SUMMARY

The European Economic Advisory Group was established in 2001 and produced its first report on the European economy in 2002. This report is thus the sixth one of the group. Like that of last year, the report consists of two parts: one dealing with short-term macroeconomic issues and the other with longer-term ones.

The first part of the report contains three chapters.

- *Chapter 1* provides a macroeconomic outlook and discusses fiscal and monetary policy options for the euro area. The forecast is one of a mild slow-down in the world economy and a slower – but continued – recovery in the European economy. The need for further fiscal consolidation in the EU countries and for a restructuring of government expenditures in favour of government investment, R&D and education is stressed. A special section analyses how well the common monetary policy has fitted individual countries. The upshot is that there are considerable stabilisation policy costs which have not fallen over time.
- *Chapter 2* analyses macroeconomic adjustment within the euro area. The focus is on the adjustment problems in Ireland (which has had a booming economy) and Italy (which has instead been exposed to strong contractionary shocks). The analysis stresses how adjustment processes may be much more complex than was believed earlier. One reason is asset price dynamics. Another is that supply-side adjustment mechanisms, such as labour migration, may also have demand effects. A key conclusion is that deregulations that enhance productivity growth may be a key adjustment mechanism in the medium term for a country – like Italy – that needs to improve its competitiveness.
- *Chapter 3* examines how well the ten member states that entered the EU in 2004 have been doing. It is a follow-up of earlier extensive analyses in our 2004 report. The finding is that the growth performance of the EU-10 has been very good in general. The chapter warns about the dangers of keep-

ing those countries that have entered the ERM II outside the monetary union and proposes a rebate with respect to the inflation criterion for joining the euro for fast-growing countries that are catching up with the old EU countries. The chapter also assesses the current economic situation of Bulgaria and Romania, who acceded to the EU on 1 January this year.

Much of the European policy debate is about what economic model Europe should opt for. The issue is often cast as a choice between a market-liberal, Anglo-Saxon model, providing economic efficiency at the cost of low social protection, and a social European model, delivering equity but at a high cost in terms of efficiency. Chapters 4 to 6 provide in-depth analyses of various aspects of this choice.

- *Chapter 4* looks in detail at the macroeconomic performance of Denmark, Finland and Sweden. Finland and Sweden have achieved high output growth but less satisfactory employment growth. Denmark has been less successful in terms of output growth, but labour market performance has been impressive. The question is whether the Scandinavian economic model represents a role model for the rest of Europe that is able to combine economic efficiency with social justice. The conclusion is that the Scandinavian experiences show that an improvement of macroeconomic performance in European countries requires market-liberal reforms, but that already limited reforms can produce significant results, still leaving in place a system very different from the Anglo-Saxon ones.
- *Chapter 5* analyses corporate taxation within the EU and asks whether the new EU states expose the old ones to unfair tax competition. Various policy approaches are discussed. The chapter recommends an increase in VAT and a reduction in labour income taxes as a way of "simulating" an efficient destination-based tax on corporate profits.
- *Chapter 6* provides an in-depth analysis of the phenomenon of economic nationalism, as practiced by many governments in the EU, for example in the form of opposition to cross-border mergers, promotion of national champions and bailing out of

domestic firms. Even though such measures usually are very inefficient ways of achieving national objectives, they still have been employed. The chapter finds public ownership – both full and partial – of firms to be a key factor behind harmful nationalistic interventions in the economy. The best way to deal with economic nationalism would be to severely restrict the degree of public ownership. Coordinated deregulation across the EU may also be a necessary prerequisite for countries to deregulate sufficiently.

Chapter 1: Macroeconomic outlook and policy

With a growth rate of 5.1 percent for world GDP, the world economy expanded almost as fast in 2006 as in 2004, the year of the highest growth since 1973. Especially the integration of fast growing, emerging economies like China, India, Russia and Eastern Europe into the world trading system has brought this about. High profits, booming asset markets and low long-term interest rates were also important contributing factors. The oil price increases during the first part of 2006 restrained growth only marginally.

The world economy has just surpassed its peak and will decelerate somewhat during the next few months. Most likely, the slowdown will be temporary and modest: we expect a world economic growth of slightly below 5 percent both this and next year.

In 2006, economic dynamism shifted from the US towards Europe. After approximately three years of high growth, the *US* economy started to cool down markedly last year. A key factor is falling residential construction. Partly due to the real depreciation of the dollar, US economic growth will begin to speed up again from the second half of 2007. After growth of 3.4 percent last year, GDP will grow by 2.5 percent in 2007 and 2.8 percent in 2008. The current account deficit will shrink slowly, after having increased to 6.6 percent of GDP last year.

In *Japan*, a reduction in private consumption was not fully compensated by stronger investment and export performances in 2006 and led to a slower pace of recovery than in 2005. Private consumption will pick up again in 2007, mainly due to increased firm profits and a tightening of the labour market. On the other hand, the slowdown in the world economy will initially reduce export growth and invest-

ment. Also, reinforced fiscal consolidation efforts will result in a negative growth contribution from public spending. Overall, GDP will grow at 2.0 percent this year and 2.2 percent in 2008. In July 2006, the Bank of Japan made its first interest rate move since September 2001 and thereby signalled its intention to normalise monetary policy. Moderate inflation will allow the bank to continue its course of gradually making monetary policy less expansionary.

The *Chinese* economy continues to grow very dynamically at rates around 10 percent per year. The objective of the government to decrease income disparity between rural and urban areas and the strong rise in retail trade sales suggest that the increases in private consumption will be able to compensate for the somewhat lower export growth. So far, there are no signs that the Chinese economy is overheating. Inflation rates will continue to stay between 1 and 2 percent. During the past year, there was only a small appreciation of the renminbi, by slightly more than 3 percent, against the US dollar. Therefore, foreign exchange reserves continued to increase further, making China the country with the largest foreign exchange reserves in the world.

Developments in Europe

The economic recovery in the EU continued to gather pace last year. With a rate of 2.9 percent in 2006, the EU recorded the highest GDP growth since 2000. Growth was somewhat weaker in the second half of the year. Aggregate output in the EU is expected to grow by 2.2 percent in 2007 and 2.5 percent in 2008. The growth gap between Europe and Japan, on the one hand, and the US, on the other, will almost disappear this year, basically because growth in the US will decelerate significantly.

The recovery in the European economy in 2006 was largely driven by domestic demand. Private consumption increased notably almost everywhere. Improved labour market conditions and higher wages were the main causes. Another important factor behind demand growth last year was private investment. However, the somewhat weaker outlook for the world economy had some negative effects on the propensity to invest during the second half of last year. Therefore, we expect investment in the EU to grow at a somewhat more moderate pace of approximately 4 percent in this and the next year.

Not only investment, but also foreign demand in the EU developed somewhat weaker in the second than in the first half of 2006. This development will continue during the first part of 2007 with the consequence that net exports will contribute negatively to GDP growth this year. In 2008, the stronger world economy will reverse this.

Higher employment growth during especially the first half of 2006 caused the unemployment rate in the EU to fall to 7.9 percent in 2006. Over the coming two years, the labour market situation will improve further, albeit at a considerably slower pace.

As the output gap closed, upholding the wage moderation that has characterised many European countries in the past few years became more difficult in 2006. Nevertheless, an average nominal wage increase in the euro area of 1.9 percent last year was still moderate.

Despite further increases in the oil price in the first half of last year, no significant inflation pressure arose. Consumer prices rose by 2.2 percent in 2006. With inflation rates of 2.2 and 1.9 percent in 2007 and 2008, price increases in the EU will also remain moderate. The higher inflation in 2007 than in 2008 can be explained by the German VAT increase, which will contribute $1/4$ percentage points to inflation in the EU this year.

Fiscal policy

Business cycle developments have supplied the tailwind for fiscal consolidation in many European countries. Nevertheless, the overall fiscal deficit of the EU states as a share of GDP fell by only 0.3 percentage points last year and a further reduction of only 0.4 percentage points is forecasted for this year, bringing it down to 1.6 percent of GDP. Whereas last year the entire deficit reduction was due to the working of automatic stabilisers, that is increased tax revenues and lower social security spending caused by improved income and labour market conditions, this year two thirds of the reduction reflects structural improvements.

Given the future budget pressures from demographic developments, the current reductions in budget deficits are clearly insufficient. The still relaxed attitude of politicians towards the long-run fiscal situation in Europe continues to be worrying. Indeed, the cyclical improvement in fiscal positions in many countries that is now occurring is potentially dangerous, because it may create the illusion that fiscal problems have been overcome and that the revised stability pact is working. There is a large risk that past experiences of insufficient tightening of fiscal policy in upswings are repeated, which will have grave consequences in the next downturn. We recommend that the current cyclical upswing be used for larger fiscal consolidation than is now occurring.

To further economic growth in the long run, governments should reallocate spending to those areas that foster growth, like infrastructure, R&D investment and education. The ten-year Lisbon Strategy – initiated in 2000 – focuses on research and education. With only three years to go until 2010, Europe still is far off its 3 percent of GDP target for R&D spending. With only around 1.9 percent of GDP, R&D spending stood at virtually the same level in 2005 as in 2000. Also education expenditures in the euro area have basically stagnated since 1999. Although the EU countries should not follow any uniform growth strategy, it is clear that at present levels of R&D spending even the more developed part of the EU will not be able to reach the aspired international technology frontiers.

Monetary policy

Since December 2005 the ECB has increased its main refinancing rate in six steps by 1.5 percentage points to a level of 3.5 percent at the end of last year. This, together with an appreciation of around 10 percent of the euro against the dollar, implied more restrictive monetary conditions in the euro area last year. A likely continuing appreciation of the euro, a steady decline in inflation and increasing real interest rates will make overall monetary conditions in the euro area in 2007 even less accommodative than last year.

Not only were monetary conditions in the euro area at the end of last year as restrictive as they have ever been. Also an estimated reaction function of the ECB (a forward-looking Taylor rule) indicates that the actual interest rate is somewhat above target at the moment. Therefore, further increases in the ECB interest rate would not be in line with the bank's past behaviour. For this reason, we have assumed that the ECB will opt for an interest-rate pause, leaving the main refinancing rate at 3.5 percent during 2007 and 2008. But, given the current pronouncements of the bank, additional interest

rate rises are possible, although only higher inflation than earlier expected or stronger macroeconomic developments would justify such a policy. On the other hand, if there were to be stronger fiscal consolidation efforts, this could create room for lower interest rates.

The cost for member countries of the common monetary policy is often discussed. It implies almost by definition that not all member countries are pleased with the course being followed. We provide *stress indicators,* whose evolution over time provides information on the adequacy of the single monetary policy for each of the EMU member countries. Stress in a particular member country is defined as the difference between the actual short-term interest rate and the interest rate that would prevail if that country was able to follow an "optimal" monetary policy. We argue that the actual reaction function of the ECB would be a good description of "optimal" monetary policy at the country level provided that the interest rate could react to country-specific deviations of inflation from the ECB target and country-specific output gaps. Asymmetries in inflation and cyclical output developments across countries will generate differences between the actual interest rate and the interest rate that would be set if the reaction function of the ECB were applied on the national level.

There is no clear trend in absolute stress levels over time, suggesting that there has not been a steady increase in the degree of business cycle synchronisation over the past eight years. This speaks against the argument that the monetary union would automatically reduce differences in cyclical developments among the member countries. But this does not mean that stress levels are constant over time. In particular during 2003 and in the summer of 2005, stress levels were particularly high in the euro area.

From the perspective of an individual country, Ireland in particular is noteworthy. This country shows the highest levels of overall stress, and optimal interest rates would have been considerably higher. On the other hand, the low inflation in Germany would have motivated lower interest rates there if the country had been able to set its own interest rate.

From a European perspective, it appears that policy weights attached by the ECB to developments in the large countries, and in particular to Germany, are lower than would be suggested by their economic size.

On the other hand, developments in small member countries appear to have received more than proportional weights in the monetary policy decisions of the ECB.

Chapter 2: Macroeconomic adjustment in the euro area – the cases of Ireland and Italy

A key issue in the debate about monetary union has concerned how individual economies adjust to country-specific shocks. This chapter takes a closer look at the experiences during the first years with the euro. The analysis focuses on Ireland and Italy. Ireland provides a case study of excessive monetary stimulus. Italy, in contrast, is an example of recessionary shocks from a fall in external demand and adverse productivity developments.

The adjustment problem arises from the presence of nominal and real rigidities that hamper efficient movements in relative prices. If prices and wages were sufficiently flexible, a positive demand shock in one country and a negative one in another would lead to a relative price change: The real exchange rate of the former country vis-à-vis the latter would appreciate, so as to keep employment and output at their natural rates in both countries. With frictions, the short-run responses are instead inefficient output and employment changes as well as misalignment of relative prices.

The adjustment problem stems from the fact that equilibrating movements of prices and the real exchange rate occur only sluggishly over time. This delayed response often causes additional macroeconomic stress, because inflation persistence leads to excessive real appreciation and overshooting of equilibrium relative prices. Moreover, adjustment does not work symmetrically: Real depreciation in response to a negative shock is typically much slower than real appreciation in the case of a positive shock, and often fails to materialise with the necessary intensity for many years.

This asymmetry implies a general lesson for the countries in the eurozone: the inherent dynamics of adjustment creates a bias towards "competitiveness problems". These are persistent when a country is hit by a negative shock. In economies exposed to expansionary shocks, such problems are likely to appear at the end of booms, as excessive real appreciation may cause a hard landing.

Ireland

In Ireland, labour costs have increased very rapidly in the context of the expansionary monetary and fiscal policy mix of the first years of the euro. So far, because of the Irish specialisation in sectors where demand is highly elastic to growth at the global level, the dynamics of world GDP has prevented a deterioration in export performance. But the strong appreciation of the real exchange rate makes the country vulnerable to changes in the global outlook, creating substantial macroeconomic risk.

Ireland provides an example of how asset prices, especially housing prices, may play a much larger role in the dynamics of adjustment in a monetary union than was understood earlier. Through their impact on housing prices, expansionary monetary conditions can fuel sustained construction booms, which outlast the initial demand shock, and contribute to a cumulative process or real appreciation. In the Irish case, the growth in the housing stock is to some extent a by-product of the convergence process, as the capital–labour ratio approaches the long-run equilibrium level. But the pace and intensity of housing investment have arguably been amplified by monetary stimulus. The strong expansion in the construction sector and the high market valuation of real estate clearly point to the risk of a significant reversal, which could amplify the contractionary effects of real appreciation once a downturn starts.

The Irish case also raises the issue of whether adjustment channels can work in "perverse" ways and move demand in the same direction as the shock. This point has been emphasised early on by the so-called Walters critique of the fixed exchange rates in the ERM. In response to a demand boom, adjustment requires an increase in the price level, although the process is usually delayed by nominal rigidities. This means that, in the short run, expectations of higher inflation – and thus a fall in the real interest rate – can further stimulate aggregate demand. As suggested by the Irish experience, similar considerations may apply to the adjustment via labour migration. Immigration of workers can contain labour shortages in booms, reducing the pressure on wages and prices. Yet, new migrants also increase aggregate expenditures and in particular the demand for new housing.

Italy

In contrast to Ireland, Italy is suffering from sustained contractionary shocks. There has been a fall in external demand – associated with increased competition from emerging market economies in the "traditional" sectors dominating the Italian economy – which appears to have deepened after 2002. An adjustment to these contractionary shocks would require real depreciation. This has not happened. Despite a severe slowdown of growth, real labour costs have continued to increase faster than in other eurozone countries. This, in combination with *negative* productivity growth, has caused a large increase in Italy's relative unit costs. The competitiveness problem has been exacerbated by the strengthening euro.

The crisis has opened a deep divide between sectors that are exposed to external competition and sheltered sectors, which have a much lesser incentive to increase efficiency and lower costs. The problem is that inefficiency and lack of competitive pricing in the latter sectors translate into high costs of producing and innovating for all firms in the economy.

Demand policies are of limited use in the present circumstances. Fiscal policy faces a well-known policy trade-off. A contractionary policy would help gain competitiveness through disinflation but would exacerbate output and employment costs in the short run. The Italian government is currently implementing a small *internal devaluation* through measures that reduce the effective payroll tax rate on non-financial firms (excluding public utilities) by approximately 3 percentage points. This is a step in the right direction, but it is clearly insufficient to address the competitiveness crisis in Italy.

Other measures are likely to be more consequential. In particular, the government could speed up deregulation policies, reducing monopoly power in the sectors of the economy least exposed to international competition. An increase in efficiency and more competitive pricing in these sectors would clearly have large, beneficial effects on the sectors exposed to international competition. The recent experiences in the Italian economy point to the need for reversing the adverse productivity developments, not only to promote long-term growth but also to address the short-run macroeconomic adjustment problems. The experiences from the Scandinavian economies, which are discussed in Chapter 4, show that deregulation policies can be quite effective in generating productivity growth already in the medium term. A general lesson seems to be that policies that work on the productivi-

ty margin may be much more important also for short-run adjustment than was realised earlier.

Chapter 3: The new EU members

In the last three years, EU membership has grown by twelve new countries. In May 2004, ten countries joined and in January 2007 two more countries, Bulgaria and Romania, became members.

The foreign trade performance of the countries that joined the EU in 2004 indicates increased integration with the EU15 countries. Spurring of economic growth has been a second benefit of EU membership, with only Malta and Lithuania as possible exceptions to the pattern. Labour market performance has not, however, been as favourable to the 2004 entrants, as unemployment has fallen only in the Baltic countries, Poland, Slovenia and the Slovak Republic.

Membership in the monetary union

Joining the euro is a longer-term objective for the 2004 entrants. Only Slovenia has so far achieved this goal, having entered the monetary union on 1 January 2007. Membership in the monetary union requires fulfilment of several criteria of macroeconomic stability. These include price and exchange rate stability, low fiscal deficits and government debt, and a low long-term interest rate.

Cyprus, Estonia, Latvia, Lithuania, Malta and the Slovak Republic are currently in the ERM II, and these countries are evidently slated to adopt the euro relatively soon. Apart from inflation, the Baltic countries and the Slovak Republic fulfil the criteria for entry into the monetary union, although the latter country is a border-line case in terms of fiscal deficits. Cyprus and Malta have some problems with the fiscal criteria, and inflation in Malta is fluctuating and thus potentially problematic. Last year, Lithuania's application for membership in the monetary union was turned down and Estonia was advised not to apply. In both cases, too high inflation (around four percent) was the reason for refusal of membership.

The other 2004 entrants do not yet have definite plans to enter the ERM II. Hence their membership in the monetary union will be at least several years in the future. Especially Hungary (with a deficit of around

ten percent of GDP in 2006) but also Poland have difficulties with the fiscal criteria. As regards long-term interest rates, there are significant variations among the 2004 entrants: Hungary clearly fails and Poland is a border-line case.

Strict application of the inflation criterion as a way to postpone entry into the monetary union is creating a potentially vulnerable situation for the Baltic states, Cyprus, Malta, and the Slovak Republic. Requiring both exchange rate stability and low inflation is, in general, problematic because it sets two simultaneous targets for monetary policy. Moreover, the double requirement is particularly problematic for countries that are experiencing rapid growth which raises inflation through the Balassa-Samuelson effect. This effect implies high inflation when high productivity growth in the tradables sector causes high wage increases that spill over to the non-tradables sector and result in substantial price rises there. Given that these countries are growing well, are integrating with the EU and fulfil, or are not far from fulfilling, the EMU criteria apart from inflation, they should be admitted quickly to the eurozone. As the formulation of the inflation criterion in the Maastricht Treaty did not take the entry of fast-growing, catching-up countries into account, we propose that a *Balassa-Samuelson rebate* of up to one percentage point should be added to the inflation criterion when applied to the new member states. Alternatively, one could move from using the inflation in the three EU countries with the lowest inflation to using aggregate euro area inflation as the norm of comparison. With either formulation, both Lithuania and Estonia would have been close to passing the test in 2006.

The Eastern European 2004 entrants all have substantial current account deficits. These are countered to varying degrees by foreign direct investment, which mainly originates from the euro area, Denmark and Sweden. More generally, these countries have significant net foreign liabilities, but the net liabilities take mostly the form of equity liabilities. This reduces short-term vulnerability. Various indicators also show that the 2004 entrants are rapidly improving their financial systems. Stock markets are growing in significance and banking systems are improving in terms of efficiency and risk management. Nevertheless, past experiences in a number of emerging economies with exchange rate pegs have provided vivid illustrations of the risk of capital flow reversals, when a period of overheating and credit expansion associated with large capital inflows has been followed by capital outflows and financial stress. This provides a strong argument

for making the ERM II period as short as possible for the new EU member states.

Bulgaria and Romania

The two most recent EU entrants, Bulgaria and Romania, are the poorest EU countries, with living standards of around 60 percent of the average of the eight Central and Eastern European countries. However, Bulgaria and Romania have been growing well in recent years, though Romanian growth has exhibited substantial fluctuations. Inflation is a major concern for both countries. The two countries have high unemployment and low employment rates, although Bulgarian unemployment has been falling rapidly. With respect to public sector balances, Bulgaria and Romania are doing reasonably well. Both countries are, however, running significant current account deficits. In terms of financial development indicators, the financial sector in Bulgaria appears to be roughly on a par with those of the 2004 entrants. For Romania the values of these indicators are much lower, which suggests that the financial sector in that country is lagging behind those of the other new member countries.

EU membership is likely to bring significant benefits to Bulgaria and Romania in the coming years, though these countries must continue to reform their economies. Overall, the medium-term prospects for Bulgaria are likely to remain favourable, but a boom in domestic credit and a high level of private external debt could lead to a vulnerable situation, as Bulgaria has a currency board arrangement. The medium-term prospects for Romania appear fairly good. Fast credit growth, however, has led to some concerns about potential financial-sector and macroeconomic vulnerability. There are also signs of deteriorating competitiveness due to an appreciation of the currency, strong wage growth and unsatisfactory productivity developments. These concerns imply clear downside risks to the basic medium-term scenario for Romania.

Chapter 4: Scandinavia today: An economic miracle?

In much of the recent European policy discussion, there has been talk of a Scandinavian "economic miracle". The Scandinavian model has been hailed as a role model for others to follow, as it has been perceived to deliver high growth, high employment and macroeconomic stability, at the same time as a generous welfare state provides a high level of social protection.

The chapter assesses macroeconomic developments in Denmark, Finland and Sweden. The perception of the Scandinavian economies in other European countries is often based on insufficient knowledge and too rosy. But it is clear that Scandinavian macroeconomic performance has recently been better than in many eurozone countries, especially the large ones.

Output growth

In terms of output growth, Finland and Sweden have been doing much better than most of the euro area over the last decade. Denmark in contrast has not. But the picture needs to be qualified. Part of the high growth in Finland and Sweden has represented a recovery from unusually deep demand-induced recessions in the first half of the 1990s. Productivity growth has, however, continued at high rates also in recent years, which is in stark contrast to developments in the major euro area countries. Hence, structural factors must also have been at work. High productivity growth seems linked to a larger focus on ICT investment than in most other countries and to larger contributions from both ICT-producing and ICT-using sectors. A well-educated work force – which because of capital-skill complementarity may have made investment into ICT particularly profitable – and high R&D spending are also likely to have been of great importance.

High productivity growth in Finland and Sweden has been associated with relative price declines for exports, implying large terms of trade losses. If output growth is corrected for this, real income developments in Finland and Sweden appear more normal as compared to Continental European countries, and Denmark is more on a par with the two other Scandinavian countries we examine. The implication is that a substantial fraction of the high output growth in Finland and Sweden has benefited consumers elsewhere.

There is considerable support for the hypothesis that extensive deregulation in product and service markets has been important for productivity growth in the Scandinavian countries. The current level of regulation is lower than in most euro area countries, although not quite as low as in Anglo-Saxon countries. The change in the amount of regulation over the last two decades has not been larger than in the euro area, but deregulation steps were earlier and are therefore likely to have contributed more to productivity growth in the past decade.

Labour market developments

Employment rates (employment relative to working-age population) in Denmark and Sweden are among the highest in the OECD area and somewhat lower in Finland (higher than in most euro area countries but lower than in Anglo-Saxon countries). The largest contributions to higher overall employment than in the eurozone come from higher employment of females and elderly. Denmark has also been successful in achieving high youth employment.

To understand the employment-generating capacity of the Scandinavian model, one needs to see how different parts of the system interact. High and progressive taxation discourages work in general, but also finances generous childcare and makes it profitable to split household income between two breadwinners. Together with separate taxation and the absence of dependent spouse deductions, this has promoted high female employment. A fairly high degree of coordination of wage bargaining may also have helped restrain wages despite high unionisation, high taxes and generous unemployment benefits.

Although the reductions in unemployment relative to the peak years in the early 1990s have been substantial in all three Scandinavian countries, only part of the earlier unemployment rises have been recovered. Denmark has been particularly successful in reducing unemployment and raising employment. In much of the European policy debate, this has been attributed to the Danish *flexicurity* model, which combines low employment protection, providing high flexibility, with generous unemployment benefits, providing high social protection. Emulating Danish flexicurity has come to be a standard prescription for the Continental European countries. Unfortunately, the success of this particular policy mix is largely a myth. There is not much serious research suggesting that low employment protection is a main cause of low unemployment, but there is plenty of research suggesting that generous unemployment insurance contributes to high unemployment. What has occurred in Denmark are significant *reductions* in the generosity of unemployment benefits and *increases* in the requirements on the unemployed. In contrast, there has not been much change in employment protection: it remains more or less the same as in the late 1970s and the 1980s when unemployment was very high.

The Scandinavian model is less successful in generating many hours worked than in generating high employment rates. Total hours worked (at least as reported) are higher than in most euro area countries but significantly lower than in non-European OECD countries like the US. In Sweden, this reflects to a large extent high sickness absence, which rose when unemployment fell in the late 1990s. This suggests that there may be a substantial amount of concealed unemployment in other social insurance systems. Indeed, benefit dependency rates are high in the Scandinavian countries and have not come down much from the mid-1990s.

Policy lessons

Does the Scandinavian model represent a viable alternative to the Anglo-Saxon model? It is true that high employment and high output growth have been achieved with much higher social protection than in the Anglo-Saxon countries. A well-educated work force is likely to have been an important contributing factor. But it is also true that recent improvements in macroeconomic performance in the Scandinavian countries have been associated with limited – but yet clear – steps in a market-liberal (Anglo-Saxon) direction. This is obvious in terms of product market deregulations in all three Scandinavian countries. Denmark is an example of how limited reductions in benefit generosity can help reduce structural unemployment very significantly. Sweden up till 2006 provides a contrast: the earlier absence of labour market reforms was associated with more or less unchanged structural unemployment. This may explain why Sweden under a new liberal-conservative government has now embarked on a path of labour market reforms not too different from the earlier Danish ones.

What are the policy lessons for other European countries? It is certainly *not* that macroeconomic performance can be improved without market-liberal reforms. On the contrary, other Continental EU countries would be well advised to reduce their product market regulations to the Scandinavian level and beyond. They would also be well-advised to strengthen work incentives by reducing unemployment benefit replacement rates and increasing the requirements on the non-employed. The Scandinavian experiences offer two main insights here.

• The first is that measured labour market reform can produce substantial employment gains, while at the same time leaving in place a system very

different from the Anglo-Saxon one. Such reform may be required to reduce unemployment once it has risen, even if low unemployment could formerly be sustained with more generous welfare provisions.
• The second insight is that reforms should be broad, that is encompass all social insurance systems, to reduce the risk that reduced benefit generosity in one insurance system only results in an overflow of benefit recipients to other systems.

The Scandinavian experiences also illustrate the "benefits" of having a deep crisis. Denmark, Finland and Sweden all underwent grave fiscal crises in the 1980s or early 1990s. These crises helped form a consensus on the need for sustained fiscal discipline, which has been conducive to fiscal consolidation and pension reform. An important characteristic of the "Scandinavian miracle" may simply be that sharp crises – conflicting with generally held perceptions of the superiority of the own model – offer a more fertile soil for policy change than a creeping crisis (as in France and Germany) or a continuous crisis (as in Italy). The most important policy changes may not necessarily be radical reforms of institutions but rather curbing the excesses that tend to accumulate over time in any system. The Scandinavian experiences highlight the importance of building a consensus on such measured reform.

Chapter 5: Tax competition

Tax competition seems to be taking place in the EU, as member states compete with each other for mobile capital and profit. In particular, corporation tax rates have fallen significantly in the last decade. There is evidence that this has been partly fuelled by more aggressive competition from the EU10, which have substantially lower rates than the EU15.

Surprisingly, corporation tax revenues have held up remarkably well, though there are two different forces at work here. First, aggregate tax revenues have remained high, probably due to higher rates of profit, than in the past. But second, there is evidence that countries that are able to maintain a relatively low tax rate are attractive locations for both capital and profit; hence these countries can generate substantial revenues partly at the expense of other countries. Flows of both capital and profits appear to be highly sensitive to differences in tax rates among countries.

However, continued downward pressure on tax rates must ultimately also depress aggregate revenues. This process of competition raises four questions:

• Does it matter?
• Is it fair?
• Should there be a coordinated response?
• How should individual governments react?

The setting of corporation taxes

Broadly, economic theory suggests that an individual country tends to lose out by taxing the return to capital located in that country. The reason is that, because capital is mobile, its owners will shift their capital to jurisdictions where they earn the best post-tax rate of return. As a result, any taxes levied on capital located in an individual country tend to increase the required pre-tax rate of return there, leaving the post-tax rate of return largely unaffected. This occurs through a process of shifting capital elsewhere, which results in a lower level of economic activity and hence lower overall income for the residents of that country. In addition, the effective burden of the tax is in any case passed on to domestic residents; the owners of the capital do not bear the burden since they continue to receive the same post-tax rate of return.

That suggests that individual countries should not tax the income on capital located within their jurisdictions. This statement has to be qualified, however, insofar as capital needs public infrastructure in order to operate efficiently. Indeed, it is efficient from a single country's perspective to impose a tax on mobile capital equal to the marginal congestion cost (or reduction in the user quality of the infrastructure) that this capital incurs. Thus a capital income tax that has the character of a user fee for the public infrastructure is likely to survive a process of intense tax competition.

In practice, though, governments typically try to tax capital at higher rates than this implies. One reason may be an apparent aim of equity as well as efficiency. A tax on capital income may give the appearance of taxing owners of capital, even if economic theory suggests that the tax does not make them any worse off. Further, EU governments raise two to three percent of GDP from corporation taxes; in practice they are reluctant to forgo such a stream of income.

Since EU member states retain the right to set their own tax rates, it is hard to describe the setting of low tax rates as unfair, even if this causes flows of capital or profit from other countries. This may seem unfair, as the new EU member states with the lowest tax rates are also recipients of grants from the rest of the EU. However, low taxes and grants can be seen as serving the same end: they both attract capital and ultimately reduce the dispersion in standards of living across the EU. So, if one accepts the idea of EU grants to these countries, one should also accept that they impose lower corporation taxes than the old EU states.

A coordinated response within the EU may slow the rate of decline of corporation tax rates but would not end competition. One important reason is simply that there are many countries outside the EU who would not be part of an agreed structure. In any case, coordination would have to encompass the definition of the tax base as well as the tax rate; this would be extremely complex.

The advantage of destination-based taxation

So is there any useful policy available to individual governments? One possible route is to consider *where* the return to capital is taxed. The bulk of taxes on corporate profit are levied on a *source basis* – where the economic activity (for example, production or the head office of multinationals) is located. Such taxes tend to drive that economic activity away, and hence lead to tax competition.

There are two alternatives. A *residence-based tax* could in principle be introduced on the worldwide income either at the level of the head office of a multinational corporation or on its ultimate shareholders. But the former would not solve the problem of tax competition, since head offices themselves are also mobile. The latter is simply not practical; it would require a shareholder individual to be taxed on his share of the retained profit of a non-resident company that may have no economic activity in the shareholder's country. Since the income is not remitted to, and hence not observed by, the shareholder's home country, a tax on it would be impossible to enforce. A capital gains tax based on the valuation of assets held abroad would generate problems of valuation, and also possibly problems of liquidity if introduced on an annual basis.

A more radical idea is a *destination-based tax,* levied where consumers buy goods and services. If such a tax

could be introduced, it would avoid distorting the location of economic productive activity since that would be irrelevant for ultimate tax liabilities. Instead, only the location in which a good or service was purchased would affect tax liabilities. Such a tax would also make intra-company financing and trading irrelevant for tax purposes; only the sale to a final consumer would affect the ultimate tax liability. This would make it much harder for multinational corporations to shift profits between countries. If individual consumers were relatively immobile, competition would be largely avoided.

In fact, introducing a destination-based tax is not as difficult as it might seem, since such a tax almost exists already. VAT is a destination-based tax on value added, and value added is equal to the sum of economic profit and labour income. It would be possible to levy a destination-based tax only on economic profit by increasing the rate of VAT, and making an offsetting reduction in taxes on labour income. Such a tax would be in the interest of an individual country to introduce on its own, since it would tend to attract activity from countries with source-based taxes. And if all countries used such a tax, then tax competition for capital and profit would be largely eliminated.

Chapter 6: Economic nationalism

The Treaty of Rome and subsequent EU treaties insist on the principle that national governments should not discriminate against residents of other member states. Economists claim that such a principle buttresses efficiency; it is inefficient, for example, to favour a national firm in public procurement if a foreign firm can supply the same good at a lower cost.

Yet, we have observed in recent years a number of incidents where individual countries have pursued nationalistic economic policies in a discretionary and selective way despite their pledge. Governments have intervened in financial markets so as to block or modify cross-border mergers involving prominent domestic firms. Attempts to subsidise national champions or to recapitalise and bail out national losers are still common. Such interventions may take several forms: influencing the location of firms, influencing control, political intervention to obtain contracts, state aid, state ownership, influencing technological standards to mention some examples.

The consequences of economic nationalism

Economic nationalism typically benefits private interest groups, often at the expense of consumers. Politicians can derive substantial private rents from nationalistic policies. These rents may be obtained in several ways:

- Buying the support of a political clientele in order to be re-elected.
- Investing in symbolic, visible projects in order to enhance one's own prestige.
- Distributing favours within networks of friends ("crony capitalism").
- The revolving door (securing comfortable fallback positions in large firms for politicians).
- Undercover finance of political parties in exchange for favours.

But economic nationalism may also benefit national residents as a whole, at the expense of foreign residents. The main underlying mechanism is the *transfer effect,* by which national residents benefit from the monopoly rents earned abroad by national firms, while not suffering as consumers. As a result, voters in each country may actually support policies that increase these rents, while aggregate decision-making at a higher level (say the EU) would take into account the welfare of foreign consumers and try to block these policies.

The costs imposed by economic nationalism have several dimensions. The most salient ones are associated with direct control/ownership of commercial firms and/or state aid to these firms. One can cite:

- *Lack of market discipline and poor corporate governance.* A firm that receives state aid has little interest in cutting costs and improving product quality, as losses are expected to be offset by the government. The firm's managers will have little incentive to rationalise production, to recruit workers adequately, to resist pressure for wage increases, and to innovate.
- *Productive inefficiency at the firm level.* Locational, technology and product choices are influenced by political considerations rather than economic efficiency.
- *Distortions in competition.* Government-supported firms can better stand losses as they expect to be bailed out by taxpayers. These firms are given a "deep pocket" from which to claim resources, which allows them a lower cost of capital and

thus the possibility to undercut their rivals even though these rivals may be more efficient. Government-supported firms may also have better access to public infrastructure (airport slots, mail delivery etc.) and an edge in procurement contests.
- *Coordination failures.* The potential benefits of nationalism for a country are offset by the nationalistic policies of competing countries, while its costs in terms of distortions usually remain.

Despite the recent surge in economic nationalism, it is not clear how much of an actual bearing it has on the economy. Powerful counter forces exist. European Single Market rules make many nationalistic interventions illegal or subject to the approval of the European Commission. Business interests lobby actively against policies that meddle with their own managerial decisions. Cross-border merger activity is gathering pace in Europe. 2005 and 2006 witnessed several large value mergers or acquisitions. Economic nationalism may claim some victories in the short term but most likely will be defeated in the long term. This is because of the pressure from Brussels, because of the discipline imposed by international capital markets, and because of the fact that countries may fear retaliation if they shut their borders to cross-border mergers.

Policies to fight economic nationalism

The Commission and the wider public must keep an open eye on the dangers of economic nationalism. The tools of European competition policy are limited because of the different regulatory and ownership structures in different countries. European competition policy can control state aid and may be effective in checking support to national champions, but still cannot overcome regulatory barriers or limit the activities of state-owned firms except under the competition statutes. We propose the following:

1. Regulatory asymmetries should be overcome by harmonisation of regulation, coordination of regulators and the establishment of European regulators. In energy markets, for example, the unbundling of transmission (high-tension grid) and transport (pipelines) should be considered because they are a natural monopoly and the control of these bottlenecks by vertically integrated firms has high exclusionary potential. Interconnection capacity across boundaries

should be managed at the European level since firms and national regulators may not have the right incentives to provide interconnection capacity across countries. In general, a European system of regulators may be a commitment device to avoid opportunism and resist political pressure. A step in the right direction is the recent move to limit the leeway of central banks and national regulators to block foreign takeovers in the banking sector.

2. A debate should be opened about introducing a European rule that would severely restrict indefinite public ownership of corporations – even if it is only partial. Publicly owned firms distort the market for corporate control with severe adverse effects on industry restructuring as a consequence. Public ownership also introduces severe conflicts of interest for governments. Our proposal to radically restrict public ownership in competitive environments would go a long way toward eliminating the incentives for harmful nationalistic intervention. Most of the remaining public ownership today is a remnant of the past that has persisted for no good economic reason.

3. Entry barriers in different EU countries should be lifted simultaneously to avoid the strategic gaming and positioning of large firms and countries that follows from asymmetries in the deregulation process. A country that liberalises earlier than others puts the consumer first, but may give away opportunities for its firms to consolidate their positions and later expand in the deregulated markets in other countries. Coordinated deregulation across the EU may therefore be a necessary prerequisite for countries to deregulate sufficiently.

The european economy: Macroeconomic outlook and policy

1. Introduction

The world economy last year expanded somewhat faster than 2005. Economic dynamism shifted from the US towards Europe. After approximately three years of continued high growth, the US economy started to cool down markedly in 2006. As a consequence, the world economy has surpassed its peak and will decelerate somewhat during the next few months. The present slowdown of world economic growth will be temporary and quite modest. Partly due to the real depreciation of the dollar, US economic growth will start to speed up again from the second half of 2007 onwards.

The economic recovery in the European Union continued to gain pace last year. With a rate of 2.9 percent, the EU recorded the highest GDP growth since 2000. Output in the EU is expected to grow by 2.2 percent in 2007 and 2.5 percent in 2008. The growth gap between Europe and Japan, on the one hand, and the United States, on the other, will almost disappear this year.

The recovery of the European economy is largely driven by domestic demand. In 2006, private consumption increased notably almost everywhere. Improved labour market conditions and higher wages will further stimulate private consumption. Foreign demand began to show a somewhat weaker development during the second half of 2006. This will continue during the first part of 2007 and lead net exports to contribute negatively to GDP growth in 2007. In 2008, the stronger world economy will reverse this.

A topic that is regularly being discussed among ECB watchers is the stabilisation policy cost for individual countries of having a common monetary policy. This almost per definition implies that monetary policy is inappropriate for some countries. This chapter provides stress indicators whose evolution over time shows how adequate the single monetary policy has been over the past eight years for each of the EMU member countries. Especially Ireland and Germany stand out for different reasons. Whereas Ireland shows the highest levels of overall stress and mostly would have preferred to have had higher interest rates, Germany suffered from too high rates. Furthermore, especially Germany appears to have received a lower political weight in monetary policy decisions of the ECB than suggested by its economic weight.

2. The current situation

2.1 The global economy

With a growth rate of 5.1 percent for world GDP, the world economy last year expanded almost as fast as in 2004, the year of the highest growth since 1973. This was due to both structural and business cycle reasons. The trend growth rate of world GDP is, with roughly 4 percent during this decade, about one percentage point higher than during the 1990s. Especially the integration of fast growing emerging regions like China, India, Russia and Eastern Europe into the world trading system has brought this about. On top of that, the world economy in 2006 was in a global upswing for the third year in a row.

World GDP growth was able to keep its high pace due to high company profits, booming asset markets and low long-term interest rates. The oil price increase during the first part of 2006 restrained growth only marginally. In August, the price of crude oil reached a new record of 78 US dollars per barrel. It then sank to a level below 60 dollars at the end of 2006. The price increase substantiated the fears that investments of oil-producing countries to increase their oil supply were insufficient and that supply in the Near East remained insecure due to political tensions. The subsequent fall in the oil price indicates though that these fears have receded over time.

Figure 1.1

Economic growth and Ifo economic climate for the world

% change from previous year   Index 1995=100

■ Real GDP (left-hand scale)

━ Ifo World Economic Climate* (right-hand scale)

2.4% 2.5% 3.9% 3.7% 4.1% 4.2% 2.8% 3.7% 4.9% 2.6% 3.1% 4.1% 5.3% 4.9% 5.1%

92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

* Arithmetic mean of judgement of present and expected economic situation.

Sources: IMF, World Economic Outlook Database September 2006; Ifo World Economic Survey (WES) I/2007.

exceeding their current income for quite some time. Furthermore, since the beginning of 2002 the strong increase in residential investments has by itself contributed on average $1/2$ percentage point to overall annual GDP growth. The strong increase in domestic demand and the large share of the US in world demand m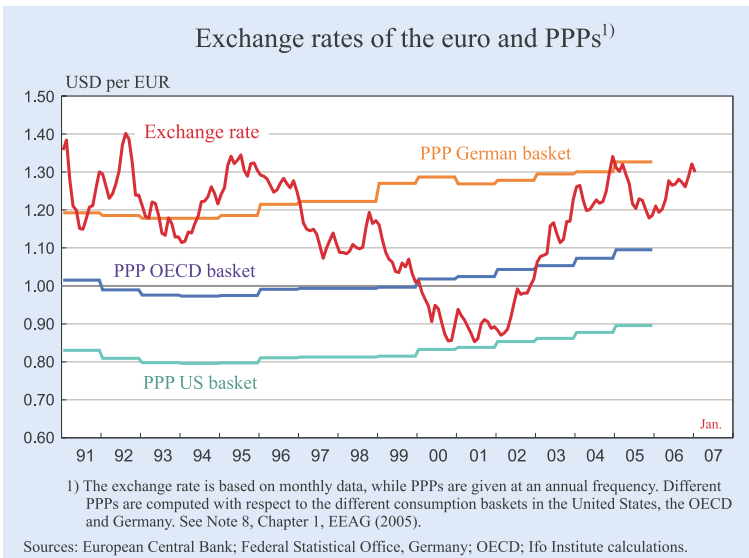ade the US the growth engine of the world economy. The long expected cooling down of the US real estate market last year led to a slowdown of its economy; the effects are already being felt by large parts of the rest of the world.

As Figure 1.1 shows, the Ifo Economic Climate Indicator for the world captures the dynamics of the world economy very well. Although this indicator fell during the second half of 2006, it is still well above its long-run average. The fall in the indicator is only due to reduced confidence with respect to future economic developments. The assessment of the current situation has been improving for five consecutive quarters now. The indicator therefore suggests that the world economy has just surpassed its peak and will decelerate somewhat during the next few months.

2.2 United States

During 2006, economic dynamism shifted from the US towards Europe. After approximately three years of continued high growth, the US economy started to cool down markedly after the first quarter of last year. During the last three quarters of 2006, annualised quarter-to-quarter growth rates of real GDP have been on average below 3 percent after having been at an average of 3.8 percent over the preceding twelve quarters. Mainly domestic factors seem to have caused this slowdown of the US economy. Due to an outstanding first quarter, US GDP growth in 2006 nevertheless reached 3.4 percent (after 3.2 percent in 2005).

The successive increase in short-term interest rates since June 2004 has dampened the real estate market. The boom in the US residential property market, which lasted until the end of 2005, was an important cause of high demand growth in previous years. Strong increases in residential prices since 2003 enabled households to reach consumption levels

According to the Bureau of Economic Analysis (BEA), residential investment already started to decrease during the winter of 2005/2006. Especially from the second quarter of 2006 onwards, the decline has been quite pronounced. Accelerating growth in equipment and software investment as well as in industrial construction since the winter of 2005/2006 was not able to fully compensate for this. Due to increased firm profits and capacity utilisation rates, firms still report a high willingness to invest. Firms possess the necessary financial means and harbour positive sales expectations.

Positive developments in the labour market continued throughout 2006. According to household survey data, employment increased on average by 2.2 percent over the year. The unemployment rate has been falling continuously since mid-2003 and reached 4.5 percent by the end of last year. As a consequence, substantial wage increases occurred during the second half of 2006. Nominal wages in the business sector grew by 7 percent in 2006, which is more than during the new economy boom. In real terms, wages grew by 4 percent as at the end of the last millennium.

Despite the cooling down of real estate markets, private consumption again increased by more than disposable income in 2006. Hence, the savings ratio (personal savings as a percentage of disposable personal income), which turned negative during the first half of 2005, became even more negative (– 1.3 percent in the third quarter of 2006). However, with an annual rate of increase of 3.1 percent, consumption did grow at a somewhat slower pace in 2006 than in the pre-

Figure 1.2

Exchange rates of the euro and PPPs[1]

1) The exchange rate is based on monthly data, while PPPs are given at an annual frequency. Different PPPs are computed with respect to the different consumption baskets in the United States, the OECD and Germany. See Note 8, Chapter 1, EEAG (2005).

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

ceding two years (3.5 percent in 2005 and 3.9 percent in 2004).

The trade balance contributed positively to US growth during the first half of 2006. Exports – in particular those of investment goods, for example airplanes – expanded strongly at the beginning of the year. Subsequently, US exports became considerably less dynamic. In contrast, except for a slowdown in the second quarter, the growth of imports increased in 2006. Consequently, the current account deficit increased even further to 6.6 percent of GDP in 2006. The depreciation of the US dollar by approximately 10 percent during 2006 (see Figure 1.2) has so far hardly affected the trade balance.

The continued increase in the oil price until the summer of 2006 resulted in increased inflationary pressure. At its peak in June 2006, the rate of CPI inflation on a year-to-year basis was 4.3 percent. The subsequent decline in the oil price made inflation fall to 2.0 percent in November 2006. In contrast to 2005, core inflation (that is, the inflation rate corrected for the price developments of the volatile components energy and food) increased over the year, reaching a level of 2.9 percent in September but then fell to 2.6 percent in November and December 2006.

The Federal Reserve continued its policy of gradually raising interest rates – started in June 2004 – until June last year when the Federal Funds rate reached 5.25 percent. After that, the signs of a business cycle slowdown in the US induced the Federal Reserve to stop its policy of interest rate rises.

According to the Congressional Budget Office (CBO), the deficit of the US federal government during the fiscal year 2006 (which ended in September) was reduced by half a percentage point as compared to 2005 and amounted to 1.9 percent of GDP. The most important reasons for this positive development were related to the business cycle; revenues from income and corporate taxes increased strongly by 11.8 percent and more than compensated for the extraordinary expenditure increase by 7.4 percent. The latter was mainly due to increased energy prices, a substantial rise in public health expenditures and the costs incurred by the hurricanes in the second half of 2005. 2006 expenditures to finance the US presence in Iraq and Afghanistan (111 billion US dollars) also clearly exceeded their 2005 level.

2.3 Japan, China and other Asian countries

As indicated by the World Economic Survey, in Japan the business cycle recovery continued at a somewhat

Figure 1.3

Real GDP growth and Ifo economic climate for Japan

* Arithmetic mean of judgement of present and expected economic situation.

Source: OECD; ESRI; Ifo World Economic Survey (WES) I/2007.
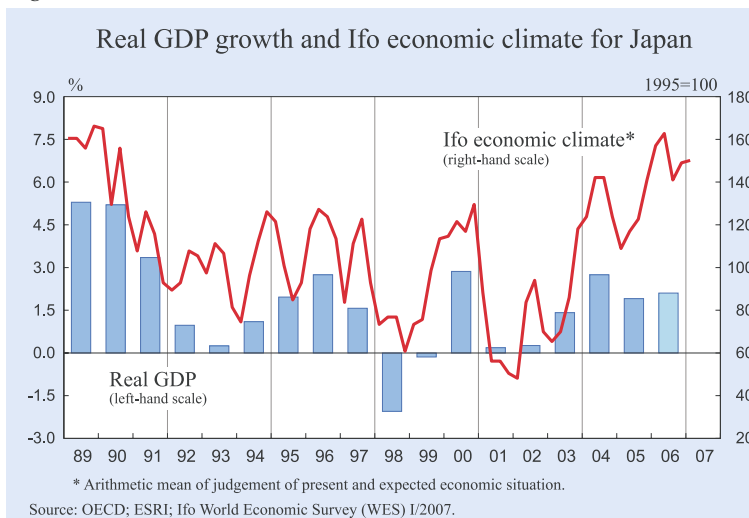
slower pace during the second half of 2006 (see Figure 1.3). In particular, the reduction in private consumption growth contributed negatively to real GDP growth. The main reasons for this retardation were a reduction in the real income of employees and exceptionally bad weather conditions in the third quarter – the quarter of the sharpest decline.

On the other hand, investment and exports became the growth engines. Especially private investment expanded strongly after having experienced only small increases in 2005. The increase in private investment by four percent last year was supported by higher firm profits. Increased exports and subdued imports made the balance contribute 0.8 percentage points to real GDP growth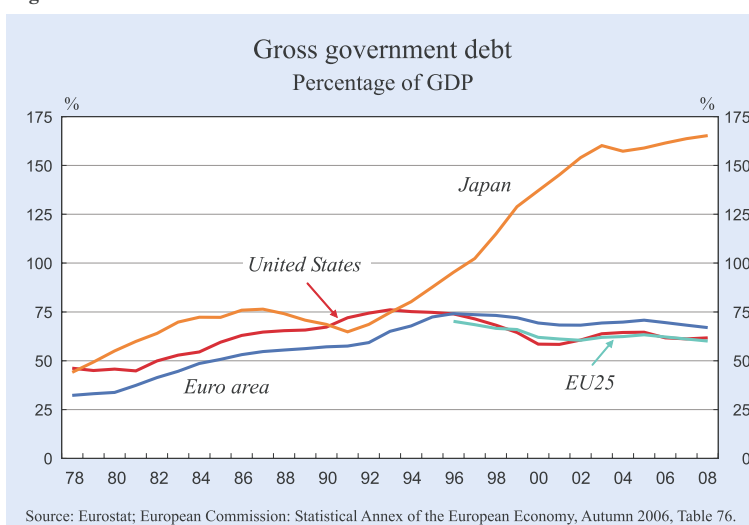 in 2006. According to preliminary estimates, real GDP growth will probably be 2.1 percent in 2006 (after 1.9 percent in 2005). As nominal GDP growth lies below the real growth rate, there still appears to be some deflation in terms of prices of domestically produced goods and services. Nevertheless, as compared to 2005, the problem of deflation has become smaller. The Consumer Price Index – focusing upon domestically consumed goods and services – even increased by 0.3 percent last year. Since early 2003, the unemployment rate has decreased by more than 1^1/$_2$ percentage points to 4.1 percent in July last year, where it has basically remained since.

Figure 1.5

Gross government debt
Percentage of GDP

Source: Eurostat; European Commission: Statistical Annex of the European Economy, Autumn 2006, Table 76.

In July 2006, the Bank of Japan made its first interest rate move since September 2001 and thereby signalled its intention to normalise monetary policy. Since then the average interest rate on the certificates of deposit with a maturity of 180 days to one year has been close to 0.4 percent (see Figure 1.4).

The economic recovery was used by the Japanese government to reduce government spending, which is imperative, given the large (gross) public debt of over 160 percent of GDP (see Figure 1.5). Whereas government consumption only increased slightly last year, public investment experienced a strong decline.

The *Chinese* economy continues to grow very dynamically. On a year-to-year basis, economic growth in China reached a rate of approximately 10^1/$_2$ percent last year and thereby surpassed the upwardly revised figure of 10.2 percent for 2005. Industrial production growth is high, but rates of 20 percent in early 2006 have fallen to close to 15 percent at the end of the year. But then again, the annual growth rate of investment remains at around 30 percent. Especially in the urban areas, construction investment further increased its pace. The strong increase in retail trade sales indicates that also growth in private consumption increased further.

Figure 1.4

Central bank interest rates

Sources: Bank of Japan; European Central Bank; Federal Reserve Bank of St. Louis.
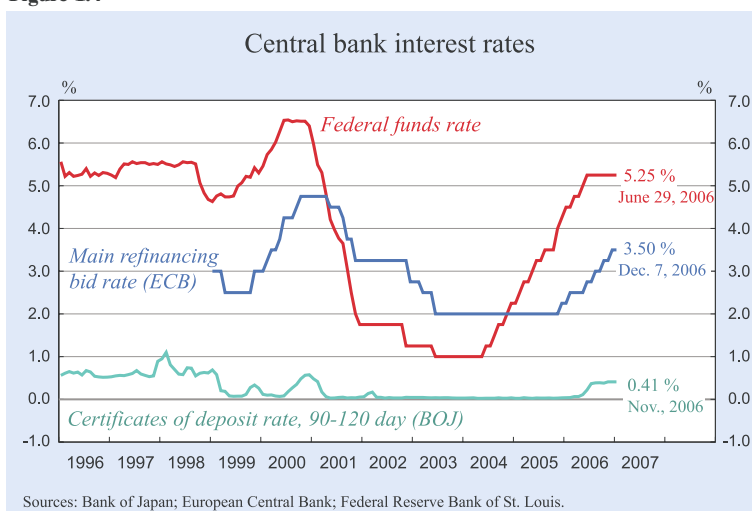
As growth is driven from the supply side and capacity continues to increase rapidly, inflationary pressures remain moderate. The CPI only increased by 1.4 percent during the period from January to November last year as compared to the same period in 2005. Also more restrictive monetary policy played a role here. The Peoples Bank of China raised interest rates for credits with a maturity of one year two times (in April and in August) by in total 54 basis points to a level of 6.12 percent. This was followed by other measures to reduce liquidity in the economy. For instance, the central bank enforced higher down payments for mortgage loans, issued central bank bills to commercial banks that have created excessive loans and increased reserve requirement ratios.

Exports and imports continued to grow at rates of roughly 25 and 20 percent respectively. The trade surplus reached 166 billion US dollars or more than eight percent of GDP in the first three quarters of 2006. Foreign exchange reserves exceeded the 1 trillion US dollar mark in October 2006. This made China, with a share of approximately 20 percent of world reserves, the country with the highest foreign exchange reserves in the world. Despite the move towards an exchange rate regime of managed floating in July 2005, the resulting pressure to revaluate the renminbi has so far not induced much action on the part of Chinese authorities. During last year, only a small appreciation of slightly more than 3 percent against the US dollar took place.

In the other *East Asian* countries, that is *South Korea, Indonesia, Taiwan, Thailand, Malaysia, Singapore and the Philippines,* GDP during the first three quarters of 2006 on average grew by 5 percent in a year-on-year comparison. In the largest country of this group, *South Korea,* a slowdown in growth due to a weakening of private consumption is notable. Overall, the economic expansion in the region was driven by strong export developments. Lower prices of raw materials, especially oil, during the second half of last year contributed to moderate price developments. For that reason no further increases in interest rates occurred in the region.

2.4 The rest of the world

With an average annual rate of GDP growth of 4.8 percent, *Latin America* continued to grow strongly in 2006. The increased raw material prices in the first half of last year and the associated terms of trade improvement for many of the countries in the

region was one important cause. Although increased domestic demand also stimulated imports, the aggregate current account again showed a substantial surplus in 2006. In addition, a less restrictive monetary policy in central economies like *Brazil* and *Mexico* stimulated investment. Based on increased real incomes, private consumption expanded as well.

Cyclical developments in *Russia* remained favourable. After a slow phase at the beginning of 2006, GDP growth picked up again, reaching approximately 6.5 percent on a year-to-year basis. In view of the terms of trade improvements, caused by increased prices of raw material and expansionary fiscal policy, domestic demand turned into the driving force of economic growth. Private consumption increased by 12 percent in 2006. High capacity utilisation rates have induced firms to increase investment expenditures since spring last year. Supported by high oil and gas prices, last year's government budget surplus almost reached the same record level of 7.5 percent of GDP as in 2005.

High growth in Russia also continued to exert a favourable influence in the labour market. The unemployment rate fell to 7.0 percent. After high inflation at the beginning of 2006, inflation pressures were subdued during the rest of the year. The annual rise of the CPI was 9.5 percent in 2006. This was the first annual rise below 10 percent since the fall of the Iron Curtain in 1989.

2.5 The European economy

The economic recovery in the *European Union* that started in mid-2003, but lost some momentum during the winter of 2004/2005, continued to gain pace last year. With a rate of 2.9 percent, the European Union recorded the highest GDP growth since 2000. Annualised quarter-to-quarter GDP growth rates reached a peak of 3.9 percent in the second quarter of last year. As also indicated by the Ifo World Economic Survey, the second half of the year showed somewhat weaker growth (see Figure 1.6). This somewhat reduced growth was mainly due to developments in France, Germany and Italy. The British and Spanish economies continued to grow at similar rates as during the first half of 2006.

Overall, macroeconomic developments in the EU were more uniform during the last few years as compared to the 1990s or the first years of the new millennium. Nevertheless, growth differentials continued

Figure 1.6

Real GDP growth and Ifo economic climate for Western Europe

Ifo economic climate*
(right-hand scale)

Real GDP (EU25) (left-hand scale)

* Arithmetic mean of judgement of present and expected economic situation.
Source: Eurostat; Ifo World Economic Survey (WES) I/2007.

consumption basically stagnated since 2002, it grew by 0.6 percent last year.

A second important pillar of demand growth last year was private investment. Continued low long-term interest rates and improved firm profits led to further increases in growth of both residential investment and investment in machinery and equipment. However, deteriorated outlooks for the world economy started to restrain the willingness to invest somewhat during the second half of last year.

to exist. These were mainly due to different developments in private consumption and residential construction, and to a lesser extent to differences in trade and business investment. In the somewhat faster growing economies like Ireland, Spain and the UK, rising prices in property markets gave rise to wealth effects stimulating private consumption. Consumer credit expanded strongly and the savings rate of private households declined. Further expected increases in real estate prices also stimulated residential investment in these economies.

The recovery in the European economy was largely driven by domestic demand (see Figure 1.7). With the exceptions of Germany, the Netherlands and Portugal, private consumption increased significantly everywhere, mostly reaching growth rates well above 2 percent in 2006. Even in Germany, where private

Not only investment but also foreign demand in the EU began to show a somewhat weaker development during the second half of the year. Nevertheless, exports grew strongly in 2006 by a rate of 8.5 percent. However, as imports also grew strongly, the trade balance only improved marginally (see Figure 1.8).

Accelerating employment growth, especially during the first semester, helped reduce the unemployment rate to 7.9 percent in both the EU and the euro area in 2006. Especially in Poland, Denmark, Germany, France and Spain, the reductions were substantial. The UK was the only EU country where the unemployment rate increased significantly in 2006. Although at the same time employment increased, it was insufficient to absorb the even bigger rise in the UK labour force due to migration (mainly from Eastern Europe) and increased labour force participation.

Figure 1.7

Contribution to GDP growth in the EU25[1]

Seasonally adjusted data

Real GDP

Change in inventories
Foreign balance
Final domestic demand (excl. inventories)

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

Measured by the harmonised consumer price index, headline inflation in the EU reached a peak of 2.4 percent in June last year (see Figure 1.9). After that, it fell back to 2.1 percent in November, as energy prices started falling. Inflation, excluding price changes for energy and unprocessed food, steadily increased to a rate of 1.5 percent during the year; Headline inflation in 2006 ended up at the same rate as the year before: 2.2 percent.

Overall, wages rose somewhat more last year than during the

Figure 1.8

Business cycle developments in the EU25

Private consumption[1]

Billion euros / %

Consumption (left-hand scale)

Current annual rate of change (right-hand scale)

2000 2001 2002 2003 2004 2005 2006

Gross fixed capital formation[1]

Billion euros / %

Capital formation (left-hand scale)

Current annual rate of change (right-hand scale)

2000 2001 2002 2003 2004 2005 2006

Foreign trade[1]

Billion euros / Billion euros

Exports (left-hand scale)

Imports (left-hand scale)

Trade balance (right-hand scale)

2000 2001 2002 2003 2004 2005 2006

1) In constant prices, seasonally adjusted.

Sources: Eurostat; Ifo Institute calculations.

Figure 1.9

Price developments in the EU25

% change over previous year's month

HICP[1]

Core inflation rate[2]

Dec.

1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007

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

two preceding years (see Table 1.1). But with a nominal growth rate of 1.9 percent (compared to an average growth rate of more than 4 percent over all OECD countries), the increase can still be considered moderate. As in the previous years, there were substantial differences among European countries. In Germany and in the Netherlands compensation per employee in the business sector only rose by 0.6 and 1.6 percent, respectively. At the other end of the scale, in Hungary and in Poland, nominal wages increased by 5.8 and 4.7 percent, respectively.

In Germany, unit labour costs have risen by less than in most other European countries since the mid-1990s. The implied real exchange rate depreciation has led t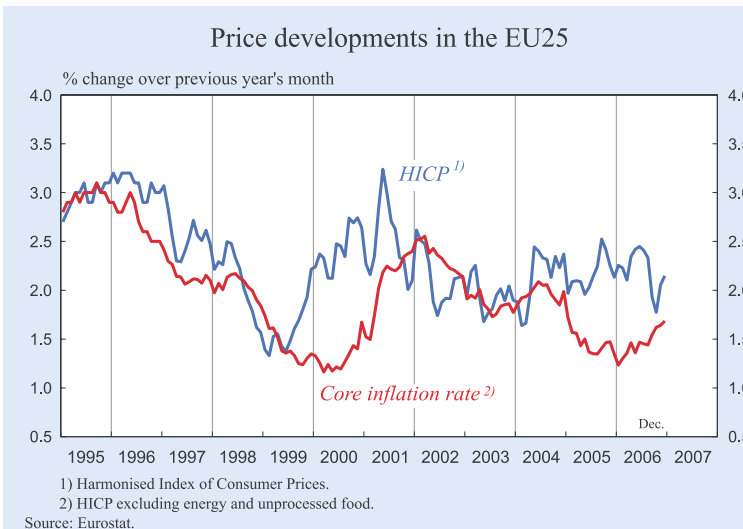o expansionary impulses from foreign trade and has been important for improving the economic outlook for the country. Developments in Germany followed a similar course as earlier developments in the Netherlands and Denmark, which both opted successfully for a strategy of real depreciation via wage moderation in the 1980s.[1] In Sweden and Finland nominal exchange rate depreciation also induced export-led growth in the past (see Chapter 4 of this report).

On the other hand, Italy's and Portugal's relative unit labour costs within the EU have increased markedly. This explains why expansionary impulses from foreign trade have been lacking there for several years. For these countries, the loss of the exchange rate instrument in the monetary union could not – as hoped – be compensated by in-

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[1] See Section 5.3 in Chapter 4 of this report for a discussion of the Danish case.

Table 1.1

The development of various measures of wages and wage costs
Average annual changes in percent

		Nominal wage[a]	Real wage[b]	Labour productivity[c]	Unit labour costs[e]	Relative unit labour costs[d,e]	Export performance[f]
EURO	2003–05	1.6	− 0.4	0.6	1.3	5.1	na
	2006	1.9	0.2	1.2	0.9	− 1.1	na
DE[g]	2003–05	0.6	− 0.2	0.8	− 0.5	− 0.6	− 1.1
	2006	0.6	− 0.1	2.0	− 1.5	− 4.0	1.0
FR	2003–05	3.2	1.4	1.2	1.6	3.6	− 4.9
	2006	3.0	1.3	1.3	1.7	0.2	− 1.4
IT	2003–05	2.0	− 0.7	− 0.3	3.5	4.6	− 6.8
	2006	3.4	1.3	0.2	3.7	2.7	− 4.6
FIN	2003–05	3.1	2.8	2.1	1.1	3.0	− 3.6
	2006	2.6	1.8	3.7	− 0.6	− 1.9	0.3
NETH	2003–05	1.6	0.1	1.7	0.6	2.9	− 1.3
	2006	1.6	0.3	1.9	− 1.0	− 1.6	− 0.7
IRE	2003–05	4.8	2.1	1.4	4.2	5.1	− 2.3
	2006	4.5	1.7	0.9	5.0	− 0.3	− 3.7
ESP	2003–05	3.2	− 0.9	0.5	2.9	2.0	− 2.7
	2006	2.9	− 0.7	0.7	2.5	0.7	− 2.3
UK	2003–05	3.0	0.4	1.6	2.6	0.2	− 2.5
	2006	3.6	1.3	1.7	2.9	1.6	3.8
SWE	2003–05	3.2	1.8	2.8	0.8	− 1.6	0.0
	2006	2.9	1.7	2.6	0.0	0.1	− 1.9
POL	2003–05	1.4	− 1.0	3.4	0.2	− 5.8	3.7
	2006	4.7	4.1	2.2	2.9	− 0.5	3.6
HUN	2003–05	8.0	4.0	4.2	3.9	1.2	3.8
	2006	5.8	2.5	3.7	3.4	− 4.2	3.9
USA	2003–05	3.6	0.9	2.4	1.6	− 5.9	− 2.1
	2006	7.1	4.2	1.9	4.3	− 1.2	− 1.0
JAP	2003–05	0.0	1.4	2.1	− 2.6	− 2.5	0.6
	2006	0.3	1.3	2.5	− 1.0	− 11.4	0.9

[a] Business sector = Total economy less the public sector. − [b] Nominal wage deflated by GDP Deflator. − [c] Total economy. − [d] Manufacturing sector. − [e] Competitiveness– weighted relative unit labour costs in dollar terms. − [f] Difference between growth rates of export volumes and export markets for total goods and services. A positive number indicates gains in market shares and a negative number indicates a loss in market shares. − [g] The figures for Germany are compensations per employee and not wages.

Source: OECD Economic Outlook 80 database.

creased nominal wage flexibility. In a similar vein, the macroeconomic adjustment problems in Spain and Greece can at least partly be related to past real exchange rate appreciations within the euro area.

2.6 Fiscal and monetary policy

Fiscal policy

For Europe as a whole, fiscal policy in 2006 was characterised by an aggregate budget deficit of 2.0 percent of GDP (see Table 1.2) as compared to 2.3 percent in 2005. This reduction is largely due to a stronger cyclical development than expected. The improved business cycle conditions over several quarters have led to higher firm profits and higher wage incomes, which both have increased government revenues. Firm profits have increased even more than what is usual in upswings. Despite the improved business cycle conditions, leading to in particular lower welfare spending, overall government expenditures increased slightly in most countries.

Whereas in 2005 the Czech Republic, Germany, Greece, Hungary, Italy, Malta, Portugal, the Slovak Republic and the United Kingdom all had budget deficits above the Maastricht ceiling of three percent of GDP, at least Germany and Greece managed to stay below this level in 2006. The fiscal policy stance differed substantially among European countries. Whereas the stance in Portugal turned quite restrictive last year, fiscal policy in some other countries like Denmark, the Netherlands, and Ireland – not faced with substantial budgetary problems in the medium run – became somewhat more expansionary in 2006. In Italy, the general government budget deficit increased to 4.7 percent from 4.1 percent of GDP in 2005. The explanation was a one-off refund of VAT receipts amounting to 0.9 percent of GDP.

