employers trade off the reduction in hourly wage costs that can be achieved by spreading the fixed employment costs over more hours against the rise in costs associated with overtime wage premia and the reduction in each worker's productivity per hour that will ultimately set in when overtime increases.

An increase in standard working time (above which overtime premia are paid) reduces the cost of a marginal standard hour (provided by a marginal worker) relative to the cost of a marginal overtime hour (provided by an intra-marginal worker), because fixed employment costs are spread over more standard hours. Employers then have an incentive to substitute workers for overtime hours,[14] which will add to the positive employment effects arising from the incentives to expand output when hourly wages fall. It is difficult to evaluate how important these effects are. Several studies have indicated that actual working hours have fallen as much as standard hours when earlier reductions in working time took place.[15] On the other hand, it appears, as discussed in Section 1.1, that the difference between actual and standard working time is larger in countries and in sectors with shorter working time.

Another complication is that the amount of shiftwork, or more generally the relationship between the operating time of capital and the working time of employees may be influenced by an increase in working time. According to Calmfors and Hoel (1989), an increase in working time makes it profitable for employers to substitute workers for shiftwork.

Yet another aspect is that different types of labour may be complements in production. To the extent that this is the case, an increase in working time of, say, specialists who are in short supply may remove bottlenecks in production that increase the demand for other types of labour.

A final consideration concerns the product demand side. A frequently asked question is how a firm can find the additional product demand to accommodate an output increase in response to longer working hours at unchanged pay per worker. In our stylised examples with perfectly competitive product markets, this additional demand would be automatically forthcoming as each firm is so small that it could sell any amount of output at the going market price. In a more realistic setting, the firm would have to reduce its output price relative to competitors in order to gain a larger share of the market. Indeed, this would be the profit-maximising response to the reduction in the marginal production cost that takes place when the hourly wage falls.

However, the need for a firm to cut prices in response to an increase in working time is lower, the larger is

[14] See Calmfors and Hoel (1988).

[15] This is the result in, for example, Hart and Sharot (1978), De Regt (1988), Hunt (1999), and Kalwij and Gregory (1999). An exception is Nordström Skans, who found that reductions in standard working time for shift workers in Sweden had only a partial effect on actual working time.

the number of firms that simultaneously increase their output. More output with given pay per worker means higher profit incomes, and higher profit incomes imply higher expenditure of firms and their owners on other firms' products. In a closed economy, prices on average might not have to fall at all in order to accommodate the output increase, even though relative prices would have to change so as to match the structure of additional demand with the structure of additional output. But in an open economy, which sells some of its products abroad and imports foreign products, a decline in the relative product price vis-á-vis other countries (a real exchange rate depreciation) would be an inevitable and optimal response to the increase in working time.

Summarising our discussion of the short-run effects of longer working time at unchanged pay, it is clear that the total number of hours worked, and thus also output, increase. Whether or not the number of employed workers also increases depends on the situation of the individual firm. When the alternative to the agreements is a closing-down of production facilities and an outsourcing of jobs abroad already in the short run, the employment effects are by definition positive. They are also positive in firms where this is not the case, provided that an increase in working time leads to a large enough increase in the utilisation of the capital stock. But in other firms, the short-run employment effects are likely to be negative.

3.2. Long-run effects of working hours on employment and output

What would be the consequences for output and employment in the long run of an economy-wide increase in working time? This question requires an analysis of how both wage-setting incentives and long-run capital accumulation are affected.

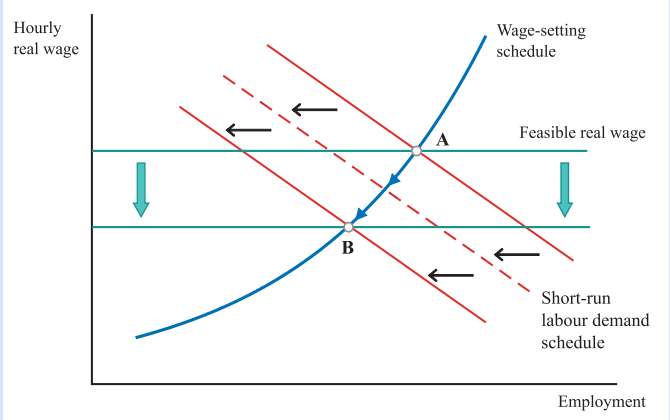
The following analysis can serve as a benchmark for thinking about the issue. In the long run, the return to capital in the international capital market ties down the domestic return to capital in any open economy. With capital mobility, the capital stock in each country adjusts over time until it obtains the internationally determined rate of return (adjusted for differences in risk among countries). If we, to begin with, again assume a given degree of capital utilisation, this in turn ties down the domestic hourly real wage.[16] The world market return to capital thus determines the hourly real wage that is *feasible* in the long run. A higher hourly wage than the feasible one would result in a progressive reduction in the capital stock, and a lower wage in a progressive increase.

In long-run equilibrium, wage-setting behaviour has to be consistent with the rate-of-return requirements imposed by the international capital market. Aggregate employment must be such that it gives the parties in wage bargaining an incentive to choose the feasible hourly wage. An analysis of the long-run employment consequences of a change in working hours should therefore focus on how wage-setting behaviour is influenced (see, for example, Layard, Nickell and Jackman 1991; Nickell and Layard 1999; or Calmfors and Holmlund 2000). If, for example, longer working time leads to less pressure to increase hourly wages, lower unemployment is needed in equilibrium to discourage wage setters from raising the hourly wage above the feasible level.

[16] The assumption of constant returns to scale in production is crucial for this result. In long-run equilibrium, domestic firms use capital up to the point where the marginal product of capital is equal to the real return to capital. Hence, a given real return to capital in the world market determines the the ratio between labour (the total number of hours worked = employment x working time) and capital (as the marginal product of capital depends on this ratio). Labour is used up to the point where the marginal product of labour (hours), which also depends on the capital-labour ratio, equals the *hourly* real wage. It follows that the internationally determined return to capital also determines the hourly real wage. The requirement that the domestic real return to capital (the nominal return deflated by the output price) must equal the world market *real* return under perfect capital mobility presupposes that domestic output prices follow foreign output prices, which is a reasonable benchmark in the long run.

Figure 3.5

REAL WAGES AND EMPLOYMENT IN THE LONG RUN



Source: EEAG Group.

A diagrammatical analysis

The analytical framework is illustrated in Figure 3.5. The axes of the diagram show the hourly real wage and the number of employed workers, respectively. The horizontal line shows the long-run feasible hourly real wage, which is determined by the world market return to capital. The line can also be interpreted as a (completely elastic) long-run labour demand schedule. It should be distinguished from the short-run labour demand schedule, which is downward-sloping and the position of which depends both on the length of working time and the size of the capital stock (which for the economy as a whole is fixed in the short run).

The upward-sloping curve is a wage-setting schedule: it shows how higher aggregate employment gives wage setters an incentive to set a higher hourly wage (because the bargaining position of employees in each firm/sector is strengthened when there are more alternative employment opportunities available). The intersection of the horizontal line, showing the feasible real wage, and the wage-setting schedule is the long-run equilibrium. In the long run, the capital stock adjusts, so that also the short-run labour demand schedule passes through the intersection of the other two schedules.

One can think of "globalisation" and EU enlargement as an increase in the required long-run return to capital in Western Europe (and Germany), because real capital investment overseas, yielding higher returns, is now an option. This implies a reduction in the feasible hourly real wage, that is a downward shift in the horizontal line in Figure 3.5. At the initial equilibrium at A, a discrepancy between the domestic and the foreign returns to capital arises and capital is moved out. If the current account was initially in balance, the capital outflow is reflected in a current account surplus (as is now the case for Germany and EU-15). This shifts the short-run labour demand schedule gradually to the left. As a consequence, the hourly wage falls.[17] This process continues until the capital stock has fallen so much that a new equilibrium is reached at B, where the domestic and foreign returns to capital are again equal. At B both employment and capital stock are lower than in the original equilibrium. Therefore output is also lower.[18]

Suppose now that working time increases in response to the fall in the feasible hourly wage. How would this affect the long-run equilibrium? In our example, the increase in working time has no repercussions on the feasible hourly wage, as this is uniquely determined by the international return to capital. Therefore, the long-run effect on equilibrium employment depends only on how the wage-setting schedule is affected. If it is left unchanged, equilibrium employment is unaffected. The effect will then simply be that the capital stock and output increase proportionally by as much as working time (compared to what would otherwise be the case).[19] If the wage-setting schedule shifts downwards, equilibrium employment increases relative to the situation in B. This implies an increase in output that is proportionally larger than the increase in working time. If the wage-setting schedule instead shifts upwards, equilibrium employment is reduced and output increases proportionally less than working time and may even fall.

There will be a one-to-one correspondence between the effects of a change in working time on wage-setting incentives and on long-run equilibrium employment only if the degree of capital utilisation is not affected. The analysis becomes slightly more complicated if we, as in Section 3.1, take into account that longer working time may also increase the operating time of the capital stock. The reason is that such an increase would raise the feasible hourly wage. The intuition is straightforward. If there is an internationally required return to (physical) capital, an increase in the operating time of capital reduces the cost of capital *services* (the cost per operating hour of the capital stock). This makes it profitable for firms to use more capital services relative to labour. Such a more capital-intensive production raises the productivity of

[17] A more elaborate anlaysis would distinguish between different categories of workers. It is then quite likely that only the wage of unskilled workers falls, whereas the wage of skilled workers could rise. See the discussion of outsourcing in Chapter 2.

[18] If a fall in employment is to be avoided, the wage-setting schedule must shift downwards by a sufficient amount. A downward shift occurs, for example, if unemployment benefits are reduced, as this makes unemployment more unattractive and hence provides a stronger incentive for wage restraint. Such a reduction in the benefit level takes place automatically if benefits are indexed to wages. The output decrease associated with the movement from A to B in the diagram should be interpreted in a comparative-static sense only. In a growing economy, output at the time the economy has moved to B might be higher than at the time the economy was in A, but it would be lower than would be the case without a fall in the feasible real wage.

[19] The hourly real wage given by the lower horizontal line in Figure 5 has to equal the marginal product of labour (hours), which depends on the ratio between capital and the total amount of labour (working time x employment). Longer working time at constant employment implies a larger total amount of labour. Hence, the capital stock has to increase by proportionally as much to keep the marginal product of labour equal to the given hourly wage. Thus, for example, ten percent longer working time implies ten percent higher total labour input and hence also ten percent higher capital stock in equilibrium than would otherwise be the case. Then output must also be ten percent higher. See, for example, Layard, Nickell and Jackman (1991) and Konjunkturinstitutet (2000).

the marginal working hour and thus makes a higher hourly wage consistent with equilibrium in the international capital market. If this occurs – so that the horizontal line in Figure 3.5 shifts upwards again – an increase in working time would have a positive effect on long-run equilibrium employment also in the case of an unchanged wage-setting schedule.

Theoretical analysis of working time and wage-setting incentives

Our discussion above has shown that the long-run employment effect of longer working hours depends critically on how wage-setting incentives (in terms of the choice of hourly wages) are affected. What do we know about this? Theoretical analysis has pointed to a number of reasons why an increase in working time could give incentives for wage moderation.[20]

- With longer working hours, employees can attain a given total wage income with a lower hourly wage.
- Since longer hours at a constant hourly wage would be associated with higher wage income, they tend to make employment more favourable to the individual employee as compared to unemployment. This works in the direction of making unions more concerned about preserving jobs and therefore provides an incentive for them to accept lower hourly wages.
- An increase in working time increases the share of variable wage costs (wages paid in proportion to working time) relative to fixed costs per employee in total labour costs. This makes both employment and profits more sensitive to increases in the hourly wage. Hence, the costs of a wage rise in terms of lower employment (for unions) and lower profits (for employers) increase. As a consequence, there are incentives on both sides of the labour market to choose lower hourly wages.
- Firms may be using high wages as a device to enhance the efficiency of the labour force, for example to discourage quits and in this way keep down hiring and training costs that reduce workers' net productivity. By increasing output per worker, longer working hours may weaken the incentive of employers to set high hourly wages for such efficiency-enhancing reasons.

However, the literature has also identified effects through which longer working hours tend to strengthen the incentives for high hourly wages:

- Longer hours mean more disutility from work, which works in the direction of making employment less favourable to the individual union member as compared to unemployment. This tends to make unions less concerned about jobs and thus provides an incentive for higher hourly wages on their part.
- Longer working time per employee also means that the reduction in the number of working hours demanded caused by a rise in the hourly wage is associated with a smaller fall in the number of jobs. This reduces the price of wage increases in terms of lost jobs and thus weakens union incentives for wage restraint.

As there are counteracting effects, theoretical analysis cannot give a clear-cut answer to how changes in working time affect wage-setting incentives. The conclusions depend on the exact assumptions made, although there seems to be a bias in the theoretical research towards the conclusion that longer working hours lead to more wage restraint, in which case long-run equilibrium employment must increase. There is also a presumption that this outcome is more likely, the lower is working time initially.

Empirical analysis of working time and wage-setting incentives

There has also been a fair amount of empirical research on the effects of changes in working time on wage setting.

Several studies have included working time as an explanatory variable in wage equations estimated on macroeconomic time series data. Such studies include among others Pencavel and Holmlund (1988) for Sweden, Nymoen (1989) for Norway, Calmfors and Nymoen (1990) for Denmark, Norway and Sweden, Lehment (1991) and Franz and Smolny (1994) for Germany, and Dur (1997) for the Netherlands. All of these studies, with the exception of Lehment, find that longer working hours co-vary with lower hourly wages.[21] A problem with these studies, however, is that the strong trends in both wages (upwards) and working time (downwards) over the estimation periods can make the results unreliable.

More emphasis should be placed on a few later studies that have used panel data, that is data with both time-series and cross-section variability. Hunt (1999)

[20] The theoretical literature includes contributions by, for example, Calmfors (1985, 1987), Hoel and Vale (1986), Holmlund (1987), Booth and Schiantarelli (1987), Booth and Ravaillon (1993), Houpis (1993), Marimon and Zilibotti (2000), and Nordström Skans (2002).

[21] Note, however, that Nymoen (1989) and Calmfors and Nymoen (1990) found only short-run but no long-run effects.

estimated wage equations for individual employees in Germany, making use of the fact that both the timing and extent of working time reductions in the 1980s and early 1990s differed between sectors. Nordström Skans (2002) exploited instead the fact that working time was cut only for (some types of) shift workers in manufacturing and mining in Sweden in the 1980s, but not for other workers. Kapteyn, Kalwij, and Zaidi (2000) instead estimated wage equations for a panel of OECD countries. All three studies come up with very similar results, implying an elasticity of hourly wages with respect to working time of around – 1. This means that an increase in working time by one percent tends to lower hourly wages also by one percent. Put differently, the implication is that a working time increase – everything else equal – would leave total pay per worker more or less unchanged, as in the recent company-level agreements in Germany.

The empirical research described thus supports the view that working time increases contribute to substantial reductions in wage pressure. This gives a strong presumption that longer working hours do indeed have long-run positive effects on employment. At the same time, a caveat is in place. The estimated wage equations are all in a sense partial-equilibrium analyses, which raises the – theoretical – possibility that a full general-equilibrium analysis could give other results.[22]

Some partial-equilibrium empirical results on the direct relationship between employment and working time also imply a presumption that longer working hours may help create more jobs when the effects on wage-setting behaviour are taken into account. When estimating reduced-form employment equations for a panel of industries in Germany, Hunt (1999) in many specifications found shorter working hours to reduce employment (for men) significantly. Kapteyn, Kalwij, and Zaidi (2000) found a negative, but insignificant, long-run effect on employment of working time reductions in their panel of OECD countries when wage effects were taken into account. According to Crépon and Kramarz (2002), using microeconomic data for individual employees in France, there was a higher unemployment incidence among workers who were affected by the 1982 reduction of the working week than among those who were not.

[22] For example, the empirical studies discussed do not take into account that the level of unemployment benefits is likely in the long run to adjust to the aggregate pay level of employed workers. This will happen, for example, if the replacement rate (the ratio of the unemployment benefit to the pay of an employed worker) is fixed and thus is not affected by a change in average working time. In this case, it is theoretically possible that an increase in working time in an individual firm only would reduce wages there, at the same time as an economy-wide increase in working time would reduce aggregate equilibrium employment. This can, for example, occur in the model of Nordström Skans (2002).

4. Conclusions

Both hours worked per capita and hours worked per employee are low in several continental European countries, such as Germany, France, Belgium and the Netherlands, as compared to the US. This accounts for a large part of the income difference between Western Europe and the US. The low working hours in Europe reflect to a large extent low standard working hours for full-time employees.

Recent company-level deals in Germany on longer working time may represent a reversal of the earlier trend towards shorter working time that could spread also to other Western European countries with low working hours. It seems that especially the French discussion has been very much affected by the working time developments in Germany, but also employer demands in Belgium and the Netherlands have been influenced.[23]

The recent working-time agreements in Germany have implied longer working hours with no, or only partial, compensation and have thus reduced hourly wages. The deals can be seen as cost-cutting measures made necessary by both increased international competition in goods markets and credible employer threats to outsource jobs abroad associated with the on-going "globalisation" in general and EU enlargement in particular.

One way of thinking about the deals on longer working time is as a convenient way of reducing hourly wages without reducing the pay per employee. Indeed, this was an important argument in the German discussion that anticipated these deals, However, one can also view them as a labour supply response in collective agreements to a required reduction in the hourly wage, brought about by the forces of globalisation. The desired working time on the part of trade unions is likely to respond differently to a wage change than the desired working time on the part of employees when acting on their own. When the hourly wage falls, the ordinary substitution effect – which tends to reduce desired working time – is counteracted by a weakening of union incentives to restrict working

[23] Recently, for example, the French government has increased the ceiling for overtime from 180 to 220 hours per year. A new law also permits employers and enmployees to agree on overtime hours in excess of the legal ceiling.

hours in order to promote employment. This weakening occurs because the value for a union member of having a job is smaller if the wage is lower. Under some theoretical assumptions, the response of desired working time on the part of a union is governed by an *income effect* only. If so, it is in the interest of unions to increase working time if hourly wages have to fall.

When analysing the employment and output effects of longer working hours, it is essential to distinguish between the short run and the long run. Already in the short run, longer working hours at unchanged pay will by definition prevent job losses in firms where there is an acute risk of outsourcing production because costs are too high. Also in firms where this is not the case, such agreements will have positive employment effects, provided that longer working time of employees leads to a large enough increase in the utilisation of capital (because the capital stock can be operated for more hours). Indeed, such an increase in capital utilisation is one of the major advantages of longer working hours. However, in other firms where the operating time of capital cannot be increased and where it may take time to adopt new production methods, the employment effects are likely to be negative in the short run. Lower wages per hour will, however, always make it profitable for firms to expand output.

In the long run, the hourly real wage level in an open economy must be such that capital earns the same rate of return as abroad. It follows that the long-run *feasible* hourly wage depends on the world market rate of return to capital. A critical factor for the long-run employment effects of an economy-wide lengthening of working hours is therefore how wage-setting incentives are affected. If longer working time creates stronger incentives for wage moderation, lower unemployment is needed in equilibrium to discourage wages from rising above the feasible level. Although neither theoretical nor empirical research gives unambiguous conclusions, there is a presumption that longer working hours would contribute to wage moderation. If so, one should expect positive employment effects in the long run from longer working time. This would then add to the positive long-run output effects of an increase in working time that would arise already at an unchanged employment level.

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Pensions and Children

1. Introduction

The crisis of the pensions system in Europe is primarily a demographic crisis, resulting from falling fertility and increasing longevity. Fertility rates fell from 2.1 children per female in the 1970s to 1.7 children per female in the 1990s, and they are not expected to pick up again in the future. The problem is compounded by increasing longevity. The ratio of people above 65 to people between 15 and 65 (one way to measure the so-called dependency ratio) in most European countries is expected to more than double, on average, in the EU countries between now and 2050. In percentage terms, such a ratio is expected to rise by at least 60 percent in the case of the UK, up to 125 percent in the case of Italy. In 2050 the dependency ratio is projected to be around 70 percent in Italy and Spain; between 45 and 50 percent in Germany and France; and just below 40 percent in the UK. Changes in the dependency ratio are expected to be even more dramatic for the newly acceded countries – currently featuring relatively young populations, but expected to follow the same demographic pattern as the rest of Europe at a very fast pace.

The magnitude of the demographic crisis is strikingly similar across countries. But its impact on pension systems differs depending on the structure and generosity of these systems. In some countries, the issue is amplified by other sources of macroeconomic fragility, namely, fiscal problems. A proper assessment of public pension liabilities needs to account for contingent implicit debt that derives from implicit guarantees of the welfare of pensioners (minimum pension, bailouts of bankrupt private funds and so forth).

From a fiscal perspective, addressing the pension crisis requires reforms of the public social security systems in light of demographic dynamics that were not foreseen at the time when the systems were introduced.[1] In many countries, demographic developments have been irresponsibly ignored for at least three decades in most countries. The extent of required reforms varies across countries, but in most cases radical steps are needed in reconsidering the coverage of the public systems, the degree of redistribution and fairness within the system, and the average level of benefits. It is also necessary to reduce or prevent altogether the abuse of social security as an improper instrument of industrial or redistributive policy.

It is important to note that balancing the public pension system from an accounting perspective does not automatically imply that the system is optimal, nor moving towards optimality. Therefore, it is important to focus the debate on what the desirable characteristics of a pension system should be.

From a macroeconomic perspective, fewer workers relative to non-active people means that, for a given productivity, domestic output is on average lower than it would be if there was a younger population. Even if the government takes the necessary steps to ensure fiscal sustainability, it would still be true that citizens will face the challenge to maintain and raise their average standard of living. There is a trade-off between consumption and leisure: either people should work longer and/or save more to accumulate more human and physical capital, or living standards should fall relative to the economy's productivity trend.

In light of these considerations, addressing the pension crisis entails much more than quantitative fiscal policy: it also requires the design of policies that create incentives (or remove disincentives) to innovate and finance innovations, to participate in the labour force, etc. In designing fiscal measures, microeconomic and incentive-related issues play a dominant role.

When addressing social security issues, distribution and efficiency are strictly interconnected: any proposal of reforms will involve some trade-offs between different objectives, shifting the incidence and magnitude of distortions in different areas of the economy,

[1] See for instance Oksanen (2003, 2004) among others.

Box 4.1

Why a social security system?

