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The EEAG Report

on the European Economy

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Blurring the Borders

Macroeconomic Outlook
The European Energy Conundrum
European Regional Disparity
Migration in the European Union

EEAG European Economic Advisory Group @ CESifo

The EEAG Report

on the European Economy

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Foreword

Buoyed by the uptick in the world economy, the performance of the euro area continued to improve somewhat during 2014. However, it remains weak, with discrepancies across EU member states where political uncertainties and economic rigidities persist. The government bond purchases by the European Central Bank now give new hope for southern Europe and France, as it may well depreciate the euro and help overcome their competitive crises, inflating Germany and other northern euro countries in the process.

Like its predecessors, this year's report by the European Economic Advisory Group at CESifo (EEAG), the fourteenth in the series, identifies some fields that need to be tackled to both strengthen the Eurozone and accelerate the European integration process. In this respect, the report's title – "Blurring the Borders" – highlights three border-related issues that have recently gained prominence on the political agenda and that are analysed from an economic point of view: the energy strategy, regional disparity, and migration.

While the EU integration process has seen national boundaries become ever blurrier over the years, this has not been the case in energy supply. Chapter 2 makes the case for thinking about energy policies not in terms of energy markets defined by national borders, but of the EU as an integral, unified market, for the sake both of economic rationality and security of supply.

The progressive blurring of boundaries has also seen a backlash of sorts: during the crisis, national borders re-emerged as a significant determinant of regional development within Europe, an issue we discuss in Chapter 3, with a call for European policies that achieve regional promotion with cross-regional structural funds.

Lastly, the precarious situation in some countries triggered by the crisis and the increased migration flows resulting from the EU's Eastern enlargement have propelled migration to the forefront of public debate. Our contribution to this debate can be found in Chapter 4, with a pitch to decouple welfare claims from national states and promote contribution-based social insurance systems.

As always, the Report also contains a thorough analysis of the economic situation of the EU and other countries around the world, together with a forecast for the coming year.

The EEAG, which is collectively responsible for all parts of the report, consists of a team of six economists from five countries. This year the Group is chaired by Ákos Valentinyi (Cardiff Business School) and includes Giuseppe Bertola (EDHEC Business School), John Driffill (Birkbeck College), Harold James (Princeton University), Jan-Egbert Sturm (KOF Swiss Economic Institute, ETH Zurich) and myself (Ifo Institute and University of Munich). The members participate on a personal basis and do not represent the views of the organisations that they are affiliated with.

I would like to express my gratitude for the valuable assistance provided by the scholars and staff at CES and Ifo who helped to prepare the report. This year's participants were Nadjeschda Arnold and Christopher Weber (assistants to the group), Tim Oliver Berg, Atanas Hristov and Nikolay Hristov (economic forecast), Lisa Giani Contini and Julio Saavedra (editing), Christoph Zeiner (graphics), Katja Kügler and Elisabeth Will (typesetting) and Ines Gross (cover). I also wish to thank Swiss Re for hosting our autumn meeting.

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Munich, 24 February 2015

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The world economy managed to remain in recovery mode last year and is expected to gradually gain some further momentum in 2015, despite diverging developments between and within regions. Monetary policy differed substantially among emerging countries in 2014; and this year it will also begin to drift apart within the industrialised world. While monetary policy looks set to become less expansionary in the United States and the United Kingdom, it will continue to move in the opposite direction in the euro area. Geopolitical tensions and renewed discussion of a potential Greek exit from the euro area are counteracting the monetary stimulus provided by the European Central Bank. Progress in the crisis-afflicted countries to improve international competitiveness by ultimately reducing relative price levels will remain slow and hampered by occasional flare-ups of political uncertainty.

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Reducing CO_2 emissions remains a pressing political issue. Yet European energy policy is currently poorly coordinated between the member states of the EU and potential gains are being squandered. The argument in favour of a European energy union – a genuine common energy market with common regulation – is strong and the economic principle of a single wholesale price is uncontroversial. In practice, however, creating the appropriate trade channels is difficult and requires considerable investment. This chapter identifies steps towards a more coordinated policy, including the formulation of an effective bargaining strategy to ensure a global reduction of CO_2 emissions, the elimination of fixed feed-in tariffs, and commitment to a principle of price flexibility in energy markets.

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Is European regional disparity on the rise again? Five years after the eruption of the European government debt crisis, economic disparities feel larger than ever, the forces of economic integration seem weaker and social cohesion also appears to be crumbling. Did the crisis alter the economic effect of national borders? Do borders now matter more? Is the economic performance of a region shaped by its neighbouring regions, or by the national economy? This chapter explores these and other issues by analysing trends in regional GDP per employee and unemployment levels.

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Migration has become a highly controversial political issue in recent years, with the enlargement of EU membership to include poorer countries in Eastern Europe creating growing income disparities within the Union. Anti-migration sentiment has been fuelled by fears that the generous welfare state acts as a magnet for low-skilled, poorly-paid migrants. There are concerns that some migrants may be attracted to a host country not to work, but to collect benefits, putting its public finances under pressure. This chapter considers the home country principle for non-working migrants as a potential solution to this problem.

Authors: The Members of the European Economic Advisory Group at CESifo

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Recommendations for Europe

Chapter 2 The European Energy Conundrum: Power Failure

- **Formulate an effective bargaining strategy to ensure a global reduction in CO_2 emissions.** In this context, it would be preferable to extend the UN ETS mechanism, which currently covers only 30 percent of emissions, to the whole world.
- **Establish a European energy union with a single market that does not discriminate against suppliers from other countries.** This includes the principle of one price, which enhances efficiency and energy security for all EU countries and can be achieved via improved and more interconnected energy grids. The single energy market should be supported by the European monitoring of national energy policies to ensure mutual consistence, with penalty procedures for measures that are incompatible with a fundamental Europe-wide commitment to sustainable energy on a global level.
- **Eliminate fixed feed-in tariffs as incompatible with a Europe-wide energy strategy.** Such tariffs are incompatible with the single European energy market, inter alia because of the principle of one price.
- **Commit to price flexibility in energy markets following the logic of unbundling,** which means separating suppliers from energy producers and delivery systems (pipelines, grids). This would reduce monopoly power, hence increase competition and price flexibility.
- **Provide public investment in the enhanced connectivity of energy networks like gas pipelines and power transmission lines.** The principle of one price enhances efficiency, but requires more interconnected energy networks, which calls for investment. Given the widespread post-crisis sentiment that Europe should initiate large infrastructure investment projects, member states could coordinately fund new energy transmission channels, including both electricity gridlines and gas pipelines, with public, or a mixture of public and private capital.

Chapter 3 European Regional Disparity: Borders Strike Back

- **Coordinate policy reforms across euro area countries.** Uncoordinated policy reforms in individual countries always affect the resource allocation across countries. However, when uncoordinated reforms are pursued in countries linked by flexible exchange rates, they are often coordinated *de facto* by adjustments in the exchange rate. This mechanism is absent among members of a monetary union. Hence, the lack of policy coordination can be very costly in a monetary union, as shown by the European sovereign debt crisis. The coordination of policies with strong redistributive implications is hard to achieve. However, an explicit framework for assessing the euro area implications of policy reforms of individual member states should be created at the very least.
- **Design cross-regional policies for structural funds and employment to exploit potential spillovers between neighbouring regions.** EU cohesion policies target regions. However, the evidence suggests that, despite the EU's regional approach, country specific effects tend to dominate regional ones when it comes to regional disparities. This is partly because existing policies do not take into account cross-regional spillovers and complementarities. Hence it is important to enhance existing EU policies with cross-regional and regional level cross-national policies.

Chapter 4 Migration in the European Union: Too Much of a Good Thing?

- **Uphold the principle of the free movement of people, and discourage the use of overheated rhetoric in migration debates.** Economies absorb changes in the labour force better than people realise. The scale and costs of "welfare tourism" have been overstated. Nonetheless, rules that seem unfair may create social and political problems.
- **Use available instruments to limit recent migrants' access to welfare benefits.** The insurance principle of social insurance should be strengthened, and strict criteria of availability for work as a condition of receiving benefits should be adopted. A home country principle for welfare benefits could be introduced to replace the current residence principle.
- **Foster the economic development of poorer members.** Migration will naturally slow down as new member states catch up to older members economically. The sooner incomes converge across the union, the sooner the pressure of migration will dwindle. Although regional convergence in old member states raises various issues, which we discuss in our regional chapter, most new member states have been growing faster than the old ones since they joined the EU, suggesting that income convergence is taking place.

Summary

The world economy continued to recover in 2014 aided by strong growth in the United States. The situation in Europe, however, remains fragile. Several countries outside the euro area, particularly the United Kingdom, grew robustly. The performance of the euro area improved compared to 2013, but remains weak and uneven across member states. Unemployment is high in several countries, keeping social tensions at a high level. Depreciation of the euro is helping the economic recovery in general, but as international competitiveness varies greatly across the euro area, the positive effect of depreciation also differs from country to country. Despite the progress made in consolidating fiscal positions, high debt levels foreshadow future fiscal problems in some countries. Moreover, the outcome and impact of the reforms currently being implemented in several euro area countries are still uncertain. On balance, however, the reforms will support the recovery in 2015. This year's EEAG report emphasises that tighter coordination of national policies is required to achieve desired objectives in some key areas; while a lack of coordination may turn out to be particularly costly both for individual countries and for the European Union as a whole.

Chapter 1 of the report discusses the immediate macroeconomic outlook for the global economy, with a particular focus on the European situation. Chapter 2 focuses on energy policy, and emphasises that the case for a genuine European energy union is even stronger than the case was for a monetary union in the 1980s and 1990s. Chapter 3 analyses the evolution of regional disparities in Europe, highlighting that both the decline and the recent increase in disparities were driven by uncoordinated national policies. Finally, Chapter 4 looks at the contentious issue of European migration. It highlights that a commitment to free mobility, a simultaneous commitment to a generous welfare state, and enlargement of the EU to include members much poorer than existing ones, creates problems and tensions.

Chapter 1
Macroeconomic Outlook

Despite a slowdown in momentum in many industrialised countries, the world economy managed to remain in recovery mode last year. It is expected to gradually gain some further momentum in 2015.

In contrast to most industrialised countries and despite interest rate hikes, the emerging economies continued to grow moderately during 2014. The underlying economic dynamics were very heterogeneous across the emerging markets. Whereas the pace of expansion in India and many economies of East Asia accelerated significantly, Latin America witnessed a substantial decline in growth. Overall, the emerging economies will this year achieve growth rates roughly comparable to last year. On the one hand, many of them will benefit from the continuing recovery taking place in the industrialised world. On the other hand, several emerging economies are facing a marked flattening of their population growth, which reduces potential growth, while for oil-exporting countries such as Brazil, Russia and many economies in the Middle East, the strong decline in oil prices means a loss of national income.

Cheaper oil prices are supporting the slow, but steady acceleration in the advanced economies. In the United States in particular, the upturn is expected to continue. The US recovery is more advanced than in the euro area and is underpinned by the improved asset position of households, a well-capitalised banking sector and a still very expansionary monetary policy. Whereas the business sector in the United States has clearly regained confidence in the future outlook of the US economy and has increased its investment activities substantially, firms in Europe remain reluctant to invest. The US government has used the economic recovery to reverse the increase in public consumption, and in that sense has demonstrated clearly anti-cyclical behaviour. In the euro area, on the other hand, the role of the public sector has increased substantially during the crisis, and there are no signs that this is going to be reversed any time soon. On the contrary, the pressure to imple-

ment austerity and structural reform programmes has decreased in the last two years; with public consumption on the rise again in the euro area as a result. Progress in the crisis-afflicted countries to improve their international competitiveness by ultimately reducing relative price levels will remain slow and hampered by the sporadic resurgence of political uncertainty.

Continued robust growth in the United States and the United Kingdom will allow for monetary policy to become less expansionary in both countries. Monetary policy in the euro area, however, is still moving in the opposite direction. Although it has helped to dispel uncertainties related to the viability of the monetary union and the stability of the financial system, which should have created incentives for firms and households to invest, actual investment dynamics have remained flat to date. Numerous international conflicts, as well as renewed discussion of a potential Greek exit from the euro area, are counteracting the monetary stimulus provided by the European Central Bank.

Besides the sharp fall in oil prices, the recovery in the euro area is also being reinforced by the depreciation of its currency. While plunging oil prices are benefitting energy producers and consumers, the currency depreciation mainly supports firms with competitive positions in international markets. Partly due to differences in competitiveness, the pace of economic recovery will vary across Europe. Among the larger economies, Spain in particular is likely to grow significantly faster than the euro area average, while France and Italy are likely to see only slow growth. The latter two countries have been suffering from similar structural problems for years and have lost price competitiveness since the introduction of the euro. Their shares of world trade have decreased markedly as a result.

The weak economic recovery in Europe will also be supported by the structural reforms already implemented in some crisis-afflicted countries. Moreover, the reduced consolidation efforts are supporting the business cycle. These efforts, however, imply a significant risk to stability at the same time. Public debt levels remain high and, as the recent re-emergence of suspicion towards Greece shows, renewed doubts about their sustainability could lead to a new escalation of the euro crisis.

Falling oil prices have triggered a further decline in inflation rates in the euro area. Although this is certainly supporting economic developments, it also entails a risk. The longer low inflation rates persist, the greater the risk that inflation expectations will lose their anchor. This could subsequently create further downward pressure on inflation. In a still to be considered extreme scenario, the euro area could slip into deflation, which would place a heavy burden on growth. Currently, however, long-term inflation expectations for the euro area still appear to be quite firmly anchored.

Chapter 2
The European Energy Conundrum: Power Failure

European energy policy is currently poorly coordinated between the member states of the European Union, although substantial gains could be achieved through enhanced cooperation both at the European and the global level. The argument in favour of a European energy union – a genuine common energy market with common regulation – is even stronger than the case that was successfully made in the 1980s and 1990s for a monetary union.

The difficulty of formulating a forward-looking energy policy arises from the difficulty of comparing different types of risk and drawing appropriate policy lessons. There are at least four different perceptions of risk, and, while all are clearly present, they tend to be seen in quite contrasting ways in different European countries, and consequently produce varied and mutually incompatible responses from national political authorities: the risk of increased CO_2 emissions leading to climatic change; the risks of a nuclear disaster; threats of a cut-off of imported energy (gas or oil) supplies; and the likelihood of a network breakdown.

The greater the diversity of supply, and the more market alternatives exist (including different forms of energy), the more resilient the energy economy becomes against unanticipated events, including attempts to blackmail energy users. For these advantages to materialise, however, the interconnectivity of national energy markets has to be improved dramatically, while regulatory policies with regard to the different energy sources need to be harmonised across the countries of Europe.

Chapter 3
European Regional Disparity: Borders Strike Back

The original premise of the Single Market was that the promotion of economic integration brings prosperity to the European Union, reduces income disparities across member states, and by reducing differences between member states and within regions, it enhances social and political cohesion within Europe. The instruments to promote "economic and social cohesion" are primarily left to the member states and lower levels of government. Only a small set of supranational policy instruments exists in the form of EU cohesion policies directly motivated by the effects on regional and national income inequality of the European economic integration process.

The evidence seems to suggest that the policy was successful as there was a substantial reduction in disparities over time both in terms of labour productivity (as measured by GDP per employee) and unemployment rates until the crisis. However, closer inspection of the data leads to a somewhat different conclusion. Regional disparities in labour productivity declined up until the mid-2000s, but subsequently increased throughout the euro area's economic crisis. Moreover, disparities within countries changed relatively little, their initial decline and subsequent rise being primarily due to changes in disparities between countries and, to a much lesser extent, due to changes between regions within countries. This suggests that whatever contributions EU cohesion policy made to the convergence process, country-specific factors, including policies, played a more important role. The evolution in unemployment rates reveals a similar pattern. Disparities in regional unemployment rates declined as of the late 1990s and up until the crisis. Moreover, polarisation in the labour market (the number of regions with much lower and much higher unemployment rates than the European average) also declined. Since the outbreak of the crisis, however, regional disparities in unemployment rates have been increasing, and regional labour markets have become more polarised. Again, the disparities within countries have changed relatively little over time. Unemployment disparities altered primarily due to changes in unemployment rates between countries.

We argue that the evidence on the evolution of disparities before and after the crisis suggests that uncoordinated national economic policies were likely to lead to a fall in regional disparities first, and to a rise later. This occurred despite the presence of supranational redistributive policy instruments. The process started in the 1990s when the announcement of the euro improved expectations in the EU's relatively poor periphery that these countries would converge rapidly to the income levels of the rich EU core. As a result, capital flowed from the capital-rich core to the capital-poor periphery. This capital outflow depressed wages in the core and the corresponding capital inflow raised wages and employment in the periphery. The capital flow also led to falling disparities both in terms of labour productivity, and unemployment across regions. The nature of the capital flow, however, suggests that this primarily occurred due to falling disparities across countries, while disparities across regions within countries remained roughly the same. Depressed wages in the core made it more likely that a labour market reform would be carried out in the core (in Germany in particular), while rising wages made it less likely that a similar reform would be carried out in the periphery. Reform in the core and the lack of it in the periphery eventually led to divergence. Firstly, it led to price divergence as prices in the periphery were rising faster than in the core. Secondly, it led to divergence in labour productivity, which grew more slowly in some periphery countries than in the core. Finally, once the financial crisis hit Europe, the core and the periphery reacted asymmetrically, reinforcing the divergence among regions that had started years before the crisis and that had been driven not by regional, but by country specific factors such as national policies. The lack of coordination in policy choices reversed the regional convergence of the European regions firstly in terms of labour productivity some years before the crisis, and secondly in terms of unemployment rates after the crisis broke out. This underlines the importance of policy coordination in such matters as labour market reform too.

Chapter 4
Migration in the European Union: Too much of a good thing?

The European Union is committed to the principle of the free movement of people within its frontiers, which is central to the concept of EU citizenship. But this principle has given rise to concerns caused by the inclusion of more Eastern European countries with much lower wages. Many people in Germany, Britain,

the Netherlands, Austria and other "old EU" members, particularly those with low skills in precarious low-wage jobs, who are threatened by unemployment and disadvantaged in housing markets, fear the consequences of the unlimited movement of workers from the East. They fear that their wage and job prospects may be undermined by the employment of immigrant workers at lower salaries; that incoming migrants may push up rents and property prices; that migrants may impose greater burdens on the welfare state, particularly if they (the migrants) have lower skills and wages than the indigenous population, are more prone to unemployment, and likely to pay lower taxes. The debate about migration and public policy has become highly charged as a result.

There is a sense that the scale of migration has increased in recent years. But migration data provides a mixed picture. The net flow of migrants into Germany was very high in the early 1990s – more than 15 migrants per 1,000 inhabitants in 1990 following the collapse of the Soviet Union, but subsequently declined, until a resurgence in 2009 following the financial crisis. Spain and Ireland had very large inflows in their boom years in the early 2000s, which have turned into significant outflows in recent years. Illegal immigration led to a sudden up-tick in migration into Italy in 2013 and 2014. Compared with these experiences, net immigration into the UK since 1990 has not been remarkable. However, gross flows have increased. From a gross inflow and outflow of around 200,000 persons per year in the 1970s and 1980s (a period in which the UK largely had a small net outflow of migrants), the gross inflow rose to over 500,000 per year and the gross outflow to around 300,000 in 2013, giving a net inflow of over 200,000 persons a year. The rise in gross flows may be contributing to people's sense that communities are changing around them and the unease felt by parts of the population. This disquiet is being compounded by the EU's lingering recession, prolonged austerity policies, and years of stagnating, or actually falling, net-of-tax wages.

The economic effects of migration are clearest in the labour and housing markets, taxes and public spending. They depend on the skills, occupations and ages of migrants relative to the existing population. Immigration from outside the EU is generally restricted in terms of its scale and by the type of immigrant admitted, typically with a preference for highly educated professionals. Free movement in the EU draws a relatively young, unskilled, low-wage migrant flow to the more generously redistributive Northern old-EU member states. Projected net inflows based on current policies are predicted to lower dependency ratios and partly offset population falls, in Germany for example, up to 2080 and beyond.

Evidence from many empirical studies suggests that labour markets can better absorb migrant flows, with smaller changes in unemployment rates and wages, than is generally supposed. The immigration of relatively highly skilled workers actually raises the wages and employment of less-skilled workers, and raises profits. The immigration of low-skilled workers has modest impact effects, reducing wages and increasing the unemployment of unskilled indigenous workers in the short run, but these return to normal fairly quickly. Absorption is quicker in boom times and slower in recession, which partly accounts for current troubles.

The immigration debate tends to focus on those countries that are net recipients of migrants, but migration also matters for countries that are net sources of migrants, such as Poland. It is often supposed that net emigration may cause the loss of a country's brightest and best, subjecting it to a brain drain. Poland's experience challenges such a view. Between 2004 and 2008, when there was a mass exodus of young workers to the UK and Germany, Poland's unemployment rate halved. Subsequently, economic growth took off and many earlier migrants returned, often with new skills and ideas. Migration seems to have worked as a useful shock-absorber in Poland's transition to EU membership.

In the economic literature on the subject migration is often portrayed as imposing a burden on a welfare state, which acts as a magnet (the welfare magnet) for the poor and causes "welfare tourism". There is evidence that more generous welfare benefits attract more migrants, but the effect is small relative to the effect of the wage gap, employment prospects, and the existence of a group of earlier migrants from the same country or region, who provide a supportive social network for new migrants in the country of destination. There is, however, evidence that a more redistributive state attracts relatively less-skilled, lower-wage migrants. There is also evidence that migrant populations make more use of the welfare state than native populations. This evidence points to a conflict between the generosity of welfare states, the principle of social inclusion and the free movement of people.

To mitigate this conflict, we suggest strengthening the insurance principle in social insurance. This would involve making more benefits dependent on contributions, adopting strict criteria of availability for work as a condition of receiving benefits, and using other active labour market policies to help poor and unemployed people into work. A home country principle for welfare benefits might be introduced to replace the current residence principle, under which people would receive benefits at the rates provided by the states in which entitlement was built up. The EU can also mitigate the problem by fostering the economic development of poorer members via structural funds and inducements to institutional reforms. The problem of high migration could then prove a temporary concern. Migration flows may reverse when wages and job prospects improve in the source economies, as seen in the case of Poland. The EU may have to compromise, and balance this trio of mutually incompatible goals for some years.

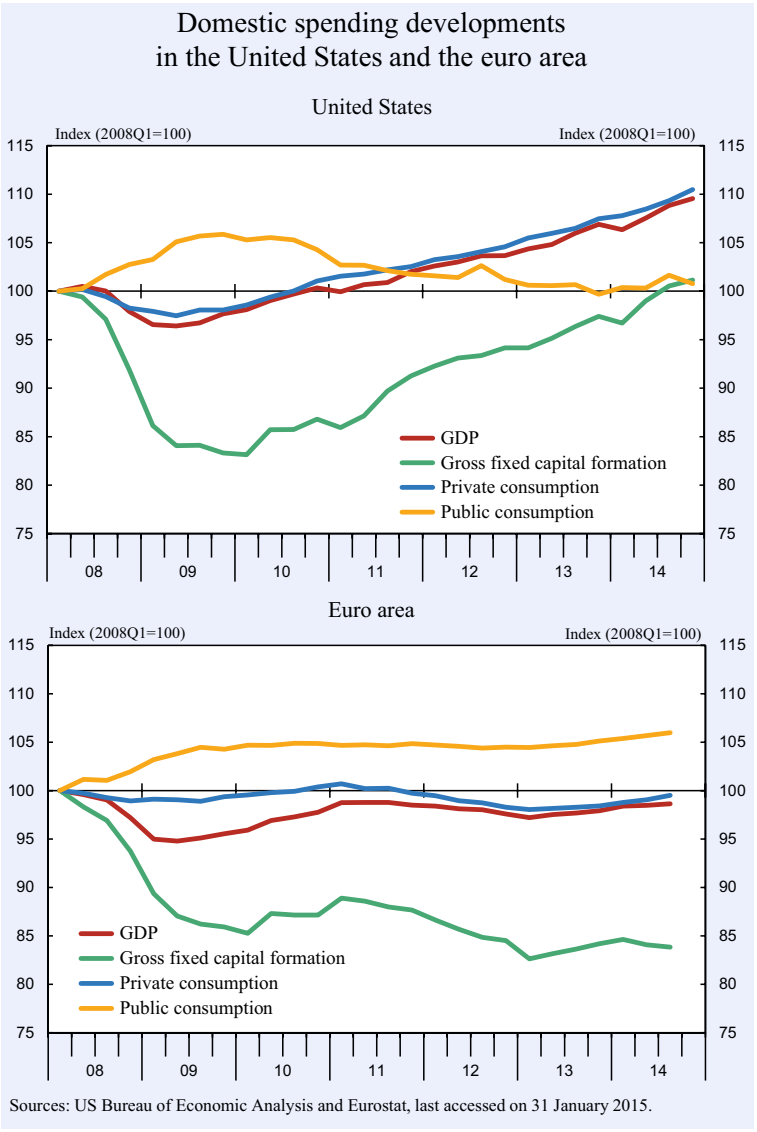
Macroeconomic Outlook

1.1 Introduction

The world economy managed to remain in recovery mode last year and is expected to gradually gain some further momentum in 2015. The diverging developments between and within regions will, however, persist. Monetary policy differed substantially among emerging countries in 2014; and this year it will also begin to drift apart within the industrialised world. The economic situation in the United States and the United Kingdom should allow for monetary policy to become less expansionary. Monetary policy in the euro area, however, is still moving in the opposite direction. Although it has helped to reduce uncertainties related to the viability of the monetary union and the stability of the financial system, which should have created incentives for firms and households to invest, actual investment dynamics have proven flat to date. Numerous international conflicts, as well as the renewed discussion of a potential Greek exit from the euro area, are counteracting the monetary stimulus provided by the European Central Bank.

Whereas the business sector in the United States clearly regained confidence in the future outlook of the US economy, firms in Europe remain reluctant to invest (see Figure 1.1). The US government has used the economic recovery to reverse the increase in public consumption and, in that sense, has behaved in a clearly anti-cyclical manner. In the euro area, on the other hand, the role of the public sector increased substantially during the crisis, and there are no signs that this is going to be reversed any time soon. On the contrary, the pressure to implement austerity and structural reform programmes has receded in the last two years; and public consumption has risen again in the euro area as a result. Progress in the crisis-afflicted countries to improve international competitiveness by ultimately reducing relative price levels will remain slow and hampered by occasional flare-ups of political uncertainty.

Figure 1.1



Sources: US Bureau of Economic Analysis and Eurostat, last accessed on 31 January 2015.

In Europe, the recovery is largely being supported by the sharp fall in oil prices and the depreciation of the euro. While the first factor is benefitting producers and consumers of energy, the second mainly supports firms with competitive positions in international markets. Partly because of differences in competitiveness, the economic recovery will differ across the European Union member states (see Table 1.A.2). Of the larger economies, Spain is likely to grow significantly faster than the euro area average, while France and Italy are likely to experience only low growth. The latter two countries have been suffering for years from similar structural problems like high government spending, significant tax and social contribution burdens on firms, inflexible labour markets and overregulation of the private economy, leading to strong deindustrialisation. In addition, French and Italian firms have lost price competitiveness since the introduction of the euro. Their shares of world trade have decreased markedly as a result. Hesitant attempts, at best, have been made at the political level to slowly improve this situation.

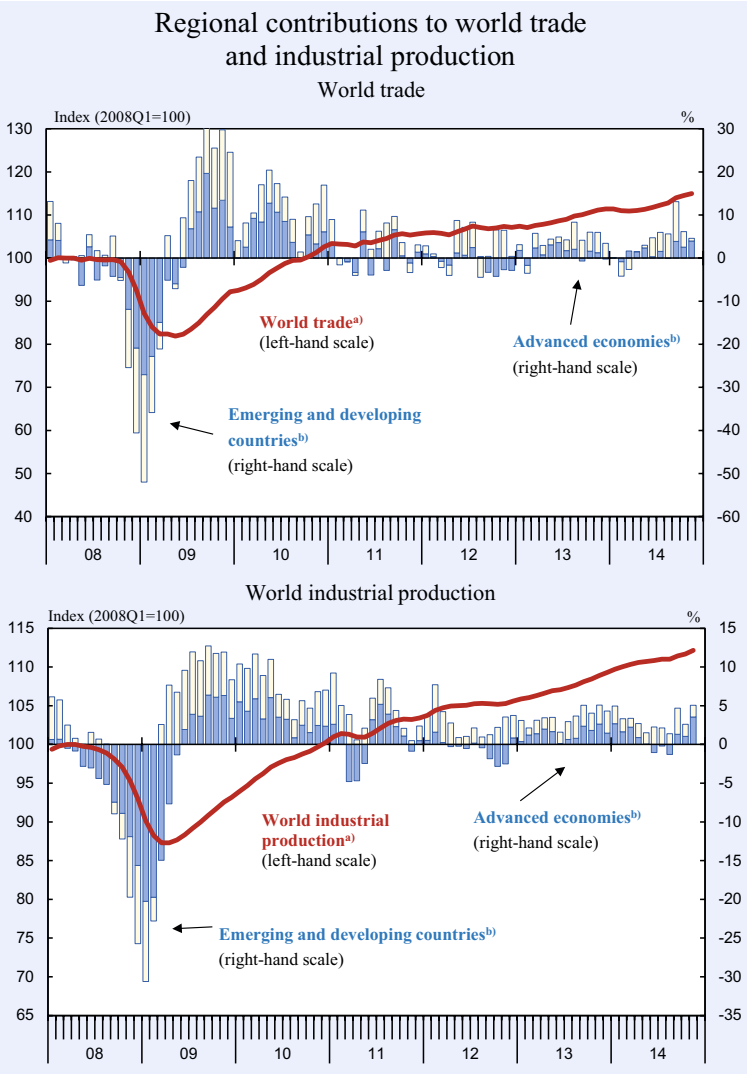
The mild economic recovery in Europe in 2015 will be supported not only by the weaker euro and lower oil prices, but also by structural reforms that have already been initiated, as well as reduced consolidation efforts. On the other hand, high public debt levels still pose a significant risk to stability as the recent re-emergence of suspicion towards Greece shows. If renewed doubts about the sustainability of sovereign debt were to arise in other euro area member states, this could lead to a fresh escalation of the euro crisis. Uncertainty regarding the future course of a new Greek government has already led to increases in Greek bond yields. Another downside risk for the economy of the euro area is a renewed escalation of the Ukraine / Russia conflict. The real economic recovery would also probably be weaker if demand from abroad, and especially from emerging markets, turned out to be lower than expected. The recovery, however, could be even stronger should oil prices or the euro continue to fall.