Monetary conditions and financial markets

The ECB has since December 2005 increased its main refinancing rate in six steps by in total 1.5 percentage points to a level of 3.5 percent at the end of last year.

Table 1.2

Indicators of the public budgets in the EU 27

	Gross debt[a]					Fiscal balance[a]				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Germany	63.9	65.7	67.9	67.8	67.7	− 4.0	− 3.7	− 3.2	− 2.3	− 1.6
France	62.4	64.4	66.6	64.7	63.9	− 4.2	− 3.7	− 2.9	− 2.7	− 2.6
Italy	104.3	103.9	106.6	107.2	105.9	− 3.5	− 3.4	− 4.1	− 4.7	− 2.9
Spain	48.7	46.2	43.1	39.7	37.0	0.0	− 0.2	1.1	1.5	1.1
Netherlands	52.0	52.6	52.7	50.5	47.8	− 3.1	− 1.8	− 0.3	0.0	0.1
Belgium	98.6	94.3	93.2	89.4	86.3	0.0	0.0	− 2.3	− 0.2	− 0.5
Austria	64.6	63.8	63.4	62.1	60.9	− 1.6	− 1.2	− 1.5	− 1.3	− 1.2
Greece	107.8	108.5	107.5	104.8	101.0	− 6.1	− 7.8	− 5.2	− 2.6	− 2.6
Finland	44.3	44.3	41.3	38.8	37.3	2.5	2.3	2.7	2.9	2.9
Ireland	31.1	29.7	27.4	25.8	24.4	0.3	1.5	1.1	1.2	0.9
Portugal	57.0	58.6	64.0	67.4	69.4	− 2.9	− 3.2	− 6.0	− 4.6	− 4.0
Slovenia	28.5	28.7	28.0	28.4	28.0	− 2.8	− 2.3	− 1.4	− 1.6	− 1.6
Luxembourg	6.3	6.6	6.0	7.4	7.3	0.3	− 1.1	− 1.0	− 1.5	− 0.5
Euro area	69.2	69.7	70.6	69.4	68.0	− 3.1	− 2.8	− 2.4	− 2.0	− 1.5
United Kingdom	38.9	40.4	42.4	43.2	44.1	− 3.3	− 3.2	− 3.3	− 2.9	− 2.8
Sweden	51.8	50.5	50.4	46.7	42.6	0.1	1.8	3.0	2.8	2.4
Denmark	44.4	42.6	35.9	28.5	24.5	1.1	2.7	4.9	4.0	4.3
Poland	43.9	41.8	42.0	42.4	43.1	− 4.7	− 3.9	− 2.5	− 2.2	− 2.0
Czech Republic	30.1	30.7	30.4	30.9	30.8	− 6.6	− 2.9	− 3.6	− 3.5	− 3.6
Hungary	58.0	59.4	61.7	67.6	70.9	− 7.2	− 6.5	− 7.8	− 10.1	− 7.4
Slovakia	42.7	41.6	34.5	33.0	31.6	− 3.7	− 3.0	− 3.1	− 3.4	− 3.0
Lithuania	21.2	19.4	18.7	18.9	19.6	− 1.3	− 1.5	− 0.5	− 1.0	− 1.2
Cyprus	69.1	70.3	69.2	64.8	62.2	− 6.3	− 4.1	− 2.3	− 1.9	− 1.7
Latvia	14.4	14.5	12.1	11.1	10.6	− 1.2	− 0.9	0.1	− 1.0	− 1.2
Estonia	5.7	5.2	4.5	4.0	2.7	2.0	2.3	2.3	2.5	1.6
Malta	70.2	74.9	74.2	69.6	69.0	− 10.0	− 5.0	− 3.2	− 2.9	− 2.7
EU25	62.0	62.4	63.3	62.5	61.4	− 3.0	− 2.7	− 2.3	− 2.0	− 1.6
Romania	21.5	18.8	15.9	13.7	13.9	− 1.5	− 1.5	− 1.5	− 1.4	− 2.6
Bulgaria	46.0	38.4	29.8	25.8	21.8	0.3	2.7	2.4	3.3	1.8

[a] As a percentage of gross domestic product.

Source: European Commission.

This implies an increase of the real short-term interest rates to close to two percent (see Figure 1.10). The real effective depreciation of the euro in 2005 was to a large extent corrected again last year (see Figure 1.11). This appreciation of the euro implied more restrictive monetary conditions for the euro area last year. On the other hand, long-term interest rates have decreased somewhat since the middle of last year, coming down from a level of 4.1 percent to 3.9 percent at the end of the year (see Figure 1.12). But overall, monetary conditions have become tighter over time.

Despite further increases in oil prices in the first semester of last year, no significant inflation pressure has arisen. So-called second-round effects have been very modest. Even in the service sector, which is in general more sheltered from international competition than the manufacturing sector, price increases have been stable. However, as the economic upswing became more and more supported by domestic demand, the risks for medium-term price stability did increase over time.

With a growth rate of about 8 percent on a year-to-year basis, M3 money supply increased

Figure 1.10

Real short-term interest rates[1]

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, Germany; OECD; Ifo Institute calculations.

EEAG Report

Figure 1.11

Real effective exchange rates[1]

Index, 1990=100

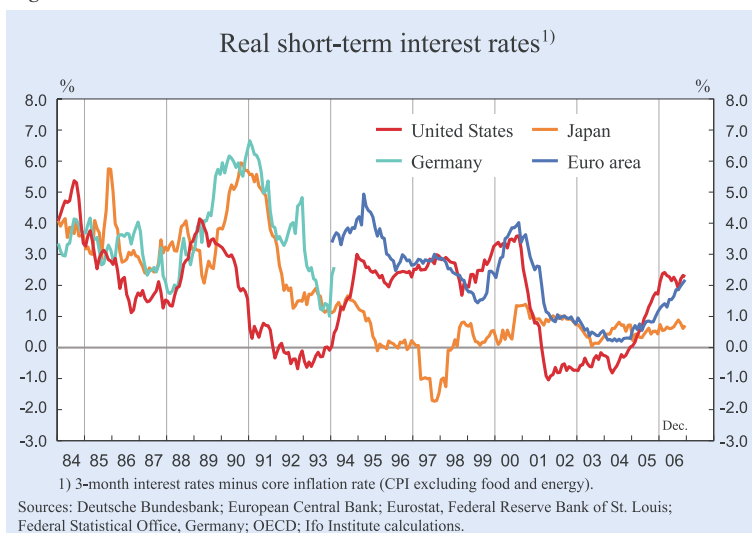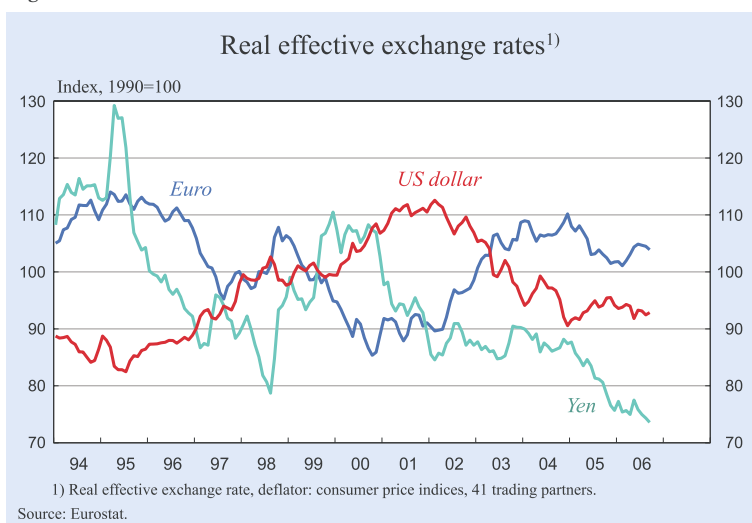1) Real effective exchange rate, deflator: consumer price indices, 41 trading partners.

Source: Eurostat.

faster than the years before (see Figure 1.13). Last year was the sixth consecutive year in which M3 growth exceeded the ECB reference value of 4.5 percent. Credits to firms were one important cause of this. On a year-to-year basis, firm credits increased by more than 12 percent during the second half of last year. However, on a month-to-previous-month basis, there was a dampening of the dynamism starting in April 2006. Although residential construction loans continued to increase by double-digit rates, its rate of increase has been falling since the beginning of 2006. Consumption credit growth shows a similar – although somewhat less pronounced – tendency but with a lag of roughly half a year.

In the UK, the slowdown in economic growth induced by a cooling real estate market in 2005 was quickly overcome. The Bank of England consequently re-

versed its interest rate cut of August 2005 one year later. In November 2006, a second interest rate increase of 25 basis points was decided. With the surprise move, for many, of a hike of another 25 basis points on 11 January this year, the official bank rate paid on commercial bank reserves was raised to 5.25 percent.

Despite robust growth and strong increases in energy prices, long-term inflation pressures hardly appear to be a concern for financial markets. Except for May and June, in which there was a substantial setback, European stock markets rose throughout 2006 (see Figure 1.14). High profits and still low interest rates were the driving forces. As in the past three years, the Euro Stoxx 50 and the German DAX share indices, with growth rates of approximately 20 percent, outperformed the Dow Jones, which gained roughly 15 percent.

3. The economic outlook for 2007 and 2008

3.1 The global economy

Given the slightly less optimistic expectations as reported by participants in the Ifo World Economic Survey, world economic growth is likely to slow down somewhat during the first half of 2007.
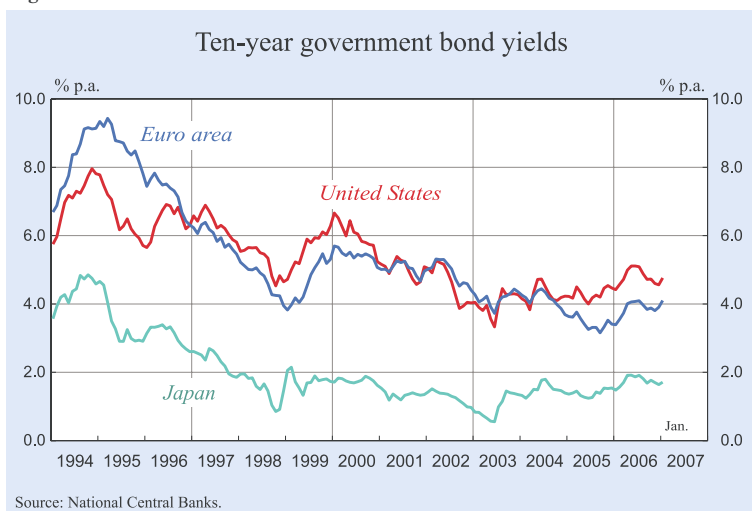
The substantial reduction in economic growth in large parts of the world experienced after 2000 might raise fears that the present turnaround of the business cycle will also be a sharp one (see Figure 1.1). The slowdown at the time was affected, firstly, by the rapid increase in energy prices. Secondly, the central banks in Western Europe had tightened monetary policy to stem the danger of inflation. Last but not least, the world economy weakened significantly as the boom in the US came to a sudden end. The terrorist attacks on 11 Sep-
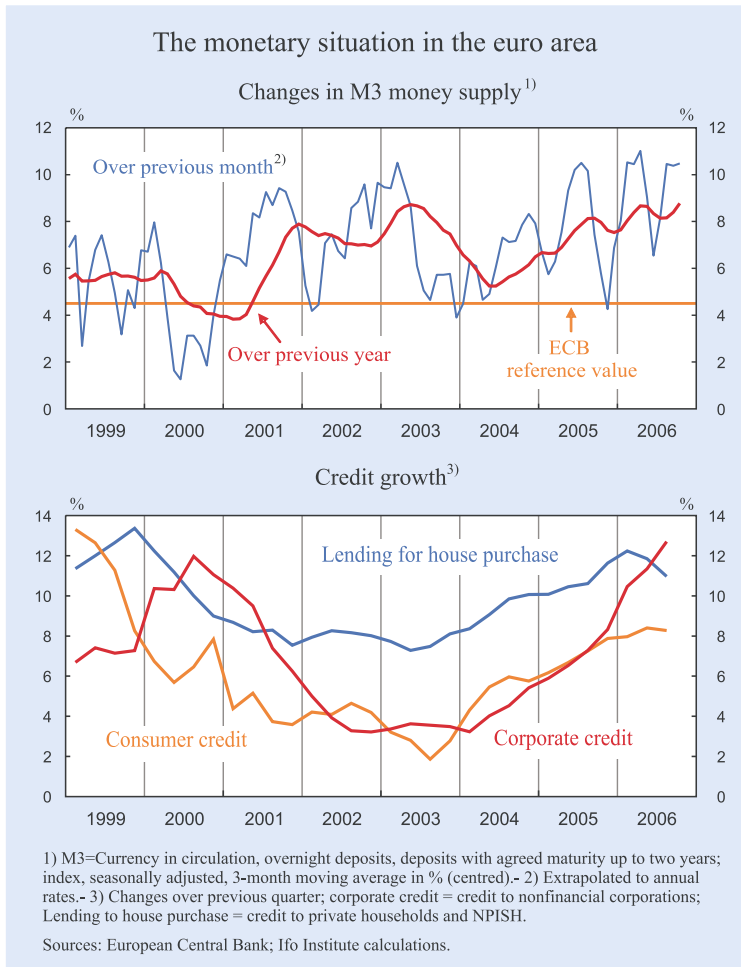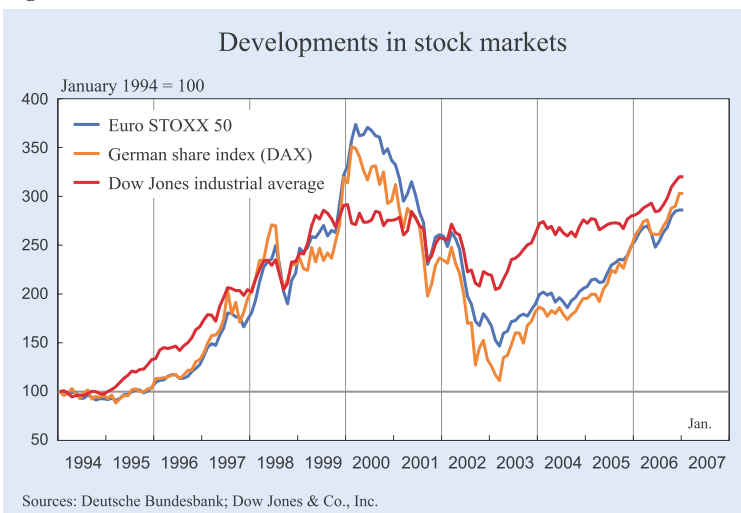
Figure 1.12

Ten-year government bond yields

% p.a.

Source: National Central Banks.

Figure 1.13

The monetary situation in the euro area

Changes in M3 money supply[1]

Over previous month[2]

Over previous year

ECB reference value

1999 2000 2001 2002 2003 2004 2005 2006

Credit growth[3]

Lending for house purchase

Consumer credit

Corporate credit

1999 2000 2001 2002 2003 2004 2005 2006

1) M3=Currency in circulation, overnight deposits, deposits with agreed maturity up to two years; index, seasonally adjusted, 3-month moving average in % (centred).- 2) Extrapolated to annual rates.- 3) Changes over previous quarter; corporate credit = credit to nonfinancial corporations; Lending to house purchase = credit to private households and NPISH.

Sources: European Central Bank; Ifo Institute calculations.

Figure 1.14

Developments in stock markets

January 1994 = 100

Euro STOXX 50
German share index (DAX)
Dow Jones industrial average

Jan.

1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007

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

tember caused an additional shock to business and consumer confidence in the global economy.

This time around it is not likely that we will see similar developments. First, the oil price nowadays appears to move rather pro- than anti-cyclically (see

Figure 1.15 and Chapter 1 of the 2006 EEAG report). Although further increasing demand will keep raw material and oil prices high and volatile, on average, we assume the oil price will stay close to 60 US dollars per barrel over our two-year forecasting horizon.

Secondly, interest rates in the US and in Europe are likely to have reached or even passed their peaks. During 2007, we expect the US Federal Reserve to decrease its key interest rate in two steps to a level of 4.75 percent and maintain this rate until the end of 2008. Given the still prevalent inflation worries, the first step is not likely to be taken before the end of spring. The ECB will leave the main refinancing rate at its present level throughout the forecasting period.
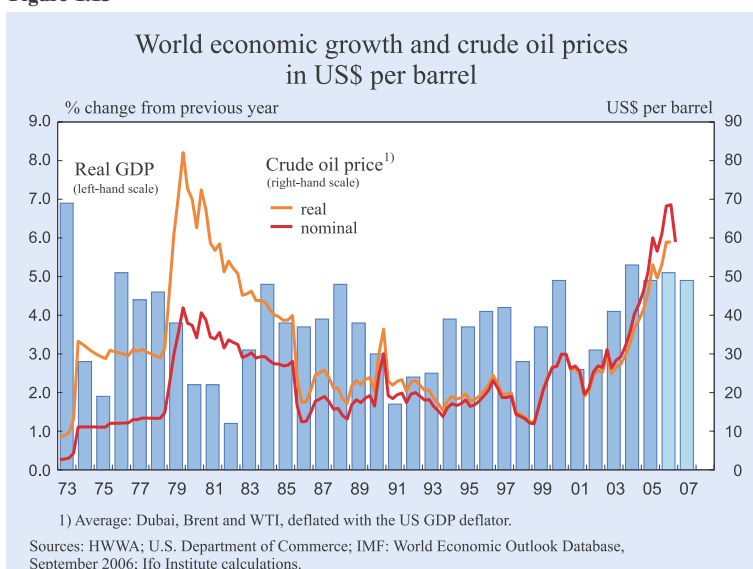
Finally, geo-political tensions do not appear to be increasing at this stage. Hence, most likely the present slowdown of world economic growth will be temporary and quite modest: We expect world economic growth slightly below 5 percent both this and next year, which is above the trend rate of growth.[2] After having grown by 8.5 percent last year, world economic trade will increase by 7.5 percent in 2007 and 8 percent in 2008.

We expect that the dollar will continue to depreciate and at the end of 2007 reach 1.40 dollars per euro. The average rate was 1.26 in 2006. At the end of 2006, the euro stood at 1.32. We see three reasons for a continued depreciation of

[2] These growth rates are based on purchasing power parity conversions as done by the IMF. Table A2 in Appendix 1 reports growth rates using weights based on nominal GDP in US dollars. See IMF (2003) for more details.

Figure 1.15

World economic growth and crude oil prices in US$ per barrel

% change from previous year   US$ per barrel

Real GDP
(left-hand scale)

Crude oil price[1]
(right-hand scale)
— real
— nominal

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

Sources: HWWA; U.S. Department of Commerce; IMF: World Economic Outlook Database, September 2006; Ifo Institute calculations.

the dollar. Firstly, the positive short-term interest rate differential between the US and the euro area will become smaller when the Fed starts to cut interest rates. Secondly, looking at how quickly the amount of euro coins and notes have increased over the last few years makes it clear that the euro is more attractive than its predecessor – the Deutsche Mark – ever was (see Sinn and Westermann 2005 and Figure 1.16).[3] Both arguments imply a relatively less attractive dollar as compared to the euro. Thirdly, a necessary condition for ultimately resolving the US current account problem is a depreciation of the dollar.

Note that we do not assume a scenario here in which financial investors suddenly withdraw from the US and thereby trigger a much sharper depreciation of
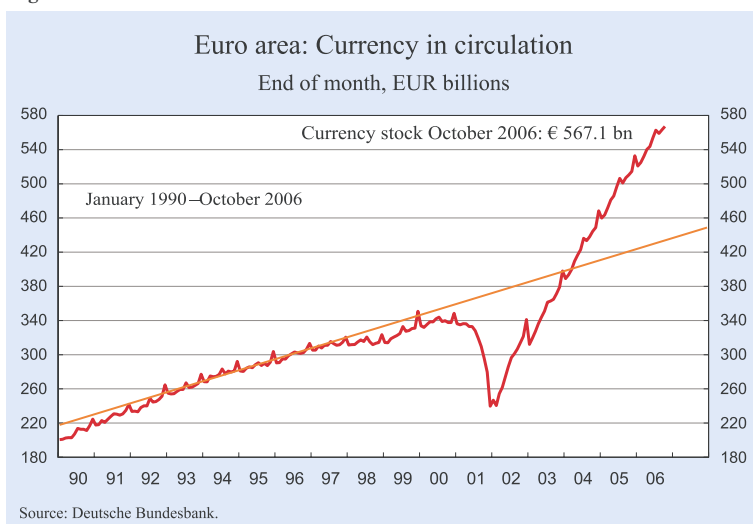
the US dollar and most likely initiate a worldwide recession. On the contrary, we expect equity markets to remain stable and a soft landing of the US, and thus also the world economy.

3.2 United States

Initially, the *US* will continue to lose growth momentum. Private investment will be weak throughout the first half of this year. Falling residential construction is mainly responsible for this. As the number of homes sold started to stabilise in the second half of last year, residential investment is likely to stabilise during the second half of this year and 2008.

Recent wage increases and improved labour market conditions will allow private consumption to continue to support US growth. This is likely to be the case despite the negative wealth effects associated with the cooling off of the housing market. Continued high growth in machinery and equipment investment will also cushion the temporary slowdown.

As important trade partners of the US, like Japan and the EU, will also suffer some temporary fallback in growth, US exports will first continue to grow at only a moderate rate. However, the real depreciation of the US dollar together with improved cyclical conditions in Japan and the EU will stimulate US exports over time. Due to the decline in energy prices during the second half of last year, the value of imports will initially increase at a slower pace. The consequence will be a slowly improving current account situation, with deficit levels of 6.4 and 6.3 percent of GDP in 2007 and 2008, respectively.

Hence, US economic growth will start to speed up again from the second half of 2007 onwards. After growth of 3.4 percent last

Figure 1.16

Euro area: Currency in circulation

End of month, EUR billions

Currency stock October 2006: € 567.1 bn

January 1990 – October 2006

Source: Deutsche Bundesbank.

year, GDP will grow by 2.5 percent in 2007 and 2.8 percent in 2008. The unemployment rate will initially tend to increase somewhat. On average it will reach 4.9 percent in both 2007 and 2008.

The inflation rate will initially come down due to a so-called base effect, that is, the price increases due to earlier oil price increases will cease to affect the year-on-year inflation rate. After that, and following the business cycle improvement, inflation will increase slightly again. On average it will reach 2.7 percent in 2007 and 2.6 percent in 2008.

For fiscal 2007, the economic slowdown will reduce government revenues in the US. Furthermore, it is questionable whether or not the announced budget cuts will be sufficient to counteract the sharply increasing health expenditures. Therefore, the US government deficit will increase somewhat during 2007 and 2008 to a level of approximately three percent of GDP in 2008.

3.3 Japan, China and other Asian countries

In *Japan*, increased firm profits and a tightening of the labour market will improve household incomes this year. This will stimulate private consumption considerably. The slowdown of the world economy will reduce export growth and investment. Also, reinforced fiscal consolidation efforts will result in a negative growth contribution from public spending (see Figure 1.17). Overall, GDP will grow by 2.0 percent this year. A small increase in both consumer and producer prices will induce the Bank of Japan to gradually tighten its monetary policy by raising interest

rates. Improved business-cycle conditions in the US will stimulate Japanese exports in 2008 and allow GDP to then grow by 2.2 percent.

It is still the objective of the *Chinese* government to decrease income disparity between rural and urban areas, which, via lower saving rates, will stimulate private consumption growth. This together with strong investment will counteract slower export growth caused by the world economic slowdown. GDP growth will slightly decrease to 10 percent per year. So far, there are no signs that the Chinese economy is overheating. Inflation will remain somewhere between 1 and 2 percent. Downside risks in China include an escalation of the trade and exchange rate disputes with the US and the EU. Increased Chinese imports following from the domestic policy to decrease income disparities could help soften the disputes.
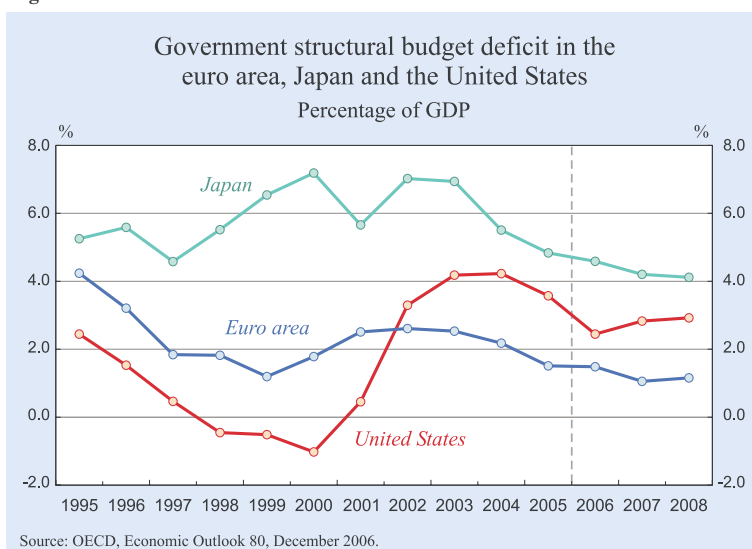
In the remaining *East Asian* countries, that is, *South Korea, Indonesia, Taiwan, Thailand, Malaysia, Singapore and the Philippines,* GDP growth rates in 2007 and 2008 will fall to around 4.5 percent (after having been 5.2 percent last year). The economic slowdown in the main trading partner countries and the somewhat increased political uncertainty in the region associated with, for instance, North Korean nuclear armaments are the underlying causes of this.

3.4 The rest of the world

As compared to last year, the economic expansion in *Latin America* will only slow down moderately. GDP growth will reach 3.8 percent in 2007 and 4.0 percent in 2008. In *Brazil*, domestic demand will be largely supported by private consumption. Increases in social welfare spending and in real incomes will more than compensate for reduced growth in export demand caused by the weaker expansion of the world economy and in particular the US. In *Mexico*, such compensating domestic factors are largely lacking, implying a fall in growth from 4.7 percent last year to 3.5 percent in the subsequent two years.

Over the forecasting period, the *Argentinean* economy will also

Figure 1.17

Government structural budget deficit in the euro area, Japan and the United States
Percentage of GDP

Source: OECD, Economic Outlook 80, December 2006.

slow down. The recovery after the severe economic crisis in 2002 is coming to an end. Furthermore, in many areas production is reaching full capacity limits. Inflation will keep on falling and be 9.5 percent in 2007 and 6.5 percent in 2008. GDP growth will be around 6 percent in both years (after being close to 8 percent last year).

In *Russia*, GDP growth is expected to reach 6.0 percent in both 2007 and 2008. Trade will continue to increase and, as last year, imports will expand more strongly than exports. Due to the large amount of raw

materials in Russian exports, the actual development of the trade balance to a large extent depends on price developments in oil and gas markets. The unemployment rate will fall somewhat further to 6.4 percent in 2008. Despite continued increases in fiscal spending and the lower oil prices at the end of last year, we expect the substantial government budget surplus of 6.5 percent of GDP to only fall slightly. The government intends to use the surplus to reduce taxes, increase infrastructure investment, reform the education and health sectors and increase foreign-exchange reserves. Inflation will continue to decline. Although

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Box 1.1

The US current account deficit

In this year's forecast, we assume that the slowdown of the US economy, together with a moderate but continuous depreciation of the dollar, will gradually reduce the US trade and current account imbalances. Here, we shortly summarise the arguments put forward to explain the large US current account deficit, which stood at 6.6 percent of GDP in 2006, and point out that almost independently of the theoretical framework used, a depreciation of the US dollar appears inevitable. As a consequence, the European economy would be negatively affected. The Box is a follow-up of Chapter 2 of the 2006 EEAG report.

The large and still increasing current account deficit of the US is mainly being financed by Japan and China, some European countries and to an increasing extent the oil-exporting world. There is now a broad consensus about the following three proximate causes of current imbalances.

- Both private and government savings in the US have fallen over time and imply low total national savings. The asset market boom up to 2001 and increasing residential prices since then have created wealth effects that allowed private consumption to increase faster than disposable income.
- The US current account deficit is a mirror image of high savings in the rest of the world and/or low worldwide investment. For instance, the increased urge to save for retirement, as current pay-as-you-go systems in many countries are becoming unsustainable, might have led to increased savings and thereby low real interest rates.
- There is a strong preference by investors elsewhere for US assets. One reason might be that markets continue to expect sustained high productivity growth in the US. Another explanation is Asian exchange rate policies that hold local currencies at artificially low values against the dollar.[a] Finally, political risks in many countries might cause people to instead invest in a safe haven like the US.

These factors together can explain the combination of current account imbalances, the strong dollar, low world real interest rates, and the low expected returns on US assets we are observing.[b] While there is considerable debate on the extent to which the current pattern of global trade imbalances in general, and the US current account deficit in particular, should be cause for concern, there is little doubt that the US cannot run a current account deficit of 6.6 percent of GDP indefinitely.

By definition, a reduction in the US current account deficit must be accompanied by an increase of US (private and/or public) savings relative to that of the rest of the world, that is, spending must increase in the rest of the world relative to the US. The implication is a slowdown of the US economy, a realignment of international relative prices, or both. Hence, all scenarios involving a narrowing of the US trade deficit are characterized by a depreciation of the dollar in real effective terms.

Looking at the fairly small bilateral trade volumes of Europe with the US, one could get the impression that the direct macroeconomic impact of a slowdown (or a switch in expenditures away from imports towards domestically produced goods) in the US on Europe through the trade channel would be small. However, an inspection of bilateral trade volumes understates the full impact of the trade channel. US and European firms compete in third markets, and an expansion in US exports triggered by a dollar depreciation would pose a competitive threat to European exporters. Furthermore, trade relations between the US and EU member countries differ substantially. These asymmetries in trade patterns imply that not all countries would be affected to the same extent.

In addition to trade linkages, the weakening of the US dollar would have a non-negligible negative wealth effect on European investors by reducing the value of their dollar-denominated claims.[c] There is considerable heterogeneity across Europe both in terms of net asset positions and financial holdings in the United States. Accordingly, to the extent that a correction of global imbalances produces a shift in the financial environment (for example an increase in world interest rates), as well as in US asset values and the euro-dollar exchange rate, this probably will have differing effects across Europe.

[a] As discussed in Chapter 2 of the 2006 EEAG report, the cause might be the desire of Asian countries to follow a path of export-led growth and to build up foreign exchange reserves for precautionary reasons. In this way they hope to avoid situations like those that occurred in the Asian crisis of 1997–98.
[b] For more discussion, see, for instance, Bernanke (2005), Blanchard et al. (2005), Caballero et al. (2006) or Chapter 2 of the 2006 EEAG report.
[c] Lane and Milesi-Ferretti (2006) estimate the impact of currency realignments on net external positions using different scenarios. In their scenarios involving "large" currency movements in the short run, exchange-rate-induced capital losses are – with around 5 percent of GDP – significant for the euro area, but much smaller than for China and Japan.

part of the government revenues generated by the high oil price is "sterilised" in a stabilisation fund, the central bank will nevertheless hardly be able to meet its own inflation targets of 8.5 percent this year and 5.5 in 2008. We expect inflation to be 9 percent this year and around $7\frac{1}{2}$ percent in 2008.

3.5 Risk and uncertainties for the world economy

Our forecast above depicts the most probable scenario for the world economy. As always, there are up- and downside risks. On the upside, the US economy could swing back to its previous high growth path more quickly than laid out here. Decreasing oil prices together with a looser monetary policy stance might bring this about. But most of the risks to the presented forecast scenario are on the downside. We assume no worsening of the geopolitical situation, a more or less stable oil price and no abrupt depreciation of the US dollar. If, for instance, energy prices were to increase instead, this might lead to higher wage demands. In such a scenario, to remain credible monetary policy is bound to respond by taking a restrictive course. Furthermore, we have assumed that the demand-reducing effects caused by the fall in house prices in the US will be moderate. However, the economic slowdown and developments in the housing market might reinforce each other, leading to a much stronger fallback in US economic growth.

The expectation of only a moderate slowdown of the world economy rests on fairly optimistic assumptions regarding US economic developments and the path towards the elimination of existing global imbalances. If the US were to slide into a more severe recession instead of what is implied by the soft landing scenario, the entire world economy would be affected. The mechanism could be both reduced demand from the US and disappointed investor growth expectations. Financial markets might no longer be willing to extend credit to the US, thereby triggering a sudden capital flow reversal. The consequence could be an abrupt depreciation of the dollar and a lowering of US prices relative to the rest of the world. In such a scenario, the dollar would depreciate substantially, the risk premium on financial markets would sharply increase and the real estate market in the US could collapse. But at present, financial markets seem largely to believe in the soft landing scenario. However, there is a risk in taking too much comfort from this. Financial crises in the past, mainly in emerging market economies, show that financial markets tend to accept unsustainable developments for a long time

before suddenly reacting to them. (See Chapter 5 of the 2004 EEAG report as well as Chapter 2 of the 2006 EEAG report.)
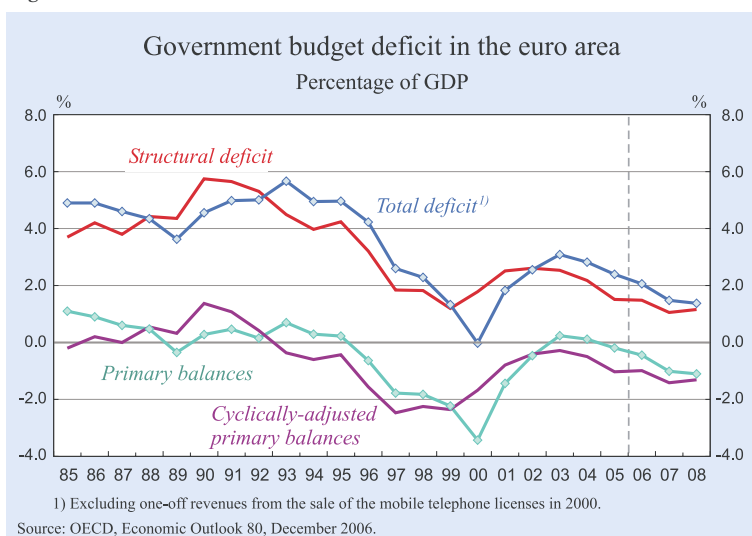
3.6 The European economy

Last autumn, the ECB signalled increased inflationary pressures due to the oil price increases and the improving performance of the European economy. Improved labour markets may increase wage pressure. Furthermore, in 2006 the ECB on several occasions adjusted its projections upward for both economic growth and inflation. However, given the moderate slowdown of the world economy, stable inflation expectations in Europe and the appreciation of the euro, the ECB is likely to keep its refinancing rate at the prevailing level. After the somewhat unexpected interest rate increase by the Bank of England last January, it is also likely that short-term interest rates will not change very soon in the UK either.

Due to the assumed appreciation of the euro and the decline in the inflation rate, which tends to raise the real interest rate, overall monetary conditions in the euro area in 2007 will become less accommodative than last year. The same holds for the UK, the largest EU economy outside the euro area.

Long term interest rates – as measured by the ten-year government bond yield – will more or less remain at the present level of approximately 4 percent, keeping the yield curve relatively flat.

The stance of fiscal policy in Europe is assumed to become somewhat less accommodative as structural deficits in several countries are expected to decline (see Figure 1.18). Although last autumn, the EU Economic and Financial Affairs (Ecofin) Council decided to effectively extend the deadline for Germany to correct its excessive deficit, the new German government took action to reduce the deficit below three percent of GDP. The increase in VAT by 3 percentage points on 1 January this year is the cornerstone of this policy towards fiscal consolidation (see Box 1.2). Although part of the generated tax revenues will be used to decrease ancillary wage costs, fiscal policy in Germany has become contractionary this year: The structural deficit will be reduced by more than $\frac{1}{2}$ percentage point of GDP to around 1 percent of GDP. The actual deficit will fall this year to 1.6 percent of GDP, as compared to 2.3 percent of GDP last year (see Table 1.2).

Figure 1.18

Government budget deficit in the euro area
Percentage of GDP

Structural deficit

Total deficit[1]

Primary balances

Cyclically-adjusted
primary balances

1) Excluding one-off revenues from the sale of the mobile telephone licenses in 2000.
Source: OECD, Economic Outlook 80, December 2006.

Other countries where fiscal policy will also be contractionary this year due to efforts to reduce the structural deficits include Italy, Greece, Portugal and Hungary. As with Germany, Italy will also try to consolidate public finances by increasing tax revenues. Instead of raising the VAT – as in Germany – income tax progressivity has been increased. However, as tax revenues appear to have surpassed expectations last year, resistance to tax increases seems to be rising. The initially scheduled reduction in the budget deficit by 35 billion euros (close to 2.4 percent of GDP) for

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Box 1.2

The German VAT increase

The government has raised the standard VAT rate by 3 percentage points from 1 January 2007. Under the assumption that this tax increase is fully shifted on to prices, the CPI will rise by 1.5 percent. At the same time, the social security payroll contributions have been reduced by 1.3 percentage points: health insurance contributions have increased by 0.6 percentage points, pension insurance contributions by 0.4 percentage points, whereas unemployment insurance contributions have decreased by 2.3 percentage points. Since employers and employees each pay half of total social security contributions, labour costs will decline by about 0.5 percent and net nominal wages will increase by 1 percent. If the decrease in employers' contributions is fully reflected in prices, the combined effect of the VAT increase and the reduction of social security contributions on products sold in Germany will be about 1¼ percent. This implies that the real net wage of employees who are subject to social security contributions will decline by only a small amount of about ¼ percent. Civil servants, retired persons, the self-employed and the unemployed will not gain from the reduction of the employee's social security contributions but will suffer from the net price increase: Their real income will decline by 1¼ percent.

The fiscal reform package concerns several other areas: savers' tax-free amount, the private home owner allowance and commuter tax deductions. There are further reductions in subsidies and a tighter means-testing for unemployment benefits. All in all, the fiscal package will reduce the disposable income of the private sector by slightly less than 0.8 percent of GDP. If one includes in addition the reduction of the wage bill in the public sector and some other minor measures undertaken, disposable private income will be reduced by more.

The fiscal package will reduce the structural deficit but will also have adverse effects on consumer spending and GDP. The magnitude of the effect depends on how consumers react to changes in disposable income that are generated by changes in taxes. If consumers base their saving and spending decisions on current income, consumption would fall more or less proportionally to the reduction in income (somewhat more than 1 percent). But there is a strong argument that at least some consumers are forward-looking and realise that today's public deficits will lead to higher taxes in the future. If taxes are then actually raised and current disposable income declines, this does not change permanent income and consumption expenditure will remain constant ("Ricardian equivalence"). If one assumes that, as a rule-of-thumb, consumers who base their decisions on current income have a share of two thirds and the rest consists of "Ricardians", consumption would decrease by about 0.7 percent.[a] Leakage effects due to imports reduce the permanent effect on real GDP to somewhat less than 0.5 percent.

In addition, the fact that the price rises due to the VAT increase were anticipated triggered an increase in residential construction and consumption (especially durables like cars or household equipment) at the end of last year through intertemporal substitution effects. During the first part of this year, such effects are likely to add to the contractionary effects. As we have never observed such a large change in indirect taxes in Germany, there is uncertainty regarding the magnitude of the intertemporal substitution effects. Available data for retail sales up to November suggest that this effect may not be very high (GDP growth is likely to have increased by 0.2 percentage points in 2006 and therefore will fall by 0.2 percentage points in 2007).

Due to trade linkages, the negative effect of the fiscal package on German domestic demand will also dampen the other European economies somewhat. This is aggravated by the fact that German import prices will increase relative to the prices of domestically produced goods and services and German export prices will decline. The price competitiveness of German firms will improve, which will lead to higher exports and lower imports for Germany. The opposite holds true for its trading partners.

[a] A higher share of "Ricardians" – as some studies suggest – would reduce the effect of the tax increase on consumption.

2007 was already cut by 5 billion euros last autumn.

To avoid possible EU sanctions, Greece and Portugal have also initiated consolidation measures. Finally, the new government of Hungary has approved an austerity package – including mainly tax increases – to reduce the government budget deficit, which amounted to 10.1 percent of GDP last year.

Due to upcoming elections, the budget deficit in France will most likely not be reduced substantially this year and is projected to reach 2.6 percent of GDP. Expansionary fiscal policy is also to be expected in Spain; the surplus is to be reduced by 0.4 percentage points to 1.1 percent of GDP this year.
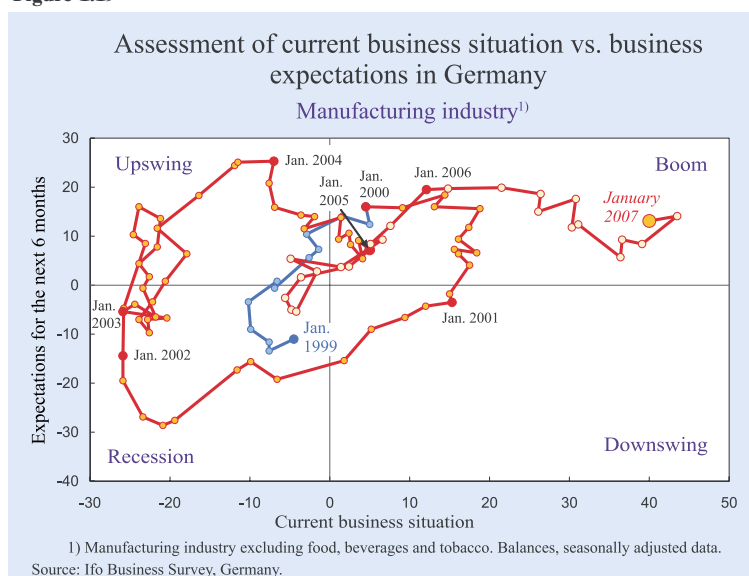
Overall, aggregate euro area government net borrowing will fall further this year to 1.5 percent of GDP. Roughly two thirds of this reduction will be of a structural nature. Also for the EU as a whole, fiscal policy will become somewhat less accommodative this and next year. The aggregate government debt ratio in the EU will fall by 1 percentage point to 61.4 percent of GDP.

The cyclical situation

According to our estimates, which are based on the median of several filter techniques (see Chapter 1 of the 2006 EEAG report), the output gap in the euro area has been basically closed since mid-2006. This situation will approximately persist throughout 2007 and 2008; aggregate demand will not be sufficient to produce significant positive output gaps. The challenge facing the European economy is to use the present upswing to improve the growth potential. This requires structural reforms, in particular improved conditions for a better utilisation of the labour force.

Under conditions of a closed output gap, the tendency for wage moderation, which has characterised many European countries in recent years, will fade. As a result, unit labour costs will start rising slightly more. Given still-low inflation expectations, high but decreasing unemployment and no substantial oil price changes, it is unlikely that higher wage claims will squeeze profits, even if such a risk cannot be fully excluded. Given labour cost developments elsewhere in the world and the appreciation of the euro against the dollar, relative unit labour costs of the euro area as a whole will no longer fall as they have in the last two years.
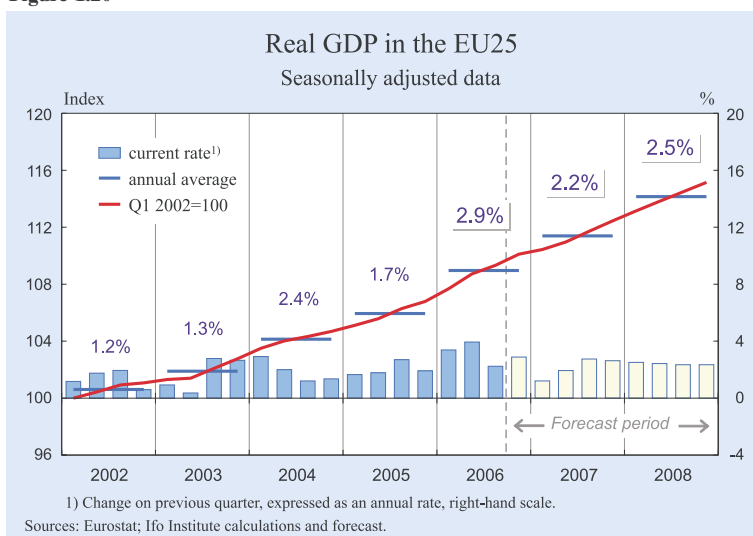
Current indicators like those of the Ifo World Economic Survey and Ifo Business Climate Index registered further improved business conditions at the end of 2006. Although leading indicators are falling somewhat, they still signal a relatively bright climate for the upcoming months. Especially for Germany, the manufacturing industry has not reported such good business conditions since 1990 (see Figure 1.19).

Other indicators also point to favourable business conditions. Equity prices have been trending upwards since early 2003 and real interest rates have been historically low since the end of 2001.

The demand side

The economic expansion in the European Union will remain strong. Improved labour market conditions and higher wages will further stimulate private consumption. The German VAT increase will not subdue consumption for long. Nor will other fiscal consolidation measures (see Box 1.2). Hence, after a weak first quarter, offsetting part of the high consumption growth at the end of 2006, we expect a continued increase in private consumption.

Figure 1.19

Assessment of current business situation vs. business expectations in Germany

Manufacturing industry[1]

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

Figure 1.20

Real GDP in the EU25
Seasonally adjusted data

1) Change on previous quarter, expressed as an annual rate, right-hand scale.

Sources: Eurostat; Ifo Institute calculations and forecast.

During the first part of 2007, the somewhat more moderate expansion in the world economy will reduce European export growth to some extent. When world trade picks up again in the course of the year, it will take European exports with it. Strong domestic demand will at the same time also strengthen imports. Overall, growth of imports will outperform that of exports with the consequence that net exports will contribute negatively to GDP growth in 2007. In 2008, the stronger world economy will tend to reverse this.

With rising aggregate demand and capacity utilisation, profits as well as overall conditions for investment financing are favourable. It took until last year for business investment to pick up. And it will take some years of above-average investment growth to compensate for the long period of weak business investment in the past. Hence, there is still mounting pressure to modernise the capital stock. Overall, investment will continue to grow substantially in 2007 and 2008, although, with rates of approximately 4 percent, at a somewhat more moderate pace than last year in which it grew by close to 5 percent.

Growth, employment and inflation

On average, output in the EU is expected to grow by 2.2 percent in 2007 and 2.5 percent in 2008 (see Figure 1.20). The growth gap

between Europe and Japan, on the one hand, and the US, on the other, will almost disappear this year, basically because growth in the US will decelerate significantly (see Figure 1.21). Given much higher population growth in the US, per capita GDP growth in both Europe and Japan will outperform that in the US over the forecasting horizon.

Our positive assessment of the European economy depends on endogenous business cycle developments. After a downturn in the early 2000s, the trough in output and investment was reached in the first quarter of 2004. Since then, the EU is experiencing a recovery that gathered pace during the first half of 2006. According to the Ifo Institute (2006), such an upswing normally lasts around four years. Endogenous buoyancy forces accompanied by continuingly dynamic exports is likely to remain strong enough to withstand restraining effects from contractive fiscal measures in some countries, notably the VAT increase in Germany.

The labour market situation in Europe will improve further and thereby support real disposable income. Employment will increase moderately (see Figure 1.22). The unemployment rate will continue to fall, albeit at a considerably slower pace than in 2006. We project a reduction to an average of 7.7 percent in 2007 and 7.4 percent in 2008 (see Figure 1.23).
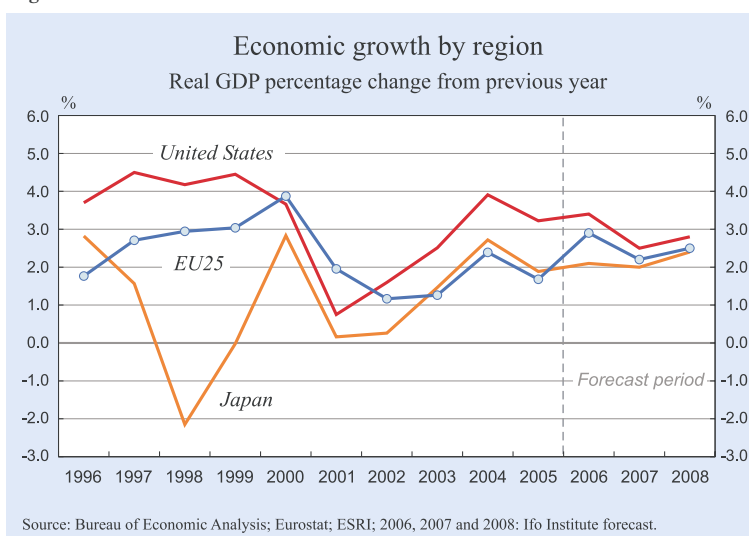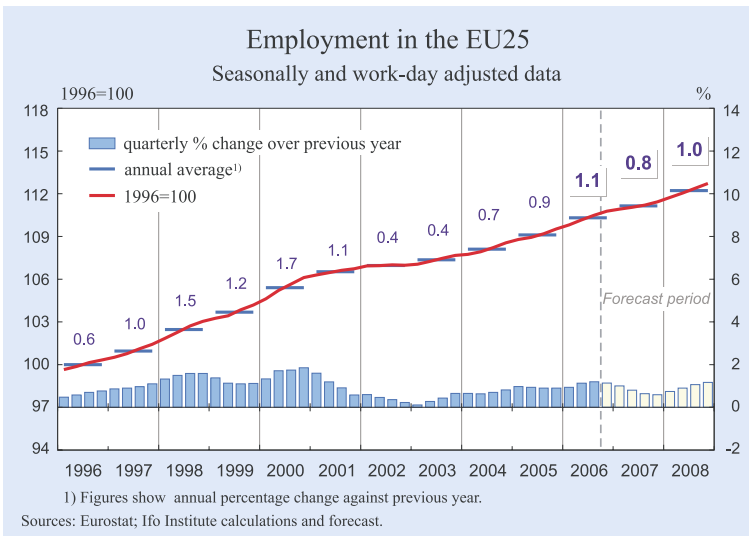
Figure 1.21

Economic growth by region
Real GDP percentage change from previous year

Source: Bureau of Economic Analysis; Eurostat; ESRI; 2006, 2007 and 2008: Ifo Institute forecast.

Figure 1.22

Employment in the EU25
Seasonally and work-day adjusted data

1996=100

- quarterly % change over previous year
- annual average[1]
- 1996=100

0.6 1.0 1.5 1.2 1.7 1.1 0.4 0.4 0.7 0.9 1.1 0.8 1.0

Forecast period

1) Figures show annual percentage change against previous year.

Sources: Eurostat; Ifo Institute calculations and forecast.

Price increases in the EU will be moderate. The inflation rate, as measured by the Harmonised Index of Consumer Prices (HICP), will be 2.2 percent in 2007 and 1.9 percent in 2008. The German VAT increase will lead to a $1/4$ percentage point increase of the inflation rate in both the euro area and the EU as a whole in 2007.

Differences in output growth within Europe

The general recovery in the EU is associated with smaller differences in the growth performance among countries this and next year than in the past (see Figure 1.24).
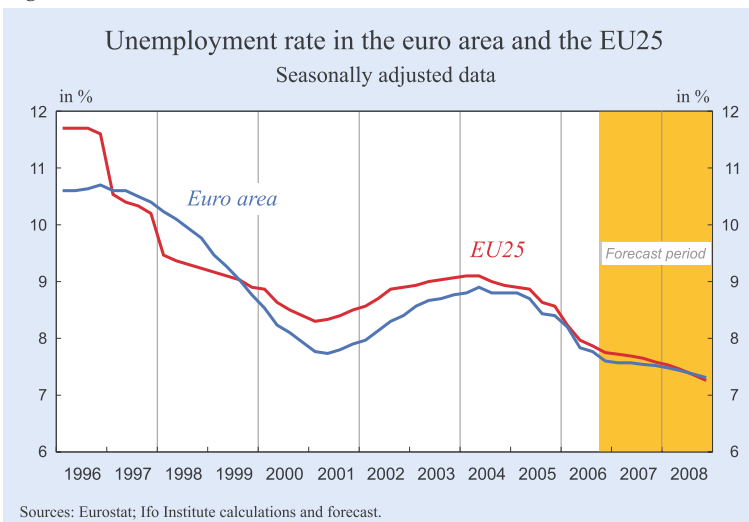
In the first half of this year, the largest EU economy, Germany, will be somewhat restrained due to the massive VAT increase. But this will only be a temporary phenomenon and the economic upturn will continue. The dynamism of both residential and non-residential fixed capital formation will remain strong. The negative effect of the VAT hike will not be enough to reduce consumption (see Box 1.2). The persistent high government budget deficits have meant that tax increases have been anticipated. These expected tax increases can at least partly explain weak private consumption and increased saving rates in past years. Permanent income is therefore affected much less than current measured disposable income.

All in all, German real GDP will expand by 1.7 percent in 2007 and 2.2 percent in 2008. Unemployment will continue to decrease. However, mainly because of the VAT increase, the inflation rate in 2007, at 2.5 percent, will be considerably higher than in previous years.
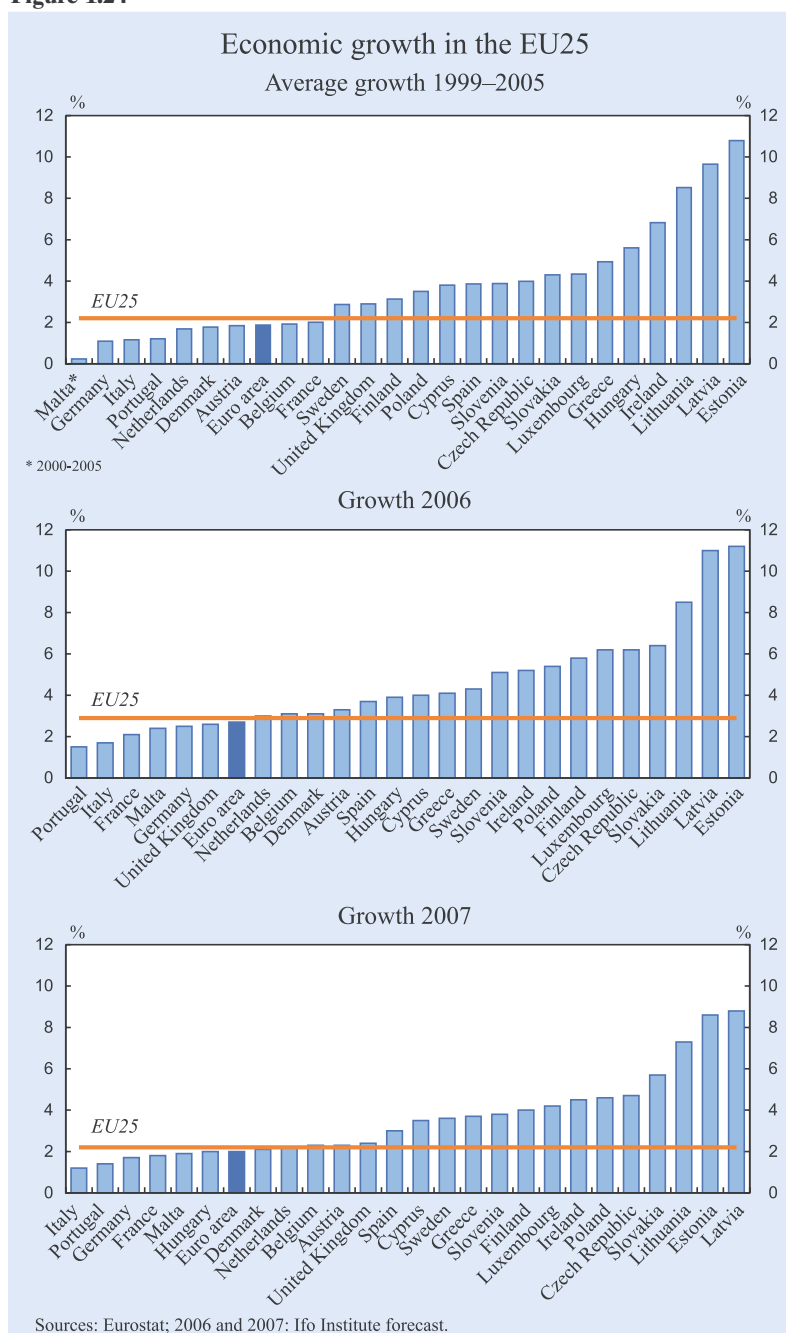
We expect similar patterns for output growth also in France, Italy and Spain, albeit somewhat less pronounced than in Germany. This year, economic growth will experience a moderate slowdown as compared to last year; in 2008 output growth will be higher again. In the UK, economic developments will remain almost as strong as last year. Private consumption will continue to increase by somewhat more than 2 percent. As sales prospects of firms remain promising, investment will rise substantially. The weakening of the world economy will increase the UK trade deficit somewhat. Overall, GDP will grow by 2.4 percent in both this and the next year. Inflation remains moderate at around 2 percent.

Economic growth in the new EU member countries will remain strong. For the region as a whole, GDP will grow by 4.6 percent in 2007 and 4.9 percent in 2008. Inflation will remain high, with rates between

Figure 1.23

Unemployment rate in the euro area and the EU25
Seasonally adjusted data

in %

Euro area

EU25

Forecast period

Sources: Eurostat; Ifo Institute calculations and forecast.

Figure 1.24

Economic growth in the EU25

Average growth 1999–2005

Growth 2006

Growth 2007

Sources: Eurostat; 2006 and 2007: Ifo Institute forecast.

4. Macroeconomic policy

Our macroeconomic forecast is thus one of a continued upturn with slightly less growth than last year. Actual output will grow somewhat faster than potential output.[4] During 2008, an increase in pace is likely. As compared to other regions in the world, the slowdown this year will be modest. At the same time, potential growth is relatively low, reducing the scope for a substantial growth push in 2008.

Raising potential growth in Europe will require structural reforms in labour, product and service markets. This has been a recurrent theme in previous EEAG reports. In this report, we analyse the often praised Scandinavian model in this respect (Chapter 4), discuss the role tax competition can play in stimulating growth (Chapter 5) and go into the obstacles economic nationalism may impose on the growth process (Chapter 6).

Cyclical stabilisation via monetary and fiscal policy is one element in any strategy to raise potential growth. Smoothing business cycles reduces economic frictions, lowers average costs and reduces uncertainty.[5] Macroeconomic stability increases the willingness to accept structural change. However, stabilisation policy has become harder to pursue over the past decade. Structural deficits and high debt-to-GDP ratios have reduced the room of manoeuvre for fiscal policy during the past years of low growth. European integration and, more gener-

2.1 and 7.0 percent. Whereas most of these countries will grow at an above-average pace, Malta and Hungary will underperform (see Chapter 3 for more details).

Early this year, Romania and Bulgaria entered the EU. Both countries are growing fast. Nevertheless, due to their small share of less than 1 percent in total European GDP, their contribution to EU growth will be very modest. Inflation rates are expected to remain relatively high in both countries.

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[4] In Chapter 1 of the 2006 EEAG report, we estimated the trend growth rate in the euro area to have declined from about $2\frac{1}{4}$ percent in 2000 to approximately $1\frac{3}{4}$ percent in 2005.
[5] Evidence on the growth-enhancing effects of macroeconomic stabilisation is discussed in Chapter 3.

ally, globalisation have also lowered the effectiveness of national fiscal policy. In a monetary union, it is also impossible to adapt monetary policy to the needs of each individual member country.

4.1 Fiscal policy

Business cycle developments have been a tailwind for fiscal consolidation in many European countries. Nevertheless, the overall fiscal deficit of the EU countries as a share of GDP fell by only 0.3 percentage points last year, and no more than a 0.4 percentage point fall is forecasted for this year. This will result in an EU budget deficit of 1.6 percent of GDP this year (see Table 1.2). The EU-wide government debt ratio has hardly fallen and decreases in the next few years will also be very small unless stronger consolidation efforts are made (see Figure 1.5).

Given the future budget pressures from demographic developments, as has been discussed in earlier EEAG reports, the reductions in budget deficits that are occurring are only moderate. It is true that the fiscal consolidations in Germany in Italy will have substantial effects this year: The overall EU budget deficit will be reduced by close to $1/2$ percent of GDP. Two thirds of this can be considered as structural. Given the position of the business cycle and a current structural deficit of still approximately $1^{1}/2$ percent of GDP, we consider this to be a step in the right direction but it is insufficient. In fact, we are worried that – as has frequently happened in the past – the opportunity created by the current upswing will not be used enough to strengthen public finances. On the contrary, the cyclical improvement in fiscal balances may be taken as an excuse for complacency, thus weakening the efforts for fiscal consolidation. This may exacerbate fiscal problems in the next downturn and when demographic factors set in with full force.[6]

As discussed in Chapter 1 of our 2006 EEAG report, in a monetary union like the euro area, there are a number of reasons for a deficit bias of fiscal policy at the national level. These include myopic behaviour by governments and voters, lobbying of interest groups for specific expenditure increases (the common-pool problem), a desire by political parties to favour their own constituencies while in power (strategic considerations), and attempts to raise output above its equilibrium level through aggregate demand increases (the time inconsistency problem).

As adverse effects of fiscal profligacy can partly be shifted on to other member countries, all of these effects are exacerbated in a monetary union with centralised monetary policy.

The watering-down of the stability pact leads to pessimistic conclusions on fiscal discipline and the possibilities to achieve an appropriate balance between fiscal and monetary policy in the long run. One should be aware that currently low long-term interest rates are now holding down the interest costs for government debt. Although the reasons for the low, long-term interest rates are not well understood, it is risky to count on interest rates remaining as low as they are now (see Figure 1.12).[7]

Government expenditures

Furthermore, on the structural front, instead of cutting expenditures, taxes are being raised in several European countries. Examples include the VAT increase in Germany and the increase in income tax progressivity in Italy. This is counter to what most economists – including ourselves – recommend. To reduce tax distortions that hold back labour supply and reduce incentives to invest, especially marginal tax rates need to be cut. This can be achieved by lowering government transfers. To further economic growth in the long run, governments should also refocus spending on those categories that foster growth, like infrastructure, R&D investment and education. These types of expenditures had to bear a disproportionate share of the burden of fiscal consolidation in the past.

Comparing the second half of the 1990s with the average for the years 2001 to 2005 (the last five years for which comparable data are available) reveals that the government expenditure share in GDP in the euro area has fallen by 2.3 percentage points (see Figure 1.25). Only in two euro area countries, Portugal and Luxembourg, did this share go up. Of the remaining EU countries, only Cyprus, Malta and the UK report increasing shares. In 19 EU countries, government expenditure as a share of GDP actually decreased between 1995 to 1999 and 2001 to 2005. The reduction in the size of government has been largest in Slovakia, Estonia, Lithuania, Finland and Sweden (see Figure 1.25). Note, however, that the latter two Scandinavian countries initially had government expenditure shares far above the European average.

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[6] See Calmfors (2006) for an elaboration of this view.

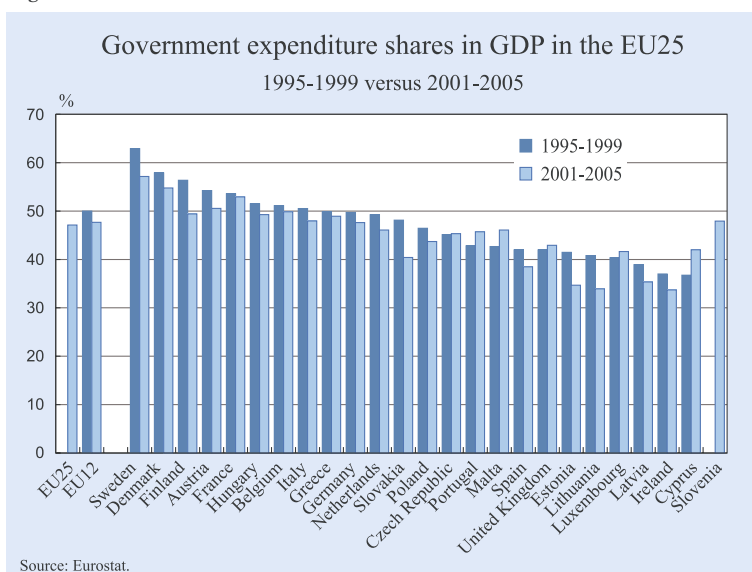[7] See our discussion in Chapter 2 of the 2006 EEAG report.

Figure 1.25

Government expenditure shares in GDP in the EU25
1995-1999 versus 2001-2005

- 1995-1999
- 2001-2005

Source: Eurostat.

Figure 1.26

Government gross fixed capital formation in the EU25
Percentage of GDP, 1995-1999 versus 2001-2005

- 1995-1999
- 2001-2005

Source: Eurostat.

Figure 1.27

Gross expenditure on R&D
Percentage of GDP, 2005/2004/2003 versus 2000/1999

- 2000(/1999)
- 2005(/2004/2003)

¹ 2004 ² 2003 ³ 1999
Source: Eurostat.
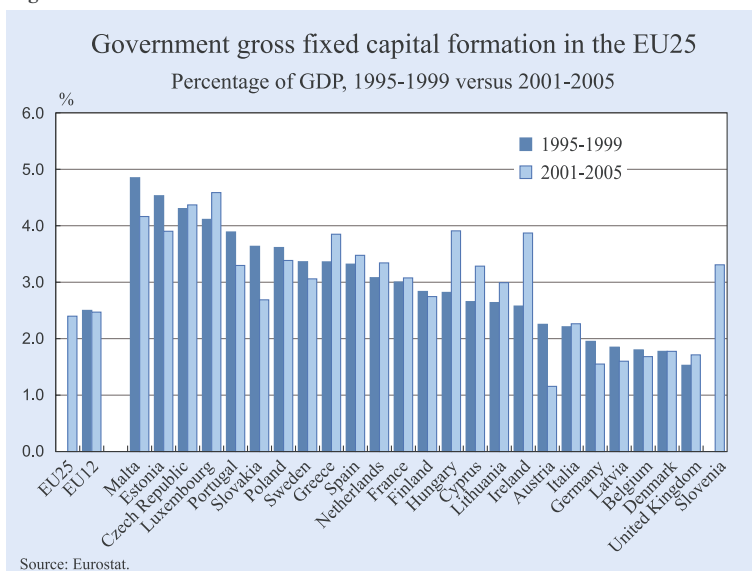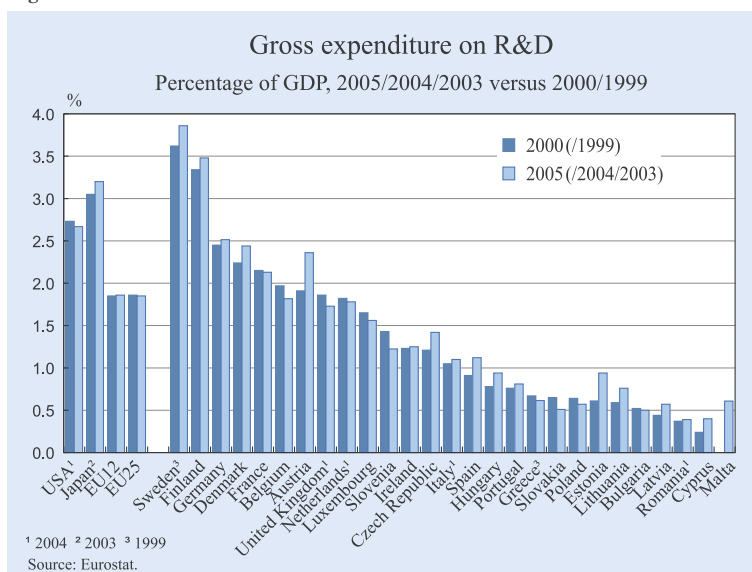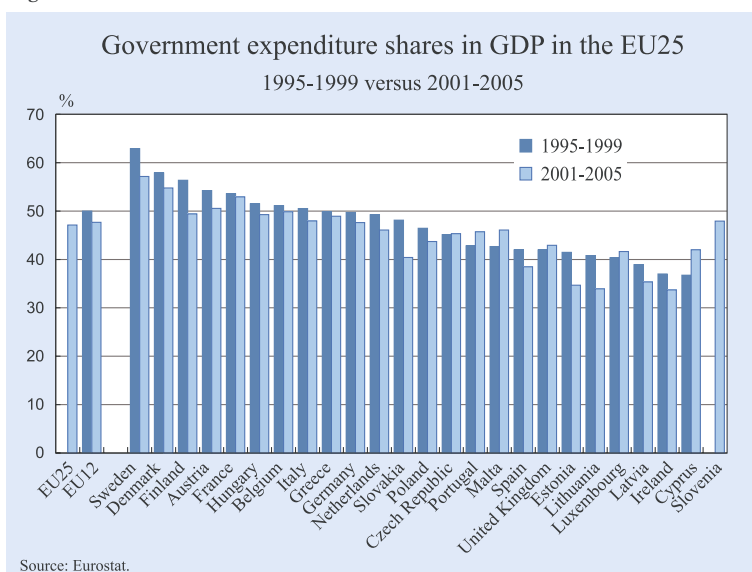
In that sense, some form of convergence with respect to government size appears to be taking place (see also Table 4.1 of Chapter 4).