Why not leave retirement saving decisions to individuals rather than organising mandatory public systems or private systems strictly regulated by law? There are four main arguments.

Historically, the argument was to avoid undesirable behaviour within a family. Either rotten children refuse to take care of their parents – an argument invoked by Bismarck – or parents may free ride on the altruism of their children, and consume too much, without taking any measures to sustain their lives as retired people. Free riding on the altruism of others may also have a collective dimension if people expect help from the community in case of need in their old age. This is nothing but a well-understood moral hazard issue in setting up the welfare state.

A different and most powerful argument stresses myopia in savings behaviour. A wealth of empirical evidence suggests that people start to save for their retirement at a quite advanced age – raising an issue as of whether this would lead to irrational under-saving. A mandatory pension system would therefore be a paternalistic measure to force myopic workers to protect themselves, and save enough for their own good.

A recent view stresses that people do not make life-time plans or revise their plans at different stages of their life in an inconsistent way. In particular, people seem to use a higher discount rate for the near future than for the far future. As a consequence, although they care about their retirement, they end up postponing the beginning of a serious savings plan. It is interesting to note that, while this view is shared by many economists and policy analysts, projection models set up to calculate welfare improvements from pension reform almost never account for individuals with such characteristics; see Angeletos et al. (2001) and Choi et al. (2002). However, one could note that what this argument really calls for – instead of a public pension system – is the existence of illiquid assets which would allow people to commit not to dissave.

A third set of arguments refers to inefficiency and limitations of financial markets. An efficient market for annuities – where people can convert their pension funds accumulated throughout their working life into a stream of monthly payments up to their death – is an essential element of saving for retirement. It is well known that such markets may not work well because of adverse selection problems and because the size of the financial intermediary that would provide annuities would be too large, thus granting monopoly power. However, the adverse selection argument may be overstated, as characteristics that affect life expectancy are well observable. Moreover, the performance of a private market for annuities should be assessed against the yield of public pension systems.

A fourth argument is that a pay-as-you-go pension system insures people against not having children. In principle people could be sustained in their old age by their children. However, some people cannot have children either for biological reasons or because they do not find an appropriate partner. The public pension system can be seen as a device to protect these people against low income in old age. This argument is particularly strong when capital markets are inadequately developed so that only children are a realistic means to ensure sufficient resources in old age. However, the argument would hold through even with perfect capital markets insofar as education offers infra-marginal returns above the market rate of interest – implying families with children are better off. Note that this view presupposes a commitment by children to sustain their parents, to which they may not agree. With a pay-as-you-go pension system, a similar duty is extended to the society as a whole. In any case, it is necessary for a society to produce enough members of future generations so as to sustain the needs of its members.

including the labour and financial markets, but also fertility choice. An analysis of the principles that should guide reforms needs to focus on the relevant trade-offs, rather than addressing each distortion on its own.

In this chapter, we reconsider the root of the current crisis in the social security systems in Europe, stressing its macroeconomic dimensions. We then consider different proposals to reform the system.[2]

2. The demographic challenge to pension systems

Table 4.1 and the Appendix convey the striking dimension of the demographic challenge to social security in an immediate way. In 2050, the lowest old-age dependency ratio (ratio of people above 65 to people between 15 and 65) is projected to climb just above 30 percent for the US and the UK. Currently, the highest dependency ratio – recorded for Italy – is below that figure.[3] For the EU-15, the average dependency ratio is currently 21 percent. It will more than double, to about 50 percent in 2050. Strikingly, these averages are essentially identical for the newly acceded countries as a group.

Even within Europe, individual countries differ in the extent of the demographic change. Due to very low fertility rates, the situation is extremely alarming for Italy and Spain, which are expected to achieve the highest dependency ratios – close to Japan. On the other side of the spectrum, there are Denmark, Ireland, the Netherlands, and the UK, which are quite far from those levels. Yet with dependency ratios around 40 percent, the situation is critical enough.

It should be noted that a somewhat different picture evolves when one looks at *completed* fertility rates, calculated using the number of children during a woman's reproductive lifetime. Completed fertility rate is sometimes around or above two. This means that part of the observed low fertility rates in many European countries is a transitory phenomenon, due to the fact that women currently in their reproductive lifetime tend to have children at a later stage relative

[2] A useful glossary of pension terms and a taxonomy can be found at http://www.oecd.org/dataoecd/5/4/2496718.pdf and http://www.oecd.org/dataoecd/34/23/2488707.pdf, respectively

[3] The same picture emerges if one looks at the dependency ratio including young people of a non-working age (0–15), although the deterioration of this indicator appears less dramatic.

Table 4.1

Dependency ratios in selected countries

	Age groups		Age groups		Age groups		Age groups	
	((0-15)+ (65-100))/ (15-64)	(65-100)/ (15-64)	((0-15)+ (65-100))/ (15-64)	(65-100)/ (15-64)	((0-15)+ (65-100))/ (15-64)	(65-100)/ (15-64)	((0-15)+ (65-100))/ (15-64)	(65-100)/ (15-64)
	1950		**2004**		**2025**		**2050**	
Austria	0.5	0.16	0.47	0.24	0.56	0.36	0.79	0.55
Belgium	0.47	0.16	0.53	0.27	0.62	0.37	0.74	0.47
Cyprus	0.68	0.1	0.5	0.18	0.58	0.29	0.66	0.39
Czech Republic	0.48	0.12	0.41	0.2	0.55	0.35	0.84	0.59
Denmark	0.55	0.14	0.51	0.23	0.6	0.35	0.68	0.42
Estonia	0.57	0.17	0.46	0.24	0.56	0.33	0.84	0.57
Finland	0.58	0.11	0.5	0.23	0.67	0.41	0.72	0.46
France	0.52	0.17	0.53	0.25	0.63	0.36	0.73	0.46
Germany	0.49	0.14	0.49	0.27	0.6	0.38	0.76	0.49
Greece	0.55	0.11	0.5	0.28	0.57	0.38	0.88	0.62
Hungary	0.48	0.11	0.44	0.22	0.53	0.32	0.75	0.5
Ireland	0.65	0.18	0.47	0.17	0.54	0.25	0.69	0.41
Italy	0.53	0.13	0.5	0.29	0.59	0.4	0.9	0.65
Latvia	0.57	0.18	0.46	0.24	0.54	0.33	0.82	0.56
Lithuania	0.58	0.15	0.49	0.22	0.55	0.3	0.74	0.43
Luxembourg	0.42	0.14	0.49	0.21	0.5	0.25	0.62	0.35
Malta	0.69	0.1	0.47	0.19	0.63	0.36	0.73	0.46
Netherlands	0.59	0.12	0..48	0.21	0.58	0.33	0.68	0.42
Poland	0.53	0.08	0.42	0.18	0.53	0.31	0.75	0.5
Portugal	0.57	0.11	0.49	0.24	0.53	0.32	0.79	0.53
Slovakia	0.55	0.1	0.41	0.16	0.5	0.27	0.73	0.47
Slovenia	0.53	0.11	0.42	0.21	0.56	0.38	0.89	0.64
Spain	0.52	0.11	0.45	0.25	0.53	0.35	0.93	0.68
Sweden	0.51	0.15	0.54	0.27	0.67	0.4	0.73	0.47
UK	0.49	0.16	0.52	0.24	0.56	0.31	0.65	0.38
Japan	0.68	0.08	0.5	0.29	0.7	0.5	0.98	0.72
US	0.54	0.13	0.51	0.18	0.6	0.28	0.31	0.32

Source: United Nations; Population Division, 2004; EEAG.

to previous generations. So the low fertility rates in the data reflect the coexistence of older cohorts who have already completed their fertility, with younger cohorts who have not yet reached their peak rates, which is expected to occur at a higher age than for older cohorts. This point is well illustrated by means of simulations for a "typical" European country. As a benchmark, we consider the case in which the fertility rate is 2.1 with a peak in fertility for women between 20 and 30 years old: in our simulations for this case, dependency ratios in the long run would equal 33.9 percent, i.e. they would be barely affected. They would be somewhat higher than current dependency ratios only because of lower mortality rates among pensioners. Against the above scenario, suppose that the fertility rate were to fall to 1.3, leaving the peak of fertility for women between 20 and 30 years old: dependency ratios would then go up to 54 percent in the long run – and population would shrink by 1.3 percent a year. Finally, suppose the fertility rate were to remain at 2.1 but women experienced a peak in fertility between 28 and 38: in this case the long-run dependency ratio would be 34.0 percent, remaining virtually unchanged relative to the benchmark above.[4]

Yet the current demographic indicators would record a temporary deterioration.

However, one should not count too much on a recovery of fertility. While it is true that in some countries completed fertility is around 2 (the UK, Norway, and France) for the latest available cohorts, that is, those born in 1960, it is only equal to 1.6 in Germany, 1.7 in Italy, and 1.5 in Greece.[5] Furthermore, it is likely that cohorts born after 1960 will have even fewer children. Otherwise, it would be very difficult to explain the observed age pyramids, with cohort size steadily going down with the date of birth. Because the most numerous cohorts are those between 30 and 40 years of age, if these cohorts had their maximum fertility in these ages, we should currently observe much higher birth rates. In principle, one could explain the currently low birth rate if these cohorts had their fertility peaks below 30 years of age, while younger cohorts of women ones have later peaks. But if this were the case, birth rates should have been much higher than observed ten years ago.

[4] If the completed fertility rate is, say, 1.7 instead of 2.1, then postponement of child-bearing actually slightly *reduces* dependency ratios in the long run, from 0.435 to 0.42.
[5] Source: Eurostat, http://www.un.org/esa/population/pubsarchive/gubhaju/table7.htm

3. Some unpleasant growth arithmetic

To convey the implications of adverse demographic developments in an immediate way, it is useful to build a simple numerical example showing the implications of ageing for a country's productive capacity. In particular, assume that workers' productivity growth is two percent per year in EU-15 as well as in Japan and the US, while it is 2.5 percent in the new EU states. Assume also that the participation rate in the labor force is either constant at the current rate, or increases from the current rate up to 80 percent in 2050: for European countries this implies eight percentage points average rise in participation. Based on this assumption, we calculate the change in per capita output for the population above the age of 15. This measure of per capita output is a rough measure of output available for workers and retired people. Needless to say, the results are very sensitive to the parameters assumed in the exercise. Results are shown in Table 4.2.

As our benchmark, consider a hypothetical situation with no ageing. For the EU-15, other things equal, a two percent productivity growth per year would raise average output per adult by a factor of 2.44 between 2004 and 2005. Accounting for population ageing, however, the same average output only grows by a factor of 1.63. This figure is raised to 1.82 if substantial gains in the participation rate are achieved (that is, more people of working age actually do work). Note that, relative to the scenario with no adverse demographic development, these average figures are equivalent to a productivity slowdown (for a given population structure) from 2 to 1.1 or 1.3 percent per year.

The outlook is particularly grim in Italy, Spain and Greece. In the case of Spain, for instance, a two percent productivity growth barely compensates for the projected population ageing, implying a quasi-stagnation of output per capita. Even when extreme gains in participation rates are assumed, income gains are only of the order of 50 percent over the 45-year period.

Table 4.2 shows that raising participation rates does make a difference. If the gain in participation rate is achieved via a delay in retirement age, this result is just a way to reiterate that the impact of longevity on the pension system can be mitigated by adjusting the retirement age. Figure 4.1, taken from the OECD, shows a wide dispersion in the average effective retirement age for male workers across countries in 2000, which varies between 56 and 62.[6]

There are two main lessons from our numerical example. First, in the next few decades, when the impact of demographic changes on pension systems will be at its peak, raising retirees' living standard in line with productivity will only be possible if the economy as a whole consumes its wealth, i.e. consumes its stock of domestic and foreign capital. The numerical

Table 4.2

The effects of ageing on per capita output

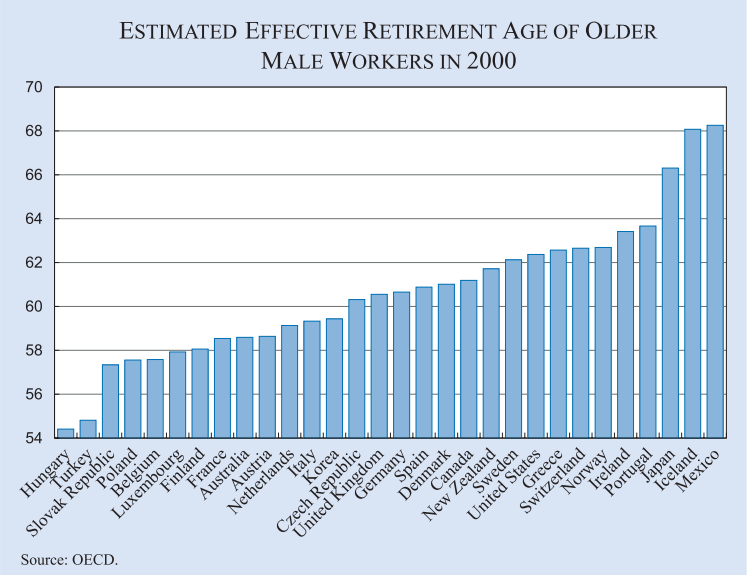
	Dependency ratio		Participation rate	Gains in per capita output		
				Constant participation	Increasing participation	If no ageing
	2004	**2050**				
Austria	0.24	0.55	80.00	1.44	1.44	2.44
Belgium	0.27	0.47	67.00	1.77	2.11	2.44
Denmark	0.23	0.42	81.00	1.84	1.81	2.44
Finland	0.23	0.46	74.00	1.71	1.85	2.44
France	0.25	0.46	70.00	1.76	2.01	2.44
Germany	0.27	0.49	76.00	1.70	1.79	2.44
Greece	0.28	0.62	66.00	1.29	1.56	2.44
Ireland	0.17	0.41	70.00	1.73	1.98	2.44
Italy	0.29	0.65	63.00	1.20	1.53	2.44
Luxembourg	0.21	0.35	67.00	2.01	2.40	2.44
Netherlands	0.21	0.42	70.00	1.79	2.05	2.44
Portugal	0.24	0.53	76.00	1.51	1.59	2.44
Spain	0.25	0.68	71.00	1.04	1.17	2.44
Sweden	0.27	0.47	76.00	1.77	1.86	2.44
UK	0.24	0.38	76.00	1.99	2.09	2.44
EU 15-Average	0.24	0.49	72.20	1.64	1.82	2.44
Cyprus	0.18	0.39	NA	2.26	-	3.04
Czech Republic	0.2	0.59	NA	1.56	-	3.04
Estonia	0.24	0.57	NA	1.72	-	3.04
Hungary	0.22	0.5	NA	1.95	-	3.04
Latria	0.24	0.56	NA	1.76	-	3.04
Lithuania	0.22	0.43	NA	2.22	-	3.04
Malta	0.19	0.46	NA	2.03	-	3.04
Poland	0.18	0.5	NA	1.85	-	3.04
Slovakia	0.16	0.47	NA	1.92	-	3.04
Slovenia	0.21	0.64	NA	1.38	-	3.04
Average	0.21	0.51	NA	1.86	-	3.04
Japan	0.29	0.72	78.00	0.96	0.99	2.44
US	0.18	0.32	85.00	2.02	2.16	2.44

Note: NA: not available

Source: EEAG.

[6] The new EU members states suffer markedly from the rapid deterioration of the demographic outlook. In some of our examples, average income per adult is 50 per cent of what it could be for a stable population structure. For Japan, our exercise suggests quasi stagnation: annual productivity growth of two per cent is not enough to compensate for population ageing in terms of average resources, although the level of income in this country is high in absolute terms to start with. A relatively better demography explains the relatively good outlook for the US.

Figure 4.1



example clearly shows the large extent to which the decline in working-age population offsets output gains from productivity growth. The transition to a new stable population is likely to coincide with large decumulation of aggregate wealth stocks, especially starting in the 2030s, when the baby boomers born in the mid-1960s will receive their pensions.[7] Making sure that our economies arrive at that time with a sufficiently large endowment of domestic and foreign capital is a necessary condition to prevent a crisis and manage economic and social issues that could possibly arise in the process.

Second, while running down the stock of national wealth will help smooth consumption during the transition to a new stable population structure, consuming capital stock cannot, however, be a permanent solution to the pension crisis. A higher stock of capital (human and physical) per worker is instead required in the long run when the population structure stabilises, reflecting lower fertility and increasing longevity. A higher capital per worker raises productivity levels and sustains living standards.

4. Issues facing the design of a pension system

We now discuss major issues that, in our view, should be policy priorities in dealing with pension reform. These issues are often overlooked or misunderstood, and they inform the current debate on social security systems virtually in all European countries, despite the differences across national systems. In Europe, there is a wide variety of pension institutions, ranging from purely redistributive pay-as-you-go systems, to systems with an important funded component. Many countries are undertaking pension reforms that develop social securities in different directions, not only because there are differences in existing pension institutions and macroeconomic conditions but also because reforms may be inspired by alternative principles. In what follows, we will focus on a few general dimensions of pension reforms and then analyze possible solutions to the issues raised.[8]

4.1 Fairness

"Equity" is a central concern of redistributive policies. Yet in many dimensions, equity concerns are ignored in designing these policies and reforming them. As far as pensions are concerned, there are inequities between individuals of the same generation as well as inequities between generations.

Intragenerational inequities come from not taking individual preferences and characteristics into account. Those who systematically have a lower life expectancy, for example, because of their occupation, gender, or other observable characteristics, do not earn a higher pension per period.[9] If their pensions were managed by a private insurance company, it would offer them a higher return on their pension wealth than to other agents, because it is known that this return would have to be paid only for a shorter period of time. As people who die earlier are "worse-off" than people who die later, market discrimination, in this case, tends to make outcomes fairer, while non-discrimination by the state makes outcomes less fair.[10]

[7] A country can turn the stock of national wealth into consumption (consume its stock of capital) by selling domestic and foreign assets to non-residents (including the stock of housing) as well as by letting capital depreciate in line with a falling population.

[8] Diamond (2004) and Diamond and Orzag (2004) propose a related exercise, with a somewhat different emphasis relative to our text. See also Casey et al. (2003) among the publications from "ageing society" at the OECD (www.oecd.org).

[9] There are some exceptions in the form of specific retirement ages for some occupations; yet these exceptions often reflect the recipient's ability to bargain collectively rather than anything else, and are seldom adjusted for evolutions in working conditions.

[10] An important issue that receives little attention is the treatment of surviving (non-working) spouses. There are vast differences across systems and within systems (as in many cases somebody who becomes a widow when his/her partner is one day away from retirement may receive a much better treatment than somebody who becomes a widow one day after his/her partner has retired). Reformers may be tempted to "save money" to the system by unduly reducing the pension income accruing to surviving spouses – just because these are not a politically well-defined and vocal group in the national political arena.

A related issue in pension reform that is recently subject to widespread debate is that, in many social security systems, people who want to work longer typically lose the extra pension wealth they accumulate, while people who want to retire earlier often lose a greater share of their pension wealth than the one corresponding to their foregone contributions. The issue is how to make sure that the system can accommodate individual preferences about retirement age, without either penalising or favouring those who want to deviate from the legal retirement age.

A more general problem is due to intergenerational inequities coming from differences in cohort size. Generations who work and retire in periods when the old-age dependency ratio is low are typically better off than generations who work and retire in periods with a high dependency ratio. Clearly, a low old-age dependency ratio reduces the workers' contributions that are needed to sustain a given pension level; alternatively, it increases the pension level that can be sustained at a given contribution rate. To our knowledge, none of the existing pay-as-you-go systems embodies an explicit mechanism to correct for these inequalities – requiring substantial smoothing of consumption across generations. This could be achieved if "luckier" generations accumulate buffer stocks of pension wealth to be eaten up by less lucky generations, according to a principle of intergenerational insurance (see, for instance, Allen and Gale (2000) chapter 6). Another aspect of intergenerational equity is related to economic growth, which tends to make younger (and future) generations better off relative to older (and current) generations.

We think these considerations should be taken into account when implementing the needed reform of the system, as financial considerations alone may lead to an unfair distribution of the burden of adjustment between generations.

4.2 Funded vs. pay-as-you-go systems

An important element of the debate concerns the choice between funded and unfunded pension systems. In an unfunded system, the contributions by the young are directly paid to the old. In a funded system, the contributions are invested in assets and the principal and return to these assets are used to pay for future pensions. Thus, under a funded system, the young are paying "for themselves" whereas under an unfunded system, they are paying "for the old". As shown below, while an unfunded system is an intergenerational redistribution device that forces all generations to make gifts to previous generations, a funded system involves no such redistribution.

The "returns" in an unfunded system are determined by the ratio between active contributors and retired beneficiaries. The higher that ratio, the greater the amount that can be paid per unit of contribution, and the greater the financial returns from one euro "invested" in the social security system. The returns in a funded system, by contrast, are simply determined by the rate of returns on financial assets.

Does that mean that if the economy had been under a funded system from the start, one would not have to worry about an increased old-age dependency ratio? Not quite! While under an unfunded system, ageing of the society reduces the returns on contributions directly through the ratio between contributors and recipients, under a funded system it reduces the rate of return on capital, as the size of savings in search of productive investment opportunities goes up relative to the workforce. In fact, one can show that the dynamic response of the economy to an increase in the old-age dependency ratio is qualitatively similar under a funded system and an unfunded system. Thus, ageing of society would also be a matter of worry for retirees if pensions had been funded from the start. There are reasons to believe, however, that the implied reduction in pensions would be much lower under funding: for instance, a fraction of pension wealth can be consumed every year, in addition to the return on pension assets.[11]

Moreover, a fully-funded pension system can be insulated by the effects of domestic population changes on the returns on capital to the extent that capital markets are integrated, and pensions contributions are invested in foreign assets – provided the rest of the world does not have an ageing problem. With integrated capital markets, arbitrage links the domestic rate of returns to the international rate (note that this is true even when the two rates are not equalized). International diversification reduces the exposure of

[11] To assess the qualitative effect of variations in the population size on the rate of return to capital, consider the textbook example of a closed economy where the real rate of returns on capital (and financial assets) is four per cent. Assume returns to scale in production are constant, with capital and labour as production factors; the capital share in GDP is 30 percent and the elasticity of substitution between the two factors is 0.7. Under the assumption of a constant contribution rate and retirement age, a 10 per cent unexpected decline in the size of the working population will cut the pay-as-you-go pension by 10 per cent, but it will cut the return to capital only by a small fraction (10 per cent) of four per cent. While both systems are affected by the population shock, the funded system is obviously much less vulnerable to adverse demographic developments.

pension fund holders to domestic risk – including demographic risk.