1.2 The current situation

1.2.1 The global economy

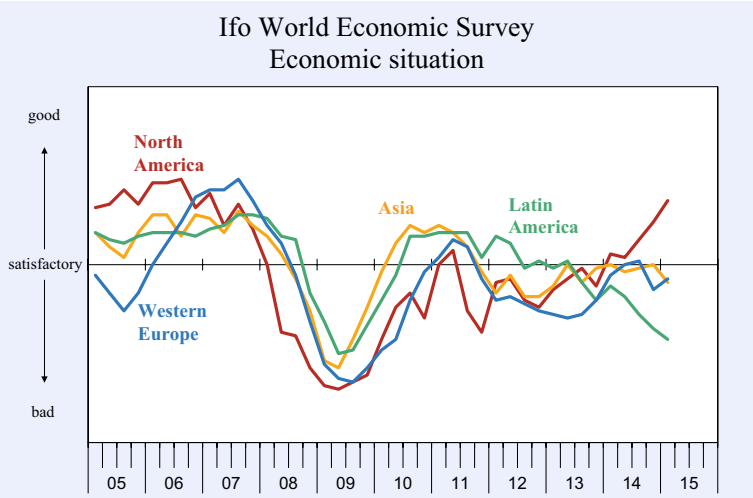
Whereas the pace of global industrial production slowed markedly during the summer half of 2014, the growth rate of world trade accelerated (see Figure 1.2). Global industrial production grew only half as much in the second and third quarters of 2014 as in the previous winter half-year. This development mainly reflects the significant slowdown in economic momentum in the advanced economies, where industrial out-

Figure 1.2



[a)] Three month moving average level. [b)] Contribution to annualised monthly growth rate thereof.
Source: CPB Netherlands Bureau for Economic Policy Analysis, World Trade Monitor: November 2014.

Figure 1.3



Source: Ifo World Economic Survey I/2015.

put virtually stagnated during the summer. The increased dynamics in world trade are largely due to a normalisation of trade in the emerging economies.

Over the course of last year, the Ifo World Economic Survey results started to paint an increasingly diverging picture of assessments of the global economy by economic experts (see Figure 1.3). Whereas the economy of North America continued to improve, the opposite was basically true of the economies of Latin America.

Economic developments in the euro area and in Japan were the main triggers for the overall slowdown in economic growth in the advanced economies observed since spring 2014. The slowdown in the euro area was not least the result of growing scepticism about the willingness of the French and Italian governments to urgently undertake key structural reforms in their labour and product markets, and to embark on a clear, substantial and credible course of fiscal consolidation. This "reform gridlock" continues to weigh on the attractiveness of both countries for investors, adversely affecting their medium-term growth prospects. Along with growing pessimism, economic sanctions related to the political conflict with Russia had a dampening effect on economic activity in the euro area in summer 2014.

In Japan, aggregate economic performance declined during the second and third quarters. The country therefore fell into its fourth technical recession (as measured by at least two consecutive quarters of negative growth) since 2008. This was due mainly to the VAT increase in April 2014, which led to a sharp decline in private consumption.

Aggregate production in the United States and in the United Kingdom, on the other hand, continued to show robust growth rates, and employment growth even accelerated. The recovery in these countries is more advanced than in the euro area and is supported by the improved asset position of households, a well-capitalised banking sector and monetary policy that remains very expansionary.

In contrast to most industrialised countries and despite interest rate hikes, the emerging economies continued to grow moderately during 2014. As in the industrialised world, however, the underlying economic dynamics were very heterogeneous across the emerging markets. Whereas the pace of expansion in India and many economies of East Asia accelerated significantly, Latin America witnessed a substantial decline in growth.

In India, the fading of political uncertainty after the parliamentary elections in April / May 2014 and the willingness signalled by the new government to carry out much-needed structural reforms improved the investment climate. In addition, various public infrastructure investments were made, which had been placed on hold last winter. Several East Asian countries benefited from strong growth in private domestic demand, not least resulting from the growing prosperity of the population. The Chinese economy performed robustly during the summer of 2014. The government has taken a number of supportive measures to counter the downturn in momentum seen in China's industrial and construction sectors at the beginning of the year. For the time being at least, these measures have helped to stabilise growth rates close to the government's target of 7.5 percent.

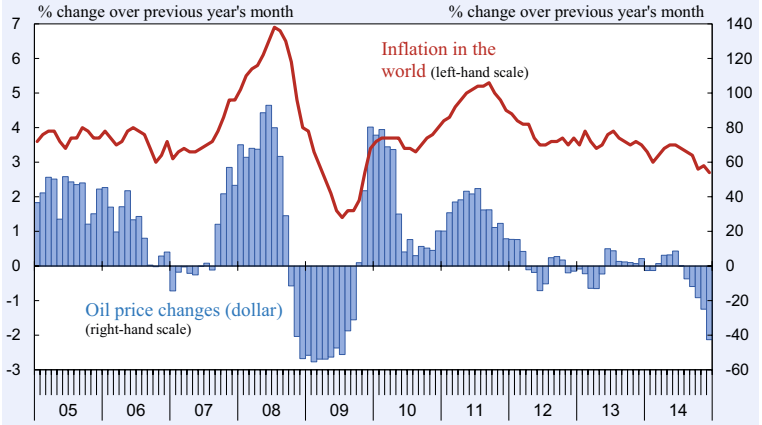
In Latin America aggregate industrial production actually declined during the first half of 2014 and has only started recovering slowly since then. While Mexico profited from the recovery in the United States, the economies of Brazil and Argentina have been heavily burdened by steadily falling commodity prices since 2011. In addition, already huge structural problems in Argentina have been exacerbated further and the unresolved dispute with foreign investors re-

lated to the public debt restructuring carried out in 2001 has noticeably constrained the country's access to international financial sources.

Despite the geopolitical tensions in Eastern Europe and in the Middle East, the oil price declined substantially in 2014, particularly during the fourth quarter of the year. After peaking in June 2014, the price of a barrel of Brent Crude fell by over 40 percent to reach 57 US dollars by the end of 2014. This decline was largely driven by (expected) supply-side changes, such as the continuing expansion of oil production in the USA (fracking) and increased production in Iraq. However, for many weaker than expected economic developments also imply that some demand-side aspects cannot be ruled out. Inflation rates all around the world started to decline during the last months of 2014 as a result (see Figure 1.4).

Figure 1.4

Inflation in the world and oil price movements



Source: International Monetary Fund, International Financial Statistics, last accessed on 31 January 2015.

1.2.2 United States

While the US economy was dominated in the first quarter of 2014 by the effects of a harsh winter, the subsequent quarters revealed a strong underlying growth momentum (see Figure 1.5). Economic output increased by well over an annualised 4.5 percent during the summer half-year. This was primarily due to increases in domestic demand, with private consumption growing at about 3 percent and private fixed investment by over 8.5 percent during the same period (see Figure 1.6). Except for in the third quarter, the strong performance of the domestic economy has, via a rise in import growth, led foreign trade to contribute negatively to GDP growth.

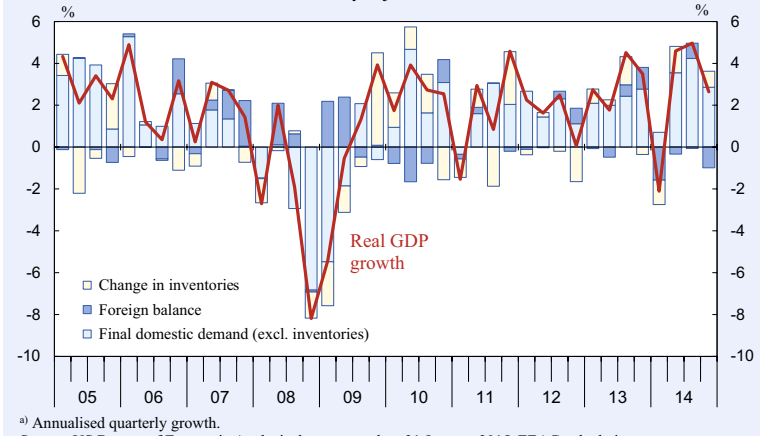
Despite initially unfavourable weather conditions, around 240,000 new jobs per month have been created since the beginning of 2014, which comes close to the levels of previous recoveries. Employment was able to exceed pre-crisis levels for the first time in May last year as a result, and the participation rate, which had been declining since 2008, has started to stabilise. Furthermore, the unemployment rate dropped significantly from 6.7 percent in early 2014 to 5.6 percent in December of last year (see Figure 1.7).

In view of the weaker than average dynamics of this recovery and slightly under-utilised capacities until recently, inflation in the United States has remained relatively low to date, despite ultra-loose monetary policy. Although the annual inflation accelerated in the first half of 2014 from close to 1.5 percent at the turn of 2013/14 to about 2 percent last summer, the rate of inflation subsequently fell back to 0.7 percent in December (see Figure 1.8). The sharp decline in oil

Figure 1.5

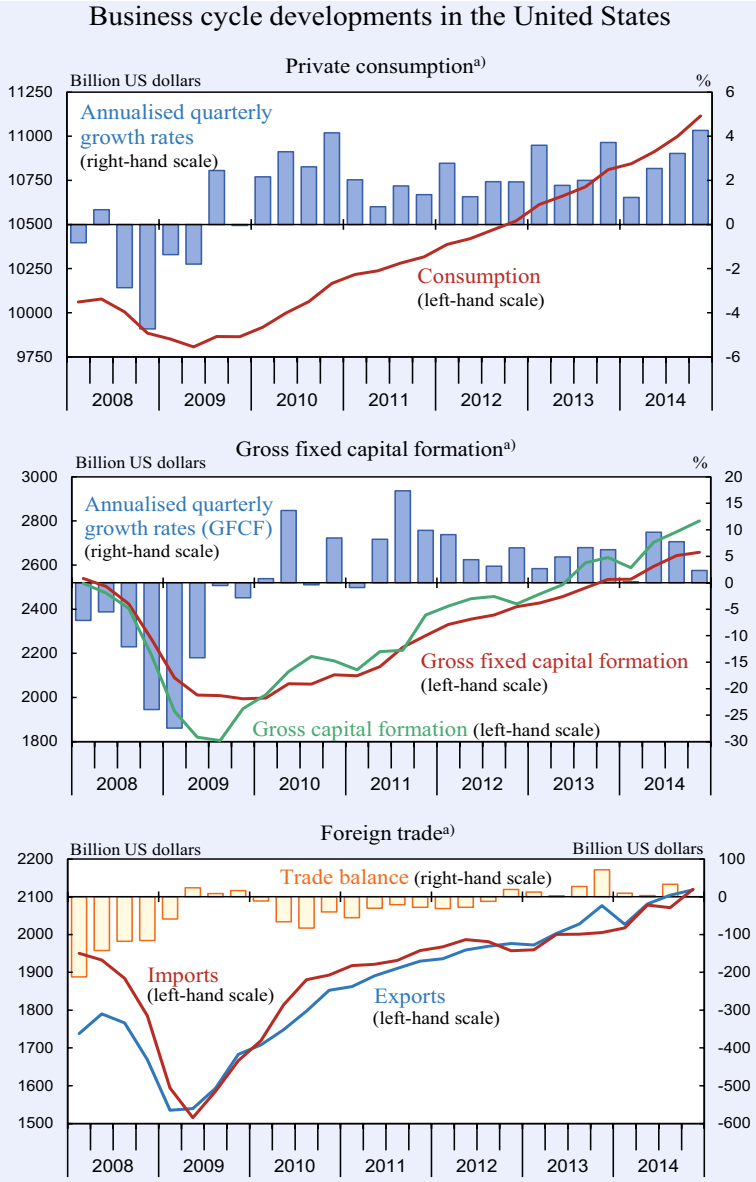
Contributions to GDP growth[a)] in the United States

Seasonally adjusted data



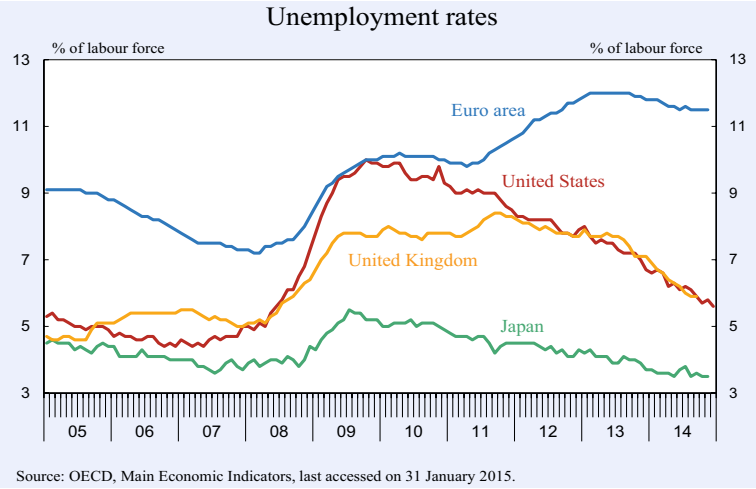
a) Annualised quarterly growth.
Source: US Bureau of Economic Analysis, last accessed on 31 January 2015; EEAG calculations.

Figure 1.6



[a)] In constant prices, seasonally adjusted and work-day adjusted.
Source: US Bureau of Economic Analysis, last accessed on 31 January 2015.

Figure 1.7



Source: OECD, Main Economic Indicators, last accessed on 31 January 2015.

prices and a strengthening of the US dollar are the root causes of this downturn.

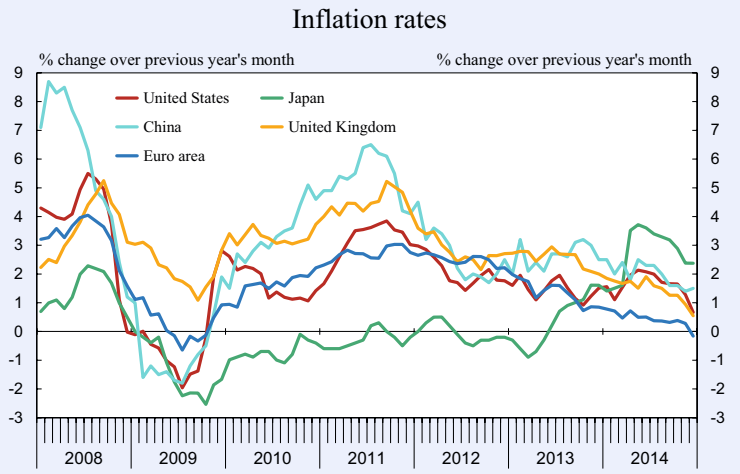
1.2.3 Asia

In *China*, the economy gathered speed over the course of last year. After a slight trough at the beginning of the year, GDP growth picked up again during summer. This was mainly supported by private consumption. However, the government also introduced a number of measures to support the economy after its weak start to 2014. For instance, additional investment in the rail network and tax breaks for small businesses successfully boosted production over the summer.

In contrast to previous periods, overall weaker impulses emanated from investment. The slowdown in investment activity was mainly due to a cooling down of the property market and, in turn, residential construction. Due to significant oversupply, property prices started to stagnate at the beginning of 2014. In some regions they even fell slightly. House prices in China have been falling steadily since spring 2014. For the first time since mid-2013, net exports also provided a positive contribution to growth, mainly during the second half of last year. This is not only due to higher export growth, but also to lower intermediate goods demand stemming from weaker investment activity.

Economic development in *Japan* deteriorated significantly last year. After a strong first quarter, which was characterised by extensive advance purchases triggered by the upcoming value added tax

Figure 1.8



Source: US Bureau of Labor Statistics, Statistics Bureau of Japan, National Bureau of Statistics of China, Eurostat; last accessed on 31 January 2015.

increase from 5 percent to 8 percent in April last year, GDP fell in the subsequent two quarters. A government stimulus package, which was planned to amount to about 1 percent of GDP, failed to offset this downturn. The main reasons for the decline were both lower investments and weak consumer demand. The latter was to be expected as a counter-movement to pre-emptive purchases in the first quarter.

Last December, the inflation rate in Japan was 2.4 percent, after peaking at 3.7 percent in May. About 2 percentage points of current inflation rates are due to the increase in value added tax. On the other hand, relatively stable core inflation indicates that most of the more recent fall in the inflation rate probably reflects the oil price shock; and both are only of a temporary nature.

The economic performance of *India* improved over the course of last year. Positive momentum for this acceleration came from both external and domestic demand. Consumer confidence, for instance, also improved because of the reduced inflation rate which, in turn, fostered real income growth. After two-digit CPI inflation rates through parts of 2013, inflation subsequently followed a downward trend, reaching 4.4 percent in November last year.

The outcome of the parliamentary elections in May 2014 increased optimism about future economic developments, inducing private investment to start growing again slightly, after having been subdued in 2013 and early 2014. The new government raised expectations of a series of structural reforms, including labour market liberalisation.

In the Asian Tiger countries *(South Korea, Taiwan, Hong Kong and Singapore)*, the pace of economic expansion accelerated slightly last summer. Both external and domestic demand growth increased somewhat compared to the beginning of last year. As usual, however, economic developments differed substantially across these countries. Whereas the most significant growth contributions in Taiwan and Singapore came from private consumption and investment, growth in South Korea and Hong Kong was driven by an increase in public demand triggered by a variety of policy decisions. In addition, the central bank in South Korea reacted to the slowdown in growth by cutting its base rate by 25 basis points in both August and October.

In the emerging Asian countries *(Indonesia, Thailand, Malaysia and the Philippines)*, growth accelerated somewhat, after a weak first quarter of 2014. Although the region was still burdened by the weak global economy and a multitude of restrictive fiscal policies, this was more than offset by the increase in private consumption.

1.2.4 Latin America and Russia

The overall economic expansion of the Latin-American region *(Brazil, Mexico, Argentina, Venezuela, Columbia and Chile)* remained subdued in the first half of last year. This was at least partly caused by weaker demand globally and low commodity prices. Consequently, net exports contributed only marginally to overall growth, and most of the stimulus came from private consumption. Investments stagnated again; and even started to decelerate over the course of the year. This was most evident in Brazil, where output declined during the first half of last year. More restrictive monetary policy, which constituted the response to increased capital outflows and the resulting devaluation as of mid-2013, worsened the financial conditions for households and firms. As of the beginning of 2014 steadily rising inflation was instrumental in three interest hikes at the beginning of the year and two in November and December.

The central banks in Colombia and Argentina have also recently increased their interest rates. Whilst high inflation was central to monetary tightening in Colombia, the hike in Argentina reflected the central bank's concerns over currency depreciation. Despite substantial purchases of Argentine pesos by the central bank, which melted down the country's foreign reserves from around 52 billion US dollars in early 2011 to 27 billion US dollars in spring last year, its currency has lost almost 50 percent of its value against the US dollar since 2011 – most of which occurred in early 2014. The decline in reserves has more or less halted now, at least temporarily. Although the technical default, which occurred in the summer of 2014, did not trigger an immediate crisis, it means that a return to the international capital markets has receded to the future. In an attempt to improve the current account balance, import controls were increased. The increasing interventionism and high macroeconomic imbalances that have accumulated over the years (excessive fiscal policy, high inflation) are counterproductive to attracting foreign investments, which are also important to circumventing a further decline in foreign reserves.

Although inflation was above-target, interest rates were lowered in both Chile and Mexico last year. In both countries, monetary policy is trying to support the economy. Overall, the region is likely to have expanded by only 0.9 percent in 2014.

The Ukraine crisis hit *Russia* in the midst of a long ongoing phase of weak economic developments. Due to spiralling geopolitical tensions and sanctions between Russia and the West, the existing core problems of the Russian economy, such as the low diversification of investment activities and international capital flight, have been further exacerbated. The withdrawal of capital, which has been ongoing since 2009, accelerated at the beginning of last year. With the move towards a floating flexible exchange regime rate in early November, the depreciation of Russia's exchange rate reached a climax in mid-December. Overall, the rouble depreciated by over 30 percent against the euro and by 40 percent against the US dollar last year. To prevent an even stronger fall, the Russian central bank was forced to increase its interest rates stepwise during the year. Its base rate reached 17 percent by the end of the year.

Uncertainty and unfavourable financial conditions dampened investment, leading to a fall in gross fixed capital investment in the first half of 2014 compared to the previous year. Despite the generally unfavourable economic conditions, industrial production performed better than expected. This occurred for several reasons: firstly, many sectors benefited from a ban on imports of Ukrainian goods and the production losses in the Donbass region. These primarily include companies in metal production and processing, the arms industry and food processing. Furthermore, Russia's import restrictions helped the domestic food industry and agricultural sector to increase their production. In addition, the strong devaluation of the rouble discounted domestic goods compared to imported goods. Lastly, the state expanded its contracts with local companies. Overall, industrial production increased by 1.4 percent during the first eleven months of 2014 as compared to the same period in 2013.

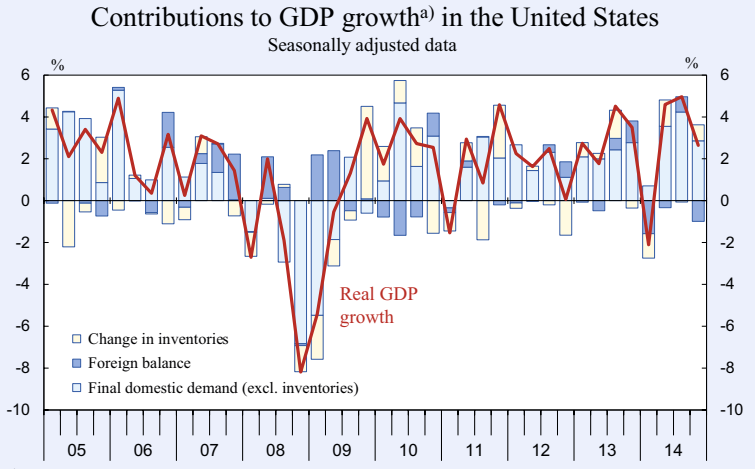
Nevertheless, and although private consumption was one of the major pillars of the Russian economy previously, this demand component developed less dynamically than the years before. Retail sales in 2014 rose more slowly than in 2013. Inflation, which increased from 6 to 9 percent during the year, also placed a burden on real disposable income. After basically stagnating throughout the year, GDP has probably increased by 0.7 percent in 2014 as compared to 2013. This is largely due to falling gross fixed capital investment, weak private consumption and declining exports.

1.2.5 The European economy

The cyclical situation

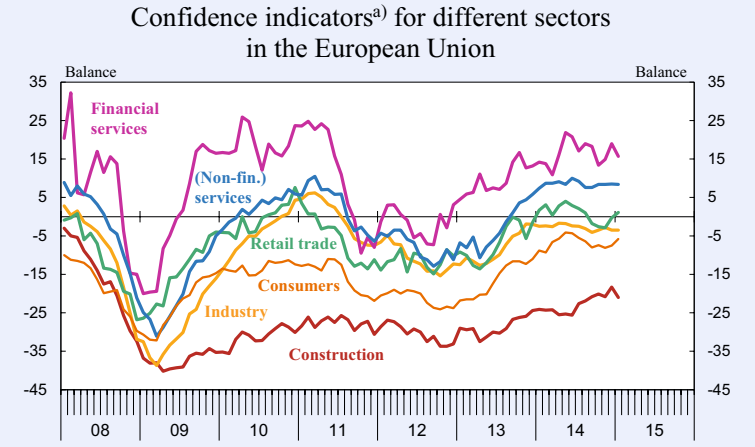
After four quarters of real GDP growth at annualised rates of around 1.5 percent, the recovery in the European Union continued at a slower pace. During the two summer quarters of 2014 growth amounted to approximately 1 percent (see Figure 1.9). After a deep and prolonged recession, output expanded for seven quarters in a row: from the last quarter of 2011 until the first quarter of 2013. The degree of expansion was extremely low in 2014 and remained well below that of previous recoveries. In addition, economic activity over the summer was weaker than expected last spring. One reason for this were fresh doubts as to whether the French and Italian governments are willing and able to carry out the necessary labour and product market reforms, as well as initiating a credible consolidation of their fiscal budgets. Similarly, changes in

Figure 1.9



a) Annualised quarterly growth.
Source: US Bureau of Economic Analysis, last accessed on 31 January 2015; EEAG calculations.

Figure 1.10



a) Arithmetic means of selected (seasonally adjusted) balances on business tendency survey questions. Balances are constructed as the difference between the percentages of respondents giving positive and negative replies.
Source: European Commission, last accessed on 31 January 2015.

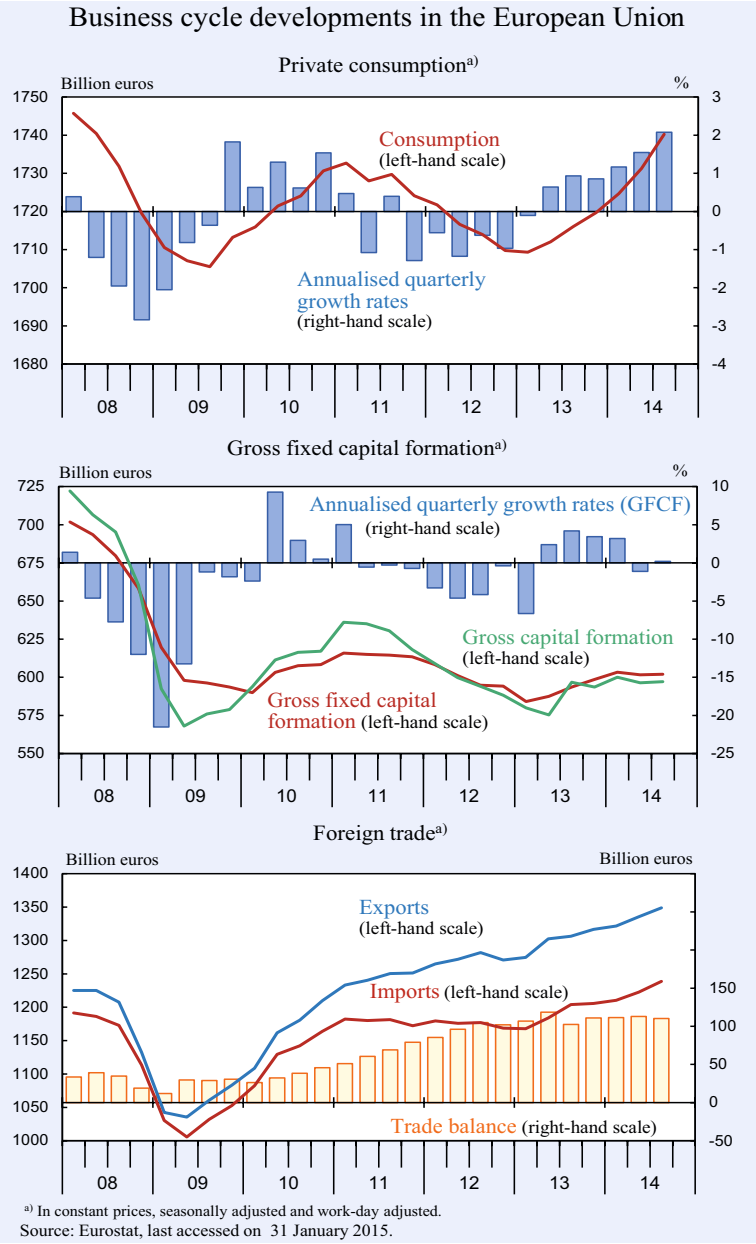
minimum wage laws and an effectively reduced retirement age lowered investment incentives in Germany. Other constraints included the political conflicts in the Ukraine and the Middle East. All of these events had a clear negative impact on business confidence in Europe. As a result, gross fixed capital investment declined during the summer half of 2014.

Over the course of last year the growth contributions from private consumption in particular, as well as from public consumption, increased steadily. Government final consumption expenditure mainly benefited from the fact that fiscal consolidation measures did expire in some member states and no significant new measures were adopted. Private consumption continued to grow and reached, albeit at only a moderate 2 percent, its highest quarterly growth level since 2007 to date in the third quarter of 2014 (see Figure 1.11). The small, but steady decline in inflation rates did relieve household budgets and thus supported this development. The recovery in consumer spending was reflected in the steady growth in consumer confidence in 2013 and early 2014 (see Figure 1.10). During the summer months confidence fell somewhat again, stabilising in autumn at a level that was still relatively high historically. Hardly any stimulus came from net exports, as both exports and imports picked up to a similar extent over the course of 2014 (see Figure 1.9). After stagnating in the European Union and contracting by 0.5 percent in the euro area in 2013, growth in real GDP reached 1.3 and 0.8 percent in these areas respectively in 2014.