With respect to the type of spending, some shifts have been made towards more public investment. Despite the reduction in government expenditure shares across Europe, government investment as a share of GDP has more or less stayed constant over the last decade (see Figure 1.26). Differences among countries are, however, substantial. Roughly half of the countries have seen increased public capital investment shares; the other half has experienced falling shares. Sharp increases have occurred in Ireland and Hungary; sharp falls in Austria and the Slovak Republic.

The Lisbon Strategy focuses attention on research and education. This would imply a re-allocation of government spending towards these areas in a growth enhancing way. Research ought to receive higher priority at the expense of, for example, subsidies to agriculture.

The EU goal for R&D spending as a share in GDP, as set by the Lisbon Summit strategy, is at least 3 percent in 2010. According to the latest Eurostat data, R&D expenditure as a percentage of GDP in the EU25 stood at 1.85 percent in 2005 (see Figure 1.27). This is virtually the same level as in 2000, the year in which the European Council set the strategic goal for the next decade "of becoming the most competitive and dynamic knowledge-based economy in the world". R&D intensity has remained significantly lower in Europe than in both Japan and

Figure 1.25

Government expenditure shares in GDP in the EU25
1995-1999 versus 2001-2005

■ 1995-1999
□ 2001-2005

Source: Eurostat.

Figure 1.26

Government gross fixed capital formation in the EU25
Percentage of GDP, 1995-1999 versus 2001-2005

■ 1995-1999
□ 2001-2005

Source: Eurostat.

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Gross expenditure on R&D
Percentage of GDP, 2005/2004/2003 versus 2000/1999

■ 2000(/1999)
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Source: Eurostat.

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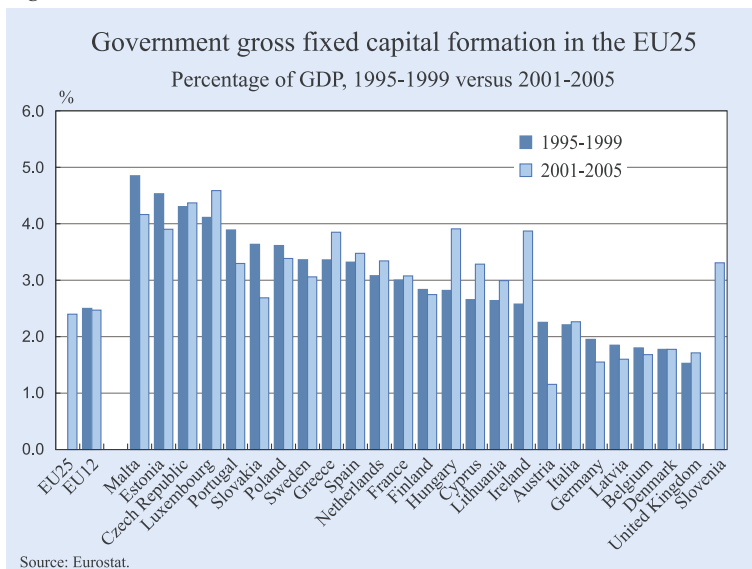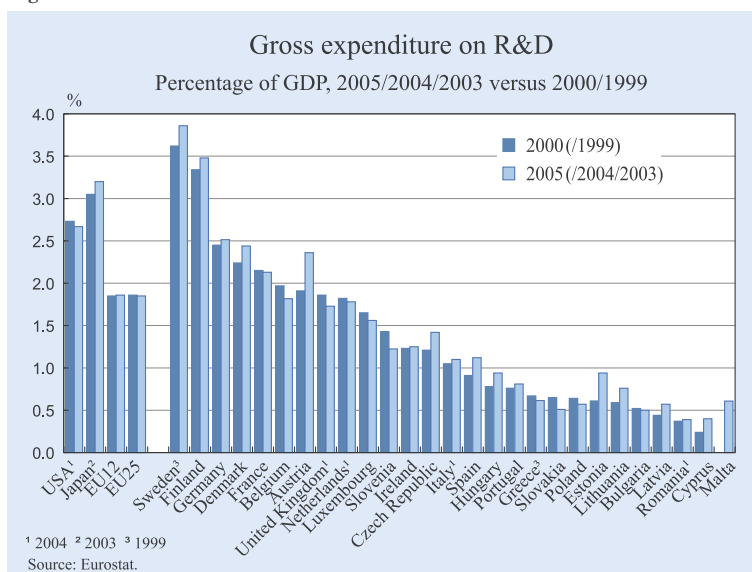
the US. Japan alone increased its R&D expenditure relative to GDP after 2000, whereas it remained quite stable in Europe and decreased somewhat in the US. However, the EU average hides wide discrepancies among member states. Only Sweden and Finland meet the Lisbon goal of R&D spending of at least 3 percent of GDP (see also Figure 4.5 in Chapter 4).

With only three years to go until 2010, Europe is still far off target for R&D spending and the progress made so far is very modest. R&D expenditures in both the government and the business sector still need to rise substantially. With respect to the public part, at least, Germany, Portugal and Latvia have announced their intention to prioritise R&D spending. Partly due to budgetary problems in Germany, the share of government R&D in GDP steadily decreased from 0.83 percent in 1996 to 0.76 percent in 2004. For similar reasons, in Portugal this share went from 0.49 percent in 2000 to 0.44 percent in 2003. Given that both countries still have considerable budgetary problems, it is questionable to what extent plans to raise this share are realistic.

A third type of investment in which public policy plays an important role is education. In an increasingly globalised world, where low-wage competition from countries like China, India and Brazil will intensify, structural change towards human-capital intensive sectors in Europe is necessary to cope with the situation. Also sustainable productivity growth requires continued investment in a highly skilled and adaptable workforce. Economies endowed with a skilled labour force are better able to create and make effective use of new technologies.[8] Educational attainment in Europe falls short of what is required to ensure that adequate skills are available in the labour market and that new knowledge that can subsequently be diffused across the economy is produced.

With respect to expenditures on education, developments in the euro area have basically stagnated since

Figure 1.28

Expenditure on educational institutions
Percentage of GDP

Source: Eurostat.
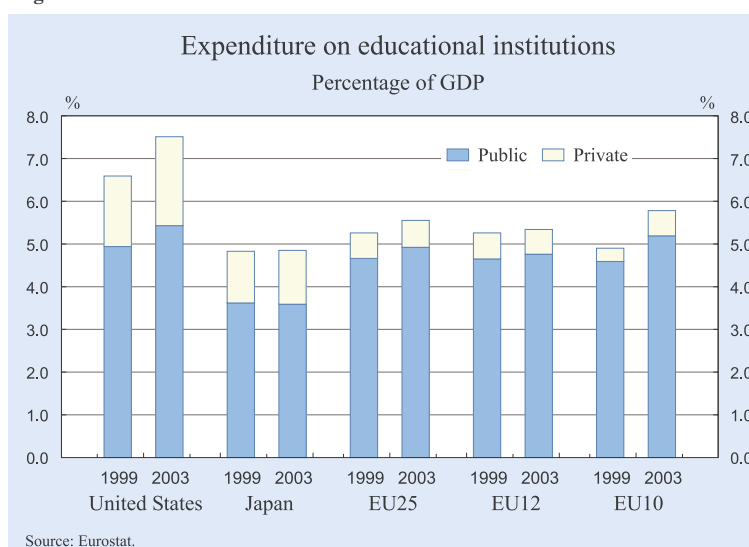
1999 (see Figure 1.28). The 0.3 percentage point increase in the share of these expenditures in GDP in the EU25 are almost exclusively due to increased spending in the ten new member countries. There, two thirds of the increase was financed by the public sector. The US has increased its lead. There, both public and private expenditures on education increased by close to $1/2$ percentage point between 1999 and 2003. The small role played by the private sector in funding education in Europe is notable. Whereas more than 25 percent of all educational institutions are financed privately in both Japan and the US, this share is only slightly above 10 percent in Europe.

Although European countries should not opt for a uniform growth strategy, as we discussed in our 2006 EEAG report, it seems clear that expenditures on R&D and education are too low in most EU states. They do not seem to be sufficient for the most developed countries to reach the aspired technological frontier.

4.2 Monetary policy

After having increased its main refinancing rate in six consecutive steps from 2 percent in early December 2005 to 3.5 percent in December 2006, the ECB is now standing at a crossroad: Are inflation expectations and growth prospects still high enough to warrant another rise, or should the interest rate be cut to cope with the forecasted mild slowdown? In our forecast we assume that the different tendencies will balance each other and that the ECB will keep its interest rate at the present level at least until the end of 2008.

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[8] For example, the complementarity between a skilled work force and ICT investment is stressed in Section 4.3 in Chapter 4 of this report. See also Chapter 2 in our 2006 report and Chapter 2 of our 2005 report.

Figure 1.29

Monetary conditions index in the euro area

Note: The MCI index is calculated as a weighted average of the real short-term interest rate (nominal rate minus core inflation rate) and the real effective exchange rate of the euro.
Sources: European Central Bank; Ifo Institute calculations.
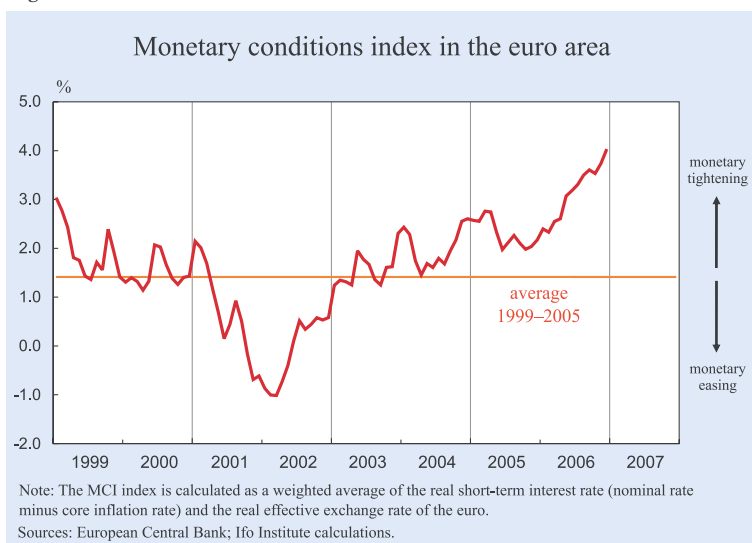
Monetary conditions

On the one hand, monetary policy affects aggregate demand and prices via interest rates. On the other hand, it may have an effect via exchange rate developments. The so-called monetary conditions index (MCI) captures both dimensions.[9] Whereas in the second half of 2005 the MCI for the euro area did not move much, it increased sharply during 2006, implying more restrictive monetary conditions in the euro area (see Figure 1.29). In 2005, the real depreciation of the euro more than compensated for the already increasing real interest rate.

In 2006, both the real appreciation of the euro and the increased real short-term interest rate moved the MCI in the same upward direction. Since the introduction of the euro, monetary conditions – measured by the MCI – have never been as restrictive as they are now. Holding nominal and real interest rates approximately constant, a likely continuation of the real appreciation of the euro will imply stricter monetary conditions throughout this and the next year. Based upon some correlation analyses, the smoothed MCI in the past on average has had a lead of approximately one year with respect to the European Sentiment INdicator (ESIN) of the euro area. Hence, by keeping the main refinancing rate fixed, monetary conditions will exert a restrictive influence on the euro area business cycle during this and the next year.

The monetary pillar of the ECB

Ever since its inception, the ECB has been criticised for its monetary policy strategy (see De Haan et al. 2005 for a discussion). A particularly controversial element in the ECB strategy is the role of money. In addition to a broad assessment of the risks to price stability, the ECB uses a quantitative reference value for the annual growth rate of a broad monetary aggregate (M3) to assess whether monetary developments pose a risk to price stability. Initial ECB comments as well as the initial labelling of monetary developments as the first pillar within the two-pillar strategy have suggested that money would be a dominant input into ECB policy decisions.[10]

After an evaluation of its monetary policy strategy, the ECB Governing Council decided in May 2003 that the introductory statement of the ECB President after a Governing Council meeting would henceforth start with the economic analysis to identify short- to medium-term risks to price stability. The monetary analysis will then follow to assess medium- to long-term trends in inflation in view of the close relationship between money and prices over extended horizons. Duisenberg explained these changes at the beginning of the press conference on 8 May 2003: "The introductory statement will henceforth present first economic analysis, followed by monetary analysis. It concludes by cross-checking the analyses conducted under these two pillars."

This decision was widely interpreted as implying that money had become less important in the ECB monetary strategy. The ECB kept to its two-pillar strategy but reduced the prominence of the monetary pillar by putting it second and discussing it after what initially was labelled the "broadly-based assessment". In this way, the monetary pillar is mainly used to cross-check what has since been labelled the "economic analysis". According to De Grauwe (2003): "The ECB is downgrading the importance of the money stock (M3) in

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[9] The MCI is calculated as a weighted average of the real short-term interest rate and the real effective exchange rate (based on consumer price indices) relative to their values in a base period. The relative weights of the interest rate and the exchange rate component are 6 to 1. As with the MCI published by the European Commission (DG ECFIN), these weights reflect each variable's relative impact on GDP after two years as derived from simulations in the OECD's Interlink model.

[10] When, for instance, ECB President Duisenberg was asked during a press conference on 13 October 1998 about the relative importance of money, he noted that "... it is not a coincidence that I have used the words that money will play a prominent role. So if you call it the two pillars, one pillar is thicker than the other is, or stronger than the other, but how much I couldn't tell you".

its monetary policy strategy, and rightly so. It just did not make sense anymore to pretend that the money stock is the most important variable to watch. This variable is so much polluted by noise that it rarely gave the right warning signal of future inflation." Svensson (2003) summarised and interpreted the Governing Council decision similarly and concluded that "[t]his is a change in the right direction, but it is not enough".

However, on various occasions, the ECB has stressed that, as in the past, the monetary analysis still plays a role in its monetary strategy. Berger et al. (2006) challenge this view by showing that in the actual press releases of the ECB the monetary pillar has not played a significant role – at least not during the Duisenberg era. Furthermore, according to the econometric analysis of the same authors, actual ECB interest rate decisions are barely influenced by considerations based on the monetary pillar. Policy intentions based on future developments in the real economy and on prices are the main factors explaining actual policy changes. This is in line with, for instance, Gerlach (2004), who concludes that most econometric estimates of reaction functions for the euro area fail to find that money growth plays a role in the ECB's interest rate decisions.

Sometimes, it is argued – also by the ECB – that monetary developments can be useful to assess asset market prices. However, the ECB at the same time has often stated that it does not explicitly target asset prices, thereby limiting the relevance of the argument. Furthermore, the argument implicitly assumes that it is actually possible to distinguish ex ante between a change in asset prices due to fundamental factors and those due to non-fundamental factors. Only if central banks have information that is superior to that of the private sector, would they be able to make such better judgments of asset market prices. As Mishkin (2001) puts it: "Without an informational advantage, the central bank is as likely to mis-predict the presence of a bubble as the private market and thus will frequently be mistaken." For the same reason, Bernanke and Gertler (2000) argue that a central bank dedicated to price stability should pay no attention to asset prices per se, except insofar as they are signals of changes in expected inflation. This is why the ECB indeed uses asset price developments in its economic pillar. Neither of the two pillars, however, should be directed towards assessing asset market developments.

In our view, the ECB would be ill-advised to disregard monetary factors, but that taking proper account of these does neither necessarily entail monitoring the growth rate of M3 nor does it require a separate monetary pillar. One should use all information available to make the best forecast possible of inflation (and real activity) in the economy.[11]

What has become more and more important in research on monetary policy as well as actual central bank practice is the role of expectations in the formulation of monetary policy. According to modern monetary theory, a central bank has basically two key instruments at its disposal to achieve price stability. First, it can directly affect the money market interest rate by setting refinancing rates. The extent that the money market rate affects other – and for private decisions more relevant – interest rates in the economy depends on future expected developments of the money market rate. Long-term interest rates will hardly react to changes in the refinancing rate if markets believe that these will only last for a short period. On the other hand, if markets expect money market rates to be affected for longer periods of time, long-term interest rates will change. More generally, market *expectations* are the second important channel via which a central bank can affect economic behaviour. Even without actual policy rate changes, a credible central bank can influence expectations of future developments in prices and the real economy and thereby affect interest rate expectations, which will lead, to a certain extent, to self-fulfilling prophecies. Monetary policy over time has more and more become the art of expectation management.

A Taylor rule for ECB policy

When using so-called Taylor rules to analyse the appropriate stance of monetary policy, it is again important to take a forward-looking perspective.[12] When exploring different ECB Taylor rules for the euro area, Sauer and Sturm (2007) conclude that only forward-looking specifications (by either taking expectations derived from surveys or assuming rational expectations) give estimated Taylor rules in line with both theoretical models and communicated behaviour of the ECB itself.

[11] This view is the dominating one among academic economists. See, for example, Gerlach (2004) for a succinct formulation.
[12] In 1993, John Taylor of Stanford University established a relationship between the central bank interest rate and two indicators: the deviation of inflation from its target and the output gap (Taylor 1993). The Taylor rule interest rate is generally seen as a benchmark interest rate for actual monetary policy.

For that reason, we explore a forward-looking Taylor rule in this section. Our "modified" Taylor rule is based on the idea that in order to ensure medium-term price stability, the central bank interest rate is managed to keep expected output growth and inflation at their target rates.[13] Any deviations of the expected inflation and growth rates from their targets will induce the central bank to adjust the interest rate. If the short-term interest rate is above this modified Taylor interest rate, it indicates that monetary policy is more restrictive than one would expect based on anticipations of inflation and output growth. If the actual interest rate is below the modified Taylor rate, it indicates that monetary policy is more expansionary than the inflation and economic growth expectations would suggest. The formula for the modified Taylor rate is as follows:
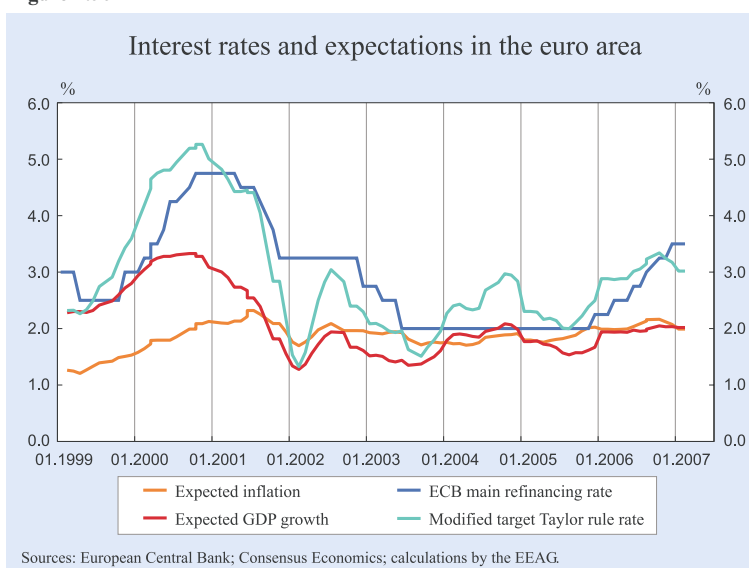
$$i^* = \bar{i} + \alpha(\pi^e - \bar{\pi}) + \beta(\Delta y^e - \Delta \bar{y}),$$

where i, π and Δy indicate, respectively, the nominal interest rate, the inflation rate and the GDP growth rate. Bars indicate equilibrium or target levels and the superscript e expectations for the next twelve months as compared to the preceding twelve months.[14] Expected growth and inflation rates are taken from consensus forecasts as published on a monthly basis by Consensus Economics Inc. α and β are the weights

Figure 1.30

Interest rates and expectations in the euro area

Legend:
- Expected inflation
- Expected GDP growth
- ECB main refinancing rate
- Modified target Taylor rule rate

Sources: European Central Bank; Consensus Economics; calculations by the EEAG.

given by the central bank to deviations from the inflation and growth targets.

The more expected growth exceeds trend growth, the higher the modified Taylor interest rate will be. In the same way, the more expected inflation exceeds its target, the higher the Taylor interest rate will be. We use data at the frequency of the ECB Governing Council meetings since 1999 to estimate the implicit weights given by the ECB itself.

In practice, it is commonly observed that, especially since the early 1990s, central banks worldwide tend to move policy interest rates in small steps without reversing direction quickly. To capture such interest rate smoothing, the previous equation is viewed as the mechanism by which the target interest rate, i^*, is determined. The actual interest rate i adjusts only slowly to this target according to $i = \rho_{i-1} + (1-\rho)i^*$, where ρ is the smoothing parameter. In our estimation procedure we follow this approach as well.

Figure 1.30 shows, besides the modified Taylor rule rate (without interest smoothing), the actual main refinancing rate set by the ECB, the expected inflation rate and the expected GDP growth rate for the next twelve months according to consensus forecasts.[15] Except for the winter of 2001/2002, in which

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[13] In our formulation, real economic developments are proxied by growth rates instead of output levels, as is more common in the Taylor rule literature. Under the assumption of constant potential output growth, this implies that instead of the level of the output gap, we include the expected change in the output gap. To underline this difference, we therefore label our estimated reaction function as the "modified" Taylor rule. For instance, Walsh (2003) and Geberding et al. (2004) have argued that such a "speed limit policy", or "difference rule", performs quite well in the presence of imperfect information about the output gap. Given that output gaps are notoriously difficult to measure and tend to be revised substantially over time, this appears quite plausible. Growth rates, on the other hand, are much less prone to data revisions. Secondly, the use of growth cycles has the advantage that they in general have a clear lead over classical cycles. Furthermore, most theoretical models abstract from long-run growth. When allowing for trend growth, it is possible to specify Taylor rules in terms of output growth rates. Finally, expectations and forecasts are normally formulated in terms of growth rates and are therefore readily available.

[14] The intercept term in this specification, $\bar{i}$ we interpret as the neutral nominal interest rate. The neutral interest rate corresponds to the nominal interest rate that would prevail if all prices were flexible. Woodford (2003) refers to this rate as the Wicksellian natural rate of interest. Put more practically, the neutral interest rate is equal to the nominal interest rate that would prevail if inflation is at target and output growth equals its trend rate.

[15] The estimation results imply the following equation in which all estimated parameters are statistically significant and the residuals do not show any signs of autocorrelation or heteroscedasticity:

$$i = \rho i_{-1} + (1-\rho)(\bar{i} + \alpha(\pi^e - \bar{\pi}) + \beta(\Delta y^e - \Delta \bar{y}))$$

$$i = 0.87 i_{-1} + (1 - 0.87)(2.96 + 1.54(\pi^e - 1.87) + 1.65(\Delta y^e - 2.11))$$

both growth and inflation expectations plummeted, the estimated modified Taylor rule appears to lead actual ECB interest rate decisions quite well. If the Taylor rate lies above the ECB main refinancing rate, then the chances for an interest rate increase are higher than for a decrease. The reverse holds for Taylor rates below the actual ECB interest rate.

Lower expected inflation in the euro area over the next twelve months caused the modified Taylor rate to fall below the actual rate at the end of last year. Despite that, actual inflation rates were above target until September 2006 and inflation expectations remained stable throughout 2006 at around 2 percent – thereby indicating that ECB monetary policy is credible.

To summarise, not only does our monetary condition index indicate that monetary policy was rather restrictive in 2006, also our expectations-based Taylor rule suggests that the ECB main refinancing rate is above target. We therefore do not expect another increase in the interest rate soon. If anything, a decrease is more likely.

Nevertheless, given the rhetoric of the ECB – stressing the upward risks with respect to inflation due to the abundant liquidity in the eurosystem as well as oil price and wage developments – we expect a constant refinancing rate at 3.5 percent, equivalent to a 3.7 percent, three-month money market rate. While many would still consider it to be roughly neutral, our Taylor rule estimates and the continuing appreciation of the euro suggest that this rate exerts contractionary effects.[16]

As we argued last year (EEAG 2006), slow progress on the side of fiscal authorities to reduce deficits may force the ECB to keep interest rates high to keep inflation around target. Hence, stronger fiscal consolidation efforts, as recommended above, could create room for lower interest rates.

How well does "one size fit all"?

A topic that is regularly discussed among ECB watchers is the cost for the euro area countries of having a common monetary policy. A single monetary policy almost by definition implies that policy will not be appropriate for everybody. The larger the difference

between the actual monetary policy and the monetary policy preferred by individual member countries, the more likely it is that the ECB will be under political pressure. In line with Clarida et al. (1998), we will henceforth label this difference *country-specific stress* – stress in a monetary system occurs when for whatever reason a central bank is unable to set its policy instrument optimally.[17] We provide stress indicators whose evolution over time supplies important information concerning the adequacy of the single monetary policy for each of the EMU member countries (see Box 1.3).

The main results of this exercise are reported in Table 1.3. Assuming the ECB had conducted monetary policy for Ireland alone, it would on average have set the interest rate 1.2 percentage points higher. At the other extreme is Germany. There, the interest rate would, on average, have been almost 0.4 percentage points lower. Belgium and Italy are the countries with the lowest absolute levels of such structural stress in the euro area.

Table 1.3 also shows the difference in the neutral rate between the euro area and three EU countries outside the euro area under the assumption that the behaviour of the central banks of the latter could be well described by the reaction function of the ECB.[18] Whereas for both Denmark and Sweden, the differences are not very large, a difference of more than 0.4 percentage points for the UK is more substantial.

Besides overall structural stress, Table 1.3 reports the deviations between the modified Taylor rate for the euro area and the corresponding country-specific Taylor rates that are due to cyclical differences. By construction these differences sum to zero over the estimation sample for each country.[19] Not only was structural stress the highest for Ireland, but also with respect to cyclical deviations, Ireland shows the strongest cyclical stress: The Root Mean Squared Error (RMSE) – measuring the degree of volatility – exceeds those of all other countries. This is explained by both a more pronounced growth cycle in Ireland than elsewhere and different timing of the cycle.

[16] The 99 percent confidence interval around our estimated neutral nominal interest rate of 2.96 percent equals [2.63, 3.29], which does not include 3.5 percent.

[17] Clarida et al. (1998) were the first to propose a so-called stress indicator, which they used to analyse the causes of the 1992/93 crisis of the European Monetary System (EMS).
[18] It is not possible to carry out this analysis for the new EU member countries as data on GDP growth and inflation expectations back to 1999 are not available.
[19] Differences in the number of ECB Governing Council meetings during the years allows the sum of the reported year averages to differ from zero. Whereas in 1999 there were only ten relevant meetings, in 2001 to 2004, eleven meetings took place. In 2005 and 2006, we take twelve meetings into account and in 2000 13 such meetings.

Box 1.3

Computing stress

In theory, the unobserved optimal monetary policy rule for a country depends upon both structural and preference parameters. The former relate to how the economy works, whereas the latter summarise the preferences of the central bank. We assume that all EMU member countries voluntarily decided to participate, thereby signalling that in principle the institutional set-up of the ECB – and thereby the preference parameters as implied by the ECB – is preferred over the situation prevailing before the euro.[a] However, at the same time, we also assume that the functioning of the economy, that is, the structural parameters, is basically the same across all member countries. As the ECB has to take into account developments on the aggregate European level, asymmetries in inflation and cyclical developments across countries will generate differences between the actual interest rate and the interest rate that would have applied if the same Taylor rule as that of the ECB had been applied on the national level, responding to national inflation and growth instead of to the euro area aggregates. We call the difference *country-specific stress*. Hence,

$$S = (i - i_j^*) = (i^* - i_j^*) + (i - i^*) = S_j^* + (i - i^*)$$
$$i_j^* = \bar{i}_j + \alpha(\pi_j^e - \bar{\pi}_j) + \beta(\Delta y_j^e - \Delta \bar{y}_j) = \bar{r} + \bar{\pi}_j + \alpha(\pi_j^e - \bar{\pi}_j) + \beta(\Delta y_j^e - \Delta \bar{y}_j),$$

where α and β are taken from the estimated Taylor rule for the euro area as a whole and j indicates an individual euro area member. A negative value for S_j implies that – given the estimated ECB reaction function – actual monetary policy of the ECB for country j is more accommodative than what could be expected using country-specific data. If, on the other hand, S_j is positive, monetary policy appears too tight for country j.

Following Flaig and Wollmershäuser (2006), we analyse the development of the dispersion of expected real GDP growth and inflation across the euro area countries. Again we use consensus forecasts figures to capture the forward-looking aspect of monetary policy.[b] We are able to decompose country-specific stress (S_j^*) into, on the one hand, structural and cyclical components and, on the other hand, inflation- and growth-driven stress.[c]

Structural stress is defined as the difference between the estimated neutral interest rate for the euro area and the implied neutral interest rate for the country in question. We split up the neutral nominal interest rate in the neutral real interest rate and the inflation target which we proxy for each country by its expected inflation average over the sample. We assume the neutral real interest rate to be the same across all European countries, that is $\bar{i}_j = \bar{r} + \bar{\pi}_j$ where r is the real interest rate.[d] Given this assumption, the difference between the neutral nominal interest rate for the euro area and that for a specific country is solely due to the long-run inflation differential.[e] For the euro area as a whole the estimated nominal and real neutral rates are about 3 percent and 1.1 percent, respectively.

[a] In implementing this concept, Flaig and Wollmershäuser (2006) take the optimal monetary policy rule to correspond to the policy rule that was adopted by the country in the pre-EMU period. They thereby take an extreme position. Besides keeping the structural parameters constant over time and country-specific, they also assume that the euro was forced upon the participating countries and that each individual nation would prefer a central bank with a similar behaviour as its own before the establishment of the monetary union. Hence, they keep the preference parameters in the policy rule constant over time and country-specific. For many countries the move to a more independent and thereby more credible central bank actually was (and still is) a strong motive for participating in the monetary union. This did not only apply for most southern European countries, which were in this way able to lower both their interest rates as well as there inflation rates substantially, but also for a country like Finland (see Section 5 in Chapter 4 of this report).
[b] As Consensus Economics Inc. does not publish inflation and growth forecasts for Luxembourg, we are not able to include this country in our analysis. Given its GDP share of approximately 0.3 percent of euro area GDP, this will hardly affect the results.
[c] We concentrate on the difference between the euro area optimal interest rate and the country-specific optimal interest rate, that is, we focus on S_j^* in the above equation and neglect the term $(i-i^*)$ – the difference between the actual interest rate and the optimal interest rate for the euro area. This latter term is constant across countries and therefore irrelevant for a cross-country comparison.
[d] Following Laubach and Williams (2003) or Giammaioli and Valla (2003), it would be possible to let the neutral real interest rate be a function of the trend growth rate. While the estimated ECB policy rule and the cyclical stress measures would not be affected by this, it would introduce a second structural source for stress, "stress due to different trend growth rates", and therefore increase overall stress levels somewhat.
[e] Hence, we allow target inflation rates to differ across countries and approximate these targets by the average expected inflation rate since 1999. Restricting the country-specific target inflation rate to be equal to the target inflation rate for the euro area implies that there are no longer any structural differences and inflation differentials are solely attributed to cyclical stress. Overall stress is only affected by such a change to a small extent.

With inflation expectations above $3\frac{1}{2}$ percent during the first half of 2006 and expectations as low as $1\frac{1}{4}$ percent in 2005, cyclical fluctuations in inflation were rather strong in the Netherlands during the past eight years. These cyclical changes in inflation expectations would have warranted a 1.6 percentage point higher main refinancing rate for the Netherlands in 2001 and a 1.25 percentage point lower one in 2005. Cyclical stress in Germany, on the other hand, has been relatively low overall. Only the year 2003, in which inflation expectations in Germany were rather low, stands out in this cyclical perspective; combined also with cyclically low growth, the main refinancing rate should have been almost 0.7 percentage points lower from a purely German perspective that year.

For Denmark and Sweden, if their central banks had used the same reaction function as the ECB, the cyclical stress would have been comparable to the situation in countries like Austria and Finland and clearly lower than for countries like Ireland, the Netherlands and Portugal. The cyclical stress for the UK would, however, have been much larger than in

Table 1.3

Decomposition of country stress level

	Structural	Cyclical								
	99–06	1999	2000	2001	2002	2003	2004	2005	2006	RMSE
Austria	0.24	0.42	0.67	0.21	0.20	0.05	0.27	− 1.27	− 0.48	0.65
Belgium	0.12	0.39	0.18	0.24	0.39	0.57	− 0.02	− 0.96	− 0.63	0.57
Finland	0.19	− 0.18	− 0.90	− 0.83	0.77	0.16	0.96	0.07	0.08	0.72
France	0.36	0.27	0.19	0.60	− 0.03	− 0.15	− 0.52	− 0.46	0.12	0.40
Germany	0.37	− 0.15	− 0.27	− 0.13	0.18	0.69	− 0.08	0.17	− 0.35	0.35
Greece	− 1.08	0.52	1.72	0.49	− 0.68	− 1.70	− 0.78	0.06	0.09	1.10
Ireland	− 1.20	− 1.88	− 2.36	− 2.07	0.81	0.41	2.74	1.08	1.31	1.88
Italy	− 0.16	0.27	0.14	− 0.09	− 0.41	− 0.83	− 0.30	0.41	0.72	0.54
Netherlands	− 0.29	− 0.72	− 1.35	− 1.92	− 0.68	0.83	1.94	1.64	0.27	1.39
Portugal	− 0.65	− 1.93	− 0.21	− 0.45	− 0.46	− 0.12	0.62	0.40	1.80	1.04
Spain	− 0.92	0.16	0.95	0.80	0.41	− 0.66	− 0.04	− 0.77	− 0.86	0.74
Denmark	− 0.19	0.06	0.86	0.96	− 0.28	− 0.79	0.13	− 0.57	− 0.43	0.68
Sweden	0.29	1.07	0.08	0.73	− 0.55	− 0.68	0.21	0.05	− 0.75	0.75
United Kingdom	− 0.44	1.24	1.08	1.18	− 0.25	− 1.26	− 1.36	− 0.62	− 0.03	1.10
of which related to differences in inflation expectations										
Austria	0.24	0.03	0.11	0.09	0.10	0.09	0.20	− 0.52	− 0.06	0.26
Belgium	0.12	− 0.10	− 0.08	0.21	0.22	0.43	0.07	− 0.40	− 0.29	0.31
Finland	0.19	− 0.52	− 0.72	− 0.55	− 0.16	0.25	0.94	0.34	0.44	0.57
France	0.36	0.28	0.36	0.57	0.02	− 0.36	− 0.58	− 0.32	0.02	0.38
Germany	0.37	− 0.08	− 0.14	− 0.22	0.12	0.59	0.19	0.00	− 0.39	0.31
Greece	− 1.08	− 0.46	0.54	0.60	− 0.06	− 0.36	− 0.17	− 0.20	0.00	0.46
Ireland	− 1.20	0.19	− 0.63	− 0.86	− 0.45	− 0.96	0.97	1.01	0.72	0.87
Italy	− 0.16	− 0.01	− 0.05	0.22	0.11	− 0.31	− 0.31	0.05	0.27	0.24
Netherlands	− 0.29	− 0.48	− 0.71	− 1.58	− 0.86	− 0.05	1.11	1.25	1.19	1.05
Portugal	− 0.65	− 0.87	0.03	− 0.14	− 0.21	− 0.43	0.27	0.48	0.68	0.50
Spain	− 0.92	0.29	0.30	0.12	0.02	− 0.27	0.09	− 0.18	− 0.35	0.27
Denmark	− 0.19	− 0.96	− 0.74	0.33	0.10	− 0.11	0.45	0.47	0.42	0.55
Sweden	0.29	0.44	− 0.03	− 0.19	− 0.93	− 0.83	0.35	0.84	0.30	0.63
United Kingdom	− 0.44	− 0.74	0.17	0.68	0.23	− 0.40	− 0.27	0.08	0.14	0.45
of which related to differences in growth expectations										
Austria		0.39	0.56	0.13	0.10	− 0.04	0.07	− 0.75	− 0.42	0.45
Belgium		0.48	0.26	0.03	0.17	0.14	− 0.09	− 0.57	− 0.34	0.38
Finland		0.34	− 0.18	− 0.28	0.93	− 0.09	0.02	− 0.27	− 0.35	0.49
France		0.00	− 0.17	0.03	− 0.04	0.21	0.06	− 0.14	0.10	0.20
Germany		− 0.07	− 0.13	0.10	0.06	0.10	− 0.27	0.17	0.03	0.20
Greece		0.98	1.19	− 0.11	− 0.62	− 1.34	− 0.61	0.27	0.09	0.88
Ireland		− 2.07	− 1.73	− 1.21	1.26	1.37	1.77	0.07	0.59	1.46
Italy		0.28	0.18	− 0.30	− 0.52	− 0.53	0.01	0.35	0.45	0.43
Netherlands		− 0.25	− 0.64	− 0.34	0.18	0.89	0.83	0.38	− 0.92	0.69
Portugal		− 1.06	− 0.24	− 0.30	− 0.25	0.31	0.36	− 0.08	1.12	0.64
Spain		− 0.13	0.66	0.68	0.38	− 0.39	− 0.12	− 0.59	− 0.51	0.55
Denmark		1.02	1.60	0.63	− 0.38	− 0.67	− 0.32	− 1.04	− 0.85	0.96
Sweden		0.63	0.11	0.92	0.38	0.15	− 0.14	− 0.79	− 1.05	0.70
United Kingdom		1.98	0.90	0.50	− 0.48	− 0.86	− 1.09	− 0.69	− 0.17	1.04

countries of relatively similar size like France or Germany. Especially GDP growth expectations have not been synchronised with the euro area. Hence, if similar cyclical deviations persist, they provide a good argument for the UK to remain outside the euro area.

It is not surprising that we estimate higher stress in smaller countries. Due to their size, the ECB – when focusing upon the euro area as a whole – gives more weight to large economies. From a purely European perspective and assuming the ECB takes a truly

aggregate euro area perspective, it makes more sense to weigh stress levels by country shares in GDP.[20] To be able to aggregate stress indicators to the euro area, we furthermore neglect the sign of the stress level at a country level.[21] Hence, aggregate stress in the euro area is computed as a weighted average of absolute country-specific stress levels. Such a stress indicator can serve as a useful measure of relevant divergence tendencies in the euro area.

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[20] By construction these weighted stress levels sum to zero over the euro area member countries for each point in time.
[21] We make the simplifying assumption that too high and too low interest rates are causing stress to an equal degree.

Table 1.4

Decomposition of the absolute stress levels, weighted by country GDP

	Total	Structural	Cyclical								
	99–06	99–06	99–06	1999	2000	2001	2002	2003	2004	2005	2006
Germany	0.110	0.108	0.082	0.045	0.079	0.040	0.063	0.203	0.029	0.084	0.104
Spain	0.100	0.096	0.065	0.019	0.100	0.083	0.047	0.069	0.018	0.081	0.089
France	0.096	0.076	0.067	0.059	0.051	0.128	0.029	0.034	0.111	0.099	0.031
Netherlands	0.079	0.018	0.077	0.046	0.085	0.122	0.043	0.053	0.123	0.103	0.036
Italy	0.081	0.029	0.078	0.048	0.025	0.033	0.073	0.149	0.054	0.109	0.129
Ireland	0.030	0.022	0.029	0.034	0.042	0.037	0.015	0.010	0.049	0.019	0.024
Greece	0.027	0.023	0.018	0.014	0.036	0.013	0.014	0.036	0.024	0.005	0.003
Belgium	0.019	0.004	0.018	0.014	0.007	0.013	0.015	0.021	0.016	0.036	0.023
Austria	0.018	0.007	0.016	0.013	0.021	0.012	0.008	0.006	0.012	0.039	0.015
Portugal	0.018	0.012	0.014	0.036	0.004	0.009	0.008	0.006	0.012	0.009	0.033
Finland	0.012	0.004	0.011	0.005	0.018	0.018	0.015	0.008	0.019	0.003	0.003
Euro Area	0.592	0.399	0.476	0.333	0.468	0.509	0.331	0.595	0.467	0.588	0.491

The use of economic weights should assure that no systematic differences in stress levels occur in the long run. Hence, in case the political weights attached by the ECB to each member country equal their economic weight, then all stress should be more or less randomly distributed across the individual countries. Table 1.4 shows that this is not the case: Especially the large countries, and in particular Germany, have much higher weighted absolute stress levels and therefore implicitly have received a lower political weight than suggested by their economic share in euro area GDP. Hence, this analysis suggests that developments in small member countries have received a more than proportional weight in the monetary policy decisions of the ECB.

Our measure of aggregate stress in the euro area as defined above on average equals 0.6 percentage points and does not show a clear trend over time (see Table 1.4). Hence, these results do not suggest that the degree of business cycle synchronisation has steadily increased during the past eight years. This speaks against the argument that the monetary union would automatically reduce differences in cyclical developments among the member countries.

Nevertheless, stress levels are not constant over time. Figure 1.31 shows how overall stress and some of its subcomponents have evolved. In particular, during 2003 and in the summer of 2005 stress levels were relatively high

in the euro area. In 2003, mainly low inflation in Germany and low growth in Italy were responsible for this. On the other hand, in the aftermath of the burst of the New Economy bubble, we see a clear fall in absolute cyclical stress levels, indicating that a common shock hit the euro area. This allowed the ECB to reduce stress in all member countries at the same time.

In 2000 and 2001 the largest part of euro area stress was accounted for by France and the Netherlands. Over time the burden first shifted to Germany (2002 and 2003) and later to especially Spain and Italy (see Figure 1.32). Whereas for Germany and Spain problems were mainly of a structural nature, the Italian and Dutch stress levels were to a larger extent caused by cyclical problems.
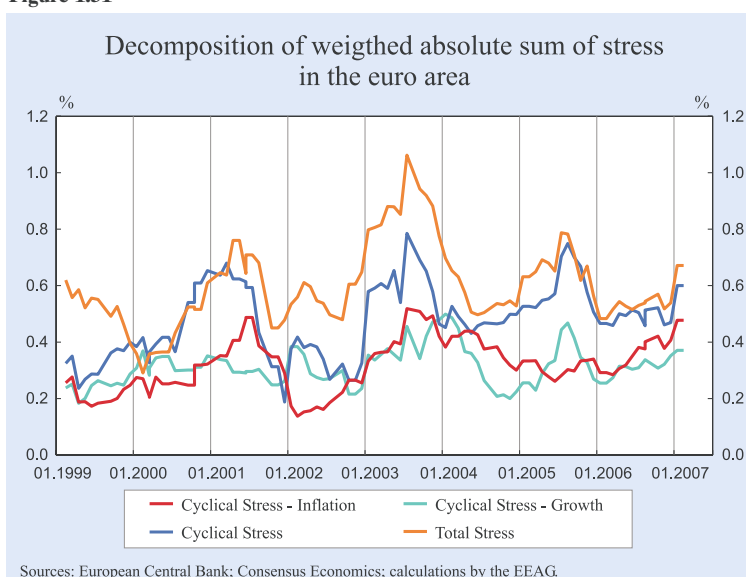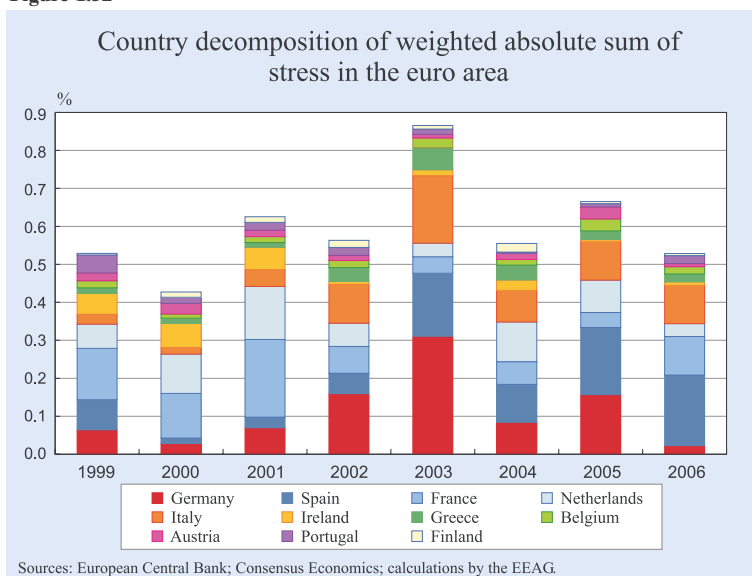
Figure 1.31

Decomposition of weigthed absolute sum of stress in the euro area

Sources: European Central Bank; Consensus Economics; calculations by the EEAG.

Figure 1.32

Country decomposition of weighted absolute sum of stress in the euro area

Sources: European Central Bank; Consensus Economics; calculations by the EEAG.

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Appendix 1:
Forecasting Tables

Table A1

Real gross domestic product, consumer prices and unemployment rates

	Weighted (GDP) in %	Gross domestic product			Consumer prices			Unemployment rate[d]		
		in %			in %			in %		
		2006	2007	2008	2006	2007	2008	2006	2007	2008
EU27	34.3	2.9	2.2	2.5	2.2	2.2	1.9	7.9	7.7	7.4
Switzerland	1.0	2.7	2.2	1.5	1.1	0.5	0.9	4.0	3.2	3.1
Norway	0.6	2.7	2.4	2.3	2.2	2.1	2.2	3.6	3.3	3.4
Western and Central Europe	36.0	2.9	2.2	2.5	2.2	2.2	1.9	7.7	7.5	7.2
US	32.9	3.4	2.5	2.8	3.2	2.7	2.6	4.7	4.9	4.9
Japan	12.3	2.1	2.0	2.2	0.3	0.3	0.5	4.2	4.0	3.7
Canada	2.7	2.8	2.2	2.4	2.2	2.0	2.0	6.4	6.6	6.5
Industrialised countries total	83.8	3.0	2.3	2.6	2.3	2.1	2.0	6.0	5.9	5.8
Newly industrialised countries										
Russia	1.8	6.5	6.0	6.0	9.5	9.0	7.5	7.0	6.8	6.4
East Asia[a]	4.7	5.2	4.4	4.6	.	.	.	.	.	.
China	5.1	10.5	10.0	10.0	.	.	.	.	.	.
Latin America[b]	4.6	4.8	3.8	4.0	.	.	.	.	.	.
Newly industrialised countries total	16.2	6.9	6.2	6.3	.	.	.	.	.	.
Total[c]	100.0	3.6	2.9	3.2	.	.	.	.	.	.
World trade, volume		8.5	7.5	8.0	.	.	.	.	.	.

[a] Weighted average of Korea, Taiwan, Indonesia, Thailand, Malaysia, Singapore and the Philippines. Weighted with the gross domestic product of 2005 in US dollars. – [b] Weighted average of Brazil, Mexico, Argentina, Columbia, Venezuela, Chile and Peru. Weighted with the gross domestic product of 2005 in US dollars. – [c] Sum of the listed groups of countries. Weighted with the gross domestic product of 2005 in US dollars. – [d] Standardised unemployment rates.

Sources: EU; OECD; IMF; National Statistical Offices; 2006, 2007 and 2008: calculations by the EEAG.

Table A2

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

	Weighted (GDP) in %	Gross Domestic Product			Consumer Prices[a]			Unemployment rate[b]		
		in %			in %			in %		
		2006	2007	2008	2006	2007	2008	2006	2007	2008
Germany	20.9	2.5	1.7	2.2	1.8	2.5	1.5	8.4	8.2	8.0
France	15.7	2.1	1.8	2.1	2.0	1.5	1.7	9.2	8.8	8.6
Italy	13.1	1.7	1.2	1.4	2.2	1.8	2.0	7.1	6.9	6.8
Spain	7.8	3.7	3.0	3.3	3.5	3.2	2.9	8.3	7.7	7.5
Netherlands	4.5	3.0	2.2	2.5	1.6	1.4	1.5	4.0	3.8	3.7
Belgium	2.7	3.1	2.3	2.6	2.3	2.0	1.9	8.5	8.4	8.2
Austria	2.2	3.3	2.3	2.6	1.7	1.6	1.7	4.9	4.8	4.6
Greece	1.6	4.1	3.7	3.9	3.3	3.1	2.9	9.1	8.9	8.7
Finland	1.4	5.8	4.0	3.4	1.2	1.5	1.3	7.9	7.8	7.7
Ireland	1.4	5.2	4.5	4.9	2.7	2.6	2.4	4.4	4.5	4.3
Portugal	1.3	1.5	1.4	1.3	3.2	2.6	2.2	7.4	7.3	7.2
Slovenia	0.3	5.1	3.8	4.2	2.3	2.4	2.1	6.1	6.1	5.9
Luxembourg	0.2	6.2	4.2	4.5	3.0	2.8	2.5	4.8	4.7	4.5
Euro area[c]	73.2	2.7	2.0	2.3	2.2	2.1	1.8	7.8	7.6	7.4
United Kingdom	17.1	2.6	2.4	2.4	2.2	2.0	1.9	5.5	5.7	5.6
Sweden	2.7	4.3	3.6	3.1	1.6	1.9	2.1	6.5	6.4	6.2
Denmark	1.9	3.1	2.1	2.0	1.9	2.1	2.0	3.9	3.8	3.7
EU16[c]	94.8	2.7	2.1	2.3	2.2	2.1	1.9	7.4	7.2	7.0
Poland	1.9	5.4	4.6	5.0	1.3	2.1	2.2	14.6	14.0	13.3
Czech Republic	0.8	6.2	4.7	4.5	2.1	2.6	2.5	7.2	6.9	6.7
Hungary	0.8	3.9	2.0	2.7	4.0	3.8	4.1	7.5	7.5	7.3
Romania	0.6	6.5	5.0	5.5	6.7	7.0	6.9	7.8	6.9	6.5
Slovak Republic	0.3	6.4	5.7	6.0	4.2	3.5	3.7	13.4	13.0	12.4
Lithuania	0.2	8.5	7.3	7.5	3.7	3.3	3.4	5.8	5.3	5.0
Bulgaria	0.2	5.7	5.8	6.1	7.2	5.6	4.9	8.6	8.2	7.9
Cyprus	0.1	4.0	3.5	3.8	2.3	2.1	2.2	5.2	5.3	5.2
Latvia	0.1	11.0	8.8	9.4	6.4	6.1	6.2	7.2	6.6	6.3
Estonia	0.1	11.2	8.6	9.1	4.3	4.1	4.2	5.2	4.5	4.3
Malta	0.0	2.4	1.9	2.2	2.8	2.4	2.3	7.5	7.5	7.1
EU Acceding Countries	5.2	5.8	4.6	4.9	3.1	3.4	3.4	10.2	9.7	9.2
EU27[c]	100	2.9	2.2	2.5	2.2	2.2	1.9	7.9	7.7	7.4

[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 2005 in US dollars; unemployment rate weighted with the number of employees in 2004.

Sources: EUROSTAT; OECD; IMF; 2006, 2007 and 2008: calculations by the EEAG.

Table A3

Key forecast figures for the euro area

	2005	2006	2007	2008
	Percentage change over previous year			
Real gross domestic product	1.4	2.7	2.0	2.3
Private consumption	1.4	1.9	1.6	1.8
Government consumption	1.3	1.9	1.5	1.6
Gross fixed capital formation	2.3	4.8	3.9	4.2
Net exports[a]	– 0.2	0.2	– 0.1	0.0
Consumer prices[b]	2.1	2.2	2.1	1.8
	Percentage of nominal gross domestic product			
Government financial balance[c]	– 2.4	– 2.0	– 1.5	– 1.3
	Percentage of employees			
Unemployment rate[d]	8.6	7.8	7.6	7.4

[a] Contributions to changes in real GDP (percentage of real GDP in previous year). – [b] Harmonised consumer price index (HCPI). – [c] 2006, 2007 and 2008: forecast of the European Commission. [d] Standardised.

Source: Eurostat; 2006, 2007 and 2008: forecasts by the EEAG.

Appendix 2:
Ifo World Economic Survey (WES)

The Ifo World Economic Survey (WES) assesses worldwide economic trends by polling transnational as well as national organisations 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 2006, approximately 1000 economic experts in 90 countries were polled. WES is conducted in cooperation with the International Chamber of Commerce (ICC) in Paris and receives financial support from the European Commission. The survey questionnaire focuses on qualitative information: assessments of a country's general economic situation at present and expectations regarding important economic indicators by the end of the next six months. It has proved to be a useful tool, since it reveals economic changes earlier than conventional 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 strengthen, whereas grades within the range of 1 to 5 reveal predominantly negative replies or expectations of weakening trends. The survey results are published as aggregated data at the national or country group level. 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.

In October 2006, the World Economic Climate – the arithmetic mean of the present and expected judgements of the economic situation – deteriorated somewhat for the second time in succession. The climate indicator now stands at 104.7 (after 105.6 in July: 1995=100), which is still considerably above its long-term average (1990–2005: 94.3). Similar to the July survey, only the future economic outlook has been slightly downgraded, whereas the assessment of the current economic situation has further improved.

1. World economy: Present economic situation continues to improve

According to the October results, the index of the current economic situation continued to improve and is approaching the all-time high that was reached six years ago, at the end of 2000. But, as economic expectations – the second component of the economic climate index – have been again downgraded, the overall economic climate deteriorated somewhat. This data constellation is typical for the late phase of an upswing.

The data mainly reflect business sentiments in the *US, Germany, China and Japan* – countries that account for more than 30 percent of total world trade. In both Asian countries, the economic climate improved relative to the July survey, with both its two components – present economic situation and expectations – pointing upward. Particularly *China's* economic weight in the world economy is strongly increasing and has almost reached the weight of Germany, measured by the share of imports and exports in total world trade. The economic climate index has risen somewhat also in the *US*. However, while the present economic situation deteriorated somewhat, according to the surveyed experts, the economic expectations for the coming six months have been upgraded, pointing to a moderate downturn in the near future. The German picture is completely different. Here the assessments of the present economic situation are approaching the all-time high of 2000. However, given the VAT (value added tax) rise from 16 to 19 percent in 2007, the outlook signals some economic cooling in the next six months.

For a global, medium-term forecast a look at the Ifo Business Clock, which shows the development of the two components of the economic climate index over the last six years, visualises the trend. In the second half of 2006, the economic climate index started to approach a regular contraction phase. However, as the economic environment remains favourable, with strong Asian economies, moderate inflation rates and stabilising or even falling interest rates, a soft landing appears likely.

2. Western Europe: Forecasts of economic slowing

The panel's assessment of the current economic situation has followed a positive trend since July 2005 and is now approaching the all-time high of 2000. However, the overall economic climate indicator slipped slightly in October, due to less optimistic economic expectations for the next six months in the majority of the Western European countries.

The assessment of the present economic situation improved in almost all countries of the euro area, except *Finland*, where a very favourable level was reached already in July 2006, and *Greece*, where the present economic situation has stabilised at a satisfactory level. The most positive assessments of the current situation were made in *Ireland, Finland, the Netherlands, Austria, Spain, Belgium and Germany.* While in the other countries of the euro area the present economic performance was assessed close to or above the satisfactory level, it remained unfavourable in *Portugal*. However, the economic expectations for *Portugal* are highly optimistic for the first half of 2007. *Austria and Greece* were the only countries in the euro area, where the outlook for the coming six months has brightened over the July survey. In all the other countries of the euro area, economic expectations have been downgraded somewhat, particularly in *Germany, Ireland, Italy and the Netherlands.*

In the Nordic countries outside the euro area – *Denmark, Norway and Sweden* – the economic climate remains highly favourable. In Denmark and Norway, the present economic situation has been given the highest possible marks on the WES scale and the outlook for the first half of 2007 promises further strengthening of the economy. In both countries, the surveyed economists stated that shortages of *skilled labour* is the most important economic problem at present. It also ranks second, after *unemployment*, in *Sweden*, where the present economic situation is also assessed very favourably. Expectations point to further improvement.

In the *UK*, the surveyed economists forecast a deterioration of the economic situation in the coming six months from the currently favourable level. A similar forecast has been given by the surveyed experts in *Switzerland*.

Along with *unemployment, lack of international competitiveness* is ranked as an important economic problem in the majority of the Western European countries, particularly in *Italy, Portugal, Belgium, Sweden and the UK.*

3. North America: US economy cools at a slower pace

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

only slightly in the October survey. In the *US*, the decline was mainly due to less favourable assessments of the present economic situation, while expectations for the next six months are still slightly negative. Expectations have, however, been upgraded somewhat. Oil prices have declined, inflation remains stable and fewer WES experts expect rising interest rates. This data constellation points to a soft landing of the *US* economy and eases the fears of stagflation. However, the WES experts again reported the public deficits to be the most important economic problem at present.

Also in *Canada*, business sentiments continued to cool, although at a stronger pace than in the *US*. Both components of the climate index have been strongly downgraded. However, the present economic performance is still assessed with very high marks and *shortages of skilled labour* are regarded as a main impediment to further growth.

4. Eastern Europe: Economic climate remains satisfactory

Since the beginning of 2005, the economies in Eastern Europe have been on a stable course. This positive trend continued also in 2006. According to the October WES results, business sentiments in the region remained very positive. The overall economic climate stabilised at a satisfactory level, with both the assessments of the current economic situation and expectations for the coming six months remaining favourable. However, the countries of the region are exposed to a variety of economic problems in the opinion of respondents: *Government deficits, lack of confidence in governments' economic policy* and *unemployment* have been named most often by the surveyed economists as important economic problems at present.

Among the EU countries, the assessment of the present economic situation improved in *Bulgaria, Estonia, Hungary, Latvia, Slovenia and the Slovak Republic,* and deteriorated somewhat in the *Czech Republic, Lithuania, Poland and Romania.* However, the current economic situation is assessed as above the satisfactory level in all these countries except *Hungary*. Here, government deficits and a lack of confidence in the government's economic policy have been named as the most important economic problems of the country. In the Baltic countries – *Estonia, Latvia and Lithuania* – the experts classified *lack of*

skilled labour as the most important impediment to stronger growth. In *Poland and the Slovak Republic, unemployment* is seen as the most important economic problem. In the majority of the Eastern European EU countries, economic expectations remained positive and have been downgraded only slightly in the *Czech Republic, Estonia and Slovenia,* while they become strongly pessimistic in *Hungary*.

In the other Eastern European countries, economic trends observed in October are different. The present economic performance has been assessed more positively than in the July survey in *Albania and Croatia.* The majority of surveyed economists in *Albania and Croatia* forecast that the current favourable situation will persist. *Serbia and Montenegro* are now separated, as *Montenegro* proclaimed its independence in June 2006. As no separate economic data are thus far available, the two countries are again reported together. The assessment of the present economic situation improved somewhat for the two countries, but remained below the satisfactory level. However, the surveyed economists expect an economic rebound in the region.

5. CIS: Highly favourable economic climate

The economic climate remained highly favourable in the CIS countries covered by WES *(Russia, Kazakhstan and Ukraine)* in October. This holds true particularly for *Russia and Kazakhstan,* where the present economic performance is assessed with highly favourable marks and expectations promise further economic strengthening in the first half of 2007. In the *Ukraine*, the assessment of the current economic situation has not yet reached the satisfactory level. According to WES experts, the country's sluggish economic growth translates into a *lack of confidence in the government's economic policy.* However, the outlook for the coming six months has brightened somewhat. In all three surveyed CIS countries, the WES experts emphasised *lack of international competitiveness* as one of the most important economic problems. In *Kazakhstan, shortages of skilled labour and inflation* are also regarded as problematic.

6. Asia: Economic climate improves

In October, the economic climate index in Asia improved, after it had deteriorated twice, first in April

and then in July 2006. The improvement resulted from both more favourable assessments of the present economic situation and upgraded economic expectations for the coming six months.

The above pattern could also be observed in six economies of the region, including the main economies – *Japan, China and India* – as well as *Malaysia, the Philippines and Thailand.* The overall economic situation is assessed as very favourable in all these countries, except *Thailand*, where the assessment has not yet reached the satisfactory level. The forecasts for the next six months are very optimistic in all countries mentioned above, except *Malaysia*, where the surveyed economists expect a cooling-down of the economy. The current economic performance was assessed as below the satisfactory level only in *Indonesia, Thailand and Taiwan.* However, while in *Indonesia and Thailand* the economic expectations are very positive, in *Taiwan* – Asia's sixth-largest economy – the surveyed economists expect further economic deterioration. WES experts also forecast slowing exports that may hurt the economy, which is already strained by low consumer spending and corruption accusations against President Chen Shui-bian.

Lack of confidence in the government's economic policy is seen as a problem in *Taiwan* and several other countries in the region, for example, the *Philippines, Thailand, Indonesia and Sri Lanka.* The expectations for the next six months have been downgraded somewhat also in *Bangladesh*, and to a stronger degree in *South Korea and Singapore.* However, in *Singapore and Bangladesh,* the present economic performance is assessed as very positive, and in *South Korea* as satisfactory. The assessments of the present economic situation remained positive in *Vietnam and Pakistan.* In both countries, the panel's forecasts for the next six months remained highly optimistic. In *Hong Kong* the assessment of the current economic situation improved over the previous July survey and is now clearly above the satisfactory level. The economic expectations, however, remained cautious. In *Sri Lanka* the present economic situation is expected to stabilise at the current satisfactory level.

While the rest of the world is struggling to remain competitive with Asian products, there are several countries in the region where the surveyed economists reported *lack of international competitiveness* as one of the most important economic problems. Among

them are *Taiwan, Indonesia, Pakistan, the Philippines and Malaysia.* The WES experts in the three biggest economies of the region – *China, India and Japan* – are less worried about their countries' *international competitiveness.* While in *China, unemployment* still ranks as the most important economic problem, in the other two economies the economists instead emphasised government budget deficits.

7. Oceania: Economic stabilisation

In *Australia*, the economic expectations for the coming six months have again improved somewhat. The assessment of the present economic situation continued to deteriorate slightly but remained above the satisfactory level. As a result, the overall economic climate index has even improved somewhat relative to the previous survey of July 2006. Inflation has increasingly become an important economic problem. As a result *Australia's* central bank has over time raised its benchmark interest rate to 6.25 percent in November last year, reaching the highest level in almost six years.

In *New Zealand,* the economic climate index improved for the second time in succession since the beginning of 2005. Although the assessment of the current economic situation remained slightly below the satisfactory level, economic expectations have been strongly upgraded, suggesting that the trough of the recent recession has been overcome and an economic rebound is underway. In both economies, the surveyed economists stated shortages of *skilled labour* to be the most important economic problem at present.

8. Latin America: Economic stabilisation continues

The economic climate in Latin America continued to stabilise at a favourable level in October. On average, the present economic situation is again assessed above the satisfactory level for all countries surveyed in the region. The outlook for the coming six months, although slightly downgraded, points to an economic stabilisation. However, *unemployment* is still regarded as the most important economic problem in the majority of countries on the continent, whereas l*ack of international competitiveness* ranks second.

The present economic situation has been assessed as positive in almost all countries in the region, except

Ecuador and Paraguay. While in *Paraguay* the economic outlook for the next six months points to an improvement, in *Ecuador* the panel's forecasts have been downgraded and point to a further economic cooling-down of the economy. In *Mexico*, both components of the economic climate index remained positive in October. The overall pattern indicates that the satisfactory economic performance will stabilise at its present level in the course of the next six months. In July, *the country* experienced some political turbulence because the second-place candidate Andres Manuel Lopez Obrador in the presidential elections was challenging the results in court. However, in October the surveyed economists indicated that there is no *lack of confidence* in President's Felipe Calderon economic policy. Instead the *lack of international competitiveness and unemployment* are seen as the most important economic problems. In the other two large economies of the region – *Argentina and Brazil* – both the assessments of the present economic situation as well as economic expectations deteriorated. Nevertheless, the present economic performance is still assessed as satisfactory and expectations point to robust growth in these countries in the first half of 2007.

The current economic situation has again been assessed as highly favourable in *Chile*, although to a lesser degree then in the previous July survey. However, the economic expectations point to robust growth in the coming six months. A similar pattern of business sentiments was observed in October in *Colombia*. In both countries *unemployment* is ranked as the economic problem number one. Highly favourable current economic performance was reported by the surveyed economists in *Peru*. The economic expectations for the next six months, although slightly downgraded, remained highly optimistic. *Uruguay, Guatemala, Trinidad and Tobago, El Salvador and Costa Rica* received very positive assessments of the present economic situation. In all these countries, economic expectations point either to an improvement or to a continuation of the current situation in the first half of 2007. In contrast, the surveyed economists in *Venezuela* expect a deterioration of the buoyant economy in the coming six months. The surveyed experts reported a strong *lack of confidence in the government's economic policy,* which seems to burden also the economies of *Paraguay, Bolivia and Ecuador.* In *Bolivia*, the present economic situation was assessed as satisfactory, but the panel's forecast has become less optimistic than in the July survey.