A funded system also yields a larger level of wealth and capital than an unfunded one. That is because social security contributions raise saving and therefore net investment in productive assets. Therefore, the economy is "richer" in the long run than under an unfunded system, meaning that it has accumulated more productive assets, implying higher wages and higher living standards.

Furthermore, without a social security system, a rational worker would save for his retirement and invest in a well-diversified portfolio of financial and real assets earning the market rate. In an actuarial pay-as-you-go system, legal arrangements force him/her to save into an "asset" yielding a lower rate of return. This implies a constraint on portfolio investment, such that a component of the worker savings has to be put into what financial researchers call a "dominated asset", that is, an asset whose returns are systematically below other assets available in the market.

Do the considerations above imply that funded systems are uniformly superior to pay-as-you-go ones? The answer is, surprisingly, no. While all current and future generations are better off if the economy accumulates more productive assets (because they get higher wages during their work life), asset accumulation must be paid for by foregone consumption of previous generations. To understand this, assume the economy has had no pension system until now. If an unfunded system is introduced, it is possible to pay pensions to the existing old immediately. On the other hand, if the system is funded, one will have to wait until the proceeds of the investments are realised to start paying pensions, and one is unable to pay pensions to the existing generation of old. In other words, when one starts a pension system, initial tax proceeds are consumed by the old under an unfunded system, while they are invested under a funded system. Thus, the initial generation of old prefers the unfunded system, while all subsequent generations prefer the funded system. The argument also applies when the system is initially unfunded and one contemplates moving to a funded one: some generations have to invest instead of consuming, and it is impossible to make everybody better off. If for example one stops paying pensions and invests contributions in productive assets instead, retirees obviously lose. If on the other hand, one increases contributions to finance existing pension claims, while at the same investing in a funded system to pay for future pensions, current generations of workers lose, relative to the status quo, as they have to pay twice: once for the old, once for themselves.

In fact, the pay-as-you-go pension system can be interpreted as an intergenerational redistribution device: the gifts to the first generation of retirees (receiving a pension without having contributed to the system) are fully matched by losses of later generations – who receive a rate of return below the market rate of interest.[12] The difference between the market rate of return, and the lower return granted by the social security system can be interpreted as an implicit tax that all future generations have to pay. The present value of this implicit tax is equal to the gains of the first generation (see Box 4.2).[13]

In general, at each point in time the implicit pension debt in terms of the then-existing pension claims is equal to the present value of implicit taxes yet to be paid by future generations of participants. This has important fiscal implications when an economy chooses to move from an unfunded to a funded system without negating the existing pension claims: such a reform requires an immediate redemption of the implicit debt by levying an explicit tax, and/or issuing explicit debt. If the choice is to finance the transition with a tax, the revenue from such a tax is equal, in present value terms, to the current and future revenues from the tax previously implicit in the pay-as-you security system. Then, the move just concentrates the time path of implicit taxes on the transition generation without changing the size of the tax burden in present value terms.[14]

So, while in the long-run the funded system yields more wealth and capital accumulation, transition

[12] As is well known, intergenerational redistribution is an advantage if the economy is "dynamically inefficient", i.e. it has over-accumulated capital. In this case, it has been shown that the pay-as-you-go system can increase consumption of all generations, by making the currently old generation "eat" the capital stock (the same could be achieved by granting transfers to the current generation, financed with the accumulation of public debt). Note that the implicit (or explicit) accumulation of public debt would not correspond to an increase in the debt to GDP ratio, as long as the interest rate is lower than the growth rate: in such a situation the rate of debt accumulation is slower than growth. A situation of dynamic inefficiency is more likely, the greater the population growth rate and the lower its productivity.

[13] While the pay-as-you-go system obviously is not inherently inferior to a funded system when it offers a rate of return below the market rate of interest, there may be periods in which the growth rate is above the market rate of interest. The 1960s may have been such a period. However, economists tend to be quite sceptical about the idea that a negative difference between the rate of interest and the rate of growth could last forever. If this were the case, one may argue that the price of assets whose returns tend to match aggregate growth rate (for instance, land) would be infinite (or indeterminate). People would feel so rich that no one would think it necessary to save: thus the over-accumulation of capital would disappear, driving the return to capital above the rate of growth.

[14] See Sinn (2000) for the general proofs. See also Fenge and Werding (2003a,b) for an empirical assessment.

Box 4.2

Shifting to a fully funded system cannot improve everybody's welfare: an example

It is sometimes heard that the transition to a fully funded system would pay for itself, because the contributions enjoy a greater rate of return than under an unfunded system. As discussed in the text, this argument is incorrect, as one generation must necessarily lose. A simple example will make this very clear, following Sinn (2000). In a pay-as-you-go system, a worker's contributions to the system earn an 'internal' rate of return that can be easily calculated as the rate that equates the value of contributions C to the future pension benefits P

$$C \cdot (1+i) = P$$

where i denotes the "internal rate of return" of the pay-as-you-go system, referred to the entire lifespan of an individual, rather than to a single year. Since future pensions are paid with the contributions of future workers, the internal rate of return is just the rate of growth of total contributions from one generation of workers to another – proportional to the rate of growth of the economy. In the last decades, the yearly average of this rate has been of the order of two per cent, with some fluctuations depending on the growth rate of the economy (and also some disparity across individuals in the same generation).

Now, if the worker could invest his/her retirement savings S in the financial markets, these would gain the market rate r. Thus, we can calculate the amount of saving invested in the market that would yield the same pension wealth P as follows:

$$S = \frac{P}{1+r}$$

An estimate of the average yearly market rate is of the order of four per cent, twice as much as the internal rate of return of social security. Obviously, with these rates it will take much less resources to guarantee a pension P with the fully funded system. Roughly: for a working life of 35–40 years, if the yearly return is four per cent for r and two per cent for i, then S is about one half of C. The alleged efficiency of the fully funded system stems from this simple consideration.

But let us think of a fundamental difference between the two systems. In a fully-funded system, every generation accumulates its pension assets. In a pay-as-you-go system, the first generation of old people that receive their pension financed by active workers receive a "gift." Thus, the contribution C paid by a worker to the social security system is the sum of an implicit tax T used to finance the initial "gift" when the system was set up, plus savings for retirement, S. Such a tax component is just the difference between the contribution to the pay-as-you-go system and the amount of saving S which would yield a pension as high as P at market rates

$$T = C - S$$

whose size is directly related to the difference between i and r. It is not difficult to see that the sum of the tax payments T over all generations contributing to the system is equal, in present discounted value, to the initial gift to the first generation of pensioners in the system. Denote by P_0 the pension received by the first generation of retired people when the pay-as-you-go system is introduced, financed by the contribution C_1 by the first generation of workers in the system

$$P_0 = C_1$$

Assume that, after that, the pension P paid to each generation of retired people is also equal to the contribution paid by the current young people, although pensions are no longer a gift: each worker contributes into the system expecting to be rewarded in the future. So the first generation of workers who pays social security contributions equal to C_1 expects pensions as high as $P_1 = C_2$, where the subscript 2 indicates the second generation of workers in the system. Hence we can write

$$C_1 = T_1 + \frac{P_1}{1+r} = T_1 + \frac{C_2}{1+r}$$

Since this is true also for the second generation of workers and so on we can write

$$C_1 = T_1 + \frac{T_2}{1+r} + \frac{T_3}{(1+r)^2} + \ldots + \frac{T_n}{(1+r)^{n-1}} + \ldots + \frac{C_{n+1}}{(1+r)^n} =$$

$$= \text{present discount value of Taxes} + \frac{C_{n+1}}{(1+r)^n}$$

Because the growth rate of contributions (= pensions) in a pay-as-you-go system is linked to the economy's growth rate, and is therefore lower than the market rate of return, the last term vanishes when we consider a long horizon n. Hence the initial net transfer when the system was created is exactly equal, in present value terms, to the cash flow that can be attributed to the tax component of the social security contribution; that is, $T = S \times (r-i)$.

Obviously, a pay-as-you-go system is an intergenerational redistribution device with a strict present value equivalence between all gains and all losses. This is bad news for those who believe in a low cost and easy transition from a pay-as-you-go to a funded system on the basis of superior efficiency of the latter. It can be shown that, at each point in time, the implicit pension debt in terms of the then-existing pension claims, is equal to the present value of all future implicit taxes. Suppose that a country decides to move from a pay-as-you-go to a fully funded system, financing the current pension payments by issuing public debt. This would make the implicit debt an explicit one. Government solvency requires explicit tax revenue to increase against the explicit public debt. The present value of the explicit taxes necessary to service the explicit debt is exactly equal in present value terms to the implicit taxes in an ongoing pay-as-you-go pension system. Thus nothing can be gained in present value terms by moving from one system to the other. It would even be possible with an appropriate borrowing strategy to choose a time path of the explicit tax fully in line with the implicit pay-as-you-go taxes. This is just another aspect of the equivalence between pay-as-you-go pensions and debt discussed in the text.

from one system to the other involves trade-offs: moving from one system to another implicitly, and inevitably, redistributes welfare among generations.

4.3 Fiscal budget process and pension reforms

An important caveat in assessing the difference between pension systems is that one has a truly funded system only if contributions ultimately finance productive assets. One can show that an unfunded system is equivalent to public debt. That is not surprising: public debt is held by current generations, who buy it (the equivalent of their contributions), and it is paid back, with interest, by future generations who pay taxes (thus these taxes are equivalent to future generations' contributions, while repayments are equivalent to pensions). Thus there is no difference between issuing public debt to give money to the existing retirees, and setting up a pay-as-you go system. Consequently, if one has a funded system where contributions are invested in newly issued public debt (i.e., correspond to a fiscal deficit), it is in fact not different from an unfunded system. The counterpart of contributions is in the form of government expenditures rather than productive capital, and it is the taxes paid for by future generations, rather than the return to the investment, that provide the basis of future pensions. The problem would be slightly less severe if pension contributions matched new public capital (rather than public consumption), but this is unlikely to be a plausible scenario, given the limited role played by public expenditures on public capital in a typical fiscal budget.

To sum up: a funded system whose counterpart is public debt is indeed not funded at all, in the sense that the consumption possibilities of future generations will be no different from what an equivalent pay-as-you-go system would have yielded. It follows that the goal of promoting capital accumulation could be pursued, instead of moving to a funded system, by reducing public debt. A fiscal consolidation would have the same effect on capital. In this sense, the trade-off between pay-as-you go and funded systems is not particularly important from a macroeconomic perspective, as there are alternative fiscal strategies to pursue similar macroeconomic goals. However, the two systems have quite different properties from a political and distributional viewpoint. The pay-as-you-go system typically leaves less room for individual choice (if workers were allowed to decide to contribute less, the system could not meet the claims of the old), and is therefore more politicised. It automatically encounters financing problems when the population becomes older and there is a political conflict between generations over how to fix the pension system's budget. Each generation wants taxes to be increased immediately after it has retired. Under a funded system, that conflict can be solved by market forces alone, as equilibrium between supply and demand determines the change in pension levels – that is rates of return adjust downwards for investment opportunities to absorb the increase in savings brought about by ageing. If people can freely determine how much they contribute and when they retire, these variables will adjust as well; for example, if rates of return fall, people will decide to work a little bit longer to offset the adverse effects on their pensions.

A funded system does away with collective decision-making and relies on individual decisions and market mechanisms to absorb demographic shocks. While the political conflict is avoided, it is not clear that the resulting allocation of the burden between generations is "fair". Small cohorts, for example, will benefit from both higher wages (because they will work with the capital accumulated by previous, more numerous generations) and a higher return on capital (because their savings will be invested in productive assets that will be operated by the more numerous, subsequent generations), so they will be disproportionately better off relative to other generations. Under a pay-as-you-go system, they will command less political influence, and have to pay the pensions of the larger previous generation. Therefore, they will have to contribute more when active (for both reasons) and perhaps even get lower pensions when old (because of reduced political influence). These effects run against the market effect of higher wages and higher return to capital, and may contribute to even out the distribution of the gains and losses from demographic fluctuations across generations.

4.4. Where to invest contributions to pension funds

Another important issue, when one considers moving to a funded system, is the assets in which the contributions should be invested. What should the composition of the pension funds portfolios be? Given that people contribute during their working time, the returns to that portfolio should be negatively correlated with the labour market risk of contributors. So it is not a very good idea to have an employer-based pension scheme where a large fraction of the wealth is invested in the firm's own shares. Such employee stock ownership may perhaps provide good work incentives

– as a good performance of the firms would raise its workers pension wealth (although there are free-riding issues to take into account). But it has very poor insurance properties, since it exposes workers to the risk of experiencing both job loss and a capital loss on their pension wealth should their employer encounter trouble. Ideally, pension wealth should be invested in assets whose return goes up when business conditions deteriorate in the contributor's industry or occupation. Unfortunately, as business conditions tend to move together in all sectors, it is not easy to find such assets.

In principle, one should also relate the optimal portfolio composition to a worker's age, skills, occupation and industry, using standard finance tools. At a minimum, a well-diversified portfolio with little or no assets in the industry where the person is working is advisable; the portfolio should be readjusted when the person's job or labour market status changes.

An important but tricky question is whether wealth should be invested in equities or bonds. It is often argued that investment in equities yields a much higher return than bonds. However, they are much more volatile, and can yield a lower return for long periods if there is a persistent bear market. The following table compares the performance of two pension funds: one (fund A) is fully invested in a portfolio indexed on the Dow Jones Industrial Average; the other (fund B) is invested in a safe asset yielding an annual real return of two percent. Table 4.3 reports the ratio of real total pension wealth between fund A and fund B, at the age of retirement, for an individual who invests 20 percent of his yearly income during 40 years.[15] While fund A would have left cohorts retiring in 2004 and 1999 much richer than fund B, it barely makes a difference for those retiring in 1989 (who lose a bit relative to fund B) and 1994 (who gain a bit), while those retiring in 1985 are much worse off than if they had invested in bonds. A key reason is that they suffered a lot from the bear market of 1971–73, during which the Dow-Jones lost almost half its value. Another lesson from the exercise is that fund A generates huge inequalities among cohorts: the pension wealth of workers retiring in 1999 is more than twice the pension wealth of workers retiring in 1994.

Table 4.3
The relative performance of a pension fund invested in stocks, relative to a pension fund invested in bonds

Year of retirement	Ration, fund A/fund B
1985	0.68
1989	0.97
1994	1.02
1999	2.43
2004	1.83

Source: EEAG.

[15] We have assumed that this income grows at a real rate of two per cent per year.

Box 4.3
Pensions reforms as a way to circumvent inefficiencies coming from taxes and regulations

By adopting a fully funded system, an economy can raise its savings rate, therefore building a higher capital stock. One may argue that, in a closed economy, a higher capital stock is a potential source of net gains for the economy as a whole because the marginal return on (real) capital is typically higher than the market rate of return, earned on individual savings. Thus, when one uses the latter to calculate the present discounted value of current and future output flows, adopting a fully funded system clearly raises domestic wealth that is it drives up the current value of current and future output.

The problem with this argument is that it ignores the reason for the wedge between the marginal return on capital and the market rate. If this is due to different tax rates on individuals and corporations, there is a simpler and more direct way to achieve an equivalent increase in domestic welfare consisting of a tax reform that eliminates the source of inefficiency.

It should be noted here that the difference in rates of return in the above argument should not be confused with compensation differences in risk properties of different assets. Clearly, there is no room for welfare improvement following from these price differences. Appropriately adjusting the discount factor to calculate the present value of output makes clear that no gain in domestic wealth can be reaped by exploiting them.

A different efficiency-related argument stresses that the social security contribution in a pay-as-you-go system introduces a wedge between net wages and labour costs, thus creating distortions in the labor market. The above argument would of course apply in full force if social security contributions were totally de-linked from benefits. If pensions were universally granted to old people, independently of past contributions, any payment into the social security system would indeed be a tax distorting the labour/leisure choice. Most importantly, the incentive to evade would be very strong: systems with these features are a powerful reason for a thriving informal sector in the economy. It should be noted that a fully funded system may not be immune to the problem if it is run on a collective basis with redistribution goals that weaken the link between retirement saving and pension payments at the individual level.

In practice, however, most systems link between benefits and contributions. Clearly, the stricter the link is, the lower the distortionary effects of social security payments are. This is because a strict link would induce workers and employers to correctly consider social security as part of the compensation of labour – although deferred in time. Some tax distortions are inherent in social security systems: first, people are forced to save rather than spend their income as they wish, which reduces the value of working; second, the rate of return on social security contributions in pay-as-you-go systems is below the market rate. Yet the magnitude of such distortions should not be exaggerated, as if pensions were not linked to contributions at all. We return on this issue in Box 4.4 below.

From this exercise we draw three conclusions. First, it is unwise to use realised stock returns over, say, the last ten years, to evaluate the performance of a funded system in the future. This argument is reinforced if one further notes that funded systems are likely to generate a massive supply of savings to the market, and thus depress rates of return. Second, one should therefore make sure that a significant fraction of pension portfolios is invested in safe assets; otherwise, there is the risk of massive social unrest should the market turn "bearish" for a number of years. Third, one should consider stimulating the development of a market for corporate bonds to absorb the demand for safe, productive assets that would result from the rise of private, funded pension schemes.[16]

5. Possible solutions

We now discuss a number of solutions that are typically proposed to fix the pension problem. A pension reform should not only make the system viable in the long-run by correcting financial imbalances but also aim at designing it in the most efficient way. That is, a system may be inefficient even if it is not in financial trouble, and the financial crisis is an opportunity to deal with such inefficiencies.

5.1 Raising contributions

The most straightforward solution, from a pure financial perspective, is an increase in the level of contributions, computed to maintain the pensioners' living standards unchanged, relative to GDP. This possibility raises a number of questions.

First, is it fair? Raising contributions puts the burden of adjustment on some generations but not on others: current generations of retirees will not participate at all in the adjustment effort. The generations of workers who will have to provide for the baby-boomers' pensions will suffer the larger loss. Subsequent generations who will provide for cohorts of retirees less numerous than the baby-boomers will suffer a smaller loss, but still contribute more than current retirees. In short, this option may imply an arbitrary distribution of the adjustment burden across generations.

Second, an increase in contributions would take place in the context of already high tax rates that discourage employment, investment and innovation. Increasing payroll taxes further may have severe distortionary effects on the economy. In fact, some studies (Laroque 2004) find that for some categories of workers, one is close to the top of the "Laffer Curve", meaning that taxing these workers further would actually reduce tax receipts. But, as discussed in the box, the severity of this problem crucially depends on the design of actuarial pay-as-you-go-system. Distortions can be reduced by designing systems in which contributions are effectively deferred wage payments, accumulated at an internal rate of return that is not too far from the market rate of return.

A possible argument in favour of raising contributions is that the cost for workers associated with an increasing old-age dependency ratio may be partly offset by the fact that fewer children may mean a lower burden related to caring and education, i.e. by a lower youth dependency ratio. However, the extent to which the cost of raising children falls with the lower number of children is unclear, because of raising schooling levels and education costs. Moreover, the above ignores differences between those who have children and those who do not, an issue we will discuss extensively below.

To summarise: we believe that there is some room for increasing contributions. The adverse distortionary effects of higher contribution rates in the labour and financial markets can be contained by making social security systems more actuarially fair. But in light of our previous consideration about the fiscal dimension of pension reform, governments should be prevented from undoing the beneficial effects of such a policy by raising fiscal deficits: increases in contributions should be matched by equivalent savings in public budgets.

5.2 Lowering pension benefits

An alternative route is to lower pension benefits, which has the merit of not increasing fiscal distortions. Again, if done blindly, holding contribution rates constant, cutting pension benefits of present and future retirees has controversial distributional consequences: it is fairer than increasing contributions, as the burden is spread among all current and future

[16] We have argued above that investing pension contributions in newly issued non-productive assets backed by future domestic tax liabilities makes a funded system equivalent to a pay-as-you-go system. We should stress here that this is not an argument against investment in government bonds by pension funds. Provided that the government does not issue new debt (i.e. does not run a budget deficit), a pension fund that invests part of new pension contributions in government bonds "frees" private financial resources that can be redirected towards the accumulation of domestic capital and foreign wealth.

generations; however, it also imposes an excess burden on abnormally large cohorts – as opposed to increasing contributions that impose an excess burden on abnormally small cohorts. Also, in order to gauge the desirability of such an option, one must look at the living standards of retirees. In the EU as a whole, the retirees' median income is about 83 percent of the median income of people aged less than 65. One may consider that as a rather high number: while retirees spend more on health care, they typically do not bear all the costs of a family (childrearing, housing, etc.). Furthermore, from a "fairness" point of view, retirees do not bear the disutility of work.

One argument in favour of reducing pension benefits is that declining fertility rates were not appropriately accounted for in the original design of the systems. To the extent that a lower fertility rate can be interpreted as insufficient investment in human capital, current generations who have not borne the costs of raising children, on average, should be entitled to a lower return on their social security saving. But by the same token there is no reason to penalize individuals in these generations who do have enough children – an argument that underlies the proposal to differentiate pensions by the number of children discussed below.

Overall, we think that there is some room for manoeuvre in reducing pension benefits, especially in light of the fact that the required reduction in the purchasing power of pensions is only relative: their absolute purchasing power can still grow.

5.3 Raising the retirement age

Another natural option is to raise the retirement age. This option has been largely neglected until the most recent reforms. Average retirement age has actually been falling rather than rising. Yet, from an arithmetical point of view, such a reform makes a lot of sense. Average life expectancy at 65 was about 12 years in 1960 (for men) and should be about 20 years in 2040. Thus if the average length of time spent in retirement were held constant, the retirement age should increase to 73 in 2040. If one targets the share of a lifetime (from age 20) spent in retirement rather than its absolute length, one still reaches the conclusion that the age of retirement should increase to 71½. Therefore, if one had indexed the retirement age on life expectancy one way or another, the "pension problem" would simply be non-existent. A recent British report calculates that from a balanced budget perspective (using again men as a benchmark), one should increase the age of retirement to 69 by 2050.[17]

Instead of increasing, the actual retirement age has fallen below 60 in many countries, because of generous pre-retirement policies. For example, the employment rate of the 55–64 age group does not exceed 50 percent in most European countries, being as low as 25–28 percent in Austria and Belgium and 34–38 percent in France and Germany.