The recovery in Europe has also helped to stabilise the labour market. The unemployment rate in the euro area stood at 11.5 percent in November 2014, which is slightly lower than at its peak of 12 percent in September 2013. Employment also increased slightly during last year, although it still remains well below pre-crisis levels. Without higher growth, a more substantial and sustainable recovery of the labour market probably remains a long way off.

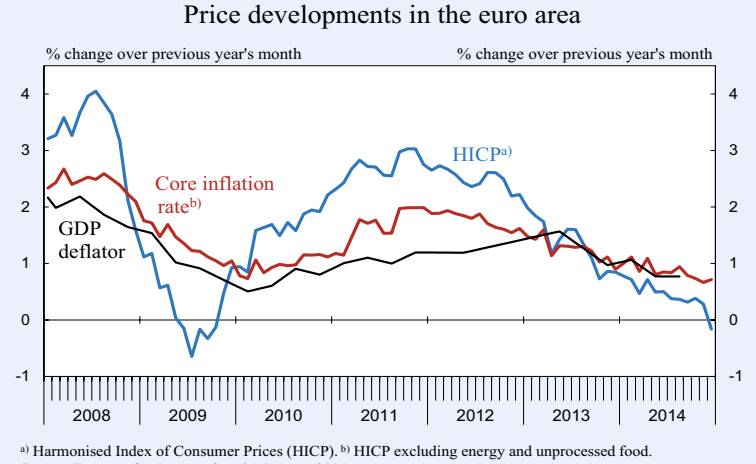
Inflation in Europe has turned to historically low levels. The average inflation rate in 2014 of 0.4 percent in the euro area (and 0.6 in the European Union) was well below the medium-term target of the European Central Bank (ECB) of below or close to 2 percent. In autumn 2011, it stood at 3.0 percent and has fallen almost continuously since. For two years now, inflation has been below target (see Figure 1.12). The core inflation rate (headline inflation excluding energy and unprocessed food) stood at just 0.7 percent at the end of last year, down from 2.0 percent in autumn 2011. The fall in core inflation, as also shown by reduced increases in the GDP deflator, mainly reflects the continued under-utilisation of production capacities and the low scope for firms to increase prices as a result.

Figure 1.11



[a)] In constant prices, seasonally adjusted and work-day adjusted.
Source: Eurostat, last accessed on 31 January 2015.

Figure 1.12



[a)] Harmonised Index of Consumer Prices (HICP). [b)] HICP excluding energy and unprocessed food.
Source: Eurostat, last accessed on 31 January 2015.

Furthermore, the necessary efforts in crisis countries to improve competitiveness through wage and price reductions are also exerting deflationary pressures on the euro area as a whole. Finally, the price effects of past tax increases (e.g. increases in value added tax rates) have almost completely faded. That overall inflation fell more strongly than the core rate was due to falling energy and food prices. All in all, however, the risk of entering a self-reinforcing deflationary spiral of falling prices and demand still appears to be low, albeit rising.

Differences across Europe

The economy of *Germany* cooled down significantly during the summer half of 2014. At the beginning of the year, real GDP had risen dynamically at an annualised rate of 3.1 percent during the first quarter. This, however, was partly driven by favourable weather conditions; the mild winter did boost construction investment. Partly as a correction, economic output decreased in spring. However, this also reflected a much weaker underlying trend than was assumed during the winter. In the subsequent third quarter overall economic production barely increased. On balance, real GDP stagnated during the summer of 2014. As a result, the utilisation rate decreased in industry, but remained slightly above its long-run average.

The weakness of the German economy during summer was largely related to firms increasingly returning to replacement investments, after investing quite heavily in the acquisition of new equipment in the previous winter

season; leading to a decline in gross capital formation. Business sentiment has deteriorated since the beginning of 2014. It was weakened not only by the economic risks in the world and in the euro area and the uncertainties in the wake of new and old international crises, but also by the costly and employment-reducing reform projects of the German government. A legal minimum wage with high coverage and full pensions at the age of 63 were decided upon. Industry players downwardly revised their investment plans as a result.

During the second quarter, construction investment shrunk due to weather-related rebound effects. The deterioration in the overall investment climate itself was felt during the third quarter. Favourable financing conditions were neither able to provide enough countervailing impulses to construction nor to equipment investment. These overall unexpected changes in sentiment also led to a strong reduction in inventories and therefore had a negative effect on overall production.

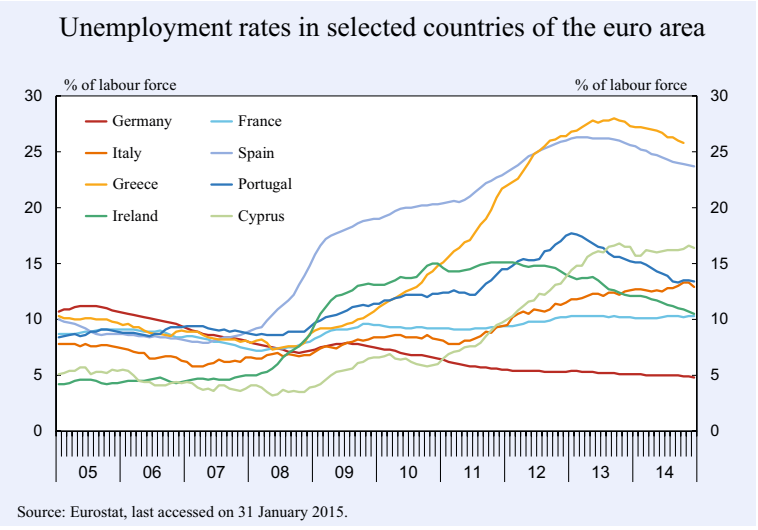
Only consumption developed robustly during the summer months. Promoted by an increase in the real income of households, price adjusted private consumption expanded remarkably. Government consumption also increased substantially. Overall economic development was also propped up by foreign trade: although both imports and exports increased, the latter did so at a faster pace, resulting in a positive contribution from net exports. Taken together these developments, however, were not enough to offset the investment-driven decline in domestic demand.

Employment continued to develop favourably, albeit at a gradually slower pace over the course of the year. The unemployment rate hardly declined as a result (see Figure 1.13).

During the first half of 2014, *France* almost fell back into a recession, which was followed by weak economic growth during the second half of last year. As in 2013, the strongest spending impulses came from the government sector. The loss in competitiveness, combined with the weak willingness to carry out the structural reforms necessary in the longer-run, have placed a heavy burden on the private economy. The willingness of firms to invest is very low and gross fixed capital formation is therefore falling steadily. Exports have so far neither benefited from Europe's slow recovery, nor the reduced value of the euro, resulting in hardly any positive dynamic in the labour market. The unemployment rate hardly changed and reached 10.3 percent at the end of last year.

The economic recovery in the *United Kingdom,* which began in early 2013, continued throughout 2014. As in 2013, the recovery was largely driven by domestic demand. Both private consumption and investment continued to provide strong impulses and government spending also contributed significantly during the summer. Despite the economic recovery and the rapid recovery of the labour market – the unemployment rate fell from 7.1 percent at the end of 2013 to below 6 percent at the end of 2014 – with wage and inflation dynamics remaining weak. Consumer prices rose, even without considering the significant drop in energy and food prices in October, by only 1.5 percent compared to the previous year.

Figure 1.13



Source: Eurostat, last accessed on 31 January 2015.

In *Italy* investments have been continuously falling since the beginning of 2011, reaching levels in 2014 that had previously last been seen in 1997. The country has now been in recession since mid-2011. Although the decline in production has started to abate, mainly because private consumption stopped falling and the export-oriented sectors are benefiting somewhat from the overall recovery in Europe, a turnaround has not yet been achieved. With ever-changing governments constantly reversing course, it is diffi-

cult to create an environment in which long-term investment decisions appear fruitful and a general wait-and-see attitude seems to have captured the Italian business sector. Moreover, Italy remains vulnerable to any increased tensions in government bond markets, with its public debt amounting to 132 percent of GDP in 2014. Real GDP is expected to have fallen by 0.4 percent last year.

In mid-2013 the economy of *Spain* pulled out of recession. Since then, GDP growth has accelerated slowly, reaching an annualised 2.0 percent growth rate in the third quarter of 2014. With the exception of public consumption, all major spending components have contributed significantly to this recovery. Albeit still at historically high levels, the unemployment rate is benefiting from this turn for the better and has steadily been declining since the end of 2013.

In Portugal real GDP has also been on an upward trend since spring 2013. Even Greece emerged from its deep and prolonged recession at the start of 2014. Mainly export growth, as well as private consumption and investment more recently, have positively contributed to this change. In both countries, the effects of the turnaround are already noticeable in their labour markets. Unemployment has been steadily falling throughout 2014. Although the labour market is also improving in Cyprus, its economy is still shrinking. Together with Italy, Cyprus remained the only euro area member state in recession last year.[1]

In the *Central and Eastern European* member states of the European Union, economic recovery has slowed somewhat since mid-2014. This was mainly due to weaker demand from the euro area. Although export growth was still strong until the middle of the year, it lost momentum somewhat in the third quarter. Domestic demand was robust almost everywhere. Except in Croatia, consumer spending, supported by low price dynamics, continued to grow in the region. Government consumption increased markedly in several countries during the second half of the year. Equipment investments also made an overall positive contribution to the increase in GDP in the region. Their expansion was facilitated by the significant revival in Eastern European credit markets. Nevertheless, large differences between countries continue to prevail. While firm lending recently increased again in Poland, the Czech Republic and Bulgaria, borrowing remains difficult for companies in Romania, Hungary and Croatia.

[1] Although the annual growth rate for Finland is also negative for 2014, it managed to emerge from recession in spring last year. Finland is suffering from a decline in one of its key industries, as well as weak external demand from the euro area and Russia – one of Finland's main trading partners.

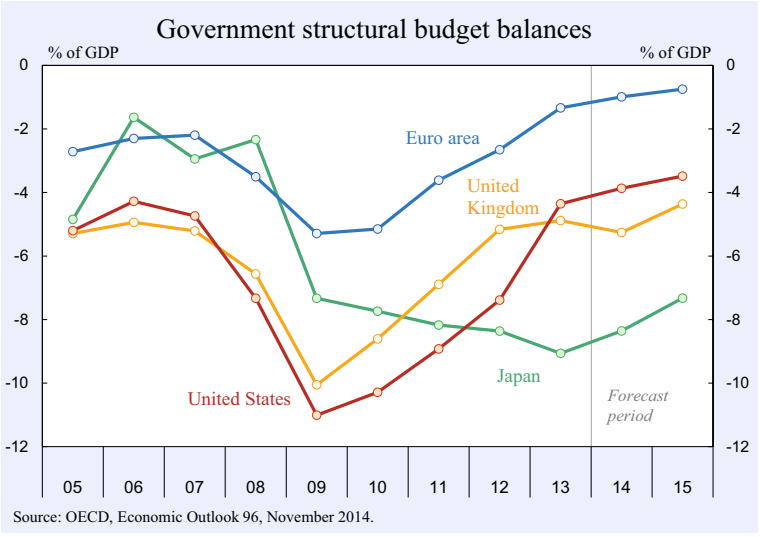
1.3 Fiscal and monetary policy

1.3.1 Fiscal policy

The restrictiveness of fiscal policy will abate in the major advanced economies, albeit to differing degrees. Although fiscal policy in the United States will continue to reduce its structural budget deficit, the scheduled spending cuts that fall within this and last years' budgets are significantly lower than those in 2013 (see Figure 1.14). In addition, many federal states are planning to increase their spending again.

In Japan, value added tax (VAT) was increased by three percentage points in April 2014. This measure is supposed to act as the trigger initiating fiscal consolidation in the years ahead, which in the light of a public debt approaching 250 percent of GDP, appears to be desperately needed. At the same time, a temporary stimulus package was introduced in a bid to mitigate some of the negative impact of the VAT increase. Nevertheless, fiscal policy in Japan was highly con-

Figure 1.14



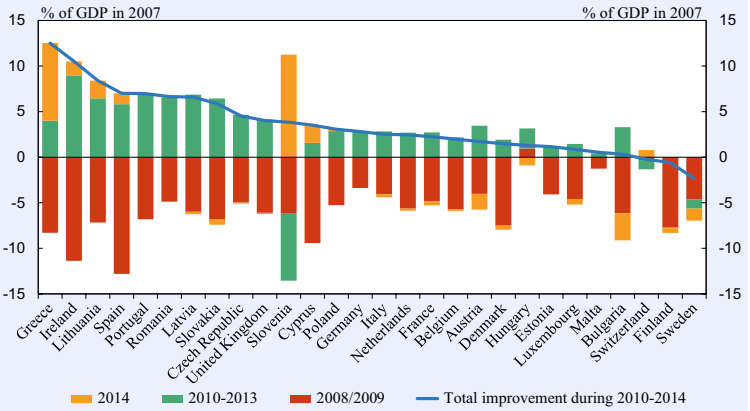
Source: OECD, Economic Outlook 96, November 2014.

tractionary last year. Although a further VAT increase scheduled for October 2014 was postponed until 2017, fiscal policy will remain restrictive, as previous stimulus packages are set to expire.

In the majority of emerging economies, fiscal policy is likely to have a mostly neutral effect. China was the only economy that was substantially supported by public investment programmes in 2014. Furthermore, the Chinese government has indicated its willingness to extend these infrastructure investments once again, should its economy continue to lose momentum. The Russian government is being forced to intervene and stimulate its economy so as to mitigate the negative effects on the industrial and banking sectors of economic sanctions related to the political conflict with the West.

Figure 1.15

Changes in the primary fiscal balances relative to pre-crisis GDP[a)]



[a)] Below the horizontal axis at zero deteriorations of the primary fiscal balance are reported; above this line improvements are shown. The sum of the three bars result in the overall change during 2008-2014.
Source: European Commission, DG ECFIN, General Government Data and AMECO, Autumn 2014.

In the United Kingdom the consolidation effort is also gradually waning. In the euro area, fiscal policy is similarly becoming less restrictive after three to four years during which much-needed consolidation efforts did generate clear negative economic impulses in many places (see Figure 1.15). Not only does the low interest rate environment create incentives for debt-financed spending, the European Commission also relaxed the deficit and debt reduction plans for many member states in 2013. Nevertheless, it is quite clear that these revised fiscal targets will not be met by countries like France and Italy. The French government announced as early as September that it will not meet its budget target of 3.8 percent in 2014, as provided by the (relaxed) stability programme of the European Commission. It appears very unlikely that it will reach its deficit target of 3 percent this year either. In Italy, fiscal deficits are also higher than planned. The Italian government does not want to respond to its deteriorating fiscal position caused by lower than expected economic growth with additional consolidation measures. Although in the latest assessment of the European Commission, the government was given three more months to bring the 2015 budget into line with EU requirements, it appears likely that the European Commission will act in an accommodative manner again. Whereas this will take the pressure off in terms of short-term economic developments, the combination of very high public debt and low growth outlooks could, however, raise fresh doubts about the solvency of some individual euro area countries; and thereby give rise to renewed turmoil in financial markets. Furthermore, the credibility of any European agreement on fiscal constraints is further reduced. While deficits, especially when adjusted for cyclical effects, have been falling in recent years, according to the autumn forecast of the European Commission hardly any further declines are likely for this year. In France and Italy in particular, some increases in structural deficits appear likely, as no significant additional consolidation measures are scheduled.

The budgetary situation in the crisis-afflicted countries of Cyprus, Greece, Ireland, Portugal and Spain has improved noticeably. With the exception of Spain, all of these countries have probably achieved a primary surplus in 2014. Spain is also making substantial progress towards this goal. Both the improving economic situation and temporary increases in particular tax rates up until the end of last year allowed Spain to outperform its deficit target of 5.8 percent of GDP. The scheduled income tax reform will probably lead to a temporary increase in Spain's budget deficit.

In light of the continuing recovery, the overall government deficit for the euro area and the European Union is expected to decline slightly to 2.6 percent in 2014 from 2.9 percent in 2013 (see Table 1.1). Hardly any further consolidation is to be expected this year. The very hesitant recovery will, for example via somewhat higher employment, lead to a slight improvement in the budgetary situation in many member states. In addition, the strong decline in government bond yields

Table 1.1

Public finances

	Gross debt[a]				Fiscal balance[a]			
	1999–2007	2008/2009	2010–2013	2014	1999–2007	2008/2009	2010–2013	2014
Germany	62.2	68.6	78.5	74.5	– 2.2	– 1.5	– 1.2	0.2
France	62.3	73.3	87.0	95.5	– 2.5	– 5.2	– 5.2	– 4.4
Italy	102.9	107.4	120.4	132.2	– 2.9	– 4.0	– 3.4	– 3.0
Spain	48.2	46.1	76.4	98.1	0.2	– 7.7	– 9.0	– 5.6
Netherlands	49.3	55.6	63.8	69.7	– 0.6	– 2.6	– 3.9	– 2.5
Belgium	100.8	95.8	102.6	105.8	– 0.5	– 3.3	– 3.7	– 3.0
Austria	66.2	74.1	81.9	87.0	– 2.2	– 3.4	– 2.7	– 2.9
Greece	102.3	118.0	162.3	175.5	– 5.3	– 12.6	– 10.5	– 1.6
Finland	40.6	37.2	51.1	59.8	3.8	0.8	– 2.0	– 2.9
Portugal	59.6	77.6	115.0	127.7	– 4.3	– 6.8	– 7.2	– 4.9
Ireland	31.1	52.4	110.9	110.5	1.6	– 10.5	– 14.7	– 3.7
Slovakia	40.5	32.1	47.8	54.1	– 5.3	– 5.1	– 4.6	– 3.0
Slovenia	25.7	28.1	52.0	82.2	– 2.3	– 4.0	– 7.6	– 4.4
Luxembourg	6.6	15.0	20.8	23.0	2.5	1.4	0.1	0.2
Latvia	12.2	27.5	42.1	40.3	– 1.7	– 6.5	– 3.3	– 1.1
Cyprus	59.2	49.7	76.1	107.5	– 2.5	– 2.4	– 5.3	– 3.0
Estonia	5.0	5.8	8.1	9.9	0.7	– 2.5	0.1	– 0.4
Malta	65.5	65.3	68.8	71.0	– 5.0	– 3.8	– 3.1	– 2.5
Euro area	**69.0**	**75.0**	**88.7**	**94.7**	**– 1.9**	**– 4.2**	**– 4.2**	**– 2.6**
United Kingdom	39.8	58.7	82.8	89.0	– 1.8	– 7.9	– 7.8	– 5.4
Sweden	49.0	38.5	36.9	40.3	1.1	0.6	– 0.6	– 2.4
Denmark	43.6	36.9	45.0	44.1	2.3	0.2	– 2.4	– 1.0
Poland	43.2	49.0	54.6	49.1	– 4.1	– 5.6	– 5.1	– 3.4
Czech Republic	24.6	31.4	42.6	44.4	– 3.7	– 3.8	– 3.1	– 1.4
Romania	19.5	18.2	34.8	39.4	– 2.6	– 7.2	– 4.3	– 2.1
Hungary	58.9	75.0	79.4	76.9	– 6.3	– 4.1	– 3.7	– 2.9
Croatia[b]	28.2	40.2	63.2	81.7	– 2.9	– 4.3	– 6.1	– 5.6
Bulgaria	45.0	13.7	17.0	25.3	0.5	– 1.3	– 1.8	– 3.6
Lithuania	20.5	22.2	38.1	41.3	– 1.8	– 6.3	– 5.4	– 1.1
European Union[b]	**61.8**	**68.3**	**82.9**	**88.1**	**– 1.7**	**– 4.6**	**– 4.6**	**– 3.0**
United States	47.2	79.4	100.1	105.6	– 2.6	– 10.3	– 8.9	– 5.5
Japan	167.0	201.0	231.6	245.1	– 5.9	– 7.3	– 9.0	– 7.1
Switzerland	63.3	50.1	49.1	47.2	0.2	1.2	0.3	0.5

[a] As a percentage of gross domestic product. For the European countries, definitions according to the Maastricht Treaty. For the United States, Japan and Switzerland, definitions are according to the IMF. – [b] Data on Croatia is only available from 2001 onwards.

Sources: European Commission, Autumn 2014; IMF World Economic Outlook, October 2014.

will further dampen government interest payments. Therefore, the deficit ratio for the euro area as a whole is forecast to continue to decline slightly to 2.4 percent this year.

1.3.2 Monetary conditions and financial markets

Monetary conditions

Monetary policy in the major advanced economies remains very accommodative. However, the degree of expansion started to diverge in the various regions as of the beginning of last year. Differences in the degree of utilisation of production factors, and therefore potential inflationary pressures, are mainly responsible for this divergence. Given the robust economic development in the United Kingdom and in the United States, the central banks of these countries stopped their programmes to buy securities as early as in mid-2012 and October 2014 respectively. Both countries are also expected to start increasing their interest rates again this year. Nevertheless, and in accordance with statements made under the heading of "forward guidance", both central banks will continue to pursue expansionary monetary policy for quite some time to come.

In Japan, on the other hand, the degree of monetary expansion has increased again. At the start of 2013 the Bank of Japan announced that it would try to

achieve its inflation target of 2 percent in two years' time by resorting to massive quantitative easing. Given the unexpectedly sharp economic downturn in the summer of 2014 and a still very weak core inflation rate, the Bank of Japan decided in early November to expand its monthly purchases of securities by over 20 percent to 80 trillion yen. Given that the Bank of Japan's uncollateralised overnight call rate is already at a historical low of 0.1 percent and is almost zero, no interest rate changes are expected for this year.

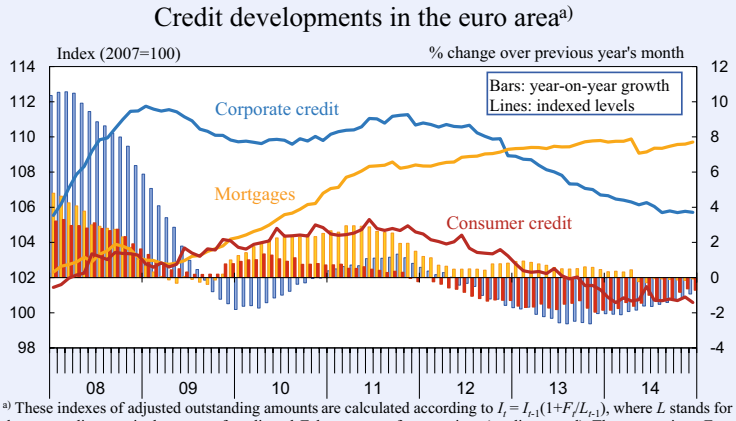
The central bank of China has also become more expansionary in recent months. Triggered by the slowdown in the construction sector and the real-estate market, it relaxed liquidity provision in some sectors slightly over the summer (while keeping restrictions in place in areas where the risk of a bubble appears highest). In addition, it lowered its base rate by 40 basis points to 5.6 percent in November. In view of historically low inflation rates, the Chinese central bank is likely to loosen its monetary policy stance again as soon as the economy is expected to slow down noticeably.

Most central banks in emerging economies have been forced to raise their key interest rates several times in recent months. This was either aimed at fighting inflation that was considered to be too high (Brazil) or at counteracting the devaluation of their exchange rates triggered by the monetary policy shift in the United States (India, Indonesia). Russia's central bank also increased its interest rate sharply and intervened massively in the foreign exchange market to counteract the strong depreciation of the rouble. It came under pressure in spring as a result of the Russian-Ukrainian conflict. Facing dwindling foreign exchange reserves and continuing withdrawal of capital, the Russian central bank decided in early November 2014 to stop its foreign exchange intervention and, at least for the time-being, have a fully floating Russian currency.

ECB monetary policy has become more expansionary as production capacity remains underutilised and the inflation rate has fallen almost continuously. In addition, lending has not picked up in the euro area either. Whereas corporate credits have been falling since the end of 2011 and consumer credits stabilised last year at low levels, only mortgages appear to be benefitting from the low interest rate environment and are increasing slowly (see Figure 1.16). In two steps of 10 basis points each, the main refinancing rate was lowered to 0.05 percent in June and September last year (see Figure 1.17). This also caused the deposit rate to turn negative in June. As a result, the banking sector has since withdrawn most of its excess reserves from the ECB system (see Figure 1.18).

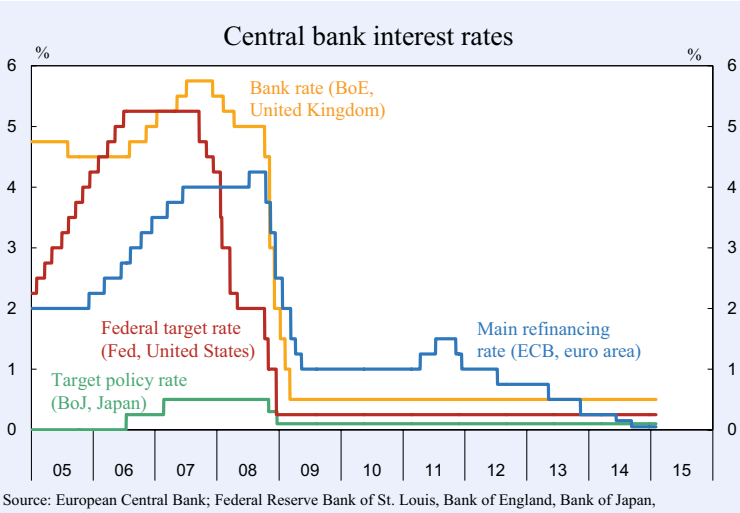
With these steps, the ECB clearly signalled that all conventional interest rate policy measures have now

Figure 1.16



[a)] These indexes of adjusted outstanding amounts are calculated according to $I_t = I_{t-1}(1+F_t/L_{t-1})$, where L stands for the outstanding nominal amount of credit and F the amount of transactions (credit granted). The transactions F are calculated from differences in outstanding amounts adjusted for reclassifications, other revaluations, exchange rate variations and other changes which do not arise from transactions (see European Central Bank, 2010, for details). A specific securitisation operation in France has led to a downward level shift in mortgages in May 2014.
Source: European Central Bank, last accessed on 31 January 2015.

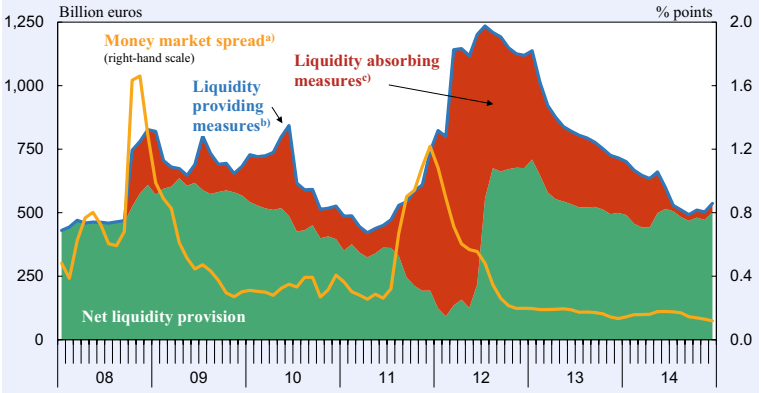
Figure 1.17



Source: European Central Bank; Federal Reserve Bank of St. Louis, Bank of England, Bank of Japan, last accessed on 31 January 2015.

Figure 1.18

Liquidity provision by the ECB and the money market spread



[a)] Difference between the 3-month (unsecured) Euribor and the 3-month (secured) Eurepo (monthly average). [b)] Monthly average of main and longer-term refinancing operations and the use of the marginal lending facility of the ECB. [c)] Monthly average of the use of the deposit facility and fixed-term deposits at the ECB.
Source: European Central Bank, last accessed on 31 January 2015.

finally been exhausted. Its governing council subsequently decided on a number of additional measures to revive lending in the euro area and drive inflation back to its target. These include the unlimited allocation of liquidity within the main refinancing operations, which has been extended until the end of 2016. Furthermore, so-called Targeted Longer-Term Refinancing Operations (TLTRO) were introduced that were auctioned in September and December last year and intended to provide cheap four-year funding at a fixed 0.10 basis point mark-up over the prevailing MRO rate percent interest rate to the banking sector. These funds were supposed to be linked to the amount of credit provided by the bank to the private economy which, however, is difficult, if not impossible, for the ECB to control. Although the banking sector would, in principle, have been able to borrow up to approximately 400 billion euros under this programme, the programme only managed to allot around 80 billion euros in September and 130 billion euros in December.

The ECB also started a purchase programme for asset backed securities and covered bonds in order to further strengthen lending by banks to the private sector. In mid-January both programmes amounted to only around 35 billion euros. This could be due to the fact that unlike in the United States, and to a lesser extent, the United Kingdom, most firm-funding in Europe takes place via bank loans instead of issuing bonds, making European financial markets smaller and much less liquid. The intention, however, is to further develop these markets in the euro area. In view of the ECB's stated goal of expanding its balance sheet by around 1 trillion euros to reach around 3 trillion euros – the level of early 2012 – the disappointing volumes of previous measures and the further decline in inflation, which turned negative in December 2014 for the first time in five years, prompted the ECB to further extend its asset purchase programme.