9. Near East: Economic climate cools

The economic climate continues to be highly favourable in the majority of the Near East countries. However, both the assessments of the present economic situation and economic expectations have been slightly downgraded relative to the preceding July survey. This picture was particularly prevalent in *Lebanon*, reflecting the impact of the Israeli-Hezbollah conflict on the country's economy.
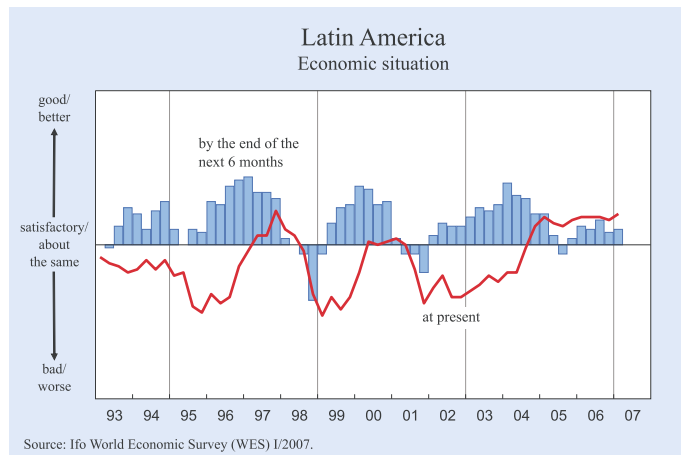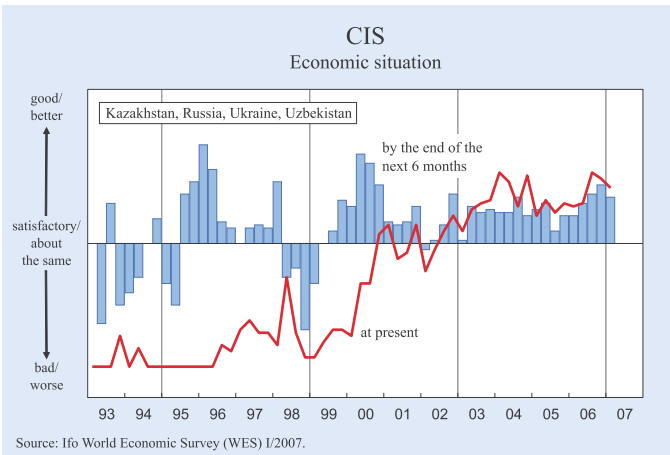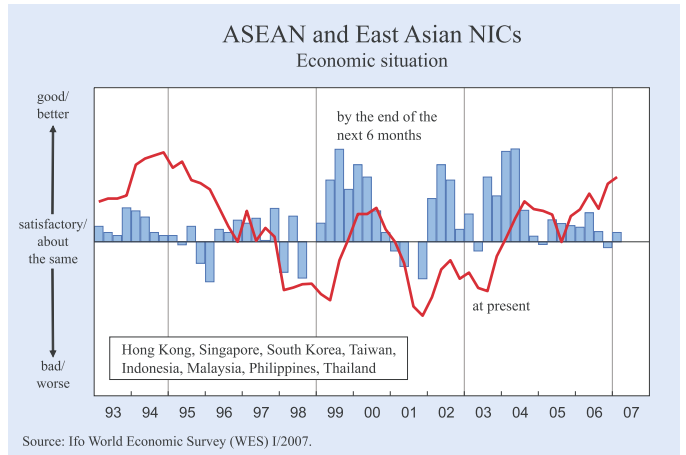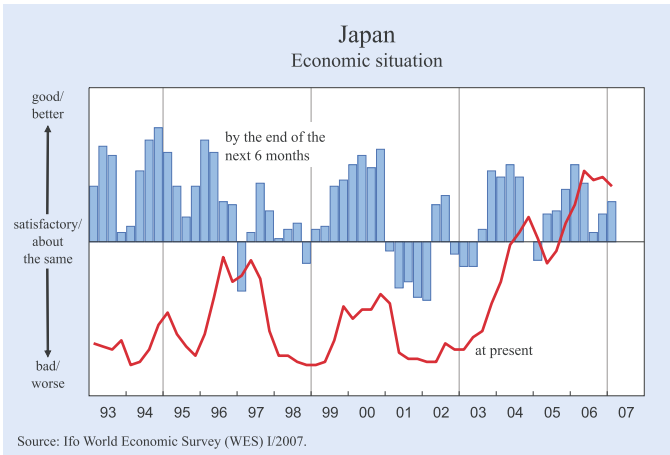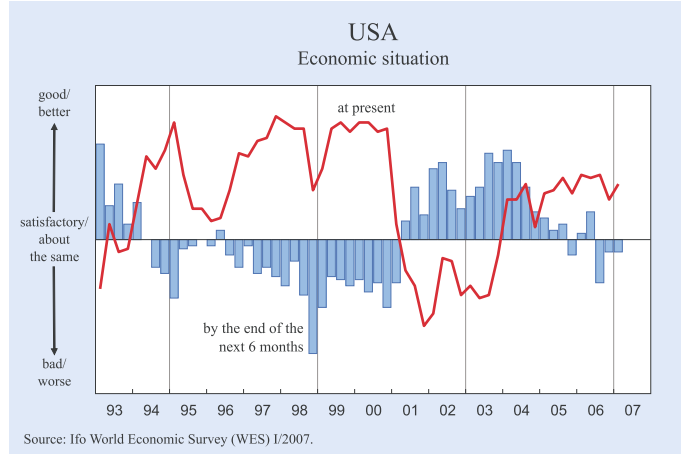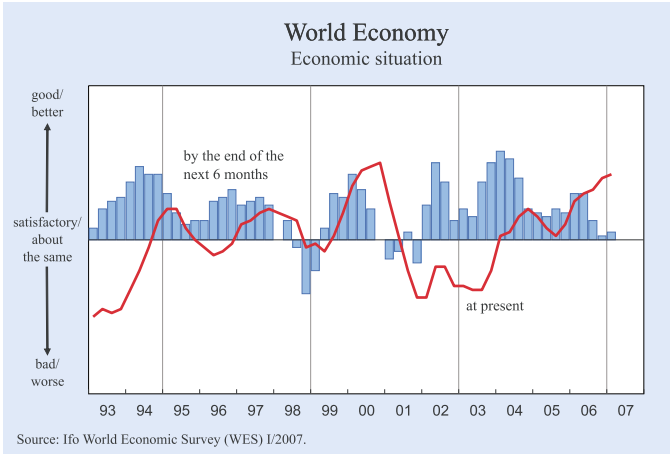
The economic climate cooled somewhat in the two major oil-exporting countries, *Saudi Arabia and United Arab Emirates.* However, the present economic situation is still assessed as favourable. The outlook suggests stable economic development in the coming six months. In the other oil-exporting countries – *Kuwait, Jordan and Bahrain* – the economic climate index improved. Both the present economic situation as well as economic expectations have been assessed to be at a very high level. In Iran, current economic performance is regarded as satisfactory, but the forecasts for the next six months continue to point to deterioration. Here the surveyed economists reported that *inflation* is increasingly becoming an economic problem. In *Turkey*, business sentiments have cooled in 2006. However, the present economic situation is assessed as above the satisfactory level, and economic expectations point to stabilisation in the course of the first half of 2007. In *Israel*, surveyed economists forecast an economic revival in the next six months. Both capital expenditures as well as private consumption are expected to rebound in 2007. Although the assessments of the present economic situation have been downgraded somewhat, they are still in positive territory. In the majority of the surveyed countries in the region, *unemployment* is ranked as the most important economic problem at present.

10. Africa: Economic climate deteriorates

Due to the diversity of economic trends on this continent and due to the fact that only eight African countries were surveyed by WES in October, an aggregate climate index for Africa makes little sense. The economic climate index deteriorated particularly in *South Africa,* which has been enjoying its longest economic expansion ever. The assessments of both the present and the future economic situation have been strongly downgraded by the surveyed economists. *South Africa's AIDS epidemic,* high *unemployment of low-skilled workers* and at the same time *shortages of skilled labour* continue to be the most persistent economic problems in the country. The economic climate deteriorated in the majority of the surveyed countries in the region: this was the case in the North African countries of *Morocco, Egypt and Tunisia,* but also in *Nigeria and Mauritius.* However, while in *Morocco and Tunisia* the surveyed experts assessed the present economic situation as satisfactory and expect unchanged conditions in the near-term future, the assessments of the present economic state have again fallen below the satisfactory level in *Egypt and Nigeria.* According to the poll's forecast, though, the two latter economies will rebound in 2007. In *Egypt* the surveyed economists continue to count on the export sector. In *Algeria*, the business climate remained favourable. This was not so in *Zimbabwe*, where the economic situation remains unbelievably bad since almost a decade, with no turnaround in sight.

IFO WORLD ECONOMIC SURVEY (WES)

World Economy
Economic situation

good/
better

satisfactory/
about
the same

bad/
worse

by the end of the
next 6 months

at present

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

USA
Economic situation

good/
better

satisfactory/
about
the same

bad/
worse

at present

by the end of the
next 6 months

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

Japan
Economic situation

good/
better

satisfactory/
about
the same

bad/
worse

by the end of the
next 6 months

at present

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

ASEAN and East Asian NICs
Economic situation

good/
better

satisfactory/
about
the same

bad/
worse

by the end of the
next 6 months

at present

Hong Kong, Singapore, South Korea, Taiwan,
Indonesia, Malaysia, Philippines, Thailand

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

CIS
Economic situation

good/
better

satisfactory/
about
the same

bad/
worse

Kazakhstan, Russia, Ukraine, Uzbekistan

by the end of the
next 6 months

at present

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

Latin America
Economic situation

good/
better

satisfactory/
about
the same

bad/
worse

by the end of the
next 6 months

at present

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

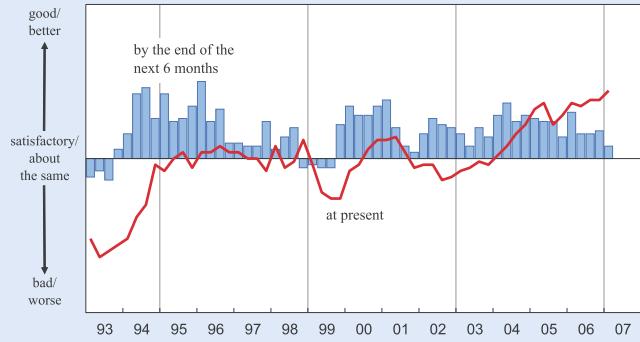Source: Ifo World Economic Survey (WES) I/2007.

53

European Union (15)
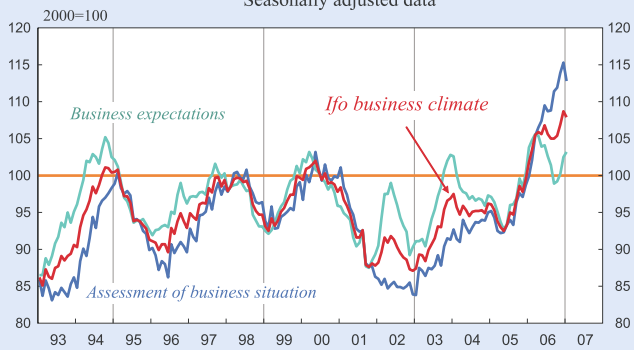### Economic situation
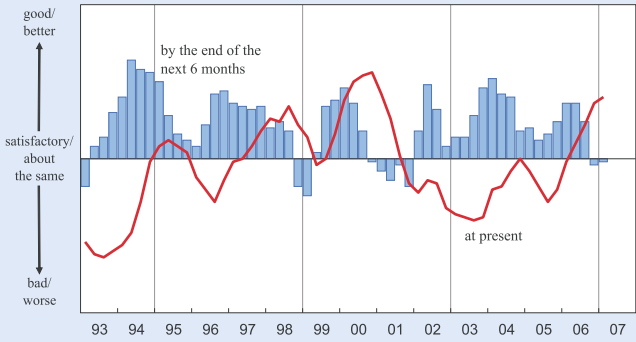
Source: Ifo World Economic Survey (WES) I/2007.

Eastern Europe
Economic situation

Source: Ifo World Economic Survey (WES) I/2007.

Germany: Ifo business climate[1]
Seasonally adjusted data

1) Manufacturing industry, construction, wholesale and retail trade.
Source: Ifo Business Survey, January 2007.

France
Economic situation

Source: Ifo World Economic Survey (WES) I/2007.

Italy
Economic situation

Source: Ifo World Economic Survey (WES) I/2007.

United Kingdom
Economic situation

Source: Ifo World Economic Survey (WES) I/2007.
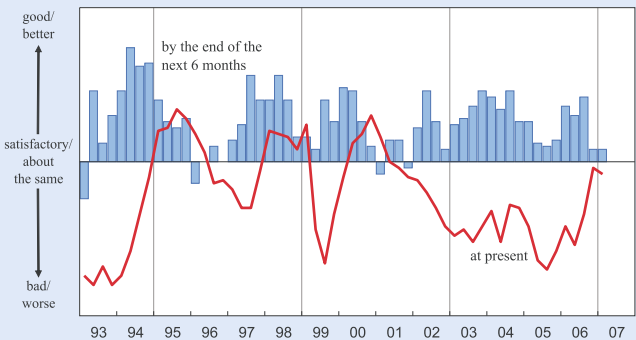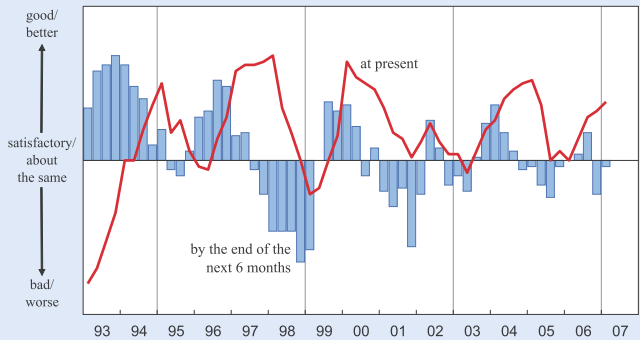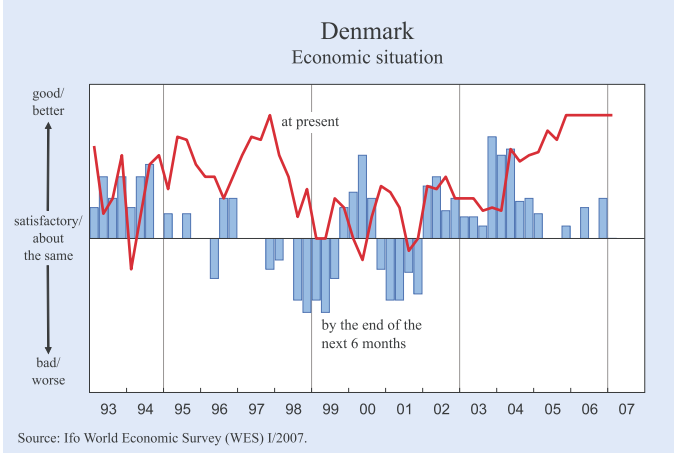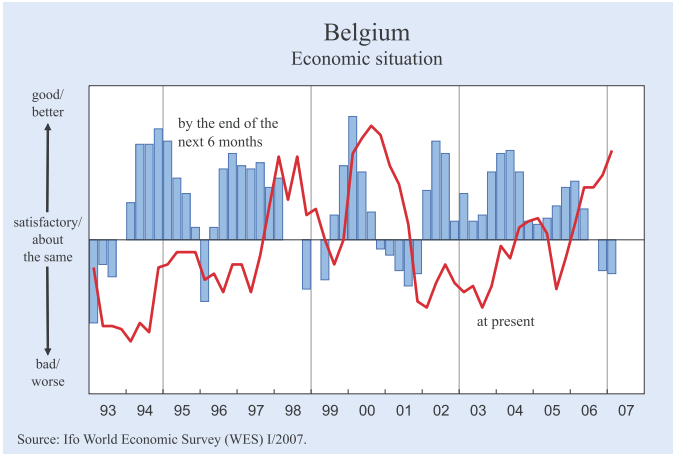
Spain
Economic situation

good/better

satisfactory/about the same

bad/worse

at present

by the end of the next 6 months

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

Sweden
Economic situation

good/better

satisfactory/about the same

bad/worse

at present

by the end of the next 6 months

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

Finland
Economic situation

good/better

satisfactory/about the same

bad/worse

at present

by the end of the next 6 months

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

Austria
Economic situation

good/better

satisfactory/about the same

bad/worse

by the end of the next 6 months

at present

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

Belgium
Economic situation

good/better

by the end of the next 6 months

satisfactory/about the same

bad/worse

at present

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

Denmark
Economic situation

good/better

at present

satisfactory/about the same

bad/worse

by the end of the next 6 months

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

Greece
Economic situation

good/
better

satisfactory/
about
the same

bad/
worse

by the end of the
next 6 months

at present

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

Ireland
Economic situation

good/
better

satisfactory/
about
the same

bad/
worse

at present

by the end of the
next 6 months

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

Netherlands
Economic situation

good/
better

satisfactory/
about
the same

bad/
worse

at present

by the end of the
next 6 months

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

Portugal
Economic situation

good/
better

satisfactory/
about
the same

bad/
worse

by the end of the
next 6 months

at present

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

Slovenia
Economic situation

good/
better

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at present

by the end of the
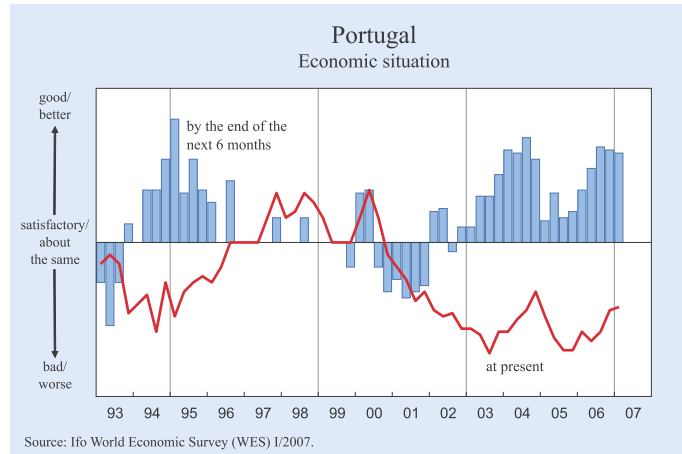next 6 months

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

Hungary
Economic situation

good/
better

satisfactory/
about
the same

bad/
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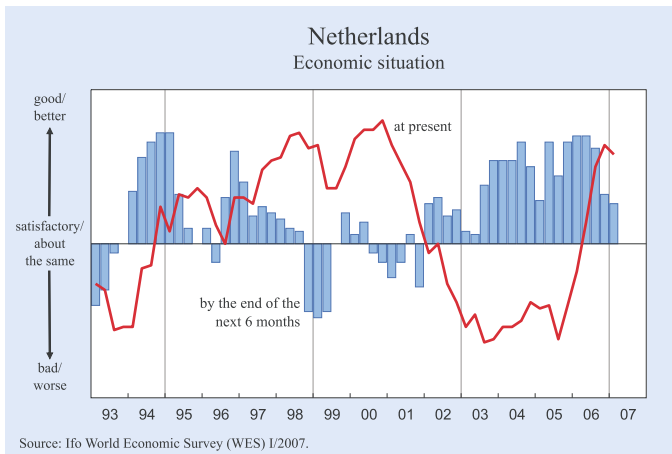by the end of the
next 6 months

at present

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

Poland
Economic situation

good/better

satisfactory/about the same

bad/worse

by the end of the next 6 months
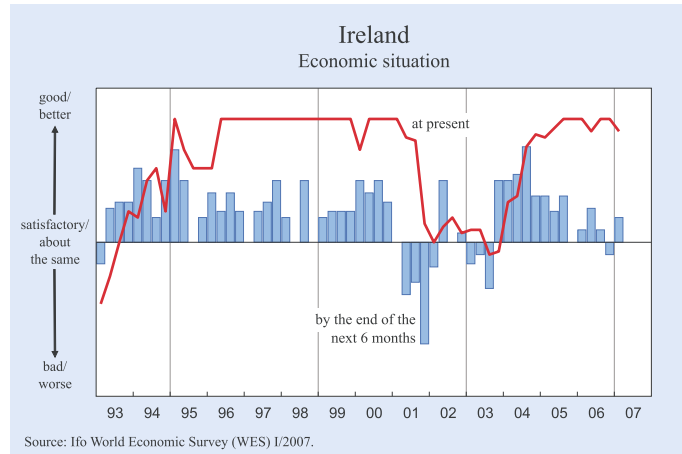
at present

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

Czech Republic
Economic situation

good/better

satisfactory/about the same

bad/worse

by the end of the next 6 months
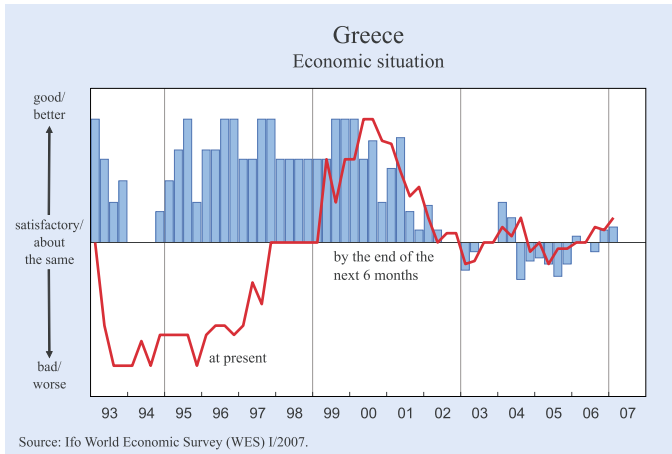
at present

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

Slovak Republic
Economic situation

good/better

satisfactory/about the same

bad/worse

by the end of the next 6 months

at present

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

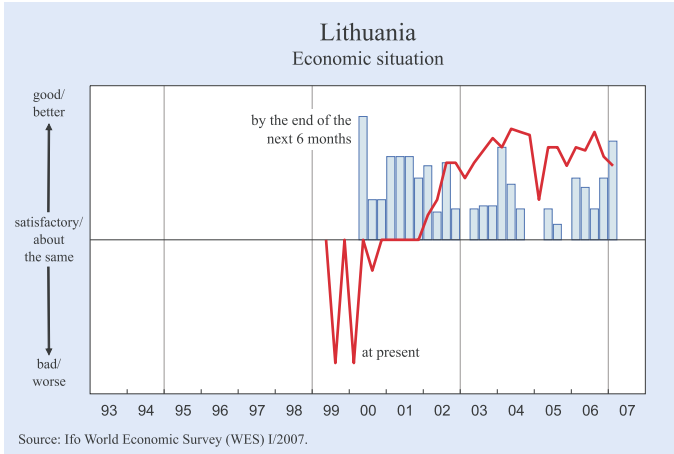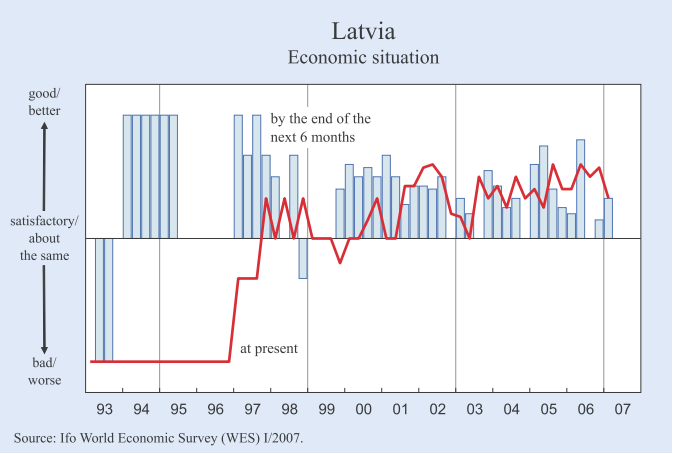## Estonia
Economic situation

good/better

satisfactory/about the same

bad/worse

by the end of the next 6 months

at present

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

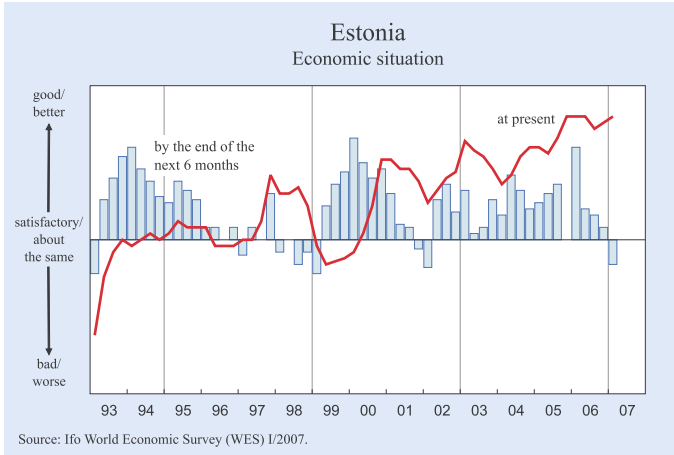## Latvia
Economic situation

good/better

satisfactory/about the same

bad/worse

by the end of the next 6 months

at present

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

Lithuania
Economic situation

good/better

satisfactory/about the same

bad/worse

by the end of the next 6 months

at present

93 94 95 96 97 98 99 00 01 02 03 04 05 06 07

Source: Ifo World Economic Survey (WES) I/2007.

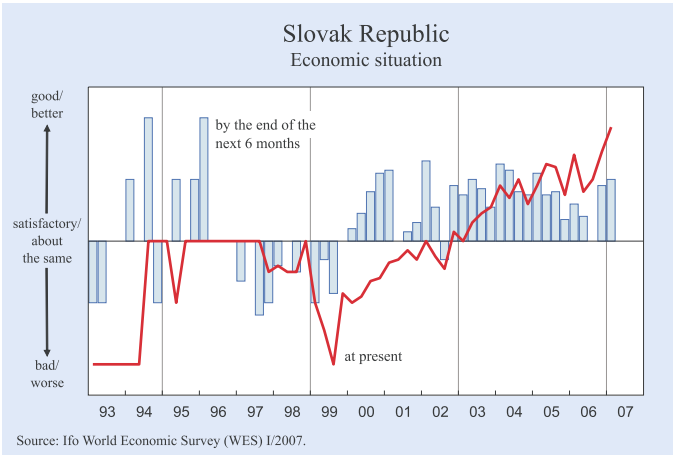## Bulgaria
Economic situation

good/
better

satisfactory/
about
the same

bad/
worse

by the end of the
next 6 months

at present

93   94   95   96   97   98   99   00   01   02   03   04   05   06   07

Source: Ifo World Economic Survey (WES) I/2007.

Romania
Economic situation

good/
better

satisfactory/
about
the same

bad/
worse

by the end of the
next 6 months

at present

93   94   95   96   97   98   99   00   01   02   03   04   05   06   07

Source: Ifo World Economic Survey (WES) I/2007.

MACROECONOMIC ADJUSTMENT IN THE EURO AREA: THE CASES OF IRELAND AND ITALY

1. Introduction

The introduction of the euro and globalisation of real and financial markets have changed the economic landscape in which national policymakers operate in Europe. How are the countries in the eurozone adapting to the new economic policy environment? The analysis in this chapter focuses on adjustment in response to country-specific shocks. The main analysis concerns Ireland and Italy. These countries are chosen to provide representative case studies, encompassing adjustment to excessive monetary stimulus as well as to recessionary effects of a loss of competitiveness and a fall in foreign demand for the country's products.

While the macroeconomic adjustment problem is the subject of a vast literature, it is useful to begin our chapter by reconsidering once again the essential issues at stake. We will do so by comparing an ideal monetary union where prices and wages are fully flexible with a union with nominal rigidities.

In a monetary union among countries with fully flexible prices and wages (and efficient financial markets), an asymmetric demand boom in a country would lead to an increase in the price and wage *levels* there, reflecting the relative scarcity of its domestic output. The prices of both non-tradable and tradable goods would rise, strengthening the real exchange rate (the country's price level relative to the price level abroad, both measured in the same currency) as well as the terms of trade (the price of the country's exports in terms of its imports). Clearly, a higher relative price would reduce the foreign demand for domestic output. The country would generally run a trade deficit, raising external debt, hence debt service in the long run.

In the presence of nominal rigidities, the short-run response to a country-specific demand boom instead "overheats" the economy hit by the shock: A demand surge raises output above the natural rate. If the shock is persistent, excess demand still increases domestic prices and wages, but over time rather than on impact. Obviously, a slow price adjustment translates into a temporary increase in expected inflation in the short run. So, for a given nominal interest rate, the real interest rate tends to fall on impact, temporarily reinforcing the boom in demand, a point stressed by the so-called "Walters critique" of the European Monetary System.[1] But ultimately, an adjustment occurs because of the increase in the price *level*, just as is the case in a flexible price economy.

Similar considerations apply to country-specific supply shocks. Consider the macroeconomic effect of a positive productivity disturbance to domestic tradable goods. Without nominal rigidities, output prices would fall, stimulating domestic and foreign demand. With price stickiness (and a common monetary policy which responds to country-specific shocks only marginally), instead, productivity gains imply that (other things equal) current demand can be satisfied with less inputs: Employment and capacity utilisation (inefficiently) fall.

To the extent that firms and households expect productivity gains to persist (or occur) in the future, productivity disturbances also cause temporary fluctuations in current demand: Anticipation of income gains and improvement in production efficiency raise current private consumption (people feel richer) as well as current domestic investment demand. Hence, domestic aggregate demand experiences a boom in the short run, which typically worsens the trade balance and causes a current account deficit. With flexible prices, or a flexible exchange rate, the short-run demand effect of anticipated productivity gains can be so strong that the country's terms of trade actually appreciate on impact (see Corsetti et al. 2006 for time series evidence). Over time, as new capital is installed (and to the extent that the expectations of higher productivity are

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[1] See Walters (1994) and Miller and Sutherland (1990). European Commission (2006) provides a recent empirical appraisal of the interest rate effect.

realised), supply "catches up" with demand. Because of the increasing domestic output, the trade balance improves, the terms of trade deteriorate and the real exchange rate depreciates.

A drawn-out process of nominal price and wage adjustment interferes with the dynamics described above. Prices and wages are likely to "overshoot" and cause a large real appreciation at a late stage in the process, when the increased productive capacity would actually require declining prices. The consequence is "competitiveness problems", which are aggravated if the experience of relatively high output growth in the short run translates into (over-optimistic) expectations of growth in the medium run, causing excessive spending and sustained dynamics of wage and price inflation.

A further dimension of the adjustment process reflects differences in the degree of nominal rigidity across sectors within a country. Plausibly, prices tend to be less rigid in sectors highly exposed to international competition. These sectors tend to react swiftly to demand and supply shocks. Conversely, adjustment in protected and imperfectly competitive sectors is typically sluggish. The delayed adjustment in these sheltered areas of the economy, however, affects production costs and efficiency of all firms in the economy, raising aggregate macroeconomic risks. In this respect, market-oriented reforms, including liberalisation and deregulation of utilities and services, are an essential part of the policy adjustment to the new economic environment.

The adjustment problem described above is at the heart of the seminal contributions to the literature on Optimal Currency Areas (OCA), including Mundell (1961), McKinnon (1963), Kenen (1969) and Ingram (1973). This literature stresses the costs of adopting a common monetary policy and giving up exchange

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Box 2.1

The costs of asymmetric shocks in a monetary union reconsidered

Recent literature reconsiders the fundamental issues raised by OCA theory in the framework of a new generation of stylised, choice-theoretical models (see Obstfeld and Rogoff 2002, Devereux and Engel 2003, Benigno 2004, Corsetti and Pesenti 2005a, 2005b, Adao et al. 2006 and Corsetti 2006a,b among others). These contributions have emphasised at least three channels through which adopting a common currency can decrease national welfare, relative to the benchmark case in which stabilisation policy is carried out by efficient and credible national policy makers.

First, if pricing decisions by firms are staggered (that is, only a fraction of firms set a new price every period), efficiency losses from a common currency stem from an increase in misalignment of relative prices. The explanation is that, relative to the case of a common currency, national monetary policy can better stabilise demand and target the national natural rate of output *at the current level of prices*. This means that, without a common currency, domestic firms resetting their product prices at any given point of time have little or no incentive to deviate significantly from the prices charged by the other domestic firms (which do not change their prices). In a monetary union, instead, country-specific shocks will have a stronger impact on pricing decisions. To the extent that firms adjust prices at different times, then, shocks will cause the price of similar products to diverge more substantially in a common currency area than with nationally conducted monetary policy, causing a greater (inefficient) dispersion in the market valuation of goods within and across product categories (see, for example, Woodford 2003).

Second, pricing decisions by firms will be affected by the fact that stabilisation policy in a common currency area will not necessarily react to shocks affecting demand or costs in the right direction, or with the same intensity, as with nationally differentiated monetary policies. Demand and cost uncertainty translates into suboptimal levels of prices and mark-ups. For instance, in Corsetti and Pesenti (2005a), firms react to demand and marginal cost uncertainty by raising mark-ups and reduce their supply ex ante. Other models have analysed how increased price uncertainty will cause trade unions to demand a "risk premium" and hence under collective bargaining lead to higher real wages and lower employment, on average, over the business cycle (see, for example, Andersen and Sörensen 1988 and Calmfors and Johansson 2004). Recent work has further extended the analysis encompassing firms' dynamics: In Corsetti and Bergin (2005) insufficient stabilisation discourages the creation of new firms and products. Combining all these results, the literature points to the possibility that output, employment, consumption and investment in a monetary union will be, on average, lower than with nationally differentiated, optimally conducted monetary policies.

Third, monetary policy that is appropriate for the union as a whole may be destabilising in some of its regions. It is well understood that monetary shocks destabilise demand and asset markets ex post. However, monetary noise (unrelated to a country's fundamentals) is also consequential ex ante. Specifically, monetary noise is likely to affect the price level and economic activity in similar ways as insufficient stabilisation (the second case discussed in this box). Empirical evidence on the effects of insufficient stabilisation *and* monetary noise on the price level is provided by Broda (2006). The empirical test builds on the idea that monetary policies in countries adopting a regime of fixed exchange rates are less effective in stabilising domestic marginal costs and the output gap, and moves noisily with nominal and financial shocks originating abroad. Broda's results suggest that the price level in these countries is indeed higher than in countries with a flexible rate regime: the difference is as high as 20 percent for emerging markets, somewhat smaller (and not statistically significant) for developed countries.[a]

[a] Broda (2006) shows that alternative explanations, including overshooting, inertia and fiscal policies, appear to play a lesser role in accounting for price level differences than the exchange rate regime.

rate flexibility, because of asymmetric (country-specific) temporary shocks. By logical extension the analysis also applies to asymmetric short-run responses to symmetric (common) shocks, including unexpected components of monetary policy. Recent theoretical analysis of these costs of a common currency is reviewed in Box 2.1. Specifically, the argument is that these asymmetries weaken the case for a common currency, as members of a monetary union lose the benefits from (i) monetary policy autonomy as well as from (ii) stabilising movements in the exchange rate.

The literature however also emphasises that the costs of joining a monetary union are low if at least one of the following is true: (a) prices and wages are sufficiently flexible; (b) fiscal policy effectively stabilises national economies; (c) consumption risk is sufficiently diversified across borders (or international financial markets work efficiently, so that agents can easily smooth consumption); (d) factors are sufficiently mobile also in the short run, at low private and social costs; (e) there are little asymmetries in shocks and in macroeconomic transmission.[2] This framework underlies most analysis of stabilisation policy design and reform. In what follows, the analysis of Ireland and Italy will mainly focus on points (a) and (d) above.

To facilitate comparison, Table 2.1 reports a set of indicators of the macroeconomic performance of the two countries in our sample, as well as of the euro area as a whole, based on the official Autumn 2006 forecast by the European Commission. This Table will be referred to throughout the analysis.

2. Ireland

Ireland entered the euro area well into a sustained period of economic expansion marked by profound changes in the structure of the economy and its place in the global economy. The most apparent indicators of the Irish success are the rapid rise in per capita GDP and national income, now well above the EU average, and the fall of unemployment rates, from the double-digit figures in the 1980s to record lows around four percent in recent years. Rapid growth continued after the adoption of the euro, despite many changes in the international and domestic environment.

What makes the case of Ireland especially interesting in an analysis of adjustment is the country's strong macroeconomic performance, clearly asymmetric relative to the rest of the euro area. The asymmetry in macro performance is, to a large extent, explained by income convergence and catching-up. But because of this country's real and financial openness income convergence occurred along an unusually fast and successful path, as a steady inflow of FDI led Ireland to specialise in high-tech sectors with a highly elastic demand with respect to world growth.

At cyclical frequencies, many of the global exogenous shocks hitting the Irish economy were common to the rest of the euro area (for example, commodity price disturbances), although in some cases they might have hit the Irish economy more directly: This is the case of the collapse of the ICT share prices in 2000. An example of country-specific shocks is the foot-and-mouth disease starting in 2001. None of these shocks appear to have been particularly consequential.

The most apparent and controversial source of macroeconomic imbalance for Ireland has instead been the strong monetary stimulus since the end of the 1990s, when European monetary policies became strictly coordinated in the last stage of nominal convergence before the introduction of the euro. (Soon afterwards, the monetary stimulus was compounded by a weakening currency.) A relatively loose monetary stance was motivated by the cyclical conditions in the euro area as a whole, but arguably inappropriate for Ireland: It created undue demand pressures in the Irish economy. Indeed, as shown in Table 2.1, estimates of the output gap in the first years of the euro point to overheating. Correspondingly, estimates of the appropriate policy interest rate implied by a Taylor Rule for Ireland have been consistently above the ECB rate (see the analysis in Section 4.2 of Chapter 1 in this report).

A well-understood consequence of low interest rates is their effects on property prices. Ireland is one of

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[2] Potentially large benefits of a monetary union include those from policy delegation, gains from political integration (reflecting the opinion that this is more likely in the presence of monetary union), and saving on transaction costs (increasing cross-border trade). These arguments have played an important role in the debate on EMU. It is well understood that they can explain why some small European countries, whose specific cyclical conditions have a very limited weight in the European Central Bank's decisions, have nonetheless been eager to adopt the euro. Most importantly, they can explain why some countries that are currently suffering from competitiveness or fiscal problems do not find it attractive to leave the euro area, as life outside it would expose them to large financial shocks. See, for example, Calmfors et al. (1997) or HM Treasury (2003) for surveys and assessments of the arguments for and against EMU entry.

Table 2.1

Real GDP growth

	1997–2001	2002	2003	2004	2005	2006
Ireland	9.9	6.1	4.4	4.5	4.7	4.9
Italy	2.1	0.3	0	1.1	0	1.3
Euro area	2.8	0.9	0.8	2.1	1.3	2.1

Output gap

	1997–2001	2002	2003	2004	2005	2006
Ireland	3.2	3.5	1.7	0.1	− 0.5	-1.4
Italy	0.5	1.1	0	− 0.2	− 1.4	-1
Euro area	0.5	0.5	− 0.6	− 0.5	− 1.1	-0.6

Inflation (change in HICP)

	1997–2001	2002	2003	2004	2005	2006
Ireland	3	4.7	4	2.3	2.2	2.9
Italy	2.1	2.6	2.8	2.3	2.2	2.3
Euro area	1.7	2.3	2.1	2.1	2.2	2.2

Growth in real compensation per head

	1997–2001	2002	2003	2004	2005	2006
Ireland	0.8	-0.3	0.7	4.5	3.3	2.4
Italy	− 0.3	-0.1	0.9	0.8	0.5	0.4
Euro area	0.6	0.9	0.7	0.4	− 0.1	0

Change in real effective exchange rate

	1997–2001	2002	2003	2004	2005	2006
Ireland	− 5.5	1.6	8.1	6.9	2.4	2.5
Italy	− 2	3.5	8.1	3.1	0.3	1.4
Euro area	− 5.5	3.2	10.4	2.3	− 2.8	− 1.8

Note: relative to 35 countries (EU24 excl. Luxemburg, Australia, Bulgaria, China, Japan, Mexico, New Zealand, Romania, Russia, Turkey, UK, US).

Fiscal balance of general government (as a percentage of GDP)

	1997–2001	2002	2003	2004	2005	2006
Ireland	2.3	− 0.4	0.3	1.5	1.1	1.2
Italy	− 2.2	− 2.9	− 3.5	− 3.4	− 4.1	− 4.7
Euro area	n.a.	− 2.5	− 3.1	− 2.8	− 2.4	-2

Cyclically adjusted fiscal balance of general government (as a percentage of GDP)

	1997–2001	2002	2003	2004	2005	2006
Ireland	1.1	− 1.8	− 0.3	1.4	1.3	1.7
Italy	− 2.5	− 3.4	− 3.5	− 3.3	− 3.4	− 4.1
Euro area	n.a.	− 2.8	− 2.7	− 2.5	− 1.9	− 1.7

Note: Real effective exchange rates are defines as real unit labour costs.

Source: European Commission (2006b).

the countries with the strongest housing price dynamics. Figure 2.1 displays the evolution of housing prices in real terms for Ireland, Italy, Spain and the euro area as a whole since 2000. In Ireland, the price of housing is apparently growing well above the euro area average, although not as fast as in Spain (see the analysis in Chapter 5 of the 2005 EEAG report). By fuelling the property price boom, low interest rates stimulated the demand for new housing in Ireland,[3] being one of the main determinants of the strong expansion of the construction sector.

In 2005, the construction sector in Ireland accounted for approximately 20 percent of the country's GDP and employed more than 10 percent of the labour force (see European Commission 2006a). To the extent that the growth of the construction sector is due to an inappropriate monetary stance, this is an

[3] In real terms, Irish housing prices grew at an average rate of 17.6 percent per annum between 1995 and 2000. After 2000, housing prices have continued to appreciate in real terms at the average rate of 8.3 percent (data are from OECD 2006). The dynamics of Irish housing prices is obviously driven to a large extent by the ongoing process of income convergence. Nevertheless, persistently low interest rates have arguably played a key role in keeping the real rate of appreciation high.

Figure 2.1

Real house prices

Index, 2000=100

Source: OECD (2006).
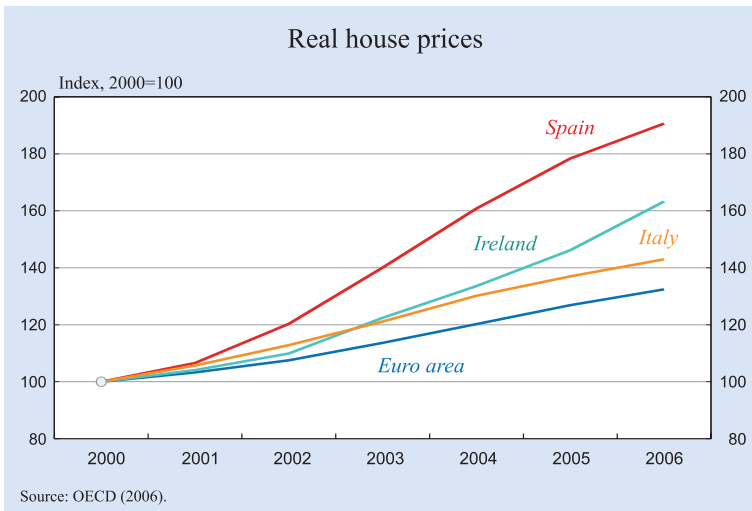
example of a real macroeconomic cost, in terms of misallocation of capital and resources.[4]

In addition, while fiscal developments overall in Ireland have been remarkably sound, in the early years of the euro, fiscal policy was pro-cyclical. Table 2.1 shows that, up to 2004, the Irish cyclically corrected balance was stronger than the actual balance. At the European level, the Irish fiscal stance was criticised in the past on the ground that fiscal stimulus was inappropriate in the presence of already strong private demand growth and positive monetary stimulus.[5] Yet high spending on infrastructure is arguably desirable along the convergence process, especially when high growth translates into a falling public debt-to-GDP ratio. In addition, one may argue that "procyclical spending" is appropriate if the cyclical movements are driven by productivity fluctuations. When output expands in response to high productivity, it is efficient to increase production of all goods, both private and public.
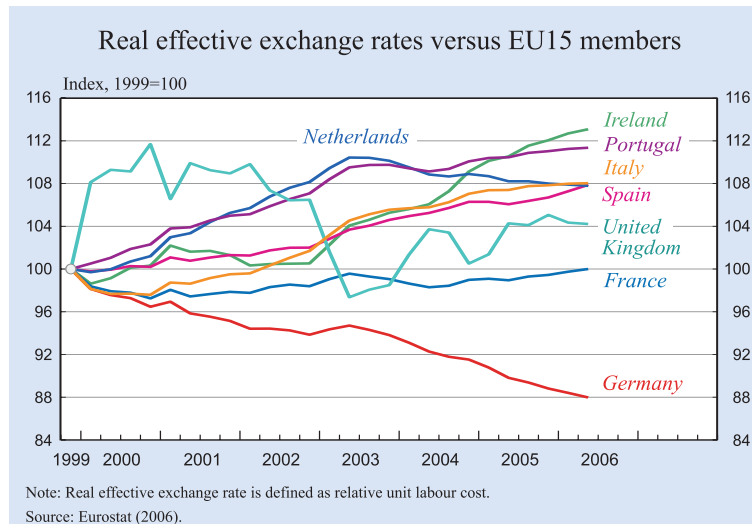
How did the Irish economy cope with the prolonged period of expansionary macroeconomic policy? In response to booming demand, Irish labour costs relative to the Irish trading partners, which were on a downward trend between 1985 and 2000, have increased fast in the years of the euro. According to the European Commission data shown in Table 2.1, in the period 2004 to 2006, the rate of growth of real compensation per worker in Ireland exceeded by 10 percentage points the average for the euro area.[6] Due to the high productivity growth, relative unit labour costs have increased by less, but the rises have still been significant.[7] Figure 2.2 displays an index of the real effective exchange rate between 2000 and 2006 for a sample of European countries based on unit labour costs relative to 15 trading partners. Two countries stand out most vividly: Germany, which recorded the largest fall in relative unit labour costs (hence the largest gain in competitiveness), and Ireland, which recorded the largest rise.

Figure 2.3 shows the level of hourly labour costs in 2005 for a selected sample of European countries. For 2005, the hourly labour costs in Ireland are compara-

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[6] Honohan and Leddin (2005) report that hourly earnings relative to trading partners rose by approximately 25 percent between 2000 and 2004.
[7] See Chapter 2 of EEAG (2006) for an analysis of the causes of the high productivity growth in Ireland.

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[4] Similar considerations apply to Spain. Currently, Spain's main problem is the sustainability of a growth that has so far delivered results well above the euro area average, but is based on a construction and real estate boom. Investment in housing currently amounts to $1/3$ of total investment. With an inflation rate well above the euro area average (even widening since 2003), the country is losing competitiveness, as can be seen in Figure 2.2. Different from Ireland, however, Spain is lagging in productivity growth, and experiencing large external deficits.
[5] In the meeting of the Ecofin Council on 12 February 2000, Ireland's budgetary plan for 2001 was judged inconsistent with the Broad Economic Policy Guidelines, because it was inappropriately expansionary. The Ecofin Council issued a recommendation to Ireland to correct its budgetary position.

Figure 2.2

Real effective exchange rates versus EU15 members

Index, 1999=100

Note: Real effective exchange rate is defined as relative unit labour cost.
Source: Eurostat (2006).

Figure 2.3

Hourly labour costs in manufacturing industry, 2005

in euros

Country	Value
Norway	29.45
Denmark	28.33
West Germany	27.87
Switzerland	25.56
Netherlands	25.45
Sweden	23.67
Austria	22.16
France	21.38
United Kingdom	20.47
Ireland	19.47
United States	19.27
Japan	17.90
Italy	17.71
Spain	17.25
Korea	10.50
Portugal	7.37
Czech Republic	5.04
Hungary	4.88
Estonia	4.38
Slovakia	4.06
Poland	3.80
Lithuania	3.35
Latvia	2.75
Romania	2.28
Bulgaria	1.57
China	1.00

Sources: Institut der deutschen Wirtschaft, Köln. For Bulgaria, Romania and the Baltic countries, the Eurostat figures for 2000 were extrapolated on the basis of the Eurostat press release no. 80 of June 16, 2006 or the ILO database Laborsta, respectively. China and Korea: 2001 estimated from the data of the ILO database Laborsta: Ifo Institute calculations.

ble with those in the UK and France, higher than the Italian ones, although still substantially below the German ones (about 25 percent lower).

The loss of cost competitiveness relative to the other European countries, as well as relative to the world at large (especially after the euro started to appreciate in 2002), has not so far translated into a notable slow-down in exports. Arguably, this is due to the fact that Irish exports are concentrated in sectors, like ICT, which respond quite positively to the current high growth in the global economy.

Honohan and Leddin (2005) have stressed an additional element in the Irish dynamic adjustment. In principle, a strong demand expansion should have created a severe labour shortage. But the booming economy stimulated a strong migratory inflow, with two major effects: first, the increasing supply of labour contained upward pressures on wages somewhat, especially in low-skill occupations.[8] Second, the additional workers in the economy raised aggregate demand, reinforcing the expansionary macroeconomic stance for

the economy as a whole. Since the availability of jobs acts as a strong driving force for migratory decisions, a sustained economic boom created incentives for further migration. Figure 2.4 illustrates the strong acceleration of net inflows of people in recent years. In 2006, 86,900 people immigrated into Ireland, which is equivalent to 2.1 percent of the Irish population and 4.1 percent of the labour force.

Overall, then, during the long-lasting phase of high growth, adjustment seems to have worked as predicted by theory, through real exchange rates and migratory movements. An overall expansionary policy mix caused real appreciation, although adjustment through wages and labour costs was arguably contained because the strong migratory inflow reduced excess demand in the labour market.

The concentration of Irish exports in dynamic sectors with a high elasticity with respect to world demand makes Ireland's export performance vulnerable to changes in the world trade pattern, or to a global

[8] Barret and McCarthy (2006) have shown that the education level of immigrants to Ireland is actually quite high relative to the Irish population. However, migrants are found to earn 18 percent less than natives, controlling for education and years of work experience (this average reflects large differences across immigrants from English-speaking and non-English speaking countries).

Figure 2.4

Migration Ireland

Source: Central Statistics Office Ireland (2006).
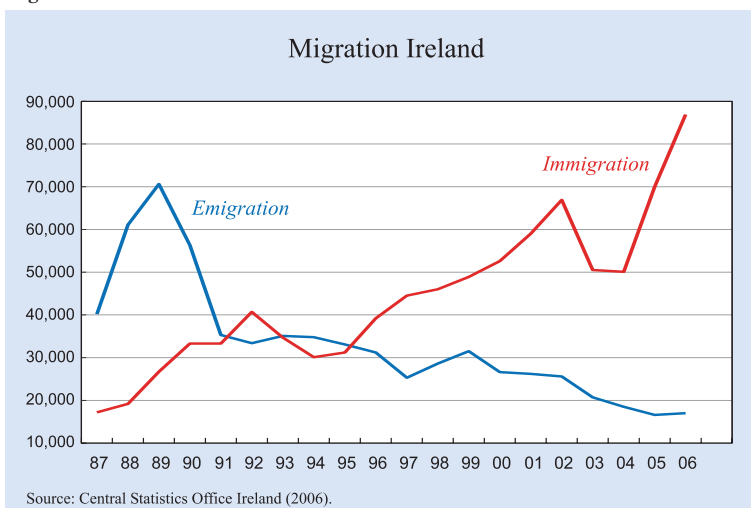
slowdown. By the same token, the macroeconomic performance of Ireland would be heavily exposed to a correction in property prices, likely to cause a severe drop in activity in the construction sector (see, for example, Roche 2003). For these reasons, there is substantial macroeconomic risk built into the current state of the Irish economy.

Already in our 2002 EEAG report, we discussed adjustment problems with specific reference to the Irish case (see Chapter 4). In that report, we emphasised macroeconomic risks due to asymmetries in the adjustment process via factor prices and the real exchange rate. Adjustment to demand shocks via this channel tends to work effectively in response to expansionary shocks. It tends to be sluggish in response to negative shocks. In the case of Ireland, the risk is that recent high growth rates would translate into sustained expectations of growth in labour compensation, which may become incompatible with macroeconomic stability, especially once the process of income convergence comes to an end. There is thus a risk that the real exchange rate will overshoot. An important issue raised by the Irish case is the extent to which overvaluation in the goods market can interact with property prices and developments in the construction sector. The demand boom phase has been reinforced and arguably prolonged by the increases in property prices and a construction boom. The issue is whether and to what extent a possible output downturn can be exacerbated by a fall in property prices reducing consumption demand, but also generating a crisis in the construction sector.[9]

In the case of a sharp slow down of the construction sector, adjustment would require some combination of migratory outflows and changes in the sectoral composition of employment. Such a slowdown would also raise the demand for public support of unemployed foreign workers, putting pressure on the Irish welfare state. In this respect it is worth stressing that a large fraction of migrants to Ireland are from the EU10 countries. In 2005, for instance, 26,200 out of 70,000 immigrants came from the EU10; in 2006, it was 37,400 out of 86,900 (Central Statistics Office 2006).

The Irish experience raises interesting issues regarding the contribution that labour mobility from outside the euro area can make to macroeconomic adjustment within the area. Clearly, migration flows from outside the euro area have helped contain labour shortages, especially for low-skilled workers. Absent the flow, we would have observed an even faster wage and price adjustment.[10]

However, to some extent, the contribution of migration to adjustment is hampered by its indirect, destabilising effect on demand, due to the fact that, as mentioned above, new workers also raise domestic aggregate spending. For instance, Honohan and Leddin (2005) have stressed that migration actually can magnify (rather than bridge) demand imbalances. In Ireland, the demand for new housing by migrants is one of the factors contributing to the strong dynamics of the real estate market, hence to the prolonged boom in the construction sector.[11]

The macroeconomic risk of a hard landing after a strong expansionary period is illustrated by the experience of the Netherlands in the last decade, as reviewed by the European Commission (2006). This country is similar to Ireland as regards its degree of openness. (Although the high volume of exports and imports reflects to a large extent the importance of Dutch ports in Europe.) In contrast to Ireland, however, its growth is arguably no longer driven by income convergence.

The Netherlands experienced a strong economic boom in the second half of the 1990s, when strong wealth effects from asset price appreciation in the housing[12] and the stock markets drove up domestic demand. The unemployment rate fell to extraordinary low levels – around 2 percent in 2001. The boom led to a period of strong wage and price adjustments around 2000, causing inflation to peak at above 5 per-

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[9] Putting it another way: In Ireland there are two potential sources of crisis, the strength of the real exchange rate, which may become a problem if a global slowdown reduces external demand for the country's products, and a collapse in house prices, which would reduce consumption (via wealth effects) as well as the level of activity in the construction sector.

[10] The original contributions to OCA theory emphasised migration flows *within* the currency area, which have stabilising effects in both the country of origin and the country of destination. Adjustment via net migratory flows *from outside* the currency area still mitigates imbalances in specific countries, but also affects the tightness of the labour market for the monetary union as a whole.

[11] Honohan and Leddin (2005) present a model in which, because of the additional demand expressed by migrant workers, adjustment through migration can be subject to long lags and complex dynamics, including a succession of self-fulfilling expansion and contraction equilibria. A similar model could be applied to Spain, where migrants have provided cheap labour for the construction sector (as well as the tourist sector). Strictly speaking, however, adjustment via labour mobility at cyclical frequencies should work via *temporary* changes in *net* migration flows in response to demand shocks (see Buiter et al. 1998). In other words, it should affect net migration flows in the short run, without influencing the stock of workers in the long run (arguably, it is the latter that drives the demand for housing).

[12] Between 1995 and 2001, house prices in real terms grew by 10.7 percent per annum in the Netherlands, against 1.5 percent in the euro area. In the period 2002 to 2005, however, the real appreciation of house prices was only 3.2 percent per annum (against an average 5.2 percent increase for the euro area).

cent in 2001.[13] Thus, over the turn of the millennium, the Netherlands rapidly lost price and wage competitiveness, especially relative to Germany, its main trading partner. When the boom in internal demand faded away, low competitiveness exacerbated the slowdown.[14]
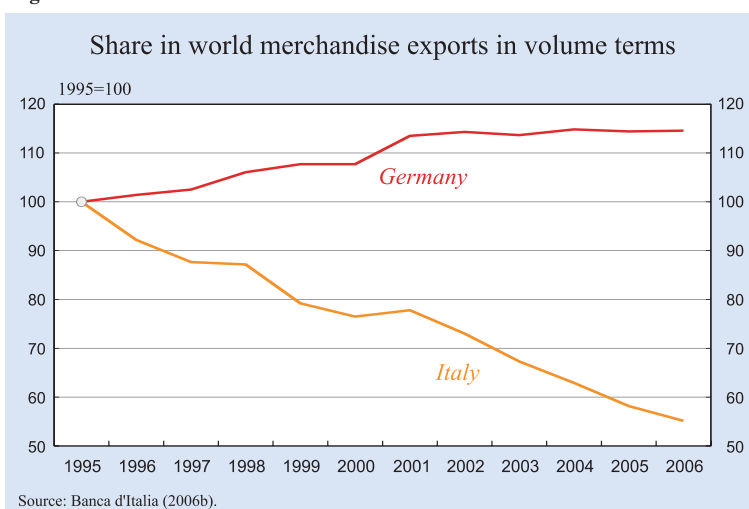
3. Italy

The Italian case is in many dimensions the opposite relative to the Irish one. While Ireland has enjoyed rapid growth and income convergence through specialisation in dynamic, high-tech sectors, Italy's long-term growth has slowed down considerably. Italian manufacturing firms, largely specialising in traditional low-tech industries, have been facing increased competition from emerging market economies. Ireland is a small, very open economy, with substantial foreign direct investment and financial portfolio diversification. Italy is a medium-sized, open economy with substantial barriers to foreign capital. Before the EMU, Ireland had built a strong fiscal framework. Italy entered the EMU with a substantial stock of public debt, which has constrained the scope for adjustment policies, implying short-run fiscal costs. The structural fiscal stance has actually deteriorated after joining the euro area (see Table 2.1). The monetary stance at the onset of the common currency, excessively expansionary for Ireland, was neutral for Italy. It became instead too tight over time (see the analysis in Section 4.2 of Chapter 1).

Our analysis focuses on Italy as an example of slow adjustment in response to shocks reducing foreign demand. The creation of a common European currency

[13] The European Commission (2006a) pointed out that "as high economic growth persisted, most estimates of Dutch structural economic growth were revised upwards. With the benefit of hindsight, it can be concluded that the economic boom period from 1996 onwards was not structural, but of a temporary nature" (p. 224).
[14] The real exchange rate kept appreciating during the recession. In part because of the euro appreciation vis-à-vis the dollar, it appreciated by 3.9 percent in 2002 and 4.8 percent in 2003, years in which the growth of the Dutch GDP ground to a halt (0.1 and – 0.1, respectively).

Figure 2.5

Share in world merchandise exports in volume terms

Source: Banca d'Italia (2006b).

coincided with a strong crisis in competitiveness and productivity in Italy, exacerbated by the appreciation of the euro since 2002.

The Italian export crisis has not erupted suddenly but has been developing since the mid-1990s. Between 1995 and 2005, the share of Italian exports in world exports at constant prices fell from 4.6 to 2.7 percent, a 40 percent drop. The comparison with Germany, shown in Figure 2.5, is striking: Over the same period, the German export share grew by 15 percent. If exports shares are instead calculated at current prices, the share of Italian exports in world exports fell from 4.6 to 3.7 percent (see De Nardis and Traù 2005). Of course, Italy is not the only developed country to lose market shares over the period, as there is a trend shift in favour of the emerging market economies. Figure 2.6 plots the evolution of the share of national exports in world exports at current prices for most
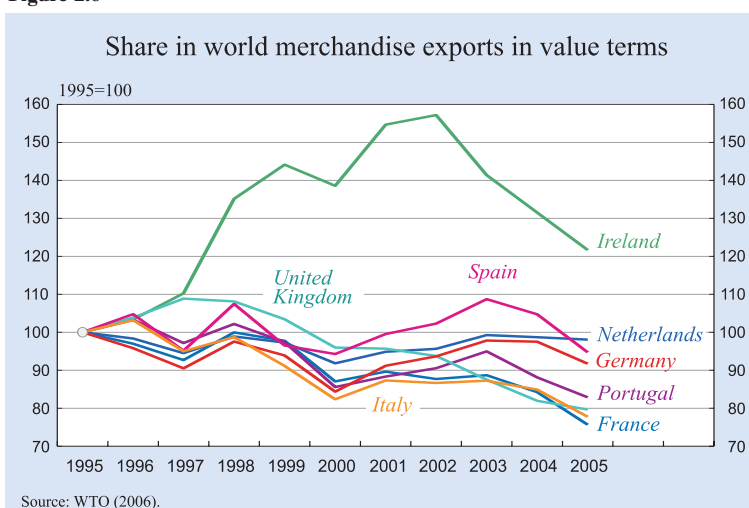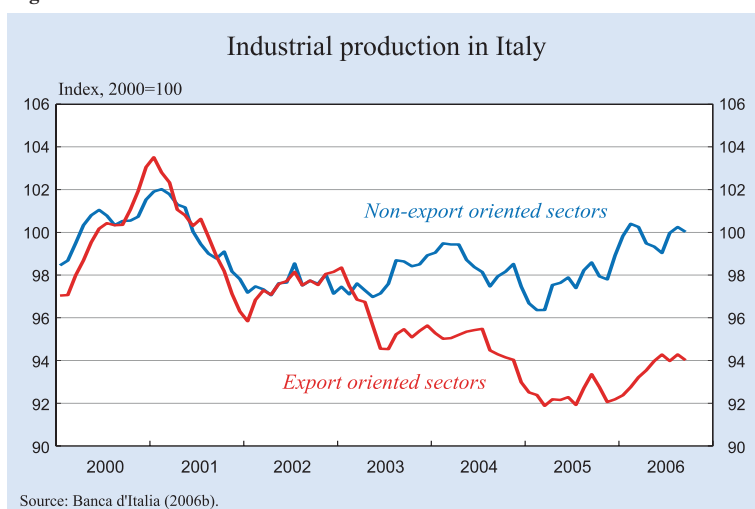
Figure 2.6

Share in world merchandise exports in value terms

Source: WTO (2006).

Figure 2.7

Industrial production in Italy

Index, 2000=100

Non-export oriented sectors

Export oriented sectors

Source: Banca d'Italia (2006b).

European countries. With the exception of Ireland, most countries lost positions over the period 1995 to 2005. Italy and France recorded the largest drops, closely followed by the UK.

Nonetheless, the Italian competitiveness crisis substantially worsened after 2002, coincident with the appreciation of the euro. Figures 2.7 and 2.8 display industrial production and capacity utilisation distinguished among sectors. It is apparent that the Italian export crisis became acute after 2002. The index of industrial production for the exporting sectors lost approximately 6 points relative to non-exporting sectors from 2003 on. A similar gap can be detected for capacity utilisation.

In response to the large external shock to export demand, adjustment would require real depreciation. This has not yet occurred in Italy. The real exchange rate of Italy has been appreciating rather steadily since the introduction of the euro, as shown by Table 2.1 and Figure 2.2. Focusing on manufacturing only, the Bank of Italy reports that between 2000 and 2005, unit labour costs in Italy increased by approximately 30 percent relative to the country's main trading partners; in the same period, relative unit labour costs in manufacturing rose by 10 percent in France and remained stable in Germany.

In part, the relative increase in Italian unit labour costs is due

to the growth of wages. While low in real terms, wage growth was positive overall and above the euro area average (see Table 2.1). In a significant way, however, the increase in relative unit costs is also a consequence of the other striking dimension of the Italian competitiveness crisis, which is the disappointing performance of productivity. As shown in Table 2.2, after growing by 1 percent per year in the second half of the 1990s, labour productivity in Italy stopped growing in 2000 (against positive although low growth for the euro area as a whole), and actually fell in three years. The Italian productivity problem encompasses virtually all sectors of the economy. In the period 2001 to 2005, labour productivity contracted in manufacturing (at the rate of 0.8 percent per annum), as well as in the service sector (Banca d'Italia 2006a). Similar developments have also characterised total factor productivity.[15]

The combination of positive growth in compensation and negative growth in productivity has raised unit labour costs at rates clearly incompatible with the goal of improving competitiveness. By way of exam-

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[15] According to Tables 4.4 and 4.5 in Chapter 4 of this report, GDP per hour contracted by, on average, 0.4 percent and total factor productivity in the overall economy by 1.2 percent per annum in Italy over the 2000 to 2004 period. These developments have no counterparts in other European countries. See also Chapter 2 of the 2006 EEAG report for a more detailed analysis of different growth (or non-growth) models in Europe.
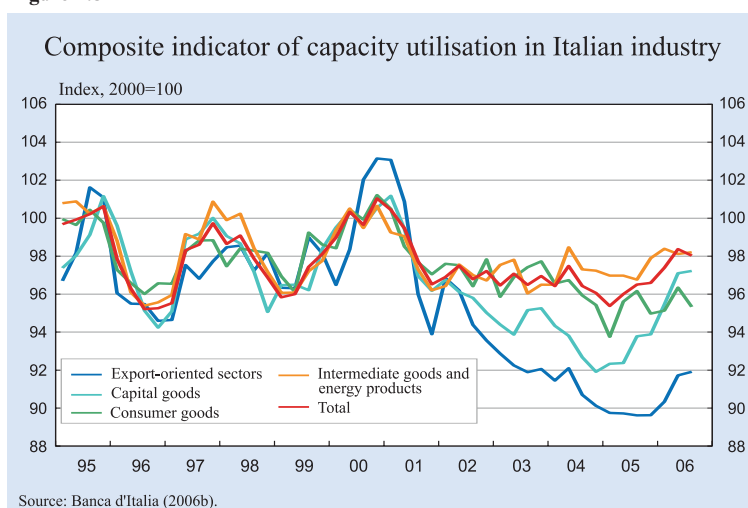
Figure 2.8

Composite indicator of capacity utilisation in Italian industry

Index, 2000=100

Export-oriented sectors
Capital goods
Consumer goods
Intermediate goods and energy products
Total

Source: Banca d'Italia (2006b).

Table 2.2

Labour productivity growth (real GDP per hour, percentage change)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Ireland	4.5	4.3	9.7	5.3	5.3	4.1	3.9	4.9	4.0	1.4	1.0
Italy	3.0	0.4	1.4	0.9	0.7	1.4	0.6	− 1.3	− 0.4	0.7	− 0.9
Netherlands	2.4	− 0.5	− 0.1	3.0	1.7	2.0	1.3	1.8	0.7	2.9	1.3
Spain	0.4	− 0.1	0.0	− 0.8	0.1	− 0.4	− 0.6	0.7	− 1.1	− 0.7	− 1.3
Euro area	2.1	1.1	2.1	1.1	1.6	2.5	0.9	1.3	0.4	1.1	0.4

Source: Groningen Growth and Development Centre, Total Economy Database, calculations by the EEAG.

ple, in Italian industry, labour costs increased by 2.4 percent in 2005, and 4.5 percent in the first half-year of 2006. Labour productivity fell by 0.7 percent in 2005, and only grew by 0.2 percent in the first half-year of 2006 (Banca d'Italia 2006b). As a result, unit labour costs rose by 3.1 and 4.4 percent, respectively. For the economy as a whole, labour costs rose by 2.4 percent in 2005, and 3.2 percent in the first half of 2006.

It is worth stressing that, over the last few years, Italy underwent notable changes in the labour market. The Italian unemployment rate dropped from double-digit figures in the 1990s to 7.1 percent in 2006,[16] well below the average of the euro area. To a large extent, employment growth was driven by the diffusion of part-time and irregular jobs. For example, in 2005, full-time jobs increased by 1.3 percent, part-time jobs by 7.2 percent (accounting for 13 percent of dependent employment). Employment on fixed-term contracts also rose by 6.2 percent (accounting for 12.3 percent of dependent employment). Similar patterns characterised 2006.[17] These developments follow recent labour market reforms (especially the so-called 'legge Biagi' from 2003,[18] which have increased the flexibility of labour contracts. Increasing flexibility in

the labour market has clearly contributed to the adjustment process, insofar as it has created opportunities for firms to save on overall labour costs (including both labour compensation and administrative costs such as firing costs). Nonetheless, it has also created an economic and social divide between workers with permanent contracts (the "insiders") and workers with fixed-term renewable contracts.