Therefore, as far as the arithmetic is concerned, increasing longevity is not necessarily a problem for pension systems to the extent that the retirement age correspondingly rises. But this does not imply that a substantial rise in retirement age is necessarily desirable, or that it is the only policy that should be pursued. The extent to which this margin should be used clearly depends on whether people are willing and/or able to work the required extra years. It may be that, faced with a choice, people would prefer lower consumption when retired and/or during their work life rather than working longer. After all, the secular trend of reduced working time in Europe – engineered by public policies such as pre-retirement and the reduced workweek – must have to do with the preferences of the political majority. It remains to be seen, though, whether these preferences reflect a genuine taste for more leisure rather than misperception of its costs. Moreover, incentive for shorter working time may also be explained by high tax wedges, rather than preferences for leisure, as discussed in Chapter 3.

As far as feasibility is concerned, one may ask whether people are in good enough condition, say between 60 and 70, to perform jobs. Here the answer is probably yes. First, most jobs are less physically demanding than 50 years ago; second, the increase in life expectancy has been associated with a reduction in morbidity rates: one is in better health at 68 now than 50 years ago. Finally, since societies have chosen to adapt the workplace to make it more adequate for the disabled, there is no reason why similar steps – likely to be less costly than for the disabled – could not be taken for older workers as well.

That being said, by how much the retirement age should increase is less clear, as it depends on preferences. In particular, people are impatient and prefer to enjoy leisure earlier rather than later. This puts limits on the desirability of increasing the retirement age. As

[17] See Pensions Commission (2004).

preferences and individual situations in that respect are heterogeneous, we advocate pension systems where people can trade later retirement ages for higher pensions at an actuarially fair rate, making people free to choose their retirement age according to their individual preferences.

Nonetheless, given that the pension finance problem comes from a longer lifetime, increasing the age of retirement should naturally be part of any solution. More generally, a higher rate of participation in the workforce would clearly help. As is well known, labour force participation is lower in Europe than in other advanced regions.[18] Reducing distortions in labour markets, which may include making pension rights actuarially linked to contributions as we recommend in this report, would therefore be an important step in tackling the pension finance problem.

5.4 Growth

The crisis of pension systems due to a rising old-age dependency ratio is particularly apparent if one wants pensions to grow in line with other incomes. This is apparent when pension benefits are indexed to wages: improvements in the quality of the workforce that raise wages also raise pension claims. This is why reducing or eliminating wage indexation of pensions may ease transitional problems: to the extent that pensions of a given generation of retirees are indexed to their own past wages, raising the human capital of the young will raise the tax base but not the claims of these retirees (only the future claims of these young workers increase). While welfare across cohorts of retirees will rise with the standard of living and therefore the productivity of individuals during their own working lifetime, increasing growth will tend to reduce the pension burden relative to GDP.

Observe that in principle a pension system could be designed to guarantee only a constant pension in real terms – perhaps according to an "assistance" philosophy. In this case, productivity growth will induce a downward trend in the value of pensions relative to GDP, making it quite easy to cope with the increasing number of retirees. However, such an option has not been seriously debated, mainly because it would entail a widening inequality between pensioners and workers, with adverse social and political consequences despite the fact that the pensioner's living standards would not fall over time.

To the extent that policies that promote growth increase the amount of resources available for redistribution, they will also help alleviate the pension problem. Thus one may consider investing in a better educated, high-skilled workforce – endowed with a higher level and better quality of physical capital – so that higher productivity would compensate for the loss in the size of the workforce. However, these policies are no free lunch and involve a reduction in consumption for current generations, just like any other increase in savings to provide for future retirement.

5.5 Immigration

A policy that is often advocated in the context of debates about pension crisis is to open up immigration, to make up for demographic and financial deficits with new workers contributing to the system. We have a number of reservations about this solution. First, it is strange to increase migration for the sole purpose of financing pensions: one could in principle pursue the same goal by enrolling foreign workers into national pay-as-you go schemes without them actually living in the country. In fact, as argued above, this would not be different from selling the national debt to foreigners. Of course, one may want to have a younger population and/or a stronger production basis for other reasons. But as far as financing pensions is concerned, the geographical origin of contributions is irrelevant. Given the social strains created by excess immigration and the controversies it generates, the pension finance argument does not seem very appealing.

Second, immigration is likely to have only transitory benefits: as immigrants age and adjust their fertility behaviour to that of natives, a pension finance problem pops up again. Only if immigrants systematically die earlier or make more children than natives would immigration permanently solve the pension problem, and each of these hypotheses would mean that they fail to integrate into society, which creates problems of its own.

Finally, whether the immigrants' contribution to public finances is positive overall is unclear and depends on their skill level. While the inflow of young legal immigrants raises overall contributions to the pensions system, to the extent that they are unskilled they may also be net recipients from other welfare programmes such as unemployment or child benefit. The

[18] Nevertheless, the corresponding contraction of non-market production in the household sector should not be disregarded.

net effect depends on the skill composition of immigration and on the structure of the welfare state.

To be sure, taking in *skilled* immigrants would clearly be a positive contribution to public finance. However, one does not select the skill level of migrants by decree. It depends on the incentives that they face when choosing a destination, incentives that reflect the levels of taxation and social protection, as well as immigration policy. Countries with a high level of redistribution in favour of the unskilled are more likely to attract unskilled immigrants.

To conclude, immigration is an important dimension of policy which should be discussed on its own merits, rather than being advocated as a mere fix for the pension system's financial problems.

5.6 Increasing the margin of individual choice

There are some good reasons to have a state-sponsored pension system, most prominently the fact that a fraction of the population does not save adequately. However, this argument does not justify uniform pension systems. Therefore, one of our key recommendations is to increase the margins of individual choices.

Pensions should be linked to contributions in an actuarially fair way. This recommendation has a number of implications: People should be allowed to retire at the age they wish, provided they get correspondingly higher or lower pensions, at an actuarially fair rate. Similarly, they may choose to contribute more or less, provided they contribute more than a predefined floor. Making pensions more actuarial also reduces the distortions induced by the pension system on the labour supply, as illustrated in Box 4.4 The example of Sweden and Italy, moving towards notionally defined contributions, can be interpreted as a step in this direction: any payment to the social security system over a worker's life would be contributing to determine his/her pension, reducing the incentive to evade. An actuarial system would of course limit the role of social security in redistributing resources within the same generation. But this is not necessarily bad news, in light of the evidence on current systems. In systems that are not actuarially fair it is often the case that the within-cohort redistribution is highly regressive. For instance, when pension benefits are calculated based only on the wage income in the last few years of employment (or based on the best wage over a few years), social security systems tend to favour high-wage workers who usually have steeper age profiles of wage income than low-wage workers.

Allowing for this margin of manoeuvre may in principle generate problems for the pay-as-you-go system if individual decisions do not square with the system's overall commitments. To analyse these problems, we need to take into account the fact that one euro invested in the pay-as-you-go system does not yield the same return as one euro invested in capital markets. Suppose that an individual decides to retire early, hence contributing less to the pay-as-you-go system. If his/her pension benefits are reduced calculating the current market value of his/her missing contributions, there is no negative financial implication on social security. In fact, the government can make up for the shortfalls in revenues by borrowing from financial markets a sum that, in present value terms, is identical to the reduction in individual pension benefits. In other words, the value of incremental future interest payments on the additional debt is exactly equal to the reduction in the individual's pension claims. By the same token, the financial balance of a well-designed pension system would not be affected if individuals who choose to postpone their retirement

Box 4.4

An actuarial system reduces the tax wedge

To what extent are social security contributions as distortionary as a tax on labor income? To provide an intuition, consider the extreme example of a hypothetical reform from a system with no link between contributions and pension, to a system of individual accounts such as the German system set up by Adenauer in 1957 or the new Swedish one. Keeping the average contribution rate fixed at 20 percent of the wage, we can easily calculate the difference between tax wedges in the two systems. Consumption (including bequests) during retirement will be equal to the pension benefits plus any private saving accumulated over the lifespan, and capitalised at the market rate r.

In an extreme non-actuarial system, pension payments are independent of contributions. Hence pension contributions drive a tax wedge distorting the labour/leisure choice as high as 20 percent. In an actuarial system, pension benefits are linked to contributions via the internal rate. The contribution is perceived as deferred wage income, capitalized at a rate of return that is, however, lower than the market interest rate. Hence the tax wedge in pension contributions is less than 20 percent: it is proportional to the difference between the market rate of return and the internal rate of return of the social security system. For instance, if the market rate is four percent, and the internal rate of return is two, the tax wedge would only be two percent of the contribution rate. Clearly pension reforms strengthening the link between benefits and contributions in a credible way can lead to a marked reduction in labour market distortions. This could result in higher working hours and a higher participation rate (depending on the strength of the substitution effect from higher wages). As a note of caution, we should point out however that the overall effect of a reform should be assessed by considering the entire structure of taxation.

beyond the statutory age would be entitled to receive pension benefits while still working (say, above 65) without paying further contributions to the system.

Therefore, as long as changes in benefits are calculated at the market rates, any shortfall in contributions (if any) that raise the stock of public debt correspond to an equivalent decrease in future pension benefits: introducing that margin of manoeuvre does not jeopardize the pay-as-you-go system. Note that allowing for such a margin is equivalent to adding a small implicit fully-funded component to the pay-as-you-go system that can be activated based on individual preferences around the retirement age. Nonetheless, while we advocate the possibility for individuals to contribute less, and earn a correspondingly lower pension, this should only be allowed for those whose pension benefits are high enough relative to the social assistance level. Simple rules should deter individuals from opting out of the system and then claim assistance benefits because of insufficient retirement savings.

5.7 Reforming the labour market and avoiding pre-retirement

The pension crisis in Europe is aggravated by ill-functioning labour markets. On the one hand, labour market rigidities lower employment rates, which reduces the tax base for contributions. On the other hand, rigidities increase the number of claimants for various welfare programmes. Especially absurd, in this light, is the practice of pre- retirement, which artificially depresses retirement age, thus contributing to the pension crisis. While dismissals of prime-aged workers are extremely costly in many European countries, they are almost subsidised for workers near retirement. It is not clear what the justification of such policies is (unemployability or "making room for the young"?). In practice, dismissing older workers with a generous, publicly financed pre-retirement package is a way for firms to restore some flexibility in managing their workforce, in the face of stringent employment protection legislation.

Clearly, a comprehensive labour market reform would help in many ways. First, the burden of flexibility would be more evenly distributed, and firms would be less inclined to use pre-retirement. Second, employment would go up, and so would the tax base. But, even if such reform does not take place, it would be very useful to eliminate the pre-retirement trap. For example, as has been proposed by Sinn (2003), one could make early retirement schemes less attractive by reducing pension benefits before retirement age in an actuarially fair way (in line of our proposal), while allowing retirees to cumulate their pension with a secondary job.

5.8 Introduce private pension funds

As discussed at length above, the current pension crisis is rooted in demographic problems. The extent of these problems will be magnified in the next decades, when the baby boomers will reach retirement age. This cohort of people is large but has much fewer children than the previous generation. The pay-as-you-go pension system is based on human capital investment: if too little human capital has been formed, it is unable to provide enough pensions.

Clearly, pensions come from human capital and/or real capital. A possible reaction to the lack of human capital is therefore the formation of more real capital. To the extent that human capital is missing, more real capital is needed to fill the gap. This is the rationale for adding a funded pillar to the pay-as-you go pension system.

The argument is not that the funded system is inherently more efficient because it offers a higher rate of return. We explained the fallacy of that argument in Box 4.2. The rationale is crisis management by increasing the real capital endowment of the society. Specifically a fully-funded component of social security is needed to induce those baby boomers who are now around 40 and will not (or choose not to) have children to substantially increase their savings for the two decades that remain until retirement. There still is enough time to save.

Private pension funds are an effective way of decentralising the additional savings efforts required. The state should encourage private-sector pension schemes by certifying that these are sound, as well as advise people to invest in assets with an appropriate risk structure. This may involve a deterrent from employer-based pension schemes and a stimulus to pension schemes with a broad, diversified portfolio. We have also seen that despite the higher average return on stocks, pension funds fully invested in them would have a return that fluctuates widely across cohorts. Therefore, there should be a minimum fraction in private pension schemes that have to be invested in safe assets.

Simple legal rules should also be designed to supervise and regulate fund management so as to min-

imise budget risks and social costs associated with financial instability and moral hazard in financial markets. These rules should also provide strong incentives to contain the managing costs of pension funds. Especially in the initial phase of a reform, these costs may levitate in a privatised system because of aggressive advertising by an excessive number of providers.

Contributions to the fund should be mandatory in order to prevent free riding on the generosity of society. As long as there are other safeguards against poverty in old age, such as a general system of social aid, private incentives to save may not be sufficient: when deciding how much to save, low-income individuals will know that social aid will be lower, the larger the funds accumulated. If households are guaranteed a minimum level of income via public transfers, participation in funded pension plans should be mandatory, to prevent possibly large distortions on savings behaviour.

5.9 Differentiating pensions by the number of children

Above we have advocated the introduction of mandatory pension funds in addition to the current pay-as-you-go system to increase savings by the baby boomers. Forcing people to save more may be seen as a burden: many may consider such a burden unfair, arguing that they already paid for their old-age pension by contributing to the pension system. However, this argument is quite weak, once it is taken into account that, on average, such a generation has substantially reduced, or avoided altogether, the burden of raising children. Since many individuals have chosen not to have children, i.e. not to invest in human capital, it is fair to require them to sustain a compensatory burden in terms of additional savings towards investment in real capital.

While the rationale of the above argument applies for the generation of baby boomers as a whole, a well-designed policy reform inspired by it must take into account differences within such a generation. After all there are still families with children. These then run the risk of bearing three different burdens. They nourish the generation of their parents with their pay-as-you-go contributions; they have borne the cost of raising their children, thus safeguarding future pay-as-you-go systems; and they may face the burden of additional indifferentiated mandatory saving plans, as pension systems are reformed along the lines discussed in our chapter.

To avoid a triple burden for workers with children, pension reforms could differentiate according to the number of children. A simple way to implement this is to make savings plans mandatory only for childless workers.

To be concrete: the contribution rates in the current European pension systems could be frozen despite the adverse demographic development. Other things equal, then, constant contribution rates, will substantially reduce replacement rates: as the old-age dependency ratio doubles in thirty years' time, the replacement rates will be cut in half unless other measures to alleviate the problem are taken. To compensate for the decline in replacement rates two new pillars of the pension system could be introduced. One pillar is the mandatory savings plan as described above. Another is a supplementary pay-as-you-go pension for parents financed with a general income tax – a "child pension".[19]

According to this proposal, every person entering the labour force participates in the mandatory savings plan. As soon as a child is born, the savings obligation is reduced by some fraction, while the same fraction of accumulated savings is paid out to the individual. The same happens when a second child is born, and so on, until some target number of children is reached.

Such a "child pension" compensates for the missing participation of parents in the funded pension scheme. The size of the child pension should be designed such that it ensures today's replacement rate when all pension elements are taken together: the pension from the existing pay-as-you-go system, the funded pension and the child pension.

Basically this plan means differentiating pay-as-you-go pensions by the number of children and compensating the pension gap for the childless with mandatory private savings. The plan is fair because it reduces the extent to which the fruits of human capital investment are socialised by the public pension system. The plan may even contribute to revitalise the desire to have children.

Nonetheless, it should be made clear that increasing the fertility rates will not really help solve the imminent pension crisis in the 2030s. For this the policy would come too late. However, in the longer run, the pension system and the European society as such will

[19] See Sinn (2004).

only be able to function better if the population size can be stabilised. Our proposal may help achieve that goal.

Other measures that may also help achieve the same goal are special child benefits in the tax system or government-financed child-care facilities. These measures implicitly follow the logic of double interventions: given that the fruits of human capital investment are socialised with the pension system, the investment outlay is socialised too.

6. Conclusions

In this chapter, we have assessed the demographic challenge to the European pension systems that in most countries are based on the pay-as-you-go principle. Under current conditions, most pay-as-you-go pension systems in Europe are not sustainable: the old-age dependency ratios are forecasted to grow from the current 0.2–0.3 range to as high as 0.4–0.68 pensioners per worker in 2050, which would eventually require a very large increase in tax rates, and/or a reduction in pensions. Reform is required and it should aim not only at fixing the budget problem but also at designing a more efficient pension system.

A general slowdown in the growth of living standards associated with ageing is inevitable. Pension reform that entails a move to a partially funded system (in which workers make savings in personal accounts toward their future pensions) will not avoid the slowdown and cannot benefit all generations. However, such a move may help stimulate national savings and smooth the pension burden across generations.

The pension crisis results from a lack of human capital. Partial funding means filling the human capital gap with real capital. It thus helps mitigate the provision crisis to be expected when the baby boomers receive their pensions. Funded pension components may also increase the room for individual flexibility by allowing people to choose their pension level and retirement age at an actuarially fair rate, and thus alleviate political conflicts associated with ageing.

One should ensure that private pension funds have an appropriate risk structure. That includes limiting exposure to stock market fluctuations and minimising the correlation between the financial risk of pension wealth and labour market risk. Thus portfolios of pension funds should be adequately diversified, with a critical mass of risk-free assets and a very limited exposure to assets in the firm and sector in which the worker is employed. Simple legal rules should be designed to supervise and regulate fund management so as to minimise budget risks and social costs associated with financial instability and moral hazard in financial markets. These rules should also provide strong incentives to contain the managing costs of pension funds. Especially in the initial phase of a reform, these costs may rise in a privatised system because of aggressive advertising by an excessive number of providers. The introduction of an individually based, privately managed, funded pillar of the pension system would allow for a great deal of individual flexibility, provided it satisfies these requirements. It would be a good idea for those European countries that have not already done so to complement the existing pay-as-you-go system with such a pillar.

A number of other margins of manoeuvre also exist that would contribute to fixing the problem of sustainability of the pension system. To the extent that part of ageing is due to an increase in life expectancy and that people are healthier, it is perfectly natural to raise the retirement age, which has trended downwards for many years in most countries. Pre-retirement schemes that are meant to artificially reduce unemployment statistics, while increasing the burden on pensions, should be avoided altogether. Structural reform in the labour market, although desirable in its own right, will also have a positive effect on pension finance by increasing employment, thus increasing the tax base for contributions.

The fiscal system could be amended so as to reduce its distortionary impact on people's decisions to have children. Specifically, when deciding on the number of children, people ignore the fiscal benefits brought by children to society in the form of contributions to pensions and may therefore have fewer children than is socially desirable. One could envisage reforms to address this issue. A partial indexation of pay-as-you-go pension claims on the number of children is one possibility. Additional self-financed mandatory funded pensions for those who have no or only few children could then supplement the pay-as-you-go pension for those with no or only few children. People who do not raise children have, on average, more funds to save for their old-age pension. Alternatively, personal income taxation can be differentiated according to the number of children and systems of child allowance be used to provide stronger incentives

towards having children. However, there are reasons to believe these alternative measures to be less effective in addressing the distortions that undermine the viability of social security system, contributing to the substantial drop in fertility experienced in our countries. Much of our future welfare, and the welfare of our children and offspring, is at stake with the current pension reforms.