In January the ECB decided to buy 60 billion euros of securities every month starting in March 2015 until September 2016. The ECB will not only buy private sector debt, but will also purchase the central government bonds of euro area countries as well as, although to a lesser extent, bonds from European agencies and institutions. Central government debt will be bought according to the equity share of member countries in the ECB. This programme's goal is to increase the liquidity of banks and decrease the opportunity costs of lending by lowering the return on alternative investments. An additional incentive for banks to undertake further lending is the currently negative overnight deposit facility at the ECB. To avoid the sharing of hypothetical losses due to haircuts or the defaults of single countries, the majority of central government bonds will be bought by their respective central bank.

The ECB has now used up most of its options to further loosen monetary policy, and has urged the governments of the euro area countries to swiftly implement additional product and labour market reforms. Such reforms are necessary because monetary policy can only strike an accommodative stance, while it is down to individual governments to make improvements to the business environment for firms that will boost investment activity.

To what extent the extended asset purchases are legal according to the current treaties remains somewhat unclear. The government bond-buying Outright Monetary Transactions (OMT) programme launched in 2012 is currently being reviewed by the EU's highest court. The first report indicates that the programme is to be considered legal. This makes it more likely that the ECB's extended asset purchase programme will also be considered to fall within its mandate.

The situation in the money markets continued to ease further over the course of 2014. The money market spread between not-secured and secured loans in the

money market currently stands at just over 0.1 percentage points, indicating increased confidence between banks (see Figure 1.18). At the height of the financial crisis in the autumn of 2008 and during the euro crisis at the end of 2011 and early 2012, the interest rate premium was sometimes above 1 percentage point. There is also growing evidence that cross-border interbank trade is increasing again, although the volume is still significantly lower than its pre-crisis levels. Increased transparency regarding the capital requirements of the largest banks in the euro area, as created by the Asset Quality Review and the ECB's bank stress test, will support the further normalisation of the interbank market. Compared to its predecessors, the latest banking stress test was both more extensive and restrictive. Nevertheless, not all doubts about the resilience of the banking sector have been allayed. In particular, it has not been investigated whether and how a prolonged deflation period would affect the stability of systemically important banks.

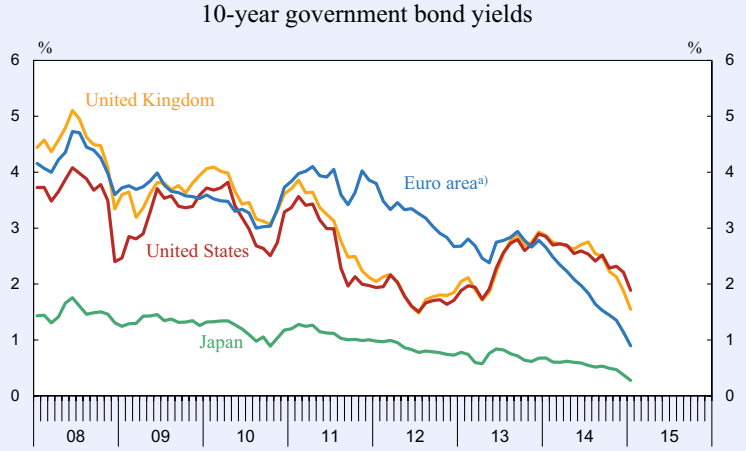
Bonds, stocks and foreign exchange markets

In bond markets yields have fallen due to the low inflation rates, the recent ECB decisions and in anticipation of further monetary policy measures. An extension of the asset purchase programmes of corporate and government bonds seems likely. Interest rates on ten-year government bonds fell substantially over the course of 2014 and, at the end of last year, stood at only 1.1 percent for the synthetic euro-area benchmark bond (see Figure 1.19). With the exception of Greece, yields on government bonds of crisis-afflicted countries continued their downward trend and within euro area disparities continued to abate (see Figure 1.20). Growing uncertainty regarding the future course of Greek policy as of October led to a substantial increase in the risk premium on Greek government bonds.

Yields on corporate bonds of any rating, and particularly on covered bonds, also decreased significantly. Although to a lesser degree, this also holds for firms located in countries with strong credit ratings. These covered bonds play an important role in bank finance and are currently trading at historically low levels.

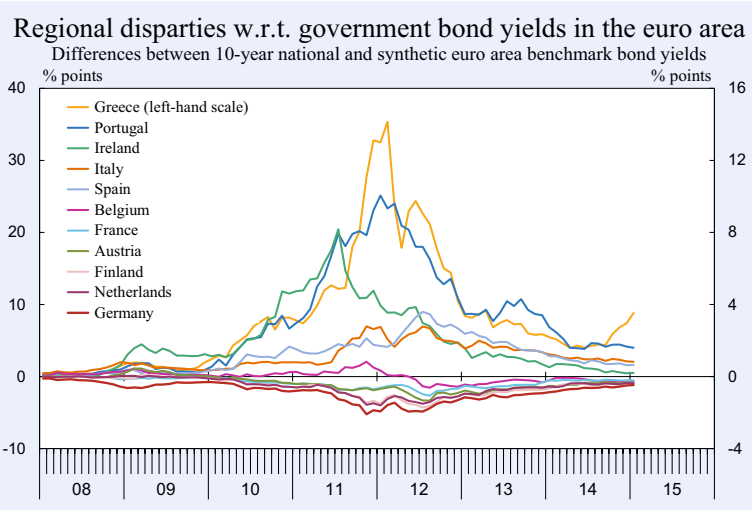
However, the low funding costs of the banking sector are not yet reflected in the lending rates for non-financial corporations in the crisis countries. Since the beginning of 2012 these rates have varied between 3.5 to 5.5 percent, which is substantially higher than the rates that firms in highly creditworthy member states have to pay and comparable to the levels faced by the crisis-afflicted countries in 2005 (see Figure 1.21). This is due to both demand and supply-side effects. Firstly, the creditworthiness of many companies in the crisis countries is poor due to a deep recession and the

Figure 1.19



[a)] The synthetic euro area benchmark bond refers to the weighted average yield of the benchmark bond series from each European Monetary Union member.
Source: Datastream, last accessed on 31 January 2015.

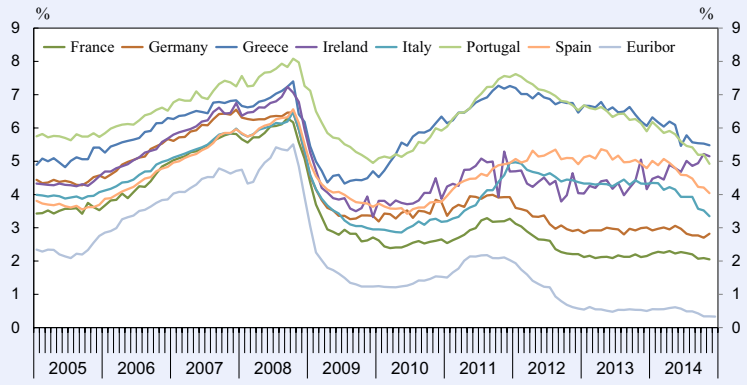
Figure 1.20



Source: Datastream, last accessed on 31 January 2015.

Figure 1.21

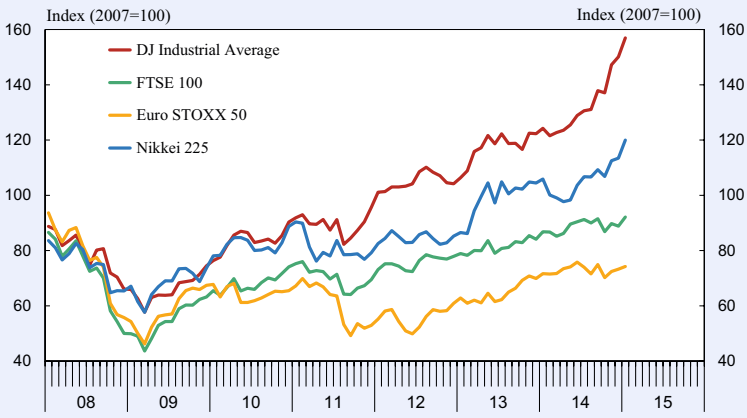
Interest rates on loans to businesses in selected countries of the euro area[a)]



[a)] New loans to non-financial corporates up to one million euros using floating rates or up to 1 year initial rate fixation. The Euribor rate is based on secured interbank loans with a maturity of one year.
Source: European Central Bank, last accessed on 31 January 2015.

Figure 1.22

Developments in international stock markets



[a)] Stock market indexes outside the euro area are first converted into euros.
Source: Datastream, last accessed on 31 January 2015.

bursting of credit bubbles, implying that the relatively high lending rates reflect appropriate risk premiums. Secondly, the fact that the lower refinancing costs of banks are not fully transmitted to lending rates for the non-financial corporate sector also points to supply-side constraints. Many banks in the crisis countries continue to hold high and still rising inventories of impaired loans, resulting in a reluctance to lend. A sustainable consolidation of bank balance sheets has still not been fully accomplished. This reluctance to lend is also reflected in the development of loan portfolios. Whereas the volume of outstanding loans in non-crisis countries has started to increase slightly, those in the crisis countries continues to shrink, albeit at declining rates.

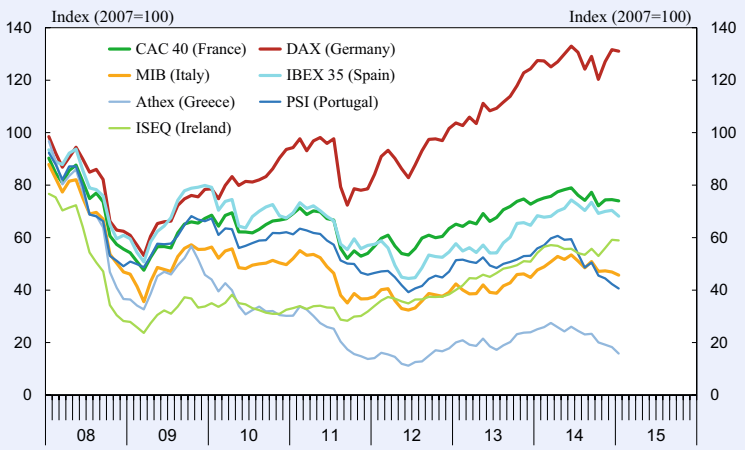
All in all, financial conditions, for households and firms are likely to continue to remain favourable in Europe. In the euro area, monetary policy is further increasing its expansionary stance and interest rates will remain low. Differences between the crisis-hit countries and those that enjoy high credit ratings within the euro area, however, remain and are only slowly decreasing as the recovery of the former countries' banking sectors is still far from complete. Lending is therefore only likely to revive very slowly.

The international normalisation of risk preferences continued to shift asset allocation away from government bonds and towards other bonds, and particularly stocks. As a result, stock market indexes remained on the upward trend that they set in mid-2012, for the first half of last year at least (see Figure 1.22). Measured in local currencies, the Dow Jones industrial average, the Nikkei 225 and the Euro STOXX 50 improved by 10.3 percent, 11.8 percent and 4.8 percent respectively during 2014. The FTSE 100 was the only index that stagnated. The appreciation of the US dollar in particular, but also of the British Pound made the gains more pronounced from a euro area perspective.

When financial markets started to realise that the economic recovery in the euro area was not as buoyant as some had expected, some corrections did take place during the second half of last year (see Figure 1.23). In the end, the Athex (Greece) and the PSI (Portugal) witnessed overall declines of around 20 percent over the year. The Irish ISEQ, by contrast, experienced a gain of approximately 16 percent in 2014.

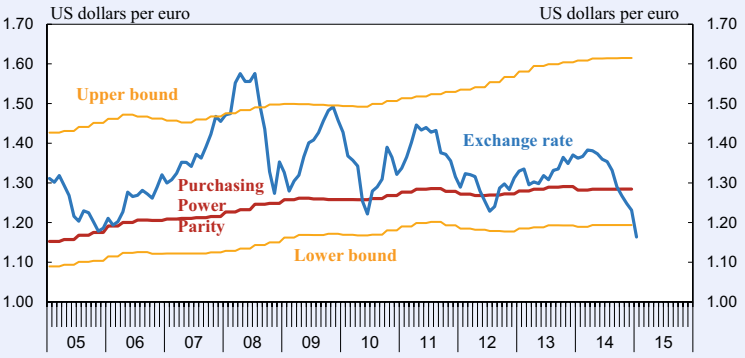
From spring last year onwards, the euro entered a clear depreciation course against the US dollar (see Figure 1.24). The increase in the growth differential between the United States and the euro area, combined with the prospect of even more diverging monetary policy regimes, has made the US dollar more attractive and the euro less so. A similar picture emerges when looking at real effective changes, i.e. when correcting for inflation differentials and weighting by ex-

Figure 1.23



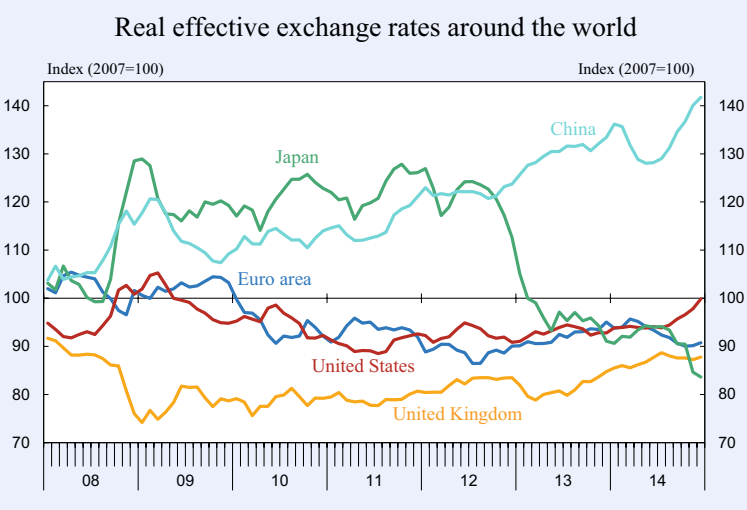
Source: Datastream, last accessed on 9 January 2015.

Figure 1.24



[a] The nominal exchange rate is based on monthly data, while the exchange rate based on purchasing power parity (PPP) is given at a quarterly frequency. The PPP upper bound represents the 75th percentile of the euro country-specific PPP estimates vis-à-vis the US dollar; the lower bound the 25th percentile. The US dollar-euro PPP rate is calculated as the GDP-weighted average of the euro country-specific PPP estimates vis-à-vis the US dollar.
Source: OECD Economic Outlook 96, November 2014, European Central Bank, last accessed on 31 January 2015.

Figure 1.25



Source: Bank for International Settlements, last accessed on 31 January 2015.

port shares: there has been an overall clear depreciation of the euro since spring 2014, whereas the US dollar has been appreciating in real terms against the Unites States' major trading partners' currencies since mid-2014 (see Figure 1.25).

As far as the other major currencies in the world are concerned, the yen went through another depreciation phase from the summer of last year onwards. This was again largely triggered by further (expected) loosening of monetary policy in Japan. After an initial real depreciation phase prompted by monetary policy and ensuing movements in the nominal exchange rate vis-à-vis the US dollar during spring 2014, the real effective exchange rate of China started appreciating strongly again in 2014. This reflects both the somewhat higher inflation rate in China compared to most of its trading partners, and the newly set-in moderate appreciation of the renminbi against the US dollar.

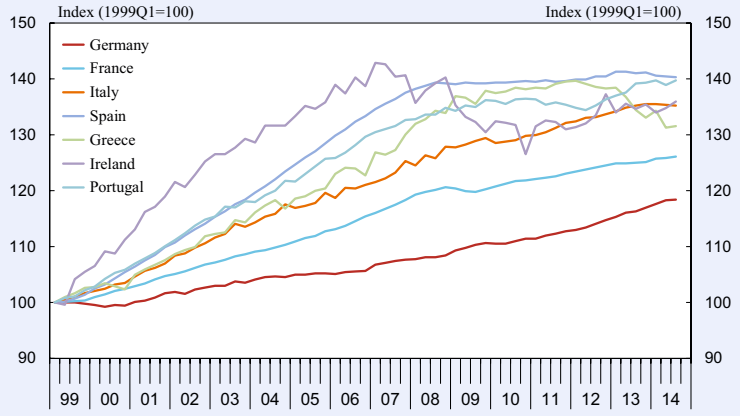
1.4 The macroeconomic outlook

1.4.1 Assumptions, risks and uncertainties

The poor economic shape of several euro area countries continues to pose a major risk to the global economy. Despite the structural reforms that have been carried out in Spain, Ireland, Portugal and Greece over the past three years, the necessary adjustments are far from complete, and numerous structural problems persist. This is reflected, among other things, in the slow pace of relative price adjustment (see Figure 1.26). In order to restore their

Figure 1.26

GDP deflators of selected countries in the euro area



Source: Eurostat and OECD, last accessed on 31 January 2015; EEAG calculations.

competitiveness within the euro area and keep their external debt at sustainable levels, former crisis countries must lower their relative prices. If they fail to do so, these countries remain fragile and vulnerable to changes in sentiment. The elections in Greece are a case in point. As a result, government bond yields for that country have clearly increased. However, at the time of writing, this effect has not spilled over to other countries (Spain, Portugal, France and Italy). So far at least, financial markets do not see a big risk of contagion from recent developments in Greece to other countries. Compared to 2012, the European Union now has more safeguards in place against possible contagion (bailout funds, commitment of the ECB as lender of last resort and a partial banking union), which appear to be credible. The ongoing reform gridlocks in France and Italy are also potentially worrisome. These impasses reduce the medium-term growth prospects of the two economies and could, in principle, give rise to doubts about their solvency in financial markets.

The low inflation rate in the euro area also remains a risk. Core inflation has steadily slowed from 2 percent at the end of 2011 to 0.7 percent by the end of last year. The longer the phase of low inflation persists, the greater the risk that inflation expectations will lose their anchor. This, in turn, could further increase downward pressure on inflation. In a scenario that is still to be considered extreme, the euro area could slip into deflation. A falling price level would increase the real value of nominal debt. Given the high public and private debt levels in many places in the euro area, this could be a heavy burden on growth. Currently, however, long-term inflation expectations for the euro area still appear to be quite well anchored. Furthermore, a substantial part of the current slowdown in inflation stems from falling energy and food prices. The core inflation rate adjusted for these components is currently more than twice as high as the overall rate of inflation and is most likely to average at around one percent this year. Furthermore, part of the reduction in inflation is to be endorsed as it reflects the structural adjustment that is taking place in the euro area. Structurally weak euro area countries are striving to improve their international competitiveness. This requires that the prices of their products increase less than elsewhere or even decline. Indeed, there are clear indications that (slow) progress is being made in labour costs and thereby competitiveness (see Table 1.2). All euro area countries have shown reductions in relative unit labour costs during the period 2010–2014, while these reductions have been more pronounced in the crisis-inflicted countries of Greece, Spain, Ireland and Portugal.

Further geopolitical risks relate to the ongoing conflict between Russia and the Ukraine and the Islamic threat in the Middle East. An escalation of the Russian-Ukrainian conflict could cause a spiral of mutual sanctions between Russia and the West and an increase in overall uncertainty. An escalation of the crisis in the Middle East could lead to an increase in oil prices given that this region is still one of the world's leading oil producers.

Finally, considerable risks are to be associated with the recent hikes in asset prices. The indices of some major stock markets rose sharply, despite the relatively weak global economy. In the United States, price-earnings ratios in 2014 reached levels last seen in the years 2006/2007. Hence, these ratios are very high by historical standards. Accordingly, it is possible that some segments are already overheated again. A sharp correction could worsen the wealth position of households and the financing conditions for firms, and thereby have negative implications for the world economy. Finally, in China there is a risk that the decline in housing prices, observed since the middle of last year, may accelerate. As the real-estate boom in the last five years was associated with a massive credit expansion,

Table 1.2

Labour costs[a)]

	Compensation per employee[b)]		Real compensation costs[c)]		Labour productivity		Unit labour costs		Relative unit labour costs[d)]		Export performance[e)]		
	1999 – 2009	2010 – 2014	1999 – 2009	2010 – 2014	1999 – 2009	2010 – 2014	1999 – 2009	2010 – 2014	1999 – 2009	2010 – 2014	1999 – 2009	2010 – 2014	
Germany	1.0	2.5	0.1	1.0	0.3	1.2	0.7	1.5	– 1.2	– 0.7	0.3	1.3	1.3
France	2.7	2.0	1.1	1.1	0.7	0.9	2.1	1.0	0.4	– 0.8	– 2.1	– 0.4	– 0.4
Italy	2.2	1.2	– 0.2	0.1	– 0.4	0.1	3.1	1.1	1.5	– 1.0	– 3.8	– 0.6	– 0.5
Spain	3.5	0.2	0.2	0.0	0.5	1.6	3.7	– 1.5	2.1	– 3.3	– 1.1	0.9	0.9
Netherlands	3.3	1.7	0.9	0.7	0.8	0.6	2.4	0.6	0.9	– 1.6	– 0.4	0.0	1.4
Belgium	2.7	2.2	0.8	0.5	0.8	0.6	2.2	1.5	0.7	– 0.5	– 1.1	0.3	0.7
Austria	2.1	1.9	0.5	0.4	0.9	0.2	1.4	1.7	– 0.3	– 0.1	– 0.6	– 0.6	– 2.7
Greece	5.0	– 3.9	1.8	– 3.3	1.4	– 0.8	4.5	– 3.3	2.3	– 5.3	0.1	– 1.6	6.0
Finland	3.2	2.4	1.7	0.6	1.0	0.6	2.2	1.7	0.3	– 1.2	– 0.6	– 3.9	– 1.6
Ireland	5.2	– 0.9	2.4	– 1.3	1.7	1.9	3.8	– 1.0	2.7	– 3.2	2.4	1.4	9.3
Portugal	3.7	0.0	0.7	– 0.6	0.9	0.9	3.2	– 1.4[f)]	0.8	– 1.7	– 1.3	2.2	– 0.1
Slovakia	7.7	2.6	3.7	1.9	3.7	2.5	3.1	0.6	3.5	– 1.3	4.3	4.4	1.4
United Kingdom	4.1	2.1	1.8	0.0	1.2	0.7	2.8	0.9	– 1.4	0.8	– 1.3	– 2.3	– 4.6
Sweden	3.3	1.7	1.5	0.6	1.5	1.1	2.6	1.4	– 0.8	2.4	– 0.7	– 0.3	0.3
Denmark	3.6	1.5	1.3	– 0.3	0.6	0.9	3.0	0.8	1.5	– 1.7	0.0	– 2.3	– 1.5
Poland	5.5	3.1	1.8	1.3	3.7	2.5	2.3	1.2	– 0.7	– 0.2	2.6	1.8	1.0
Czech Republic	6.0	1.1	3.6	0.3	3.0	1.0	2.6	0.8	3.8	– 2.0	4.5	2.2	5.2
Hungary	8.5	1.7	2.3	– 0.9	2.5	0.3	6.5	2.1	3.4	– 1.9	5.5	0.7	3.9
Iceland	6.7	5.6	1.3	2.8	2.4	0.1	4.9	5.1	– 3.7	5.1	1.5	– 0.3	0.8
Norway	5.0	3.3	– 0.1	– 0.6	0.6	0.2	4.5	3.8	2.7	2.4	– 3.2	– 4.5	– 2.5
Switzerland	1.7	0.6	0.7	0.5	0.8	0.4	1.3	0.3	0.3	2.6	– 1.1	– 0.8	– 13.3
Japan	– 1.3	0.1	– 0.1	0.9	0.7	1.4	– 1.5	– 0.8	– 1.8	– 5.6	– 3.4	– 0.6	4.9
United States	3.7	1.8	1.5	0.2	1.8	1.2	1.9	1.3	– 1.6	– 0.8	– 1.8	– 0.6	0.5
China									3.9	4.6	12.5	5.0	3.7

[a)] Growth rates for the total economy. – [b)] Compensation per employee in the private sector. – [c)] Compensation per employee in the private sector deflated by the GDP deflator. – [d)] Competitiveness: weighted relative unit labour costs. – [e)] Ratio between 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. – [f)] Covers the period 2010–3.

Source: OECD Economic Outlook No. 96, November 2014.

a stronger than expected correction could weaken the Chinese economy more than forecast. As China is the world's second largest economy, this would also negatively impact our outlook for the world economy.

This forecast is based on the assumption that a barrel of Brent crude will cost 60 US dollars this year on average, after reaching a price close to 100 US dollars on average in 2014. Exchange rates are assumed to fluctuate around their values observed in recent months, which implies that the euro will trade at around 1.20 US dollars.

1.4.2 The global economy

The global economic slowdown has become evident since mid-2014 in the significant reduction in the Ifo World Economic Climate, as well as in a variety of other national indicators. The economic expectations derived from the Ifo World Economic Survey suggest that the global rate of expansion this winter season will remain subdued, despite some improvement (see Figure 1.27).

The fall in oil prices during the last quarter of 2014 is likely to be an additional factor supporting global economic developments this year. Lower oil prices are mainly likely to benefit oil consumers such as the advanced economies, as well as China, India and the economies of East Asia. In these countries the energy costs of households and firms will decline relative to their income. For oil-exporting countries like Brazil, Russia and many economies in the Middle East, the strong decline in oil prices means a loss of national income.

The cheaper oil price is supporting the slow, but steady acceleration in the advanced economies, which, in turn, is allowing the world economy to slowly gain momen-

Box 1.1

Revision of the System of National Accounts

In Europe, a general revision of the System of National Accounts (SNA) took place last year. From the third quarter of 2014 onwards, European countries started to generate national account statistics using the so-called European System of Accounts 2010 (ESA 2010), which is based on the System of National Accounts (SNA 2008) as developed by the United Nations. The previous version (ESA 95) was discontinued after the release of figures for the second quarter of 2014. Unless mentioned differently, this chapter uses ESA 2010 (or SNA 2008) figures throughout.

As compared to the previous system, the quantitatively most significant change relates to the accounting of research and development (R&D) expenditure. Previously, R&D expenditure by firms was treated as an intermediate input and, as a result was not directly included in GDP. Now this is treated as investment activities and therefore directly enters into gross fixed capital formation, which in turn is, via the national income account identity, part of GDP. Consequently, the R&D expenditure of firms directly increases GDP. The government's R&D expenditure was previously part of government consumption. This, like public investment, is now also recorded as part of gross fixed capital formation. Public consumption spending thereby declines to the same extent. Overall, GDP is therefore not affected by this change in the year it is spend. However, this will lead to an increase in GDP in the following years. Gross value added of the public sector is determined from the cost side. As the depreciation of R&D expenditure increases – in a bookkeeping sense – costs, this will lead to an increase in GDP.

Another GDP-effective amendment relates to the assignment of military goods in national accounts. According to the previous ESA 95, military equipment that can be used by civilians (such as barracks) were recorded as fixed capital investment. All other military equipment (such as tanks) were recorded as an intermediate input and thereby increased government consumption. In the new system, military weapons systems that are used for more than one year are counted as assets and their acquisition is recorded as investment. This reflects the fact that weapons are used continuously for the provision of security services. As with public R&D expenditure, the acquisition of these military goods is GDP-neutral in the year of acquisition. In the following years, GDP increases due to depreciation on these weapons systems.

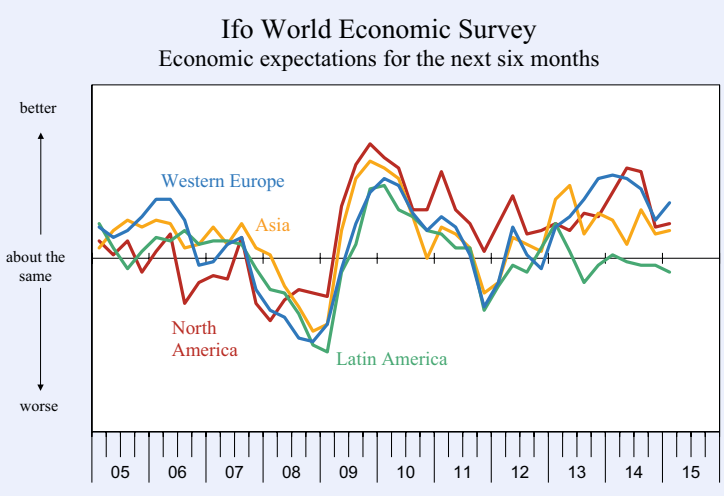
Furthermore, the definition of economic sectors has been changed in certain situations. In general, it appears that more economic units are allocated as part of the government sector. On the expenditure side, this means that a GDP-neutral shift in the consumption of private organisations towards that of the government sector has taken place.

Another innovation is the recording of goods sent abroad for processing without change of ownership (and vice versa). Previously, these goods were reported as exports when shipped and as imports on their return, with an increase in value as a result. According to ESA 2010, only the import of value added is now recognised. Several other smaller changes relate to insurance and pension payments. Furthermore, a harmonisation of the kind of illegal activities accounted as part of GDP took place.

All in all, this revision led to an increase of 3.3 percent on average in nominal GDP in the euro area during the period 1995–2013. Thanks to the revision, the investment share of GDP increased by 1.4 percentage points on average. The private and public consumption share decreased by 0.9 and 0.5 percentage points respectively. Both import and export shares declined by 1.9 percentage points on average, leaving the contribution of net exports basically unchanged. The deficit and debt ratios of the public sector have, in general, fallen slightly.

Not all countries have been affected to the same extent. Whereas all countries have, on average, seen an upward revision in the level of GDP (albeit not in every year), the average growth rate has declined for some countries (e.g. Germany, Italy and Greece). The level shifts also differ. In particular, the Netherlands, Italy and Ireland now have a larger share of euro area wide GDP. Germany, France, Spain and Greece have lost some relative importance.