The strong dynamics of labour costs correspond to that of inflation, which has remained above the euro area inflation until 2005 (see Table 2.1). There are notable differences in the evolution of prices in the tradables and non-tradables sector. Between 2002 and 2005, the HICP-based inflation rate was as high as 2.5 percent per annum, on average (see Table 2.1). Over the same period, the average annual increase in the price of services was 2.9 percent per annum, whereas that of the price of goods (excluding foods and energy) was only 1.8 (see Banca d'Italia 2006a).

In the presence of country-specific competitiveness problems in a monetary union, national fiscal policy faces a well-known trade-off. Gaining competitiveness requires disinflation, hence a fiscal contraction; supporting output and employment requires a fiscal expansion. As shown by Table 2.1, Italy did not follow the first option: The general stance of the government remained expansionary.

Before the euro, Italy's policymakers responded systematically to competitiveness losses with nominal devaluation accompanied by some measures of fiscal consolidation and contraction of domestic demand. This was the case in the 1970s, in a high inflation environment, as well as throughout the 1980s, in an environment of declining inflation. The currency crisis of 1992 to 1993 showed that the recipe could work relatively well for Italy as well as for other European countries, including the UK, Spain, Portugal, Finland and Sweden (see the discussion of the latter two countries in Section 5 of Chapter 4). Devaluation allowed these countries to gain competitiveness with surpris-

[16] This fall in unemployment corresponds to an increase in the share of dependent workers in total employment. In 2005, for instance, dependent employment increased by 2.6 percent; self-employment contracted by 4.1 percent. Banca d'Italia (2006a) emphasises the record magnitude of the drop in self-employment in 2005, driven by a reduction in activity by members of family businesses (– 25.7 percent) and cooperatives (– 28.3 percent), as well as by a reduction in temporary jobs (– 24.3 percent) usually performed by young women. About 15 percent of previously self-employed workers found a permanent job.

[17] At the same time as the rest of Europe, Italy experienced a steady inflow of migrants from outside the area. Recorded resident workers have increased significantly after the regularisation by law of 650000 irregular immigrants in 2002 (Law 189, July 2002).

[18] This 'legge Biagi' (legge delega 30/2003) regulates a number of novel types of labour contracts, including apprenticeship, occasional employment, part-time jobs, job sharing, staff-leasing and job on call (see Montuschi et al. 2004 and Pirrone and Sestito 2006). An interesting question is the extent to which (if any) the growth of temporary and fixed-term jobs over permanent jobs can explain the disappointing productivity performance. On the one hand, workers without tenure may have a strong incentive to raise their efforts (see Ichino and Riphahn 2005). On the other hand, to the extent that turnover of workers increases, there could be a loss of firm-specific and/or occupation-specific human capital (see Marimon and Zilibotti 1999 and Autor et al. 2006).

ingly little effects on domestic prices and financial stability, despite a regime of high capital mobility (see Buiter et al. 1998 for a discussion).

With the euro, it is still possible to adopt a similar policy strategy, engineering a so-called *internal devaluation*. This consists of fiscal measures aimed at reducing the labour costs faced by firms. Indeed, the coalition that won the election in spring 2006 placed an internal devaluation at the centre of its electoral programme in the form of a cut (up to five percentage points) of the "tax wedge" between the take-home pay by the workers and the firms' cost of employing them. Such an internal devaluation is being gradually implemented in the form of deductions from the Italian tax on regional productive activities (IRAP), whose base includes labour costs, over the period 2007 to 2009. Deductions are selective and benefit only non-financial firms (excluding public utilities). As part of the tax cut benefits the workers, the measure reduces firms' labour costs by about 3 percent.

But internal devaluation, which the EEAG group endorses, can only compensate, in small part, for the positive inflation differential vis-à-vis the rest of the euro area experienced by Italy in the last few years. Because cuts in firms' payroll taxes need to be financed through increases in other taxes or through cuts in government expenditures, an internal devaluation can only be small and have the character of a one-off measure. Hence, its effectiveness is very limited. However, this is not only a disadvantage. The constraint that a government cannot use this instrument repeatedly prevents firms from delaying adjustment on expectations of further adoption of the same measure, as argued, for example, by the Calmfors Commission in Sweden (Calmfors et al. 1997) and Calmfors (1998).

Most crucially, however, there are apparent reasons why internal devaluation alone cannot be the solution to the current Italian crisis. Substituting internal devaluation for exchange rate devaluation cannot address the problems arising from increasing competition from emerging markets. Italian exports have been traditionally strong in light manufacturing (machinery and mechanical utensils), as well as in textiles, apparel, leather products and shoes, now increasingly supplied by emerging markets at low prices. Italian firms have mainly lost ground in the market for low- to medium-quality varieties of these products. The crucial issue is then: What prevents Italian industry from redirecting the use of its

human and physical capital towards the production of different products or high-quality varieties of the above products? The current crisis clearly reflects structural constraints, which limit the ability of Italian firms to innovate and acquire new technologies (for example, the slow acquisition of ICT technology was highlighted in Chapter 2 of last year's EEAG report).[19]

What is the "right" product specialisation for Italian firms? To put it simply: There is no answer to the above question other than the one given by international markets. It would be a mistake to design policies under the presumption that the public sector is a better judge than private markets in identifying profitable and dynamic activities. The Italian government may at one point be tempted to adopt programmes of subsidies and public investment to the benefit of specific firms and sectors, using the misleading label of industrial policy. The substantial body of evidence on failures of such "dirigisme" makes it clear that such an approach would plainly result in misallocation and social waste. However, the weak fiscal conditions in Italy impose a natural constraint on such policy option.

There are instead structural measures that could substantially help Italian firms. While a thorough analysis of these measures is outside the scope of a chapter on cyclical adjustment to shocks, we stress the lessons from the recent experience of Scandinavian countries reviewed in Chapter 4 of this report. This chapter points to the benefits of market liberalisation and pro-competition policies as cornerstones of successful policy strategies. In the last decade, Sweden and Finland have benefited very much from high productivity growth and innovation, which have helped them improve their competitive positions in the presence of fairly high rates of wage growth. Chapter 4 argues

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[19] A well-known feature of the Italian industrial structure is the small average dimension of Italian firms or, more precisely, the abnormally low share of medium-sized enterprises. In principle, falling trade costs and advances in ICT technology should have been good news for Italy, to the extent that small firms could take advantage of low fixed costs to acceding larger markets for firms' output and inputs. However, as argued by Rossi (2005), Italian firms are perhaps too small to benefit from globalisation: For a number of technical, organisational and economic reasons, benefits from low trade costs and ICT are better reaped by medium-sized firms, which is the category that is vastly under-represented in Italy (see Trento and Warglien 2003). There is no scarcity of studies on the structural determinants of firm size in Italy that stress both economic and sociological factors. The consensus view appears to emphasise two interrelated factors (see Barca et al. 1994). On the one hand, Italian entrepreneurs seem extremely reluctant to grow using external finance and thus to lose or dilute their control over the business. This attitude may be partly cultural, but clearly also reflects deficiencies in both the structure of the Italian financial markets and intermediaries *as well as* in the normative and judicial system. On the other hand, a larger size raises the fiscal visibility of a firm, reducing the room for tax evasion (see also Onida 2004).

that product market deregulation was an important factor behind this development.

Deregulation policy would involve large benefits also for short-run output stabilisation and adjustment of competitiveness. The reason is that with the euro and globalisation of real and financial markets, the divide between firms exposed to external competition, on the one hand, and firms and activities enjoying rents due to the lack of competition, on the other hand, becomes deeper. The latter firms have a much lower incentive to raise efficiency and reduce prices in response to external (foreign demand) shocks. Examples are provided by Italian public services, energy, telecommunications and transportation industries. The lack of efficiency and competitive pricing in these sectors creates a cost disadvantage for *all* firms operating in the country; privileges and monopoly rents in protected sectors translate into high costs for the entrepreneurs in the tradable sector, reducing their ability to compete in the international markets (see the economic analysis of economic nationalism in Chapter 6 of this report).

Moreover, to the extent that increasing competition leads to innovation and adoption of new technology, liberalisation should increase the rate of productivity growth. In this respect, the Scandinavian experience reviewed in Chapter 4 points to the importance of the interplay between a well-educated workforce and investment in ICT technology (capital-skill complementarity). This is not an item usually discussed in relation to macroeconomic adjustment in a currency area. However, in the case of Italy, slow or negative growth in labour and total factor productivity is an important dimension of the competitiveness problem. A change in this trend is an essential component of adjustment. For all these reasons, deregulation measures are a natural complement to traditional stabilisation measures, such as internal devaluation.[20]

In light of these considerations, the long delay in the pace of structural product market reform in Italy has been highly unfortunate. According to the Global Competitiveness Index of the World Economic Forum (Lopez-Claros et al. 2006) Italy's rank still fell by four positions between 2005 and 2006. Italy's rank

is now 42 ahead of Greece (47), but behind Portugal (34) and Spain (28).

At the end of 2006, there are several indicators of improvements in the macroeconomic outlook in Italy. In some sectors, this turnaround could reflect the end of a restructuring phase in which firms invested in higher quality product lines and outsourced some segments of their production process (a view suggested by anecdotal rather than hard evidence). The positive outlook should be taken as an opportunity for the Italian government to accelerate the implementation of reforms and deregulations promised in its electoral programme, so as to create the premise for a return to growth.

However, another possibility is that positive cyclical growth, to a large extent driven by the dynamics of the global economy as well as of the rest of Europe, could generate complacency and defence of the status quo. In the past few years, for instance, a positive macroeconomic outlook and low interest rates gave the Italian government an opportunity to proceed towards fiscal consolidation. As the analysis in the previous EEAG reports and Chapter 1 of this report shows, the fiscal outlook actually worsened. Complacency would be quite damaging in the present situation.

4. Conclusions

The first years in the life of the euro have witnessed a variety of country-specific experiences as regards macroeconomic adjustment in the new policy environment of EMU. The two case studies, of Ireland and Italy, in this chapter shed light on the adjustment problems in response to both expansionary and contractionary shocks.

The main conclusions of the chapter, which square quite well with the received wisdom in academic and policy analyses, can be summarised as follows. First, stabilising movements of the real exchange rate are asymmetric: Appreciation is faster in response to a booming demand than depreciation in response to negative shocks, which is delayed in time and sluggish. In the Irish case, labour costs have increased very rapidly in the context of the expansionary monetary and policy mix of the first years of the euro. In Italy, the slowdown has not prevented labour costs from increasing in real terms. Due to slow or negative productivity growth, the Italian real exchange rate

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[20] As a cautionary note on the potential impact of deregulation policies on stabilisation, it is worth stressing that these policies may have perverse effects on prices and efficiency in the short-run, for a number of economic and political-economy considerations. However, this is not an argument against implementing them.

continued to appreciate during a prolonged period of demand and growth slowdown. Adjustment is asymmetric across sectors: It is faster in sectors exposed to international competition.

Second, in the short run, adjustment dynamics may paradoxically move demand in the same direction as shocks. This point was emphasised early on in the so-called Walters critique of the EMS. In response to a demand boom, adjustment does require an increase in the price level, although this is delayed because of nominal rigidities. But this means that, in the short run, expectations of higher inflation can further stimulate aggregate demand. As suggested by the Irish experience, similar considerations may apply to the adjustment via labour movements. Immigration of workers can contain labour shortages caused by demand shocks, reducing the pressure on prices. Yet, new migrants also increase expenditure at the aggregate level.

Third, asset prices, especially housing prices, appear to play a large quantitatively relevant role in the dynamics of adjustment. Through their impact on real estate prices, low real interest rates can fuel sustained construction booms, which outlast the initial demand shock and contribute to continued real appreciation. One could argue that the growth of the housing stock in Ireland is at least in part due to a convergence process for the capital/population ratio. Yet, the strong rate of expansion and the high market valuation of the housing stock clearly point to the risk of a significant reversal in the rate of activity at some point in the near future. At that point, the strong real exchange rate resulting from the ongoing real appreciation will need to be corrected.

The general lesson for the countries in the monetary union is that, without exchange rate flexibility, the inherent dynamics of adjustment are likely at some point to cause "competitiveness problems". As we argued in the introduction, real appreciation and depreciation via changes in relative inflation are an essential part of the adjustment process. Yet, because of rigidities, their timing and size may give rise to large fluctuations in output and employment. In response to a negative shock, real depreciation is slow to materialise, creating macroeconomic stress. In response to a demand boom, real appreciation is delayed and overshooting is probable. Real appreciation during and after a demand boom can thus contain the seeds of a very serious slowdown, entailing large macroeconomic costs.

These macroeconomic costs could – and should – be reduced using fiscal policy to affect aggregate demand. Internal devaluation, exchanging cuts in firms' payroll taxes for rises in other taxes and cuts in government expenditures, are appropriate policies. In practice, however, the scope for such fiscal intervention is limited. An alternative which is especially relevant for countries like Italy is to pursue pro-competition policies that reduce monopoly power in the sectors of the economy least exposed to international competition. To the extent that such policies result in more competitive pricing and greater efficiency in service sectors, this would enhance Italy's external competitiveness. The diverging experiences of countries with high productivity growth, such as Ireland and the Scandinavian countries on the one hand, and countries like Italy, Portugal and Spain, on the other, point to the importance also for short-run adjustment dynamics that could be played by policies that beef up productivity growth.

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THE NEW EU MEMBERS

1. Introduction

Nearly three years ago, on 1 May 2004, membership in the European Union grew by ten new member countries: the 2004-member countries, as we shall refer to them. In terms of population, the size of the EU increased by over one hundred million people, though in economic terms the increase was much smaller as living standards in most of these countries are significantly lower than in Western EU countries. In the beginning of 2007, a further enlargement of the EU took place when Bulgaria and Romania became full members of the EU. In addition, Slovenia, one of the 2004-member countries, has become a member of the monetary union.

At the time of the 2004 enlargement, it was anticipated that membership in the EU would lead to significant improvements in the economic performance of the new members, especially the ones in Central and Eastern Europe (see, for example Chapters 5 and 6 of EEAG 2004). Our first goal in this chapter is to analyse the most recent macroeconomic performance of the 2004-member countries, discussing foreign trade, economic growth and employment; the criteria for EMU entry; and external and financial aspects.

Our second goal is to provide an overview of the macroeconomic situation of the two most recent entrants Bulgaria and Romania.

2. Trade, growth, and employment in the 2004-member countries

Beginning with indicators of economic integration, the share of foreign trade (exports plus imports) in GDP of the 2004-member countries ranged from about 70 percent for Poland to 160 percent for Estonia in 2005.[1] Moreover, the bulk of foreign trade is with other EU countries, with EU-25 trade making up between 60 and 81 percent of total imports of the 2004-member countries and between 52 to 85 percent of total exports.[2]

Another anticipated consequence of the 2004 enlargement was that the ten new member countries would benefit from faster economic growth through exploitation of larger markets and inflow of foreign capital and technologies. On the basis of various studies it was estimated in Chapter 5 of EEAG (2004) that the annual growth gains to the ten countries from EU membership could be around one percentage point for the first ten years of EU membership.

Table 3.1 shows the rates of economic growth since 2001. Economic growth in the 2004 entrants has indeed accelerated since 2004. This observation is true for nearly all of these countries, with Malta and Lithuania being possible exceptions to the pattern.

The growth performance of the three Baltic countries is particularly remarkable, with annual growth rates in the 7 to 11 percent range in 2004 to 2006. The best performers, Estonia and

Table 3.1
Real GDP growth in 2004-member countries, percent, 2001–2006

	2001	2002	2003	2004	2005	2006
Czech Republic	2.5	1.9	3.6	4.2	6.1	6.0
Estonia	7.7	8.0	7.1	8.1	10.5	8.9
Cyprus	4.0	2.0	1.8	4.2	3.9	3.8
Latvia	8.0	6.5	7.2	8.6	10.2	11.0
Lithuania	6.6	6.9	10.3	7.3	7.6	7.8
Hungary	4.1	4.3	4.1	4.9	4.2	4.0
Malta	– 0.4	2.2	– 2.4	0.0	2.2	2.3
Poland	1.1	1.4	3.8	5.3	3.2	5.2
Slovenia	2.7	3.5	2.7	4.4	4.0	4.8
Slovakia	3.2	4.1	4.2	5.4	6.0	6.7
EU15	1.9	1.1	1.1	2.2	1.5	2.6

Source: Eurostat 2006.

[1] World Development Indicators Online (2006).
[2] European Commission (2006a).

Latvia, are assessed to have very good business environments among transition economies (EBRD 2006). The situation in Lithuania is not as good in this respect. Domestic demand and, to some extent, very good export performance are behind the rapid growth in the Baltic countries. In some cases there are signs of overheating indicated by worsening external positions (to be discussed below), buoyant asset and housing prices, rapid growth in domestic credit (especially in Latvia) and high rates of capacity utilisation (especially in Lithuania).[3]

Growth in the Czech Republic and Slovakia has also speeded up considerably since 2004. In both countries strong domestic demand – both private consumption and investment – appears to be the key component in GDP growth, though export performance is also solid. Both the Czech Republic and Slovakia are carrying or have carried out important structural reforms, including an ongoing pension reform in the Czech and a tax reform introducing a flat tax in Slovakia. It has, however, been suggested that further reforms are needed to support growth and broaden the base for economic improvements.[4]

Table 3.2 shows that unemployment developments are diverse among the 2004-member countries. Unem-

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[3] For further discussion, see IMF (2005a, b) and EBRD (2006).
[4] See OECD (2005, 2006), IMF (2005c, d) and EBRD (2006) for further discussion of economic developments in the Czech and Slovakia.

Box 3.1

Criteria for EMU entry

- The deficit of the general government must be below three percent of GDP. Gross debt of the general government must be below 60 percent of GDP or declining toward 60 percent of GDP at a satisfactory rate.
- Inflation must not exceed the average rate of inflation in the three EU countries with the lowest inflation rate by more than 1.5 percentage points.
- The long-term interest rate must not exceed the average rate in the three EU countries with the lowest interest rate by more than two percentage points.
- Two years of participation in the Exchange Rate Mechanism II (ERM II)[a] without major tensions in the foreign exchange market are required.

[a] ERM II replaced the earlier ERM when the euro was introduced. It is a multilateral exchange rate arrangement with a fixed, but adjustable, central parity for the exchange rate of the currency of a member country to the euro and a fluctuation band around the parity.

ployment has fallen in the Baltic countries, Poland, Slovenia and Slovakia, whereas the picture for the rest is not clear-cut. The same tendencies are reflected in employment rates.

3. Fulfilling the EMU criteria for macroeconomic stability

EMU membership is a longer-term goal for the 2004-member countries. Membership requires fulfilment of several criteria of macroeconomic stability. These include price stability, low fiscal deficits and debt, a low long-term interest rate, and stability of the currency exchange rate. Box 3.1 gives details.

Table 3.3 gives information about the current exchange rate regimes of the 2004-member countries.

The Baltic countries, Cyprus, Malta and Slovakia are currently in the ERM II and these countries are evidently planning to adopt the euro relatively soon. Last year Lithuania's application for euro membership was turned down and Estonia was advised not to apply because of concerns about inflation. We return to the inflation situation and the failed attempts to enter below. Presently, Estonia plans to enter EMU in the beginning of 2008 and Cyprus and Slovakia in the beginning of 2009. Latvia, Lithuania and Malta do not have definite planned dates of entry into the monetary union. As the

Table 3.2

Unemployment, percent of labour force, 2003–2006

	2003	2004	2005	2006
Czech Republic	7.8	8.3	7.9	7.4
Estonia	10.0	9.7	7.9	5.4
Cyprus	4.1	4.6	5.3	5.4
Latvia	10.5	10.4	8.9	7.4
Lithuania	12.4	11.4	8.3	5.9
Hungary	5.9	6.1	7.2	7.3
Malta	7.6	7.4	7.3	7.0
Poland	19.6	19.0	17.7	13.9
Slovenia	6.7	6.3	6.5	6.1
Slovakia	17.6	18.2	16.3	14.3
Euro area	8.7	8.9	8.6	8.0

Source: European Commission (2006b).

Table 3.3
Exchange rate regimes of 2004-member countries (beginning of 2007)

Czech Republic	Managed floating with no pre-determined path for the exchange rate
Estonia	ERM II (currency board with fixed peg to euro)
Cyprus	ERM II (pegged exchange rate with ± 15% fluctuation band)
Latvia	ERM II (fixed peg to euro)
Lithuania	ERM II (currency board with fixed peg to euro)
Hungary	Pegged exchange rate with ± 15% fluctuation band)
Malta	ERM II (fixed peg to euro)
Poland	Free float with inflation target
Slovenia	Member of the monetary union with the euro as currency
Slovakia	ERM II (pegged exchange rate with ± 15% fluctuation band)

Source: ECB (2006b), web pages of central banks.

Table 3.4
Fiscal balance, percent of GDP, 2003–2006

	2003	2004	2005	2006	EMU deficit criterion
Czech Republic	– 6.6	– 2.9	– 3.6	– 3.5	Not fulfilled
Estonia	2.0	2.3	2.3	2.5	Fulfilled
Cyprus	– 6.3	– 4.1	– 2.3	– 1.9	Fulfilled
Latvia	– 1.2	– 0.9	0.1	– 1.0	Fulfilled
Lithuania	– 1.3	– 1.5	– 0.5	– 1.0	Fulfilled
Hungary	– 7.2	– 6.5	– 7.8	– 10.1	Not fulfilled
Malta	– 10.0	– 5.0	– 3.2	– 2.9	Fulfilled
Poland	– 4.7	– 3.9	– 2.5	– 2.2	Fulfilled
Slovenia	– 2.8	– 2.3	– 1.4	– 1.6	Fulfilled
Slovakia	– 3.7	– 3.0	– 3.1	– 3.4	Not fulfilled

Source: European Commission (2006b).

Table 3.5
General government debt, percent of GDP, 2003–2006[a]

	2003	2004	2005	2006	EMU debt criterion
Czech Republic	30.1	30.7	30.4	30.9	Fulfilled
Estonia	5.7	5.2	4.5	4.0	Fulfilled
Cyprus	69.1	70.3	69.2	64.8	Fulfilled
Latvia	14.4	14.5	12.1	11.1	Fulfilled
Lithuania	21.2	19.4	18.7	18.9	Fulfilled
Hungary	58.0	59.4	61.7	67.6	Not fulfilled
Malta	70.2	74.9	74.2	69.6	Fulfilled
Poland	43.9	41.8	42.0	42.4	Fulfilled
Slovenia	28.5	28.7	28.0	28.4	Fulfilled
Slovakia	42.7	41.6	34.5	33.0	Fulfilled

[a] The debt–GDP ratios of Cyprus and Malta are above the 60 percent limit, but government indebtedness of these countries is falling. Thus, these countries can be said to meet the debt criterion, though this depends on the interpretation of what is a satisfactory pace of reduction.

Source: European Commission (2006b).

other countries do not seem even to have any definite plans to enter the ERM II, their membership in the monetary union will remain an open issue for several years into the future.[5]

Public-sector fiscal balances and debt levels for the 2004-member countries are shown in Tables 3.4 and 3.5.

All the 2004-member countries with the exception of Cyprus, Hungary and Malta have public debt levels below 60 percent of GDP and hence fulfil the EMU criterion with respect to the level of public debt. Since debt levels are falling strongly in Cyprus and Malta, too, also these two countries probably qualify on this count. Looking at the best countries according to the fiscal criteria, Estonia has a sustained fiscal surplus and almost no public debt. Also Latvia and Lithuania have good public sector positions: they seem to be moving into surplus positions and their debt levels are quite low. Only the Czech Republic, Hungary and Slovakia do not satisfy the three percent limit set for entry into the monetary union. The country furthest away from membership in the monetary union is Hungary, where fiscal deficits have been increasing and amounted to 10.1 percent of GDP in 2006. In addition, government debt is above the 60 percent limit and increasing rapidly.

The level of long-term interest rates is the third criterion for entry into the monetary union. Table 3.6 gives the data for the long-term rates in the 2004-member countries. Long-term interest rates seem to be declining in these

[5] See Table 2.2 and the country assessments in EBRD (2006).

Table 3.6
Long-term interest rates, percent, 2003–2006[a]

	2003	2004	2005	2006
Czech Republic	4.1	4.8	3.5	3.8
Estonia	5.3	4.4	4.0	4.2
Cyprus	4.7	5.8	5.2	4.2
Latvia	4.9	4.9	3.9	4.0
Lithuania	5.3	4.5	3.7	4.1
Hungary	6.8	8.2	6.6	7.3
Malta	5.0	4.7	4.6	4.3
Poland	5.8	6.9	5.2	5.3
Slovenia	6.4	4.7	3.8	3.9
Slovakia	5.0	5.0	3.5	4.5
EMU criterion	6.1	6.1	5.4	5.8

[a] Long-term interest rates refer to central government bonds issued in national currency with a ten-year maturity; see Annex 1 of ECB (2006b) for further details.

Source: European Commission (2006b).

countries. Slovenia is an exception, but it should be noted that its long-term rate was already quite low in 2004 and it has just entered the EMU. Long-term interest rates vary quite a lot between the other 2004-member countries. The rate is well above six percent in Hungary, which suffers from major fiscal problems as discussed above. Using 2006 data, the EMU criterion is approximately 5.8 percent. Hungary clearly fails this, while Poland is fairly close to this critical value.

Price stability is the remaining criterion for EMU membership. Table 3.7 gives the inflation rates for the countries that joined the EU in 2004. Given that economic growth has speeded up, we would ceteris paribus expect some increase in inflationary pressures. These inflation pressures arise because of the Balassa-Samuelson effect: Strong productivity and wage increases in export sectors spill over to the non-tradable sectors resulting in price increases of non-tradable goods. However, the picture for these countries is not one of uniformly higher inflation rates since EU membership. Some countries have indeed experienced increases in the rate of inflation; this is notably the case for the Baltic countries.[6] In the other countries there is no clear picture or inflation has

even declined. Slovenia and Slovakia are examples of countries in which inflation has declined since 2003 simultaneously with increased rates of economic growth.

Of the two Mediterranean countries, inflation is fairly low in Cyprus, whereas inflation in Malta tends to fluctuate. The Baltic countries and Slovakia, which are in ERM II and aiming to join the eurozone, have recently had difficulties with high inflation. As was noted above, problems with inflation have led to postponement of entry by Lithuania and Estonia into the eurozone. Figure 3.1 compares inflation in Estonia, Lithuania, Slovenia and the eurozone. Due to increased inflation, Lithuania just missed the inflation criterion, which was 2.6 percent in March 2006.[7] The twelve-month moving average for Lithuania was 2.7 percent. Inflation in Estonia has fluctuated around four percent for the past two years, so that Estonia could not meet the price stability criterion. The figure also shows that the disinflation process in Slovenia was successful and the country

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[6] See IMF (2006a) for an analysis of inflation in Lithuania suggesting that currently upside inflation risks exist.
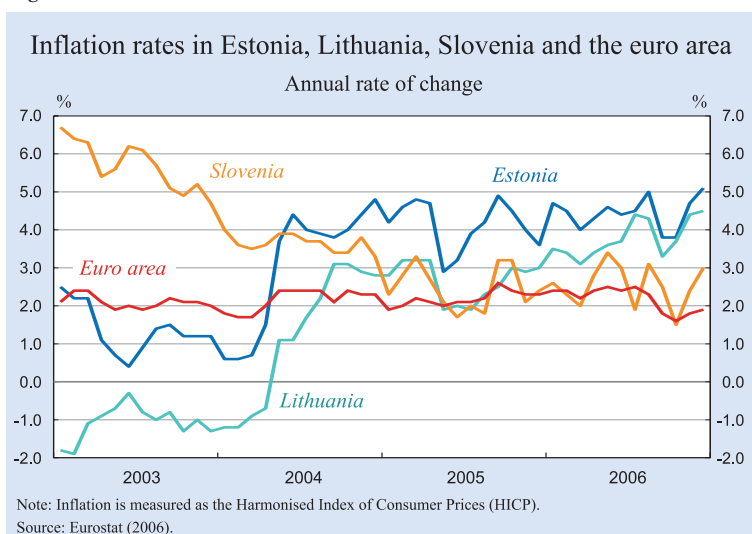[7] European Commission (2006c).

Table 3.7
Inflation rate (harmonised index of consumer prices), percent, 2003–2006

	2003	2004	2005	2006
Czech Republic	– 0.1	2.6	1.6	2.5
Estonia	1.4	3	4.1	4.4
Cyprus	4	1.9	2	2.4
Latvia	2.9	6.2	6.9	6.7
Lithuania	– 1.1	1.2	2.7	3.8
Hungary	4.7	6.8	3.5	3.9
Malta	1.9	2.7	2.5	3.0
Poland	0.7	3.6	2.2	1.4
Slovenia	5.7	3.7	2.5	2.5
Slovakia	8.4	7.5	2.8	4.5
Euro area	2.1	2.1	2.2	2.2
EMU criterion[a]	2.7	2.6	2.9	3.1

[a] The numerical values of the EMU criterion differ slightly between different publications, as somewhat different twelve-month periods are used to calculate the reference value.

Source: Eurostat and European Commission (2006b).

Figure 3.1

Inflation rates in Estonia, Lithuania, Slovenia and the euro area

Annual rate of change

Note: Inflation is measured as the Harmonised Index of Consumer Prices (HICP).
Source: Eurostat (2006).

simultaneous targets for monetary policy. These targets are usually viewed as alternative, not complementary ways to establish a nominal anchor for the economy.

Moreover, a strict requirement of price stability is particularly problematic for countries that are experiencing rapid growth and face possible inflation pressures through the Balassa-Samuelson effect. The magnitude of the Balassa-Samuelson effect on inflation is difficult to estimate precisely. Estimates in the literature vary from close to zero to about two and a half percentage points for the Central and Eastern European countries, with larger estimates for poorer countries (see, for example, Sinn and Reuter 2000, Kovácz 2002, Mihaljek and Klau 2003, and Buiter and Sibert 2006b). A consensus estimate might be a 1 to 1.5 percentage point increase in the inflation rate per annum.

Given that the Baltic countries, Cyprus, Malta, and Slovakia are growing well, are integrated closely with the EU, and fulfil or are not far from fulfilling the EMU criteria apart from inflation, they should be admitted as quickly as possible to the eurozone. At the moment, these countries seem to be facing an extended period of membership in the ERM II system, which increases the risks of financial shocks. The current inflows of foreign capital may then be reversed and these countries may run into severe difficulties. One should acknowledge that the inflation criterion was originally formulated without any regard for the possibility that fast-growing, catching-up new EU countries would join the monetary union. The ERM II countries should be given a *Balassa-Samuelson rebate* when the inflation criterion is applied. We propose that such a rebate could amount to a maximum of one percentage point. This would mean that the inflation criterion would be reformulated such that the inflation rate is allowed to exceed the average rate of inflation in the three EU countries with the lowest inflation rate by as much as 2.5 percentage points (instead of the current 1.5 percentage points). To qualify for such a rebate, the growth differential between a potential entrant to the eurozone and the average of current members would have to be of a certain magnitude. The price stability criterion for entry into the monetary union is also

just managed to get its inflation below the critical value.

Strict application of the inflation criterion as a way to postpone EMU entry can have undesirable consequences for the countries in ERM II. The Baltic countries are fulfilling the other criteria for EMU entry and have very strong fiscal positions. The latter are indeed much better than the corresponding positions of several eurozone member countries, so in terms of the fiscal criteria, the Baltic countries, and Estonia in particular, are almost "overqualified" for EMU entry. Cyprus, Malta and Slovakia are having some difficulties with the fiscal criteria, but on the whole meet them or are at least not far from meeting them.

An extended period of ERM II membership due to delayed entry into the monetary union is creating a potentially vulnerable situation for the countries discussed above.[8] These countries have current account deficits and are financing them through inflows of foreign capital, as will be discussed in more detail in Section 3.4.[9] Experiences from other emerging economies suggest that such capital inflows can easily reverse themselves either for reasons that are external to these countries, for example because of a world economic slowdown, or if there is a domestic downturn. This could jeopardise the fixed exchange rate regimes and lead to a serious financial crisis, as we discussed thoroughly in Chapter 6 of our 2004 report. Requiring both exchange rate stability and low inflation is also always problematic as it sets two

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[8] See Buiter and Sibert (2006a, b) for a more detailed discussion.
[9] See the data in the next section.

problematic because the reference value for inflation is calculated as the average of the inflation rates of the three countries with lowest inflation. Though perhaps reasonable at the start of the monetary union, this formulation of the reference value is no longer natural. The countries with lowest inflation rates are likely to have experienced undesirable shocks. It would be better to simply use the euro area rate of inflation as the reference value.

Table 3.8
Current account balance, percent of GDP, 2003–2006

	2003	2004	2005	2006
Czech Republic	− 6.3	− 6	− 2.1	− 1.9
Estonia	− 12.1	− 13	− 11	− 12
Hungary	− 8.7	− 8.6	− 7.4	− 9.1
Latvia	− 8.1	− 12.9	− 12.4	− 14
Lithuania	− 6.9	− 7.7	− 6.9	− 7.5
Poland	− 2.1	− 4.2	− 1.4	− 1.7
Slovakia	− 0.8	− 3.6	− 8.6	− 7.7
Slovenia	− 0.3	− 2.1	− 1.1	− 2

Source: IMF World Economic Outlook Database September 2006.

4. External and financial situation

Next, we consider external positions and financial situations of the 2004-member countries. These two issues are important for macroeconomic stability even if they are not included in the formal criteria for entry into the monetary union.

Given that these countries have high rates of growth and favourable investment opportunities due to a low capital stock, it is not surprising that they run substantial current account deficits. According to Table 3.8, the external positions of the 2004-member countries vary a lot. According to Table 3.9, the 2004-member countries also exhibit major differences in the inflows of FDI.[10] Most of the FDI, over 80 percent, originates from the euro area and from Denmark and Sweden, while in portfolio investments the rest of the world has a bigger role.[11]

Current account deficits are particularly high in the Baltic countries, Slovakia and Hungary. Rapid growth is the main reason behind the current account deficits in Estonia, Latvia and Lithuania. The current account deficits in the Baltic countries are unlikely to create problems as long as rapid growth can be expected to continue. Estonia relies very strongly on FDI to finance current account

deficits, whereas FDI is less important for Latvia and Lithuania. All Baltic countries have significant foreign debts, but special characteristics of these debts limit the vulnerability of the situation, and there do not seem to be significant pressures on the stability of the external positions of these countries (see EBRD 2006). In Slovakia, the increase in current account deficits in 2005 has been argued to depend on increased imports of investment goods and a change in the accounting methodology (EBRD 2006). In Hungary, the current account deficit in the last two to three years has been of the same order of magnitude as the fiscal deficits. Lack of trust in government policies has weakened investor confidence and in 2006 the forint depreciated significantly against the euro.

More generally, all the 2004 EU entrants have significant net foreign liabilities. They ranged from 18 percent of GDP (Slovenia) to nearly 100 percent (Estonia) in 2004. For most countries, the external debt position is not very far from balance. Liabilities take mostly the form of equity liabilities, which

Table 3.9
FDI inflows, 2005

Country	FDI (million Of US$)	Percent of GDP
Czech Republic	8500	6.9
Estonia	2500	19.1
Latvia	622	3.7
Lithuania	655	2.6
Hungary	3500	3.2
Poland	8177	2.7
Slovenia	346	10.2
Slovakia	1800	3.9

Source: FDI data from EBRD; GDP taken from IMF World Economic Outlook Database April 2006.

[10] Cyprus and Malta are excluded from Tables 9 and 10 due to lack of comparable data.
[11] See Tables 1A and 1B of Lane and Milesi-Ferretti (2006).

Table 3.10
Domestic credit to private sector and stock market capitalisation, percent of GDP, 2005[a)]

	Domestic credit	Stock market capital
Czech Republic	37.6	31.8
Estonia	60.0	26.5
Hungary	51.7	31.9
Latvia	60.7	17.4
Lithuania	34.0	31.8
Poland	27.8	31.6
Slovakia	36.2	9.5
Slovenia	53.8	23.8
EU	85.8	67.0

[a)] The Table and the subsequent discussion do not consider Cyprus and Malta.
Source: EBRD (2006).

decreases though does not eliminate the vulnerability to external debt.[12]

Looking at the financial systems, Table 3.10 gives two indicators of the development of financial markets: domestic credit to the private sector and stock market capitalisation as percent of GDP. While the values of both indicators are still well below the average EU level, there has been a rapid increase in the last five years. The domestic credit indicator has risen on average over 60 percent and stock market capitalisation about 55 percent in the period 2000 to 2005. Though financial systems in the 2004-member countries tend to be bank-dominated, other financial services are gradually becoming more important. This is the case with equity markets, which have expanded substantially. Investment in private equity is also becoming an integral part of business financing.

Banking systems in the 2004-member countries have been improving in terms of efficiency and risk management. A major reason for this has been the expanding role of foreign banks in the financial markets of these countries. An indication of the improvement in banking is given by the percentage of non-performing loans in banks' portfolios, which has declined steadily in the last five years. The 2005 figure is close to the corresponding eurozone figure.[13] Overall, the rapid changes in the financial sector are contributing to the fast growth and rising living standards in the 2004-member countries. These rapid changes also mean that risks of new financial crises (suggested in, for example,

Chapter 6 of EEAG 2004) are diminishing. However, financial crisis due to a reversal of capital flows remains a potentially serious risk. As noted above, there are signs of overheating especially in the Baltic countries, and capital flows can be reversed if corrections to overheating or international slowdowns take place.

5. Macroeconomic situation of Bulgaria and Romania[14]

Bulgaria and Romania, which joined the EU on 1 January 2007, are relatively undeveloped countries even if the eight central eastern European countries that became members of the EU in 2004 are used as the point of comparison. In 2005, the PPP-adjusted GDP per capita in Bulgaria was 57 percent and in Romania 62 percent of the eight-country average.[15] In 2005, PPP-adjusted unit labour costs in Bulgaria were only 46 percent and in Romania 85 percent of the eight-country average. Trade with the EU25 is fairly extensive for both Bulgaria and Romania; the export shares in 2005 were about 57 and 68 percent, respectively. (The eight-country average was 79 percent in 2005.) Agriculture plays a large role in both Bulgaria and Romania. The share of agriculture in employment was about 25 percent in Bulgaria and 32 percent in Romania. The corresponding eight-country average was about 11.5 percent in 2005.

Looking at economic growth, it is seen from Table 3.11 that both Bulgaria and Romania have been doing well in recent years, though the Romanian growth rate has recently been fluctuating quite a lot.

Table 3.12 shows that inflation is a major concern for both countries. Inflation has been volatile in Bulgaria.

[12] See Lane and Milesi-Ferretti (2006) for data and a more detailed analysis.
[13] See Chart 4.2 in EBRD (2006).
[14] See ECB (2006) for a detailed discussion.
[15] Source for the data in this paragraph: WIIW (2006).

Table 3.11
Real GDP growth in Bulgaria and Romania, percent, 2001–2006

	2001	2002	2003	2004	2005	2006
Bulgaria	4.4	4.9	4.5	5.7	5.5	6.0
Romania	5.7	5.1	5.2	8.4	4.1	7.2

Source: European Commission (2006b).

Table 3.12

**Inflation in Bulgaria and Romania
(harmonised index of consumer prices), percent, 2002–2006**

	2003	**2004**	**2005**	**2006**
Bulgaria	2.3	6.1	5.0	7.0
Romania	15.3	11.9	9.1	6.8

Source: European Commission (2006b).

Table 3.13

Unemployment and employment in Bulgaria and Romania, 2003–2006

	Unemployment rate (percentage of labour force)				Employment rate (percentage of working-age population 15–64 years)		
	2003	**2004**	**2005**	**2006**	**2003**	**2004**	**2005**
Bulgaria	13.7	12.0	10.1	8.9	52.5	54.2	55.8
Romania	6.8	7.6	7.7	7.6	57.6	57.7	57.6

Source: Eurostat Yearbook 2005 and European Commission (2006b).

Table 3.14

Fiscal situation, percent of GDP, 2003-2006

	Fiscal balance				Public debt			
	2003	**2004**	**2005**	**2006**	**2003**	**2004**	**2005**	**2006**
Bulgaria	0.3	2.7	2.4	3.3	46.0	38.4	29.8	25.8
Romania	− 1.5	− 1.5	− 1.5	− 1.4	21.5	18.8	15.9	13.7

Source: European Commission (2006b).

Table 3.15

Current account and FDI, percent of GDP, 2003–2005

	Current account				FDI		
	2003	**2004**	**2005**	**2006**	**2003**	**2004**	**2005**
Bulgaria	− 5.5	− 5.8	− 11.3	− 13.9	10.3	11.5	8.7
Romania	− 4.8	− 12.7	− 8.7	− 10.3	3.6	8.4	6.6

Source: European Commission (2006b) and ECB (2006).

In Romania, the rate of inflation has been high, though recently there seems to be a declining trend.

Both countries have high unemployment and low employment rates as shown in Table 3.13. In the past, Bulgarian unemployment was at very high levels, but it has fallen rapidly. In Romania, unemployment is at a fairly high level and there is no improving trend.

With respect to public sector balance and debt, both countries are doing reasonably well, as indicated in Table 3.14. Both countries are, however, running significant current account deficits, as shown in the left panel of Table 3.15. Both countries, in particular Bulgaria, have relatively high rates of FDI, as shown by the right panel of the table. FDI is effectively financing the current account deficits of these two countries. In terms of the financial development indicators used in Table 3.10, the financial sector in Bulgaria appears to be roughly at par with the 2004-member countries. For Romania, the values of these indicators are much lower, which suggests that the financial sector in Romania is lagging behind the other new EU-member countries.

Overall, the medium-term prospects for Bulgaria are assessed to remain favourable (see EBRD 2006). Bulgaria has experienced a boom in domestic credit and it has a high level of private external debt (IMF 2004). These developments can lead to a vulnerable situation, given that Bulgaria is using a currency board arrangement. This is the main macroeconomic risk to the basic medium-term scenario.

The medium-term prospects for Romania are fairly good, given that relatively fast growth is likely to continue. Fast credit growth is also a feature of the recent growth in Romania, which has led to some concerns about potential financial-sector and macroeconomic vulnerability. Romania is showing signs of deteriorating competitiveness with an appreciation of its real exchange rate due to an appreciation of the nominal exchange rate, strong wage growth and low productivity growth.[16] These concerns imply clear downside risks to the basic medium-term scenario.

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SCANDINAVIA TODAY:
AN ECONOMIC MIRACLE?

1. Introduction

The recent European economic policy debate has frequently focussed on the Scandinavian countries of Denmark, Finland and Sweden. The "Scandinavian model" has been hailed as a role model for others to follow, as it seems able to generate high output growth and high employment as well as macroeconomic stability. Some even refer to a "Nordic miracle" (see, for example, Dutch Ministry of Finance 2005).

The Scandinavian countries are characterised by large government sectors, generous social insurance, a focus on active labour market policy, high tax rates, high degrees of unionisation, coordinated wage bargaining and low income inequality. This has led many observers to view the Scandinavian model as a successful way of combining equity and efficiency. The model is often regarded as an alternative to the Anglo-Saxon model, which seems to attain efficiency only at the cost of low equity. This point has been made forcefully by, for example, Sapir (2005), who contrasts the Scandinavian and Anglo-Saxon models with the Continental (high equity but low efficiency) and Mediterranean (both low equity and low efficiency) ones. This view also often holds that the combination of generous unemployment insurance and low employment protection is a good way of achieving both high employment and high social protection. Denmark's so-called *flexicurity model* in particular is seen as a role model for others to follow (for example, The Economist 2006).

This chapter reviews the achievements of the Scandinavian model, seeking to supply a balanced assessment of its strengths and weaknesses. The aim is to draw conclusions on what there is for other countries to learn: both from successful policies that could be copied and from policy failures that should be avoided.

Some of the recent growth success of the Scandinavian countries is a recovery from earlier crises (recessions in the early 1990s in Finland and Sweden and high unemployment already in the 1980s in Denmark), although the recovery has been only partial in terms of employment. However, the recent Scandinavian experiences also show that other economic models than the Anglo-Saxon one can deliver growth and employment.

What are the causes of the Scandinavian successes? A key factor appears to be a well-educated workforce. But the improvements in economic developments in the Scandinavian countries over the last decade have also been associated with important – but moderate – steps in a market-liberal direction. This applies in particular to product and service markets where there have been substantial deregulations in all three Scandinavian countries. It applies also to labour market reforms in Denmark. So, the Scandinavian experiences certainly do not provide evidence that market incentives do not matter. On the contrary, the failure to restore employment to earlier levels in Sweden is clearly associated with the earlier lack of labour market reform. High total rates of benefit dependency in all three countries reflect serious incentive problems. Especially Sweden, with very high sickness absence, has been more successful in delivering what is labelled employment in the statistics than securing that the employed actually work.

The greatest achievement of the Scandinavian model may be the stable public finances, which stand in stark contrast to the developments in many other countries. The obvious explanation seems to be the magnitude of earlier fiscal crises, which has fostered a consensus on the need for fiscal discipline.

An analysis of the Scandinavian approach is important for the lessons that can be drawn for economic policy making. But it is also worthwhile to reflect on how various role models are used in the policy debate. One aspect of "internationalisation" is the increased importance attached to what is perceived as successful examples of policy making in other countries. Such international "benchmarking" has

great merits, as it helps identify successful policies. But there is also the risk that "the grass is always seen as greener somewhere else" because of insufficient knowledge of the performance – and the causes of the performance – of other countries. There is often a tendency wrongly to attribute economic performance associated with cyclical developments to more deep-rooted institutions.

There is a risk of overselling economic models that appear for a time to be very successful.[1] In countries with severe economic problems, people tend to look for contrasting examples. At the same time, policy makers in successful countries have strong incentives to "market" their own policies abroad, as a good international reputation gives prestige in the domestic policy debate. The use of the Scandinavian model as such a role model in much of the European economic debate reflects to some extent such overselling.

2. The anatomy of the Scandinavian model

The characteristic features of the Scandinavian model are a large government sector, generous social protection, high tax rates, an emphasis on active labour market policy, a high degree of unionisation, and highly coordinated wage bargaining (see Tables 4.1a–b for a summary).

Column 2 in Table 4.1a shows government expenditures as a share of GDP. Among the countries shown, Sweden has the highest government expenditure share with 56.2 percent, which is around 10 percentage points higher than the euro area average. Denmark and Finland, also with government expenditure shares above 50 percent, rank as number three and four, respectively.

Column 4 in Table 4.1a gives government employment as a share of working-age population. All three Scandinavian countries rank above the other countries in this respect. The share is highest in Denmark and
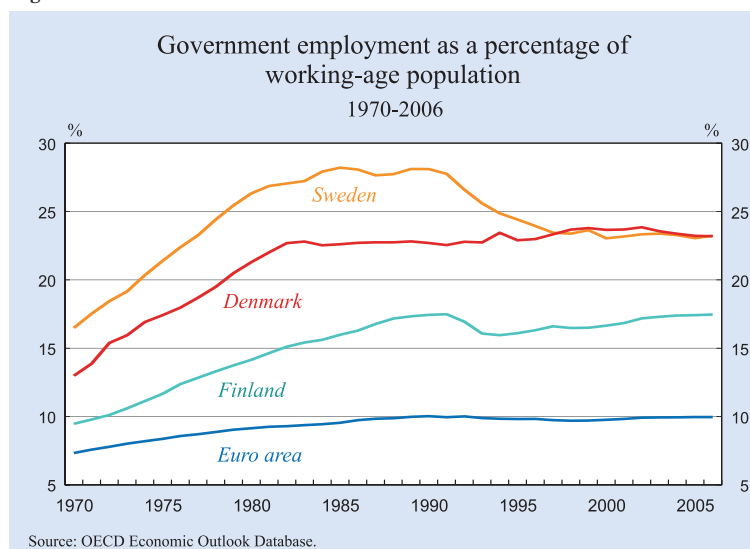
Sweden – around 12 percentage points higher than the euro area average – and somewhat lower in Finland – around 7 percentage points higher than the euro area average. However, government employment shares have not grown over the last fifteen years: as shown in Figure 4.1, the share has fallen substantially in Sweden, whereas it is now more or less the same in the other two countries as around 1990.

Column 6 in Table 4.1a illustrates the degree of social protection by showing a measure of the average net replacement rate (after taxes and transfers) of unemployment benefits for different types of wage-earners over a five-year period of unemployment. Among the countries shown, Denmark has the highest replacement rate with 70 percent. Finland (with 65 percent) and Sweden (with 63 percent) also rank high (as number five and seven, respectively).

Another aspect of social protection is employment regulation, which is shown in column 8 in Table 4.1a. Here the Scandinavian countries stand out less. Sweden is among the countries with the highest employment protection, although it is even higher in Portugal, Spain and France. Finland is ranked in the middle. Compared to most other EU countries, employment protection is low in Denmark, although it is not as low as in the Anglo-Saxon countries.

Columns 10 and 12 in Table 4.1a capture the importance of active labour market policy. Column 10 shows that Denmark is the country that devotes most resources to active labour market programmes (around 1.8 percent of GDP) with Sweden third (1.2 percent of GDP). Finland ranks as number five

Figure 4.1

Government employment as a percentage of working-age population
1970-2006

Source: OECD Economic Outlook Database.

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[1] For example, in the 1980s, the US was considered as going through a crisis, while the Japanese model of lifetime employment and the German model of vocational training and worker participation in management were much praised. Perceptions changed when the latter two countries experienced protracted stagnation in the 1990s.

Table 4.1a

The anatomy of the Scandinavian model

	Government expenditure (percentage of GDP), 2005	Rank	Government employment (percentage of working age population), 2005	Rank	Average net unemployment benefit replacement rate, 2004	Rank	Employment protection, 2003	Rank	Expenditure on active labour market policy (percentage of GDP), 2004	Rank	Expenditure on active labour market policy (percentage of total expenditure on unemployment), 2004	Rank
Denmark	52.6	3	23.2	1	70	1	1.8	12	1.8	1	40.8	8
Finland	50.5	4	17.4	3	65	6	2.1	10	1.0	6	32.2	17
Sweden	56.2	1	23.0	2	63	8	2.6	4	1.2	3	48.4	2
Average Scandinavian countries	**53.1**		**21.2**		**66.0**		**2.2**		**1.4**		**40.5**	
Austria	49.5	6	-		57	10	2.2	9	0.6	12	30.0	19
Belgium	50.0	5	11.4	7	61	9	2.5	5	1.2	4	32.3	16
France	53.9	2	14.2	4	57	11	2.9	3	1.0	7	36.1	12
Germany	46.7	9	7.7	13	66	4	2.5	6	1.1	5	32.9	14
Greece	46.3	10	-		35	19	-		-		-	
Ireland	34.5	16	9.6	8	64	7	1.3	16	0.6	11	41.1	7
Italy	48.1	7	9.2	10	22	20	2.4	7	0.6	13	43.7	5
Netherlands	45.7	11	8.6	12	66	5	2.3	8	1.4	2	39.2	9
Portugal	47.8	8	13.1	6	68	3	3.5	1	0.7	10	34.7	13
Spain	38.2	14	9.1	11	49	14	3.1	2	0.7	9	32.4	15
Average euro area except Finland	**46.1**		**9.7**		**55**		**2.6**		**0.9**		**35.8**	
Switzerland	-		-		69	2	1.6	14	0.8	8	43.1	6
UK	44.8	12	13.8	5	53	13	1.1	18	0.5	14	64.2	1
US	34.6	15	9.6	8	36	18	0.7	19	0.2	18	30.2	18
Australia	-		-		46	16	1.5	15	0.4	16	37.9	11
New Zealand	-		-		54	12	1.3	17	0.4	15	43.8	4
Average Anglo-Saxon countries	**-**		**-**		**47.3**		**1.1**		**0.4**		**44.0**	
Japan	39.5	13	6.5	14	48	15	1.8	13	0.3	17	38.4	10
South Korea	-		6.5	14	42	17	2.0	11	0.2	19	44.1	3

Table 4.1b

The anatomy of the Scandinavian model

	Average tax wedge on labour (at average worker earnings), 2004	Rank	Marginal tax rate on labour (at 167% of average wage)	Rank	Unionisation (percentage of employees), 2003	Rank	Coverage of collective agreements (percentage of employees), 2000	Rank	Coordination of wage bargaining, 1995-2000	Rank
Denmark	33.6	9	63.0	3	74.4	3	80	6	4	3
Finland	36.7	6	59.5	6	77.7	2	90	2	5	1
Sweden	42.0	1	67.2	2	78.0	1	90	2	3	12
Average Scandinavian countries	**37.4**		**63.2**		**76.7**		**87**		**4**	
Austria	31.0	11	41.9	16	34.3	6	95	1	4	3
Belgium	39.7	2	68.4	1	55.8	4	90	2	4.5	2
France	38.1	4	59.6	5	8.2	18	90	2	2	14
Germany	37.8	5	44.3	13	23.2	10	68	12	4	3
Greece	34.8	8	60.6	4	-		-		-	
Ireland	10.2	20	49.8	11	36.3	5	-		4	3
Italy	38.8	3	59.1	7	34.0	7	80	6	4	3
Netherlands	35.6	7	52.0	9	22.3	12	80	6	4	3
Portugal	24.3	13	55.6	8	23.4	9	80	6	3	12
Spain	33.5	10	37.0	18	13.8	16	80	6	4	3
Average euro area except Finland	**32.4**		**52.8**		**27.9**		**83**		**3.7**	
Switzerland	19.8	18	42.8	15	21.5	14	40	13	4	3
UK	20.7	15	47.7	12	30.5	8	30	14	1	16
US	20.3	16	43.3	14	12.2	17	14	17	1	16
Australia	20.9	14	51.4	10	22.8	11	80	6	2	14
New Zealand	20.2	17	39.0	17	22.1	13	25	15	1	16
Average Anglo-Saxon countries	**20.5**		**45.4**		**21.9**		**37**		**1.3**	

Table 4.1b (continued):

	Average tax wedge on labour (at average worker earnings), 2004	Rank	Marginal tax rate on labour (at 167% of average wage)	Rank	Unionisation (percentage of employees), 2003	Rank	Coverage of collective agreements (percentage of employees), 2000	Rank	Coordination of wage bargaining, 1995–2000	Rank
Japan	24.5	12	31.0	19	19.7	15	15	16	4	3
South Korea	15.8	19	23.3	20	-		10	18	1	16

Notes: The average tax wedge on labour is measured as the difference between total compensation paid by the employer and the net take-home pay of employees as a ratio of total labour compensation. The marginal tax rate on labour refers to the marginal rate of income tax plus employee and employer contributions less cash benefits as a percentage of the labour cost for a single person without children. VAT is not included in any of the tax measures. Coordination of wage bargaining is measured along a scale from 1 (firm-level wage bargaining) to 5 (nation-wide bargaining).

Sources to Tables 4.1a–b: Government expenditure: European Commission (2006c). Government employment, expenditure on active labour market policy: OECD Economic Outlook Database. Average net unemployment benefit replacement rate, employment protection, and coordination of wage bargaining: OECD (2006c). Average tax wedge on labour: OECD (2006d). Marginal tax rate on labour: OECD (2006e). Unionisation: Underlying data to Bassanini and Duval (2006). Coverage of collective agreements: OECD (2004a).

with spending of around 1 percent of GDP. Column 12 gives the share of expenditures on active policies in total expenditures for the unemployed. With this measure, Sweden ranks second (after the UK!), but Denmark only eighth. And Finland turns out to be one of the countries with the least emphasis on active labour market policy if this metric is used.

High taxes are the other side of high government expenditure and high social protection. This is illustrated in column 2 in Table 4.1b, which gives the average tax wedge on labour. The average tax wedge is highest in Sweden with 42 percent, nearly 10 percentage points above the euro area average. Finland is also among the European countries with the highest tax wedges, whereas Denmark is close to the euro area average. Column 4 in Table 4.1b shows marginal labour tax rates for high-paid workers. With 60 to 70 percent marginal tax rates, the Scandinavian countries rank high (Sweden second, Denmark third and Finland sixth) among the countries shown.

Columns 6, 8 and 10 in Table 4.1b relate to wage setting. As can be seen in column 6, the three Scandinavian economies are the ones with the highest degrees of unionisation (70 to 80 percent). Column 8 shows the nearly universal coverage of collective agreements (90 percent in Sweden and Finland, 80 percent in Denmark).[2] Column 12 shows that wage bargaining is highly coordinated in especially Finland and Denmark. Finland stands out as the country with the highest coordination of all the countries shown. This reflects the importance of "social contracts" negotiated between the peak-level labour market organisations and the government. In Denmark and Sweden, the main locus of bargaining is the industry level, but with a substantial amount of informal coordination. In both countries, substantial changes in bargaining arrangements have occurred over time. This has involved a larger role for local bargaining in deciding how wage increases negotiated at the industry level are to be distributed among individual employees. In Denmark, the influence of local bargaining over aggregate wage increases seems also to have increased over time (Det ökonomiske råd 2003; Andersen and Svarer 2006), whereas developments in Sweden have taken a U-turn. In the 1980s and in the first half of the 1990s, there was a trend towards more decentralised determination of aggregate wage increases in Sweden when the old centralised system of bargaining between peak-level organisations was

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[2] See also Ch. 3 of EEAG (2004).

abandoned, but from the late 1990s the degree of coordination has increased again with more cooperation among formally independent bargaining units (Avtalsrörelsen och lönebildningen 2005). This development may not be fully captured by the data in the table, which refer to 1995 to 2000.

The three Scandinavian countries stand out as very equitable both in terms of gross earnings and household income, as shown in Table 4.2.[3] In 2003, the gross earnings ratios between the 9th and 1st deciles were in the 2.3 to 2.6 range, whereas the averages for the euro area and the Anglo-Saxon countries were 3.2 and 3.5, respectively. Among the countries in the table, Sweden ranks first, Finland second and Denmark third. The corresponding average ratio for household income (after taxes and transfers) in the Scandinavian countries was 2.9 in 2001 against an average of 3.9 in the euro area and 4.1 and 5.5 for the UK and the US, respectively. Here, Denmark ranks first, Sweden second and Finland fifth.

However, income inequality in terms of both gross earnings and household income has increased in all three Scandinavian countries since 1994. Gross earnings dispersion in the Scandinavian countries has followed the same trend as in the Anglo-Saxon countries, although at a slower pace. This development reflects lower wage growth for unskilled than for skilled employees. Economists usually explain this by an increase in the relative demand for skilled labour, induced by technical change biased in its favour. However, the increases in household inequality in the Scandinavian countries during the 1994 to 2001 period has no counterpart in the UK and the US.

3. Recent growth experiences

Much of the recent discussion about the Scandinavian model has focused on its perceived ability to generate higher growth than in especially the large euro countries. As can be seen from Table 4.3, GDP per capita has grown fast in Finland and Sweden over the last decade. In 1995 to 1999, only Ireland of the countries shown had higher growth of GDP per capita than Finland. Also Sweden was considerably above

the euro area average. In 2000 to 2005, the Finnish and Swedish growth rates were exceeded or matched only by Greece, Ireland and the UK. In contrast, Denmark has grown more or less at par with the eurozone.

The earlier growth experiences of the Scandinavian countries differ substantially. Whereas GDP per capita in Finland grew by around three percent per year in 1970 to 1889, growth in Sweden and Denmark was around one percentage point lower. Finland and Sweden share a very weak growth performance in the first half of the 1990s, when both countries were exposed to severe recessions associated with large shortfalls of demand (see Section 4.1): output per capita then declined in both countries. Part of the fast growth in both countries over the last decade represents a cyclical recovery from the earlier deep recession. This aspect is often missed in other countries when Finland and Sweden are put forward as role models. For Denmark, the overall picture is not, however, affected by any such large cyclical swings: here growth developments have been more even.

A feature of growth in Finland and Sweden that is often overlooked concerns the difference between output and real income developments. These differences are small for most countries, but large for Finland and Sweden. The explanation is that the recent fast GDP growth has been accompanied by large terms of trade losses: these can be explained mainly by falling relative prices of ICT products, which make up a larger proportion of exports than imports for the two countries. Figure 4.2 shows how large adjustments should be made to arrive at a measure of real domestic income ("command GDP" according to OECD terminology). For Finland, average annual growth is revised downwards by 0.3 and 0.9 percentage points in 1995 to 1999 and 2000 to 2005, respectively. The downward adjustment for Sweden is 0.4 percentage points in both periods.[4] In contrast, for Denmark, there are upward adjustments by 0.2 and 0.4 percentage points for the two periods.

Figure 4.3 shows that the performance of the Scandinavian countries is more "normal" in terms of command GDP growth than in terms of GDP growth. And Denmark fares much better relative to the two other Scandinavian countries.

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[3] Gross earnings inequality measures how different employees fare: it is a measure of wage inequality, which captures among other things firms' willingness to pay for different skill categories. In contrast, household income inequality captures inequality in living standards. It not only reflects inequality in wages but also inequality in capital income as well as patterns of labour market participation and the way taxes and transfers affect those outcomes.

[4] Such deteriorations in the terms of trade are one of the drawbacks of artificially stimulating high technology industries, as we point out in Chapter 6.

Table 4.2

Income distribution (earnings/income ratios between 9th and 1st decile)

	Gross earnings inequality[a]					Household income inequality[b]				
	1994	Rank	2003	Rank	Difference	1994	Rank	2001	Rank	Difference
Denmark	2.5	4	2.6	3	+ 0.1	2.6	2	2.7	1	+ 0.1
Finland	2.4	3	2.4	2	0.0	2.8	3	3.2	5	+ 0.4
Sweden	2.2	1	2.3	1	+ 0.1	2.5	1	2.8	2	+ 0.3
Average Scandinavian countries	**2.3**		**2.5**		**+ 0.2**	**2.6**		**2.9**		**+ 0.3**
Austria	-		-		-	3.2	5	3.2	6	0.0
Belgium	-		-		-	3.2	6	3.0	3	– 0.2
France	3.1	10	3.1	8	0.0	3.4	7	3.6	7	+ 0.2
Germany	2.7	7	3.0	6	+ 0.3	3.5	8	3.6	8	+ 0.1
Greece	-		-		-	4.7	13	4.5	12	– 0.2
Ireland	4.1	13	3.3	10	– 0.8	4.2	10	4.2	11	0.0
Italy	-		-		-	4.8	14	4.8	13	0.0
Netherlands	2.6	5	2.9	4	+ 0.3	3.2	4	3.1	4	– 0.1
Portugal	-		-		-	4.3	11	4.1	9	– 0.2
Spain	4.2	14	3.5	12	– 0.7	5.1	15	4.8	14	– 0.3
Average euro area (except Finland)	**3.3**		**3.2**		**– 0.1**	**4.0**		**3.9**		**– 0.1**
Switzerland	2.7	6	3.2	9	+ 0.5	-		-		-
UK	3.4	11	3.5	11	+ 0.1	4.1	9	4.1	10	0.0
US	4.5	15	4.7	14	+ 0.2	6.0	16	5.5	16	– 0.5
Australia	2.9	8	3.1	7	+ 0.2	-		-		-
New Zealand	2.3	2	2.9	3	+ 0.6	-		-		-
Average Anglo-Saxon countries	**3.3**		**3.5**		**+ 0.2**	**-**		**-**		**-**
Japan	3.0	9	3.0	5	0.0	4.4	12	5.0	15	+ 0.6
South Korea	3.6	12	4.0	13	+ 0.4	-		-		-

Notes: [a] Gross earnings refer to full-time workers. — [b] Household incomes are after taxes and transfers and are adjusted for the number of persons in the household.

Sources: Gross earnings inequality: OECD earnings database. Household income inequality: Förster and Mira d'Ercole (2005).

Table 4.3
GDP growth per capita (annual averages), percent, 1970-2005

	1970–79	1980–89	1990–94	1995–99	2000–05
Denmark	1.8	1.6	1.8	2.2	1.0
Finland	2.9	3.0	-2.5	4.1	2.0
Sweden	1.6	2.1	-0.8	2.8	1.8
Weighted average Scandinavian countries	2.0	2.2	-0.5	3.0	1.6
Austria	3.6	1.9	1.4	2.7	1.0
Belgium	3.0	1.7	1.0	2.1	1.0
France	2.8	1.6	0.5	2.1	0.9
Germany	2.8	1.9	4.7	1.5	0.6
Greece	4.0	0.3	0.4	2.6	3.9
Ireland	3.3	2.7	2.8	8.3	3.7
Italy	2.5	2.3	0.8	1.4	0.1
Netherlands	2.2	1.5	1.1	3.2	0.3
Portugal	3.5	2.9	1.1	3.7	0.1
Spain	2.7	2.4	1.0	3.5	1.6
Weighted average euro area	2.7	1.9	2.0	2.1	0.9
UK	2.3	2.7	1.1	2.7	2.0
US	2.5	2.4	1.1	3.0	1.5

Sources: OECD Economic Outlook and National Accounts Databases.

3.1 Productivity developments

The recent higher GDP growth in Finland and Sweden than in the large euro countries is explained mainly by higher labour productivity growth (see Table 4.4). In 1970 to 1989, labour productivity growth in Sweden was substantially lower than the euro area average, whereas it reached almost the same level in 1990 to 1994. Over the whole 1970 to 1994 period, productivity growth in Finland was more or less at par with that in the euro area. As is well-known, productivity growth in the euro area decreased after 1995, mainly driven by developments in the large euro economies.[5] This has been the subject of an intensive debate at the European level (see, for example, EU 2004 and EEAG 2006). Developments in Denmark have more or less followed the general European trend. In contrast, productivity growth increased in both Finland and Sweden after 1995. Productivity developments in the two countries thus showed a pattern similar to the US. The fact that productivity increases in Finland and Sweden were even larger in 2000 to 2004 than in 1995 to 1999 suggests a shift in the growth trend on top of the temporary increase in growth associated with the cyclical recovery beginning around 1995.