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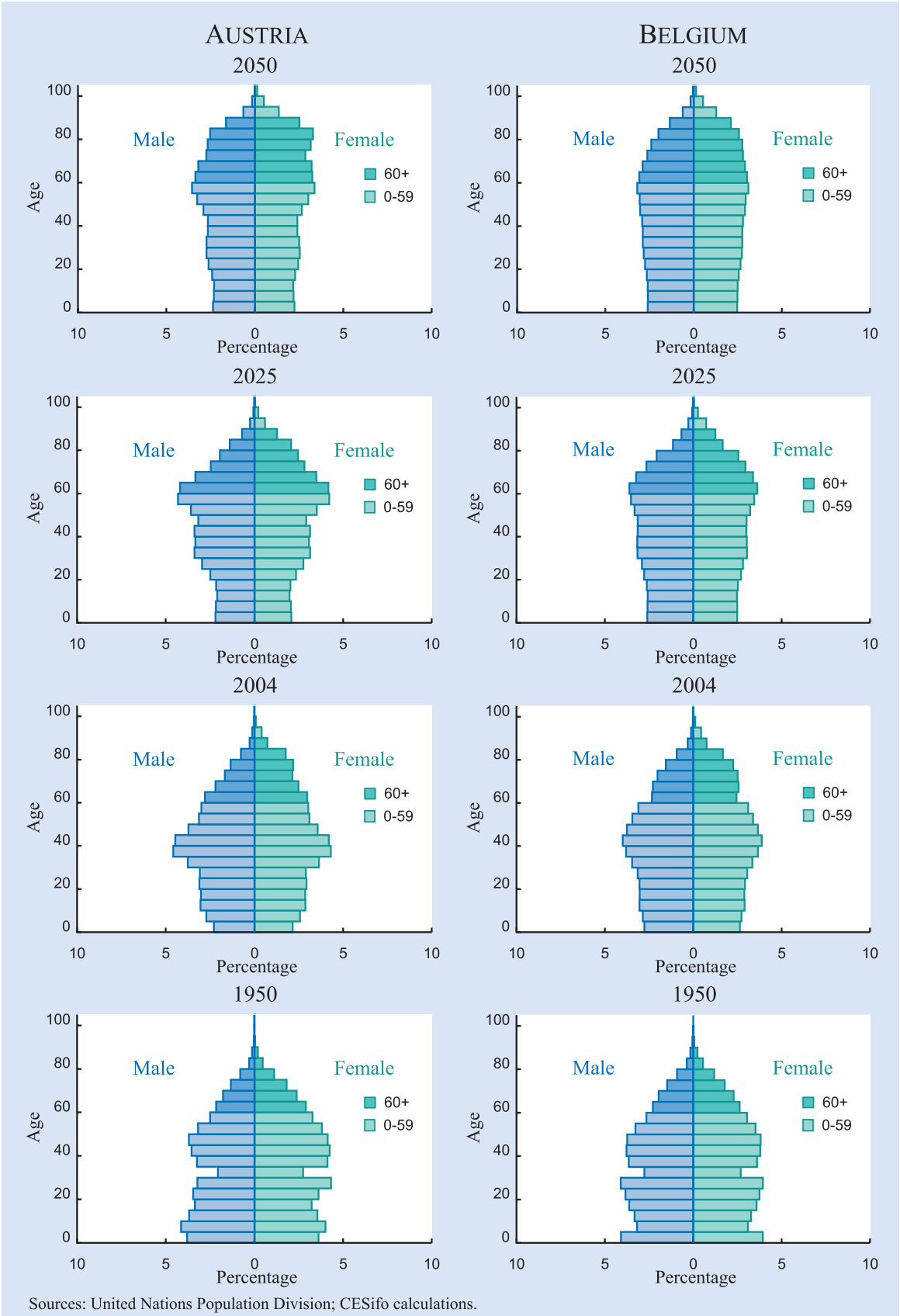
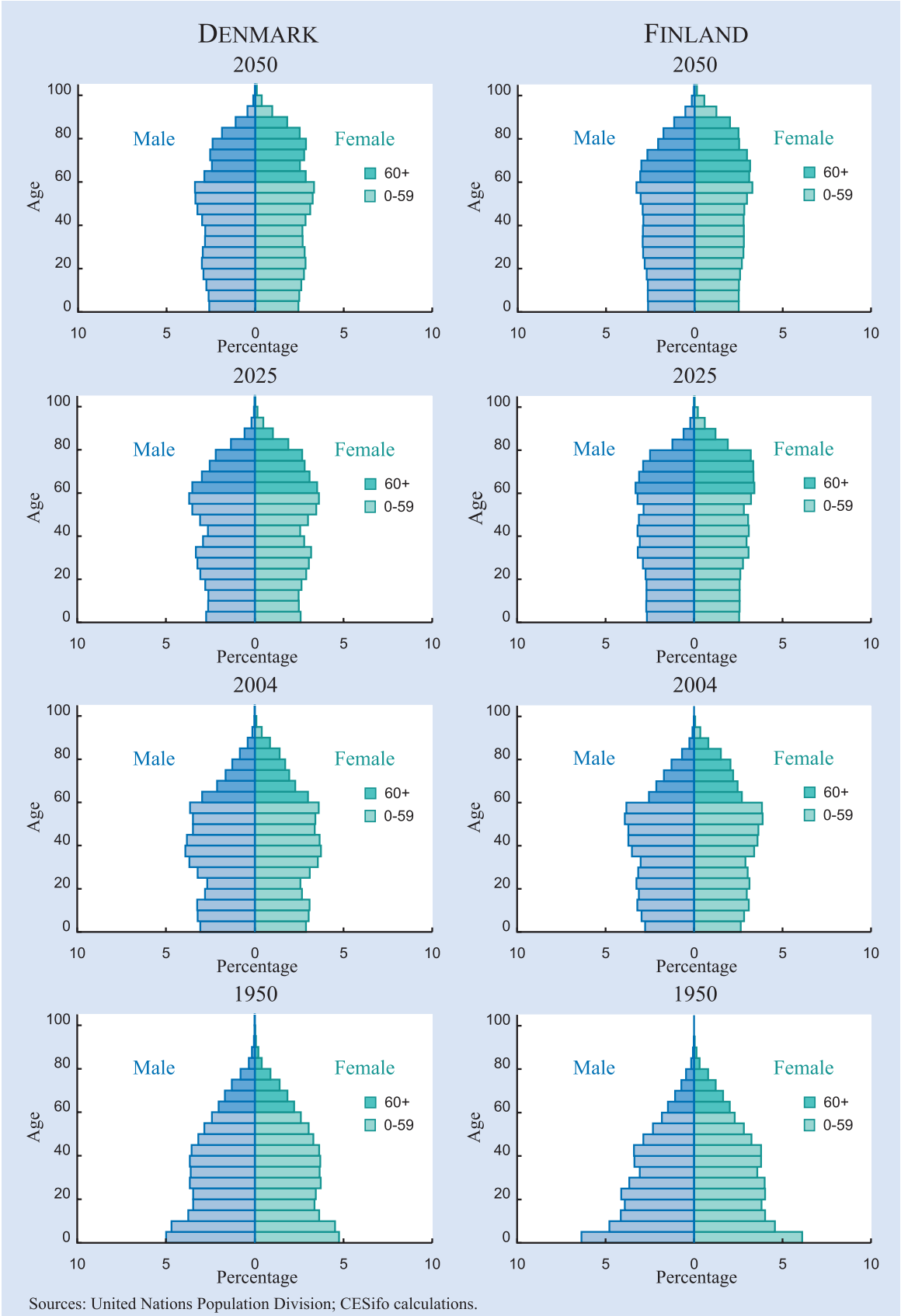
Appendix: Age pyramids in selected countries

EU 15



Sources: United Nations Population Division; CESifo calculations.



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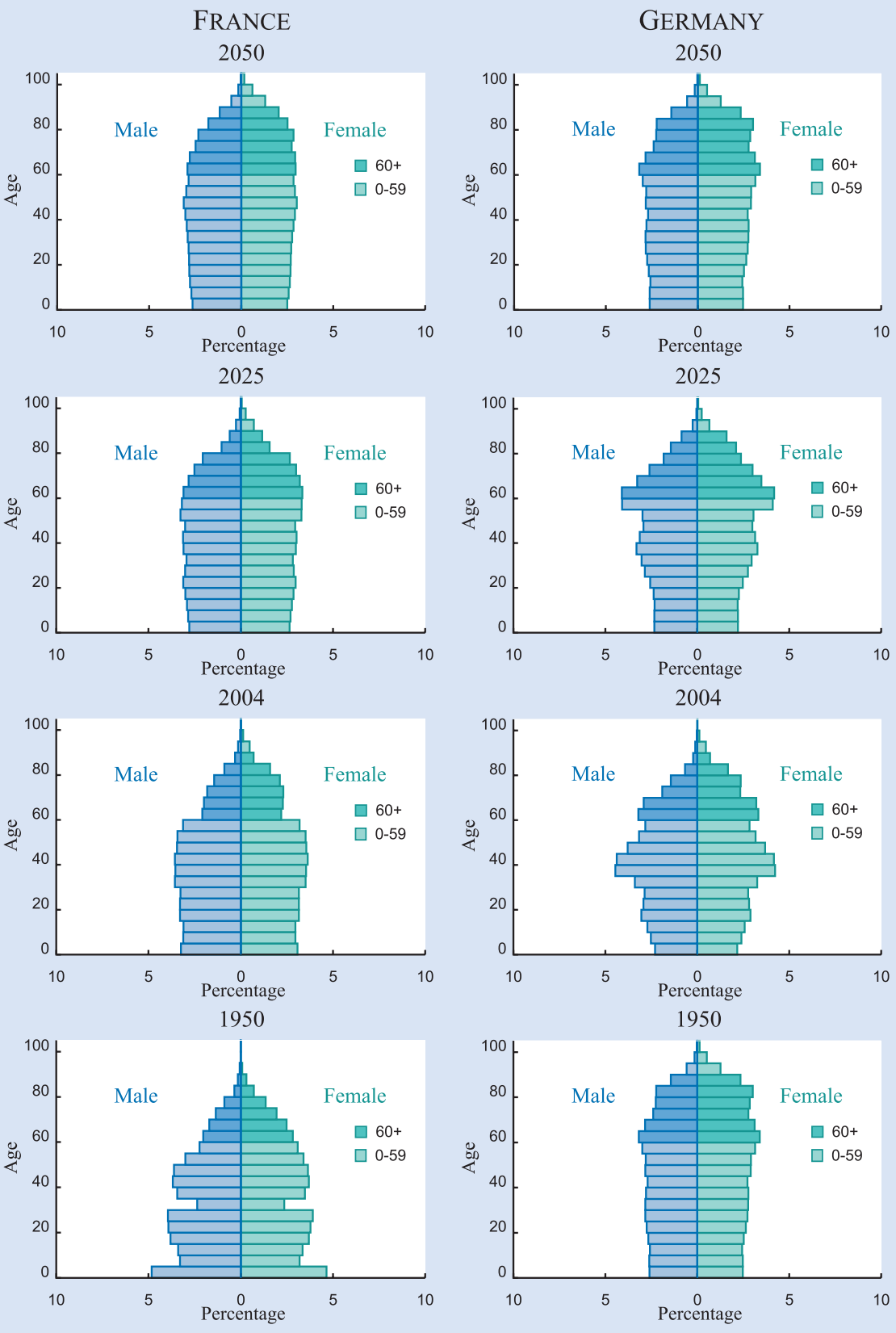

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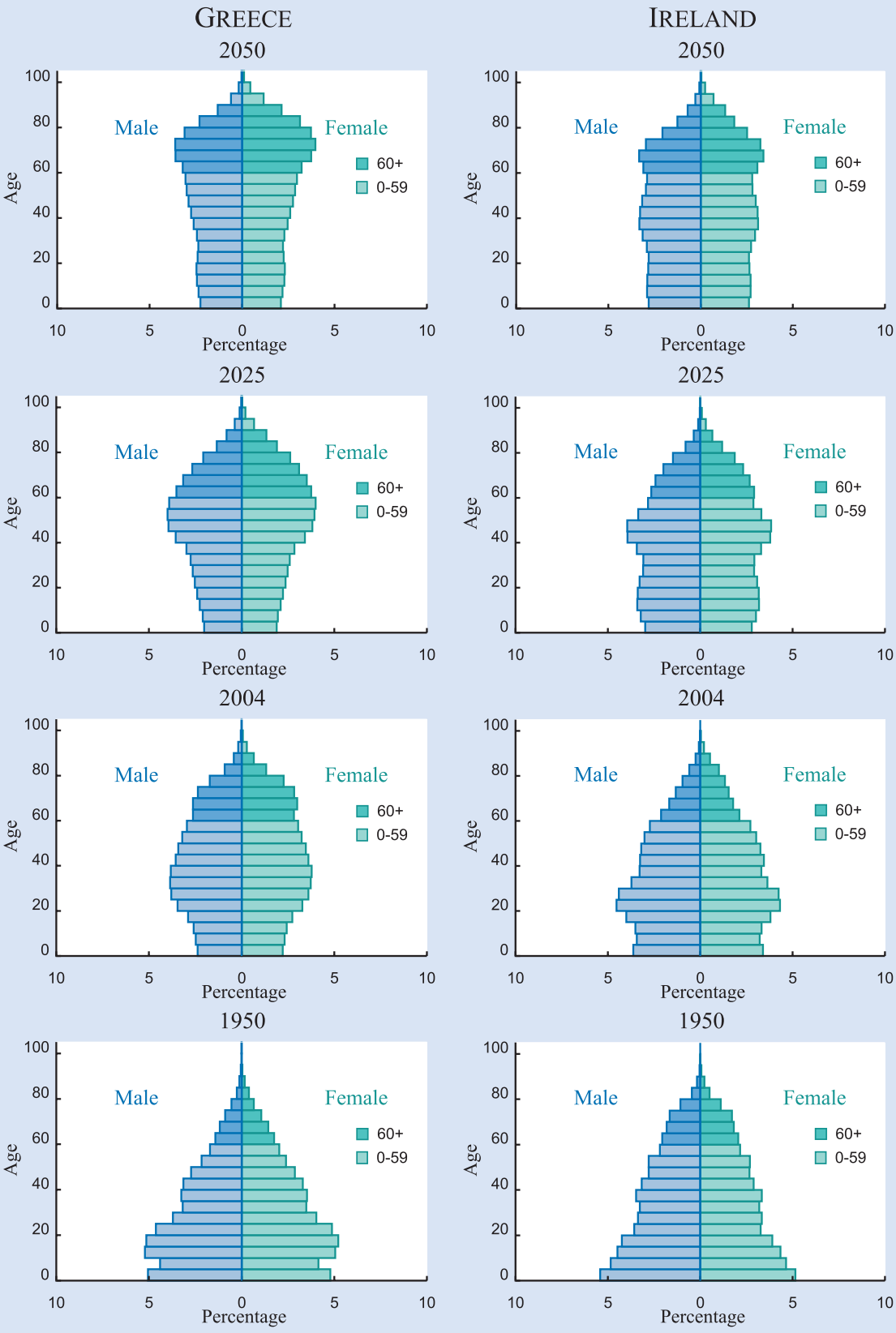

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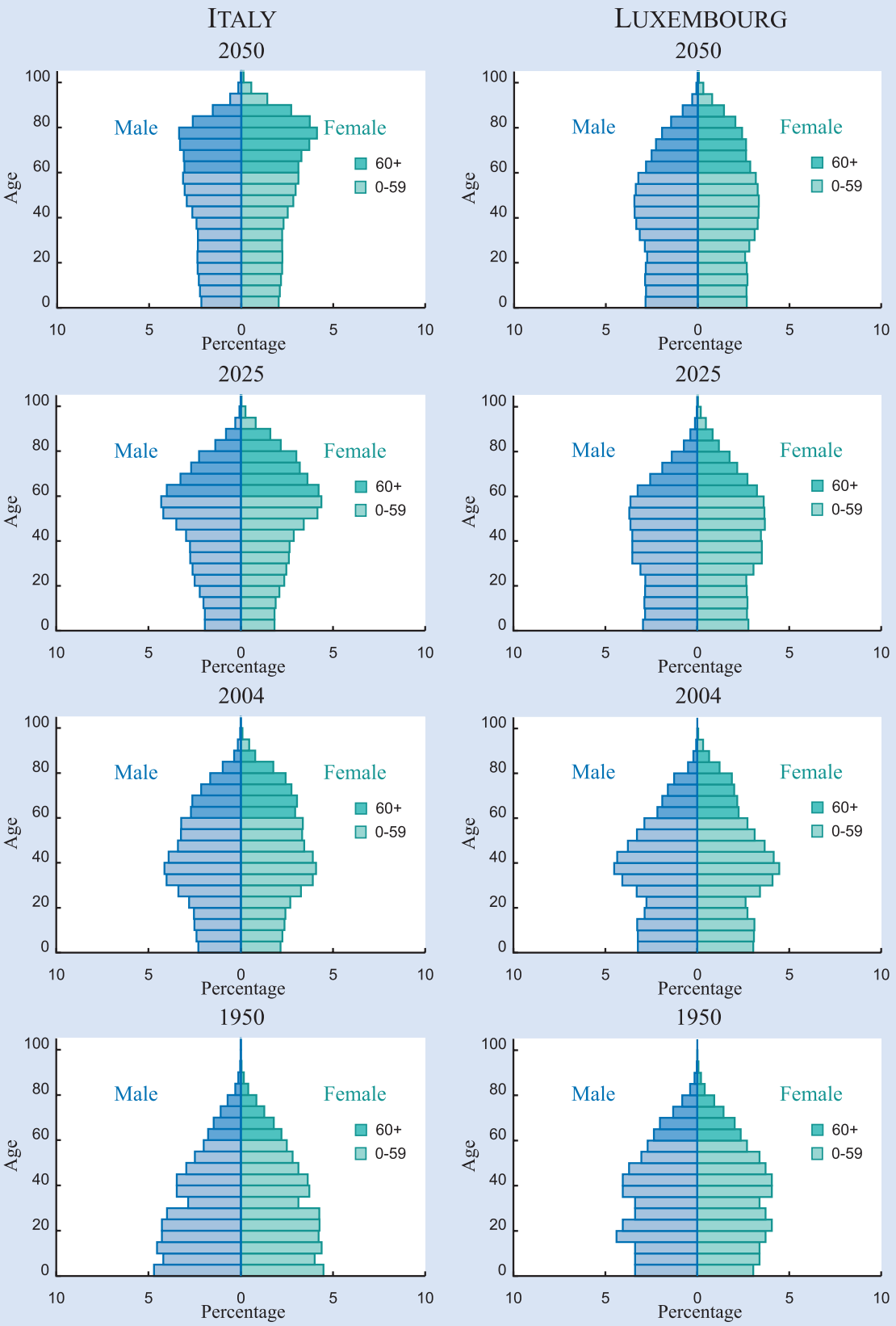

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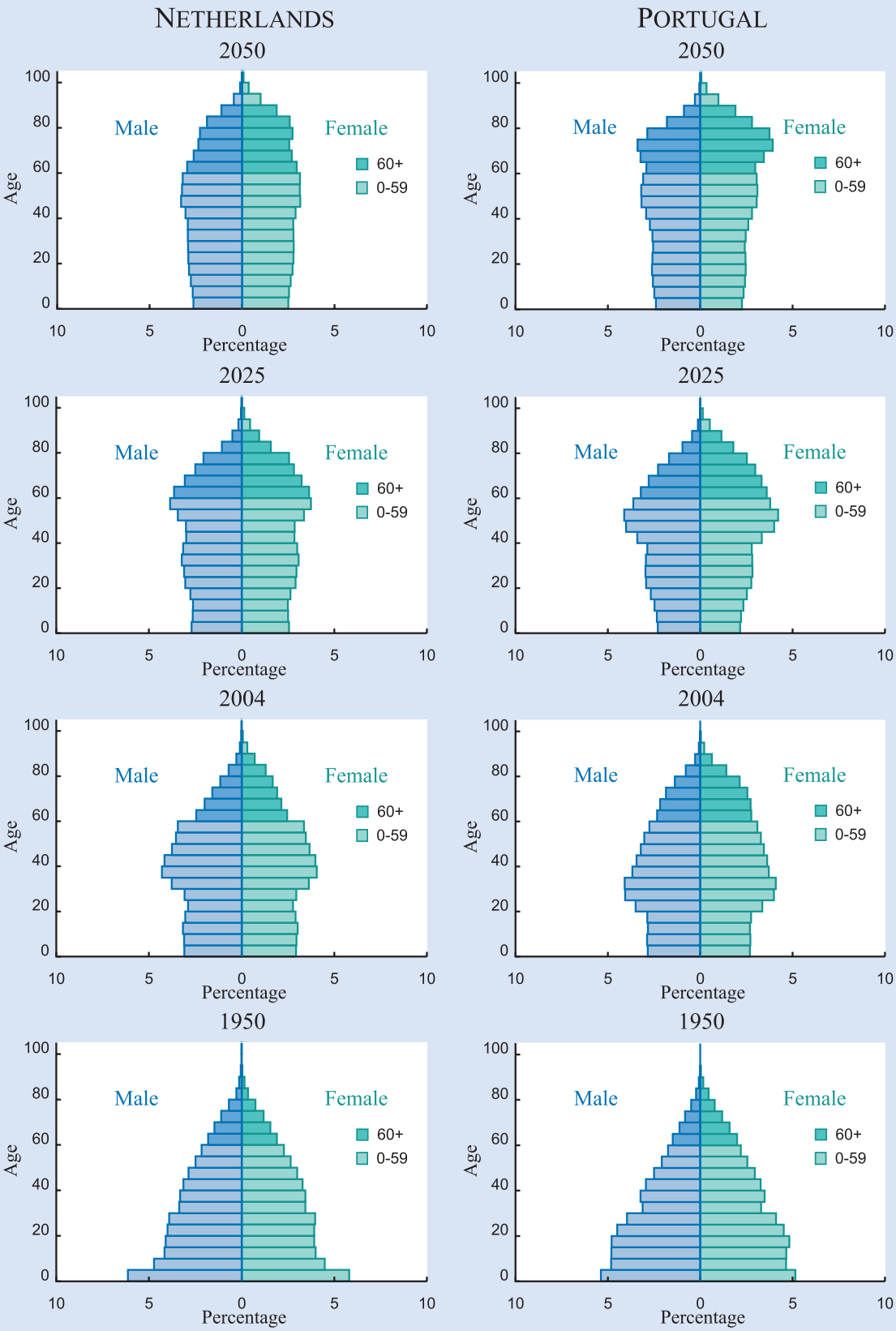

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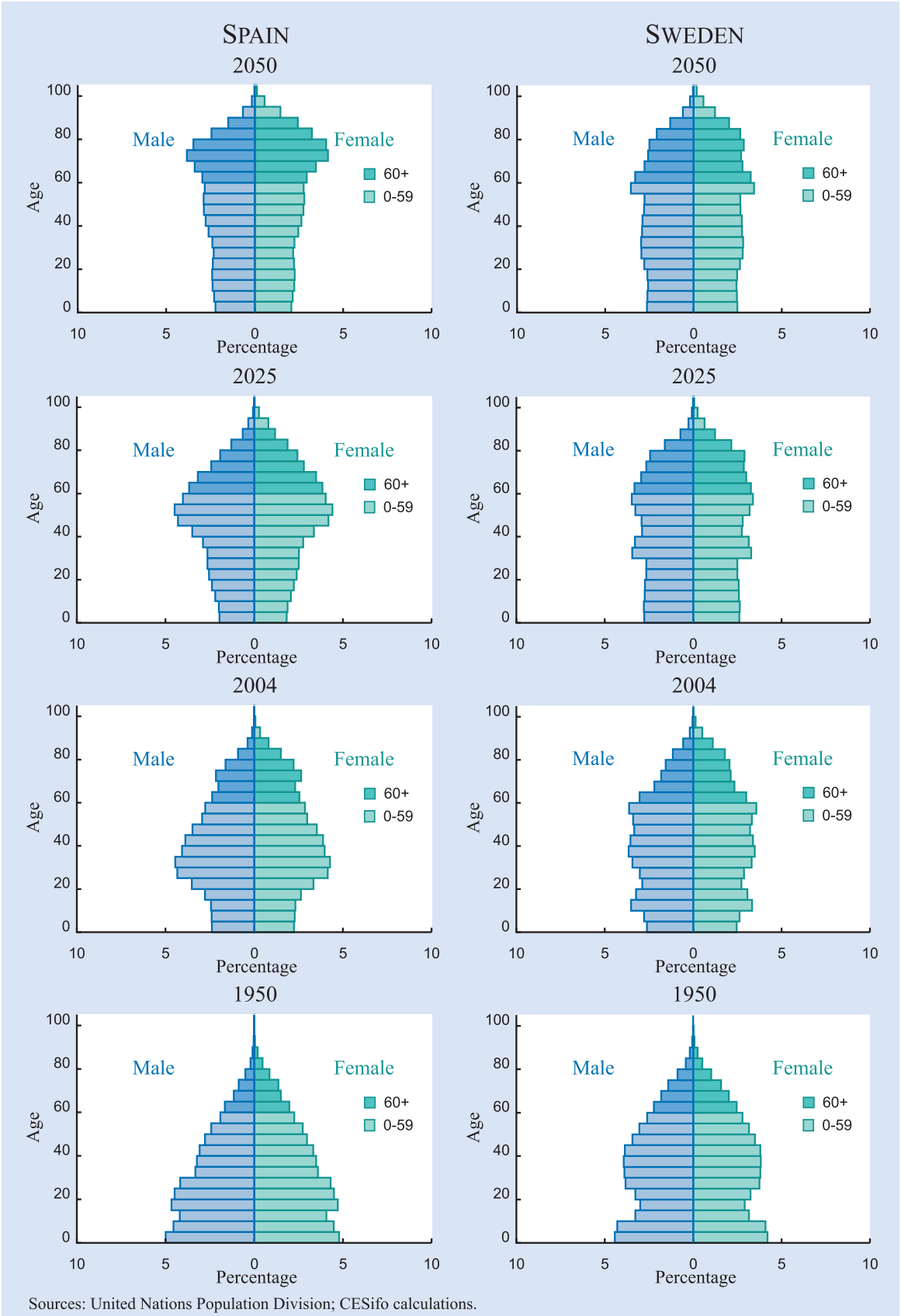