Figure 1.27

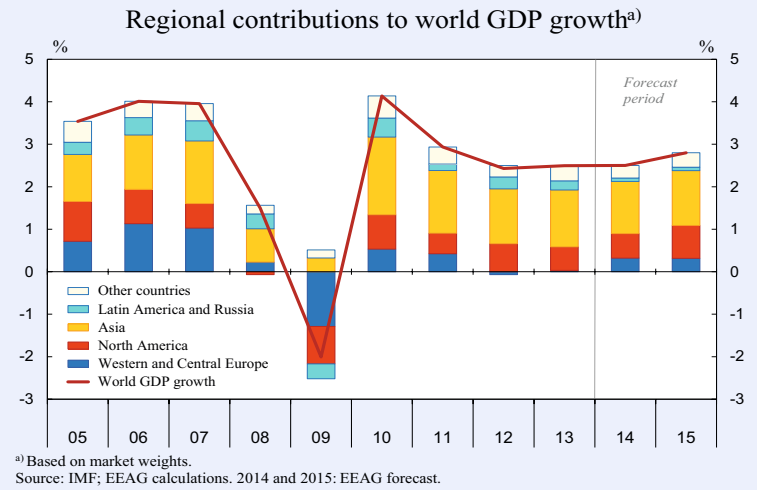


Source: Ifo World Economic Survey I/2015.

tum. The recovery in North America in particular, largely driven by the United States, is expected to continue resulting in its strongest growth contribution since the start of the global financial crisis (see Figure 1.28). In India, as well as several emerging countries in Latin America, aggregate production growth is likely to pick up somewhat during the forecast period. Numerous structural problems, on the other hand, will act as a brake on growth in important advanced economies (euro area, Japan), as well as in some major emerging economies (Brazil, Argentina). The Chinese economy is expected to see a somewhat lower growth rate, as intended by the political leadership. All of this will make the growth contributions coming from these regions roughly comparable to those of last year.

In the United States, domestic demand will provide for a strong recovery during the forecast period. The improved financial situation of households and enterprises, increasing improvements in the labour and housing market, the expansionary monetary policy, and the decreasing restrictiveness of fiscal policy in the United States are all of importance. In addition, the sharp fall in energy and commodity prices will support the economy overall.

Figure 1.28



[a)] Based on market weights.
Source: IMF; EEAG calculations. 2014 and 2015: EEAG forecast.

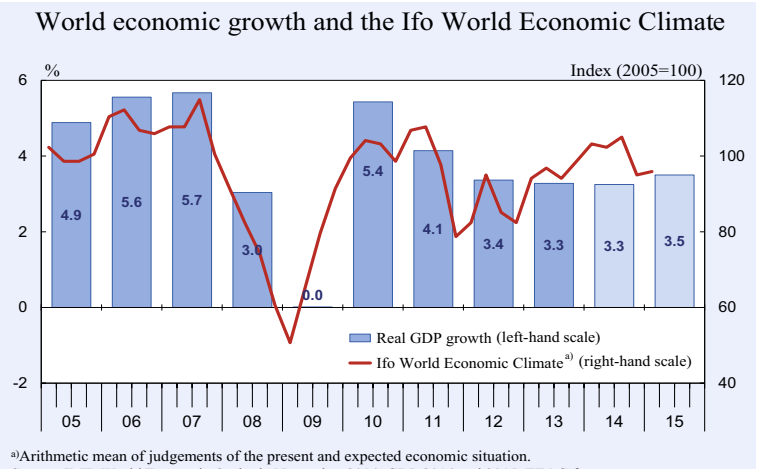
In the United Kingdom strong growth in domestic demand is the primary cause driving the robust recovery. In the euro area, the recovery will probably also continue during the forecast period, albeit at a much slower pace than in the United States or the United Kingdom. The economy of the euro area will benefit from not very restrictive fiscal policy, more expansionary monetary policy and the decline in energy prices. In addition, the depreciation of the euro is likely to support exports to the rest of the world. However, many member countries of the euro area continue to suffer from massive structural problems that will weigh heavily on economic development. In many places the banking sector is still inadequately capitalised, the debt of households and firms remains high, international competitiveness is relatively low, and product and labour markets are still not very flexible. While some countries (Spain, Ireland, Portugal and Greece) are implementing some structural reforms, and are thereby increasing their attractiveness and competitiveness, the Irish case – in which many reforms were initiated in 2009 – shows that it takes time before such reforms can bear fruits. In France and Italy, however, many much-needed reforms have so far failed to materialise. Accordingly, these countries are expected to hardly expand at all over the forecast period and may therefore prove a heavy burden on growth within the monetary union.

In Japan, the pace of expansion is expected to remain low this year. Although monetary policy remains very expansionary, the emergent restrictive fiscal policy, the recent fall in the real income of private households, as well as structural weaknesses such as a shrinking workforce, strong segmentation in the energy and service sectors, as well as over-regulation and rigidness in labour and product markets do not allow for more than a slow recovery.

The pace of growth in the emerging economies in 2015 will be comparable to last year. A number of structural factors will cause growth to remain below levels seen during the decade before the global financial crisis. Financing conditions are also expected to continue to deteriorate, because long-term interest rates in the United States will increase with the ongoing recovery, which will make emerging economies less attractive for many global investors. Nevertheless, China's economy is expected to remain resilient and India should expand dynamically. Only the commodity-exporting economies of Latin America and Russia are likely to go through a period of economic weakness due to the sharp fall in commodity prices. In addition, Russia is likely to suffer from economic sanctions and a sharp withdrawal of foreign capital triggered by the Russian-Ukrainian conflict.

All in all, and largely driven by the continuing recovery in the United States, world GDP will increase by 3.5 percent this year, after 3.3 percent in 2014, when using purchasing-power-parity adjusted weights to aggregate the economies (see Figure 1.29). Using

Figure 1.29



[a)] Arithmetic mean of judgements of the present and expected economic situation.
Source: IMF, World Economic Outlook, November 2014; GDP 2014 and 2015: EEAG forecast; Ifo World Economic Survey I/2015.

market prices, world economic growth will reach 2.8 percent this year, after 2.5 percent in 2014. Accordingly, world trade is expected to have expanded by just 2.6 percent in 2014. Although it will remain subdued from a longer-term perspective, its growth rate will manage to rise to 4.0 percent this year (see Table 1.A.1).

Due to robust growth in domestic demand, the current accounts of most emerging economies will continue to deteriorate. In the euro area, however, the gradually improving export performance of some member countries and their rather moderate domestic economic expansion will lead to an improvement in the current account balance. The current account deficit of the United States is likely to remain virtually unchanged. Rising growth in the imports of goods and services in the United States are almost fully compensated for by a further expansion of gas and oil exports.

1.4.3 United States

After fiscal policy turned restrictive again during the winter of 2013/14, it took a more neutral stance in the course of last year. During the summer half, public spending contributed significantly to the increase in gross domestic product. Over the past two years, both spending cuts and cyclically higher tax revenues have led to a significant reduction in the budget deficit. As a result of the Republican majority in Congress and a Democratic president, no further significant consolidation efforts are to be expected until the next presidential election in 2016. Hence, the federal budget deficit is only going to improve slightly for cyclical reasons. For the fiscal years 2014 and 2015 it is expected to be 2.8 percent and 2.7 percent of gross domestic product respectively.

Despite significant improvements in the labour market, the Federal Reserve is only slowly abandoning its ultra-loose monetary policy stance. The low inflation rate and the high vulnerability of international capital markets are prompting the Federal Reserve to move cautiously. Last year the Federal Reserve reduced the volume of its purchasing programme for mortgage-backed securities and government bonds stepwise from 85 billion US dollar a month in December 2013 to zero in October 2014. However, the US central bank will still refrain from bringing its balance sheet back to pre-crisis levels – and until further notice it will replace expiring papers with new ones. Regarding future interest rate policy, the projections of the members of the relevant Federal Open Market Committee suggest that the target for the federal funds rate will be raised for the first time in the first half of this year from its current low of 0–0.25 percent. The federal funds rate is expected to reach a level of about 1 percent by the end of 2015. Hence, monetary policy will become less expansionary, although the continued negative real short-term interest rates will continue to stimulate the economy.

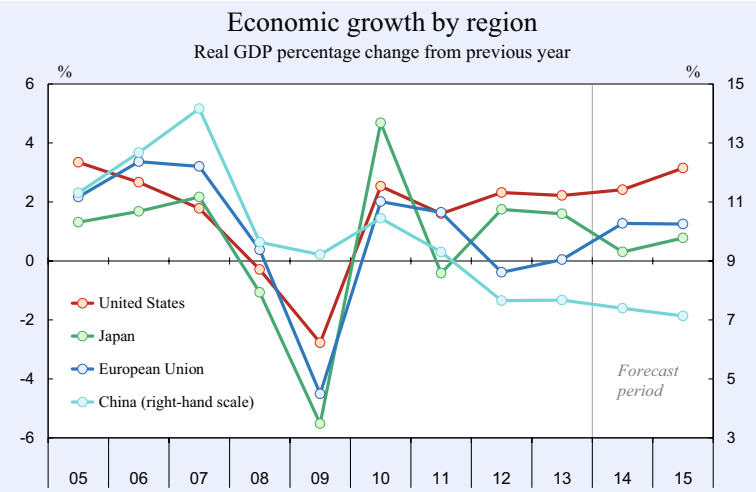
Survey-based economic indicators suggest that during the winter private consumption and machinery and equipment investment continued to show high rates of expansion. Ongoing improvements in the labour market and the substantial fall in oil prices will support private consumption and boost the economy as a whole. Manufacturing activity is showing signs of gathering pace and improved business confidence will further support investment activity. The growth contribution of net exports, on the other hand, is expected to show a gentle slowdown. Weak growth abroad and the increased value of the US dollar will dampen US export growth. Furthermore, previously weak import demand will normalise. Nevertheless, the overall rate of economic expansion should remain strong, since low inflation and strong labour market developments are about to support real disposable income and thus private consumption. In addition, after a year in which construction investment developed only weakly and remained well below historically normal levels, it should be able to contribute to an improvement in the growth rate once again.

All in all, real GDP growth of 2.4 percent in 2014 will accelerate to about 3.2 percent this year (see Figure 1.30). Both the oil price shock and the stronger US dollar will allow the inflation rate to slow down from 1.7 percent in 2014 to 1.1 percent this year (see Table 1.A.1). Finally, the unemployment rate, which averaged at 6.2 percent last year, is expected to decline further to 5.5 percent on average in 2015.

1.4.4 Asia

In *China* a further weakening of the real-estate market will lead the authorities to increase its infrastructure investment. The National Development and Reform Commission of China already approved several new major construction projects at the end of last year, in-

Figure 1.30



Source: BEA; Eurostat; ESRI; National Bureau of Statistics of China; 2014 and 2015: EEAG forecast.

cluding 16 railway stations and 5 airports. This will provide additional impulses to construction to countervail the weakening property market.

The People's Bank of China has reacted to the recently economic slowdown and fall in inflation by easing liquidity conditions for regional banks in particular. In November last year, it also lowered its base interest rate by 0.4 percentage points to 5.6 percent. The inflation rate in November last year was only 1.4 percent, the lowest level since November 2009 and well below the official inflation target of 4 percent.

On the one hand, the low inflation and the weakening of construction activities might induce the central bank to increase its expansionary efforts. On the other hand, defective developments in the real-estate sector in the past may move to the foreground. Above and in comparison to historical standards, lending by shadow banks to domestic building investors has increased very sharply in recent years. The central bank may therefore attempt to tighten lending in this area to counteract further misallocation. Steps towards further liberalisation of household savings rates in November 2012 also point in this direction: allowing banks to set savings rates more freely will, at least in the longer run, lead to more competition between banks, lower banks' mark-ups and raise saving rates (although it will not necessarily lead to higher lending rates for firms). This will make real-estate investments less attractive, thereby reducing the aforementioned misallocation.

For the forecast period a variety of indicators suggest that the pace of growth will continue to gradually slow down. Industrial production began to decelerate in recent months. In addition, survey indicators have weakened. However, strong forecast consumer demand and the still abundant scope of fiscal policy to act make it unlikely that there will be any significant economic slowdown in China. All in all, after growth of 7.4 percent in China's real GDP in 2014, it will expand by 7.1 percent this year.

In October 2014, the Bank of *Japan* further relaxed its expansionary monetary policy. In order to achieve its inflation target of 2 percent, it increased the annual purchase volume of government bonds and exchange-traded funds (ETFs) by 10 trillion yen to 80 trillion yen (which amounts to about 16 percent of GDP). These additional measures are intended to suppress the already very low long-term interest rates further and prevent a further fall in the inflation rate.

The loose monetary policy of the central bank is likely to have contributed significantly to the depreciation of the yen, which has lost about 30 percent of its real value in the past three years (see Figure 1.25). A marked increase in exports as a result of this improvement in competitiveness is, however, not likely, at least in the short term. Firstly, large companies have already moved a significant part of their production capacities abroad and therefore can only partially benefit from the devaluation. Secondly, the costs of imported inputs have increased significantly due to the devaluation. For many, especially small and medium-sized companies, this has a dampening effect on earnings and inhibits the production and export of goods and services.

Fiscal policy will become more restrictive over the course of 2015. Although the government has postponed the next increase in value added taxes, originally planned for October 2015, for one and a half years, no further stimulus measures are scheduled after the end of the last programme.

Overall, economic growth will remain low in Japan. Declining real household incomes are likely to continue to weigh on consumer spending. In addition, the disappointing structural reforms initiated by the current gov-

ernment mean that corporate investments will continue to stagnate. Structural factors (shrinking population, rigid labour markets with lifetime employment contracts, over-regulation in many product and service markets) remain a drag on growth. Overall, output is expected to rise by about 0.8 percent this year, after 0.3 percent in 2014. Inflation should lie at around 2.0 percent this year, versus 2.8 percent in 2014.

Although fiscal policy in *India* is likely to remain focused on consolidating the government's budget, it will not increase its degree of restrictiveness any further this year. On the one hand, the government is planning to cut various subsidies such as those on fuel in order to reduce the state budget deficit. On the other hand, however, significant public investments to improve India's ailing transport and energy infrastructure have been announced. Although the inflation rate has managed to fall below the inflation target of 6 percent, the restrictive stance of monetary policy is not expected to diminish. The fall in inflation since the beginning of 2014 was mainly due to the strong slowdown of inflation in food prices, whose fluctuations are usually substantial, but purely temporary.

A variety of leading indicators suggests that the Indian economy has continued to pick up during these winter months. Growth is expected to accelerate slightly due to robust domestic demand, and despite deficient infrastructure and the recent rise in refinancing costs. The increased business confidence and the planned expansion of public spending on infrastructure is likely to boost aggregate investment. Private consumption is expected to benefit from rising real incomes. Consumption growth will therefore be able to accelerate. All in all, real GDP will grow by 7.1 percent this year after 6.1 percent in 2014.

Economic growth in the group of Asian Tiger countries *(South Korea, Taiwan, Hong Kong and Singapore)* is expected to accelerate somewhat this year, fuelled mainly by domestic demand. Private consumption and investment will benefit from a brightening of labour market conditions and the improved financial situation of households and firms. A more expansionary fiscal stance in Hong Kong and South Korea will further strengthen domestic demand this year. Furthermore, exports will continue to expand at a rapid pace, especially given the expected robust recovery in the United States. The outlook for the emerging Asian countries *(Indonesia, Thailand, Malaysia and the Philippines)* is rosy. Thanks to accelerating domestic demand and an increase in trade flows between the countries of this region, the pace of economic growth is expected to continue to increase. When these two groups of countries are taken together, real GDP is expected to expand by 4.3 percent this year after 3.8 percent in 2014; while inflation is expected to accelerate from 3.4 percent last year to 3.8 percent in 2015.

1.4.5 Latin America and Russia

There are signs of a slow economic recovery in the Latin-American region *(Brazil, Mexico, Argentina, Venezuela, Columbia* and *Chile)* this year. After industrial production in most countries declined for several months in a row, a return to more positive developments has been seen recently. Although this suggests that the worst is over, overall economic growth is expected to increase only slightly this year, with the two economic heavyweights of the region, Brazil and Argentina, despite some forecast improvements, still falling far short of their past growth performance. Whereas Brazil continues to suffer from its unresolved structural problems (high tax burden, bureaucracy and infrastructure bottlenecks), in Argentina unfavourable economic conditions (such as import and capital controls), high inflation and the technical default of last summer are dimming the outlook for this year. Furthermore, as long as Argentina fails to reach an agreement with those creditors who have not been rescheduled after the 2001-default (the so-called Holdouts), the financing of further deficits will prove difficult. More than ever, the government is likely to depend on monetising its government debt, which will continue to fuel the already high inflation rate. Venezuela continues to suffer from the recent fall in oil prices. Inflation will continue to soar and the economy is in a recessionary state. Mexico and Colombia, which saw relatively high growth rates last year, will lead the region in the year ahead as well. Mexico, in particular, will benefit from the upturn in the United States. Business sentiment in the manufacturing sector has brightened significantly from the middle of 2014 onwards, with comprehensive reforms paving the way for a higher long-term growth rate. Overall, the region's growth rate is expected to reach 2.0 percent in 2015.

In *Russia*, the value of the rouble is likely to remain under pressure as the withdrawal of capital is expected to continue. About half of Russian state revenues stem from the export of raw materials. Whereas the fiscal accounts are denominated in depreciating rou-

bles, its oil exports are invoiced in an appreciating dollar. The depreciation of the rouble is therefore cushioning commodity price related losses in the state budget.

There are, however, also substantial risks and costs associated with the rouble devaluation. For instance, the burden associated with debt denominated in foreign currencies increases. About three quarters of Russia's foreign debt, which amounted to 731 billion US dollars mid-2014, is denominated in foreign currencies. The largest debtor is the corporate sector (216 billion US dollars), followed by the banking sector (170 billion US dollars). The solvency of the banking sector is currently, in principle, backed up by the central bank, which has foreign currency reserves amounting to 420 billion US dollars (in early December 2014). The ratios of total external debt (foreign and local currency) to exports (35 percent) and to GDP (123 percent) are also below the thresholds that the World Bank considers problematic. Although for some individual debtors, especially in the corporate sector, liquidity problems might occur, an area-wide default is not to be expected this year.

This year, Russia is likely to slide into a recession. The strong fall in energy prices will reduce export revenues, which in 2012 and 2013 contributed significantly to overall economic growth and, in general, to the financing of the state budget. The continued devaluation of the rouble will increase the cost of imports and thus lead to a further increase in inflation. Thus, private consumption is hardly likely to expand further. As a result of the rise in inflation, the central bank will continue to increase its key rate. The unfavourable financial conditions will further dampen investment. This will be partially offset by an increase in government investment, which could be financed out of the National Wealth Fund, the volume of which amounts to about 82 billion US dollars or 5 percent of Russian GDP. International capital markets on the other hand will initially remain virtually closed for both state and industry. Stimuli are expected from industrial production as a result of the import substitution policy. If these stimuli are strong enough, the Russian economy may avoid a recession. However, the downside risks associated to further capital withdrawals and the wider implications of the oil price collapse effectively outweigh such an upside scenario.

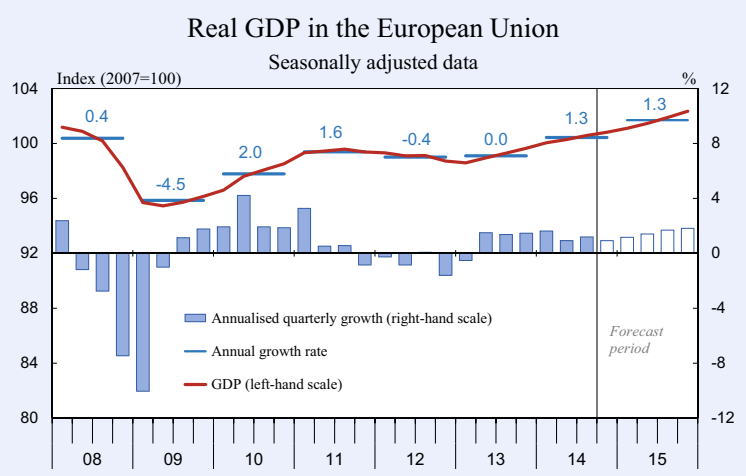
1.4.6 The European economy

The cyclical situation

The economic recovery in Europe, and particularly in the euro area, is expected to continue this year. However, there is still no real upswing in sight, as shown by the confidence indicators of the European Commission (see Figure 1.10) and the results of the Ifo World Economic Survey (see Figure 1.27 and Appendix 1.B), the latter of which sharply deteriorated during the second half of last year. The pace of expansion is likely to increase only slightly in the coming quarters, and to remain well below previous recoveries, partly because numerous structural problems in the euro area remain unresolved. For the European Union, we expect a growth rate of 1.3 percent this year (see Figure 1.31), while the rate for the euro area is forecasted to be 0.9 percent.

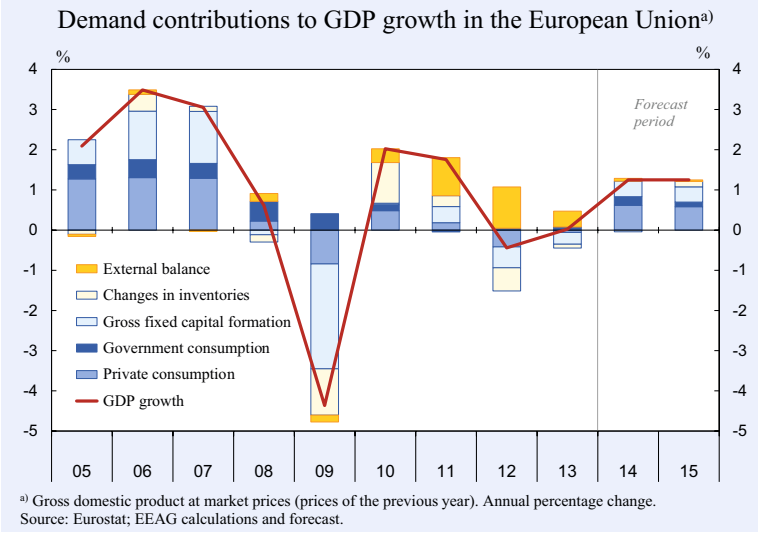
Both investment and private consumption are likely to increase slightly in the near future. The former will also benefit somewhat from the less restrictive lending practices of the banking sector. The completed review of the asset quality of banks by the ECB has strengthened confidence in the stability of the banking sector somewhat. This has a positive impact on private investment. However, the high and still rising debt ratio of the corporate sector will continue to have a damp-

Figure 1.31



Source: Eurostat; EEAG calculations and forecast.

Figure 1.32



[a)] Gross domestic product at market prices (prices of the previous year). Annual percentage change.
Source: Eurostat; EEAG calculations and forecast.

ening effect on the supply of credit. As a result of geopolitical conflicts, uncertainty grew over the course of 2014. This will fade gradually, prompting firms to pick up deferred investment projects. In addition, rising demand will gradually allow firms to also think about increasing capacities in addition to carrying out replacement investments.

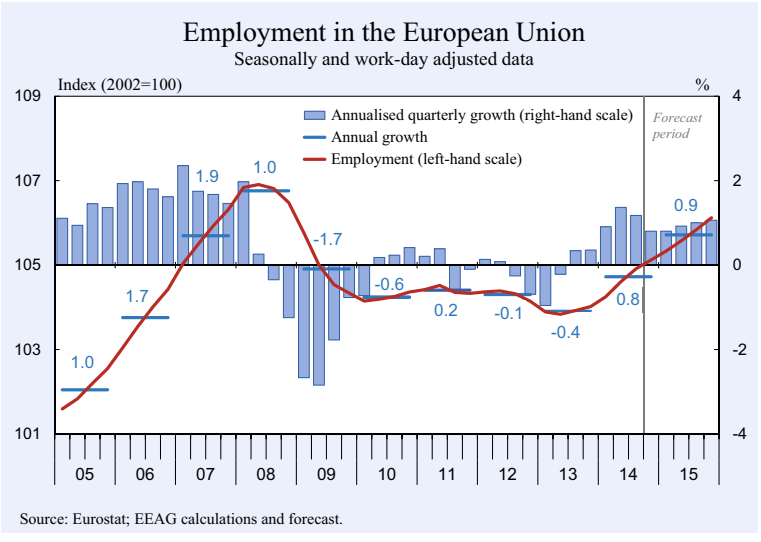
Private consumption is expected to continue to benefit from the extremely low price increases that free up the budgets of households. More specifically, the sharp drop in energy prices will increase real disposable income. Furthermore, continued favourable financing conditions in some member states will make the purchase of durable consumption goods appear attractive. However, many households – especially those in crisis-hit countries – are forced to spend a significant portion of their disposable income on servicing existing debts. This will, at least partly, counteract positive impulses.

As consolidation efforts have come to a virtual standstill in many member states and no new restrictive measures are expected to be taken, fiscal policy will be accommodative this year. Net exports will contribute positively as external demand, particularly from the United States, is likely to pick up gradually. The large increase in the value of the US dollar relative to the euro in recent months makes it attractive for US firms and consumers to import goods and services from the euro area. However, since imports into the euro area are also expected to grow stronger, the growth contribution of net exports will fall significantly short of that in previous recoveries (see Figure 1.32).

Although employment did pick up both in the euro area and in the European Union, the labour market situation is likely to remain tight and not to gain further speed during 2015 (see Figure 1.33). Despite promising reforms that have been launched by some member states aimed at reducing rigidities in the labour market and thereby structural unemployment, it will take time for these reforms to take their full effect. In addition, the economic recovery is too slow to bring about a sustainable reduction in cyclical unemployment. All in all, the average unemployment rate for 2015 is forecast to be 9.9 percent, after 10.2 percent last year (see Figure 1.34).

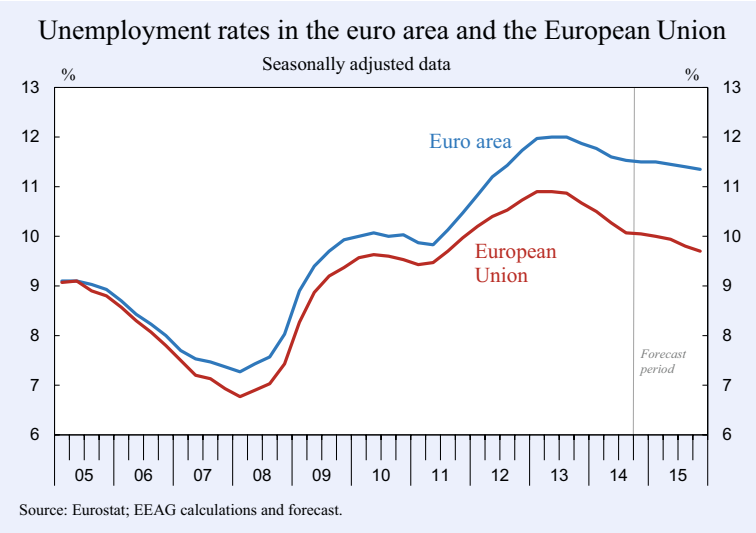
Since the underlying trend remains weak, the negative output gap will hardly be reduced this year. Inflation is therefore likely to remain low and only increase gradually. After 1.3 percent on average in 2013, the euro area inflation rate has fallen to 0.4 percent last year and will on average reach 0.4 percent again this year, implying a steady increase over the course of the year. This forecast is based on stable oil and food prices and a fairly constant euro / US dollar exchange rate.

Figure 1.33



Source: Eurostat; EEAG calculations and forecast.

Figure 1.34



Source: Eurostat; EEAG calculations and forecast.

Differences across Europe

After a trough in growth during summer last year, the economy of Germany is expected to regain momentum again. Several indicators show that total output in the final quarter of 2014 is likely to have increased slightly. Seasonally adjusted production in the manufacturing sector rose during the final months of the year. Both domestic and foreign incoming orders have risen again. The sharp decline in crude oil prices creates terms-of-trade gains that increase purchasing power and thereby overall demand. Consumer confidence maintained an upward trend, indicating that private consumption will continue to support economic growth going forward.

Like Germany, *France* will also go through a weak phase before the recovery sets in again this winter. The latter will be driven by some improvements in construction activity and a slight acceleration of investment. France's low level of competitiveness and capacity utilisation will keep real GDP growth well below the euro area average at 0.4 percent. Accordingly, inflation will also fall below the euro area average to reach 0.3 percent on average.

In light of weak inflation dynamics in the *United Kingdom*, the Bank of England is expected to continue to keep its monetary policy expansionary and only raise its official bank rate from its historic low of 0.5 percent by the second half of 2015.