Table 4.5 shows that the main contributing factor to recent high growth in labour productivity in Finland and Sweden has been high growth in total factor productivity.[6] In 2000 to 2004, Finland (together with Ireland) had the highest total factor productivity growth of the countries shown, whereas Sweden came in third. As with labour productiv-
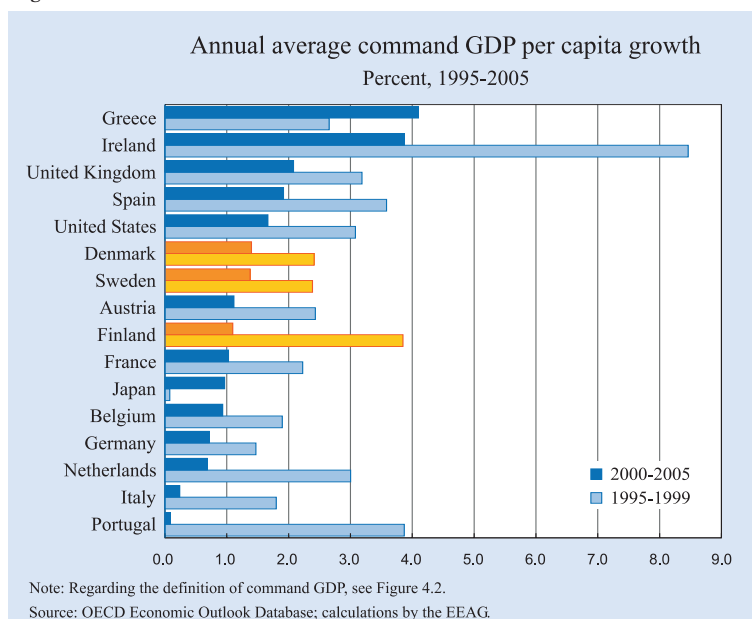
Figure 4.2

Annual average command GDP per capita adjustment
Percentage points, 1995-2005

Note: To calculate command GDP, nominal exports are deflated by the import deflator (with the motivation that the purpose of exports is to pay for current or future imports). See OECD (2006a) for details.
Source: OECD Economic Outlook Database; calculations by the EEAG.
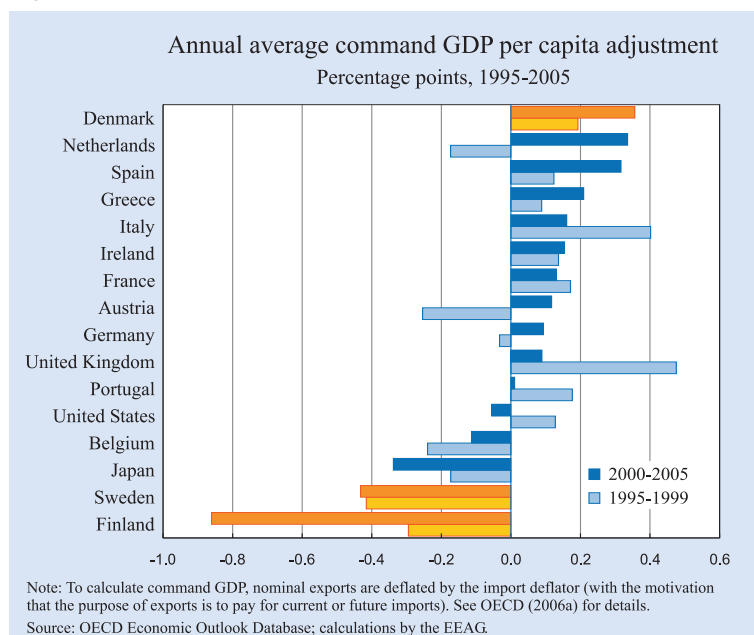
[5] The pattern is clearest in Belgium, Germany, Italy and Spain. But in 2000–04, productivity growth also fell to low levels in Austria, France, the Netherlands and Portugal. Ireland and Greece, with high rates of productivity growth, deviate from this pattern.

[6] Total factor productivity measures the efficiency with which both capital and labour are used. So-called *growth accounting* is used to decompose output growth into contributions from labour growth, capital growth (or as above from growth in different types of capital, such as ICT and non-ICT capital) and total factor productivity growth. In a similar way, one can decompose labour productivity growth into growth of the capital–labour ratio (capital deepening) and growth of total factor productivity. Capital deepening can in turn be decomposed into ICT and non-ICT capital deepening. See Chapter 3 of EEAG (2006) for a more detailed discussion.

Figure 4.3

Annual average command GDP per capita growth
Percent, 1995-2005

■ 2000-2005
□ 1995-1999

Note: Regarding the definition of command GDP, see Figure 4.2.
Source: OECD Economic Outlook Database; calculations by the EEAG.

ity growth, total factor productivity growth was faster in 2000 to 2004 than in 1995 to 1999 in Sweden, whereas it fell between the two periods in Finland.

Denmark, with recently only modest growth in total factor productivity, deviates from the two other Scandinavian countries. For Denmark, capital deepening, that is an increase in the capital stock relative to employment, has been the most important driver of labour productivity. This applies to both ICT and non-ICT capital deepening. However, ICT capital deepening has also been important for both Sweden and Finland. Overall, the contributions to labour productivity growth from ICT capital deepening have been larger in the Scandinavian countries than in the eurozone.

Another way of decomposing labour productivity growth is to calculate the contributions from different sectors. Table 4.6 shows significantly higher contributions to aggregate productivity growth from ICT-producing sectors in both Sweden and Finland than in most eurozone countries in 1995 to 2003. This was the consequence of both higher productivity growth and a larger GDP share for these sectors. But higher productivity growth in ICT-using sectors also contributed to the higher overall productivity growth. In contrast, sectors classified as neither ICT-producing nor ICT-using contributed less to productivity growth in the Scandinavian countries than in the euro area.

Recent empirical research has found ICT investment to have been a major determinant of the acceleration of productivity growth in the US (for example, Oliner and Sichel 2000). Other work has pointed to a relationship between ICT investment and productivity growth among OECD countries (Nicoletti and Scarpetta 2005a; Annenkov and Madaschi 2005). Since ICT investment has been relatively more important in Sweden and Finland than in most Continental Western European countries, this offers one potential explanation of the higher productivity growth in the two Scandinavian countries.

Table 4.4
Growth in GDP per hour (annual averages), percent, 1970–2004

	1970–79	1980–89	1990–94	1995–99	2000–04
Denmark	3.6	2.4	2.4	1.8	1.4
Finland	3.8	2.9	2.1	2.7	2.8
Sweden	2.4	1.5	2.0	2.4	2.6
Weighted average Scandinavian countries	**3.1**	**2.1**	**2.1**	**2.3**	**2.3**
Austria	4.4	1.4	0.9	3.2	1.4
Belgium	4.0	2.1	2.9	2.7	0.6
France	4.0	3.0	1.5	2.1	1.5
Germany	4.0	2.2	3.0	1.9	1.2
Greece	4.9	0.1	0.1	2.2	2.9
Ireland	4.8	3.6	3.2	6.3	4.2
Italy	4.0	2.1	2.0	1.2	-0.4
Netherlands	3.7	2.2	1.0	1.7	0.7
Portugal	3.7	2.0	3.9	2.1	0.5
Spain	6.0	3.2	2.7	0.1	0.1
Weighted average euro area	**4.3**	**2.4**	**2.2**	**1.7**	**0.8**
UK	3.1	2.4	3.2	1.9	2.0
US	1.7	1.5	1.4	2.3	2.8

Sources: Groningen Growth and Development Centre, Total Economy Growth Accounting Database and Total Economy Database.

Table 4.5

Contributions to average annual growth in GDP per hour, percentage points, 1990–2004

	Growth in GDP per hour	Contribution from ICT capital deepening	Contribution from non-ICT capital deepening	Total factor productivity growth
Denmark				
1990–94	2.4	0.6	0.5	1.3
1995–99	1.8	1.0	0.5	0.3
2000–04	1.4	0.5	1.0	− 0.1
Finland				
1990–94	2.1	0.5	1.1	0.5
1995–99	2.7	0.5	− 0.7	2.8
2000–04	2.8	0.6	0.2	2.0
Sweden				
1990–94	2.0	0.5	0.7	0.7
1995–99	2.4	1.0	0.2	1.2
2000–04	2.6	0.4	0.3	1.9
Average Scandinavian countries				
1990–94	2.2	0.5	0.8	0.9
1995–99	2.3	0.9	0.0	1.4
2000–04	2.3	0.5	0.5	1.3
Austria				
1990–94	0.9	0.3	0.6	0.0
1995–99	3.2	0.6	0.8	1.8
2000–04	1.4	0.4	0.8	0.2
Belgium				
1990–94	2.9	0.5	0.9	1.6
1995–99	2.7	0.9	0.2	1.5
2000-04	0.6	0.4	− 0.1	0.3
France				
1990–94	1.5	0.2	1.3	0.0
1995–99	2.1	0.4	0.6	1.1
2000–04	1.5	0.2	0.9	0.5
Germany				
1990–94	3.0	0.4	0.9	1.8
1995–99	1.9	0.5	0.4	1.0
2000–04	1.2	0.3	0.3	0.6
Greece				
1990–94	0.1	0.2	0.3	− 0.3
1995–99	2.2	0.4	0.4	1.4
2000–04	2.9	0.3	0.8	1.8
Ireland				
1990–94	3.2	0.1	0.7	2.4
1995–99	6.3	0.6	0.9	4.8
2000–04	4.2	0.3	1.8	2.0
Italy				
199094	2.0	0.3	1.0	0.7
1995–99	1.2	0.5	0.6	0.1
2000–04	− 0.4	0.3	0.4	− 1.2
Netherlands				
1990–94	1.0	0.3	0.3	0.3
1995–99	1.7	0.6	− 0.1	1.3
2000–04	0.7	0.2	0.3	0.2
Portugal				
1990–94	3.9	0.3	2.1	1.6
1995–99	2.1	0.6	0.6	0.8
2000–04	0.5	0.3	0.6	− 0.3
Spain				
1990–94	2.7	0.3	1.3	1.1
1995–99	0.1	0.3	0.0	− 0.2
2000–04	0.1	0.2	0.4	− 0.5

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Table 4.5 (continued)

	Growth in GDP per hour	Contribution from ICT capital deepening	Contribution from non-ICT capital deepening	Total factor productivity growth
Average euro area				
1990–94	2.2	0.3	1.0	0.9
1995–99	1.7	0.5	0.4	0.8
2000–04	0.8	0.3	0.5	0.1
UK				
1990–94	3.2	0.4	1.0	1.8
1995–99	1.9	0.9	0.2	0.7
2000–04	2.0	0.3	0.2	1.5
US				
1990–94	1.4	0.5	0.2	0.8
1995–99	2.3	1.0	0.2	1.1
2000–04	2.8	0.6	0.5	1.7

Sources: Groningen Growth and Development Centre, Total Economy Growth Accounting Database and Total Economy Database.

3.2 Product market deregulations

Looking for "deeper" explanations of differences in productivity growth among countries, the amount of product market regulations is an obvious candidate. There are a number of reasons why productivity growth is likely to be stimulated by competition-enhancing deregulation. This creates stronger incentives to eliminate slack in the organisation because of greater risks of losing market shares and because the entry of more competitors provides better yardsticks for comparing managerial performance. New competitors often introduce new vintages of technology and strengthen the incentives of incumbents to upgrade their technology as well, at the same time as the possibilities to do so through imitation are increased.

However, lower profit margins could also reduce the return to investment in research, so ultimately the net effect of deregulation on productivity growth is an empirical issue. But recent research on panels of sectors in the OECD countries does suggest that lower levels of product market regulation are conducive to productivity growth (Nicoletti and Scarpetta 2003, 2005a). More specifically, a low degree of product market regulation appears to accelerate the catch-up of productivity in a given sector in a country to the level of the most advanced competitors elsewhere.

The OECD has calculated various measures of product market regulations, some of which are shown in Table 4.7. These measures capture various aspects such as the degree of public ownership, regulations of prices and other aspects of business operations, and various barriers to entry such as legal and structural impediments, administrative burdens and impediments to trade and foreign investment. The Scandinavian countries have low *levels* of product market regulation – only somewhat higher than the Anglo-Saxon countries – compared to several other European countries, but so have Germany and the Netherlands, which have experienced slow productivity growth. And Finland, with the highest productivity growth of the Scandinavian countries, has the least deregulated product markets of these countries, whereas Denmark, with the lowest productivity growth, has the most deregulated markets. However, OECD work has pointed to a correlation between productivity growth and the degree of product market regulation among OECD countries as well as between the amount of ICT investment and the degree of product market regulation (Nicoletti and Scarpetta 2005a). This could help explain the high level of such investment in the Scandinavian countries. A plausible hypothesis is that this correlation could reflect that the incentives to invest in ICT to win or defend market shares are stronger in a competitive environment than in one where incumbents are more protected.

The last four columns of Table 4.7 illustrate the amount of change in product market deregulations in various countries. Over the last two decades, product markets have been deregulated everywhere. According to the measure used, the percentage change in the degree of regulation over the whole 1982 to 2003 period has been the third largest in Denmark. The changes in deregulations have been

Table 4.6

Contributions to average annual growth in GDP per hour, 1995–2003

	Contributions (percentage points)			Productivity growth (percent)			Share of GDP (percent)		
	ICT-producing sectors	ICT-using sectors	Rest	ICT-producing sectors	ICT-using sectors	Rest	ICT-producing sectors	ICT-using sectors	Rest
Denmark	0.4	0.3	0.3	7.3	1.2	0.4	4.7	25.7	69.5
Finland	1.0	0.6	0.8	12.8	2.7	1.2	8.2	22.7	69.1
Sweden	0.7	0.6	0.5	10.6	2.4	0.7	6.7	24.0	69.3
Average Scandinavian countries	**0.7**	**0.5**	**0.5**	**10.2**	**2.1**	**0.7**	**6.5**	**24.1**	**69.3**
Austria	0.5	0.7	2.5	9.0	2.3	3.6	5.0	27.8	67.2
Belgium	0.2	0.3	0.9	2.6	1.2	1.4	6.3	32.0	61.7
France	0.5	0.3	1.0	-	-	1.4	-	-	70.1
Germany	0.4	0.2	1.2	9.0	0.8	1.8	5.0	29.4	65.6
Greece	0.3	0.7	1.9	7.3	3.1	2.6	3.4	22.0	74.6
Ireland	2.5	0.8	2.6	22.3	3.1	4.2	11.5	27.1	61.3
Italy	0.3	0.1	0.0	6.1	0.2	-0.1	4.6	29.6	65.8
Netherlands	0.3	0.5	0.3	5.9	1.7	0.5	5.3	28.3	66.4
Portugal	0.3	0.5	1.0	8.1	1.7	1.5	4.2	25.2	70.7
Spain	0.3	0.2	0.1	7.6	0.9	0.2	4.1	21.9	73.9
Average euro area (except Finland)	**0.6**	**0.4**	**0.8**	**7.7**	**1.7**	**1.1**	**5.5**	**27.0**	**68.1**
UK	0.7	0.8	0.7	10.7	2.9	1.0	6.7	27.4	65.9
US	0.8	1.3	0.4	11.4	4.5	0.6	7.2	28.3	64.4

Notes: The sum of contributions to overall labour productivity growth in some cases differ significantly from labour productivity growth in Tables 4.4 and 4.5. The main explanation is inconsistencies between different Groningen data bases. The classification of ICT-producing and ICT-using sectors follows Annenkov and Madaschi (2005). ICT-producing sectors include office machinery; insulated wire; electronic valves and tubes; telecommunication equipment; radio and television receivers; scientific instruments; communications; computer and related activities. ICT-using sectors comprise clothing; printing and publishing; mechanical engineering; other electrical machinery and apparatus; other instruments intermediation; building and repairing of ships and boats; aircraft and spacecraft; railroad and transport equipment; furniture, miscellaneous manufacturing; recycling; wholesale, commission and retail trade (except motor vehicles and motor cycles); repair of personal and household goods; financial intermediation (except insurance and pension funding); insurance and pension funding (except compulsory social security); activities auxiliary to financial ones; renting of machinery and equipment; R&D; and legal, technical and advertising services.

Source: Groningen Growth and Development Centre, 60-Industry Database.

Table 4.7

Product market regulations

	Overall regulation, 2003	Rank	Administrative regulation, 2003[a]	Rank	Economic regulation, 2003[b]	Rank	Time series indicator for seven industries, 2002[c]	Rank	Percentage change in time series indicator for seven industries, 1982–95	Rank	Percentage change in time series indicator for seven industries, 1982–2002	Rank
Denmark	1.1	4	1.1	3	1.4	4	1.7	4	−36.4	5	−68.4	3
Finland	1.3	8	1.3	7	1.9	14	2.5	12	−44.4	3	−54.3	11
Sweden	1.2	7	1.1	3	1.7	11	2.0	7	−36.2	6	−56.5	9
Average Scandinavian countries	**1.2**		**1.2**		**1.7**		**2.1**		**−39.0**		**−59.7**	
Austria	1.4	10	1.9	14	1.5	7	2.5	12	−21.4	12	−51.1	14
Belgium	1.4	10	1.9	14	1.8	12	2.3	10	−29.0	9	−58.7	7
France	1.7	17	1.6	10	2.3	19	3.3	17	−19.7	13	−44.7	16
Germany	1.4	10	1.9	14	1.8	12	1.7	4	−28.7	10	−65.8	4
Greece	1.8	19	1.9	14	2.2	17	4.2	19	−4.6	19	−25.6	19
Ireland	1.1	4	1.1	3	1.5	7	3.3	17	−19.5	14	−42.6	17
Italy	1.9	20	1.6	10	2.6	20	2.7	14	−15.3	17	−54.2	12
Netherlands	1.4	10	1.9	14	1.6	9	1.7	4	−33.9	8	−68.9	2
Portugal	1.6	15	1.5	9	2.2	17	2.9	15	−18.6	15	−51.7	13
Spain	1.6	15	2.0	19	2.1	16	2.2	9	−16.3	16	−56.7	8
Average euro area except Finland	**1.5**		**1.7**		**2.0**		**2.7**		**−20.7**		**−54.9**	
Switzerland	1.7	17	2.2	20	2.0	15	2.9	18	−6.4	18	−31.5	18
UK	0.9	1	0.8	1	1.4	4	1.1	1	−62.0	1	−75.2	1
US	1.0	3	1.1	3	1.3	3	1.4	2	−34.8	7	−49.5	15
Australia	0.9	1	1.0	2	0.9	1	1.5	3	−26.2	11	−68.4	5
New Zealand	1.1	4	1.4	8	1.1	2	2.1	8	−46.6	2	−60.2	6
Average Anglo-Saxon countries	**1.0**		**1.1**		**1.2**		**1.5**		**−42.4**		**−61.8**	
Japan	1.3	8	1.7	12	1.4	4	2.3	10	−37.1	4	−55.0	10
South Korea	1.5	14	1.8	13	1.6	9	-				-	

Notes: [a] The indicator reflects regulatory and administrative opacity, the extent of licenses and permits systems, communication and simplicity of rules and procedures, administrative burdens on startups, administrative burdens for firms and sector-specific administrative burdens. – [b] The indicator reflects domestic regulatory provisions affecting private governance and product market competition such as state control and legal barriers to entry. – [c] The indicator is an unweighted average of indicators for seven industries: gas, electricity, post, telecoms, air transport, railways and freight. The industry indicators reflect barriers to entry, public ownership, market structure, vertical integration and price controls.

Sources: For columns 2, 4 and 6: Conway, Janod and Nicoletti (2003); for columns 8, 10 and 12: Nicoletti and Scarpetta (2005b).

above the average of euro area countries also in Finland and Sweden, but they have been even larger in the Netherlands and Germany and of a similar magnitude in Austria, Belgium, Italy, Portugal and Spain. However, if one looks instead at the change in regulations over the 1982–95 period, Finland and Sweden stand out as very early deregulators. This timing of reforms is likely to have been important for productivity developments over the last decade.

Product market deregulations in Sweden

The discussion above provides some support for the hypothesis that high productivity growth in Sweden and Finland has at least partly been driven by product market deregulations. Evaluations made at the national level in Sweden give even stronger support for this.

Swedish competition law was strengthened very substantially in 1993 when it was brought into line with EC regulations. Several network industries that had earlier been shielded from competition – rail transport, taxis, domestic air traffic, postal services, telecommunication, and electricity generation and distribution – were deregulated in the first half of the 1990s. Several empirical studies have found substantial productivity effects from these deregulations.[7]

Other evidence on the productivity effects of increased competition is provided by case studies of a number of sectors in a recent report from the management-consulting group McKinsey & Company (2006). The report is a follow-up of an earlier study (McKinsey & Company 1995), which emphasised how low competitive intensity and comprehensive regulations in many sectors hampered productivity developments in Sweden. The new report takes the automotive industry (trucks and cars) as an example of how the absence of regulatory and trade barriers has necessitated a high rate of efficiency improvement. According to the report, Swedish automakers – together with Japanese – have a leading international position in terms of labour productivity.

The new report also emphasises how extensive deregulations in some sectors have led to fast productivity growth relative to both earlier periods and other countries. In retailing, competition has been promoted primarily by changes in zoning laws and in munic-

ipal practice, which have made it easier for new entrants to obtain retail licenses. In food processing, the dismantling of remaining import restrictions and the opening up of a large export market in connection with the Swedish EU entry in 1995 is picked out as a crucial factor. The take-over of several Swedish food producers by foreign, more efficient, owners is also emphasised. There has also been more pressure on food producers to cut costs because of the increased competition in food retailing. In retail banking, deregulations have made it easier for new entrants to obtain licenses.

To make their case regarding the importance of competition in Sweden, McKinsey and Company (2006) contrasts the developments in the automotive industry, retailing, food processing and banking with that in construction, where deregulations have been almost absent. According to the report, the latter sector is characterised by rigid zoning laws, a bureaucratic planning process, detailed building codes, collusive behaviour and extensive regulation of the tasks that various types of construction workers can perform (see also OECD 2004b). The result is a low level of efficiency. The McKinsey and Company report estimates that 20 to 30 percent of building costs are pure "waste" (unused working time, unused operating time of machinery, material waste, building errors and theft).

3.3 Human capital and R&D

Another probable determinant of high productivity growth in Finland and Sweden is human capital accumulation. Table 4.8 shows that the percentage of the working-age population with tertiary education is very high in the Scandinavian countries (the average being 34 percent versus 23 percent in the euro area excluding Finland): only the US (39) and Japan (37) score higher. Looking at shares of the population with at least upper secondary education gives a similar picture. In the PISA measures of student performance, Finland stands out with the best results among OECD countries (Figure 4.4). Sweden does not rank as high but is also clearly above the euro area average, whereas Denmark ranks significantly lower.

Skill–capital complementarity is a possible explanation of high productivity growth in Finland and Sweden. Such complementarity might be particularly important for the diffusion of ICT technology. Several studies for the US have found evidence of

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[7] See OECD (2004b), Regelutredningen (2005) and Fölster and Peltzman (2006a,b) for surveys of these studies.

Table 4.8

Educational level, 2004

	Percentage of working age population with at least upper secondary education	Rank	Percentage of working age population with tertiary education	Rank
Denmark	81	6	32	5
Finland	78	8	34	4
Sweden	83	5	35	3
Average Scandinavian countries	**81**		**34**	
Austria	80	7	18	18
Belgium	64	14	30	7
France	65	12	24	16
Germany	84	3	25	14
Greece	56	17	21	17
Ireland	63	16	28	10
Italy	48	18	11	20
Netherlands	71	11	29	9
Portugal	25	20	13	19
Spain	45	19	26	12
Average euro area except Finland	**60**		**23**	
Switzerland	85	2	28	10
UK	65	13	26	12
US	88	1	39	1
Australia	64	15	31	6
New Zealand	78	9	25	14
Average Anglo-Saxon countries	**74**		**30**	
Japan	84	4	37	2
South Korea	74	10	30	7

Source: OECD (2005d).

complementarity between computers and skilled labour at both the industry and establishment level.[8] For Sweden, Gunnarsson, Mellander and Savvidou (2004) have obtained similar results using panel data for various manufacturing sectors. The largest productivity effects seem to be associated with the interaction between ICT investment and employees with upper secondary education, but there appears to be strong complementarity also between ICT and university educated engineers. The complementarity hypothesis together with the fact that the educational qualifications of the

work force have increased provides a possible explanation of why the impact of ICT investment on

Figure 4.4

Educational attainment measured as average of PISA scores in reading, mathematics and science, 2003
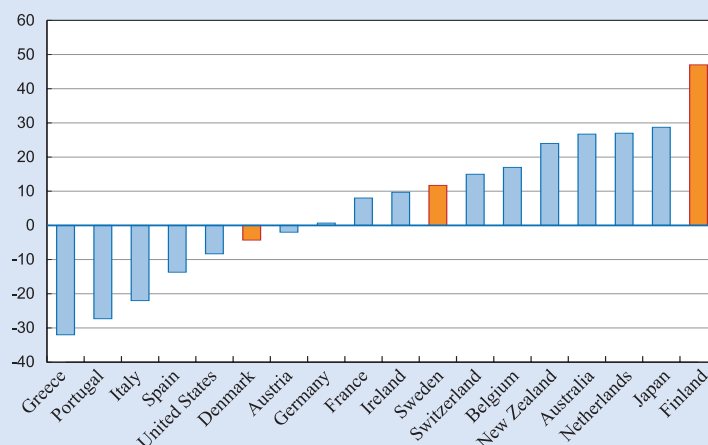
Source: OECD (2006b).

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[8] See, for example, Autor, Katz and Krueger (1998), and Bresnahan, Brynjolfsson and Hitt (2002).

Figure 4.5

R&D expenditures as a percentage of GDP, 2003

Source: OECD (2006b).

3.4 Can we explain productivity developments in the Scandinavian countries?

Summing up, how well can we explain the recent good productivity performance in Finland and Sweden? Both ICT-producing sectors (particularly in Finland) and ICT-using ones (particularly in Sweden) have made large contributions. High investment in ICT capital is also likely to be an important contributing factor. There is reason to believe that a well-educated work force has interacted with ICT investment in generating high productivity growth. Early product market deregulations are likely to have created strong incentives for efficiency increases and facilitated the adoption of ICT technology.

growth has become larger over time according to the study (and why recent studies in general find large productivity effects of such investment, whereas earlier studies did not).

High spending on R&D is likely to have been another contributing factor to high productivity growth in Finland and Sweden. As can be seen in Figure 4.5, Sweden and Finland are at the top among the countries shown and Denmark only somewhat below. A number of recent studies have documented the growth effects of R&D spending. These include, for example, Griffith et al. (2004), Zachariadis (2004) and Aiginger and Falk (2005), using data from OECD countries. OECD (2003a) estimates suggest that a 10 percent increase in business R&D expenditures, on average corresponding to around 0.1 percent of GDP in OECD countries, boosts short-term GDP growth by 0.3 to 0.4 percentage points. This could imply a long-run effect on the level of GDP per capita of about 1.2 percent under the assumption that changes in R&D do not permanently affect output growth.[9] Ali-Yrkkö and Maliranta (2006) have analysed the productivity impact of R&D using a panel data set of Finnish firms over the period 1996–2004. There is an economically and statistically significant effect after three to five years, but not before, which suggests the existence of substantial lags between R&D investment and productivity.

4. Labour market outcomes

Labour market developments have differed substantially between the three Scandinavian countries. A first illustration is provided by Table 4.9 and Figure 4.6, which show how registered unemployment has developed. In Denmark, unemployment rose substantially from the mid-1970s and reached a peak as early as 1983. There were reductions in the late 1980s, but a new higher peak was reached in 1993. After that, large reductions occurred during a ten-year period, although there has been a small increase again in the last few years.

Finland, and in particular Sweden, managed to hold down unemployment until the 1990s, when it rose dramatically and reached peaks that were unprecedented in these countries. The peak in Finland and the increase from 1970 to the peak year (1994) were the second highest in the OECD area (only Spain fared worse). After the dramatic increases, unemployment fell again in both Finland and Sweden. In Finland, there has been a continuous fall from 1994, whereas unemployment in Sweden fell from 1998. There were some increases again in Sweden in 2003 to 2005 before unemployment started to turn down again in 2006. Denmark now belongs to the group of OECD countries with the lowest unemployment. Current unemployment in Sweden is somewhat higher, but lower than the euro area average although not
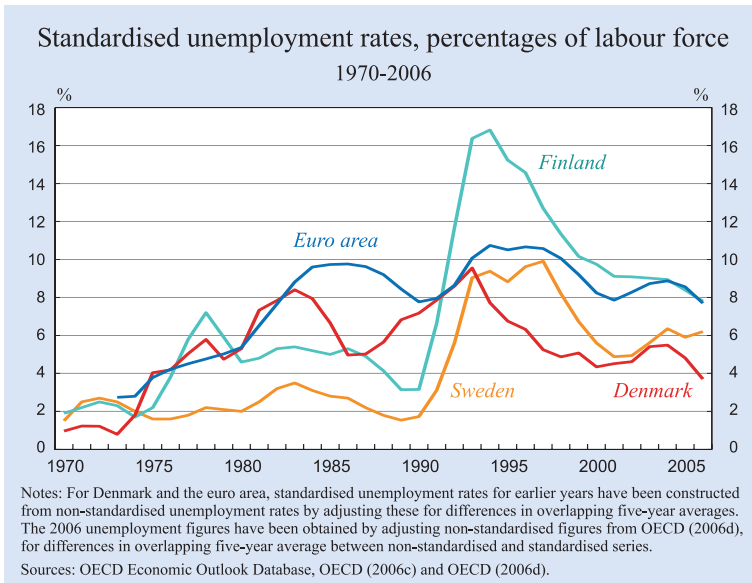
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[9] The empirical results on the effects of non-business (including government) R&D are less clear-cut. R&D spending for defence purposes, fundamental science and health research generate basic knowledge with probable technology spillovers in the long term. But such effects are difficult to identify given the long time lags involved.

Table 4.9

Standardised unemployment rates, 1970–2006

	Unemployment (1970)	Unemployment (peak year)		Change in unemployment (peak year – 1970)	Unemployment (2006)	Change in unemployment (peak year – 2006)	Change in unemployment (2006 – 1970)
Denmark	1.0	9.6	(1993)	8.6	3.7	– 5.9	2.7
Finland	1.9	16.8	(1994)	14.9	7.8	– 9.0	5.9
Sweden	1.5	9.9	(1997)	8.4	6.2	– 3.7	4.7
Average Scandinavian countries	**1.5**	**12.1**		**10.6**	**6.0**	**– 5.5**	**4.5**
Austria	-	5.2	(2005)	-	4.5	– 0.7	-
Belgium	2.1	12.6	(1982)	10.5	8.6	– 4.0	6.5
France	2.5	11.7	(1994)	9.2	8.8	– 2.9	6.3
Germany	0.8	9.5	(2004)	8.7	8.4	– 1.1	7.6
Greece	-	12.0	(1999)	-	9.1	– 2.4	-
Ireland	-	16.6	(1987)	-	4.4	– 12.2	-
Italy	5.3	11.3	(1998)	6.0	7.1	– 4.2	1.8
Netherlands	1.0	12.0	(1983)	11.0	4.6	– 7.4	3.6
Portugal	-	8.5	(1986)	-	7.5	– 1.0	-
Spain	2.4	21.4	(1985)	19.0	8.4	– 13.0	6.0
Average euro area except Finland	**2.0**	**12.1**		**10.7**	**7.7**	**– 4.2**	**5.0**
Switzerland	-	4.5	(2005)	-	3.9	– 0.6	-
UK	3.0	12.4	(1983)	9.4	5.5	– 6.9	2.5
US	4.8	9.5	(1982–1983)	4.7	4.6	– 4.9	– 0.2
Australia	1.6	10.6	(1993)	9.0	5.0	– 5.6	3.4
New Zealand	-	10.4	(1992)	-	3.8	– 6.6	-
Average Anglo-Saxon countries	**3.1**	**10.7**		**7.7**	**4.6**	**– 5.2**	**0.4**
Japan	1.1	5.4	(2002)	4.3	4.2	– 1.2	3.1
South Korea	-	7.0	(1998)	-	3.4	– 3.6	-

Notes: For Denmark and the euro area, standardised unemployment rates for earlier years have been constructed from non-standardised unemployment rates by adjusting these for differences in overlapping five-year averages. The 2006 unemployment figures have been obtained by adjusting non-standardised figures from OECD (2006d) for differences in overlapping five-year averages between the non-standardised and standardised series.

Source: OECD Economic Outlook, various issues and OECD Economic Outlook Database.

Figure 4.6

Standardised unemployment rates, percentages of labour force
1970-2006

Notes: For Denmark and the euro area, standardised unemployment rates for earlier years have been constructed from non-standardised unemployment rates by adjusting these for differences in overlapping five-year averages. The 2006 unemployment figures have been obtained by adjusting non-standardised figures from OECD (2006d), for differences in overlapping five-year average between non-standardised and standardised series.
Sources: OECD Economic Outlook Database, OECD (2006c) and OECD (2006d).

as low as in the Anglo-Saxon countries. Finland is among the OECD countries with the highest current unemployment, although it is lower than in Greece, France, Germany and Spain. Although the reductions in unemployment relative to the peak years have been substantial in all three Scandinavian countries, only part of the earlier unemployment rises have been recovered. The net result is that unemployment today is considerably higher (5.9 percentage points in Finland, 4.0 percentage points in Sweden, and 2.8 percentage points in Denmark) than in 1970. The increases in unemployment relative to 1970 in Finland and Sweden compare unfavourably with the Anglo-Saxon countries (in particular the US where unemployment fell marginally) and also with Italy and the Netherlands. But the increase in Sweden is smaller than for the euro area average, whereas the reverse holds for Finland. The Danish performance is impressive: among the countries in the table, unemployment developments between 1970 and 2006 were more favourable only in the US, Italy and the UK.

An often noted feature of Scandinavian labour markets is the low incidence of long-term unemployment, as indicated by Figure 4.7. Long-term unemployment makes up a considerably smaller fraction of total unemployment than in most Conti-

nental Western European countries, although not as low as in most Anglo-Saxon countries.

Another illustration of labour market developments is provided by Table 4.10 and Figure 4.8, showing employment rates (employment as percentages of working-age population). The total employment rates in Denmark and Sweden are among the highest in the OECD area. Among the countries shown, Denmark ranks second (after Switzerland only) and Sweden fourth (after New Zealand as well). Finland ranks considerably lower, and after all the Anglo-Saxon countries, but with a higher employment rate than most of the other countries in the eurozone. The high employment rates in Denmark and Sweden in particular seem usually to be what one has in mind when referring to the Nordic "employment miracle". The developments of employment mirror those of unemployment over the last fifteen years. In Finland and Sweden, the unemployment increases in the early 1990s had their counterparts in very large falls in the employment/population ratios (by around 14 percentage points in Finland and by nearly 12 percentage points in Sweden). From the mid-1990s, employment rates have recovered, but the earlier levels have not been restored. In Denmark, in

Figure 4.7

Share of long-term unemployed in total unemployment
Percent, 2005

Source: OECD (2006c).   Note: The figure for Sweden refers to 2004.
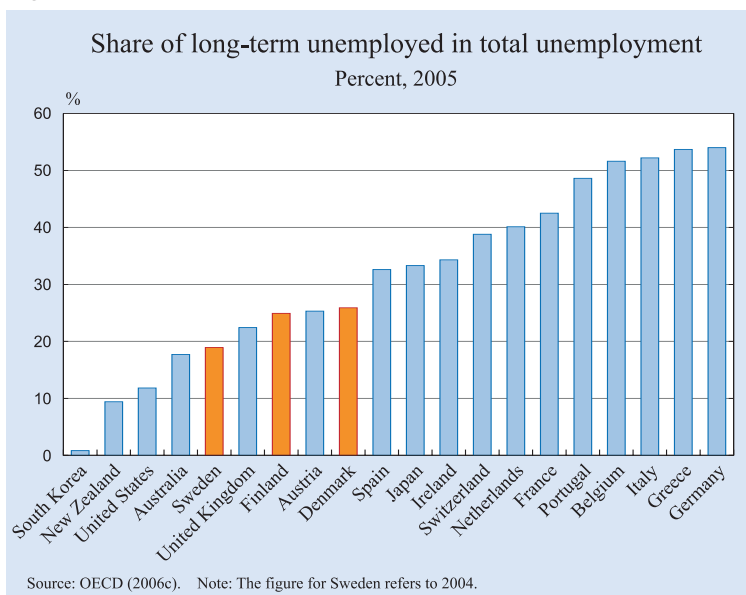
Table 4.10

Employment rates, percentages of population in various age and gender groups, 2005

	Total 15–64	Men 15–64	Women 15–64	Total 15–24	Total 25–54	Total 55–64
Denmark	75.5	80.1	70.8	62.0	83.9	59.8
Finland	68.0	69.4	66.5	39.2	81.7	52.6
Sweden[a]	73.5	75.0	71.8	51.5	82.9	69.5
Average Scandinavian countries	**72.3**	**74.8**	**62.7**	**50.9**	**82.8**	**60.6**
Austria	68.6	75.4	62.0	53.1	82.6	31.8
Belgium	61.0	67.7	54.1	26.6	78.3	32.1
France	62.3	67.8	56.9	26.0	79.6	40.7
Germany	65.5	71.4	59.6	42.6	77.4	45.5
Greece	60.3	74.5	46.2	25.3	74.3	41.6
Ireland	67.1	76.2	58.0	46.3	78.0	51.7
Italy	57.5	69.7	45.3	25.5	72.2	31.4
Netherlands[a]	72.0	78.8	65.0	63.6	81.5	44.8
Portugal	67.5	73.4	61.7	36.1	80.8	50.5
Spain	64.3	76.4	51.9	41.9	74.7	43.1
Average euro area except Finland	**63.4**	**71.7**	**55.2**	**36.2**	**76.9**	**41.0**
Switzerland	77.2	83.9	70.4	59.9	85.1	65.0
UK	72.6	78.6	66.8	58.1	81.1	56.8
US	71.5	77.6	65.6	53.9	79.3	60.8
Australia	71.6	78.5	64.7	63.6	78.8	53.7
New Zealand	74.6	81.5	68.0	56.9	82.0	69.7
Average Anglo-Saxon countries	**72.6**	**79.1**	**66.3**	**58.1**	**80.3**	**60.3**
Japan	69.3	80.4	58.1	40.9	79.0	63.9
South Korea	63.7	75.0	52.5	29.9	73.4	58.7

Note: [a] 2004.

Sources: OECD LFS Database and OECD (2006c).

contrast, the current employment rate is only marginally below the earlier peak in the late 1980s.

Table 4.10 shows that the high employment rates in the Scandinavian countries reflect to a large extent high female employment. The Dutch Ministry of Finance (2005) expresses this with the pregnant formulation that "the employment success of the Nordics is of a feminine nature". Whereas the average employment rate for men in the Scandinavian countries is only 3.1 percentage points higher than the euro area average (74.8 percent versus 71.7 percent), the difference is as large as 14.5 percentage points for women (69.7 percent versus 55.2).

Another noteworthy feature of the Swedish and Danish labour markets is the high employment among older workers. With almost 70 percent, Sweden has the highest employment rate among all the countries shown for 55 to 64 year olds. Denmark ranks a bit lower with around 60 percent. In contrast, employment rates for this age group are in the 30 to 40 percent range in most continental eurozone countries. Finland has been much less successful in this respect with an employment rate for elderly workers of only around 50 percent. Among the countries in the table, only New Zealand can compete with Sweden when it comes to employment for older workers.

Figure 4.8

Employment rates, percentages of working-age population
1970-2005

Note: Incomplete LFS time series have been complemented with data from the Economic Outlook Database. Differences in levels have been accounted for by adjusting for differences in five-year-averages.
Sources: OECD LFS and OECD Economic Outlook Database.

In terms of youth employment, Denmark, with 62 percent, ranks very high (at par with Australia, the Netherlands and Switzerland). With around 50 percent, Sweden ranks lower than the Anglo-Saxon countries, but higher than most continental euro countries. Finland conforms more to the general continental European picture of low youth employment.

Table 4.11 decomposes the differences in the overall employment rate in the various countries shown to the eurozone average into contributions from males and females and from various age groups. The higher female employment rate in the Scandinavian countries explains the bulk of the difference in the total employment rate between the Scandinavian countries and the eurozone: on average, 7.5 percentage points out of 8.9, that is 84 percent of the difference. This is a considerably larger share than for the Anglo-Saxon coun-

Table 4.11

Contributions to differences in total employment rates relative to the euro area average from differences in employment rates for various gender and age groups, 2005[a]

	Total 15–64	Men 15–64	Women 15–64	Total 15–24	Total 25–54	Total 55–64
Denmark	12.1	4.2	7.8	4.1	4.3	3.7
Finland	4.6	− 1.2	5.7	0.3	2.4	1.9
Sweden[b]	10.1	1.7	8.3	1.0	3.5	5.6
Average Scandinavian countries	9.2	1.6	7.5	1.7	3.5	4.0
Austria	5.2	1.8	3.5	3.0	3.8	− 1.5
Belgium	− 2.4	− 2.0	− 0.4	− 1.7	1.0	− 1.4
France	− 1.1	− 2.0	1.0	− 2.4	1.4	0.0
Germany	2.1	− 0.2	2.3	1.1	0.3	0.7
Greece	− 3.1	1.4	− 4.4	− 1.8	− 1.6	0.2
Ireland	3.7	2.3	1.5	1.9	0.6	1.3
Italy	− 5.9	− 1.0	− 4.8	− 1.5	− 2.8	− 1.5
Netherlands[b]	8.6	3.6	5.0	4.9	3.0	0.7
Portugal	4.1	0.8	3.4	0.0	2.6	1.6
Spain	0.9	2.4	− 1.5	1.3	− 1.1	0.6
Average euro area except Finland	0.0	0.0	0.0	0.0	0.0	0.0
Switzerland	13.8	6.1	7.7	4.1	5.4	4.3
Australia	8.2	3.4	4.9	5.4	1.1	1.8
New Zealand	11.2	4.8	6.6	4.2	3.0	4.1
UK	9.2	3.4	6.0	3.7	2.6	2.9
US	8.1	2.9	5.4	3.4	1.6	3.2
Average Anglo-Saxon countries	8.3	3.0	5.5	3.5	1.8	3.1
Japan	5.9	4.4	1.6	0.6	1.0	4.5
Korea	0.3	1.6	− 1.2	− 0.6	− 1.9	2.8

Notes: [a] Column 2, labeled "Total 15–64", shows how much higher the total employment rate is than the average for the euro area (except Finland). Columns 3 and 4 decompose this difference into contributions in percentage points from males and females, respectively. Columns 5–7 decompose the difference instead in contributions from different age groups. – [b] 2004.

Source: OECD (2006c).

tries, where a higher female employment rate explains 62 percent of the difference to the euro area (5.7 percentage points out of 9.2). Higher employment for elderly workers accounts for about as much of the difference in overall employment to the euro area countries in the Scandinavian countries as in the Anglo-Saxon ones (3.4 percentage points out of 8.9, that is 38 percent, versus 3.2 percentage points out of 9.2, that is 35 percent). The other side of this is that, on average, higher youth employment makes a smaller contribution in the Scandinavian economies than in the Anglo-Saxon ones to the higher overall employment rate than in the eurozone, although the contribution is high in Denmark.

4.1 The determinants of (un)employment developments

Much empirical research has tried to account for unemployment differences both across OECD countries and over time (that is, to explain unemployment in a panel of these countries). The main focus has been to explain the development of structural (equilibrium) unemployment by exploring the explanatory power of differences in various institutional factors after controlling for cyclical developments.

General research results[10]

The panel data studies typically find that generous unemployment benefits tend to raise unemployment. Many of the studies find that high union density and/or a high coverage of collective agreements do the same. There is somewhat more uncertainty about other variables. Although almost all studies find that a high coordination of unions (and employers) in wage bargaining promotes low unemployment, results on decentralisation of bargaining to the level of the firm differ. According to the majority of studies, such decentralisation results in higher unemployment than bargaining at the sector level, but a very substantial minority supports the Calmfors-Driffill (1988) hypothesis of a hump-shaped relationship between the degree of coordination and unemploy-

[10] See OECD (2006c) for an extensive survey of recent studies.

ment (with the highest unemployment occurring with an intermediate degree of coordination).[11] Some studies have found labour tax wedges to be an important determinant of structural unemployment, whereas others have not. More recent studies, however, often allocate an important role to tax wedges (for example, Belot and van Ours 2004, Nickell, Nunziata and Ochel 2005, and Bassanini and Duval 2006). Only a few studies have looked at the effects of product market regulations on unemployment, but there is some evidence that a low degree of product market regulation is conducive to low unemployment (for example, Nicoletti et al. 2001 and Bassanini and Duval 2006).

Many studies have looked at the effects of active labour market programmes. A common finding is that a larger size of programmes tends to reduce (open) unemployment. This is, however, to a large extent likely to be a mechanical effect because jobless workers are reclassified from unemployed to programme participants. Indeed, it is clear that the use of "active" programmes to interrupt spells of open unemployment is a major explanation of the low incidence of (registered) long-term unemployment in the Scandinavian countries. This is illustrated for Sweden in Figure 4.9, which compares average durations of open unemployment and of registration as a jobseeker at a labour market office (implying that the registered person is either openly unemployed or participating in a labour market programme). Whereas the average duration of open unemployment stayed more

[11] See Chapter 3 in EEAG (2004) for a review of the results of various studies on this point.

Figure 4.9

Duration of ongoing unemployment and register spells at the public employment services in Sweden

Averages, 1991-2004

Source: Forslund and Krueger (2006).
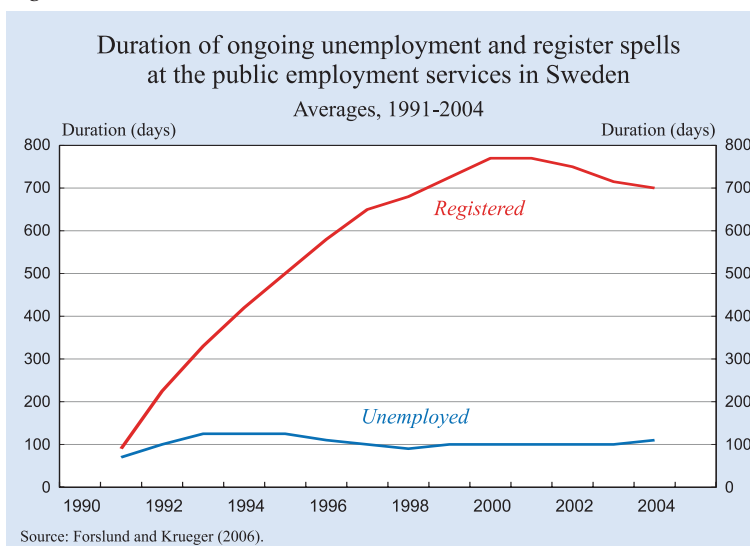
or less unchanged at around 100 days during the economic crisis of the 1990s, the average duration of registration increased to almost two years and still remains close to that level.

It is uncertain whether placement in active labour market programmes reduces the total jobless rate (open unemployment plus programme participation) and raises regular employment; indeed a number of studies suggest the reverse (see Calmfors, Forslund and Hemström 2004). There is some evidence that labour market training is the active labour market programme with the most favourable aggregate effects on regular employment (Boone and van Ours 2004, Bassanini and Duval 2006), presumably because the risk of crowding out of regular employment are much smaller for such programmes than for subsidised job schemes.

Conclusions on (un)employment levels in the Scandinavian countries

Several features of the traditional Scandinavian model are not conducive to low unemployment: generous unemployment benefits, high labour taxes, high union density and wide coverage of collective agreements. Factors that promote low unemployment are a high degree of coordination of wage bargaining and fairly deregulated product markets (see Section 3 above). Also, extensive active labour market programmes (mainly in Denmark and Sweden) are likely to hold down open unemployment.

Evaluating the balance of factors, it may appear surprising that employment outcomes are as good as they are in the Scandinavian countries. A possible explanation is that various factors *interact* in such a way that the employment-friendly features of the Scandinavian model are more effective in counteracting the employment-hostile ones than elsewhere. For example, high labour taxes are likely to have less adverse effects on employment under highly coordinated wage bargaining. The reason is that unions then have to take into account that wage increases to compensate for high taxes lead to rises in unemployment, which require further tax increases to pay for the unemployed and so on. The studies of, for example, Daveri and Tabellini (2000) and Nickell, Nunziata and Ochel (2005) support this hypothesis. Also, one would expect high union density and wide coverage of collective agreements to have smaller adverse unemployment effects the higher is the degree of bargaining coordination. This hypothesis receives

empirical support in, for example, Belot and van Ours (2004).

Lindgren (2006) focuses explicitly on interaction effects. The conclusion is that high "latent wage pressure" due to generous unemployment benefits, high union density and low competition in product markets causes less unemployment in an economy with highly coordinated wage bargaining than in one with decentralised bargaining. The three Scandinavian countries are the ones with the highest "latent wage pressure" in Lindgren's sample, and Finland and Denmark, but not Sweden, have a high degree of coordination in wage bargaining according to his metric.[12]

Another interaction may be between active labour market policy and unemployment insurance. Boone and van Ours (2004) and Bassanini and Duval (2006) find some evidence suggesting that high active labour market expenditure could mitigate the adverse unemployment effects of generous unemployment benefits. The studies put forward the explanation that active labour market programmes are an effective way of testing benefit recipients' availability for work. But a more probable explanation is that the placement of a large propotion of the jobless in labour market programmes represents a mechanical offset to increases in open unemployment.

Empirical research thus gives some support for the view that other institutional features in the Scandinavian countries may to some extent offset the adverse employment effects of high taxes, generous unemployment benefits and high unionisation. But there are also results that suggest the opposite, for example, that generous unemployment compensation is particularly problematic for employment if taxes are high (Belot and van Ours 2004). In general, one should be aware that the results on interaction among various variables are not robust: different studies find evidence of quite different interactions.[13] So, we are quite sceptical regarding results from studies of interaction effects.

The role of a large government sector

An important issue is whether the high government employment in Denmark and Sweden (see Table 4.1)

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[12] Lindgren constructs an index of "latent wage pressure" by aggregating measures of the generosity of unemployment benefits, union density and product market regulation into one score.
[13] See, for example, the overview in Belot and van Ours (2004).

is likely to be a major cause of high overall employment there. The answer is no. As discussed above, equilibrium (un)employment appears to be determined by a number of "labour market institutions". We are aware of no empirical studies that have found government employment to be a determinant of aggregate unemployment and employment rates. The explanation is that a large government sector merely crowds out private employment by raising the aggregate wage level.

An interesting issue is, however, what implications a large government sector has for measured GDP and productivity. By raising the wage level and crowding out private employment, private-sector productivity is raised. The value added of non-market government output is measured by the wage sum. If the wage is above the marginal product of labour in the government sector, GDP will be overestimated. This point has been made by Sinn (2006). However, there are also counter arguments. If activities are optimally distributed between the private and the government sectors, measuring government output at wage costs (instead of at "shadow" market prices) will instead lead to an underestimation of GDP.

Female employment

According to recent research, high unemployment benefits and high labour tax wedges, as in the Scandinavian countries, exert a negative influence on female employment as well as on employment of other groups (Bassanini and Duval 2006). But there are also factors in these countries that promote female labour force participation and employment (Jaumotte 2004, Bassanini and Duval 2006). One such factor is low relative taxation of second earners in a household: second earners are more or less taxed at the same rates as single earners (especially in Finland and Sweden), whereas tax rates for second earners are considerably higher than for single earners (around 50 percent) in, for example, Belgium, Germany and France due mainly to dependent spouse deductions (OECD 2005c). In addition, high tax progressivity – which makes it more beneficial for a household to earn a given before-tax income through two breadwinners than through only one – provides a strong incentive for female labour force participation in the Nordic countries.

Not surprisingly, the extent of childcare subsidisation has also been shown to be important for female labour market participation. Here, the Scandinavian

countries stand out as the OECD countries with the most generous subsidies (OECD 2005c). Whereas public expenditure on formal day-care and pre-primary education amounts to around 0.5 percent of GDP in Belgium, the Netherlands, the UK and the US and to 0.8 percent in Germany, it amounts to 2.7 percent in Denmark, 1.9 percent in Sweden and 1.5 percent in Finland. Generous parental leave provisions in these countries also appear to promote female labour-market participation, according to existing studies.

That childcare subsidies raise female employment does not necessarily mean they are desirable from a social welfare point of view. On the one hand, the subsidies tend to offset the distortionary effects of high marginal taxes on labour supply. These effects are larger for females than males, as female labour supply is more elastic (see, for example, Aronsson and Walker 2006). On the other hand, childcare subsidies may create another distortion by generating excessive consumption of childcare at the expense of other goods and services. Rosen (1995) maintained that the amount of subsidisation in Sweden is too large and results in "too many mothers taking care of other women's children and too few being involved in the production of non-household goods and services".[14]

Causes of the unemployment reductions in Finland and Sweden

Above, we documented the reductions in unemployment (and rises in employment) that have taken place in Denmark, Finland and Sweden from the mid-1990s. The causes of these reductions seem to differ substantially among the three countries. According to the OECD (2006c), the unemployment reductions in Sweden and Finland since the mid-1990s are fully explained by cyclical recoveries.[15] Similar results are obtained by Lindblad and Sellin (2006) for Sweden and by Honkapohja et al. (2006) for Finland. Using a different modelling strategy, which tries explicitly to model the determinants of equilibrium unemploy-

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[14] Note, however, that Rosen did not consider the fact that married women's labour supply decisions do not take into account the costs for social assistance in case women end up as single mothers after divorce. This externality has been claimed to be important (Kolm and Lazear 2006). Note also that to the extent that childcare is provided by the government in the Scandinavian countries, instead of within families, this tends to give an overestimation of GDP as compared to countries with less government-provided childcare.
[15] See Chapter 2 of the OECD study. The estimates build on statistical filtering techniques (so-called unobserved components models), where Phillips-curve relationships are used to decompose actual unemployment into a cyclical part and a structural (equilibrium) part. The basic idea is that a decreasing rate of inflation is a sign of actual unemployment exceeding structural unemployment and vice versa. See also Richardson et al. (2000).

ment as described above, Bassanini and Duval (2006) also find that the whole of the Swedish unemployment reduction can be explained by a lower output gap, whereas the finding for Finland is that this factor accounts for around four fifths of the unemployment reduction.

The cyclical explanation of unemployment reductions in Finland and Sweden is not surprising, as the large unemployment rises in 1991 to 1993 in the two countries were clearly triggered by large shortfalls of demand. There were deep financial crises with falling asset prices and debt deflation after the bursting of asset price bubbles. The crises were aggravated by the attempts to defend fixed exchange rates by high interest rates in a situation when earlier inflation had already caused substantial real exchange rate appreciations. The situation was made worse in Finland by the loss of the Soviet export market and in Sweden by the timing of a tax reform that substantially reduced capital income tax rates and interest rate deductability, thus raising post-tax interest rates even more than pre-tax rates.[16]

The myth of Danish flexicurity

The favourable unemployment developments in Denmark are of particular interest, as the Danish *flexicurity model* has been hailed as a successful way of combining flexibility (low employment protection) with social security (for example generous unemployment compensation). The proponents of this view see low employment protection as the key to high employment and claim that generous unemployment support is of only secondary importance for employment (but of first-order importance for equity).[17] In line with this reasoning, the low degree of employment protection in Denmark is seen as a prime explanation of the reduction in unemployment over the last decade.

How well does this reasoning stand up to the facts? The answer is: not very well. This type of flexicurity explanation of low unemployment in Denmark is somewhat of a myth.

A first problem with the low employment protection explanation of Danish labour market developments is that the empirical studies of (un)employment in pan-

els of countries discussed above usually fail to find significant effects of employment protection on overall unemployment.[18] Higher employment protection appears to reduce both job creation and job destruction, but these changes seem more or less to cancel out, leaving overall unemployment unchanged, even though they lengthen the duration of unemployment. Employment protection seems mainly to redistribute unemployment among various groups: from old people to young and from short-term to long-term unemployed (see OECD 2006c).

The interaction between employment protection, unemployment benefits and "economic turbulence", due, for example, to restructuring associated with globalisation has been studied by Ljungqvist and Sargent (2006) in simulations of a detailed search model. Their finding is that high employment protection reduces unemployment in "tranquil" times, when unemployment is mainly "frictional". The explanation is that the inflow into unemployment is reduced at the same time as hirings are left unchanged. (In general equilibrium, expected future layoff costs are fully shifted on to employees through lower wages.) The main cause of high unemployment in the Ljungqvist-Sargent model is the interaction between high turbulence, causing large human capital losses for laid-off workers, and generous unemployment benefits, tied to previous earnings. This interaction leads many unemployed workers to set their reservation wages above the wages at which they are offered new employment: effective replacement rates – the ratios between the unemployment benefit and the earnings on a new job – become much higher than formal rates – the ratio between unemployment benefits and previous earnings. If the degree of turbulence is moderate, more employment protection will still not raise unemployment. This will be the case only at high degrees of turbulence, but the result is then conditional on high unemployment benefits preventing layoff costs from being shifted on to employees in the form of lower wages.

Another problem with the low employment protection explanation of unemployment reductions in Denmark is that the degree of protection has stayed more or less unchanged over the last two decades. The only major change is that restrictions on renewals of temporary employment contracts were abolished in

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[16] See, for example, Hagberg et al. (2006).
[17] Sapir (2005) goes so far as to claim that "protecting jobs with employment legislation is definitely detrimental to employment, whereas protecting workers with unemployment insurance is potentially useful for employment".

[18] There are exceptions, such as Elmeskov, Martin and Scarpetta (1998) and Blanchard and Wolfers (2000), who find that a high degree of employment protection may raise unemployment under certain conditions. Belot and van Ours (2004) find instead that stricter employment protection *reduces* unemployment.

1990. But since these contracts play a rather modest role – only covering around eight percent of employees – the changes have been judged to be of limited importance (Andersen and Svarer 2006).

Unlike for Sweden and Finland, empirical evidence suggests that the bulk of the unemployment decline in Denmark is explained by a reduction in structural unemployment (OECD 2006c, Bassanini and Duval 2006).[19] A further indication is that wage increases over the last decade have been much lower than predicted by earlier estimated Phillips curves (Det ökonomiske råd 2003, Andersen and Svarer 2006).

The OECD regularly evaluates the amount of labour market reforms in the member countries (Brandt, Burniaux and Duval 2005 is a recent such attempt.) Interestingly enough, Denmark is ranked as number one in terms of total reform effort between 1994 and 2004. Out of seven areas, active labour market policy and unemployment benefits are identified as the areas where reforms have been by far the largest. There has also been a fair amount of reform relating to wage formation (see Section 2) and pension schemes (disability, early retirement as well as old-age pensions). The area with the least reform is employment protection.[20]

Also in the Danish policy discussion, more ambitious activation efforts and the reforms of the unemployment benefit system have been emphasised. Although the benefit system is still the most generous in the OECD, the reduction in generosity has been very substantial (Det ökonomiske råd 2003, Andersen and Svarer 2006). In 1993, the maximum duration of unemployment benefits was formally seven years. Eligibility could, however, be renewed through participation in "active" labour market programmes, which implied in effect unlimited benefit duration. After that, maximum duration has been cut in steps to four years today, and eligibility can no longer be renewed through participation in activation programmes. After benefits have expired, only unemployment assistance, which is significantly lower than benefits and conditional on wealth, total income of the household etc., is available. Benefit generosity has also been reduced because the maximum benefit that can be

paid out has not risen *pari passus* with wages. The result is a reduction in the OECD summary measure of the average gross replacement rate (weighted over various worker types and a five-year period) of the order of magnitude of 15 percentage points between 1995 and 2003 (Brandt, Burniaux and Duval 2005).

The other major change in labour market institutions concerns activation policies. Participation in activation programmes has gradually come to be offered at much earlier stages. There has also been a gradual strengthening of the obligation to take part in such programmes as a precondition for receiving unemployment benefits. Today, all unemployed are obliged to accept an offer to participate in an activation programme after twelve months of unemployment. Although the larger emphasis on activation measures – with a successively increasing fraction of the unemployed participating in such programmes – has received a lot of attention, evaluations of programme effects on labour market outcomes have usually not been very encouraging (Det ökonomiske råd 2003, Andersen and Svarer 2006). Most programmes do not appear to have raised regular employment opportunities of participants, because locking-in effects of programmes during their duration seem to have dominated the small increases in transitions to regular employment that, according to some studies, have occurred after completion of the programmes. Instead, activation policies seem mainly to have had ex ante *threat effects,* shortening unemployment duration by changing the behaviour of the unemployed *prior* to programme participation (Rosholm and Svarer 2004).

The threat effect in conjunction with less benefit generosity may have been particularly successful in lowering youth unemployment in Denmark (see the discussion of Table 4.10).[21] Unemployed below the age of 25 now have to choose between going into education for one year and a half (receiving only half the unemployment benefit), finding work or receiving reduced unemployment assistance.

The panel data study by Bassanini and Duval (2006) provides an attempt at attributing changes in structural unemployment among OECD countries to different factors. According to the study, the three main explanations of the reduction in the Danish structur-

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[19] A similar judgement has been made by the Danish Ministry of Finance (Finansministeriet 2002), whereas the Danish Economic Council attributes around 30 to 40 percent of the fall in unemployment between 1993 and 2001 to a reduction in structural unemployment (Det ökonomiske råd 2003).
[20] The two remaining reform areas are working-time flexibility/part-time work and taxes/social security contributions.

[21] The first reform was made in 1996. It then applied only to young people who had been unemployed for more than six months. From 1999 the rules apply to all unemployed young people. See Jensen, Rosholm and Svarer (2003) and Andersen and Svarer (2006).

al unemployment rate from 1982 to 2003 are in declining order: product market deregulations reduced tax wedges and reduced benefit generosity. Product market deregulations have contributed to lower unemployment in all OECD countries, although somewhat more so in Denmark than in most other countries. The contribution of reduced tax wedges is above average. So is the contribution from less benefit generosity, although the contribution appears much smaller than our discussion would suggest. A probable reason could be that the measures of unemployment benefits

used do not fully capture the reduction in – the formerly very long – maximum duration.

An intriguing observation is that even after the benefit cuts of the last decade, benefit generosity is still very high in Denmark, in fact the highest in the OECD area according to Table 4.1. This suggests that the *change* in the benefit level that has occurred may be more important than the *current level.* A possible interpretation of this phenomenon has been provided by Ljungqvist and Sargent (1997). They

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Box 4.1

The labour-market reforms of the new Swedish government

The discrepancy between high output growth and low employment growth has been a key issue in the Swedish economic policy debate. The stress has been on the high benefit dependency rate and how recorded unemployment significantly underestimates "true" unemployment.

Low employment among immigrants has been emphasised as a particularly difficult problem: Sweden is among the OECD countries with the largest employment gap between natives and foreign-born (OECD 2005a). An important explanation is that low-skilled refugees have constituted a significant share of immigration, but high minimum wages in collective agreements, pricing low-skilled workers out of the labour market, is also a probable contributing factor. A compressed wage structure in combination with high tax wedges has also hampered the growth of private service jobs (see Figure 4.10).

The liberal-conservative parties made the employment issue the principal one in their 2006 parliamentary election campaigns. This is generally considered to have been a major factor behind their election victory. The new government has embarked on a path of labour market reforms. These include:

- Lower unemployment benefits for long-term unemployed. The current 80 percent replacement rate (up to a ceiling wage income) has been cut to 70 percent after 200 days and to 65 percent after an additional 100 days (250 days for unemployed with children below 18). In addition, the maximum benefit level that can be obtained for the first 100 days has been reduced somewhat and access to unemployment insurance has been restricted.
- An employment tax credit has been instituted, which reduces the average tax rate on earned income by around 1.5 percentage points and the marginal tax rate by 3 percentage points for most wage earners.
- Tax deductability for union membership fees and fees for membership in the union-affiliated unemployment insurance funds, which administer unemployment insurance, has been abolished. Membership fees in the unemployment insurance funds have been raised.
- The pay-roll tax rate for young people (19–24) will be reduced by 7.5 percentage points.
- There will be a tax rebate on purchases of household-related services as well as a later reduction of the pay-roll tax rate for employees in some service jobs.
- The size of active labour market programmes will be cut by about one percentage point of the labour force. A new form of subsidised employment directed also against those on long-term sickness leave and disability pensions has been instituted.
- The National Labour Market Board in charge of labour market programmes will be reformed and the employment services opened up to more competition.

The reform programme thus contains both supply-side and demand-side measures. In the short term, the downsizing of active labour market programmes is likely to raise open unemployment, even if regular employment increases. In the longer term, one could expect substantial effects on structural unemployment. Even though all assessments are very uncertain, evaluations on the basis of reduced-form (un)employment equations and structural wage and labour demand equations would suggest that the cuts in benefits, taxes and active labour market programmes might reduce open unemployment by around 0.5 percentage points and raise the regular employment rate by 1.5 to 2 percentage points in the long run.[a] This judgement does not take into account the effects of possible reductions in unionisation rates – due to the higher membership fees in unemployment insurance funds and the abolishment of tax deductability for union and unemployment membership fees – and the possibility of efficiency-enhancing reforms of employment services.

Usually, there is political support for comprehensive labour market reforms only in deep economic crises when large deficit problems necessitate expenditure cuts (see, for example, Chapter 2 in EEAG 2004). The problem with supply-side reforms in such a situation is that it may take a long time for the positive employment effects to materialise when demand is low, as the increased supply must then gradually create its own demand. The current situation in Sweden is much more favourable, as reforms are made in a cyclical situation with high employment growth. Supply-side reforms can then more easily generate higher employment by reducing nominal wage increases relative to price and productivity increases. The main worry is that the trade union movement (mainly blue-collar workers) might choose to pursue militant wage claims to "compensate" for the reforms.

[a] These assessments are based on the "baseline equation" for an "average OECD country" in Bassanini and Duval (2006) and a study of wage formation by Forslund, Gottfries and Westermark (2005).

Figure 4.10

Cumulated employment growth in private services
1995-2003

Source: Computations by McKinsey and Company.
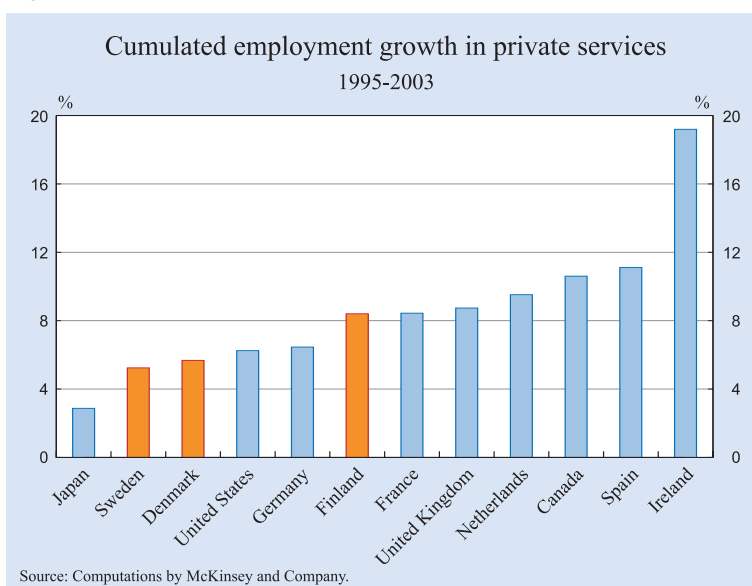
pointed to the possibility of *multiple equilibria*. It may have been possible in all three Scandinavian countries to combine low unemployment with generous unemployment benefits in the 1960s and 1970s because active labour market programmes could then be used in an effective way to monitor the search activities of the unemployed. But this only worked as long as unemployment remained low. Once macroeconomic shocks rocked the system and caused large unemployment rises, strict monitoring of the unemployed was no longer possible. This might have moved the economies to another high unemployment equilibrium.[22] It may not be possible to escape from that without significant reductions of benefit generosity as in Denmark.

Why were labour market reforms politically feasible in Denmark already in the mid-1990s? One possible explanation is that employees were compensated by the introduction of a number of paid voluntary leave schemes. Although some of them were later abolished, they may have bought time for the positive effects of the other labour market reforms to materialise (Carcillo et al. 2005). Another contributing factor may have been that the fiscal consolidation achieved already in the 1980s provided room to combine reforms in the mid-1990s with expansionary fiscal policy action (Det økonomiske råd 2003). It is also conceivable that product market deregulations, by reducing the rents to be shared between employ-

ers and employees, reduced the political support for labour market institutions designed to distribute some of these rents to employees.

4.2 Hours actually worked

An alternative measure of labour market performance is *annual hours worked per person of working age,* which is shown in the second column of Table 4.12. In terms of this indicator, the Scandinavian countries stand out less than in terms of employment. Annual hours per person of working age are much higher than in most continental EU countries, but they are considerably lower than in, for example, Switzerland, Japan, the US and Australia. The explanation is that *hours worked per employed person* is relatively low in the Scandinavian countries, as shown in the fourth column. This is in particular the case for Denmark and Sweden. Although working time is even shorter in, for example, the Netherlands, Germany, Belgium and France, employees in Denmark and Sweden work considerably shorter hours than employees in the US and other Anglo-Saxon countries.