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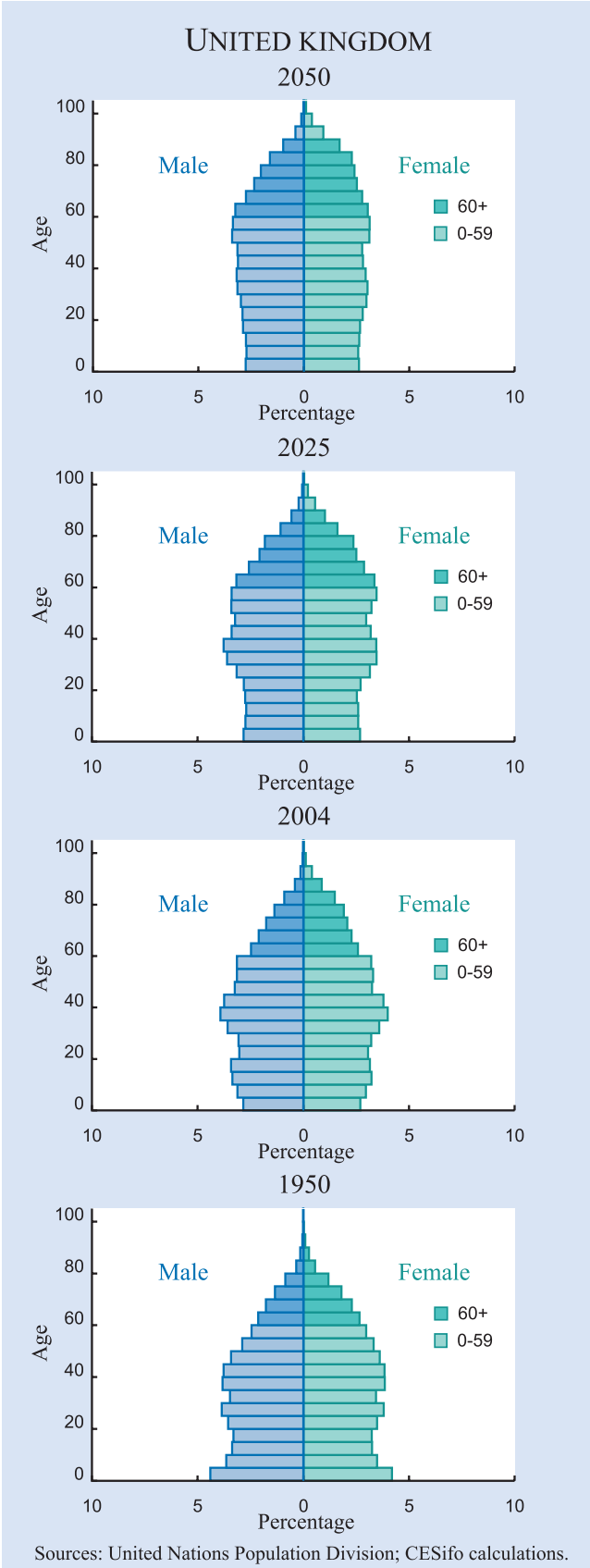
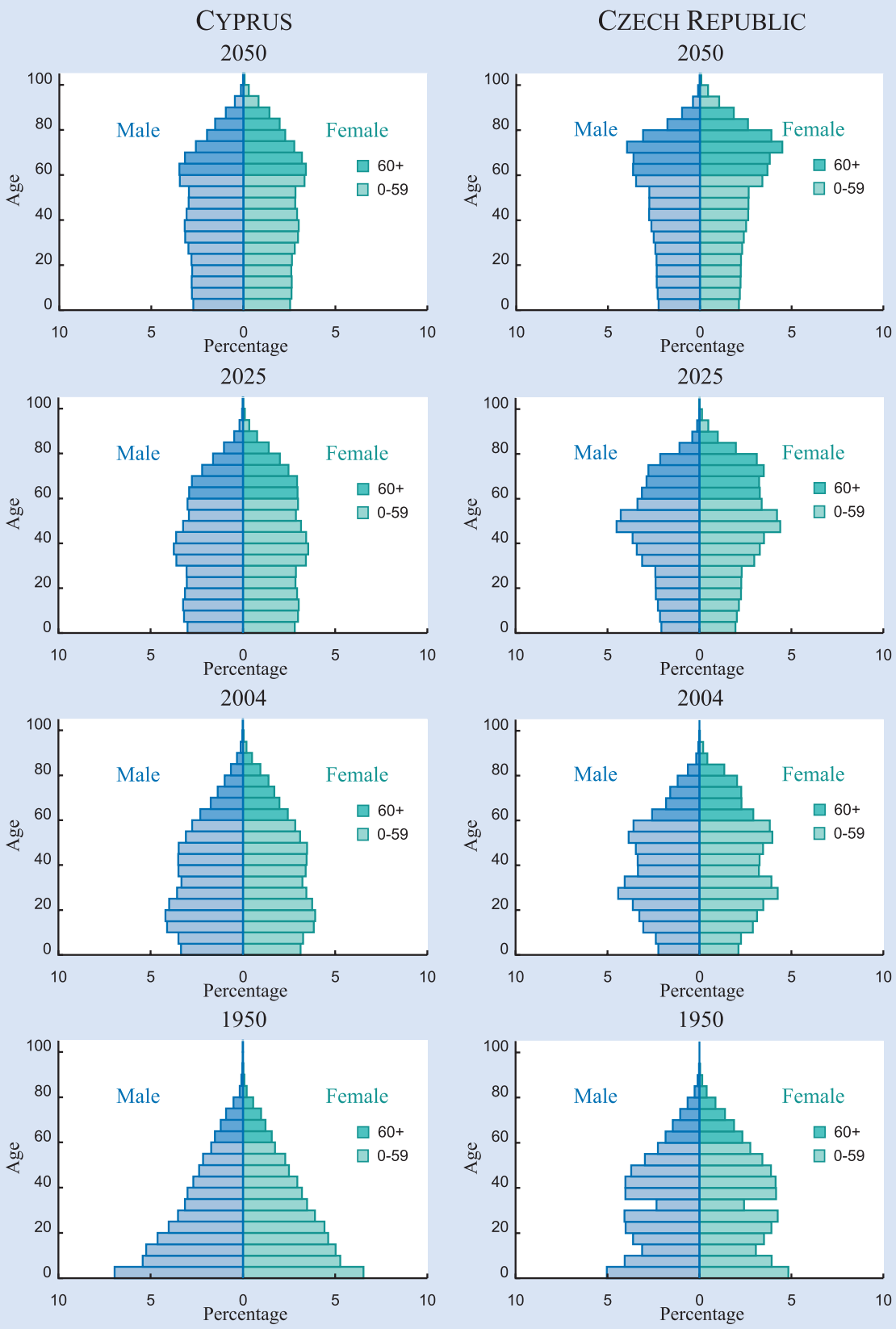


Sources: United Nations Population Division; CESifo calculations.

New EU Member States



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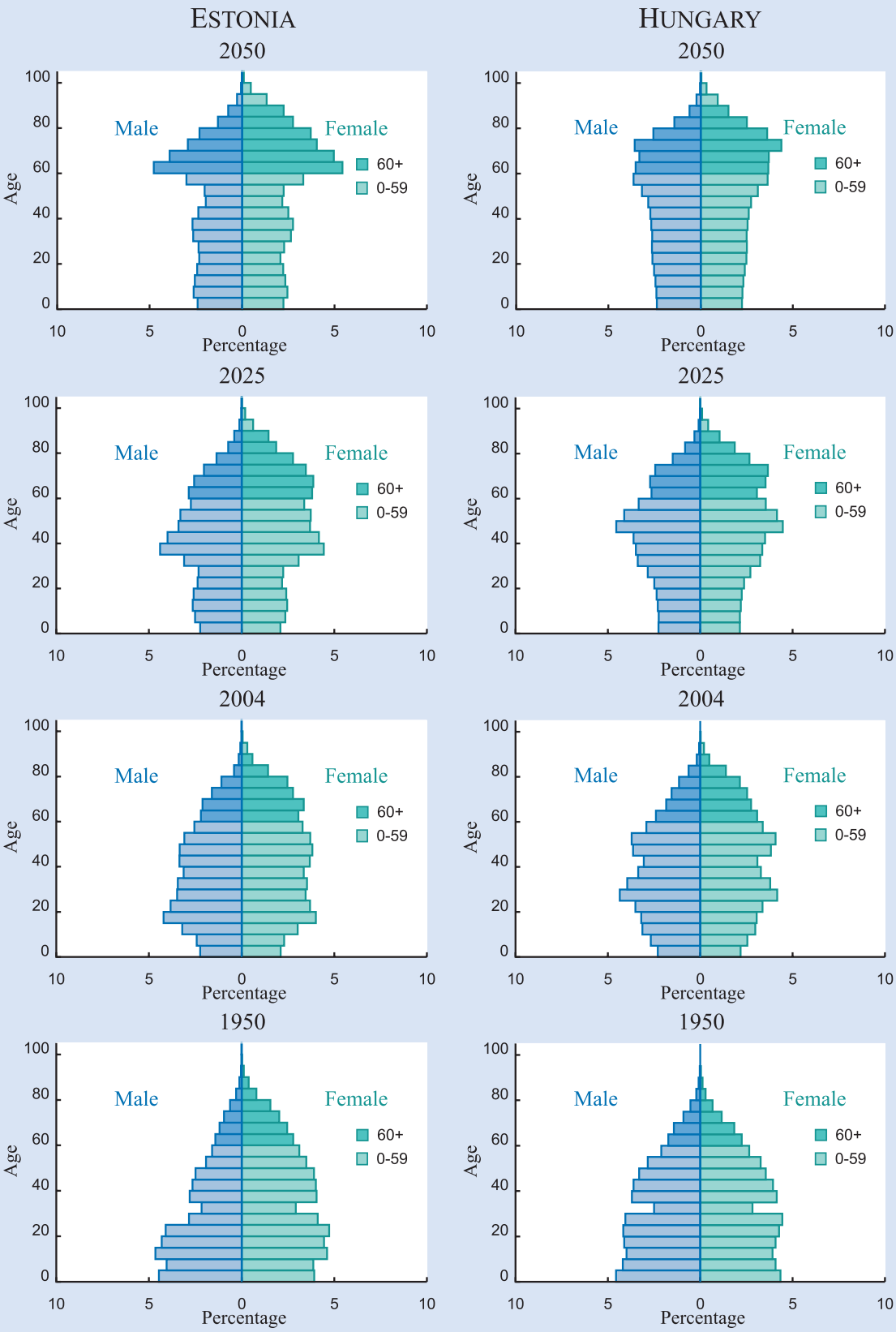

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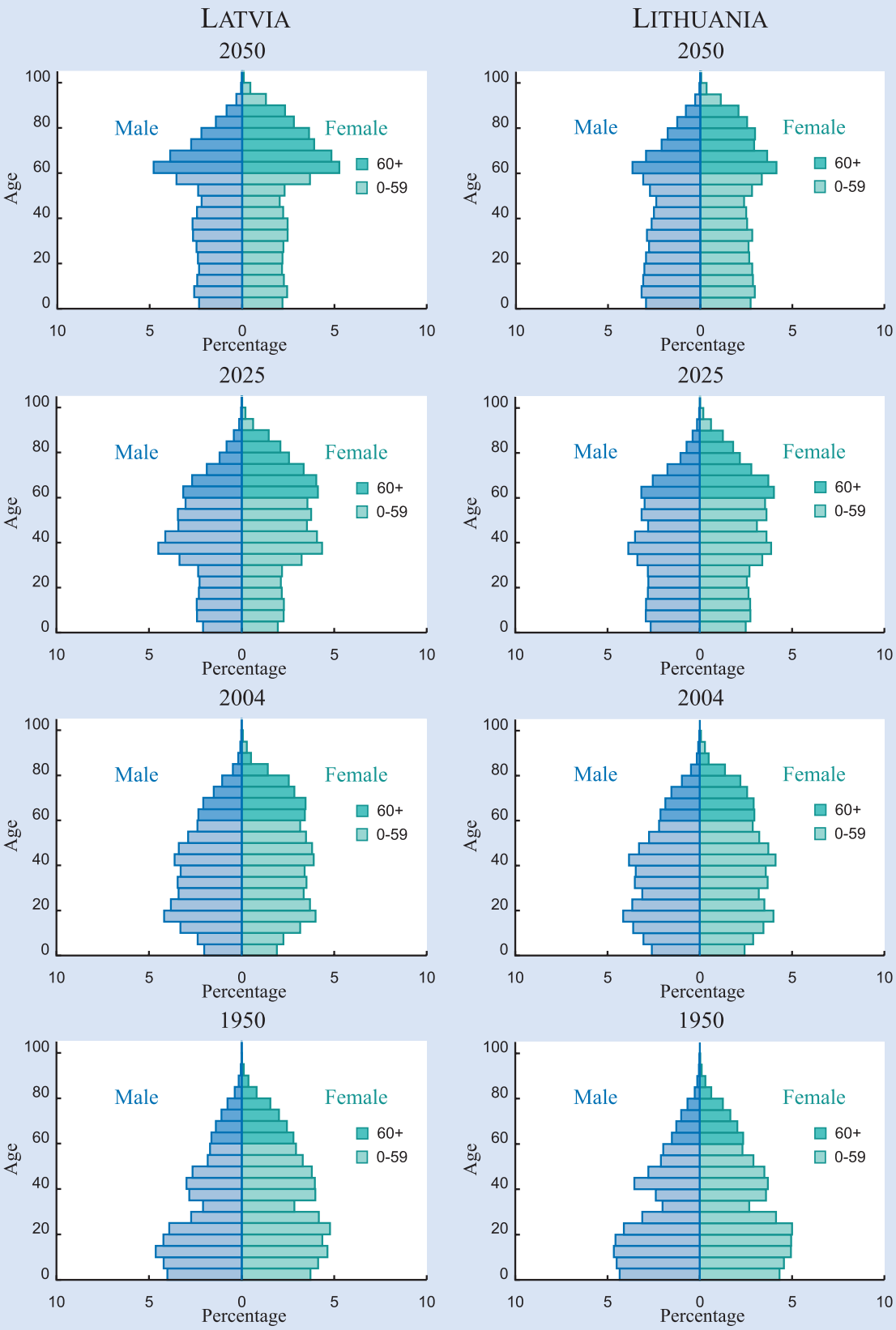

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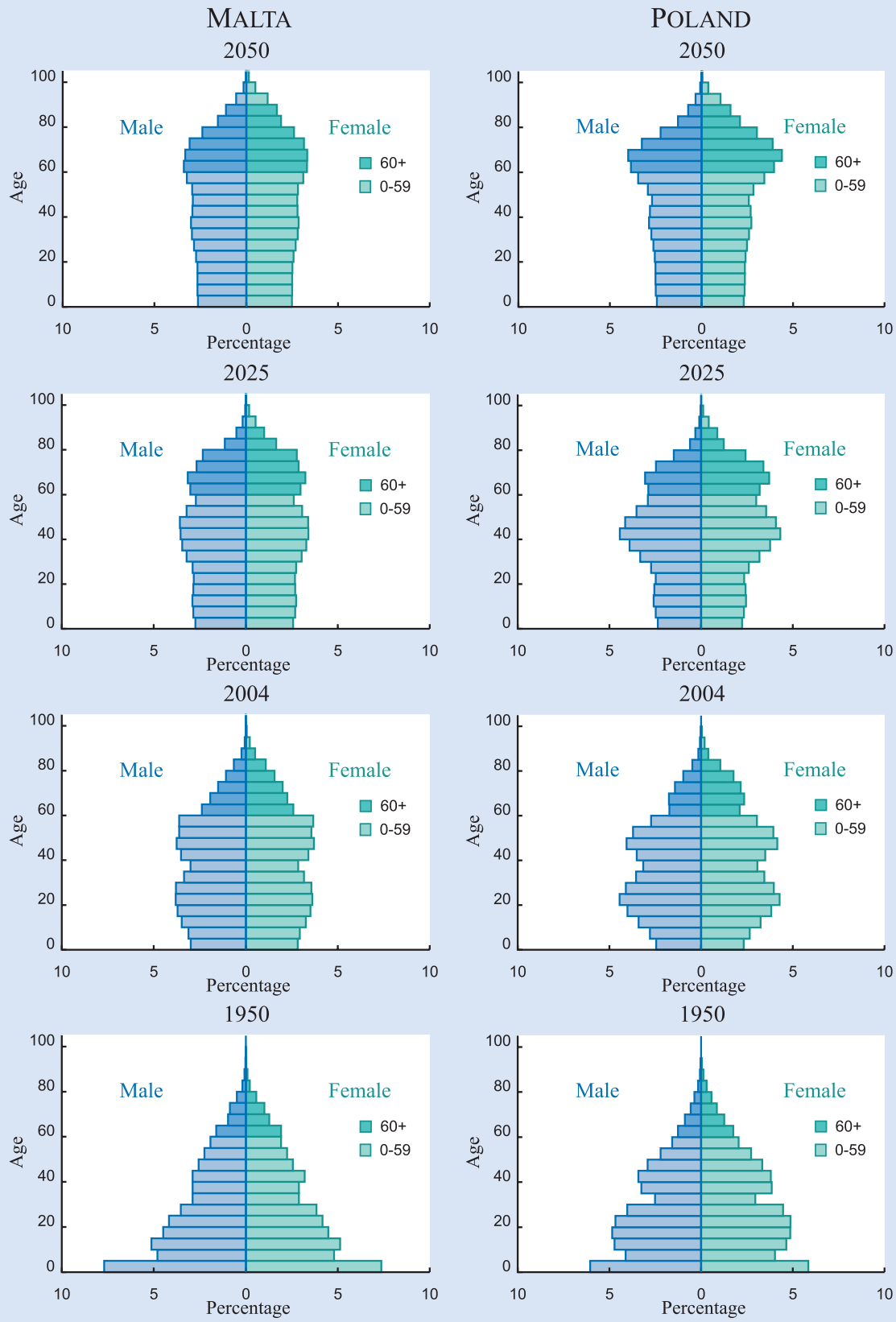
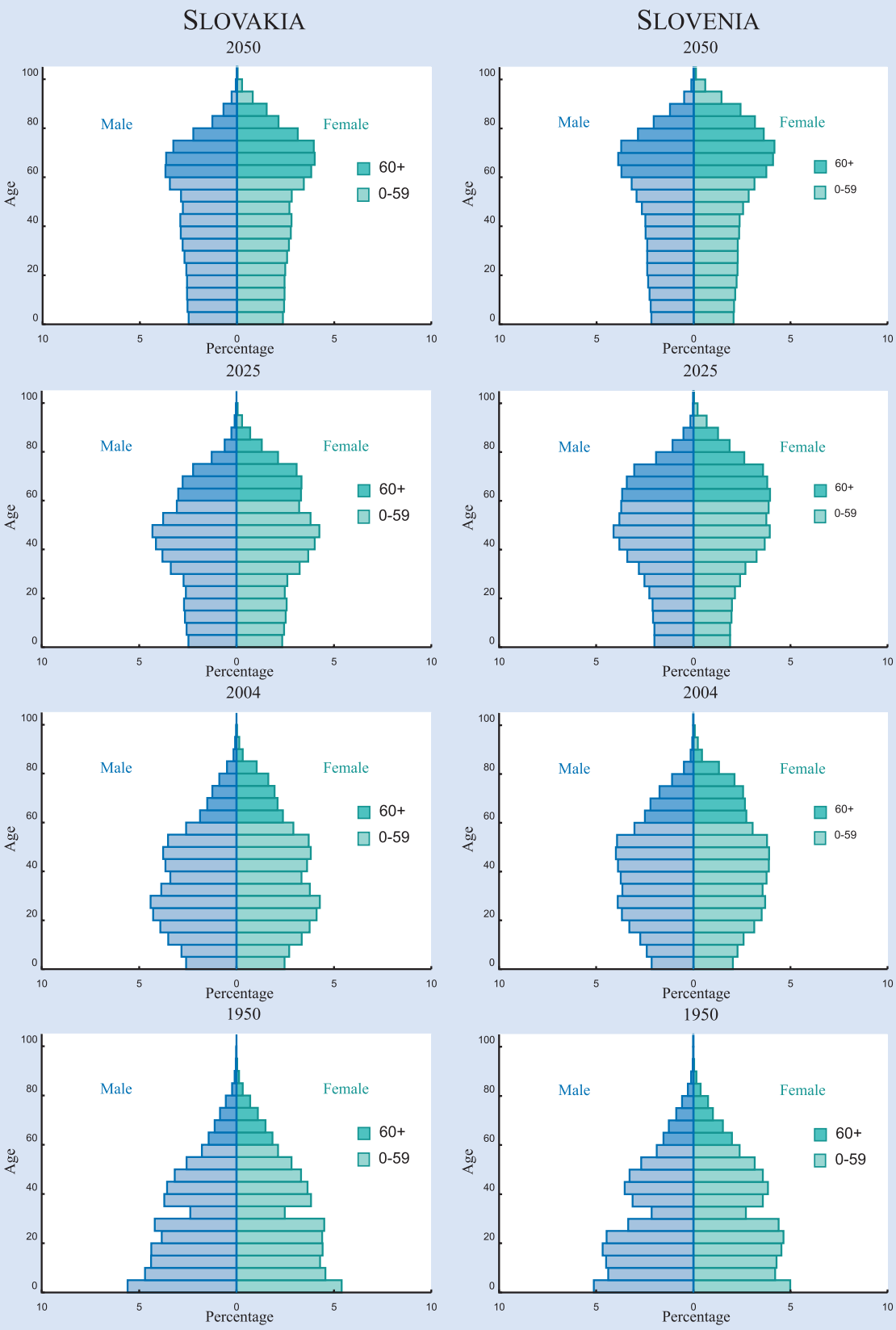


Sources: United Nations Population Division; CESifo calculations.