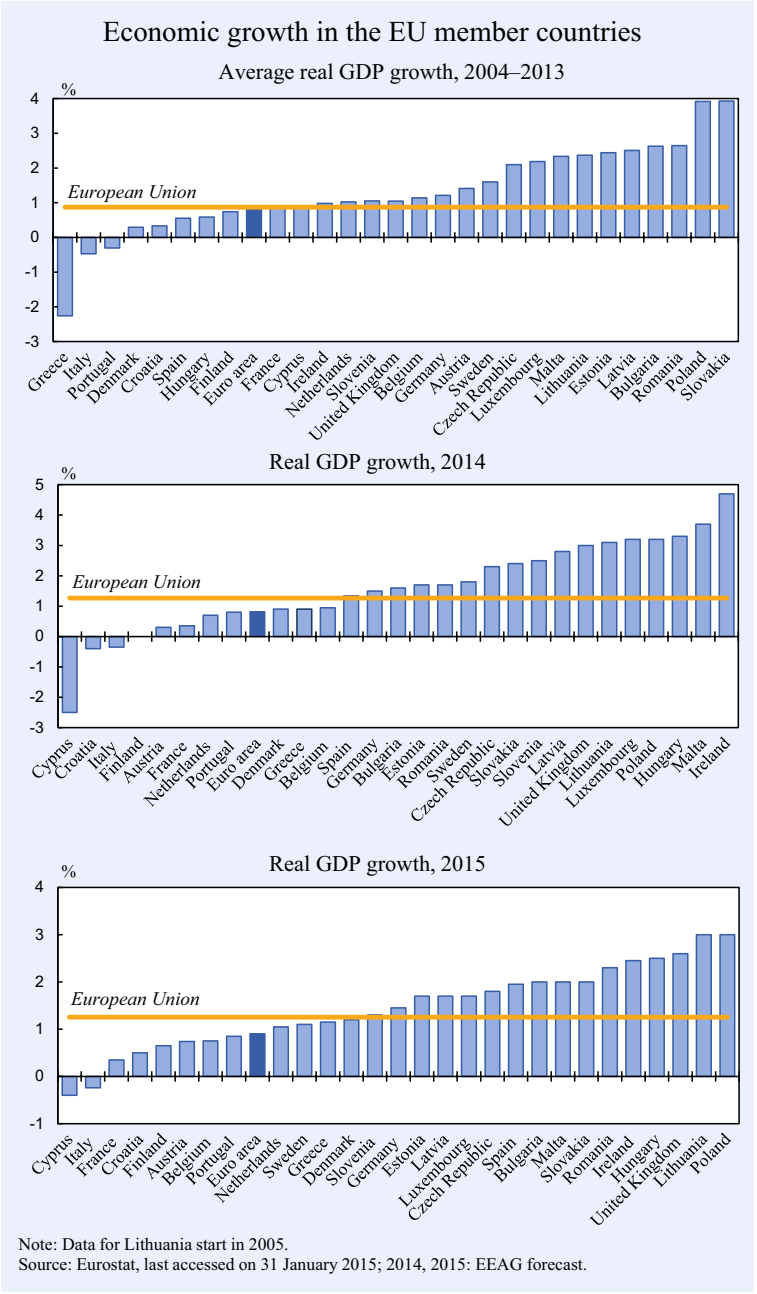
The leading indicators speak for some weakening of economic dynamics in these winter months. Although still at a high level, both consumer and business confidence have weakened slightly in the dominant services sector, trade and construction. The industry climate, however, has brightened up further. Overall, the British economy is expected to continue its strong growth sequence, although the recovery is likely to slow gradually in the face of a closing output gap. In 2014, gross domestic product is expected to grow by 3.0 percent, and by 2.6 percent in 2015 (see Figure 1.35). Thus foreign trade will continue to have a dampening effect because the pound has appreciated in terms of the nominal effective exchange rate by almost 10 percent since the spring of 2013, and demand from the euro area, the main trading partner of the United Kingdom, is likely to remain limited due to local economic weakness. The unemployment rate will continue to decline, although at a slower pace than in previous months. On average, it is expected to be 6.2 percent for 2014 and 5.5 percent in the following year. Inflation will probably accelerate slightly over the course of the year, staying below the 2 percent target of the central bank, and will reach the same average of 1.5 percent as last year.

In the course of 2015 *Italy* will move out of recession. The major impetus for GDP growth will have to come from foreign trade. A domestically induced recovery looks improbable, given the structural and political problems that the country faces. Subsequently, however, these impulses might lead to improvements in private consumption and investment. All in all, this will nevertheless not be enough to turn the average growth rate of real GDP positive in 2015. Inflation will remain low this year at an average rate of 0.2 percent.

Business sentiment in *Spain* suggests that the manufacturing sector will be able to gain further momentum. The real-estate sector also seems to have reached its trough, with housing prices starting to stabilise last year. Renewed consumer confidence, a looser fiscal position and improved productivity will support growth in 2015. After 1.3 percent in 2014, growth will pick up to reach 2.0 percent on average this year. This will allow the average unemployment rate to slowly fall to 23.0 percent on average in 2015.

Albeit somewhat weaker, a continuation of the economic recovery is emerging in the *Central and Eastern European* region. No real stimuli are to be expected from foreign trade. Although price competitiveness has recently improved in many countries in the region, weak economic developments in the euro area will hamper exports. Furthermore, Russia's sanctions against the European Union and the Russian import substitution programme are heavily affecting Poland, where the share of exported goods to Russia amounted to 8 percent of total exports in 2013. With the exception of Croatia, positive impulses are expected from domestic demand in all countries of the region. The decline in unemployment and low inflation will further support the purchasing power of consumers. Given the low inflation rates, central banks are expected to introduce further interest rate cuts. This will have a positive impact on investment dynamics in the region. Leading indicators suggest that the expansion of industrial production, especially in the Czech Republic and Hungary will continue. Fiscal policy will become less restrictive than in previous years in many places, including the Czech Republic, Romania and Poland.

Figure 1.35



Note: Data for Lithuania start in 2005.
Source: Eurostat, last accessed on 31 January 2015; 2014, 2015: EEAG forecast.

References

European Central Bank (2010), "Euro Area Statistics, Technical Notes," *Monthly Bulletin*, December.

Appendix 1.A
Forecasting tables

Table 1.A.1

GDP growth, inflation and unemployment in various countries

	Share of total GDP in %	GDP growth in %			CPI inflation in %			Unemployment rate[d] in %		
		2013	2014	2015	2013	2014	2015	2013	2014	2015
Industrialised countries:										
EU 28	26.6	0.0	1.3	1.3	1.5	0.6	0.6	10.8	10.2	9.9
Euro area	19.4	– 0.5	0.8	0.9	1.3	0.4	0.4	12.0	11.6	11.4
Switzerland	1.0	1.9	1.9	1.9	– 0.2	0.0	– 1.4	4.4	4.6	4.4
Norway	0.8	2.0	2.2	1.9	2.1	2.1	2.1	3.3	3.2	3.2
Western and Central Europe	28.4	0.1	1.3	1.3	1.4	0.6	0.7	10.6	10.0	9.7
US	25.9	2.2	2.4	3.2	1.5	1.7	1.1	7.4	6.2	5.5
Japan	9.5	1.5	0.3	0.8	0.4	2.8	2.0	4.0	3.6	3.5
Canada	2.9	2.0	2.3	2.5	1.0	1.9	1.5	7.1	6.9	6.7
Industrialised countries (total)	**66.6**	**1.2**	**1.6**	**2.0**	**1.3**	**1.4**	**1.0**	**8.5**	**7.8**	**7.3**
Newly industrialised countries:										
Russia	3.2	1.3	0.7	– 2.0	6.8	7.8	12.2	.	.	.
China	13.1	7.7	7.4	7.1	2.6	2.1	2.3	.	.	.
India	2.9	4.7	6.1	7.1	10.9	6.9	6.5	.	.	.
East Asia[a]	6.3	3.8	3.8	4.3	3.2	3.4	3.8	.	.	.
Latin America[b]	7.8	2.5	0.9	2.0	9.2	9.6	7.2	.	.	.
Newly industrialised countries (total)	**33.4**	**4.9**	**4.4**	**4.5**	**5.4**	**5.1**	**5.1**	.	.	.
Total[c]	**100.0**	**2.5**	**2.5**	**2.8**	.	.	.	.	.	.
World trade growth in %		**2.8**	**2.6**	**4.0**	.	.	.	.	.	.

[a] Weighted average of Indonesia, Korea, Malaysia, Taiwan, Thailand. Philippines, Singapore and Hong Kong. Weighted with the 2013 levels of GDP in US dollars. – [b] Weighted average of Brasil, Mexico, Argentina, Venezuela, Colombia, Chile. Weighted with the 2013 level of GDP in US dollars. – [c] Weighted average of the listed groups of countries. – [d] Standardised unemployment rate.

Sources: EU, OECD, IMF, ILO, National Statistical Offices, 2014 and 2015: EEAG forecast.

Table 1.A.2

GDP growth, inflation and unemployment in the European countries

	Share of total GDP in %	GDP growth in %			Inflation[a] in %			Unemployment rate[b] in %		
		2013	2014	2015	2013	2014	2015	2013	2014	2015
Germany	20.8	0.1	1.5	1.5	1.6	0.8	0.6	5.2	5.1	4.9
France	15.6	0.3	0.4	0.4	1.0	0.6	0.3	10.3	10.2	10.6
Italy	12.0	– 1.9	– 0.4	– 0.2	1.3	0.2	0.2	12.2	12.8	13.6
Spain	7.8	– 1.2	1.3	2.0	1.5	– 0.2	0.0	26.1	24.5	23.0
Netherlands	4.8	– 0.7	0.7	1.1	2.6	0.3	0.6	6.7	6.8	6.4
Belgium	2.9	0.3	1.0	0.8	1.2	0.5	0.5	8.4	8.5	8.3
Austria	2.4	0.2	0.3	0.7	2.1	1.5	1.5	4.9	5.0	4.8
Finland	1.5	– 1.2	0.0	0.7	2.2	1.2	1.2	8.2	8.6	8.7
Greece	1.3	– 3.9	0.9	1.2	– 0.9	– 1.4	– 0.9	27.5	26.5	25.5
Portugal	1.3	– 1.4	0.8	0.9	0.4	– 0.2	0.0	16.4	14.2	14.0
Ireland	1.3	0.2	4.7	2.5	0.5	0.3	0.6	13.1	11.4	10.5
Slovakia	0.5	1.4	2.4	2.0	1.5	– 0.1	0.5	14.2	13.2	12.4
Slovenia	0.3	– 1.1	2.5	1.3	1.9	0.4	0.4	10.1	9.7	9.4
Luxembourg	0.3	2.0	3.2	1.7	1.7	0.7	0.5	5.9	6.0	5.7
Lithuania	0.3	3.3	3.1	3.0	1.2	0.2	1.2	11.8	10.6	9.1
Latvia	0.2	4.2	2.8	1.7	0.0	0.7	0.9	11.9	11.4	11.4
Cyprus	0.1	– 5.4	– 2.5	– 0.4	0.4	– 0.3	0.0	15.9	16.2	16.9
Estonia	0.1	1.6	1.7	1.7	3.2	0.5	1.1	8.6	7.5	6.7
Malta	0.1	2.5	3.7	2.0	1.0	0.8	0.8	6.4	5.9	5.7
Euro area[c]	**73.5**	**– 0.5**	**0.8**	**0.9**	**1.3**	**0.4**	**0.4**	**12.0**	**11.6**	**11.4**
United Kingdom	14.9	1.7	3.0	2.6	2.6	1.5	1.5	7.6	6.2	5.5
Sweden	3.2	1.3	1.8	1.1	0.4	0.2	0.9	8.0	8.0	7.7
Denmark	1.9	– 0.5	0.9	1.2	0.5	0.3	1.0	7.0	6.6	6.2
EU 22[c]	**93.5**	**– 0.1**	**1.2**	**1.2**	**1.5**	**0.6**	**0.6**	**11.1**	**10.6**	**10.3**
Poland	2.9	1.6	3.2	3.0	0.8	0.1	0.5	10.3	9.0	8.2
Czech Republic	1.2	– 0.9	2.3	1.8	1.4	0.4	1.3	7.0	5.7	5.4
Romania	1.1	3.1	1.7	2.3	3.2	1.4	1.8	7.3	6.9	6.6
Hungary	0.7	1.1	3.3	2.5	1.7	0.0	1.6	10.2	7.4	7.0
Croatia	0.3	– 1.0	– 0.4	0.5	2.3	0.2	0.4	17.3	16.0	16.0
Bulgaria	0.3	0.9	1.6	2.0	0.4	– 1.6	0.3	13.0	11.5	11.0
New Members[d]	**6.5**	**1.2**	**2.6**	**2.4**	**1.5**	**0.3**	**0.9**	**9.3**	**8.1**	**7.6**
European Union[c]	**100.0**	**0.0**	**1.3**	**1.3**	**1.5**	**0.6**	**0.6**	**10.8**	**10.2**	**9.9**

[a] Harmonised consumer price index (HICP). – [b] Standardised unemployment rate. – [c] Weighted average of the listed countries. – [d] Weighted average over Poland, Czech Republic, Romania, Hungary, Croatia and Bulgaria.

Source: Eurostat, 2014 and 2015: EEAG forecast.

Table 1.A.3

Key forecast figures for the European Union

	2012	2013	2014	2015
	Percentage change over previous year			
Real gross domestic product	– 0.4	0.0	1.3	1.3
Privat consumption	– 0.7	– 0.1	1.1	1.0
Government consumption	0.2	0.4	1.0	0.5
Gross fixed capital formation	– 2.6	– 1.5	2.0	1.9
Net exports[a)]	1.1	0.4	0.1	0.0
Consumer prices[b)]	2.6	1.5	0.6	0.6
	Percentage of nominal gross domestic product			
Government fiscal balance[c)]	– 4.2	– 3.2	– 3.0	– 2.7
	Percentage of labour force			
Unemployment rate[d)]	10.5	10.8	10.2	9.9

[a)] Contributions to changes in real GDP (percentage of real GDP in previous year). – [b)] Harmonised consumer price index (HCPI). – [c)] 2014 and 2015: forecasts of the European Commission. – [d)] Standardised unemployment rate.

Source: Eurostat; 2014 and 2015: EEAG forecast.

Table 1.A.4

Key forecast figures for the euro area

	2012	2013	2014	2015
	Percentage change over previous year			
Real gross domestic product	– 0.7	– 0.5	0.8	0.9
Private consumption	– 1.3	– 0.7	0.9	0.7
Government consumption	– 0.2	0.2	0.9	0.4
Gross fixed capital formation	– 3.4	– 2.4	0.7	0.7
Net exports[a)]	1.4	0.4	0.2	0.3
Consumer prices[b)]	2.5	1.3	0.4	0.4
	Percentage of nominal gross domestic product			
Government fiscal balance[c)]	– 3.6	– 2.9	– 2.6	– 2.4
	Percentage of labour force			
Unemployment rate[d)]	11.3	12.0	11.6	11.4

[a)] Contributions to changes in real GDP (percentage of real GDP in previous year). – [b)] Harmonised consumer price index (HCPI). – [c)] 2014 and 2015: forecasts of the European Commission. – [d)] Standardised unemployment rate.

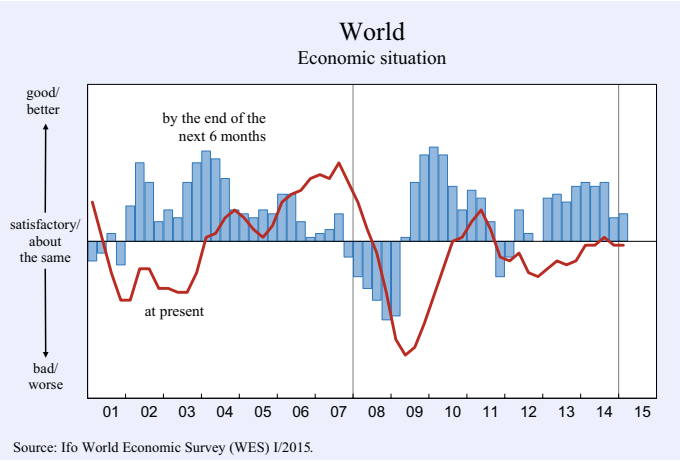
Source: Eurostat; 2014 and 2015: EEAG forecast.

Appendix 1.B
Ifo World Economic Survey (WES)

The Ifo World Economic Survey (WES) assesses worldwide economic trends by polling transnational as well as national organizations worldwide about current economic developments in the respective country. This allows for a rapid, up-to-date assessment of the economic situation prevailing around the world. In January 2015, 1,071 economic experts in 117 countries were polled. WES is conducted in co-operation with the International Chamber of Commerce (ICC) in Paris.

The survey questionnaire focuses on qualitative information: on assessment of a country's general economic situation and expectations regarding important economic indicators. It has proved to be a useful tool, since economic changes are revealed earlier than by traditional business statistics. The individual replies are combined for each country without weighting. The "grading" procedure consists in giving a grade of 9 to positive replies (+), a grade of 5 to indifferent replies (=) and a grade of 1 to negative (–) replies. Grades within the range of 5 to 9 indicate that positive answers prevail or that a majority expects trends to increase, whereas grades within the range of 1 to 5 reveal predominantly negative replies or expectations of decreasing trends. The survey results are published as aggregated data. The aggregation procedure is based on country classifications. Within each country group or region, the country results are weighted according to the share of the specific country's exports and imports in total world trade.

Ifo World Economic Survey (WES)



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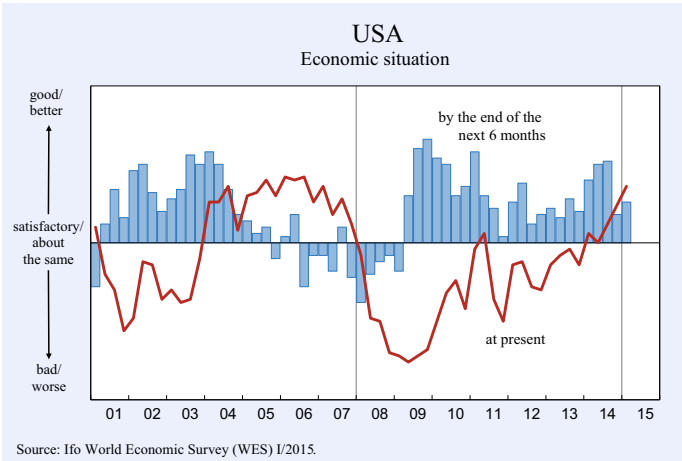

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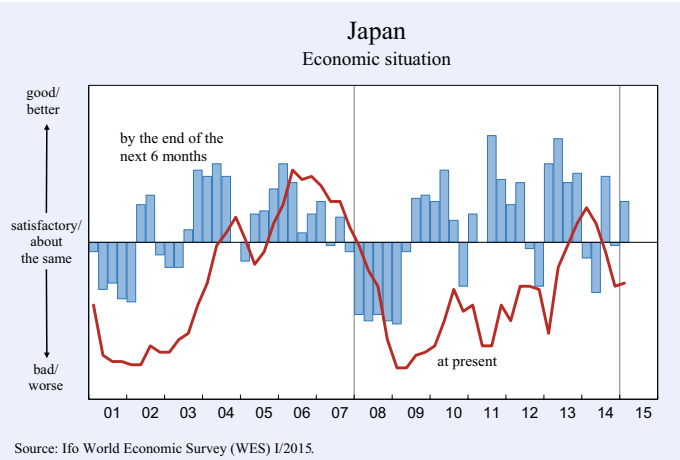

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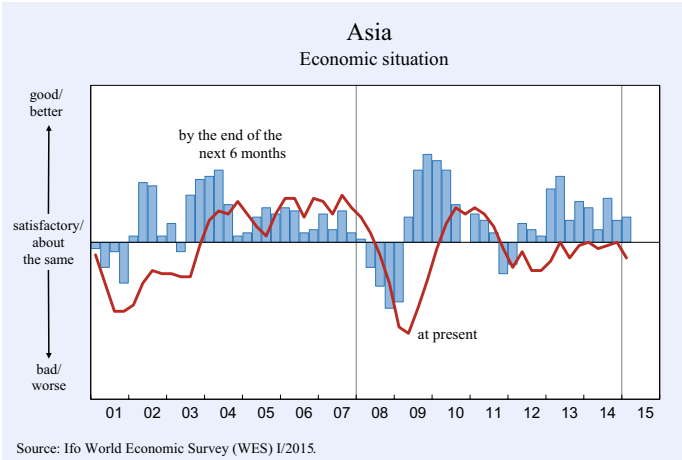
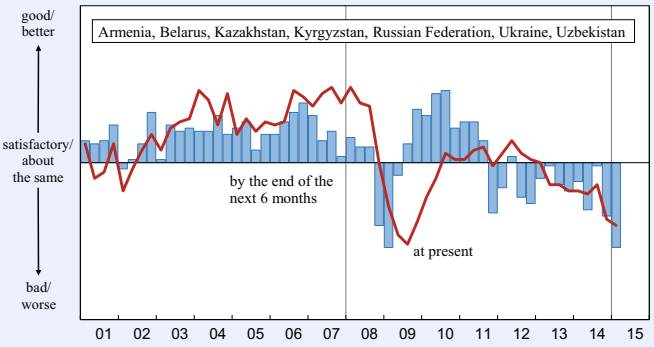


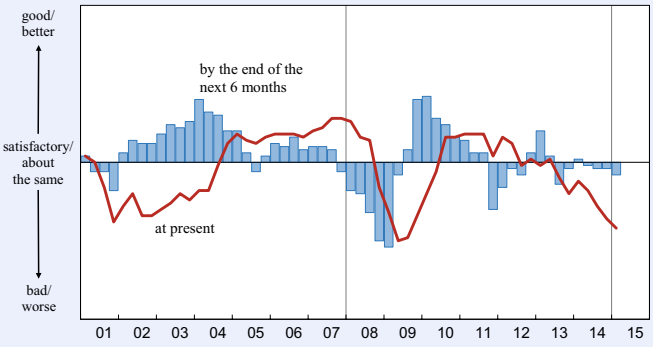
Source: Ifo World Economic Survey (WES) I/2015.

CIS
Economic situation



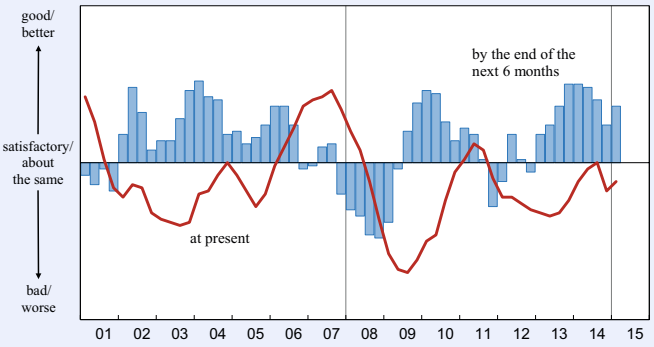
Source: Ifo World Economic Survey (WES) I/2015.

Latin America
Economic situation



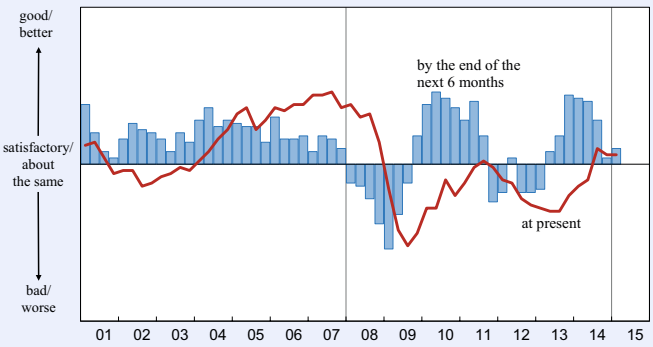
Source: Ifo World Economic Survey (WES) I/2015.

European Union (15)
Economic situation



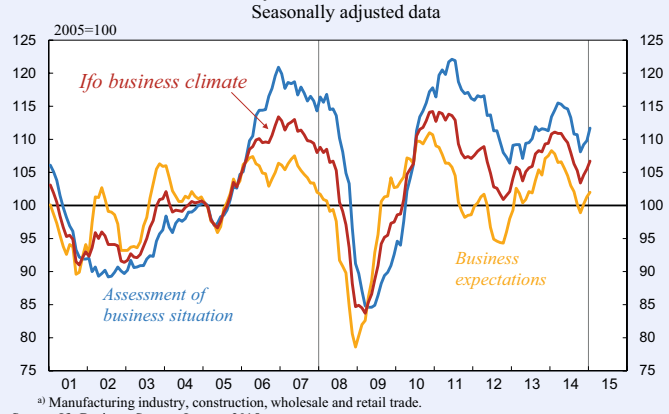
Source: Ifo World Economic Survey (WES) I/2015.

Eastern Europe
Economic situation



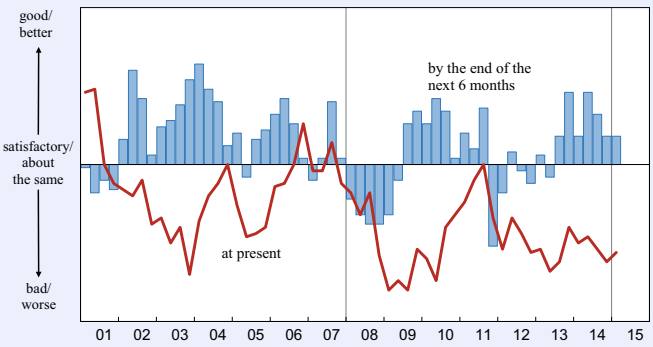
Source: Ifo World Economic Survey (WES) I/2015.

Germany: Ifo business climate[a)]
Seasonally adjusted data



[a)] Manufacturing industry, construction, wholesale and retail trade.
Source: Ifo Business Survey, January 2015.