A somewhat different picture of working time is given by column 6, which shows hours worked per person in dependent employment (that is excluding self-employed persons) and where a correction has been made for estimated underreporting of absences due to sickness and parenthood.[23] With this measure, the three Scandinavian countries rank among the countries with the lowest hours of work per employee. Indeed, Sweden ranks second from the bottom; only the Netherlands has lower working time according to this measure.

Figure 4.11 shows the development over time of hours worked per person of working age in the Scandinavian countries and the euro area. As with employment, there was a sharp fall in Finland and Sweden in the early 1990s followed by a partial recovery. In Denmark, there was instead a trendwise reduction from 1970 to the mid-1990s followed also there by a

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[22] Especially Blanchard and Wolfers (2000) have stressed the importance of such interaction between, on the one hand, macroeconomic shocks and, on the other hand, labour market institutions such as unemployment benefits.

[23] Such absences seem typically to be underreported by respondents in labour force surveys. See, for example, Confederation of Swedish Enterprise (2006) and Davis and Henrekson (2006).

Table 4.12

Hours worked

	Average annual hours worked per person of working age, 2005[a]	Rank	Average annual hours worked per employed person, 2005	Rank	Revised annual hours worked per employed person, 2002[b]	Rank
Denmark	1171	9	1551	16	1410	13
Finland	1133	13	1666	11	1491	9
Sweden	1166	10	1587	15	1349	14
Average Scandinavian countries	**1158**	**-**	**1601**	**-**	**1417**	**-**
Austria	1122	14	1636	13	1497	8
Belgium	936	20	1534	18	1451	12
France	956	18	1535	17	1467	11
Germany	940	19	1435	19	1480	10
Greece	1238	6	2053	2	1816	1
Ireland	1099	15	1638	12	1585	5
Italy	1030	16	1791	6	1533	7
Netherlands	984	17	1367	20	1223	15
Portugal	1137	12	1685	9	1688	2
Spain	1141	11	1775	7	1639	3
Euro area except Finland	**1043**	**-**	**1645**	**-**	**1538**	
Switzerland	1258	5	1629	14	1586	4
UK	1214	8	1672	10	1546	6
US	1290	4	1804	5	-	-
Australia	1297	3	1811	3	-	-
New Zealand	1350	2	1809	4	-	-
Average Anglo-Saxon countries	**1288**	**-**	**1774**	**-**	**-**	**-**
Japan	1230	7	1775	7	-	-
South Korea	1525	1	2394	1	-	-

Notes: [a] Average annual hours worked per person of working age have been calculated as hours per employed person times the employment rate. Hours worked per employed person for Korea and Switzerland are for 2004, employment rates for Sweden and the Netherlands are for 2004. – [b] Absences due to sickness and parental leave have been counted twice to adjust for underreporting by respondents in labour force surveys.

Source: For average annual hours worked per person of working age and average annual hours worked per employed person: OECD (2006c). For revised annual hours worked per employed person: OECD (2004a).

partial recovery. A comparison with Figure 4.8 reveals that the recoveries are much smaller in terms of hours worked than in terms of employment. Figure 4.12 shows that the trendwise reduction in hours worked per person of working age in 1970 to 1995 in Denmark had its counterpart in a trendwise reduction in hours worked per employed person. In Finland, there has been a downward trend in working time over the whole period shown, although reductions have been much smaller than in Denmark. Sweden shows the most variable pattern, with reductions in working time in the 1970s followed by increases in the 1980s, which then accelerated during the economic crisis in the 1990s. During the first years of the 2000s, hours worked per employee fell again.

Table 4.13 helps explain the relatively low number of hours per

Figure 4.11

Annual average hours worked per person of working age
1970-2005

Source: OECD Economic Outlook Database.

Figure 4.12

Annual average hours worked per employed
1970-2005

Source: OECD Economic Outlook Database.
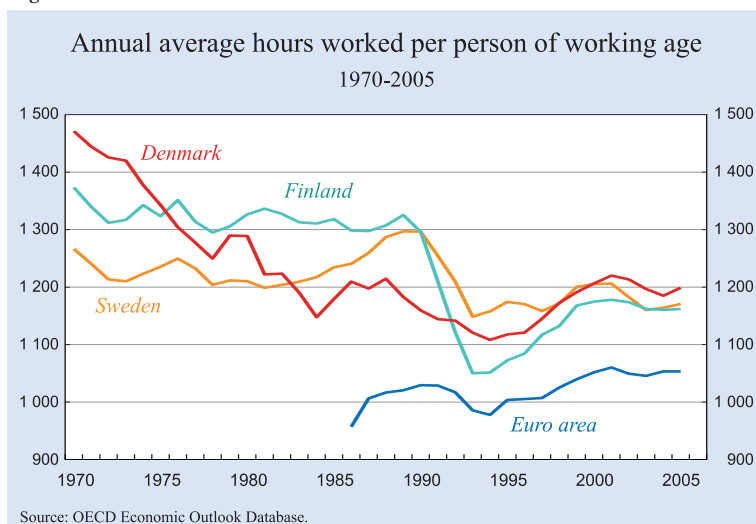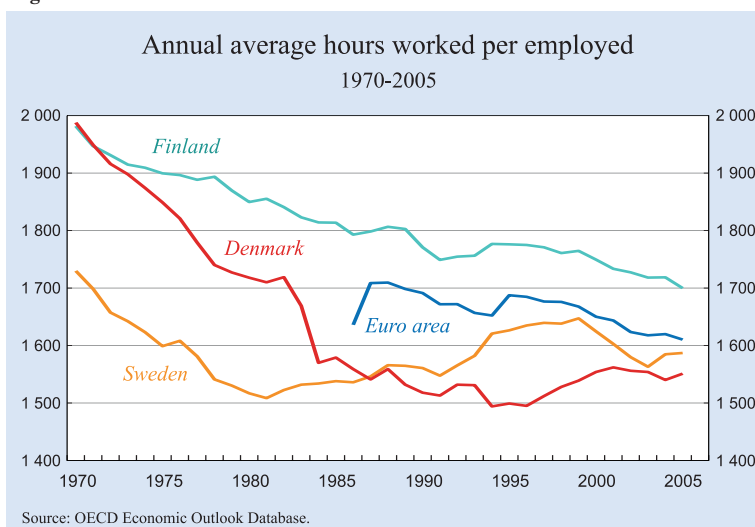
employee in Denmark and Sweden. In the Danish case, the explanation is both a short "normal" work-week and a low number of weeks worked during the year. For Sweden, the normal work week is shorter than the average in the table, but the most significant difference to other countries is the low number of weeks worked: in fact the lowest among the countries shown. This is not explained by unusually long vacations, but by the much larger absence due to sickness and parental leave in Sweden than elsewhere.

The large sickness absence has been a hotly debated issue in Sweden in recent years. Several factors are likely to have contributed. Sickness insurance is generous and medical assessment procedures have been lax: according to OECD estimates, Swedish sickness insurance is (together with that of Norway) the most generous among member countries (OECD 2003b, 2005a).[24] The high employment rates for both females and older workers are also contributing factors, as sickness absence rates for these groups are significantly higher than for the average employee (Riksförsäkringsverket 2003).

[24] With the aggregate measure of generosity used, Sweden and Norway obtain the index score 130. Other countries above the OECD average of 100 are, for example, Switzerland (126), Australia (122), Germany and Spain (115), the Netherlands (111), and Denmark (103). Countries below the OECD average are, for example, the US and the UK (80), Italy (84), France (95), and Belgium (99).

A key issue in the Swedish employment debate has concerned the interaction between sickness absence and unemployment. Unlike most other countries, sickness absence has been highly procyclical (see Figure 4.13). In particular, the reduction in unemployment from 1997 to 2002 was associated with a large increase in sickness absence. There are two possible explanations for this pattern (SNS 2005). The first focuses on the composition of employment: in an upswing more persons with health problems – and possibly also more persons with low work morale – are employed. The second explanation stresses instead the disciplinary effect of unemployment: the incentives to turn up at work are weakened in times of low unemployment, as there are more alternative job opportunities open in case an employee with high absence were forced to quit. Taking absence from work into account puts Swedish employment developments over the last decade in a different perspective. As can be seen from Figure 4.14, the recovery in the number of *persons actually at work* has been much smaller than the rise in *recorded employment,* which includes also those on sick leave, parental leave, and study leave as well as those on vacation! In 2006 there was a gap of 12 percentage points between the shares of working age population in recorded employment and in actual work.

Figure 4.13

Sickness absence and unemployment in Sweden
1987-2006

Note: Sickness absence is measured as a percentage of the employed. Unemployment is measured as a percentage of the labour force.
Sources: Konjunkturinstitutet, Stockholm and SCB, Stockholm.
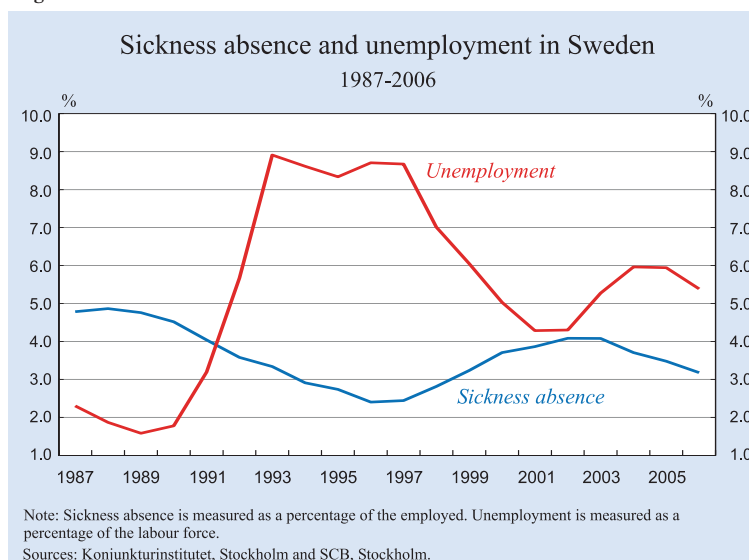
Table 4.13

"Decomposition" of revised average annual hours worked per dependent employee, 2002

	Annual hours of work	Rank	Average weekly hours on all jobs	Rank	Annual weeks worked	Rank	Holidays and vacation weeks	Rank	Reported weeks of absences due to sickness and parenthood	Rank
Denmark	1410	13	36.3	10	38.9	11	7.4	4	1.8	6
Finland	1491	9	38.8	3	38.5	12	7.0	8	2.1	4
Sweden	1349	14	38.1	6	35.4	14	6.8	9	3.8	1
Average Scandinavian countries	**1417**		**37.7**		**37.6**		**7.1**		**2.6**	
Austria	1497	8	38.4	4	39.0	10	7.2	6	2.6	2
Belgium	1451	12	36.3	10	40.0	9	7.1	7	2.1	4
France	1467	11	36.2	11	40.5	8	7.0	8	1.9	5
Germany	1480	10	36.5	9	40.6	7	7.8	2	1.4	8
Greece	1816	1	40.7	1	44.6	1	6.7	10	0.2	12
Ireland	1585	5	36.3	10	43.7	2	5.7	13	1.0	11
Italy	1533	7	37.4	8	41.0	6	7.9	1	1.0	11
Netherlands	1223	15	31.8	12	38.4	13	7.5	3	2.2	3
Portugal	1688	2	40.4	2	41.8	5	7.3 (5)	5	1.2	9
Spain	1639	3	38.8	3	42.2	4	7.0	8	1.2	9
Average euro area except Finland	**1538**		**37.3**		**41.2**		**7.1**		**1.5**	
UK	1546	6	38.2	5	40.5	8	6.5	11	1.6	7
Switzerland	1586	4	37.5	7	42.3	3	6.0	12	1.1	10

Note: When computing the annual weeks worked, reported weeks of absence due to sickness and parenthood have been counted twice to correct for underreporting by respondents in labour force surveys.

Source: OECD (2004a).

Figure 4.14

Persons at work and in employment as percentages of
working-age population in Sweden
1987-2006

Employment

Persons at work

Sources: Konjunkturinstitutet, Stockholm and SCB, Stockholm.

At the same time as there is a negative time series correlation between aggregate unemployment and sickness absence, there is a positive cross-section correlation over municipalities and regions (Riksförsäkringsverket 2003). There is also a positive cross-section correlation between the *increase* in sickness absence in the first years of the 2000s and unemployment in the late 1990s (SNS 2005). This strongly suggests that sickness insurance has to a large extent been used as a form of unemployment insurance. A further indication is that the relative replacement rate between sick and unemployment insurance has been shown to have a significant effect on the frequency of "sickness absence" among the unemployed and that this frequency increases when unemployed individuals approach the termination of their unemployment benefits (Larsson 2002).[25]

A major factor behind the increase in sickness absence in Sweden from the late 1990s was an increase in long-term sick leaves among the oldest age group (60 to 64). A likely explanation is that access to disability pensions was tightened in 1997 when the practice of also taking labour market opportunities into account was ended. This led to a fall in the inflow of elderly workers into early retirement and a large increase in "formal" labour force participation for this group (SNS 2005).

The Swedish experiences provide a vivid illustration of the interlinkages between different benefit sys-

tems and the dangers of judging labour market performance by some indicators only. Limiting access to one benefit system may just result in an overflow to other systems. Developments in 2003 to 2005, when sickness absence began to fall but the inflow into disability pensions surged again, is another example. Not until in 2005 to 2006 was the reduction in sickness absence accompanied by a fall also in the inflow to early retirement. This reflects stricter gate-keeping in both the sickness insurance and the early-retirement systems. Finland also provides clear examples of linkages between different benefit systems. In the second half of the 1990s, more restricted access to disability pensions for elderly workers led instead to an increase in the number of so-called unemployment pensioners. Further support for the hypothesis that disability pensions are used as de facto unemployment benefits in Finland is provided by a strong correlation across regions between unemployment and disability pension recipiency rates (OECD 2006a).

The Scandinavian welfare model has certainly not done away with normal economic incentives of benefit recipients: on the contrary, the systems seem to be characterised by extensive "benefit shopping" with recipiency rates being highly responsive to relative benefit rates and ease of access.

The interlinkages among the various benefits systems provide an argument for looking at the total benefit recipiency rate. This is done for Sweden in Figure 4.15. The benefit recipiency rate in 2006 was around 20 percent of the working-age population, almost double the rate in 1970. Although the rate peaked in 1995, the subsequent decline has been only a few percentage points. Interestingly enough, Danish developments in terms of the total number of benefit recipients are very similar to Swedish ones, as shown in Figure 4.16. Here, too, there was a trendwise increase up to the mid-1990s. Compared to that, the subsequent decline is marginal. So, in terms of total benefit dependency, labour market developments in the Nordic countries look far less impressive than in terms of conventional unemployment measures.

[25] In the Swedish system, an unemployed person has been able to receive a sickness benefit – if registered as sick – and this way save unemployment benefit days and thus extend the maximum benefit period.

Figure 4.15

Share of population 20-64 years receiving social insurance benefits (full-year equivalents) in Sweden
1970-2005

Note: Social benefits include sickness pay (from employers), sickness benefits, disability pensions, unemployment benefits and social assistance.
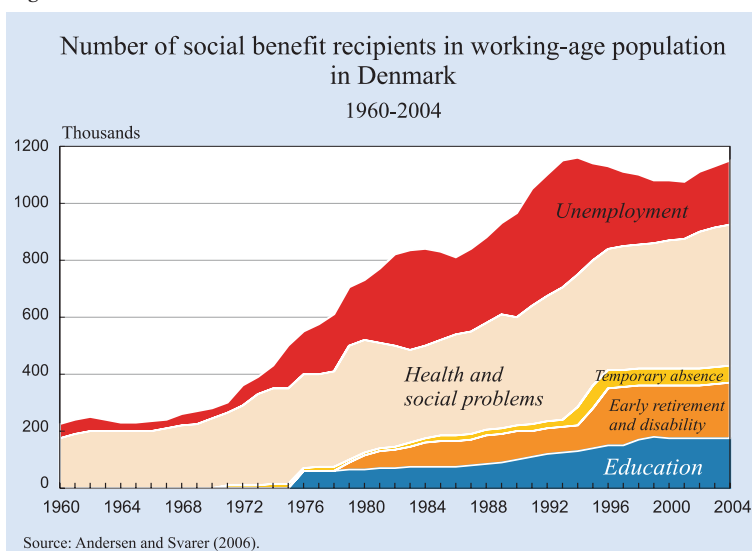Source: Socialförsäkringsutredningen (2006).

5. Inflation and public finances

Yet another aspect of the macroeconomy concerns inflation and public finances. On this count, all three Scandinavian countries have recently been doing very well.

5.1 Inflation and exchange rate policy

Figures 4.17a and 4.17b show inflation. All three Scandinavian countries were characterised by high inflation in the 1970s and 1980s, very much like other European countries with the exception of Germany. All three countries have subsequently participated in the moderation of inflation that has occurred throughout the OECD area. The patterns

Figure 4.16

Number of social benefit recipients in working-age population in Denmark
1960-2004

Unemployment

Health and social problems

Temporary absence

Early retirement and disability

Education

Source: Andersen and Svarer (2006).

and methods have, however, differed among the Scandinavian countries.

Denmark was the first Scandinavian country to opt for a low-inflation policy. This was done already in 1982 when the Danish government, after a number of exchange-rate realignments in 1979 to 1982, chose to restore international cost competitiveness through contractive fiscal policy (including the so-called "kartofellkur" – the "potato cure") as well as mandatory wage freezes and abolishment of wage indexation. Denmark was a formal member of the ERM already then and defended its exchange rate vigorously in the early 1980s through a high interest rate policy. Except for very temporary deviations, the fixed exchange rate even survived the general European exchange rate turbulence of the early 1990s. When the monetary union started in 1999, Denmark remained outside, but the fixed exchange rate – now to the euro within ERM II – remains a cornerstone of the country's low-inflation policy.

After large devaluations, Sweden and Finland both tried to maintain fixed exchange rates during the 1980s and early 1990s. Although the policy commitments to a fixed exchange rate (but outside the ERM system) were gradually strengthened, these were not credible because of the history of earlier exchange rate devaluations and fiscal policies that were inconsistent with the exchange rate pegs. There were renewed bouts of inflation in both countries around 1990. The fixed exchange rates had to be defended through very high interest rates. In the end after serious currency crises, both countries were forced to let their currencies float in 1992, which led to large currency depreciations (in the Finnish case after an exchange rate realignment already in 1991).[26]

[26] See, for example, Jonung (1999), Finans- och penningpolitiskt bokslut för 1990-talet (2000) or Hagberg, Jonung, Kiander and Vartia (2006).

Figure 4.17a

CPI inflation in the Scandinavian countries and Germany
1970-2006

Sources: IMF International Financial Statistics and OECD (2006d).

Figure 4.17b

CPI inflation in France, Ireland, Italy and the United Kingdom
1970-2006

Sources: IMF International Financial Statistics and OECD (2006d).
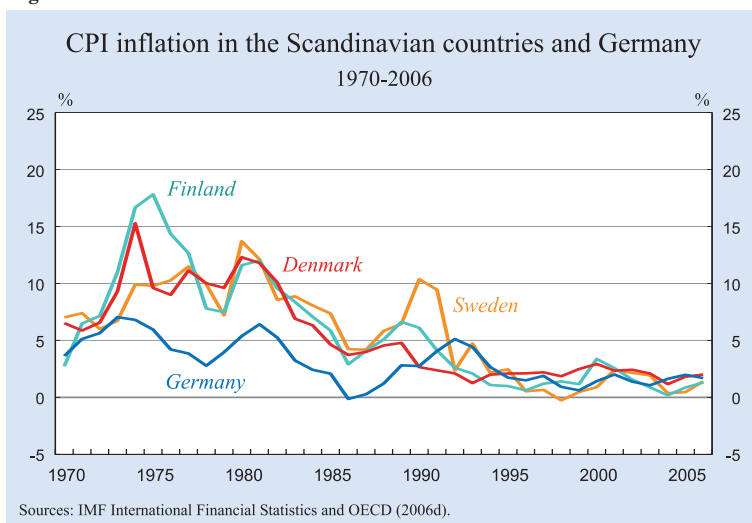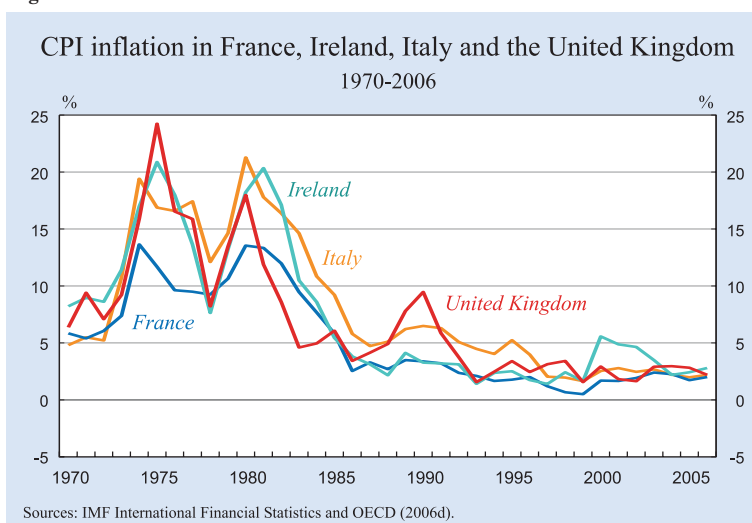
The currency depreciations in Sweden and Finland kick-started the recoveries after the deep recessions in the early 1990s. Unlike in the past, they did not generate new inflation cycles. But the policies followed by the two countries were very different. Finland entered the ERM system in 1996 and joined the euro when it started in 1999. In contrast, Sweden stayed outside both the ERM and the EMU. Instead, the central bank adopted an inflation target (2 percent with a tolerance margin around it of 1 percent in both directions) from 1995. In 1999, there was a major central bank reform making the bank independent of the political system in more or less the same way as the ECB.

Past experiences of inflation-devaluation spirals had in the end a large impact on the resolve to pursue low-inflation policy in all three Scandinavians countries. It is more difficult to understand why so different ways

of doing this were chosen: an exchange rate peg in Denmark, euro membership in Finland, and inflation targeting under a flexible exchange rate in Sweden. This illustrates how the underlying motives for a policy change often are the key determinants of macroeconomic outcomes rather than the exact institutional reforms. A comparison between Sweden and Finland is instructive. In Finland, the need to stop the earlier inflation-devaluation cycles was advanced as an important argument for adopting the euro, whereas in Sweden the decision not to adopt the euro and a fear that this might entail risks of inflation motivated the move towards an independent central bank.[27]

5.2 Public finances

Figures 4.18 and 4.19 illustrate the state of public finances in the Scandinavian countries and the eurozone. Recent developments in the Scandinavian countries contrast favourably with those in the eurozone. All three countries now run sizable budget surpluses and government debt ratios are on a downward path.

The recent strong public finances in the Scandinavian countries are in stark contrast to earlier experiences. In the late 1970s and early 1980s, budget deficits were larger in Denmark than in the eurozone and government indebtedness was high and rapidly increasing. Both Finland and Sweden suffered dramatic deteriorations of their fiscal situations during the recessions in the early 1990s.

The common denominator for all three Scandinavian countries is that acute fiscal crises triggered a rethinking of fiscal policy and forged a consensus on the need for fiscal discipline. Arguably, such sharp crises are

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[27] On the basis of various government policy statements, Calmfors (2005) argues that this motive was much more important in Sweden than EU requirements on the independence of the central bank. Regarding Finland, see Valtioneuvosto (1997).

Figure 4.18

Government net lending, percent of GDP
1970-2006

Source: European Commission (2006d).
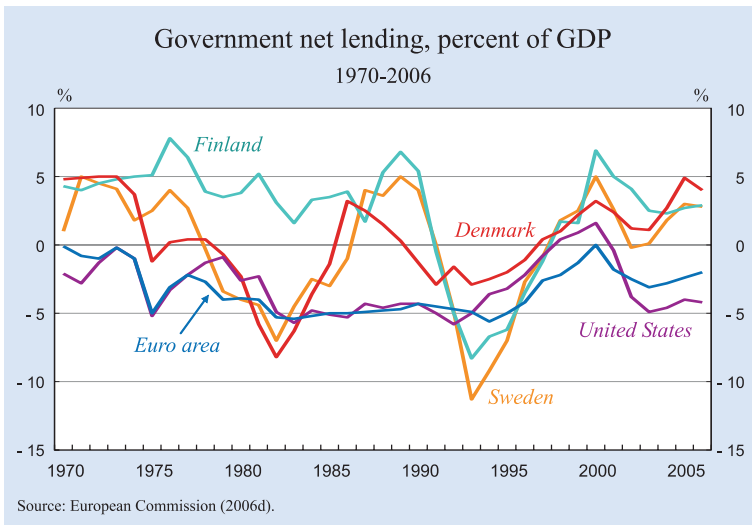
more conducive to a radical change in course than the more creeping fiscal crises experienced in recent years in, for example, France, Germany and Italy.

The experiences in Sweden are particularly instructive. When the fiscal deficit reached 12 percent of GDP in 1994, fiscal consolidation – independent of the cyclical situation – became the overriding priority of the social democratic government that took office that year. This triggered a number of reforms. Numerical targets for deficits and government debt developments were formulated (from 1994), multi-year expenditure ceilings were instituted (from 1996), and the whole budget process was reformed by the introduction of a top-down approach making it impossible to decide in Parliament on expenditure increases without cutting other expenditures, once the overall budget is approved (1997). Government policy documents from these years indicate that the main

motive was to restore the freedom of action of fiscal policy, which had been seriously circumscribed by the earlier debt increases: in 1993 to 1996 fears that the process of fiscal consolidation would be halted led to repeated interest rate hikes and large exchange rate movements.[28] Calmfors (2005) maintained that this motive was much more important for fiscal consolidation than the EMU convergence criteria and the sability pact requirements, although these lent more legitimacy to the fiscal consolidation and probably speeded it up: it was an explicit aim of the government to reduce the budget deficit below three percent of GDP in 1997, so that Sweden would retain the option of entering the monetary union when it started in 1999. The government even argued that staying outside the EMU imposed even tougher requirements of fiscal discipline to maintain credibility of low inflation than membership.[29]

The fiscal policy process in Finland in the 1990s had large similarities to the one in Sweden. The huge deterioration in the budget situation in 1992 to 1993 made fiscal consolidation a central political concern. The desire to meet the requirements for EMU membership was another motive for the consolidation programme initiated in 1995. The programme covered the government's four-year term in office and subsequent governments have continued the practice of agreeing such medium-term fiscal goals.

Figure 4.19

Gross government debt, percent of GDP
1970-2006

Source: European Commission (2006d).
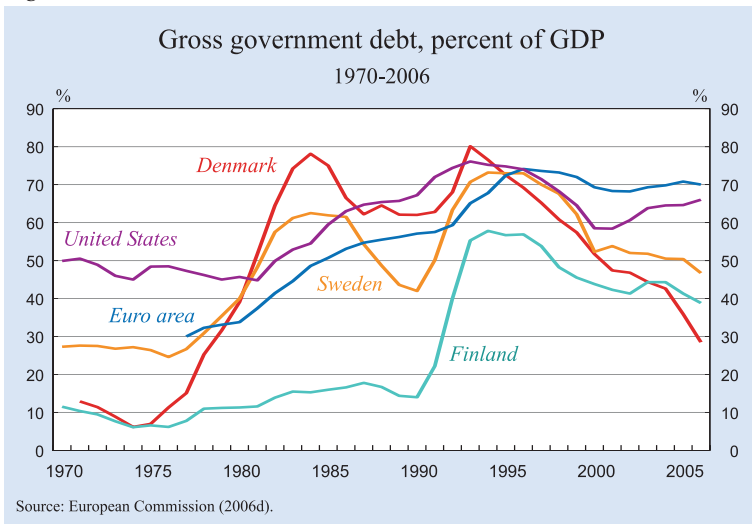
As discussed above, the tightening of fiscal discipline in Denmark from 1982 was very much tied to the policy of using the fixed exchange rate as an anchor for low inflation. The main task of fiscal policy has been seen as keeping current inflation in line with that in the other ERM countries (today mainly the eurozone) and preventing large budget deficits from threatening the

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[28] See Jonung (1999) and Finans- och penningpolitiskt bokslut för 1990-talet (2000).
[29] Proposition 1996/97:1.

credibility of low inflation in the future. The policy of fiscal discipline has not been underpinned by any major reforms of fiscal policy institutions; instead it seems to build on a general consensus on the need for such policy.[30]

5.3 Pension reform

As discussed extensively in the 2005 EEAG report, the future development of age-related expenditures represents a threat to long-run fiscal sustainability in all EU countries. One way to deal with the problem is pension reform. Such reforms have been carried out in all three Scandinavian countries. The most encompassing reform was the Swedish one, which was decided in 1994 after a multi-party agreement.[31] The pension system remains largely a pay-as-you-go one, but it was transformed from one with defined benefits to one with defined contributions. Pensions are now indexed to per-capita wage growth. This could potentially involve risks for the sustainability of the system due to unfavourable employment or demographic developments. To deal with this, there is a balancing mechanism that limits the degree of indexation if the long-run financial stability of the system is threatened: this occurs if the capitalised value of contributions plus the assets in the buffer funds fall below the value of pension liabilities. The balancing mechanism is automatic according to a predetermined formula and does not require any political decisions. The new pension system has also introduced a flexible retirement age, where later retirement gives a higher pension. The radical pension reform in Sweden can only be understood as part of the consolidation efforts during the fiscal crisis in the first half of the 1990s.

There have also been pension reforms in Finland and Denmark, but these have been smaller and later than in Sweden. Some of the changes will first take effect after substantial lags. The state pension systems in these countries are also largely pay-as-go ones but still with defined benefits. Reforms in Finland in 2006, however, introduced indexing of pension benefits to life expectancy (from 2010) to ensure that increased longevity does not raise pension costs. The reform also introduces a flexible retirement age and provides financial incentives for later retirement. The overall effects of the reform are, however, difficult to judge, as the possibilities to retire early (for disability reasons)

or obtain unemployment benefits up to retirement remain large despite some changes restricting access to these systems (OECD 2006a).

In Denmark, there was also a pension reform in 2006. The main ingredients were a postponement of the eligibility age for early retirement by two years (to be implemented in 2019 to 2023) and an increase in the old-age retirement age also by two years (to be implemented in 2025 to 2029). When implemented, these ages will be indexed to life expectancy (maintaining an expected pension period of 19.5 years).

Projected rises in pension costs to 2050 are smaller in all three Scandinavian countries than in the average EU15 country – 1.3 percent of GDP in Sweden and 2.7 percent in Denmark and Finland versus the EU15 average of 3.0 percent – according to European Commission estimates (European Commission 2006a). Overall projected rises of age-related expenditures are also smaller in Sweden and Denmark (3.6 percent and 4.5 percent of GDP respectively) than in the average EU15 country (4.8 percent), but somewhat larger in Finland (5.1 percent). But in view of the current budget surpluses, fiscal sustainability risks have been judged by the European Commission to be small in all three Scandinavian countries (European Commission 2006b).

6. Conclusions

There is no such thing as a Scandinavian economic miracle. But the Scandinavian countries have in many respects done better recently than most of the eurozone countries. Public finances are in a better shape and there has been no weakening of fiscal discipline. Output growth has been substantially higher in Finland and Sweden than in the eurozone, although the difference in income growth after accounting for terms-of-trade changes is considerably smaller. In the second half of the 1990s, the high output growth in Finland and Sweden reflected to a large extent a recovery from deep recessions. So, part of the good performance is explained by having done poorly before.

But there is certainly more to recent output growth in Finland and Sweden than a catching-up from the crises of the early 1990s. The two countries have not shared in the trendwise decline in productivity growth in many of the eurozone countries. In Sweden, trend productivity growth seems even to have increased rel-

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[30] Finansministeriet (2002) and Andersen and Chiriaeva (2006).
[31] See Könberg, Palmer and Sundén (2006) for a more detailed account.

ative to the 1980s. The favourable productivity developments in Finland and Sweden are linked to ICT technology: high productivity growth in ICT-producing sectors has made a significant contribution to overall productivity growth. The other side of the coin is falling relative prices of ICT products, which have led to terms-of-trade losses. The importance of investment in ICT capital relative to non-ICT capital has also been larger than in most eurozone countries. It is a plausible hypothesis that the interaction between a skilled work force and ICT investment has contributed to rapid diffusion of ICT technology in the Scandinavian countries. High spending on R&D is also likely to have been an important factor for productivity growth.

In all the Scandinavian countries there have been substantial product market deregulations. They are likely to have had important productivity-increasing effects. The *level* of product market regulations is lower than in most eurozone countries, although not as low as in Anglo-Saxon countries. The *changes* in product market regulations were earlier than in most Continental Western European countries.

In terms of employment, Denmark has been doing particularly well since the early 1990s and is today one of the OECD countries with the highest overall employment as a ratio of working-age population. Total employment is also very high in Sweden, but somewhat lower in Finland. In the latter two countries, there has been a recovery from the large falls in employment in the first half of the 1990s, but employment has been far from restored to earlier levels.

The Danish *flexicurity* model with low employment protection, but generous unemployment benefits, has been claimed to be the main explanation of the favourable employment developments in Denmark. This is largely a myth. Instead, the employment rise in Denmark is mainly explained by significant reductions in the generosity of unemployment benefits and tougher requirements on the unemployed.

Total hours worked in the Scandinavian countries (at least as reported) are higher than in most euro area countries, but significantly lower than in non-European OECD countries like the US. In Sweden, this reflects to a large extent high sickness absence, which rose at the same time as unemployment fell in the late 1990s and early 2000s. This suggests that there may be a substantial amount of concealed unemployment in other social insurance systems than the unem-

ployment benefit system. Indeed, benefit dependency rates are high in the Scandinavian countries and have not come down much from the mid-1990s.

Does the Scandinavian labour market model represent another way of achieving high employment than the Anglo-Saxon one? The answer is both yes and no.

The Scandinavian model is less successful in generating many hours worked than in generating high employment rates. To understand the employment-generating capacity, it is necessary to see how different parts of the system interact. High and progressive taxes discourage work in general, but also finance generous childcare provisions and make it profitable to split household income between two breadwinners. This, together with separate taxation and the absence of dependent spouse deductions, is conducive to high female employment, which is the main contributing factor to high overall employment in the Scandinavian countries. A fairly high degree of coordination of wage bargaining may also help restrain wages despite high degrees of unionisation, high taxes and generous unemployment benefits.

At the same time, recent improvements in macroeconomic performance in the Scandinavian countries have been associated with limited – but yet clear – steps in a market-liberal (Anglo-Saxon) direction. This is obvious in terms of product market deregulations in all the three Scandinavian countries. Denmark provides a good example of how limited reductions in benefit generosity – still leaving in place a generous system – can help reduce structural unemployment very significantly. Sweden has provided a contrast. The earlier absence of labour market reforms was associated with what seems to be more or less unchanged structural unemployment. It remains to be seen how effective the labour market reforms of the new liberal-conservative government, which took office in the autumn of 2006, will be.

Perhaps, the most important lesson from the Scandinavian experiences is that steps in a market-liberal direction can produce substantial macroeconomic improvements, but that such reforms can still be consistent with an economic system very different from the Anglo-Saxon model. However, it is wrong to see macroeconomic developments in the Scandinavian countries as evidence that market-liberal reforms are not needed if one wants to stimulate output and employment. Instead, Scandinavian experi-

ences support the reverse hypothesis. They provide strong arguments for Continental European countries to reduce product market regulations to the Scandinavian level and beyond as well as to reduce unemployment benefit replacement rates and increase requirements on the unemployed. The Scandinavian experiences also point to the importance of addressing benefit generosity in all social insurance systems at the same time: the risk of partial reforms is that they result mainly in large overflows of benefit recipients from one insurance system to another.

Another important lesson from the Scandinavian countries is about the benefits of having a deep crisis. Denmark had that in terms of public finances and employment already in the early 1980s, which helped form a consensus on the need for fiscal consolidation. A new unemployment crisis in the early 1990s triggered substantial reforms of unemployment insurance and labour market policy. Finland and Sweden had acute unemployment and public finance crises in 1991 to 94. This led to a radical re-thinking of fiscal policy in both countries, most so in Sweden where fiscal discipline had been the weakest. The main characteristic of the "Scandinavian miracle" may simply be earlier sharp crises – conflicting with generally held perceptions of the superiority of the own model – which are much more conducive to policy change than more creeping crises (as in France or Germany) or continuous crisis (as in Italy). And the most important policy changes may not necessarily be radical reforms of institutions but rather the curbing of excesses that may over time accumulate in any system. Some of the Scandinavian experiences illustrate clearly the benefits from reaching a consensus on such measured reform.

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TAX COMPETITION

1. Do EU member states compete with each other over corporate tax rates?

Those who believe that there is tax competition within the EU have some powerful circumstantial evidence to support their case. Figure 5.1 describes what has happened to rates of corporation tax in the EU over the last ten years, showing the average for old and new members separately. There is a clear difference between the two groups: on average the tax rate of the old members exceeds that of the new members by nearly 10 percentage points. Equally significant is that there is a clear downward trend for both groups of countries. The old member states reduced their tax rates, on average, from around 38 to 30 percent between 1995 and 2006, while the new member states reduced their average from around 30 to just over 20 percent.

These reductions are not simply the result of major reforms in a few countries. In fact, as shown in Table 5.1, 16 out of the 25 members reduced their tax rates in the last four years 2003 to 2006 (and no country increased its rate). Many of these reductions have been substantial, and they are continuing.

Of course, on their own, reductions in tax rates are not conclusive evidence that tax competition is taking place.

There are possible explanations of such reductions that do not involve tax competition: for example, it may simply be the case that a new view of the potential harm of high corporate tax rates is sweeping through Europe, inducing governments to follow similar policies.

And if there is tax competition, there is the question of why rates are falling now. Certainly the EU15 have had free mobility of capital for many years. If competition were important, then we might have expected them to have reached very low – or even zero – tax rates by the mid 1990s, before the period shown in Figure 5.1. One clue to the "why now?" question is, however, the role played by the new members who joined the EU in 2004. Figure 5.1 shows that the average tax rate in these countries is substantially below the average for the older members. Figure 5.2 shows that the differences between these two groups in 2006 are striking. With three exceptions, the distribution of tax rates among the new member states is entirely below the distribution amongst the older members. Nine of the countries with the lowest eleven rates are new member states (the exceptions are Ireland and Austria), and only one new member (Malta) has a tax rate comparable to the older members.

So it is certainly plausible that the EU enlargement in May 2004 has led to a more aggressive form of tax competition within the EU, which is consistent with the pattern of tax rate reductions since 2003.
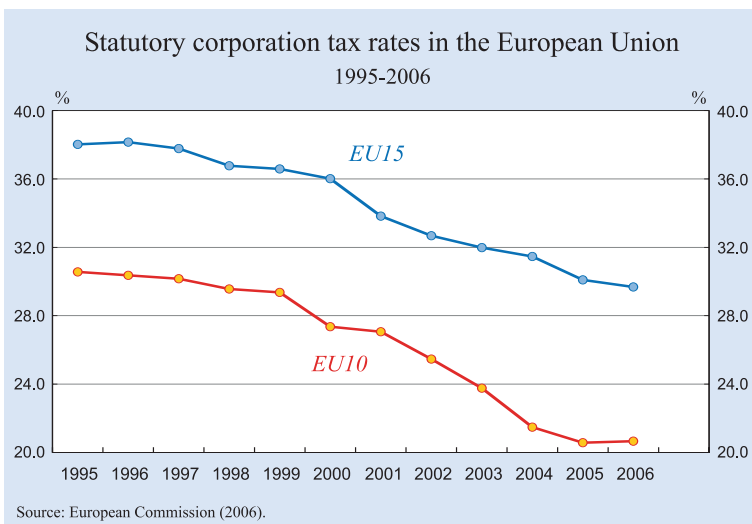
Another clue is the introduction of the euro. The euro has created a common capital market among the euro countries, which came along with a nearly perfect equalisation of interest rates, more international transparency, the elimination of exchange rate risks and, in general, more cross-border mobility of capital. If high tax countries were afraid of losing out in the competition for mobile capital, then their fear may have led to actions after the advent of the euro.

There is one puzzling feature of the recent development of corporation

Figure 5.1

Statutory corporation tax rates in the European Union
1995-2006

Source: European Commission (2006).

Table 5.1
Corporation tax rate reductions in the EU for retained earnings, 2003–06[a)]

	Reduction (percent)	Year of reform
Austria	34 to 25	2005
Belgium	39 to 33	2003
Cyprus	25 to 15 to 10	2003, 2005
Czech Republic	31 to 28 to 26 to 24	2004, 2005, 2006
Denmark	30 to 28	2005
Estonia	26 to 24 to 23	2005, 2006
France	35.4 to 34.9 to 34.4	2005, 2006
Germany	32 to 30.5	2004
Greece	35 to 32 to 29	2005, 2006
Hungary	18 to 16	2004
Italy	36 to 34 to 33	2003, 2004
Latvia	22 to 19 to 15	2003, 2004
Netherlands	34.5 to 31.5 to 29.6	2005, 2006
Poland	28 to 27 to 19	2003, 2004
Portugal	30 to 25	2004
Slovak Republic	25 to 19	2004

[a)] Reductions shown are for national tax rates only. The diagrams also include local taxes on profit.

Tax revenues in the new member states were more stable, beginning at 2.9 percent before holding a fairly constant position between 2.5 and 2.7 percent of GDP.

There may be several explanations for the different patterns observed in Figures 5.1 and 5.3, with falling tax rates but stable revenues. One factor is that countries have tended to expand the definition of taxable profit at the same time as reducing rates – for example, by removing special allowances intended to boost investment. This also implies that the effective tax rates – which take into account changes to the tax base and which are therefore more likely to affect flows of capital – have not fallen by as much as the headline rates shown in Figure 5.1. However, these effective tax rates have also fallen, which suggests that this cannot be the only explanation for the strong performance of corporation tax revenues. Another possible explanation is the rise in profits that has taken place in many EU countries. There is also evidence that an increasing proportion of corporation tax revenues is coming from the financial sector, which has been highly profitable over much of this period.

taxes in the EU, however. Despite the substantial falls in tax rates, tax revenues have held up. Figure 5.3 shows what has happened to the ratio of corporation tax revenues to GDP over the last ten years.[1] The ratio is again averaged separately over the old and new members. Usually, corporation tax revenues rise in good times, when profit rates are high, and fall in bad times when profit rates are low. So we would not expect the ratio to GDP to be very constant over time.

Nevertheless, the pattern shown in Figure 5.3 is surprising. Tax revenues in the older members actually rose over this decade, beginning at 2.7 percent of GDP and rising to 3.7 percent before falling back to 3.1 percent.

An important issue here is the location of profit. Multinational corporations are able – within limits – to shift both real economic activity and taxable profits between countries. Indeed, it is to attract both of these that governments may compete with each other, as discussed below. The evidence in Figure 5.4 suggests that such shifting may be very important. This figure examines the tax base of corporation tax as a percentage of GDP in each country (calculated by grossing up corporation tax revenues by the tax rate). It compares this to the statutory tax rate in the same country. Each point in the diagram represents an EU country, based on averages over the ten-year period 1995 to 2004.

Figure 5.2

Statutory corporation tax rates, 2006

Source: European Commission (2006).

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[1] Data are only available until 2004.

Figure 5.3

Average corporation tax revenues in the European Union

As a percentage of GDP

Source: European Commission (2006).
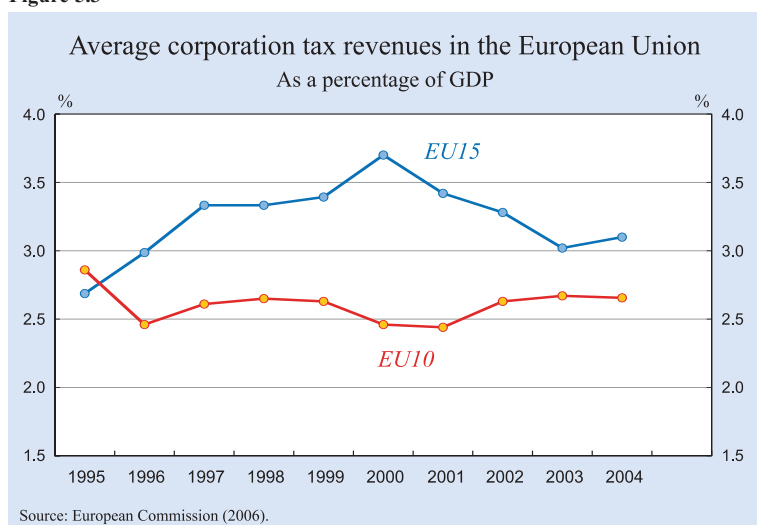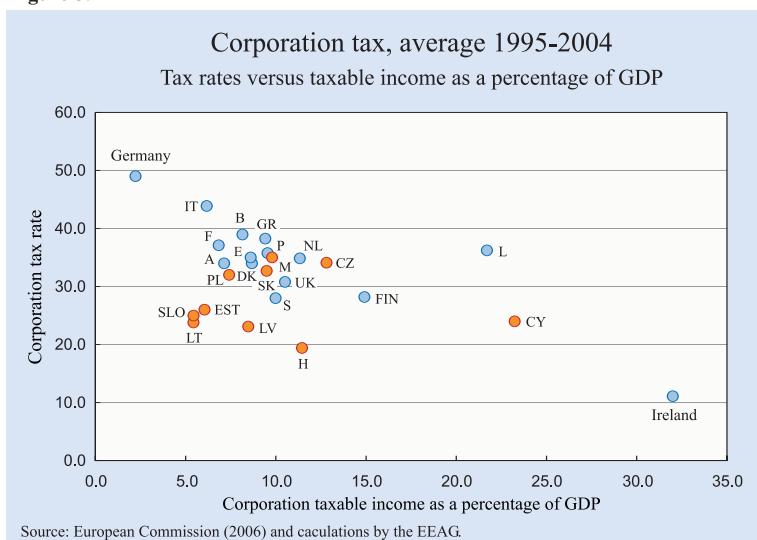
If a higher tax rate induces real economic activity and profit to shift out of the country, then we might expect there to be a negative relationship between these two variables. This indeed appears to be the case – but the size of the effect is remarkable. At one extreme, Germany had the highest tax rate over this period, averaging nearly 50 percent; its taxable income averaged only just 2 percent of GDP. At the other extreme, Ireland had a 10 percent tax rate (strictly only on manufacturing activities) for most of the period; its taxable income averaged 32 percent of GDP. The other countries lie between these two extremes, with a clear, and large, negative relationship.

It is clear that the trends in statutory rates are strongly consistent with an ongoing process of competition. This is supported by econometric evidence that in choosing their tax rates governments do take account of the levels of tax rates in other countries.[2,3] The cross section differences in taxable income reinforce the likelihood of competition. We would normally think of a reduction in the tax rate as causing a reduction in tax revenue, which would represent a cost to the strategy of reducing the rate to attract inward investment and profit. But there seems to be a reasonable chance of revenue actually increasing following a tax rate reduction in a country: given such evidence, it is perhaps surprising that the process of tax competition has not already developed further.

2. What are governments competing for?

It is worth considering in a little more detail the question: "What are governments competing for?" As suggested above, there are two (or more) possible answers: (a) real economic activity: flows of firms and capital, attracted by low effective tax rates; and (b) taxable income, attracted by low statutory (or headline) tax rates.

There is plenty of empirical evidence that flows of capital and flows of taxable profit are both affected by differences in taxes across countries. For example, De Mooij and Ederveen (2005) have conducted a meta-analysis of a large number of empirical studies of the effects of tax on flows of foreign direct investment between countries. Based on a sample of 427 estimates, they find that, at the median, flows of foreign direct investment rise by 2.7 percent in response to a one percentage point fall in the effective corporation tax rate. Of course, there is a great deal of variation across

Figure 5.4

Corporation tax, average 1995-2004

Tax rates versus taxable income as a percentage of GDP

Source: European Commission (2006) and caculations by the EEAG.

[2] See Devereux, Lockwood and Redoano (2005).
[3] One argument suggests that tax rates will not fall to zero. Because some of the larger capital exporting countries (the US and the UK) tax worldwide income with a credit for foreign taxes, capital importing countries have some incentive not to reduce their rates below the rates of the capital exporters. However, a counter example appears to be Ireland, which has benefited from a low tax rate – with large inflows of capital and profit from US corporations. That suggests that deferral of repatriation, or other profit shifting, enables US companies to benefit from the low Irish rate, and implies this credit argument for maintaining higher tax rates is weak.

studies, but this conclusion suggests that taxes can play a significant role in affecting capital flows. Broadly, a new member state with a tax rate 10 percentage points lower than an older member, might expect to have inward capital flows 27 percent higher as a result of the lower tax rate. The effects on the aggregate capital stock in the country are less clear. If there are no off-setting effects on domestic investment, then the capital stock would rise, though in the short run by much less than the change in investment. But it is also possible that new inward investment could either crowd out some domestic investment, or stimulate higher domestic investment.

But some evidence suggests that the effect is even larger for capital flows into the new member states. Bellak and Leibrecht (2005) found a response for flows to new member states to a one percentage point increase in the corporation tax of between – 3.3 percent and – 4.6 percent. More aggressive tax competition arising from the accession of the new member states is certainly consistent with the allocation of capital between new and old member states being particularly sensitive to corporation tax rates.

There is also considerable evidence that multinational companies are able to shift profits between countries in order to take account of more generous tax provisions.[4] They can do this in a number of ways. For example, a simple approach is for a multinational to place its equity capital in a subsidiary located in a low-tax country while allocating its debt to a subsidiary in a high tax rate country. The borrowing subsidiary can offset the interest payments against tax at a high tax rate, while the equity-using subsidiary pays tax on the return to equity at a low tax rate, creating a gain to the multinational and to the low tax rate country at the expense of the high tax rate country.

Another example concerns the pricing of intra-company trade. If one subsidiary of the multinational company trades with another, then the company typically has some discretion over the price at which the good is transferred. Both this transfer price and the use of debt are subject to numerous complex provisions aimed at minimising the extent to which companies can shift taxable income to lower-taxed countries. However, it is typically difficult for tax authorities to identify and prevent tax planning. Certainly the evidence in Figure 5.4 is consistent with significant movement of taxable income between countries.

[4] For a survey, see Devereux (2006).

3. Is competition from new member states unfair?

If, as seems plausible from the evidence presented above, the accession of the new member states has led to a period of more aggressive tax competition, then how should old member states respond?

One possible response is to complain about "unfair" tax competition. For example, at the time of the accession, Gerhard Schröder, the then German Chancellor, claimed that it was unacceptable "that Germany, as the EU's biggest net payer, finances unfair tax competition against itself".

Is there a case that tax competition is unfair? It is hard to see what that case might be. In the absence of agreed coordination of corporation tax rates in Brussels, then each member state has sovereignty in setting its own tax rate. And this sovereignty has been jealously guarded by members to such an extent that there has been almost no progress towards coordination, despite many recommendations to do so dating back over many decades.

It is true that a low tax rate in one country may result in capital or profit shifting to that country from another. If a government acts in its own national interest, the costs incurred by other countries will not be taken into account. Since they do not take into account the full costs of their actions, all countries may end up with lower tax on corporate profit than they would otherwise choose. The result of such competition is that all countries may therefore end up worse off.

But there is nothing specific about this account which applies particularly to new member states. In some ways, they are already an attractive location for new investment, for example with lower wage rates than in the older member states. Offset against that, however, is a weaker infrastructure, an issue to which we will return below. But if the new member states seek to improve the chances of attracting new firms and investment, they are not behaving differently from other members – indeed they could be seen as simply following the example of Ireland, although in a less extreme form.

What Chancellor Schröder seemed to be objecting to is that the new member states also receive regional aid from the EU – which is, in effect, paid for by the older members, Germany as the EU's largest net payer in particular. To the extent that regional aid could be seen as compensating for lost revenue from aggressive corporation tax setting, then the older members could be thought to be paying for tax cuts in the new member states.

But there are at least two responses to this claim. First, linking corporation tax and regional aid reflects some confusion in the older member states. On the one hand, they support the principle of regional aid to the new member states, which helps to provide better infrastructure, which will attract more capital, partly from the west, and which ultimately will bring about a process of wage convergence. But if the old member states support that aim, then it is not clear why they should object to low corporation tax rates in new member states, which is likely to have a similar economic impact. Just because both are happening simultaneously does not give cause for believing the tax competition is unfair.

Second, it is by no means clear that subsidies induce the recipient countries to lower their tax rates, as lower tax rates may well result in higher rather than lower tax revenue. Although Figure 5.3 shows that the east European countries are raising a smaller proportion of GDP from corporation tax, the evidence of Figure 5.4 hints that reducing the tax rate may generate such an increase in taxable income that tax revenues may actually rise. Thus, if Schröder wants the recipient countries to charge internationally mobile capital with higher tax rates he might well advocate increasing rather than cutting the subsidies.

That being said, Schröder does have a point insofar as the process of tax competition in general tends to erode the corporate tax revenue. While a single country could possibly increase its tax revenue by cutting its tax rates, all countries together cannot achieve such a result, as the movements of tax bases and equity capital will only result from international differences in tax rates. If all countries cut their tax rates simultaneously, the corporate tax revenue will indeed decline, unless there is a substantial increase in overall investment. Given that the corporate tax is needed as one of the fiscal revenue raisers, this in itself is an argument for tax coordination among countries, a topic to which we will return below.

4. What are the costs of tax competition?

There is a broad issue here which goes beyond simply considering whether new member states are responsible for increased downward pressure on corporation tax rates. That is the consequence of lower corporation tax rates in terms of economic welfare. As with all taxes, there are two main aspects of their consequences for welfare: economic efficiency and equity.

In terms of efficiency, there has been a concern that charging lower taxes on capital will result in higher taxes on labour, and that higher taxes on labour can exacerbate distortions to labour markets, resulting in greater unemployment. Indeed, the European Commission (1997) has itself made this type of argument.

Basic economic theory does not support this argument – indeed it supports the reverse. The argument is set out in Box 5.1. It depends on capital being mobile, while labour is not mobile or, at least, not as mobile. Indeed if capital is perfectly mobile, it is optimal for a small open country to tax capital very lightly. To be precise, it is optimal not to impose a tax rate above the marginal congestion cost of infrastructure. We will return to this topic below and assume for a moment for simplicity that the marginal cost of infrastructure is zero. In this case, a tax on capital would have a more severe impact on economic activity, and hence on the demand for labour, than a tax on labour.

Whether the reduction in the demand for labour affects unemployment depends on the extent to which the wage rate is flexible. With strong unions trying to hold up the wage, wage reductions cannot come about without more unemployment. With more flexibility unemployment would be lower.

So, from basic economic theory, a good case could be made that a small, open country acting on its own without coordination with other countries should in any case not tax the income on capital located in that country, and by extension should not tax corporate profit located there.

Two caveats to this reasoning should be noted. One concerns the "effective tax rate". The effective tax rate measures the extent to which the tax as a whole raises the pre-tax required rate of return on an investment – as such, it depends not just on the headline tax rate but also on the definition of taxable income. In practice, how taxable income is defined varies considerably across countries; one important factor, for example, is how quickly capital expenditure can be depreciated for tax purposes.

It is worth noting here that in principle it is possible to design a corporation tax which does not affect this pre-tax required rate of return. An example of such a tax is a "cash flow" tax, which we discuss further in Section 7 and Box 5.2 below. Essentially, such a tax would define income for tax purposes to be all receipts less all expenditures. Thus all capital expenditure could be set against

Box 5.1

The effects of the taxation of capital in an open economy

Consider a country which allows free movement of capital. Suppose that the return on capital, net of all taxes, required by investors in the rest of the world is 10 percent, and that this country is too small to have any effect on that required rate of return. These conditions apply to most EU members: call this country Belgium. That means that Belgian investors can expect to earn 10 percent on any outward investment from the country. It also means that any other investors in the world will expect to earn 10 percent in Belgium after taxes. If they earn less than 10 percent they will take their capital elsewhere. If the return in Belgium exceeds 10 percent, new capital will flow in, driving down the rate of return until it reaches 10 percent.

What would be the effect of a tax on the return to capital located in Belgium? All investors would continue to require a return of 10 percent after tax, since they can still earn that elsewhere. This implies that the pre-tax rate of return in Belgium must rise. For example if the effective tax rate is 33 percent, then the pre-tax rate of return must rise to 15 percent, leaving the post-tax rate of return at 10 percent. This would be achieved by some investors shifting their capital out of Belgium. As the total capital stock falls, then the marginal return on the remaining capital would rise. A tax in Belgium would therefore reduce investment in Belgium. This is a cost in terms of economic inefficiency.

Now consider the case in which the tax revenue is raised by a tax on labour income. Given the mobility of capital and the relative immobility of labour, the labour force will not be able to pass on the tax burden to the owners of capital, who continue to earn 10 percent after tax. Instead, the labour force must bear the "effective incidence" of the tax, in terms of a lower net wage. The capital stock would be unaffected.

That seems to imply that a tax on labour income may be more efficient but less fair. But that is not true. Who bears the "effective" incidence of the corporation tax? Just as with a tax on labour income, it cannot be the owners of capital. Instead the tax must be passed on, in lower gross wage payments and higher output prices, to be borne by Belgian residents. In either case, then, the tax burden falls on domestic residents. But in the case of corporation tax, there is also inefficiency in the form of an economic distortion to the level of investment. This is the basic argument for a small, open country such as Belgium not to have a tax on capital located there.[a]

[a] There is a separate argument that even a closed economy should not tax the returns to capital. For example, in a closed economy model Lucas (1990) estimates that eliminating capital income taxation in the US would increase the capital stock by 35 percent, and long run consumption by 7 percent. But in this chapter we focus on the issues raised by the mobility of capital in open economies.

has already been invested, and which cannot easily be moved, falls outside the analysis in Box 5.1. Economists have noted the possibility in these cases of introducing penal taxes on the owners of capital due to a "time consistency" problem: before the investment is undertaken the government has an incentive to promise low tax rates on the return to the investment, but after it has been undertaken – when the capital has become immobile – it has an incentive to charge very high rates.

But there are two reasons why governments would not follow this approach in practice. First, although the factory itself might not move, the activity in the factory might. The company could set up another factory elsewhere and move production. This, too, would be costly, but the company is not constrained by the physical immobility of the asset itself. Second, investment and taxation is not a one-off event. Imagine the reaction of future investors if a government did renege on its promises by imposing a high tax rate on already-installed capital. Such future investors would be unlikely to believe any promises made to them by the government, and they would take their capital elsewhere. So it is hardly a sensible strategy for a government.

Despite the theory, of course in practice governments do tax the income generated by activities of corporations located within their country, possibly for some good and some bad reasons. From the perspective of a small open country, one bad reason is a concern about an inequitable distribution of tax. Abandoning a tax on capital income looks like favouring one group of the population (probably a wealthier group, since it has funds to invest) over the rest. Why should earned income be taxed when capital income is untaxed? However, in the context of a small country acting on its own, the answer lies in the analysis in Box 5.1: because the tax on capital does not make the owners of capital worse off, but is passed on to residents. It is more efficient, and no more inequitable, to tax the residents directly.

tax in the year in which it was incurred. However, there would be no relief for the cost of finance. In effect, the government would become a shareholder in each investment; it would contribute part of the cost (through foregone tax revenue) and take the same share of the income generated. The net effect is that the rate of return required by investors is unaffected; their expenditure and income is reduced in the same proportion. Since the rate of return on the investment is not changed, the "effective" tax rate – or more strictly, the marginal effective tax rate – is zero. Such a tax has long been favoured by many economists, precisely because the marginal effective tax rate is zero.[5]

A second caveat is whether capital really is mobile. Here we have to be careful about the definition of capital. A building that houses a car factory is clearly immobile – it would be extremely costly to move it, brick by brick, to another location, and it is inconceivable that anyone would want to. So there is a sense in which capital which

[5] See, for example, Meade Committee (1978)

5. The role of infrastructure

As with any economic theory, there are real world complexities which are not taken into account in Box 5.1, apart from those mentioned above. One is worth considering in more detail, especially in the context of the EU. That is the role of infrastructure – in particular, infrastructure which is publicly provided and which enhances productivity of capital. Such infrastructure might include obvious assets such as roads and other transport provision, but also less concrete goods such as the rule of law and the ability to enforce property rights. It is unlikely that such infrastructure could be categorised solely as supporting production: it is also likely to provide consumption benefits to residents.

To the extent that this infrastructure is free to the user, and supports production, then it causes a complication to the basic analytical framework set out in Box 5.1. Suppose, like a road, that the infrastructure is a public good, but that there are congestion costs – each user adds a small amount to the congestion costs which are imposed on himself and on other users. Each user will use the public good up to the point at which the marginal benefit of doing so equals the private congestion cost. But they will ignore the additional costs imposed at the margin on other users. In theory it is optimal for the government to impose a tax on users equal to the marginal congestion externality, which is the difference between the marginal social cost and marginal private cost. If the government does so, then effectively each user will take into account the whole marginal social cost and not just his own private cost.

Now suppose that the aggregate social congestion cost depends on the amount of capital used. One form in which such a tax could be imposed would therefore be through a positive tax on the return to capital. But while such a tax could in principle generate the optimal use of the public good, and the optimal amount of capital in the economy, it would not necessarily raise enough revenue to finance the provision of the public good.[6] If there are constant returns to scale in the provision of public goods in the sense that doubling the amount of capital, given the user quality of the public good, requires doubling the production cost of public infrastructure, then an efficient congestion tax on capital will just generate enough revenue to finance the cost of the infrastructure. This case is relevant with those kinds of infrastructure that are provided on local levels

assuming that the size of local communities is optimally chosen. Examples are the local police or local roads. However, nation-wide public goods, such as interstate roads, the law system or national defence, are likely to exhibit increasing returns to scale in the sense that the infrastructure cost does not have to double if the amount of capital doubles. With such public goods an optimally designed congestion charge will not be able to fully cover the cost of the public infrastructure. The remaining cost would therefore have to be financed by a tax on residents. It would nevertheless be in the interests of residents to finance the provision of the public good, since it enhances the productivity of capital and hence attracts more capital.

The spirit of this result is similar to the one explained in Section 4, but in a sense it goes even further. Without marginal infrastructure costs, the fiscal revenue that a country can reasonably collect from internationally mobile capital is zero. With such costs the fiscal revenue the country should collect might even be negative, because the revenue from the corporate tax falls short of the cost of providing the infrastructure that this capital uses. However, from a practical perspective, there is some tax revenue after all, and it does not have to be feared that tax competition will wipe out the corporation tax completely. The marginal cost of hosting the mobile capital will always be the lower bound below which competitive forces will not be able to drive the corporate tax revenue.

6. Does competition require a coordinated response?

The central problem identified in this chapter – of competition driving down the rate of tax on corporate income – is not necessarily a problem of economic efficiency. Indeed, Box 5.1 indicates that there is a case for allowing competition to drive the EU to an efficient outcome in which income from capital is not taxed at all in the country in which the capital is located.

Nevertheless, governments clearly would prefer to continue to raise revenue by taxing corporate profits arising within their jurisdiction. One reason is clear from Figure 5.3: governments raise close to 3 percent of GDP in corporation tax. Whatever the economic arguments, they are reluctant to give up such an income stream. A more general difficulty in not taxing the return to capital income is consideration of equity. Whether or not it is justified, many people find it unjust if capital is being taxed at a lower rate than income arising from labour income.

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[6] For an explanation of this point, see Sinn (2003).

Such a view partly stems from the notion of a comprehensive income tax – where labour and capital incomes are taxed at the same rate. But some countries have explicitly accepted the principle that capital and labour income should be taxed at different rates. The "dual income tax" system used in Scandinavian countries combines a progressive tax on earned income with a low, flat-rate tax on capital income.

Are there other reforms which would improve the fairness of the tax system? We first consider in this section whether coordination across EU countries could solve, or at least mitigate, these problems. In the next section, we consider more radical options open to individual governments.

In principle, if all governments agreed to coordinate by charging the same effective rate of tax, then the analysis of Box 5.1 would become redundant. The owners of capital would face the same tax wherever they located their capital, and even if capital were perfectly mobile, they would not be able to avoid paying the tax. In this situation, owners of capital would share at least part of the tax burden through a lower post-tax rate of return. This may then provide the basis for a more equitable tax system.

However, it is not clear that anything short of a single, global tax could achieve this end. As long as some countries – inside or outside of the EU – maintain a different tax system, then there may be opportunities for owners of capital to shift activities and profit to reduce their overall tax liabilities. Even a single tax within the EU would not meet this requirement. And in practice, certainly for the foreseeable future, it seems highly unlikely that there could be a single tax within the EU.

Moreover, harmonising capital income tax rates would have very problematic effects for the provision of public infrastructure, which is also an important element in the location decisions of companies. Clearly countries would shift their attention to the possibility of luring in capital with infrastructure gifts if it is impossible to attract it with lower tax rates. They would overprovide infrastructure for mobile capital if the capital income tax rate is harmonised above the "equilibrium" rate that is the outcome of unbridled tax competition.[7] As it is difficult to harmonise infrastructure expenses, one possible solution to this which has been proposed is a self-financing constraint. This would consist of governments agreeing to pay for the public good out of taxes on cap-

ital income. In principle, this could lead to an optimal provision of the public good, paid for by the owners of capital.

However, such a tax would require the self-financing constraint to differentiate between public goods used in production and consumption. In practice it would be very hard to specify how the cost of public goods should be shared among consumers and firms. Basic infrastructure, such as roads and other essential inputs, enforcement of property rights and the rule of law, education, defence, and health provision are also all used in consumption.

The form of coordination currently being considered within the EU is a "common consolidated corporate tax base", known as the CCCTB. The idea is that companies could select to have their EU-wide profits determined only once; they would not need to allocate their taxable profit between EU member states. Instead taxable profit would be allocated between countries on the basis of a simple formula, unrelated to profit. This has some advantages – there would be no gain to shifting profits between EU countries since it would not affect the tax liability – but it is not designed to combat the problems of tax competition considered here. Indeed, under the Commission's proposal, countries would keep the right to set their own tax rates, and so there would continue to be competition in the setting of statutory rates.

An alternative approach would be to propose that individual countries agree to harmonise their taxes. But to be effective, this would require harmonisation of effective tax rates, not just the headline rate. This implies setting a single definition of the tax base for all countries, as well as a single tax rate, which would be extremely complex. And even if this were achieved, there remains the problem of competition with countries outside the EU, including from tax havens with very low rates.

So it is unlikely that coordination of corporation taxes within the EU is likely to be able to solve the problems described above, which arise from tax competition.

7. Other potential solutions

To consider alternative solutions, it is useful to begin by noting that we have considered only one particular form of a capital income tax. That is, we have considered only a tax on the income arising from capital located in a particular country – known as a "source-based" tax, since the tax is levied in the location of the source of the

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[7] See Sinn (2003).

income. (In practice it may be very difficult to identify the source of income, which is one reason companies are able to shift profit between countries. But we will leave that issue aside here.) One superficially attractive aspect of such a tax is that it may appear to be levied on non-residents (and non-voters), since the owners of the capital located in a country may not actually reside in that country. However, this is likely to be a mirage: as argued in Box 5.1, it is instead likely that a tax levied on capital in a small open country will effectively be borne by domestic residents.