Sources: United Nations Population Division; CESifo calculations.

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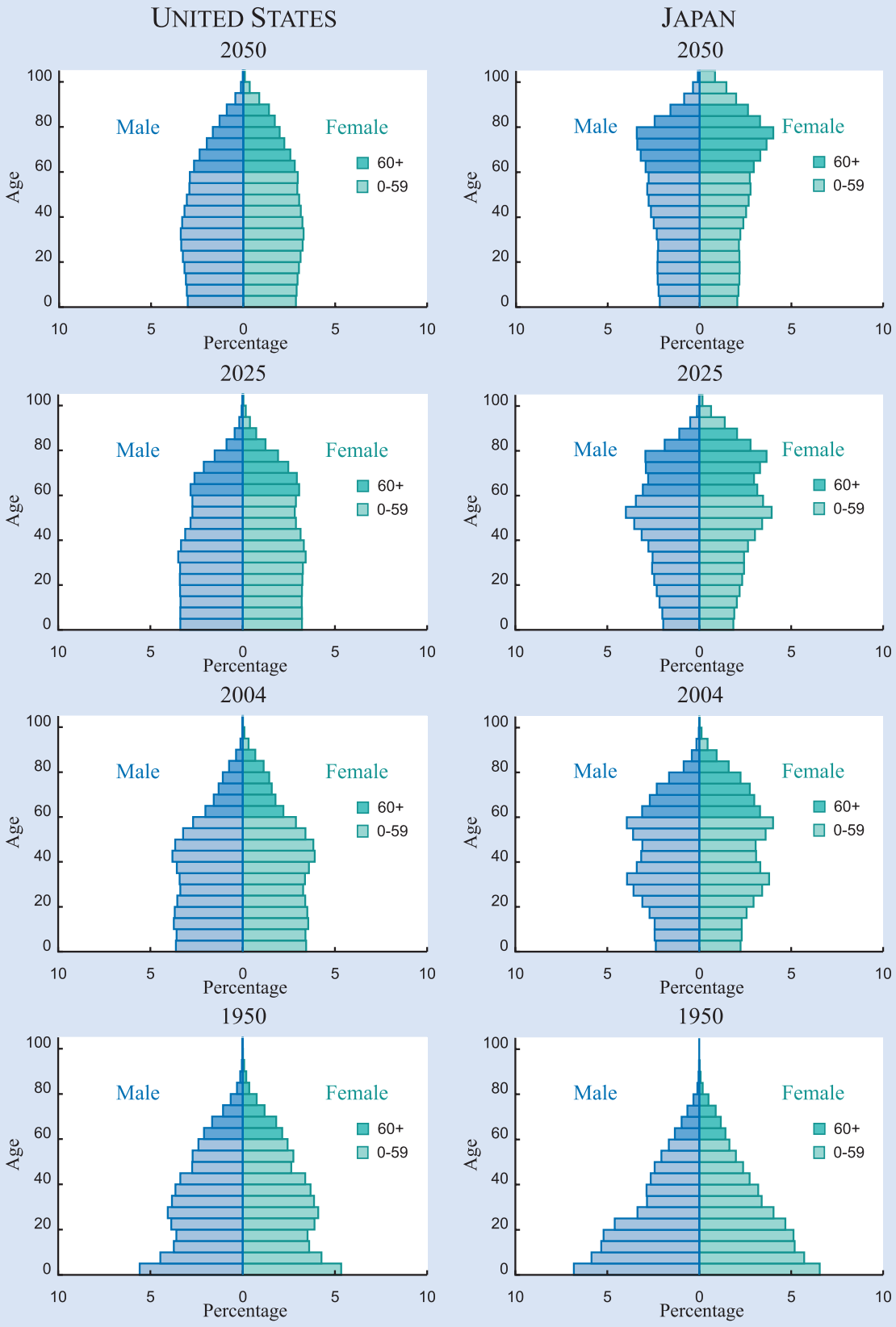
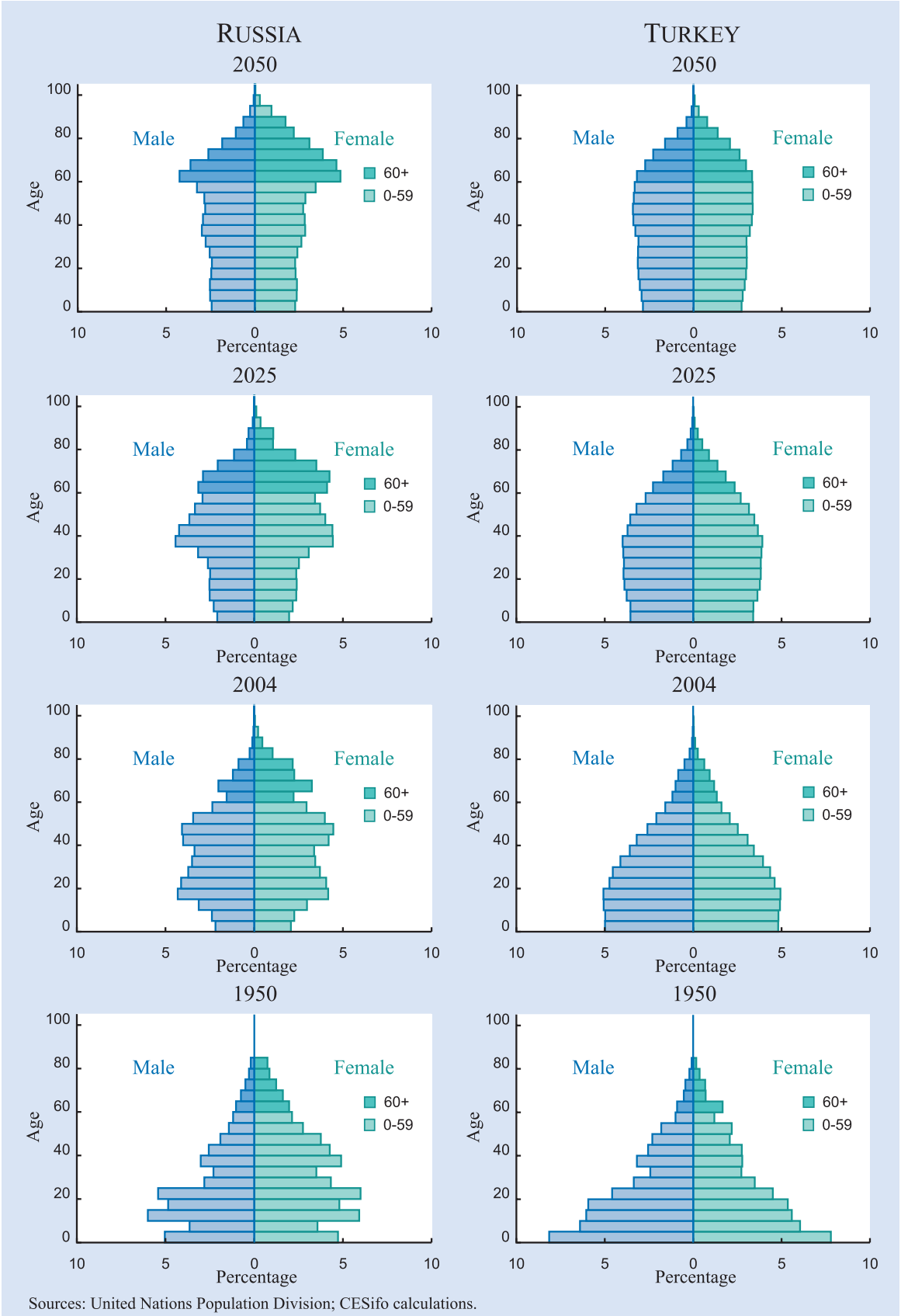


Sources: United Nations Population Division; CESifo calculations.



Sources: United Nations Population Division; CESifo calculations.

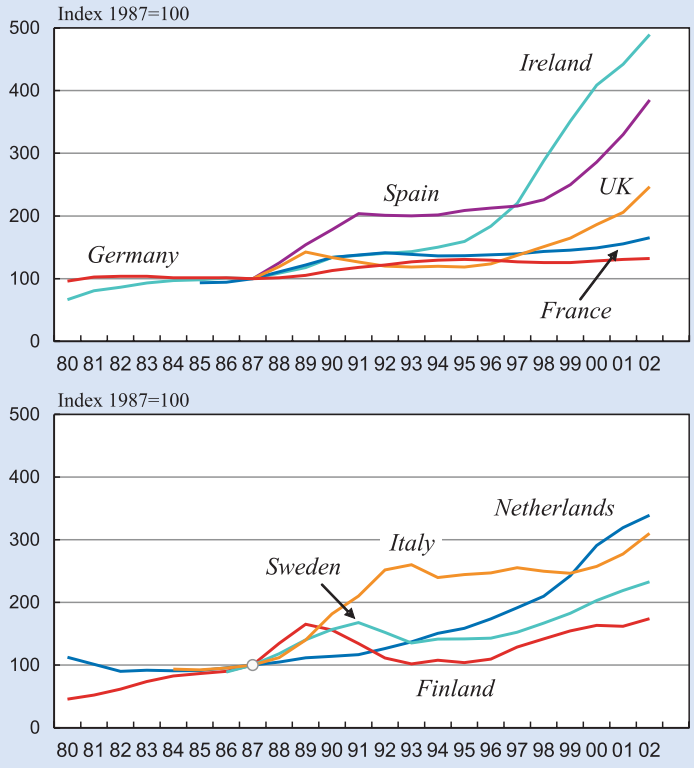
House Prices in Europe

1. Introduction

House prices have risen rapidly in most EU member states and in many other countries in recent years, though not uniformly. Between 1992 and 2002 prices in Ireland rose by 250 percent in nominal terms but in western Germany by only 10 percent (ECB 2003 b, Deutsche Bundesbank 2003).

Figure 5.1 illustrates the experience of the EU states. Spanish house prices have risen steadily since that country's accession. House prices in Britain did not recover their 1989 levels until 1997 but have risen rapidly since then. French prices have been stable with some recent rises.

Figure 5.1



Sources: Deutsche Bundesbank, European Central Bank, Nationwide Building Society (UK); Ifo Institute calculations.

Other states also show a variety of patterns. Finland and Sweden experienced substantial price falls in the early 1990s. House prices in the Netherlands rose very rapidly through the 1990s, but this was the first country in which prices stalled after the recent boom. Italy shows substantial increases but a volatile pattern. As we emphasise below, however, the quality of the data varies considerably across Europe and not too much significance should be attached to these differences. Since 2000, however, there have been significant rises in all states except Germany and the Netherlands.

There is extensive discussion in the press of a house price bubble and of the possibility of a house price crash. However most such discussion simply reflects a belief that what goes up may come down. More sophisticated commentators note that multiples of house prices to incomes are at historically high levels in many places (for example IMF 2004). But this is an indicator that house prices are too high only if there is a "natural" ratio of house prices to incomes, to which prices will necessarily revert. The ratio of typical mortgage interest payment to income – a more immediate measure of affordability for most households – is low as a result of falls in nominal interest rates. A view on the "appropriate" level of house prices requires more extensive analysis of both the demand for housing services and the nature of residential housing as an asset category.

In the UK, house price inflation has become a central issue for monetary policy. Within the eurozone, the issues are different. Despite the adoption of a common monetary policy, the housing markets of different member states have behaved in divergent ways. In Britain, Spain and Ireland – which have seen the most rapid escalation of house prices – mortgage finance is gen-

Box 5.1

What is a bubble?

"If the reason the price is high today is *only* because investors believe that the selling price will be high tomorrow – when 'fundamental' factors do not seem to justify such a price – then a bubble exists" (Stiglitz 1990).

We broadly follow this definition, which helps to distinguish a bubble from a period of overvaluation. A bubble has, as a necessary condition, a predominance of "noise traders" – people whose trading behaviour is based on considerations other than fundamental value. Examples of such behaviour are momentum trading (chasing upward trends) or "technical analysis" (decisions based on patterns supposedly detected from charts). Noise trading may also result from simple ignorance or disregard of principles of asset valuation. This latter factor is obviously important in housing markets, where most buyers and sellers are inexperienced.

Because there is considerable uncertainty about fundamental values, there can be wide disagreement and substantial fluctuations, which will with hindsight include episodes of substantial overvaluation, even in the absence of noise trading. A prevalence of noise trading is necessary, though not sufficient, for the emergence of bubbles, in which prices lie outside the range of reasonable estimates of fundamental value. Noise traders incur substantial risk of loss, but trading during bubbles is also risky for investors who are not themselves noise traders, and are aware of fundamental values, because once prices lose any anchor on fundamental values there are no bounds to the range of their possible fluctuation. In Keynes' words, markets can be wrong for longer than investors can stay solvent.

The distinction is complicated by the observation that even in extreme bubbles purported rationalisations in terms of fundamental values are offered for extravagant prices. As the investigations of New York State Attorney General Eliot Spitzer showed of the dot-com boom, however, these rationalisations were often not believed even by the authors themselves.

erally linked to short-term interest rates. In most other eurozone countries, home loans are based on long-term interest rates (although with considerable variation in the terms of early repayment). As a result, the housing markets of these countries may be less sensitive to interest rate fluctuations.

These links between monetary policy and the housing market mean that what happens to housing has a macroeconomic significance greater than can be attached to events in other product markets. This gives wider significance to some fundamental questions about European housing. How far away is Europe from a single housing market, in which the determinants of house prices are similar in Helsinki and Lisbon? Is there likely to be convergence between price levels in different states, and at what rate? And what are the implications of these housing market issues for the wider process of economic integration?

It is difficult to give even provisional, far less definitive, answers to these questions. Our purpose instead is to begin a description of the analytical framework which is needed to investigate such questions and the data which would need to be assembled to resolve them. Given the importance of the housing market to the European economy, it is remarkable how little is understood about its characteristics. Few of the questions which are extensively analysed in securities markets have even been posed for the housing market, and data on house prices is not collected across Europe on a comparable basis. A great deal of knowledge and information exists, both among private businesses and in government agencies, but it is not assembled in any systematic fashion. This is an appropriate task for the European Central Bank. In 2003 it published a preliminary study of house prices across the fifteen then members of the European Union. However the quality of this information is very uneven. There are many unresolved issues even in the interpretation of the data.[1] Nor do these surveys allow meaningful comparisons of levels (as against trends) of house prices between countries. It is therefore not possible to begin an assessment of the extent of convergence and divergence within the eurozone.

2. The price of accommodation

The economic analysis of house prices, like all prices, begins from supply and demand. Housing is both a product and an asset class, and much of the complexity of housing economics follows from this duality.

House prices are an element of the total price of accommodation, and Table 5.1 illustrates the vari-

[1] There are three broad classes of method of measuring house price movements:
– average transactions prices, adjusted to reflect the mix of the housing stock
– repeat sales indices, based on sequential observations of sales of the same property
– hedonic indices, which rely on regression analysis of the relationship between prices and the characteristics of the housing stock.
Each measure is in principle different and in practice can give substantially different results. US data (see McCarthy and Peach, 2004) show the repeat sales index increasing substantially faster than a hedonic index, while in the UK in 2003 hedonic indices recorded annual house price inflation at times 10 percent higher than measures based on average transaction prices. Thus even if the quality of the base data is high (which is true for the UK and the US but not for most European countries) the measurement of prices is subject to considerable uncertainty.

Table 5.1

The price of accommodation in euros (UK, Spain 2002)

(1 €= 0.675 GBP)

	UK	Spain
Maintenance and repairs	891	519
Utilities	1319	1043
Furnishings	1244	1005
Property taxes	1191	385
	4645	2952
Cost of housing services – at 1% of capital value of average house price	1852	1423
at 2% of capital value	3704	2846
at 5% of capital value	9259	7115
Total non housing household expenditure	25185	18745
Accommodation costs as % of all expenditure		
– at 1%	21%	19%
– at 2%	25%	24%
– at 5%	36%	35%

Source: Office for National Statistics, UK (2002), Instituto Nacional de Estadística, http://www.catastro.minhac.es/estadistica/interactivo2/default.htm, Ministerio de Fomento (2002).

ous components of the cost of accommodation. These costs are partly a function of the monetary value of the house and partly a function of the size of the house. The table calculates the total cost of accommodation using three different figures for the price of housing services. The total cost of accommodation, as a proportion of all household expenditures, falls in a range 19 percent to 36 percent. This is the key figure in considering the "affordability" of housing.

The price of housing services is determined by the supply of and demand for accommodation. As in all markets, a fall in the price of accommodation leads to an increase in demand for housing. What is meant by increased demand for housing is complex, however, because houses are commodities with many dimensions. The increase in demand for housing that results from a fall in the price of accommodation or housing sservices does not necessarily, or commonly, take the form of a demand for more houses. (Although it may do so as a result either of increased demand for second homes or the formation of new smaller households.).

Households may instead respond to a fall in the price of housing by looking for more space, or a better location, or a combination of the two. While additional houses may be in elastic supply, the capacity of the construction industry to meet the demand for more space in better locations is limited even in the long run. Rising house prices do not therefore necessarily stimulate a boom in new construction. This multi-dimensional nature of housing as commodity leads to the wide diversity in the characteristics of housing markets. In the central areas of the United States, population is sparse, and larger towns are not necessarily organised on the radial patterns common to European towns and cities. Shopping and commercial facilities are dispersed rather than focused on a central area. Locational premia for proximity to the centre are small and may, for derelict downtown areas, be negative. Desirable residential areas are generally simply those in which other rich people choose to live.

In areas such as these housing is in essentially perfectly elastic supply. Prices are low and stable, moving in line with incomes (or building costs, which follow a similar time series). In Iowa, for example, the ratio of average house price to personal income *per capita* varied only between 1.7 and 1.9 over the period 1985–2002 and the highest ratio was reached in 2002. In neighbouring Nebraska, the ratio was in the range 1.8 to 2.1 over the same time period and the peak of 2.1 was observed in 1985 (Case and Schiller 2003).

In coastal states of the US, and in Europe, typical ratios of house prices to incomes are much higher and more volatile. In Iowa or Nebraska, people are simply buying shelter; in California or Munich, the locational characteristics of a house have a major effect on demand and hence on the price of housing services. And in congested areas there are other reasons why a house is more than a structure and a plot of land: it can only function as a home with a supporting infrastructure – road access, utility connections, street cleaning and waste collections, schools and medical facilities. The provision of such infrastructure is costly and its availability limited. Some of these infrastructure costs are paid by the housebuilder or first occupier; others fall on public authorities. But the value of the house will reflect their quality and availability. In addition, planning rules may restrict building even on land that is in plentiful supply, creating "value" through the process of planning approval.

2.1 Locational characteristics

Attractive locational characteristics fall into three main groups:

(i) *Proximity to central commercial areas.* Houses in large cities command substantial premia and in general the closer they are to the centre the larger are these premia.
(ii) *Scenery and climate.* Certain areas are particularly pleasant places to live.
(iii) *Glamour*. Certain areas are particularly fashionable – a "good address". Such fashions may be transitory but usually are not: a good address will attract amenities which ensure that it retains that aura. University towns often have these characteristics.

The recent US house price boom has been concentrated in a small number of states: essentially, the Northeast, California, and Hawaii (HSBC 2004a, Case and Schiller 2003). These were already the states with the highest ratio of house prices to per capita income and they have experienced much greater volatility of house prices than Midwestern states such as Iowa and Nebraska. All these coastal or island states enjoy at least one of the benefits of (i), (ii), and (iii) above and, in the case of California, all three. After Hawaii, California has the highest ratio of prices to per capita income of any state of the Union (ca. 9:1 in 2004).

There is wide – although not complete – agreement among prospective buyers on what constitutes good and bad locations. If the ranking of locational quality is objectively defined, and houses have already been built in all the best available locations, Figure 5.2 illustrates how the price of housing services is determined. OB represents the price of housing services in the best location. At D, the poorest location at which it is worth building, the cost of housing services is entirely determined by construction costs, as in Iowa and Nebraska.

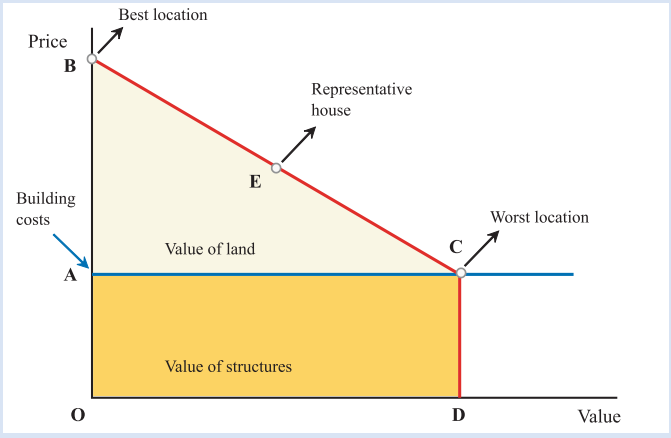
The overall value of the housing stock is then OABCD. The level of house prices is determined by the level of building costs, OA, and the slope of the location gradient, BC. For the UK, the average level of house prices in 2004 is €225,000 (equal to about nine times *per capita* income, as in California) and the building cost of an average house (90 sq m) around €100,000 (although the provision of associated services may add up to 40 percent to the construction cost of a dwelling).

The area ABC then represents about 55 percent of the value of the UK housing stock and can, as a first approximation, be described as the value of UK house building land: the area OACD, representing about 45 percent of the value of the UK housing stock can, as a first approximation, be described as the value of the structures.

The steepness of the gradient, BC, is determined partly by the degree to which houses are differentiated by locational quality – little in Nebraska, extensive in London – and partly by the inequality of income. Houses are what Fred Hirsch (1976) called a positional good. The richest people will always live in the best houses, but the aspirations of poorer people will drive up the price they have to pay. At the same time, competition among the rich to secure the very best houses will drive up their prices to reflect their ability to afford them.

Figure 5.2

LOCATION AND THE PRICE OF HOUSING SERVICES



Source: EEAG Group.

An increase in demand for housing services might come either from a demand for additional housing space overall (as from demographic factors) or from a demand for the locational characteristics that housing services offer (people living in less favoured locations using their growing incomes to buy a more convenient house). Demand for structures can be satisfied by additional house-building; demand for positional components cannot be, and simply leads to an increase in the price of these positional characteristics.