France
Economic situation



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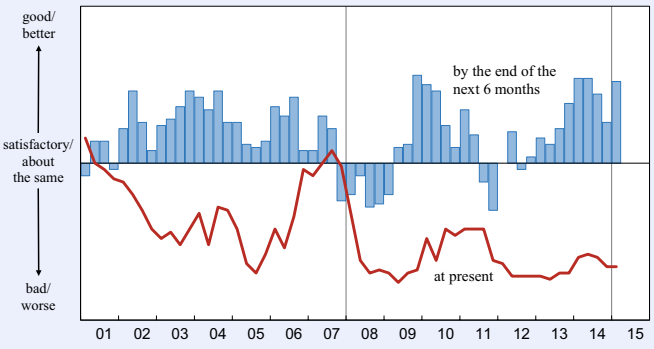

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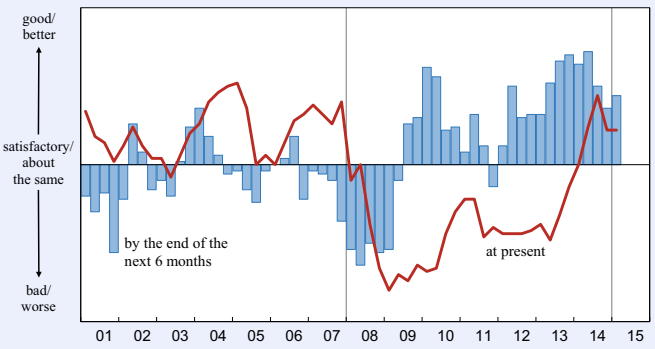

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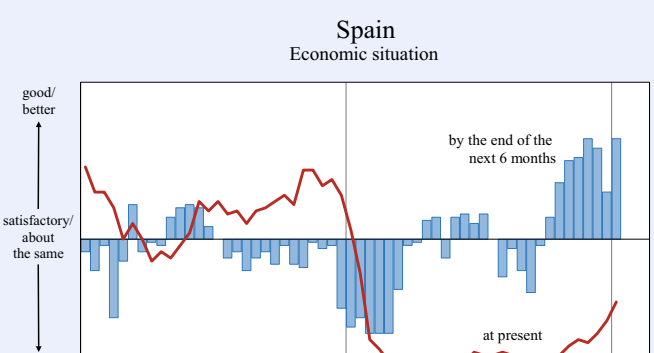

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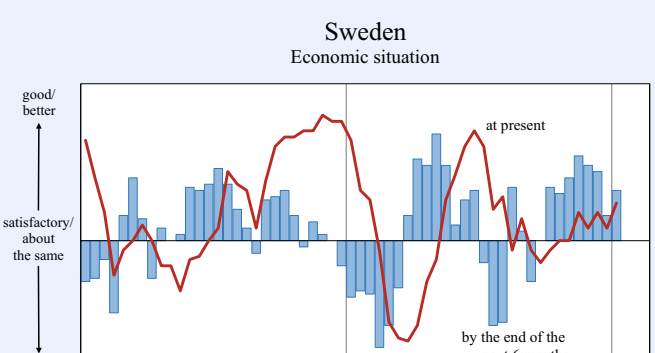

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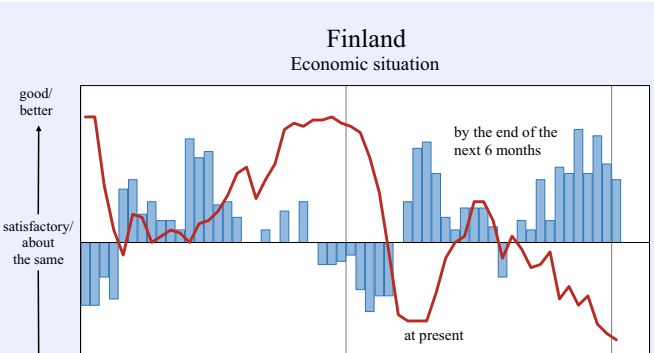

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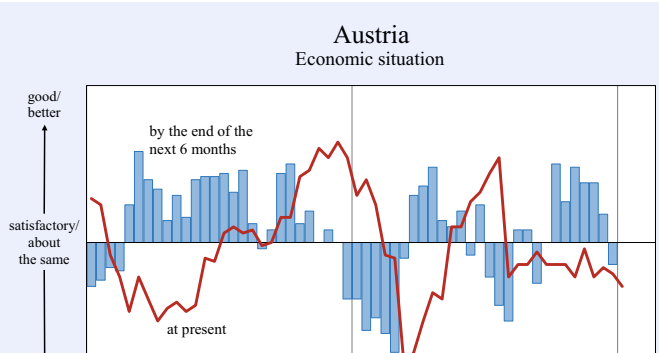

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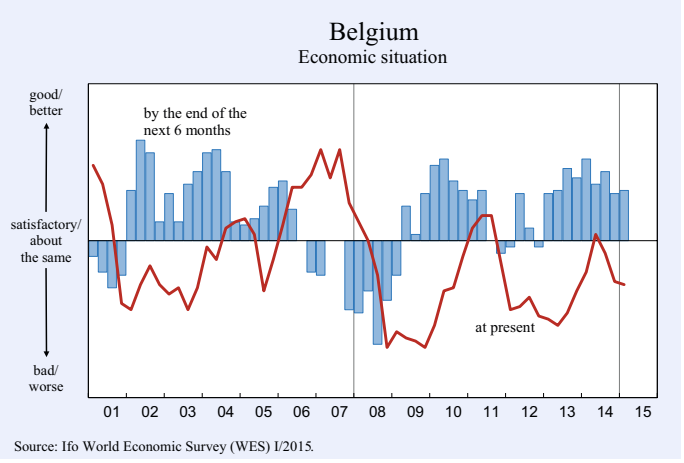

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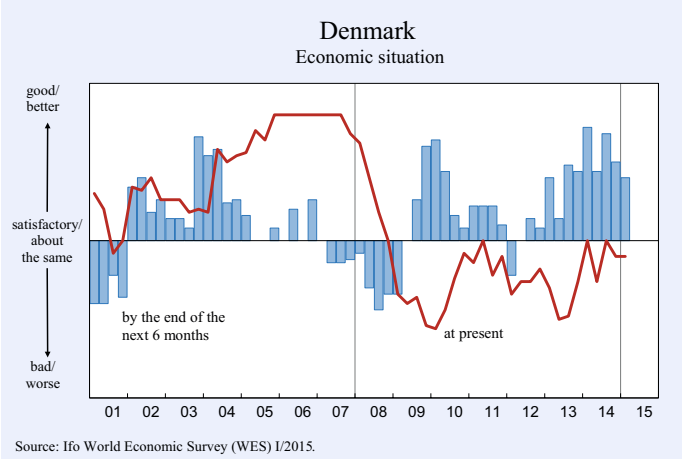

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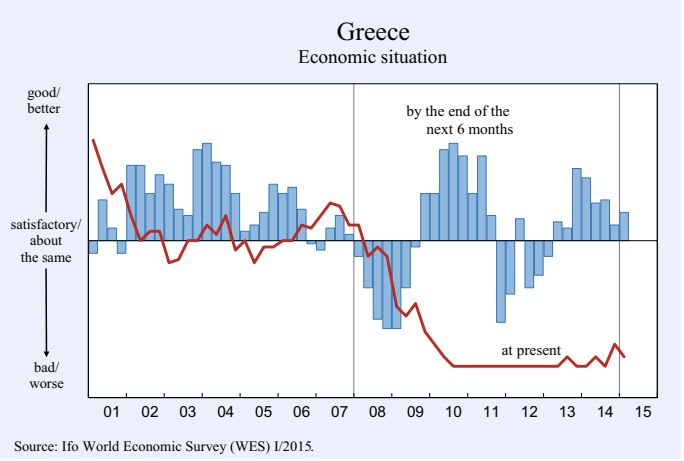

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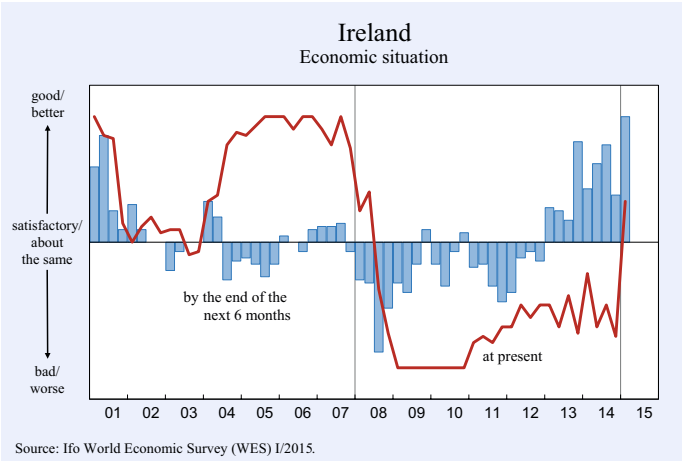

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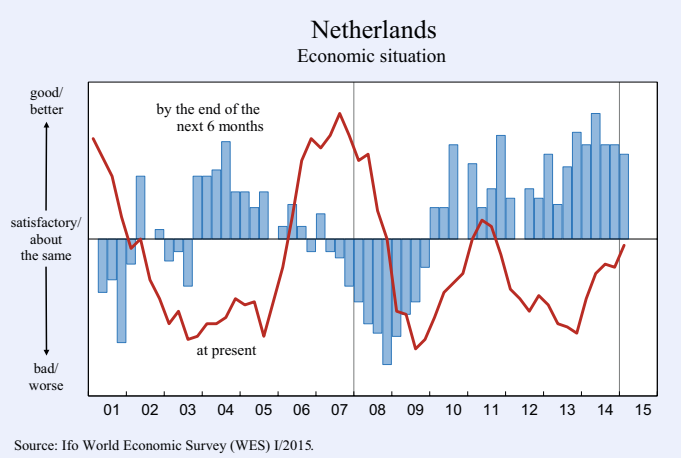

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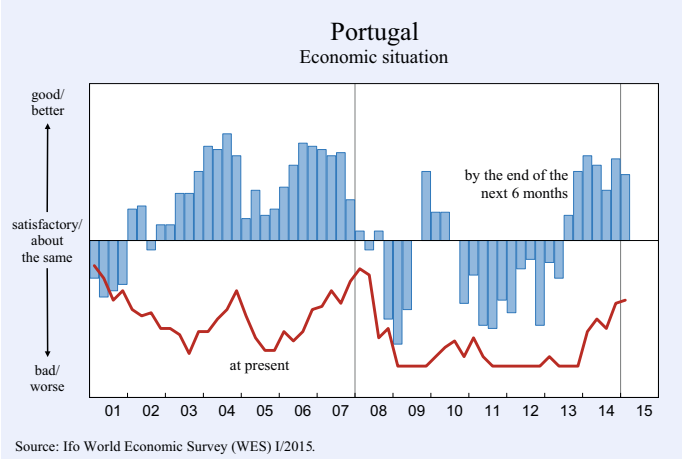
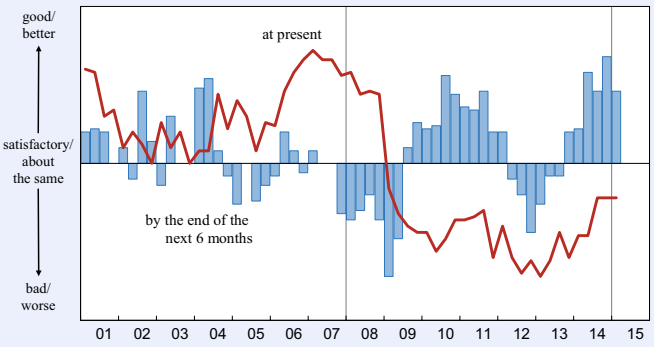


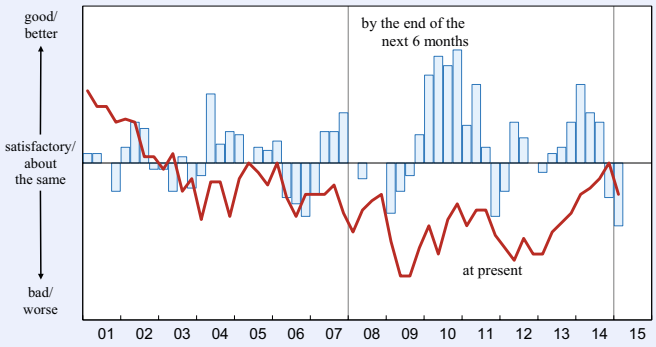
Source: Ifo World Economic Survey (WES) I/2015.

Slovenia
Economic situation



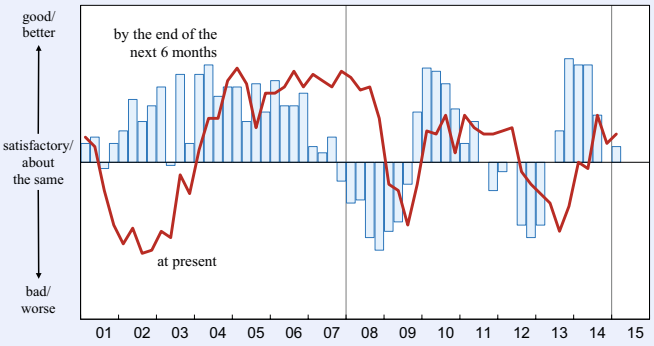
Source: Ifo World Economic Survey (WES) I/2015.

Hungary
Economic situation



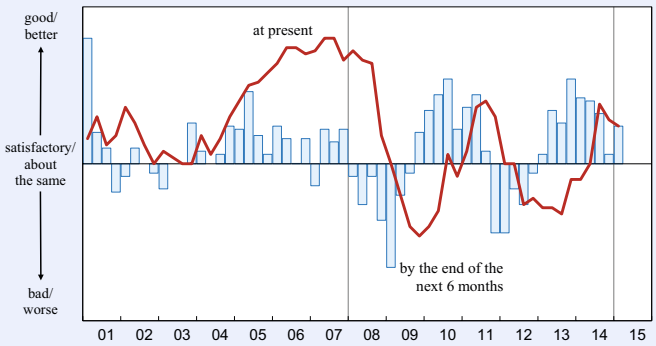
Source: Ifo World Economic Survey (WES) I/2015.

Poland
Economic situation



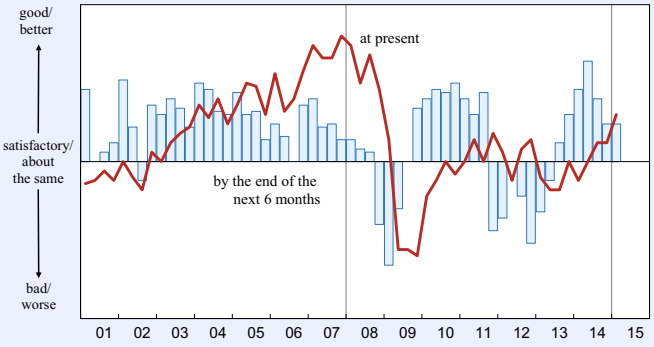
Source: Ifo World Economic Survey (WES) I/2015.

Czech Republic
Economic situation



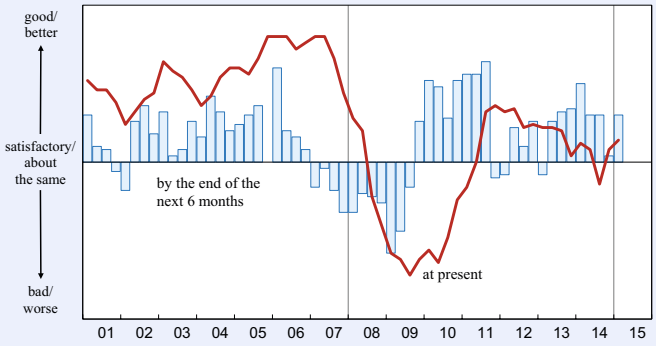
Source: Ifo World Economic Survey (WES) I/2015.

Slovakia
Economic situation



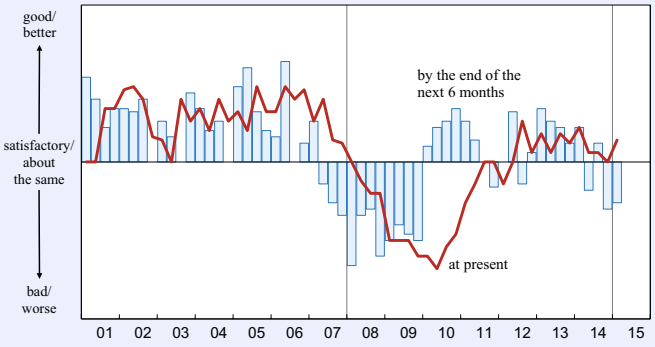
Source: Ifo World Economic Survey (WES) I/2015.

Estonia
Economic situation



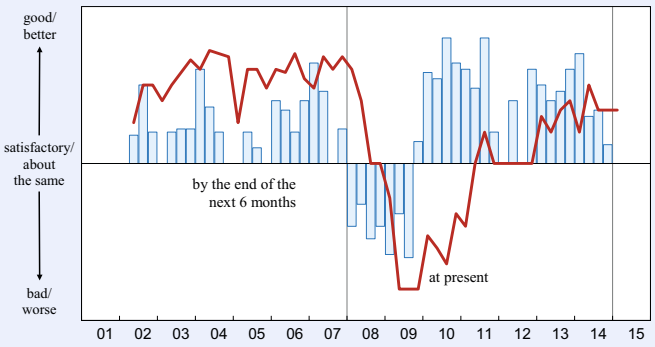
Source: Ifo World Economic Survey (WES) I/2015.

Latvia
Economic situation



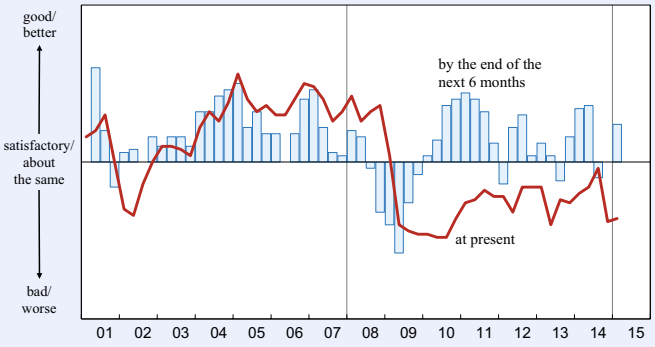
Source: Ifo World Economic Survey (WES) I/2015.

Lithuania
Economic situation



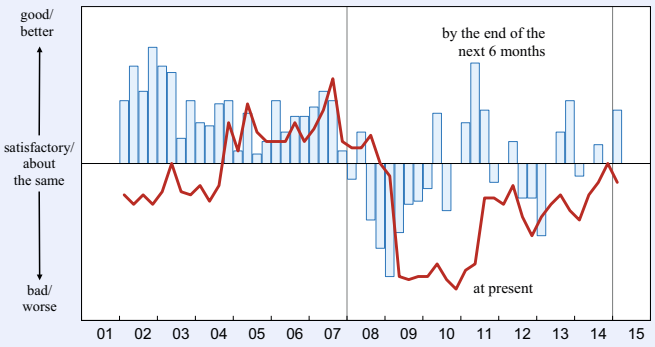
Source: Ifo World Economic Survey (WES) I/2015.

Bulgaria
Economic situation



Source: Ifo World Economic Survey (WES) I/2015.

Romania
Economic situation



Source: Ifo World Economic Survey (WES) I/2015.

EEAG (2015), *The EEAG Report on the European Economy,* "The European Energy Conundrum: Power Failure," CESifo, Munich 2015, pp. 51–65.

The European Energy Conundrum: Power Failure*

2.1 Introduction

European energy policy is currently poorly coordinated between the member states of the EU, although substantial gains could be achieved through enhanced cooperation both at the European and the global level. The argument in favour of a European energy union – a genuine common energy market with common regulation – may even be stronger than the case that was successfully made in the 1980s and 1990s for a monetary union. The economic principle of a single wholesale price is uncontroversial, but establishing the interconnections (creating the appropriate trade channels) in practice is difficult and requires considerable investment.

2.2 Coordination problems

The opportunities and pitfalls for Europe in the energy context are similar to those arising in all other economic and monetary union policy areas. The advantages of a common coordinated approach are obvious. Pooling energy needs and consumption affords gains from trade and the diversification of risks. This is not only because wind patterns and other renewable sources of energy are imperfectly correlated geographically, or because of different degrees of access to imported energy sources, but also because the risks of nuclear energy production are shared by all European countries and carbon emissions create a world-wide externality, regardless of where in Europe they occur. The failure to achieve greater coordination reveals how the greater part of policy formation and preference accumulation primarily occurs at the national level.

There are analogies with Europe's problematic path to monetary union in the development of energy policy. Energy coordination in respect to coal, the primary fuel and basis of industrial prosperity at the time, was at the centre of the first major push for post-war integration and the institutional forerunner of the EU, the European Coal and Steel Community (1953). Integration was underpinned by the notion that coal and steel represented the base for industrial capacity and military potential, and that a coordinated regime would produce political cohesion and European peace. As with monetary union, the European experience was frequently held up as a model worthy of imitation in other parts of the world – until its flaws appeared. In particular, the carbon emissions trading scheme was widely touted as a model for a global initiative to reduce the threat of global warming posed by CO_2 emissions.

A coordinated approach to energy, however, needs to address equally obvious problems that are often not recognised explicitly. Just as in the case of the European Union's overall "growth, stability, and cohesion" objectives, the 1996 Internal Energy Market directive's[1] goals of (1) secure, (2) environmentally compatible, and (3) competitive energy sources are in conflict with each other: renewable energy may be environmentally sound, but is neither secure nor inexpensive; foreign supplies of oil and gas may be inexpensive at a point in time, but are subject to geo-political risks etc.

From the economic point of view, a "we-want-it-all" approach to conflicting objectives is nonsense, and dogmatic anti-energy and anti-emissions attitudes can hardly be justified. Like the classic inconsistent trinity of national macroeconomic policy, capital mobility, and fixed exchange rates, such trade-offs can and should be addressed by careful economic assessments, and by coherent and pragmatic policy compromises. Policy choices need to provide a framework to guide the myriad choices of market participants, producers and consumers, through a pricing mechanism that is accepted as fair and transparent. An economic argument can be made for security-oriented policies like renewable energy subsidies that increase both current costs and self-sufficiency.

Since the necessary policy compromises are difficult to formulate and enforce without unified politics, the

* We thank Hans-Dieter Karl, Wolfgang Meister and Andrew Sartorius for research input and assistance.

[1] European Parliament and Council of the European Union (1996).

European integration process has typically tried to leapfrog such difficulties by relying on market mechanisms, in the hope that the latter not only enhance economic efficiency, but also bring about a common perspective on common problems.

Energy is no exception to this pattern. The European Commission has aimed to use market competition and deregulation as a means for achieving at least some of the ultimate goals of its energy policy, stipulating that energy transmission and production should be operated separately, and fostering the development of central energy exchanges at the national level at least.

In practice, policy remains highly relevant, and it is dangerous to try and sweep an obvious politico-economic trade-off under the carpet. In the energy field, the heterogeneous priorities assigned to conflicting goals by different actors across and within countries trigger inefficient competition among tax and subsidy systems in ways that are reminiscent of another long-standing European policy problem: the Common Agricultural Policy (CAP). The CAP was nominally motivated in its early phases by security considerations similar to those that are currently relevant to energy (and related to them, through bio-fuel production and regulation). It was also rooted in distributional considerations, however, and tightly linked to political considerations within each country, where agricultural markets were heavily regulated. Adoption of Europe-wide policies unleashes national as well as within-country rent-seeking activities, and results in distortions, which, in the CAP case, eventually obscured any security considerations. Similarly, renewable energy subsidies in the energy sector clearly trigger political haggling and redistribution. The Emission Trading Scheme suffers from some of the same problems, as each national government lobbies for the assignment of plentiful quotas to its country's firms.

Policy is also crucial because no market is perfect, and all markets need an infrastructure of rules. The energy market also needs a physical infrastructure that requires large, slowly depreciating investments, and hence consistent and predictable policies and market conditions. As policy preferences shift to an increased dependence on renewable energy resources, the basis of price calculations shifts. Instead of a production system in which operating costs (paying for fossil fuels) constitute a major component of pricing, fixed capital costs form the largest element in the cost of producing useable energy, and marginal costs fall to a minimal level.

Like welfare policy, energy policy can play a useful role in remedying financial market imperfections, and sharing appropriately long-term risks neglected by atomistic market participants. A case can be made that while markets can efficiently supply energy at a point in time, longer-term security can only be assured by policy.

Security concerns and worries about the extent of risk generate considerable pressure to implement very dirigiste measures. The French government's General Commission for Strategy and Economic Foresight (French: Commissariat général à la stratégie et à la prospective), for instance, concluded that: "In a more fundamental approach, the role of marginal costs pricing as the pillar of electricity markets should be revised. They give an efficient dispatching of means of production on a day-ahead basis. But, in a market with an important electricity production at low marginal costs, coming for instance from a great development of renewables, structural reforms are necessary to let economic signals emerge allowing for long-term efficient investments. They need to be, as much as possible, the result of a coordinated reflection between the Member States in order to define jointly the trade-offs between security of supply, climate change and affordability."[2]

The problem arises, however, that the individual priorities are set by the separate member states, and are incompatible with each other. Energy issues were highlighted in the 2007 Lisbon Treaty[3], where Article 194(1) recognised the reality that national states were primarily in charge of determining energy policy, but set out the four principal overall aims of EU energy policy as:

- Ensuring the functioning of the energy market
- Ensuring the security of supply in the Union
- Promoting energy efficiency and energy saving, and developing new and renewable sources of energy
- Promoting the interconnection of energy networks

This article did not give the EU the competence to adopt measures significantly affecting a member state's choice between different energy sources and the general structure of its energy supply; but such measures might be adopted under Article 192(3) by a spe-

[2] French Government, General Commission for Strategy and Economic Foresight, (2014), p. 13.
[3] European Union (2012).

cial legislative process of the Council, in practice requiring unanimity, rather than majority voting.

In reality, however, these ambitious goals were not really achieved: major vulnerabilities remain in the energy market, no realistic scenarios predict any dramatic reduction in overall dependence on energy imports, the task of managing energy efficiency is handled idiosyncratically and has perverse effects, and while there is some interconnectedness, many energy markets are quite cut off from each other, with inadequate facilities for allowing a ready commercial exchange of energy. An expansion and completion of the energy market remains an area that offers significant potential gains in the efficiency of energy distribution, and that, in turn, could produce both productivity gains and substantial savings.

Implementation of the Lisbon Treaty's provisions has taken place only in sporadic fits and starts. In 2008, the EU laid out an ambitious programme for changes by 2020: the reduction of greenhouse gas emissions by 20 percent, a 20 percent share of renewables, and a 20 percent improvement in energy efficiency. The programme was highly ambitious as the reduction goals were meant to be binding for each individual country.

In 2009, the EU introduced the Third Energy Package (TEP) aimed at allowing greater transparency in energy markets and enhancing collaboration between national energy companies and governments. The package rested on five principles:

1. "Unbundling" of national energy markets, meaning the separation of suppliers from energy producers and delivery systems (pipelines, grids). Each stage of the provision of energy process was to run via transparent market operations.
2. The operation of a market required regulatory consistency, or greater cooperation and dialogue between domestic regulatory organisations.
3. An "Agency for the Cooperation of Energy Regulators" was established to "[…] promote cooperation of, and complement, [the national regulatory authorities] at EU level."
4. Two separate European networks of transmission system operators were established so as to "[…] ensure optimal management and sound technical evolution of the European transmission network."
5. Greater investment in national gas networks and better coordination in the operation of these networks.

The TEP immediately ran into opposition from multiple energy players, including national energy companies, governments, foreign energy exporters, and consumers. These parties believed that the TEP threatened their individual interests and control over domestic markets that had long been protected by regulatory privileges. Eastern European critics saw the TEP as creating a regional divide, and primarily benefitting Western European countries that already had significant energy infrastructure in place, as well as diversified suppliers that could deal with the reforms. In short, a vision of how market coordination at an EU level might be achieved does exist, but it has not been implemented completely or satisfactorily.

The same can be said of the planned emissions reductions. On 24 October 2014 an EU Summit postponed the emission reduction goals to 2030, stipulating:[4]

- A reduction of CO_2 output by 40 percent (relative to 1990)
- An increase in renewable energy as a share of total energy consumption to 27 percent
- An increase in energy efficiency by 27 percent

It is remarkable that the two latter goals are now little more than mere declarations. Moreover, all national goals for expanding renewable energy have been abolished.

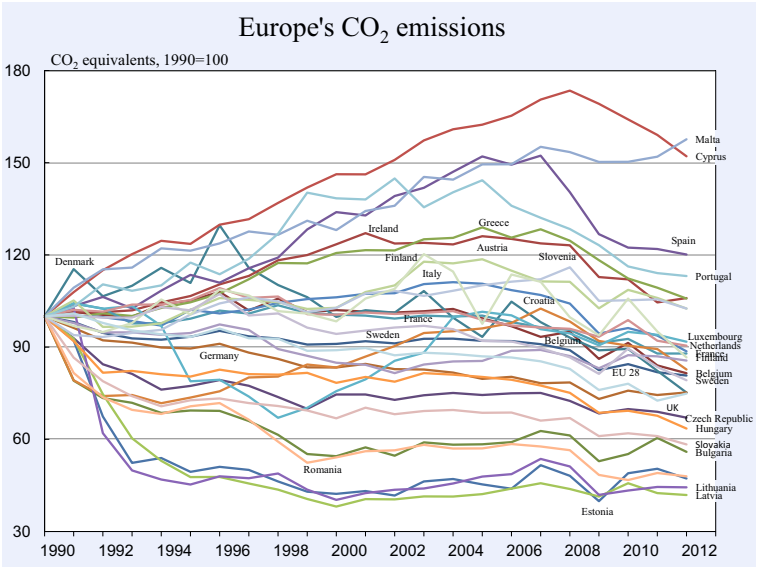
Figure 2.1 shows the greenhouse gas emissions of EU countries and their reductions over time. While all countries have reduced the emissions, it remains to be seen what fraction of the achievements can be attributed to special effects like the current economic crisis or the dismantling of ex-communist industries (Germany). In terms of relative reductions since 1990, the ranking is led by Latvia, Lithuania, and Estonia. However, as Figure 2.2 shows, the absolute emissions per inhabitant are still highest in Luxembourg, Estonia and Ireland.

2.3 Global interactions

The concrete outcome of the European level policy initiatives is difficult to assess, because the European

[4] European Council (2014), "Cover Note," EUCO 169/14, Brussels, 24 October, http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/145397.pdf.

Figure 2.1



Source: European Environment Agency, last accessed on 24 November 2014.

projects interact with local conditions and global markets. Overall European demand for energy, which rose slowly over the period 1995–2006, subsequently declined by around 8 percent. Part of the decline was due to efficiency gains and structural changes, but a major cause of the energy consumption slowdown is the worldwide financial and economic crisis, which has had a particularly dramatic impact in the Southern Eurozone.

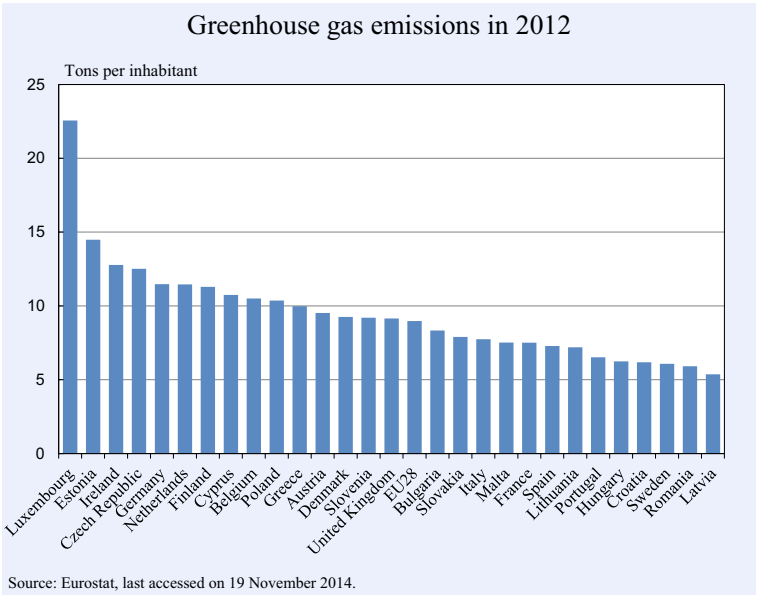
The EU 2008 Climate Change Package 20-20-20 emissions guidelines were unfortunately timed, as they were issued in 2008 just before the global crisis. It was not policy, but the crisis that drastically reduced emissions in developed countries. The crisis also had uncomfortable implications for the European cap-and-trade emissions trading scheme: the market price collapsed as market participants struggled to cope with the interaction between the economic crisis and an equally unprecedented policy experiment that was likely to be reformed.

The behaviour of European consumers had little impact on global levels of energy consumption, or on CO_2 emissions. Currently, most projections also show an energy future in which the world's major energy resources will remain the fossil fuels oil, gas and coal, which release carbon into the atmosphere. A recent assessment by the International Energy Agency (2014) suggests that global energy consumption will rise by 37 percent from 2013 to 2040, with coal and oil rising at a rate of 15 percent and CO_2 emissions from power production increasing from 13.2 gigatonnes to 15.4 gigatonnes. In that sense, Europe's ambitious attempts to reduce carbon emissions on a global level – which should surely have been a policy priority – have proven at best irrelevant and at worst counter-productive.

Figure 2.3 shows the time path of aggregate worldwide CO_2 emissions. It is clear that the two oil crises of the 1970s and the 2009 world recession had an impact on emissions. Europe's special attempts to curtail emissions are not visible, however, in this graph, which indicates that other countries compensated for any reductions that took place in Europe.