7.1 Residence-based taxation

The most commonly considered alternative to a source-based tax is a tax on the income on capital owned by residents, wherever that capital is located: this would be a "residence-based" tax. For example, a German capital owner would be taxed under the German tax system on earnings from all his capital, even if that capital were located outside Germany. A residence-based tax would have very different properties from a source-based tax, particularly with respect to equity. The reason why a source-based tax on capital income is not usually incident on the owner of capital is because the owner is able to move the capital away from a highly taxed jurisdiction. But the owner of capital cannot avoid a residence-based tax except by changing residence. Given that individuals are relatively immobile, it is much more likely that the owners of capital would bear the incidence of a residence-based tax.

If such a residence-based tax could be made practical, then it would have two clear advantages over a source-based tax. First, it could be more efficient, in that the location of capital would not affect the tax liability, and hence taxes would not distort the location choice. Second, it may well be more equitable, as capital owners could not avoid the tax by shifting capital between countries. However, there are overwhelming practical difficulties in implementing such a tax, since it requires the tax authorities to keep track of capital income earned abroad, and possibly not remitted back to the owner. It is to combat such difficulties that the EU has agreed the Savings Directive, which requires member states to exchange information about interest income earned in another member state. But while the Savings Directive may help in tracking the interest income of EU individual residents, it does not apply to profit earned by corporations.

The "residence" of corporations is in any case ambiguous. On the one hand, it could refer to the residence of

the shareholders of the corporation. But it is simply not practical to tax a resident's share of a non-resident corporation's profit, especially if that profit is not remitted back to the owner in the form of a dividend – indeed the corporation tax exists partly because it is not even practical to do so when both shareholder and corporation are resident in the same country. In principle it might be possible to tax this income through a capital gains tax levied in the shareholder's country of residence. But this also raises several problems. To be a substitute for taxing profit as it is generated, it would have to be levied on an annual basis, whether or not the shares were sold. It would therefore require an annual valuation of all companies in which the individual holds shares (and indeed, if introduced comprehensively, an annual valuation of all assets). It may also cause liquidity problems: the taxpayer may have to sell shares to raise the cash to pay tax.

On the other hand, "residence" may refer to the place of incorporation of a company or where the head office is located. It may be possible to tax corporate profit according to the residence of the corporation itself; indeed many countries attempt to do so. But there are at least three problems with doing so.

First, unless all countries operated a residence basis, then there may be double taxation since the country where the capital is located may impose a source-based tax. (Countries which currently have a form of residence-based tax typically avoid this double taxation by giving credit for any source-based taxation paid.) Second, corporations may evade taxes by hiding their profit in another country. The OECD's recent attempts to encourage tax havens to agree to an exchange of information with other countries is a step towards dealing with this problem. Third, and most important, the residence of corporations is itself mobile, and somewhat tenuous. A high tax in one country may induce corporations to incorporate in another country. Since they may undertake little business anyway in their country of incorporation, the cost of moving may be small. But if residence is mobile, then moving to a pure residence-based tax on corporations would simply introduce competition in another guise.

7.2 Destination-based taxation

But if source-based taxes are being competed away, and residence-based taxes are not a serious option, then are there any other alternatives? There is one: to consider a different location for taxing profit – that of the final consumer of the good or service. This would be a

"destination-based" tax. One could argue that it is at least as reasonable to consider the location in which profit is made to be where the good or service is sold to a final consumer as where it is produced.

If it were possible to construct a destination-based tax, then it would share an advantage with a residence-based tax, in that the tax would not depend on where the good or service was produced. Since individual consumers are relatively immobile – at least compared to capital – the location of economic activities would be less likely to be affected by the tax. And as a result, the tax should be less susceptible to a process of competition.

Of course, attempting to levy a tax on the profit of a corporation according to where it sells its product to the final consumer raises the issue of the allocation of costs. For example, suppose a car plant in Germany sells to consumers all over the EU. How should the costs incurred in Germany be allocated to each destination country to set against income generated there?

To explore this, it is useful first to return to the cash flow tax, outlined in Section 4. To recall, one form of such a tax, the so-called tax on the real cash flow, would give full tax relief for all real expenditure in the year in which it was incurred, but not relief for financing costs.[8] Hence, for example, there would be no use of depreciation schedules to allocate capital spending against income derived in subsequent years; instead all such expenditure would be written off immediately. But interest payments would not be deductible.

Another variant of a cash flow tax would be one where the financial cash flow is taxed in addition to the real cash flow, which basically means that retained corporate earnings are tax free while dividends, net of the revenue from new share issues, are taxed. The Meade Committee, which first proposed it in 1978, called it the S-base tax.

As described in Box 5.2, cash flow taxes effectively turn the government into a shareholder: the government con-

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Box 5.2

A cash flow tax

Consider a risk-free investment which costs 100 euros in period 1 and which generates a return of 110 euros in period 2 – a pre-tax rate of return of 10 percent. Now suppose that a cash flow tax is levied at the rate of 40 percent. The cost of the investment would fall to 60 euros, and the value of the return would fall to 66 euros. The rate of return after tax is still 10 percent – a return of 6 euros on an investment of 60 euros. The government has also made a 10 percent return: in effect, it invested 40 euros and received 44.

Now suppose that the risk-free interest rate is 5 percent; an alternative to the investor would be to save 100 euros in a bank account, generating a return in period 2 of 105 euros. Before tax, the investment is worth 110 euros. This excess of 5 euros over the return from the bank account is a measure of the economic rent of the investment: the return over and above that required to persuade the investor to go ahead with the investment.

With the cash flow tax, the investor only has to invest 60 euros, on which he earns a return of 66 euros. By contrast, putting 60 euros in a bank account would yield 63 euros. So the post-tax economic rent to the investor is 3 euros. The government has also effectively earned an economic rent of 2 euros, since if it had put 40 euros in the bank, it would have earned only 2 euros instead of 4. Overall, 40 percent of the economic rent of 5 euros has been taken by the government.

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tributes a share of all investment expenses and collects the same share of all revenues. Such a tax is equivalent to a tax on economic rent and the historically given stock of capital. The economic rent is any profit above the minimum required for the investment. Because of this and as the historic stock of capital is given, the tax is largely non-distorting: it does not affect decisions as to how much to invest, nor how to finance investment.

In an international context, though, a source-based cash flow tax would not be efficient, for two reasons. First, there is now considerable evidence that discrete location choices of multinational companies depend on a comparison between post-tax levels of profit from alternative locations. Suppose a company faced the same pre-tax level of profit in two potential locations. And suppose each country levied a cash flow tax, but at different rates. In this case, the post-tax level of profit would be lower in the country which had the higher tax rate; and the location choice would depend on these taxes, even though both were on a cash flow basis. Second, corporations would still be able to shift profits between countries in response to differences in statutory rates, just as with the current corporate tax systems. To raise the same revenue from a cash flow tax as existing taxes would require a higher statutory rate; this would worsen the profit-shifting problem.

But now let us bring together these two strands: a destination-based tax and a cash flow tax. Applying the destination-base principle to a cash flow tax in fact generates something similar to a very familiar tax: value added tax. Value added is equal to economic rent plus labour

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[8] This is the R-base of the Meade Committee (1978).

income. And VAT can therefore be thought of as a tax on economic rent, plus a tax at the same rate on labour income. (Of course, it is not calculated in that way, but it has the same effect.) VAT is also levied on a destination basis. This is achieved by applying a zero rate of tax to exports, while taxing the full value of imports. The net amount of tax collected in the country of production (the source country) is therefore zero. (This is achieved by taxing intermediate stages of production, but rebating all the tax collected if the output of a later stage of production is exported.) In effect, then, the entire VAT payment is made to the country where the final good or service is sold (the destination country).

Now consider a VAT which allows labour income to be deducted from the tax base. This would be equivalent to a destination-based cash flow corporation tax. If collected in the same way as VAT, then overall it would be a tax on economic rent. Labour costs would be set against tax in the country in which they were incurred. The destination country would therefore charge tax on the value of the final output less any labour costs incurred in that country. The source country would zero-rate the export, but still give relief for labour costs incurred in the source country.

The fact that labour costs of goods which were exported would have to be rebated by the government in which production took place would greatly increase the payment of such rebates.[9] And this is certainly a practical downside if such a new tax were introduced on its own.

However, there is a straightforward way to actually implement such a tax which would not involve such direct rebates. A destination-based cash flow corporation tax could be effectively implemented by increasing the rate of VAT and making an offsetting reduction in the tax rate on labour income. Making such changes would enable governments to reduce the rate of conventional corporation tax. If this rate were reduced to zero, then several benefits could be achieved.

The new tax system would not affect the level of investment nor the type of finance used. It would also not be susceptible to common methods of profit shifting. Interest would not be deductible, and so there is no rea-

son to locate debt in a high tax country; and the only prices which affect the tax liability are those paid by the final consumer, so intra-company transfer prices are also irrelevant. For all of these reasons, the tax should not be subject to competition between countries.

This analysis has glossed over some problems of implementing VAT. Cross-border shopping and carousel fraud are issues which certainly concern governments. Relying more heavily on VAT would increase their importance. But the problem of cross-border shopping depends on the mobility of consumers. The European Court of Justice recently upheld that an individual who purchases a good at a lower tax rate in another member state can only benefit from that lower tax rate if he or she actually collects the good in person.[10] It is not possible to pay the lower tax rate abroad by ordering it and having it delivered. So while cross-border shopping may be a problem, the mobility of consumers is unlikely to be as great as the mobility of capital. Hence competition arising from this is unlikely ever to be as significant as competition for mobile capital and profit which we see under existing corporation taxes.

Finally, it is possible to consider ways in which labour costs could be passed on to the destination country. For example, exports from one member state to another could generate a tax credit, representing the labour costs associated with the export, which could be offset against tax in the destination country. This might generate a more reasonable distribution of tax deductions for labour costs across the EU. However, it would lose some of the simplicity of the VAT system, and could reintroduce tax planning opportunities as companies sought to allocate costs to high tax rate countries.

8. Conclusions

The argument set out here has been that competition for capital among small open countries could ultimately lead to the reduction of taxes on income levied by the country in which the capital is located to a level commensurate with matching marginal social congestion costs for the use of public infrastructure goods. Economic theory suggests that such an outcome would be efficient, in the sense that capital would be efficiently allocated between countries.

The most important tax on capital income is the corporation tax. There is certainly evidence that corporation tax

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[9] But the net impact on any country would depend on its balance of trade and labour costs. Suppose trade was balanced. In addition, suppose that the labour costs incurred in that country (that is, used to produce goods and services which were consumed domestically or exported) were equal to the cost of labour used to produce goods which were consumed in that country. Then in effect the government would be taxing exactly the economic rent generated on goods and services sold in that country. But if domestic labour costs were higher, its tax revenue would be lower, and vice versa.

[10] In the case of Staatssecretaris van Financien v BF Joustra.

rates have been falling in the EU, which is consistent with increasingly aggressive competition for capital between member states, and between EU countries and non-EU countries. Corporation taxes in the EU are still some way from zero. However, given the importance of infrastructure costs this is not inconsistent with competition, and the realisation that the size of the tax base is very sensitive to the tax rate may actually encourage more competition.

But competition makes it more difficult to rely on taxes on capital income to help maintain an equitable distribution of taxation. Coordination of source-based corporation taxes within the EU is unlikely to prove to be a solution to this problem. Partly this is because eliminating competition would intensify the competition with other policy parameters affecting firms' location decisions and could possibly lead to an overprovision of public infrastructure. Partly because of this, there would remain a problem of competition between the EU and the rest of the world.

There are other potential forms of corporation tax. It may be possible to continue to make use of corporation tax on a residence basis, taxing the owners of capital where they reside, rather than where the capital is located. However, that is also unlikely to generate a long term solution, again for two reasons: it is difficult for tax authorities to identify the tax base if it is generated abroad, and in any case the tax may generate competition for corporate headquarters.

A more radical alternative would be a corporation tax on a destination basis, taxing the income where the final good is sold to a consumer. This would be rather similar to a VAT – and indeed it could be implemented by increasing the VAT rate, but making an offsetting cut to taxes on labour income. Such a system would have considerable advantages in terms of efficiency and equity. It would be efficient in that the location and size of investment, the use of different sources of finance, and the location of profit, would be largely unaffected by tax. It would be more equitable in that the tax burden would fall on consumption from unearned income. In sum, the EEAG advises politicians not to interfere with the process of tax competition such that the corporate tax rate will gradually shrink towards the marginal cost of using the public infrastructure, to increase the VAT and to reduce the taxes on labour income.

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Economic nationalism

1. Introduction

The Treaty of Rome and subsequent EU treaties insist on the principle that national governments should not discriminate against residents of other member states. Economists claim that such a principle buttresses efficiency. It is inefficient, for example, to favour a national firm in public procurement if a foreign firm can supply the same good at a lower cost.

Yet we have observed in recent years a number of incidents where individual countries have pursued nationalistic economic policies despite their pledge. Governments have intervened in financial markets so as to block or modify cross-border mergers involving prominent domestic firms. Attempts to subsidise national champions or to recapitalise and bail out national losers are still common. Economic nationalism is not only frequently observed within the EU, in violation of European or wider treaties. Two recent examples include the failed acquisition of US ports by Dubai-based DP World and the renegotiation of quotas of Chinese imports immediately after their phasing out.

In this chapter we discuss the merits and drawbacks of economic nationalism, its causes and consequences, and whether it should be combated – and with which tools. The criterion we use to evaluate economic nationalism is whether it improves or worsens the welfare of European citizens.

2. Forms of economic nationalism

What is economic nationalism? We define it as any form of interference from governments in private trans-

actions that distorts them on the basis of the nationality of the parties, and that go beyond the normal, non-discriminatory reflection of domestic residents' preferences. Thus, having a national tax system different from other countries, as the result of different preferences and a different economic structure, is not a case of economic nationalism. But launching an anti-trust action against a foreign-owned firm, while being at the same time lenient with domestic monopolies, is a case of economic nationalism. Such policies, while discriminatory, may nevertheless be consistent with benevolent governments trying to maximise the welfare of their citizens, as we shall see, although in many cases the motivation has probably more to do with private rent seeking, which we also discuss below.

These interventions are quite often discretionary in that they consist of a sequence of one-off interventions rather

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Box 6.1

Nationalism and the location of the European Parliament

The Wikipedia article on the European Parliament succinctly describes this phenomenon.

"Although Brussels is generally treated as the 'capital' of the European Union, … a protocol attached to the Treaty of Amsterdam requires that the European Parliament have monthly sessions in Strasbourg. However, preparatory legislative work and committee meetings take place in Brussels. Moreover, much of the European Parliament's secretariat, which employs the majority of its staff, is located in Luxembourg, which itself used to host plenary sessions of the parliament.

Parliament only spends four days of each month in Strasbourg in order to take its final, plenary votes. Additional plenary meetings are held in Brussels. On several occasions, the European Parliament has expressed a wish to be granted the right to choose for itself the location of its seat, and eliminate the two-seat system, but in the successive treaties, EU member state governments have continued to reserve this right for themselves. While they did abandon the third seat of Parliament, Luxembourg, two decades ago, the rival demands of Belgium (Brussels) and France (Strasbourg) to base the parliament in their country has prevented a final agreement as to which city would become the sole seat of parliament.

Moving various files and equipment between the two cities takes ten large trucks and the costs for two locations are estimated at 200 million euros a year. A force of 30 people loads the trucks for the 400 km journey between the two locations. Around 5000 people attached to the European Parliament, such as parliamentarians, advisors, clerks and journalists, also move between Brussels and Strasbourg. Most of the parliamentarians are against using Strasbourg, and various initiatives have been taken over the years to have Brussels as the sole location."

Source: http://en.wikipedia.org/wiki/European_Parliament#Location

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> **Box 6.2**
> **The spread of the Airbus workforce over the different corporation locations**
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> Airbus, along with Boeing, is one of the two main aircraft manufacturers in the world. It was created in 1970 as a merger between the French Aérospatiale and the German Deutsche Airbus companies. The Spanish Casa and British Aerospace companies joined later. As of 2005, it is basically on a par with Boeing in terms of market share.
>
> Historically, the French, English, German and Spanish governments have had an important stake in Airbus and still retain a substantial fraction of its capital. As a result, they have been able to influence the location of economic activity on the basis of political criteria. This allocation is shown in Table 6.1. Most of the workforce is spread over the four countries, and the fraction of employment that each country has is in line with its stake in the capital: France and Germany, the two most important partners, have the greater share of employment.[a] Although that seems natural to most non-economists, from the point of view of economic efficiency there is no reason why, more than 25 years after the merger, the distribution of production sites should match the distribution of ownership. In private corporations, the two should typically be unrelated.
>
> The scattering of production sites is partly the legacy of history, as Airbus is the outcome of a merger among several national companies. However, for mergers to enhance efficiency some restructuring has to take place, and one may believe that nationalistic considerations have slowed it and contributed to maintain too many of the initial production sites in operation.
>
> Boeing's production is also scattered across several sites; however, most of these are in the United States. Most importantly, Boeing's dispersion reflects efficiency considerations such as comparative advantage and the international division of labour, rather than political economy considerations. For example, part of the new 787 will be manufactured in Australia and Canada, two countries that have no significant stake in Boeing.
>
> [a] According to our own computations, as of the end of 2004, other than publicly traded shares (i.e. those that are bought and sold by various shareholders on the stock market), the distribution of ownership was as follows: France 33.2, Germany 33.2, the UK 27.5, and Spain 6 percent. As can be seen from Table 6.1, the distribution of ownership closely matches that of employment.
>
> Source: Wikipedia, http://en.wikipedia.org/wiki/Airbus#Workforce_by_sites

European economic nationalism. We now discuss the various forms of nationalistic interventions in greater detail.

2.1 Influencing the location of firms

Both local and national governments often offer subsidies or other forms of exceptional conditions (such as providing infrastructure) to convince foreign firms to locate in their jurisdiction rather than elsewhere. There are many examples of such behaviour, such as bidding for the Olympic Games, lobbying to attract large international projects, and so on. The nationalist bids for location of large investment projects has often led to costly compromises, like the dispersion of Airbus's production sites across countries and the cyclical motion of the European Parliament between Brussels and Strasbourg, with a staff mostly located in Luxembourg (see Boxes 6.1 and 6.2).

2.2 Influencing control

than the application of well-defined rules. In the context of the Single Market, that is not surprising: "nationalistic" rules would appear discriminatory and be challenged by the European Commission. Instead of having such rules, governments endorse the EU non-discriminatory rules. Governments commit themselves not to discriminate and in exchange for that they benefit from a similar commitment from other member states. At the margin of those rules, however, governments have an incentive to behave opportunistically and circumvent the rules to pursue their own nationalistic interest, while insisting that the rules be enforced by other countries.

Economic nationalism may take several forms depending on its motivations. It may be proactive (subsidies, nationalisation, political influence etc.) or defensive (blocking a transnational merger). It can affect productive decisions (subsidies for locating a plant in a specific area) as well as control (maintaining a hard core of domestic shareholders). It can be enacted by a national or a local government, and there are also instances of pan-

Governments often try to make sure that the leading firm in a sector is nationally-owned. Thus, they sometimes block acquisitions of domestic firms by foreign firms and sometimes support acquisitions of foreign firms by domestic firms. Recent examples abound:

- The French government recently stepped in to prevent the Italian utility company Enel from taking over a private banking group that had diversified into the sectors of water and utility, Suez. The government instructed the national gas monopoly, Gaz de France, to merge with Suez, thus resulting in the partial privatisation of Gaz de France and the partial nationalisation of Suez.
- Also recently, the Italian government pressured Telecom Italia not to sell its mobile phone subsidiary,[1] on the grounds that it is the only Italian-owned mobile phone operator in the country.

[1] According to Reuters, Sep. 11 2006, "Italian newspapers said (…) that the British buyout firms Apax Partners and Permira, as well as the Texas Pacific Group, an American firm, were considering bids."

Table 6.1
Distribution of Airbus workforce among different locations

	Workforce	Percentage of total workforce
A. FRANCE	**19 400**	**38.9**
Toulouse	14 100	28.4
Saint-Nazaire	2 200	4.5
Nantes	1 900	3.8
Albert	1 100	1.1
B. GERMANY	**18 400**	**37.0**
Hamburg	11 200	22.5
Bremen	3 050	6.1
Nordenham	2 100	4.2
Varel	1 200	2.4
Laupheim	900	1.8
C. UNITED KINGDOM	**8 700**	**17.5**
Bristol	4 400	8.8
Broughton	4 300	8.7
D. SPAIN	**2 700**	**5.5**
Madrid	2 200	4.5
Cadiz	500	1.0
E. OTHER	505	1.0
Washington, DC, USA	165	0.3
Wichita, USA	140	0.3
Miami, USA	100	0.2
Beijing, China	100	0.2

Source: Wikipedia, http://en.wikipedia.org/wiki/Airbus#Workforce_by_sites

- The US Congress blocked the acquisition of US ports by the state-owned Dubai Ports (DP World) on the grounds that it could be a threat to national security.

Other examples are provided at the end of Section 4.

2.3 Political intervention to obtain contracts

In some sectors, such as those involving oil concessions or weapons, politicians often intervene to secure contracts for a national industry. They can pay for these contracts in the form of support for the client government in foreign policy circles. This mechanism can also be a channel of indirect state aid, especially in contexts like that of the Single Market where it has to be authorised by the European Commission: a government can lend money to a foreign government in exchange for a bona fide agreement that the latter will purchase goods and services from domestic firms. There is also a local bias in the allocation of procurement contracts, as politicians typically believe they can increase their votes by picking local companies.

2.4 State aid

Many European countries have a long tradition of subsidising "national champions", be it in the high-tech industry, banking or in declining sectors. Again, these subsidies are discretionary, in that the government picks a number of "winners" and pays for their losses, rather than subsidise an industry, product, activity, or factor of production as a whole. It is usually observed that such state aid is very difficult to remove politically when it appears that the subsidised firm is not successful. An archetypal example is the French computer manufacturer Bull, which in 2002 lost 500 million euros out of a total turnover of 1500 millions and cost the French taxpayer 2 billion euros in just a decade. In many cases, big firms are supported by the government because they are "too big to fail". However, subsidies also seem hard to eliminate for smaller firms like Bull.

2.5 State ownership

State ownership is no longer popular, but has long been an instrument of economic nationalism. Economically, state ownership may be justified in case of market failures, like the existence of a "natural monopoly", due to increasing returns to scale, although many economists tend to believe that such sectors are better regulated, as the lack of incentives of state monopolies tends to generate larger inefficiencies than increasing returns to scale.

2.6 Influencing standards

Nationalism may also arise when setting international standards. A country may boost the value of domestically generated patents by imposing its own standards. Many historical examples abound. For example, in the domain of colour TV, the French standard SECAM competed with the German PAL and the US NTSC. Because the two latter were widely in use, France did not manage to impose SECAM on but a handful of countries. In more recent years the EU has also tried to impose standards developed in Europe rather than elsewhere. It was successful with the GSM mobile phone standard but less so in high definition television (HDTV).

3. Motivations of economic nationalism

In this section we discuss the economic arguments that may explain the rise of economic nationalism, coming

from either benevolent governments trying to maximise the welfare of domestic citizens or politicians driven by private concerns.

3.1 National security

As exemplified by the above-mentioned Dubai Ports case, one argument in favour of nationalistic intervention is that some sectors are "strategic" in the sense that their activity has some impact on national interests beyond the economic sphere. This argument has been used by France to shield a number of sectors from foreign takeovers, by requiring government approval. These sectors are listed in Box 6.3.

It is not clear why national ownership of a sensitive sector should increase national security. If the goal is to prevent some undesirable activities from taking place within that sector – for example, the reason that was invoked for the inclusion of casinos as a strategic sector was money laundering – then one can simply ban or regulate these activities. There is no reason why a foreign private owner would have more incentives to engage in these activities than a national, private owner.

The general economic point here is that money is odourless, and that foreign owners would (and should) maximise profits just like domestic ones, and thus make the same decisions. However, one could conceive of foreign takeovers with undesirable, non-economic effects. What if a hostile, foreign government takes over a weapons manufacturer to buttress a programme of weapons of mass destruction, or accumulates treasury bills in order to massively dump them on the market some day in order to brutally disrupt the economy? Our answer to that question is that "hostile" governments should be clearly defined by a parliamentary bill, in the spirit of the restric-

tions imposed by the US Congress on some countries. Otherwise, defining strategic sectors and imposing government approval for any takeover in these sectors will favour discretionary behaviour by the government to please domestic lobbies and/or to derive private rents by manipulating the structure of corporate ownership. Furthermore, to the extent that the EU is a club of countries sharing the same values, with some degree of political integration, blocking a takeover from another member state on the grounds that it threatens national security is dubious to say the least.

3.2 Adequacy

Another issue is that domestic firms can be bought by, say, foreign state-owned firms, and be poorly managed because such firms would not maximise shareholder value but pursue other objectives instead. This indeed is a non-trivial issue. In some sense, if it is *known beforehand* that an economic agent is going to perform an inefficient action, it is always valuable for authorities to block that action. This argument holds regardless of the type of agent involved, whether it is a firm or an administration, private or public, domestic or foreign. Thus, it is not a case of nationalism; rather, it is a case of *paternalism* – that is prior government approval of private transactions on the ground that agents may not be qualified to perform them. Although there may be grounds for some degree of paternalism (think of governments certifying the skills of a medical doctor or an architect), in many cases, it is impossible to tell in the first place how well a firm's new owners are going to do. We only know that selection and competition eventually prevail, ensuring that markets eliminate poor strategies. Thus, it is generally best not to interfere with property rights and to let markets punish bad management.

Furthermore, the case for intervention is probably *weaker* when it is a foreign, inefficient entity that is trying to buy a more efficient domestic firm than when it is a domestic, inefficient one. A poorly managed foreign firm has to pay domestic shareholders at least the initial market value of the firm, since that initial value reflects the profit stream generated by the incumbent management. Therefore, the original shareholders cannot be worse off, and all the losses generated by the new, inefficient management are borne by the new

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Box 6.3

"Strategic sectors" in France

By decree of March 7 2003, the French government has defined a number of "sensitive sectors" where foreign direct investment is subject to prior approval by the government. These sectors are:

- casinos
- security activity
- biotechnology, antidotes
- communication interception material
- computer systems safety
- "dual technology", i.e. any civilian technology with potential military applications
- cryptology
- defence and weapons

Source: Deloitte Finance, January 2006.

foreign owners. Since their welfare is not taken into account by the domestic government, it should be less worried than if it were a domestic, inefficient firm that tries to purchase a more efficient one. What about the domestic workers? They may indeed suffer from such inefficient management, but only to the extent that domestic labour markets do not work properly. Otherwise, they are paid the equilibrium wage and if, say, mismanagement leads them to inefficiently lose their job at that firm, they can be expected to find another job at the same market wage. As long as the firm's owners pay market prices for all their inputs, they bear the financial consequences of their choices. And, again, the issue is not particularly associated with the entity being foreign.

To conclude: While the issue of whether governments should intervene to correct mistakes by individual agents is complex and beyond the scope of this chapter, there is no presumption that such interventions are more warranted in the case of foreign residents than in the case of domestic ones.

3.3 Preserving employment

Another, oft-invoked reason is the goal of preserving or fostering employment. Here, interventions may take different forms. One may subsidise declining industries to prevent job destruction, for example, or block a foreign takeover on the grounds that foreign owners will be less sensitive to the goal of preserving employment.[2] (That may be especially relevant if the government can pressure domestic owners to take it into account; on the other hand, the argument would not apply if a domestic owner would only maximise profits, just like a foreign owner.)

While this necessity may sound obvious to the layman, it is not necessarily obvious why employment should be an objective. If the labour market is functioning properly, there will be an equilibrium level of unemployment that reflects the frictions involved in the process of matching jobs and workers. A voluntary policy of creating jobs will interfere with that process in an inefficient way. Some workers will be diverted to the new jobs while their social value would have been greater looking for a more productive job elsewhere. At the same time, the new jobs will make the labour market tighter, thus raising wage pressure in other firms, which will inefficiently destroy some socially productive jobs.

In practice, we know that labour markets in Europe are heavily distorted, with persistent unemployment and long unemployment spells. Improving the labour market is then a legitimate goal, which has been discussed in several previous EEAG reports.[3] However, the tools of economic nationalism are likely to be inappropriate, and often ineffective, in addressing labour market issues. For example, if unemployment is too high because of a binding minimum wage, then subsidising firms in declining industries may positively contribute to national welfare. The reason is that firms tend to destroy too many jobs, relative to the social optimum, as the minimum wage creates a wedge between the private cost of labour and its social cost. But it is much more efficient to abolish the minimum wage, while replacing it, if needed, by a less distorting redistributive tool. Barring such an option, to subsidise firms in an efficient way, one would have to subsidise employment uniformly, by giving to each firm an amount equal to the wedge for each of its employed. The cost of such a policy is huge, and since it has to be financed by a tax levied on consumers, which reduces their purchasing power, it is no more than an indirect, burdensome way of reducing the minimum wage.

In many other cases, nationalist policies will fail to create jobs in the medium run. The reason is that unemployment will only be temporarily affected by temporary spurts of job creation (like those generated by the building of a factory) and tend to return to its equilibrium rate, which is determined by the institutional characteristics of the labour market.[4] Furthermore, repeated discretionary interventions may weaken the public's perception that fundamental labour market reform is needed, and therefore the government's incentive to address the roots of the problem.

3.4 Poles and externalities

It has long been recognised that there are agglomeration externalities in the location of economic activity. That is, under certain parameters, a firm is more productive if it locates where economic activity is high.[5] The benefits are numerous: denser markets, access to services that are not available elsewhere, cheaper or better public infrastructures, and so on. Hence, economic activity is concentrated in "poles" like big cities. Within a given economy, there is a substantial degree of arbitrariness and path dependence in the formation of such poles. A region

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[2] A notorious example is the closing by Renault, a partially state-owned French automotive manufacturer famous for its social concerns, of its Belgian plant at Vilvoorde. At that time it was pointed out in the press that these concerns did not seem to apply to foreign employees.

[3] See, in particular, EEAG (2002) Chapter 6, EEAG (2004) Chapters 2 and 3, and EEAG (2005) Chapters 2 and 3.
[4] See also Section 4 in Chapter 4 for an analysis of how labour market institutions determine equilibrium unemployment in the context of the Scandinavian economies.
[5] See, for example, Scitovsky (1954), Caballero and Lyons (1990) and Krugman (1991).

may develop into the economic centre (or "core") of an economy for historical reasons and keep that status long after those reasons have disappeared.

Do residents of a region have an interest in living in the economic "core" rather than the periphery? The answer is a qualified yes. To the extent that one is more productive in the "core", this guarantees higher living standards, which creates an interest in attracting economic activity in a given place. Otherwise, workers receive lower wages and they would have to move to the core to get the corresponding wage. Since moving is costly, it is better for a region to evolve into a core rather than a periphery. On the other hand, if agglomeration has costs like pollution, congestion and high land prices, this may induce less skilled people (or people with less big city marketable skills) to stay in the periphery.

Furthermore, the location of headquarters of a firm matters because headquarters create agglomeration effects in terms of the depth of the market for highly qualified labour and business services in general, and are a magnet for the location of more headquarters. Regions are therefore prepared to subsidise the location of new headquarters (see Strauss-Kahn and Vives 2005 for US evidence.) The location of headquarters also matters since proximity is relevant for the protection of the interests of the different stakeholders in a firm, such as workers, suppliers, small shareholders and local communities. An implication is that in a downturn a firm may seek to minimise staff cuts in its country of origin.[6]

When several economies integrate into a single market, one may observe shifts in the regional distribution of economic activity. Some firms may leave a pole for a more efficient location, since they can now freely sell their output within the single market regardless of where they are located. This generates an incentive for nationally elected politicians to stimulate the presence of economic activity in their territory.

Note that this argument only goes so far as to say that there is a value in attracting firms in a given place. This argument holds regardless of who owns these firms, and does not say much about which industries should be favoured – typically, those which generate these "agglomeration externalities", which may be quite different from the "strategic sectors", usually referred to when governments subsidise domestic business.

Another type of effects is learning externalities, which are usually invoked to justify subsidies to infant indus-

tries.[7] Here the argument is that the more one produces of a good, the more one accumulates knowledge in the corresponding technology. Therefore, a country is more productive in a given sector, the greater that country's total cumulative output in that sector was in the past. Subsidising an infant industry, which is originally not competitive, may thus help it survive once enough experience has been accumulated. In principle, the industry can then live without the subsidies. This argument is probably valid empirically, and explains why patterns of specialisation tend to be self-reinforcing – that is, there is no particular reason why Switzerland should produce clocks and Germany optical instruments other than the fact that these countries accumulated a lot of experience in these sectors in the past. The question is: Does this justify state intervention to favour a given sector? Typically, one observes subsidies to either declining industries, so as to "preserve jobs", or nascent "high tech industry", to have a national leader in these sectors. The economic value of forcing an economy to channel resources to "high tech" sectors is however unclear. If the learning potential there is high, specialising in such industries may help achieve faster growth. On the other hand, that process is associated with a rapid fall in the relative price of the good, which may harm GDP growth even though growth in "physical terms" is faster. For example, semiconductors are certainly a high tech sector, but their price has fallen so rapidly that it is probably not a good idea to distort specialisation toward that sector, rather than, say, having a strong tourism industry. Indeed, such terms-of-trade effects seem important in the case of Finland and Sweden due to these countries' specialisation on ICT products, the relative price of which have been falling. This is discussed in more detail in Section 3 of Chapter 4 on the Scandinavian model in this report.

Finally, these externalities should not be mixed with pure "pecuniary" externalities, that is the effects of greater demand for goods and services. While these externalities exist and may have to be taken into account, they seldom justify nationalistic interventions. We further discuss their role in Section 4 below.

3.5 Beggar-thy-neighbour policy and exerting monopoly power abroad: the transfer effect

The transfer effect arises from the fact that even a national government trying to maximise the welfare of domestic citizens does not take into account the welfare of foreign residents. Such a government will object to a

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[6] See again footnote 2 in this chapter.

[7] See Krugman (1987) and Lucas (1988).

domestic firm charging monopoly prices at home, because monopoly profits are a transfer between domestic residents (from consumers to shareholders), while the excess price charged by the monopoly is a distortion that harms consumers. However, domestic residents benefit from a national firm charging monopoly prices abroad because they are not likely to care about the losses to foreign consumers. Therefore, a national government acting in the interest of national residents may want to promote monopoly for its national firms abroad but competition between them at home. Finally, such a government is likely to perceive it as the worst case if a foreign firm operates at home with monopoly power, as the monopoly profits are transferred abroad.

A social planner acting at a higher level (say the EU level) would take into account the welfare of foreign consumers and try to block nationalistic policies aimed at buttressing national champions' monopoly power abroad. Conversely, a benevolent social planner at the national level is willing to spend more resources on blocking foreigners from extracting monopoly profits from national consumers than an EU-wide social planner. The national residents' losses from monopoly pricing are equal to the full amount of profits transferred abroad, while a higher-level social planner would only take into account the distortions due to the fact that monopoly pricing leads to a suboptimally low consumption of the good.

We can think of a number of examples where this transfer effect leads, under certain circumstances, to nationalistic policies – especially in the context of a pan-European move to deregulate markets that were initially controlled by a handful of often state-owned domestic firms.

- The transfer effect may sometimes induce unilateral deregulation: a country may want to deregulate unilaterally if it leads to perfect competition in its domestic markets. By doing so, it eliminates monopoly rents at home while still being able to reap any monopoly rents from its domestic firms with sales abroad. This is an example where nationalistic policy is also the one which goes in the direction of greater economic efficiency.
- However, if deregulation leads to less than perfect competition, as is usually the case, the conclusion is easily reversed. The reason is that in the initial, regulated situation there are only a few national firms in the market that share oligopoly profits and transfer them to their owners who are national residents. When foreign firms enter the market, some monopoly

rents will be transferred abroad, thus harming domestic residents. This effect creates an incentive to block deregulation at home. At the same time, the national government may push for deregulation abroad to the extent that it allows its domestic firms to enter these markets and transfer monopoly rents to the home economy.

When do we expect a government to opt for deregulation? That would be the case if its firms in the relevant sector have some cost advantage compared to their foreign competitors. It is then in the interest of the government to push for deregulation both at home and abroad because domestic firms are likely to conquer foreign markets, while foreign monopolies are unlikely to make it to the national market.[8] Conversely, if the national industry is less efficient than its competitors, the government will be more likely to block deregulation, while still trying its best to enter foreign markets. That incentive may be particularly strong if there is a first mover advantage in conquering market shares, for example, if it is costly for customers to change their suppliers or if those who produce earlier move down their learning curve, thus accumulating a cost advantage over future competitors.

Another potential explanation of economic patriotism can be found in sectors where economies of scale and size are important because of network or learning effects, increased bargaining power in international input markets, or increased financial muscle. In those sectors, if there are asymmetries among countries in terms of their ability to merge their firms to create national champions, countries and firms will have incentives to obtain a first mover advantage by forming a national champion that will consolidate as an European or global champion once the European market integrates. The benefits of such a champion will be enjoyed by the country in terms of the local external effects of headquarters and the reaping of monopoly profits from abroad (the transfer effect). Public ownership introduces another asymmetry because state-owned firms or firms in which a government keeps a golden share are protected from foreign raiders. Still another asymmetry may arise in terms of the differential lobbying capacity in Brussels of firms and countries according to size. Indeed, the weight of large European firms and countries (such as France, Germany or Italy) may make a large difference. In short, regulatory and ownership asymmetries provide incentives to move first

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[8] Foreign entrants may in fact limit the ability of a dominant domestic firm to charge monopoly prices by compelling it to charge a "limit price" equal to their cost. In such a case foreign firms get no monopoly profits from operating in the domestic economy but exert price discipline on the dominant firm, which benefits domestic consumers.

to take positions for an enlarged market while keeping barriers at home. The recent turmoil in the energy sector may be related to this potential explanation. Things are more complex when one considers the *acquisition* of a national champion. The transfer effect does not explain per se why one might want to block foreign acquisition of national champions. It is true that these champions' profits would then be exported. But they should be reflected in the market price paid by the buyer, so that there is no transfer abroad in net present value terms. The acquisition is then simply a financial swap, which has a neutral effect on the international distribution of welfare. But the analysis is more complicated if the acquisition leads to a change in prices because consumers are then affected. For example, a well-managed national public monopoly will charge lower prices than a private monopoly, reflecting its concern for the consumers' welfare. If upon deregulation, for example, a national public monopoly is bought by a foreign firm and remains a monopoly, the price will rise. The share prices compensate the domestic taxpayers for the profits transferred abroad but the domestic consumers are not compensated for the higher prices.

The row between France and Italy over the acquisitions of Electricité de France in 2003 illustrates the reluctance of national governments to engage in reciprocal deregulation (Box 6.4).

Another area where the transfer effect may lead to economic nationalism is that of intellectual property. Patents owned by domestic firms increase their ability to obtain monopoly rents from the rest of the world. With respect to patents held by foreign firms, rents are transferred in the opposite direction. The consequences are threefold:

- A national government can lobby to impose its own technological standards upon the rest of the world, thus artificially raising demand for goods with domestic patents. It may keep its own standard instead of a more efficient or more widely used international one. This leads to inefficiencies in the nature and/or number of standards.
- A national government has an incentive not to recognise foreign patents and copyright, while at the same time lobbying aggressively for foreign recognition of its own patents.
- There may be excess investment in R&D, as the outcome of inefficient patent races. These inefficiencies arise because firms fail to internalise the part of their profits that comes from customers poached from their competitors (the business stealing effect). Furthermore, their R&D efforts may be redundant if their competitors work toward the same innovation. This phenomenon may lead to nationalistic interventions to the extent that the patent race is international and the research publicly funded. At the European level, one may indeed cite examples of research projects (such as Galileo or Quaero)[9] that seem inefficient on the grounds that they aim at duplicating innovations that already exist, with the only difference that intellectual property rights would be European.

How can one reduce the incentives to pursue these inefficient policies? An obvious answer may be to coordinate policies across countries. That is indeed what the EU, under the impulse of the Commission, has been trying to do since the inception of the Single Market, in particular by promoting policies such as deregulation and directives that prevent a country from discriminating against other member states in their access to its domestic market. Such policies reduce the level of monopoly rents and therefore the size of the transfers that can be extracted from foreign countries. They also create a level playing field at the European level

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Box 6.4

Electricité de France in Italy

The saga of Electricité de France (EDF) investments in Italy illustrates how nationalistic motivations may lead to a war of attrition in the game of opening one's market to foreign competitors.

In May 2001, EDF started acquiring shares in the Italian electricity company Montedison. The move took place in a context where electricity markets were gradually opening to takeovers and foreign competition in Italy, while EDF remained a state monopoly in France. This situation gave EDF an edge in pre-empting market shares for the future liberalised energy market, while Italian firms could not make a symmetrical move by investing in France.

The Italians retaliated by passing a law that limited EDF's voting rights to 2 percent, despite the fact that it had acquired 4 percent of the shares. That provision was subsequently used by the Italians to bargain with the French government over the opening of the French market: The provision limiting EDF's voting rights in Italy would be lifted in exchange for an access of the Italian company Enel to the French energy market. However, the recent counter-move by the French government to block the acquisition of Suez by Enel, by sponsoring a merger between Suez and Gaz de France, suggests that commitment was not very credible.

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[9] Galileo is a European competitor to the US-American GPS positioning system, while Quaero is a web search engine project sponsored by the French and German governments. Note that Galileo may be defended on the grounds of national security concerns.

that prevents national governments from preserving their champions' monopoly rents at home while bidding for oligopoly rents abroad. But that strategy is not without shortcomings. Implementation and enforcement of such directives remain in the hands of national governments. Individual countries may want to delay implementation in order to benefit from the transfer effect as long as possible. As a consequence, an inefficient war of attrition arises. Also, countries whose national champions are inefficient and likely to be eliminated may resist such policies, despite coordination, since they will transfer monopoly rents abroad but not receive any in compensation.[10] In some sense, one has to compensate these countries. An obvious suggestion is to synchronise the reform with another one (say deregulation of a sector where these countries have a comparative advantage) from which they can benefit.

3.6 Political economy and private rents

The preceding discussion analysed the extent to which economic nationalism may be beneficial to the welfare of a nation as a whole. In addition to that, nationalistic policies may benefit politicians – and, more generally, the elite – to the extent that private rents can be derived from it. These rents may take several forms:

- Buying a political clientele in order to be re-elected
- Investing in symbolic, visible projects in order to enhance one's own prestige (hosting the Olympic Games, building the largest library or cathedral ever, etc.)
- Distributing rents within networks of friends ("crony capitalism")
- The revolving door (for example, E.On in Germany has on its payroll the former Chancellor, the former Minister for Economics, and the former Secretary of State for Energy)
- Undercover finance of political parties in exchange of favours. To achieve that goal, many techniques are available and some of them – as extracting a bribe from procurement contracts – are not necessarily nationalistic in nature. However, there clearly is scope for an incumbent government to use state-owned firms for political financing, and this option would be much less convenient should these firms be private and/or foreign-owned.[11]

These motivations generate different kinds of biases. The political clientele motivation may induce governments to

resist deregulation and openness to foreign competition to the extent that they use public services providers and the like to manipulate the price system in favour of selected groups of voters. Hence, for example, the pricing policy of a public firm may involve an implicit subsidy to these groups. If competitors were allowed to enter, they could soak other groups out of the firms' customer base; the firm would eventually remain only with its subsidised customers, and thus incur losses. In the end, the subsidy would have to be removed, which would be detrimental to the politicians.

The network motivation induces the élite to retain control of a number of firms, which allows them to exchange benefits in the form of board seats or stock options. As argued below, this probably comes at the expense of good governance and competitiveness, which means that a takeover of a firm controlled by the network by an outsider would enhance efficiency. To the extent that such a takeover threatens the rents accruing to the network, and that outsiders are likely to come from abroad, the network has an interest in lobbying for nationalistic policies which would block such a move (see again Box 6.4).[12]

4. The economic costs of nationalism

While the preceding section has analysed the potential causes of nationalistic policies, we now study in greater detail the nature of the economic costs it imposes on society. We study five different aspects of these costs: Sectoral diversion of resources, lack of market discipline and poor corporate governance, productive inefficiency at the firm level, distortions in competition, and coordination failures.

4.1 Sectoral diversion of resources

The most obvious cost of nationalistic policies is that they often divert resources from more to less socially profitable activities. That is especially true of policies that aim at promoting "poles" and taking advantage of externalities in contexts where these externalities are in

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[10] Clearly, that is likely to happen if their national producer is not too inefficient. Otherwise, the efficiency gains to domestic consumers from switching to foreign suppliers will exceed the monopoly rent transferred abroad.

[11] The evidence on such activities is scarce, given the incentives to hide evidence and block investigations. However, this possibility has been at least considered in the French "Taiwan fregates" scandal. In this complex case, the French national champion Thomson had sold warships to Taiwan. A number of intermediaries, several of them close to prominent politicians, had received bribes. The suspicion that part of these bribes were transferred to the Socialist Party was voiced. Another characteristic of illegal party financing scandals is that parties opposed on the political spectrum often collude (see e.g. Pujadas and Rhodes 1999).
[12] To be sure, the network can also defend its rents while bypassing the government, for example, by playing on the seniority structure of shares. The point here is that the existence of rents creates incentives to support nationalistic policies.

fact poorly understood. A typical example is the Olympic Games, often presented as being good for the economy in terms of GDP and job creation. Although direct economic "benefits" are documented, substantial controversy remains.[13] The studies usually ignore the alternative use of the resources that are channelled into the production of the Games. If one were to take this into account, the conclusion is that organising the Olympic Games is probably inferior to spending the same amount of money on more useful public goods (health, education, roads, housing projects etc.).[14]

The key point here is that one has to distinguish between any true externality generated by a project (environment, learning etc.), as discussed above, and pure pecuniary externalities that consist in boosting economic activity thanks to sheer spending. The latter is desirable only to the extent that economic activity is believed to be inefficiently low, which may be true because there is insufficient competition in goods markets, rigidities in the labour market, or because the economy is in a temporary slump. Otherwise, people are artificially induced to work too hard or in the wrong sectors. Furthermore, even if stimulating activity is desirable, that does not imply that one should forget about the economic benefits of a project: the socially most profitable projects should still come first.

4.2 Lack of market discipline and poor corporate governance

A number of aspects of economic nationalism are detrimental to an efficient allocation of resources as they weaken market discipline, thus reducing incentives at all levels of a hierarchy. This problem arises not only for firms that are partly or totally owned by the state, but also, more generally, for firms that receive state aid or private firms whose management is controlled by networks of influence rather than shareholder democracy.

A firm that receives state aid has little interest in cutting costs and in improving product quality, as losses are expected to be offset by the government. The firm's managers will have little incentive to rationalise production processes, to recruit workers adequately, to resist pressure for wage increases and to innovate. If managers' political connections are strong enough, they also face little threat of being dismissed for poor per-

formance. Or their perceived cost for being dismissed may be small, as they can rely on their network of influence to find other prestigious and well-rewarded positions. On the other side, regulators have little incentives to enforce rules and issue warnings if they are members of the same networks as the CEOs of the firms they are supposed to supervise. As networks often reward their members by offering them positions in the private sector, civil servants face a conflict of interest between their own career concerns and their monitoring duties. Furthermore, if the state itself is a shareholder, it may assign to the firm goals that are motivated by politics rather than profitability. The government will then naturally be reluctant to retaliate against a CEO who fails to deliver adequate profits (see Box 6.5 on the Crédit Lyonnais scandal). In the case of a publicly listed company, which may potentially end up in the hands of foreigners, the government will be tempted to indirectly condone mistakes made by the management by buying the shares when disgruntled shareholders sell them, in order to preserve national ownership. (This is illustrated by Airbus's recent troubles, which are discussed in Box 6.6.).

Kramarz and Thesmar (2006) have documented and quantified the negative effect of crony capitalism on shareholder value in large French firms. These authors first find that the importance of the network of former civil servants in France is huge: more than 50 percent of the assets on the French stock market are managed by former top civil servants. Furthermore, the network is effective in securing positions for its members. The proportion of former civil servants who are graduates of the Ecole Nationale d'Administration in boards is 16 percent when their CEO graduated from that school, but only 6 percent otherwise. Similarly, the average proportion of former civil servants who graduated from Ecole Polytechnique in boards is 3 percent but goes up to 12 percent whenever the CEO is also a former civil servant who graduated from that school. Finally, and most interestingly, network members shelter themselves from market discipline: While the average CEO's probability of losing his or her job goes up by 4 percent when the return on assets falls by 6 percent, the effect is quantitatively and statistically insignificant for the members of the network. The authors also point out that network CEOs typically hold several directorships on other boards, which has a negative impact on rates of returns, and that stock markets react positively to acquisitions made by non-members but not to acquisitions made by members. This latter effect suggests that the market believes that the network members will not use the acquisition to exploit margins of increased profitability

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[13] See Berman et al. (2000), Hotchkiss et al. (2003) and Veraros et al. (2004).
[14] An exception is when the public goods cannot be provided otherwise because of political or institutional constraints and the Olympic Games provide the rallying point to do so.

Box 6.5

The Crédit Lyonnais scandal

The Crédit Lyonnais scandal illustrates a number of pitfalls of economic nationalism:

- The interference of politicians that leads to confusion between partisan goals and the goal of maximising shareholder value.
- The role of networks of influence and the private rents that are derived from them.
- The lack of market discipline, which leads to poor risk management.
- The likely inability of state ownership to prevent illicit activities from taking place.

In 1995, the French, state-owned banking giant Crédit Lyonnais was bailed out by the French government, which transferred all the bank's debt to an ad hoc company, "Consortium de Réalisation". The cost to the French taxpayer, depending on estimates, ranged from 10 to 30 billion euros, up to 2.5 percent of GDP at that time.

What happened? Under the leadership of Jean-Yves Haberer, a member of the French civil service elite, Crédit Lyonnais had pursued a policy of aggressive expansion, buying assets and making loans that turned out to be quite poor. Among the operations made, one example was a "major office block development in the northern French town of Lille that helped local politicians to regenerate the town but then proved difficult to let" [ERisk.com]. Indeed, Haberer's defence was that he was working in close cooperation with the French government "as he expanded the bank and preserved jobs in French industry by extending credit to shaky companies". Thus, political interference blurred any notion of risk/return management and led to an accumulation of projects that eventually threatened the company's solvency.

Another dubious operation involved the purchase of the US insurance company Executive Life, which, according to US authorities, was in violation of regulations. Yet another example is the 1987–1990 purchase of two film production studios – including the MGM studios – with Crédit Lyonnais funds by two Italian businessmen, Giancarlo Parretti and Florio Fiorini, who were both involved in financial scandals at that time. These businessmen managed to convince Crédit Lyonnais to repeatedly lend them large sums which vanished as MGM was forced into bankruptcy by its other creditors, following a liquidy crisis. This episode shows that state ownership did not prevent barely legal transactions from taking place. Quite the contrary, state involvement as the firm main shareholder creates a conflict of interest for those who have to enforce the law.[a]

[a] The criminal charges associated with the Crédit Lyonnais case are summarised at http://www.sgrm.com/art43.htm.

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in favour of shareholders but to redistribute private rents in favour of the network itself.

4.3 Productive inefficiency at the firm level

Another aspect of economic nationalism is that it imposes wrong choices on firms. A traditional example is the Concorde, which was a technological marvel valued as such by politicians, but which turned out to be a poor idea in terms of market potential, in part because of its design. In the case of Airbus, much more attention is being paid to the market, but, as Box 6.1 showed, the organisation of production is biased by political influence. The proliferation of production sites reduces productivity for several reasons. First, more resources have to be devoted to transportation and coordination. Second, some plants may be too small and not exploit economies of scale sufficiently. Third, some plants may be located in inadequate places that lack an appropriate supply of skilled workers, and of services and amenities required to attract top managers. This has an adverse impact on the quality and cost of the workforce.

4.4 Distortions in competition

State-supported companies also distort competition. If their creditors know that they will be supported by the state in case of losses, they have a lower risk of bank-ruptcy, and consequently will benefit from a lower cost of funds. This will give them an edge over their competitors, which may help eliminate them. As an example, the partly state-owned airline Airfrance has reached a 96 percent market share in the French domestic market, after eliminating a number of its rivals, despite the fact that these maintained lower prices.

In that respect, partial privatisation of a publicly owned firm does not bring many economic benefits, as long as the government retains a substantial minority stake. The incentives for public recapitalisation in case of financial troubles remain large, with the associated distortions in competition. The company may be used for other goals than shareholder value (accounting tricks to comply with public finance objectives,[15] overemployment for social purposes,[16] etc.).

Other distortions to competition may arise from the conflicts of interest that the state faces as a regulator, a law enforcer and a provider of public infrastructures, on the

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[15] In 1998 the French government "stole" the pension fund of the state-owned France Telecom in order to better meet the Maastricht criteria for monetary union (The Register, 30 Nov. 1998):
http://www.theregister.co.uk/1998/11/30/french_prepare_further_france_telecom/.
[16] An example, among many, is the recent French government interference in the decision by SOGERMA, a subsidiary of Airbus/EADS, to close a plant near Bordeaux in France. For details,
http://fr.news.yahoo.com/23052006/290/le-gouvernement-veut-une-solution-alternative-pour-la-sogerma.html.

Box 6.6

Nationalism and corporate governance at Airbus

As we have seen in Box 6.1, nationalistic concerns have distorted the production structure of Airbus to a substantial extent. The same is true for its governance structure, which has been repeatedly influenced by nationalism rather than economics. Initially, Airbus was a consortium of aerospace companies. When it was consolidated into a corporation, the French government intervened so as to retain the upper hand in the new parent company that was created, EADS. The trick was to make the French share bigger by forcing Aerospatiale, the French state-owned partner in Airbus, to merge with Matra, a French private defence and media company. This structure allowed for further discretionary interventions and anomalies. For example, the new company EADS had two CEOs: one German, one French. This clearly hampers the consistency and credibility of decisions, by replacing vision with constant bargaining between executives who presumably represent their own countries' governments' interests more than those of the other shareholders. The CEO position was finally unified, but, according to *The Economist* (9 Nov. 2006)*,* crony capitalism again came into play as the French presidency had a big influence on the appointment of the new CEO.

Most worryingly, when, after Airbus's recent troubles, the initial private owner of Matra sold his shares, these were actually bought by a French public savings-and-loans institution, the Caisse des Dépots et Consignations. That is, the French government, which induced the merger between Aérospatiale and Matra to keep French influence at critical levels, is now renationalising EADS in order to maintain that influence. Such discretionary behaviour clearly conveys the wrong signals to the managers, eventually putting them in the same situation as the managers of a pure publicly owned company that expects its losses to be bailed out by the taxpayers. By buying shares in order to preserve national ownership, the government is pushing their price above their true market value, thus damaging both the informational efficiency of financial markets and the incentives faced by managers.

tence of the national champion reallocates market shares away from foreign competitors, which reduces the speed at which they learn, and leads to duplication of R&D costs. Obviously, these two effects are very harmful for the world economy.

The available empirical studies of the effects of Airbus on world welfare highlight these effects, and tend to conclude that, if anything, there is a negative effect on world welfare. As Neven and Seabright (1995) point out, the main positive effect of Airbus on world welfare is that its entry increased competition in the aircraft market, thus reducing prices. However, the estimate is small, essentially because at the time of their study, there was a third participant (the American aircraft manufacturer McDonnel Douglas) in the market. To be sure, Boeing and McDonnel Douglas merged thereafter, but it is unclear that the merger would have taken place if Airbus had been absent from the market. As for European residents, they benefit from the transfer effect: Boeing's monopoly rents are reduced and transferred to Airbus. But European residents are also those who pay for Airbus's subsidies, which benefit consumers in the rest of the world. Finally, duplication of R&D costs and reduced learning effects at Boeing also tend to generate negative effects for world welfare. Neven and Seabright conclude that entry by Airbus has benefited European consumers (because of the transfer effect) but harmed world consumers as a whole (see Box 6.7). Clearly, the US government can be tempted to reverse the transfer effect by subsidising Boeing such that it expands its market share, which would eventually leave both US and European consumers worse off than if Airbus had not entered the market.

one hand, and as an owner of one of the competitors, on the other hand. In this case it is very difficult to believe that the regulator can maintain its independence.

4.5 Coordination failures

An obvious aspect of economic nationalism is that its potential benefits for an individual country are usually offset by the nationalistic policies of competing countries, while the costs in terms of distortions usually remain. Take, for example, the transfer effect. As argued above, each country has an incentive to delay its own deregulation, so as to benefit as long as possible from the transfer effect; in equilibrium, everybody delays deregulation, and the attempt to extract transfers from neighbouring countries therefore fails. The only effect that remains is that consumers pay a high monopoly price for too long, which harms everybody.

Similarly, consider the infant industry argument. Assume a country subsidises its firms in a given sector. If, at the same time, foreign countries subsidise their own national champions, the home country may end up unable to accumulate enough knowledge so as to compete with the rest of the world. The national champions will never become competitive, and one will never be able to remove the subsidies. Furthermore, the exis-

5. Will economic nationalism prevail?

Cross-border merger activity is gathering pace in Europe. 2005 and 2006 saw large value mergers or acquisitions such as Italy's Unicredit of Germany's HVB in the banking industry and France's Pernod Ricard of the UK's Allied Domecq in the food and drink sector. The pace of activity in utilities has been especially hectic: France's Suez has acquired Belgium's Electrabel and

> **Box 6.7**
>
> **Global effects of Airbus**
>
> In an influential study, Neven and Seabright (1995) calibrate a simple model of imperfect competition to estimate the effect of subsidies to Airbus on the welfare of consumers in Europe and elsewhere. They find only a small effect of Airbus's entry on prices: – 3.5 percent. The estimated profit loss for Boeing (in 1995) is 100 billion dollars, while Airbus's profits are around 50 billion dollars. As prices are only moderately lower, the bulk of the lost profits are not appropriated by consumers but dissipated in the form of duplicate fixed costs and lower productivity.

Suez in turn was solicited by Enel in 2006. E.On has launched a bid for Endesa in the energy sector. France Telecom has bought Spain's Amena and Telefónica (Spain) has acquired O_2 (UK). Cross-border mergers are an increasing proportion of the total, and activity within the EU15 is now the most important component of this trend, as stated in last year's EEAG report.

The wave of cross-border movements in Europe has aroused the protectionist instincts of some European governments. However, this does not necessarily mean that governments are succeeding in their attempts. In Italy, BBVA and ABN-Amro attempted to take over, respectively, BNL and Antonveneta, to find the former Governor of the Bank of Italy firmly opposed to the deals. BBVA had already had trouble before when trying to merge with Unicredito. But the Governor of the central bank was forced to resign and in the end BNL was acquired by BNP Paribas (itself an outcome of the triangular battle BNP–SG–Paribas that ended up in the merger BNP–Paribas because of the insistence of the French government on a "French" solution), and the Antonveneta bid eventually succeeded. At the same time, the Italian Unicredito bought the German HVB and Poland was attacked by Brussels when trying to put obstacles to the absorption of a Polish bank by the merged Unicredito and HVB. When E.On launched a bid for Spain's Endesa, solicited by the company to defend itself from Gas Natural of Spain, the Spanish government reacted by enlarging the powers of the energy regulator to potentially put obstacles to the German firm. However, pressure from Brussels has led Spain to backtrack on this route. Another instance where the protectionist reaction failed to deliver is the finally successful bid of the European steel producing champion, Arcelor, by India's Mittal.

Despite all this, protectionist reactions have had, at least, some partial success. When Spain's Abertis proposed a friendly merger with Italy's Autostrade (highway concessions), the Italian government, at the instigation of the Minister Di Pietro put up all kinds of obstacles, and former European leaders, like Prodi (president of the European Commission) or Padoa-Schioppa (member of the Executive Board of the ECB), could not resolve the situation. In essence, the Italian government changed the rules for highway concessions in the middle of the merger move, generating substantial material uncertainty about the future concession terms. At the end of 2006, Abertis and Autostrade postponed the deal until the regulation is clarified. For the moment, European Commission pressure has not been able to remove the obstacles to the deal. When Enel eyed Suez, French Prime Minister Dominique de Villepin reacted by proposing instead to merge Suez with the public GdF. France, in this case, seems to be getting its way: for example, the French government has been allowed by the European Commission to keep a golden share (a controlling stake) in a privatised GdF. A French solution was also found in the merger of Aventis with Sanofis in the pharmaceutical industry, and the French government preferred to take a 20 percent take in the ailing infrastructure provider, Alstom, rather than accept a partial takeover by Siemens. France has also passed a law allowing poison pills as a defence against takeovers.

The UK stands alone as a case of no restrictions to foreign acquisitions. Indeed, the paramount example is the City. The "big bang" opening London's financial market to competitition consolidated London as a leading international financial marketplace, but basically no investment banks from the UK were left.

Examples of foreign acquisition abound, like Telefonica and O_2 in telephony, Ferrovial and BAA (British Airport Authority), Banco Santander and Abbey, and the very recent move on Scottish Power by Iberdrola in the energy sector. Santander was able to acquire Abbey because the UK has an active competition policy and the antitrust authority blocked the takeover of Abbey by Lloyds TSB in 2001. In all these cases, as in the acquisitions of the utilities Powergen and Thames Water by the German RWE, the mergers have taken place in regulated sectors where a "public service and security of supply" concern is present. This open attitude should not be surprising. In regulated sectors, the national regulator is in control of the activities of the firm and can protect the interests of the local consumers.

In general, national governments and regulators have considerable leeway in affecting the profitability of reg-

ulated firms. If the industry has natural monopoly segments, like energy or transportation, the regulator will retain power over investment plans, rates and quality in the natural monopoly or bottleneck segment: transmission and distribution of electricity or the road in a highway concession. The impact on consumers or users of the bottleneck segment is therefore basically in the hands of the regulator. The government is responsible for having in place a regulatory framework that induces investment and the supply of quality at reasonable prices for users.

In industries with no natural monopoly segments, like banking, the role of competition policy authorities is more direct in making sure that the merged firm has no excessive market power. In summary, cross border mergers are on the rise despite the obstacles put up by national authorities because of the pressure from Brussels – in the banking sector Brussels now wants to limit the powers of central banks and national regulators to block foreign takeovers, for example – because of the discipline imposed by international capital markets on firms quoted in the stock market, and because of the fact that countries may fear retaliation if they shut their borders to cross border mergers.

6. What to do?

We are now in a position to discuss what can be done to address the challenges of economic nationalism. We essentially offer two prescriptions:

- Improving the effectiveness of competition policy by breeding more coordination and harmonisation of regulation.
- Phasing out the public ownership – whether it be full or partial – of all corporations that operate in a competitive environment

6.1 Coordinating competition policy

As stated in Section 1, our perspective is the welfare of European citizens. We have seen that even if national governments are benevolent in that they maximise the welfare of their own citizens, they can act so as to harm the welfare of the citizens of other EU countries. An example we have given above is how individual countries can attempt to delay deregulation at home, while benefiting from it abroad, which may lead to the deregulation process being stalled for everybody. As far as such discretionary nationalistic interventions are concerned, the existing apparatus of European competition policy

partially addresses these issues. Unfortunately, these tools are limited because of the different regulatory and ownership structures in different countries. European competition policy can control state aid and may be effective in checking support to national champions. It may also serve as an external commitment to not keep inefficient institutions in business. But it still cannot overcome regulatory barriers or limit the activities of state-owned firms except under the competition statutes. Regulatory asymmetries have to be overcome by harmonisation of regulation, coordination of regulators, and the establishment of European regulators. National regulators should be integrated, sector by sector, into a European system with common rules. In energy markets, for example, transmission (high-tension grid) and transport (pipelines) should be unbundled, because they are a natural monopoly and the control of this bottleneck by vertically integrated firms has high exclusionary potential. Interconnection capacity across boundaries should be managed at the European level since firms and national regulators may not have the right incentives to provide interconnection capacity across countries. In general, a European system of regulators may be a commitment device to avoid opportunism and resist political pressure. A step in the right direction is the recent move by Brussels to limit the leeway of central banks and national regulators to block foreign takeovers in the banking sector.

There is also a timing issue. Barriers in EU countries should be lifted simultaneously to avoid the strategic gaming and positioning of large firms and countries that follows from asymmetries. Indeed, a country that disarms and liberalises earlier than others puts the consumer first but may forego the opportunity to have some global enterprises, strong enough to compete in an integrated market. Such enterprises may give rise to positive local spillovers in the national economy and capture rents abroad. A piecemeal approach to liberalisation, with it taking place at different speeds in different countries, implies that large firms can use their lobbying capacity to enlarge and consolidate positions in the wake of market integration in regulated sectors. Those positions may entail a first mover advantage in the presence of scale and networks economies.

Still another danger is for Brussels to support pan-European champions that later end up effectively protected from closure. As we argued in our 2006 EEAG report, the political economy of European champions may imply that the powers of European competition policy, with the present institutional structure, are very limited to deal with those cases. This is one instance

where global coordination of competition policies may help.

6.2 Fixing the state ownership issue

Distortions introduced by state-owned firms cannot be addressed exclusively with competition policy. This is so because public firms distort the market for corporate control, and therefore industry restructuring, in a fundamental way. Our discussion suggests that one should seriously consider introducing a European rule which would severely restrict indefinite public ownership or even partial such ownership of corporations. In this chapter, we do not take a stand on the desirability of state monopolies. Although policymakers have been increasingly aware of their costs, there are traditional economic arguments in their favour. For example, a state monopoly can provide a public good that would be underprovided by the market,[17] or set prices efficiently under increasing returns to scale (in this situation, a private monopoly would arise under laissez-faire, and prices would be too high).[18] These arguments are now viewed as weak in light of the poor performance of state monopolies in terms of cost-cutting and innovation – it is indeed that scepticism that has led to the waves of deregulations that Europe has experienced since the 1980s. But these arguments nevertheless have some economic legitimacy. On the other hand, there is no good reason why there should be a grey area where fully or partially publicly owned firms compete on equal grounds with their private counterparts. Such a situation leads to the distortions that we have documented above. But, as we have seen, there are a number of bad reasons why such situations arise. Government support for economic activity should be based on well-identified market failures. These failures are market-specific, not firm-specific. The most appropriate interventions are therefore non-discriminatory taxes and subsidies, not public ownership of a subset of the market participants.

While our proposal to radically restrict public ownership in competitive environments may sound revolutionary, our analysis suggests that its implementation would go a long way toward eliminating the incentives for harmful nationalistic intervention. Indeed, most of the remaining public ownership nowadays is a remnant of the past that persisted for no good economic reason. There is no talk of increasing public ownership any-

where in the developed world. It would be welcome to conclude this disengagement process and to implement an EU regulation restricting governments from owning corporations. Such a rule would not be shockingly intrusive in light of other EU interventions in national policies, for which the economic justifications are not so clear.

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[17] In such a case the firm is little different from an administrative service, and the use of the corporate form may be dictated by considerations alien to this chapter's focus, such as the need to bypass the rules of public accounting, etc.
[18] See Dupuit (1849, 1851), Allais (1964), Boiteux (1956), Guesnerie (1975) and Laffont (1988).