The key feature of the positional good is that even if the good can itself be replicated, the positional characteristic cannot be. If Eaton Square is the "best address", and the number of houses in Eaton Square doubles, then the title of "best address" attaches to a subset of houses in Eaton Square (or transfers to an altogether different location.)

This effect can partly be mitigated by substituting space for the positional characteristics of houses – households settle for a larger house in a less favourable location – but this process leads to a steady fall in the price of space relative to other characteristics of houses. This is why it is easy in most European countries to buy large but poorly located houses for low prices per square meter of accommodation.

European economies are more like California and New York than Iowa and Nebraska. Average houses in Europe fetch, on average, around ten times average national per capita income. In the UK the average house price is currently around €225,000, nine times per capita income of €25,000; in Germany a representative row house costs €260,000, twelve times per capita income of €22,000.

2.2 Locational gradients

Among the larger EU members, two countries, France and the UK, have a dominant city that is both the political and commercial capital: Greater Paris and Greater London are among the largest cities in Europe, accounting for about one quarter of the population of these countries. In both states the gradient of house prices slopes steeply towards the centre of these cities and the most favoured areas within them (Kensington/Belgravia, Paris VIII and XVI) have the highest prices in Europe. In both countries there are secondary, but much lower, peaks in secondary cities such as Birmingham, and Lyon has a scenery and climate gradient towards the PACA (Provence – Alpes – Côte d'Azur) region.

Germany, in contrast, has had no similarly dominant city, and like Spain and Italy has different political and commercial capitals. The most expensive German city is Munich, which is a business centre, houses the state government of Bavaria and benefits from favourable scenery and climate. Munich house prices are around 50 percent more than the all-German average (Deutsche Bundesbank 2003, Bulwien AG 2003), which suggests that locational dispersion may be less marked in western Germany than in France or Britain (it seems inappropriate to include the East in these comparisons).

Most of the population of the Netherlands is located within the North Sea coastal strip, and the country can be described as a linear city with numerous commercial centres. The locational gradient found in the Netherlands is correspondingly small: surveys suggest (VROM, 2000–4) that at the peak of the Dutch house price boom differentials between the various provinces of Holland had virtually disappeared, although the subsequent weakness of prices has affected less favoured (less central) parts of the Netherlands more than the congested areas of Nord and Zuid Holland. In Britain, by contrast, house prices in the most expensive region (London) average two and a half times those in the cheapest (Scotland) (Halifax, 2004).

3. Underlying influences on the supply and demand for housing services

Houses take time to build, and the entire capacity of a national construction industry cannot increase its physical housing stock by more than, say, five percent a year, and usually by much less. Thus, while the long run elasticity of supply of shelter (structures) is very high, the short run elasticity is low, although this elasticity may be higher in smaller areas.

Within the overall parameters of population and housing stock, translation of these figures into supply and demand for housing depends on a number of factors. Some of these are cultural influences independent of the housing market itself, but the price of housing may in turn have some effect on these cultural influences, such as the rate of household formation.

(a) *Conversion of overall population into numbers of households.* This depends principally on the age structure of the population: children tend to live in households with adults, older people tend to live in smaller households (as children leave home and partners die). Cultural factors are relevant, particularly the age at which children establish their own households, the degree to which elderly people live with children, and the rate of household dissolution through divorce and relationship breakdown. These cultural factors are, in turn, influenced by economic factors such as house prices and overall income levels.

(b) *The rate of depreciation and obsolescence of the existing housing stock*. Depreciation of the housing stock is of two kinds: physical depreciation, the physical deterioration of housing through time, weather and wear and tear; and economic depreciation, any particular configuration of the housing stock becomes less appropriate, over time, for current needs. Economic depreciation is, in turn, a function of a range of factors
   - other economic change (for example, shifts in the location of industry, changes in the availability of communications or transport)
   - changes in prices of other goods (for example, energy, domestic servants, washing machines) which change the relative attractiveness of different houses or the cost of housing relative to other goods
   - rising incomes (which raise expectations of, for example, kitchen facilities, ambient temperature)
   - changes in preferences (for example, demand for rural versus urban locations, the identity of glamour locations).

Thus, the rate of economic depreciation will depend on the overall rate of economic growth and on trends in the prices of goods complementary to housing. The rate of economic depreciation will also depend on the average age of the housing stock, which varies substantially across Europe. Finland and Greece have the youngest housing stock in Europe (probably as a result of recent migration to urban areas), followed by the Netherlands, whose stock suffered extensive wartime damage. The UK has the oldest housing stock. Eastern Germany and the ex-communist accession states have inherited a housing stock prone to particularly rapid depreciation in both physical and economic terms.

(c) *Demand for second homes.* This depends on income inequality and cultural preferences. Many Scandinavian households have small summer cottages. Country residences are fashionable among affluent Londoners and Parisians (but only affordable by the rich). Few Dutch or German households have second homes in the same country.

(d) *The efficiency of utilisation of the housing stock.* In all countries, houses are empty because of
   - economic obsolescence (see above)
   - inefficiencies in the housing market: difficulties in organising simultaneous sale and purchases for owner occupiers, voids in the rental sector, especially in the social housing sector.

4. The relationship between house prices and the price of housing services

If a home provides a stream of services fixed in value relative to the general price index and not subject to depreciation, then the value of that house is the value of that stream of housing services capitalised at the long term real interest rate. Thus the long term real interest is a key influence on the appropriate level of house prices.

The recent rise in house prices should therefore be seen in the context of a substantial rise in the price of other assets, including the most directly comparable asset class: long-dated indexed bonds. In the UK, the earliest and largest issuer of these securities, real yields have fallen from around four percent in the mid-1990s to below two percent today. The UK market has been influenced by some technical factors connected with the funding of pension schemes, but there have also been substantial rises in the prices of long-dated indexed securities in other countries, including the US – where Treasury Inflation-Protected Securities (TIPS) were first issued in 1997 – and in the principal eurozone issuer, France.[2] The first French long-dated bond was issued in September 1998 to return 3.4 percent, and the yield on these securities has since fallen to 2.4 percent. This factor alone is sufficient to explain most of the rise in French house prices over the period.

Indexed bonds are appropriately classed as riskless assets because these securities allow complete hedging of a desired consumption stream. However the price of these securities has proved volatile in practice,[3] and this volatility translates into uncertainty about the appropriate level of house prices. The yields obtainable on indexed bonds during the late 1990s seem high relative not only to current yields but to conventional expectations of long-term interest rates, including historic bond yields in periods of low inflation. This may be attributable to unrealistic expectations of future equity returns during the stock market bubble associated with the "new economy".

The future prospects for long-term interest rates depend in large measure on the range of investment opportunities and supply of savings in the world

[2] The first French issues were linked to the French price level. Some more recent issues are tied to European inflation.
[3] If there were undated indexed bonds, their price would have been more volatile still. The real present value of the repayment on a conventional 30 year bond is low because it is fixed in nominal terms, but that of a 30 year indexed bond, which is fixed in real terms, is substantially higher.

economy. The most important influences on these in the short term are the large US budget deficit, aggravated by the deterioration in the fiscal position of European economies associated with the failure to observe the Stability and Growth Pact, the substantial savings being generated in East Asia and the investment opportunities generated by rapid economic growth in India and China. On the other hand, any resolution of the problem of US fiscal and trade imbalances would be likely to lead to an increase in savings and to greater demand for risk-free assets.

The housing market, however, is dominated by unsophisticated investors whose views on interest rates may be little influenced by fundamental factors in the world economy. Although it is these fundamental factors that underpin the long-term trend of house prices, short-term movements will be more affected by household expectations of interest rates, which will in turn be influenced by the rates at which mortgages are advertised. It is striking that the three European countries with the largest recent increases in house prices – Ireland, Spain and the United Kingdom – are countries in which mortgage finance is principally related to short-term interest rates. In the two eurozone members, these rates continue to be very low. In the UK, the state of the housing market has been a major influence on decisions by the Bank of England to raise interest rates. The relationship between fixed and variable rate mortgage finance and the housing market is a major issue in the conduct of European monetary policy (Miles 2004).

5. The characteristics of houses versus bonds

Houses do, however, differ significantly from indexed bonds in their characteristic as assets. The most important of these differences are risk, tax, physical depreciation (through wear and tear for a house, through impending maturity for a bond), economic growth, economic depreciation or appreciation, transactions and agency costs. We consider each of these elements in turn. We do so for three types of houses – one owned outright, one owned with a 75 percent mortgage, and one owned for letting. We compare these asset characteristics with those not only of indexed bonds but also relative to commercial property – retail, office and industrial and equities. For concreteness, we suggest specific values for the differences in yield which might follow from the differences between the characteristics of the asset classes. These numbers are essentially illustrative, and alternative values can readily be substituted in Table 5.2.

5.1 Risk

Within the capital asset pricing model, equities are normally treated as the dominant asset class – risk is measured relative to a market equity portfolio. A current consensus puts the equity risk premium in the range 300–500 basis points (see, for example, Dimson, Marsh and Staunton 2002) All property asset classes are correlated with equity prices, but not perfectly, and property price movements show lower amplitude than equity prices. We set the risk premium at four percent for equities and two percent for rented property.

The position of owner occupiers is more complex. It is difficult to construct a well diversified portfolio if, as is true for most owner occupiers, one single element accounts for more than 100 percent of net assets. But this is not necessarily the correct perspective since a house acts as a hedge against future housing costs. This hedge may be very attractive, since the house is the one the occupier has selected to live in. We assume no risk premium for a house owned outright.

A purchaser with a mortgage is exposed to greater risk. Interest and repayment of capital are defined in nominal terms, but the income stream from which repayments are made will move broadly in line with inflation, as will the value of the asset – the house – against which the loan is secured. Higher than expected inflation helps wipe out the value of the debt, while falling inflation – as in the 1990s – can mean that borrowing to finance home ownership may be more burdensome than anticipated. If interest rates are variable the home buyer is exposed to uncertainty about the nominal value of repayments; if interest rates are fixed, the home buyer is exposed to uncertainty about their real value. However, the lack of interest in inflation-linked mortgages suggests that this risk is not perceived as very large. We set the premium associated with this inflation-related risk, rather arbitrarily, at one percent.

5.2 Tax

The tax position varies across EU member states. However investors in property and equities are normally subject to a tax on income and capital gains from these assets. The tax is generally levied on nominal income, although there may be some relief for

capital gains. We have put tax at 100–200 basis points for all these assets.

Some countries impose tax on the imputed income from owner occupation, but many do not and where tax is charged its basis is rarely onerous. Tax relief is frequently denied or limited on interest paid on mortgage borrowing. Capital gains tax is not generally paid by owner occupiers. We have set the tax at zero for property owned outright and one percent for owner occupiers with a 75 percent mortgage. The most usual tax treatment of indexed bonds is that the coupon is taxed but not the indexation of principal. Tax here is estimated at 1/2 percent.

5.3 Economic growth

As a first approximation, rents and profits may be expected to rise in line with overall economic growth. It is not obvious whether output or per capita output is more relevant. This figure has been set at 2 percent.

5.4 Physical and economic depreciation

Physical depreciation is the expenditure required to maintain the physical characteristics of an asset. Economic depreciation is the decline (or appreciation) of the value of an existing asset with unchanged physical characteristics relative to newly produced versions of that asset class.

Equities suffer no physical depreciation, but do experience economic depreciation because established companies must continually give way to new ones, and therefore (unless the overall profit share increases) the profits of a fixed population of companies will decline relative to national income. This economic depreciation is set at one percent. Although actual indexed bonds depreciate (because having been issued at higher historic levels of real interest rates they generally stand at premia to their issue price in real terms), the comparison made here is with hypothetical perpetual bonds.

For office and industrial properties, physical and economic depreciation should be viewed together. These structures are generally replaced before the end of their physical lives because they can no longer be economically adapted to changing business needs. The combined effect is set here at five percent. Shops depreciate less than other commercial properties because much of their value lies in site rather than structure.

Physical depreciation of houses relates to structures but not land. In addition, houses are likely to experience economic appreciation because of increased pressure on a relatively fixed supply of non-shelter characteristics as incomes rise. Moreover, while modern industrial and office buildings are in almost all cases preferred to older industrial and office properties, traditional characteristics of houses are often positively valued. Taking all these factors together, physical depreciation of two percent and economic depreciation of zero is assumed for housing.

5.5 Transaction costs

These comprise taxes on property and share transactions, legal costs, agency and brokerage fees, and bid–offer spreads. Such charges vary considerably across European countries. Amortised over a period of years, these costs are set at one percent for all property. Transactions costs are much lower for equities but turnover much higher, and one percent is used here also. Transactions costs for indexed bonds are negligible.

5.6 Agency costs

Agency costs are associated with property management and more broadly with the information asymmetries and moral hazards of the type that owner occupation avoids but are inescapable whenever ownership and control of assets are in the hands of distinct parties. Agency costs are set at one percent for all assets except owner-occupied houses and indexed bonds.

For owner occupied property, the "required yield" of Table 5.2 equates to the price of housing services required in the measurement of the cost of accommodation in Table 5.1. This figure equates to about 10 percent of total household expenditure. There is no "natural" figure for this ratio. But such a figure is not unmanageable in relation to overall household budgets. None of the other "required yields" in Table 5.2 are obviously anomalous. These required yields are towards the upper end of the range of yields currently available for these asset classes in European markets, suggesting, plausibly, that most assets are currently somewhat expensive.

An analysis of this sort cannot hope to give a "correct" value for house prices. But some provisional conclusions can be drawn.

a) The price of housing services is sensitive to quite small changes in the assumptions of Table 5.2 and

Table 5.2

Required adjustments to returns for housing and other assets relative to indexed bonds (basis points)

	Housing, owned outright	House, 75% mortgage	Housing, tenanted	Shops	Offices	Ind. Property	Equities
Risk	0	100	200	200	200	200	400
Tax	0	100	150	150	150	150	150
Growth	-200	-200	-200	-200	-200	-200	-200
Physical and economic depreciation	200	200	200	300	500	500	100
Transactions costs	100	100	100	100	100	100	100
Agency costs	0	0	100	100	100	100	100
Total	100	75[1)]	550	650	850	850	650
Post tax real yield on indexed bonds	150	150	150	150	150	150	150
Required yield	250	225	700	800	1000	1000	800

Note: [1)] 25% of 300

Source: EEAG.

to changes in the economic environment. The range of house prices that could be justified by reference to fundamental values is therefore quite wide. House prices may therefore be expected to be volatile around their long-term trend, and there is sufficient uncertainty about that trend for it to be difficult to identify clearly either over or under valuation.

b) The fundamental value of house prices in the long run is particularly sensitive to the level of long term real interest rates. It should therefore not be surprising that the substantial reduction in real interest rates from 1997 has been followed by significant house price increases. There is no discussion of a "bubble" in indexed bonds: indeed the yields which were available on such bonds until the late 1990s seem very high relative to historic experience, reflecting unrealistic expectations of returns from equities as a result of the very real "bubble" in stock markets. Current real yields are more consistent with bond yields experienced in non inflationary times.

c) Following from this, the strength of house prices is not surprising given the extent of gains in almost all other asset markets. Even in the UK, which has (apart from Ireland) experienced the most rapid increases, it was only in 2004 – after four years in which the trend of equity markets was down and that of houses strongly upwards – that house price increases matched share price increases after the cyclical lows established in 1982.

d) There is no evidence of a 'bubble' in the housing market comparable to the 'bubble' in technology stocks in 1999-2000, or that in Japanese equities in 1985–89. In both these episodes, prices became divorced from any realistic calculation of the potential earnings capacity of the underlying asset and purchasers were principally motivated by the expectation that the paper they purchased could rapidly be sold at a higher price to someone else. House prices may currently be expensive but are not fantastic, and most purchasers of houses make these purchases with the intention of enjoying the services of the properties they buy.

6. Tenure choice

There are large variations across Europe in tenure choice. In Britain and Spain, over 70 percent of houses are owner-occupied, but this figure is below half in Germany and Switzerland. The countries with high rates of owner occupation have experience of both rapid and volatile inflation. High inflation tends to increase the tax benefits of owner occupation because the nominal yield on assets is taxable, and so the effective tax rate on real returns increases. The tax advantage has this character because "imputed income" from housing is tax free or lightly taxed; the tax burden is lower if the owner and occupier are the same person and is greater at higher inflation rates. This tax advantage is increased if nominal mortgage interest payments are wholly or partly tax deductible, and if capital gains by owner occupiers are tax free. Volatile inflation increases the hedging benefits from owner occupation (although it also increases the risks to which mortgage borrowers who match a nominal repayment stream with a real income stream are exposed).

However, as is evident from Table 5.2, owner occupation is generally economically more attractive than

tenancy, offering tax advantages and eliminating agency costs. Against this, transactions costs are lower in the rental sector for people who move frequently, and gaps in the credit market may make owner occupation difficult for some households. There will always be some low-income households that are unattractive to any lender. Often, these householders will not be sought after as tenants either. This market segment is handled everywhere through social housing.

Because mortgage lending is offered on much more attractive terms than other consumer lending, household cash flow profiles are substantially influenced by the practices of mortgage lenders. This was particularly important during the period of rapid inflation (and associated high nominal interest rates), when initial mortgage repayments were high but fell rapidly in real terms because repayments were nominally fixed in nominal values for the term of the mortgage. Today, initial repayments are lower (relative to the size of the mortgage) but decline much more slowly over the life of the mortgage. Thus nominal interest declines are likely to have had an influence on prices as well as drops in real interest rates.

A further complication arises through the calculation of depreciation in the owner occupier segment. While a house may have an indefinite life, its owner occupiers do not: in this sense an owner-occupied house may be perceived as a depreciating asset.

There are two extreme assumptions:

- Households behave as if they live forever, if not literally then in the shoes of their children/grandchildren
- Households regard their house as worthless on the death of the last partner.

In the latter case, such households should aim to die with zero net assets. It does not appear that many households do this, which suggests that the first assumption may be closer to the truth, although it may also reflect the limitations of institutional arrangements allowing old people to realise the capital locked into their houses. People can sell their houses and rent equivalent property with the proceeds of a purchased annuity, but this is not particularly attractive either logistically or financially. There are schemes of equity release that allow people to borrow against the security of their house with repayment at death. Other schemes involve sale with life tenancy.

7. The future of house prices

The behaviour of technology stocks in the period 1997–2000 represented one of the largest speculative bubbles in history, ranking along with Japanese stocks and real estate in the 1980s, Florida land speculation in the 1920s, railways and railroad booms in the nineteenth century, and Dutch tulip mania. It is this recent experience that causes talk of a housing "bubble". There is no such bubble in the European housing market. There may be an element of overvaluation, although that is not clear either.

This does not mean that expectations do not have an influence on house prices. They do, and from the analysis of Table 5.2, they should. There is clear evidence from the United States that expectations have been unreasonable, and this has an upward impact on current prices which will some day be removed.

In common with other markets that have speculative influences, house prices exhibit a pattern of positive serial correlation in the short run and mean reversion in the long run. Specifically, this means that if prices rose last month, then they are more than averagely likely to rise next month – but that if sufficiently long-time scales are examined, periods in which prices rise by more than the long-term trend are followed by periods in which prices rise by less than the long-term trend.

The reason this information is even less useful than it sounds is that while such patterns can be identified with hindsight, the interval at which the short run becomes the long run is not fixed. Therefore while it is possible to assert with considerable confidence that the current period of rapid house price inflation will be followed by a period of slow or even negative house price rises, there is no good way of predicting whether that period will start tomorrow or in three years' time. And from the perspective of someone who is thinking of buying a house today – and seeks an answer to the question – that difference is crucial.

The available data does not allow us to make confident statements about the relative levels of prices in different European countries. This is an important question, and European agencies should undertake the data collection which would make it possible. There is some evidence of convergence during the house price boom. For example, the gap

between apparently high prices in Germany and significantly lower prices in the Netherlands has narrowed, and Ireland and Spain, with particularly rapid rises, seem to have started from a low base. But this reflects processes of internal adjustment within the countries themselves rather than the convergence at the level of Europe, or the eurozone, as a whole.

8. Conclusions

1. The level of house prices in Europe today is not manifestly out of line with fundamental values. House prices at current levels do not impose demands on household budgets which are unsustainable, nor do they seem substantially inconsistent with valuations currently applied to other assets.

2. The range of uncertainty about the "correct" level of house prices is very wide. House prices will continue to be volatile and it is possible, but not at all certain, that from a long term perspective current values will appear high.

3. The present period of rapidly rising house prices will be followed by a period in which house prices rise very slowly and may even fall. Such a period might be about to start, it may have already started, or it may not.

4. People who make confident projections of future house price trends ("house price inflation will slow later this year", '"house prices are 20 percent overvalued") have no scientific basis for the knowledge they claim. But they may be right anyway.

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12:15 **Challenges for European Economic Policy**
Bernd Pfaffenbach, Undersecretary of State,
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12:45 Discussion

13:15 **Global Economic Outlook**
John Llewellyn, Lehman Brothers, New York

13:45 **The European Economy**
Hans-Werner Sinn, Ifo Institute, Munich

14:15 **Threats to Eurozone Economic Stability**
David Walton, Goldman Sachs, London

14:45 Discussion

15:45 Coffee break

16:15 **Turkey**
Fatih Özatay, Central Bank of Turkey, Istanbul

16:40 **Central and Eastern Europe**
Michael Landesmann, WIIW, Vienna

17:05 **PR China**
Stefan Schilbe, HSBC Trinkaus & Burkhardt,
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17:30 General discussion

19:30 Dinner at the British Embassy

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9:00 **Welcome and Introduction**
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9:10 **European Institutional Framework-Unleashing Economic Growth**
Horst Reichenbach, Director General,
DG Enterprise, Brussels

9:40 Discussion

10:10 Coffee break

Major European Industries

10:25 **Overview**
Sebastian de-Ramon,
Cambridge Econometrics, Cambridge

10:50 **Steel Industry**
Jeroen Vermeij, Corus, IJmuiden

11:10 **Chemical Industry**
Peter Claes, FEDICHEM, Brussels

11:30 **Mechanical Engineering**
Stephen Radley, EEF, London

11:50 **Automotive Industry**
Peter Wells, Center for Automotive
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12:10 **Computers & Telecommunications**
Axel Pols, Bitkom, Berlin

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