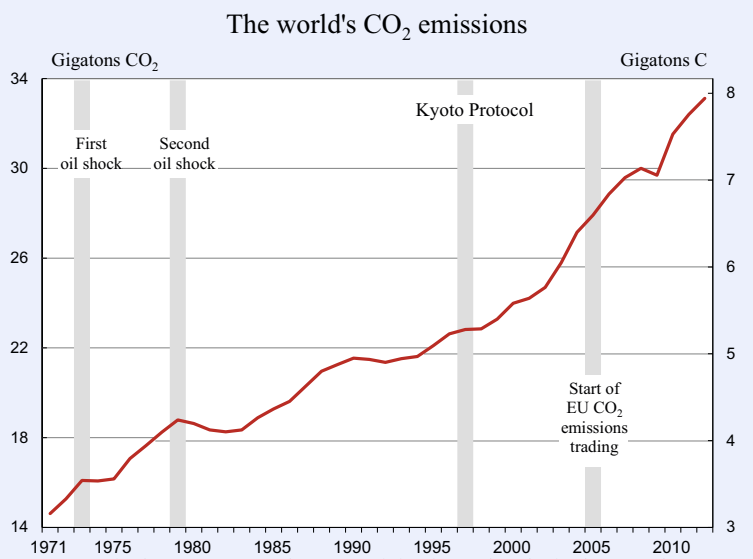
But there are now signals that the big emitters of CO_2, notably the United States and China, are more willing to contemplate an international plan than they were in 2009, when the UN climate change conference in Copenhagen failed. In November 2014 the US agreed to cuts of 26–28 percent from 2005 levels by 2025, and

Figure 2.2



Source: Eurostat, last accessed on 19 November 2014.

Figure 2.3



Source: International Energy Agency, Database, CO2 Emissions from Fuel Combustion, last accessed on 24 November 2014.

China agreed to plan a reduction in emissions after 2030. But these agreements still look rather provisional – and belated – and will need to be worked into a more comprehensive global framework. That prospect raises the question of the most appropriate negotiating strategy for Europeans.

2.4 Assessing different risks

The difficulty in formulating a forward-looking energy policy arises from the difficulty in comparing different types of risk and drawing appropriate policy lessons. There are at least four different perceptions of risk, and while all are clearly present, they tend to be seen in quite contrasting ways in different European countries, and consequently produce varied and mutually incompatible responses from national political authorities.

1. There is a near certainty, backed by a massive body of scientific evidence, that CO_2 emissions are leading to a rise in world temperatures. The consequences include the risk of more extreme weather events, the melting of polar ice caps, a rise in the sea level with devastating consequences for low lying densely inhabited regions, the likely desertification of some parts of the world nearer to the equator (including Mediterranean Europe), as well as the extension of the cultivable area (that might benefit Northern Europe, as well as Canada and Russia).

A policy response to this phenomenon would include systematic efforts to reduce CO_2 emissions, although even such measures could only be expected to slow, rather than halt or reverse global warming. The circulation of greenhouse gases occurs at a global level, meaning that there is no obvious link between the extent of loss as a result of measures to reduce CO_2 emissions (that might impede industrialisation efforts in emerging markets) and the gains from preventing the negative effects of global warming. The widely cited 2006 Stern report commissioned by the UK government[5] concluded that the costs of inaction on CO_2 were high (5 to 20 percent of annual GDP) and could be mitigated by relatively cheap anticipatory measures, costing some 1percent of annual GDP; but that the implementation of such measures poses an acute collective action problem.

2. Nuclear energy is an obvious way of producing power without the harmful effects of CO_2 emissions. It carries some direct environmental risks (warming of river water used for reactor cooling); but the major fear is of unlikely and very rare catastrophes (that might be induced by human action, such as terrorist attacks). The dangers arising from catastrophically uncontrollable nuclear reactions in power generating plants, as seen in Chernobyl in 1986 and in Fukushima in 2011, are great and terrifying. In the aftermath of events like Fukushima, calculations made primarily by the nuclear industry that sought to demonstrate plant safety are called into question. On the other hand, new research published after the Fukushima event has shown that nuclear power has proven far less harmful than the coal power it replaced. According to Kharecha und Hansen (2013), nuclear power stations globally saved 1.84 million lives in net terms between 1971 and 2009 by lowering the number of deaths related to fossil fuels, primarily in terms of lung diseases.

Europeans do not approach the assessment and evaluation of nuclear risks in the same way. There are very different national orientations to the risks arising from nuclear power. The most obvious contrast is between the widespread enthusiasm in Finland and acceptance in France of nuclear energy as a clean source

[5] See Stern (2006).

and equally general scepticism in Germany and outright hostility in Austria.[6] In the aftermath of Fukushima, a majority of French respondents in opinion poll surveys were still sympathetic to France's reliance on nuclear energy, which the French government reaffirmed its commitment to; while in May 2011 Germany's government announced a phase-out of nuclear energy by 2022.[7] Older nuclear reactors elsewhere will also face redundancy and decommissioning: the International Energy Agency (2014) estimates that by 2040 200 of the world's 434 nuclear reactors will be shut down. At the same time, however, over 530 new reactors are likely to be constructed.

In addition, Europe has two fundamentally different systems of nuclear power generation. Western design reactors usually involve separate contracts for different stages of production (uranium mining, conversion of uranium into gaseous form, enrichment, fuel assembly). By contrast, in Eastern Europe (Bulgaria, Czech Republic, Hungary and Slovakia) Russian designed reactors rely on bundled supply services provided by a single Russian company, TVEL. Historic choices establish a path dependence. Hungary, for instance, recently rejected a Westinghouse reactor in favour of a Russian system that was compatible with its existing infrastructure. The two alternatives in different parts of Europe reflect not only contrasting perceptions of safety standards, but also varying degrees of willingness to escape dependence on a single source of supply, and of trust in market processes.

3. Most industrial countries are dependent on imported energy, and particularly on oil and gas. Even with a dramatic shift towards the enhanced use of renewable energy resources, carbon fuels (gas and coal) offer a degree of flexibility in response to demand surges to which no obvious or cheap alternatives exist. The history of interrupted supply threats include dramatic episodes, like the 1941 U.S. blockade of energy imports by Japan, or most importantly, the two major oil crises of the 1970s. The resource curse, whereby abundant natural resources (and above all energy) promote rent-seeking behaviour, means that many large energy exporters are prone to corrupt politics, instable and erratic policies, and a proclivity to resort to blackmail. It also means that the export of manufactured goods becomes more difficult because the revenue from selling the resource typically increases domestic wages and income aspirations (Dutch disease).

[6] OECD, Nuclear Energy Agency, (2010).
[7] Foratom (2014); also GlobeScan (2011).

For modern Europe, the most obvious threat is posed by the extent of its dependence on Russian gas. Although there were incidents in the past in which disputes between Russia and Ukraine over the pricing of long-term gas contracts led to a cut-off of supplies to some areas, notably in January 2009, when there were major shortages and cut-offs in Bulgaria and Romania; the issue only reached a high level of political and popular salience as a strategic threat to Europe in the aftermath of the collapse of the Yanukovych regime in Ukraine and the subsequent Russian annexation of the Crimea and destabilisation of Eastern Ukraine. In 2014, tensions with Russia escalated to an extent reminiscent of Cold War conflicts, and made Europe's dependence on imported Russian gas seem like a security liability.

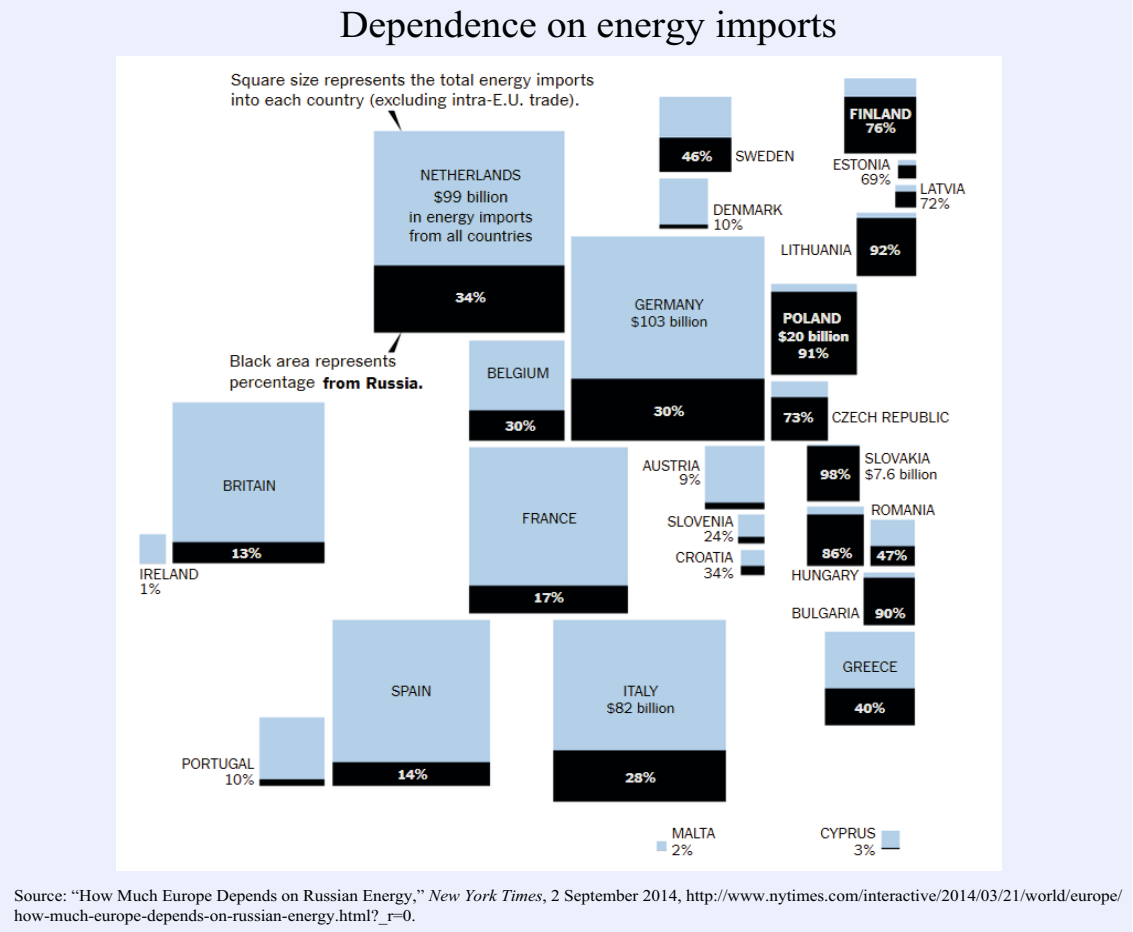
Europe's dependence on imported gas, by far the cleanest fossil fuel, has increased. EU domestic production of gas has fallen since the late 1990s, in line with the depletion of the resources of the UK and the Netherlands in the North Sea. Only the Netherlands and Denmark are net gas exporters. There are some shale gas resources, but these may prove largely unusable, for economic as well as political reasons (including worries about the environmental consequences of shale extraction). Only Poland has the potential to become a major producer of shale gas, with 4.2 trillion cubic meters of unproven technically recoverable shale gas reserves (France has 3.9 trillion, while the EU as a whole has 13.3 trillion, compared with 16.1 in the US).[8] Gas consumption is also higher as a proportion of total energy requirements in the smaller EU countries, and especially in Eastern and South-Eastern Europe (Figure 2.4).

The share of gas imports in the EU has risen steadily from the mid-1990s (when it was around 40 percent) to approximately 70 percent today. In 2013, 39 percent of extra-EU imports (in volume) came from Russia, followed by Norway (34 percent), Algeria (13 percent) and Qatar (7 percent). Almost all of this gas comes through pipelines, with Nord Stream supplying Finland and Germany, and the older Yamal-Europe line supplying Poland and Germany. Slovakia, which obtains a major competitive advantage from low energy prices, is almost exclusively dependent on a single (Russian) source.

The history of discussions about gas supply is fraught with suspicions that a monopoly (or near monopoly)

[8] European Commission (2014), "Energy prices and costs report," *SWD* 20 final/2, http://ec.europa.eu/energy/doc/2030/20140122_swd_prices.pdf (accompanying European Commission (2014), "Energy prices and costs in Europe," *COM* 21 /2).

Figure 2.4



Source: "How Much Europe Depends on Russian Energy," *New York Times*, 2 September 2014, http://www.nytimes.com/interactive/2014/03/21/world/europe/how-much-europe-depends-on-russian-energy.html?_r=0.

supplier is attempting to cut special deals with individual countries in a divide and rule strategy. Russian President Vladimir Putin cultivated strong ties with the former Italian Prime Minister Silvio Berlusconi. Berlusconi, in signing a project for a pipeline (South Stream, recently cancelled by Russia) that was to send substantial quantities of Russian gas to the Balkans and also via an extension pipeline to Italy and the Italian state-owned firm ENI, advised Brussels to "cultivate the same kind of good relations that Rome enjoys with Moscow."[9] In Germany, Chancellor Gerhard Schröder cultivated an analogous relationship with Putin, and after he retired from politics took a position with the energy giant Gazprom. When Russia negotiated the construction of a new sea pipeline in the mid-2000s (North Transgas, then Nord Stream) to bring Siberian gas to North-Western Europe, despite the higher costs and potential environmental threat of an underwater line, the Baltic states and Poland felt that they were being cut out, and that they would consequently be vulnerable to Russian pressure over their own supplies. In 2006 the then Polish Defence Minister Radek Sikorski made the extreme comparison between the German-Russian negotiations on Nord Stream and the Molotov-Ribbentrop Pact. In fact, however, Poland's safety may have been increased by this pipeline, as the country has become more independent of the conflict in the Ukraine, given that it can now receive Russian gas via Germany. The key is a network that provides the maximum flexibility: the EU has stipulated that all gas pipelines in the EU be reconstructed so as to allow for flows in both directions.

4. Electricity supply networks are vulnerable to systemic breakdowns as a result of overloads caused by random factors (climatic conditions, the failure of a particular unit). In the absence of flexible capacity, a demand spike can lead to massive failures. These affect electricity supplies to control centres and internet communication, with further shutdowns of power plants resulting in a cascade. Such failures occurred in the US in August 2003 and in France and Italy one month later, in September. The prospect of network

[9] "Putin and Berlusconi Seal 'South Stream' Pipeline Deal." *EurActiv*, 18 May 2009, http://www.euractiv.com/energy/putin-berlusconi-seal-south-stre-news-221827.

failure also increases the risk of nuclear accidents, as control systems are incapacitated in widespread power outages. Many European countries are operating electricity systems at levels precariously close to their capacity limits.

The question of flexibility has become a major issue with regard to renewable energy sources. In particular, solar energy and wind generated power cannot be easily switched on or off, and it may be delivered by nature at times when it is not needed. In fact, electricity made from wind and sunlight is extremely volatile. In Germany, in 2013, electricity from wind had a nominally installed capacity of 35 gigawatt, peaked at around 25 gigawatt at certain hours of the year, was delivered at an average of 5.4 gigawatt and provided a "safe" supply of 0.42 gigawatt at a relative frequency of 99.5 percent of all hours of the year. Germany is occasionally, at moments when there is sun and high winds, exporting electricity to its neighbours at negative prices, because the capability to smooth the green electricity by temporarily shutting down conventional power plants has been exhausted. There is clearly not enough hydroelectric capacity to smooth out the demand and supply fluctuations that arise from increased use of renewables. Smoothing the volatility of green electricity has become a major issue in the debate about whether or not Germany's green energy revolution will be successful.

The problem is that electricity cannot be easily and cheaply stored. The most effective solutions to the storage problem so far have mainly tended to involve rather simple mechanical arrangements, notably pumping water uphill in periods of surplus capacity and then using it to power turbines when demand increases (which currently accounts for over 95 percent of power storage). The wider the area that is connected in a "smart grid", the greater the potential should be to compensate for random shocks. Telephone systems, for instance, are today more interconnected than they were fifty years ago, and as a result are much less prone to periodic overloading and breakdown. The use of reservoirs as energy storage facilities could work well across frontiers: the development of a German-Norwegian transmission system means that German surplus electricity will be exported to Norway and used to fill hydro-electric reservoirs, and Germany can then import the electricity when it is required as a result of a German supply shortfall. However, the potential to smooth the energy supply through pump storage lakes is very limited. For example, the Ifo Institute has calculated that around 3,500 average-sized pump storage stations would be required to smooth Germany's 2013 actual wind and solar power production.[10] Germany currently has about one hundredth of these, and plans for a plant at Jochberg in Bavaria has already caused furious protests by environmentalists.

Each of these threats – climate change, nuclear accident, geopolitical blackmail, system disintegration and wind and sunshine volatility – is treated in very different ways. Since public debate is often driven by single headlines, a nuclear accident such as Fukushima produces a greater sense of danger than the vaguer (but more certain) long-term threat of climate change. The risk of system breakdown only enters the political debate after a concrete instance. Politics thus tends to respond too late to threats.

In addition, the geographic areas that are affected by these four types of threat vary. Cascading failures affect at the worst neighbouring countries. Politically-driven energy blockades are also targeted at individual states, although the geography of supply chains and pipelines means that there will also be collateral damage. Nuclear reactor catastrophes prima facie involve a relatively localised area; in reality, however, radiation clouds may spread over very wide distances covering a number of countries. Thus, for example, the concentration of French nuclear power plants along the Rhine constitutes a direct threat for Germany, given that western winds predominate in Europe.

CO_2 emissions result in a long-term build-up of CO_2 in the entire atmosphere, and do not affect the regions where the CO_2 originated specifically. They produce global climate change, not local environmental degradation. Such emissions are, as a result, a powerful instance of a tragedy of the commons. No particular country has a stake in reduction, if that reduction is not generally followed. The application of an emissions trading scheme in one area leads to increased costs there; but competitive advantages elsewhere. Apparently altruistic action energy to produce better and more sustainable energy outcomes may even have a perversely harmful general outcome. For one thing, carbon not burned in one part of the world might be shipped to another and burned there (direct carbon leakage). For another, resource owners might anticipate their sales of carbon resources to avoid selling them when green technologies and emission con-

[10] See Sinn, H.-W. (2014), "Schafft es Deutschland, den Zappelstrom zu bändigen?," 65th Annual Meeting of the Ifo Institute, 26 June.

straints threaten market destruction. According to the so-called Green Paradox (Sinn, 2007 and 2008), the more serious attempts are to restrict future emissions, the greater the incentives to current producers to use their time-limited CO_2 producing sources as quickly as possible. The attempt to slow down climate change accelerates it. The logic of the Green Paradox predicts a dramatic fall in fossil fuel (including oil) prices as producers scramble to use the window in which they can still sell their products.

A European carbon trading scheme is not, and obviously cannot be a substitute for a global regime. Other major world producers of CO_2 emissions consistently produce powerful arguments why they should not take part in a common scheme. In particular, newly industrialising countries argue that a limitation on carbon output would harm their chances of catching up with advanced countries in terms of general prosperity, and would condemn a large part of their populations to continued poverty. The aftermath of the financial crisis, which brought a relative strengthening of emerging markets, has thus led to a decreased international willingness to cooperate on climate change.

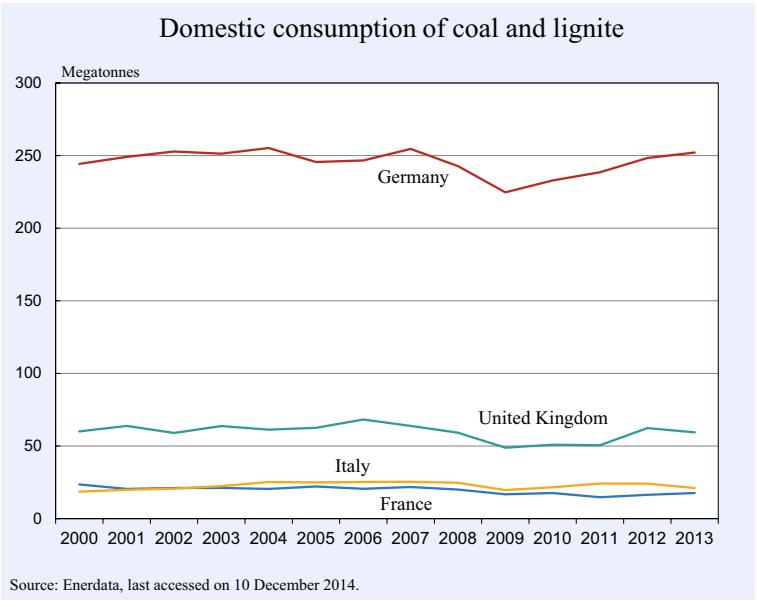
CO_2 trading would be a desirable global approach to the climate change issue, but its application in a more limited geographic framework produces inconsistencies. The EU ETS launched in 2005 was intended to represent a major effort on the part of the EU to achieve the targets set out in the 1997 Kyoto Protocol. It does not cover all of EU emissions, but focuses on high-polluting industrial sectors, including power generation, iron and steel, cement, glass, pulp and paper. This amounts to around two fifths of total EU emissions. Attempts to include aviation in 2012 were controversial and led to a dispute with the US, when the EU proposed to apply the restrictions to American airlines. "Cap and trade" allows companies to trade allotted carbon permits; while a "Linking Directive" allows carbon emitters to buy carbon credits generated from emissions savings or offset projects, in other countries, and above all in emerging markets.

The problems of the EU ETS are partly design flaws that followed from the particular path chosen. At the beginning, permits were over-allocated, and simply amounted to a subsidy for high polluting producers. Then the price of permits was affected by the economic slowdown after the financial crisis, and dropped precipitately, from 35 euros per ton in 2008 to 14 euros per ton in 2010, to around 5 euros per ton in 2013, and then rose slightly to 7.30 euros per ton at the time of writing (January 2015), rendering the signal that the price was supposed to generate meaningless. As a consequence, incentives resulted that undermined the fundamental concept behind the proposal.

The collapse of permit prices perversely led to a greater incentive to use coal than gas. Some Combined Cycle Gas Turbine (CCGT) plants with a higher thermal efficiency were mothballed. The others are operating at well below their capacity. Given today's prices of fuels the price of emission certificates would have to be about 70 euros per ton to make such plants profitable (Karl, 2012 and 2013). Coal consumption in the EU rose after 2005, especially in Germany (Figure 2.5).

The price collapse of emission certificates was not just a consequence of the financial crisis, but also followed from the interaction of national energy schemes that were poorly coordinated. This effect was magnified by separate national attempts to reduce emissions in a more limited context by means of favourable feed-in tariffs for green energy. On a national level, these incentives looked as if they successfully resulted in lower carbon emissions, as planned by the legislator. But

Figure 2.5



Source: Enerdata, last accessed on 10 December 2014.

when the results interacted with other parts of the policy framework, in an international context, the outcome looks much less satisfactory. As Sinn (2014) explains: "The green power produced in Germany not only replaces power from fossil fuels, but also sets free the corresponding emission certificates. These certificates migrate via the markets to coal-fired power stations in other EU countries, where they facilitate an increase in CO_2 emissions – or a reduction in savings – which exactly matches the German savings."

There are other perverse consequences of national choices regarding the desirability of environmentally sustainable energy production. Notably, biomass produced energy was defined as carbon-neutral, so that no permits are required for energy production from biomass. Yet studies suggest that carbon emissions from biomass are 50 percent higher than from coal. The subsidies for biofuel had the additional unwanted effect of increasing food prices, squeezing low income earners throughout the world and generating widespread popular unrest and political instability in 2006–7 (including the "Arab spring").

Another repercussion of the effective provision of a subsidy regime via feed-in prices was that it set off a race to capture the new rents produced. Europe, but not the US, experienced a substantial asset price bubble in alternative energy provider stocks in the mid-2000s, which collapsed in the wake of the general financial crisis in 2008 (Bohl et al., 2014).

The de facto collapse of the ETS has fuelled a new debate about substituting a less market-driven and more coordinated approach: a system of minimum prices with a built-in escalation (back-loading) in order to provide ever increasing incentives to cut carbon release. In this way, the scheme is starting to resemble what was originally presented as a simple alternative: a tax system.

According to some analysts, the tax approach has the advantage that it can be used to penalise products from third countries whose manufacture involves large and environmentally harmful carbon emissions. Such an approach clearly takes energy policy deep into the domain of trade policy (Helm, 2012). Taxes are a difficult policy tool if the time path of resource extraction either fails to react to price signals, or reacts adversely. The "no reaction" scenario is likely if extraction costs are never binding and if the expected present value of unit taxes is constant for all points in time. In this case, taxes will simply be borne by suppliers without inducing a slowing down in extractions and hence without improving the climate. The "adverse reaction" scenario is likely, if extraction costs are never binding and if the present value of unit taxes rises with the passage of time, as the expected growth rate of the tax is higher than the interest rate. In this case resource owners will again react according to the Green Paradox and anticipate their sales, which implies that world-wide consumer prices will fall as a result of imposing the tax.

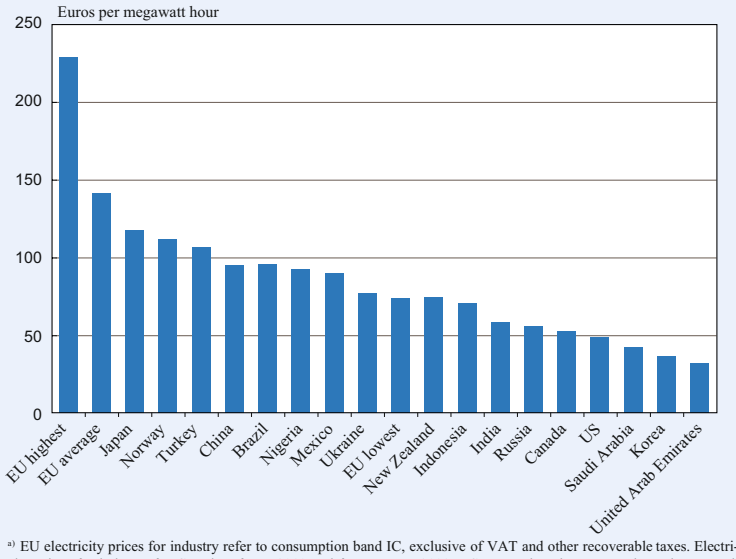
Thus, improving the ETS mechanism by incorporating all major consumer countries of fossil resources may be the better alternative. Currently, an ETS mechanism already exists that incorporates the countries committed to binding reduction goals under the Kyoto Protocol and representing about 30 percent of worldwide emissions. If the percentage is moved towards 100 percent by incorporating the USA, China, India and other important countries, a tool would be available to effectively constrain CO_2 emissions.

However, persuading other countries (especially big emerging markets) to adopt an energy trading scheme is a difficult bargaining process. In the lead up to a new Climate Summit in 2015, in which such bargaining is to be expected, there is a disincentive for Europe to fix the ETS prices before the negotiations, as an increase could be presented as a "concession" to the other negotiating parties.

There are similar bargaining dilemmas in Europe, where different countries have adopted contrasting approaches to energy conservation. National energy conservation or green energy laws are especially problematic. The 2000 German Renewable Energy Law (German: Erneuerbare-Energien-Gesetz, EEG), often regarded as a model for managing an economic transition towards an ecologically sustainable future, increased energy costs and represented fundamentally a tax on consumers. The government responded to complaints that high energy prices were putting German industry at a competitive disadvantage by offsetting the costs with subsidies. That action appears to run counter to the EU logic of creating a competitive market. Its German proponents argued that it was legal because it was not a subsidy financed by the government through taxation, but the payments were covered instead by payments made by energy consumers.

Figure 2.6

Retail electricity prices in 2012: industrial consumers[a)]



[a)] EU electricity prices for industry refer to consumption band IC, exclusive of VAT and other recoverable taxes. Electricity prices for industry for Canada refer to 2010 and for Korea to 2009. ECB annual exchange rates have been used. Industrial prices exclude taxes as reported by ERRA for Nigeria, Russia and Ukraine, by ANEEL for Brazil, by the IEA for Japan, Canada (2010) and New Zealand. IEA reports zero taxation of industrial prices for Mexico; ERRA reports zero taxation for Saudi Arabia and UAE. No data on taxation of industrial prices in South Korea (IEA); until 2009 natural gas prices reported by South Korea indicated 12–14 percent taxation of industrial natural gas prices. Prices reported by CEIC for China are actual averages of industrial use electricity prices in 36 cities; no consumption taxation on industrial retail prices in China, but prices include production tax (17 percent for electricity, 13 percent for gas, note that these are production taxes). Australian values are exclusive of general sales tax (GST). EIA numbers for the US include state and local taxes; electricity consumption is not taxed at the federal level in the United States, but it is taxed in some states.

Source: European Commission (2014), "Energy prices and costs report," *SWD* 20 final/2, http://ec.europa.eu/energy/doc/2030/20140122_swd_prices.pdf (accompanying European Commission (2014), "Energy prices and costs in Europe," *COM* 21 /2).

For many observers the German EEG offers an outstanding example of how a reorientation of energy policy might be achieved. Germany tops international rankings for renewable power per capita, and with 71 gigawatts it is the third largest renewable power producer in terms of capacity behind China (90 gigawatts) and the US (86 gigawatts) (Renewable Energy Policy Network for the 21st Century, 2013). There have been dramatic increases in the share of the sustainable energy sources of wind and solar energy. Some calculations try to put a price on the environmental gains achieved.

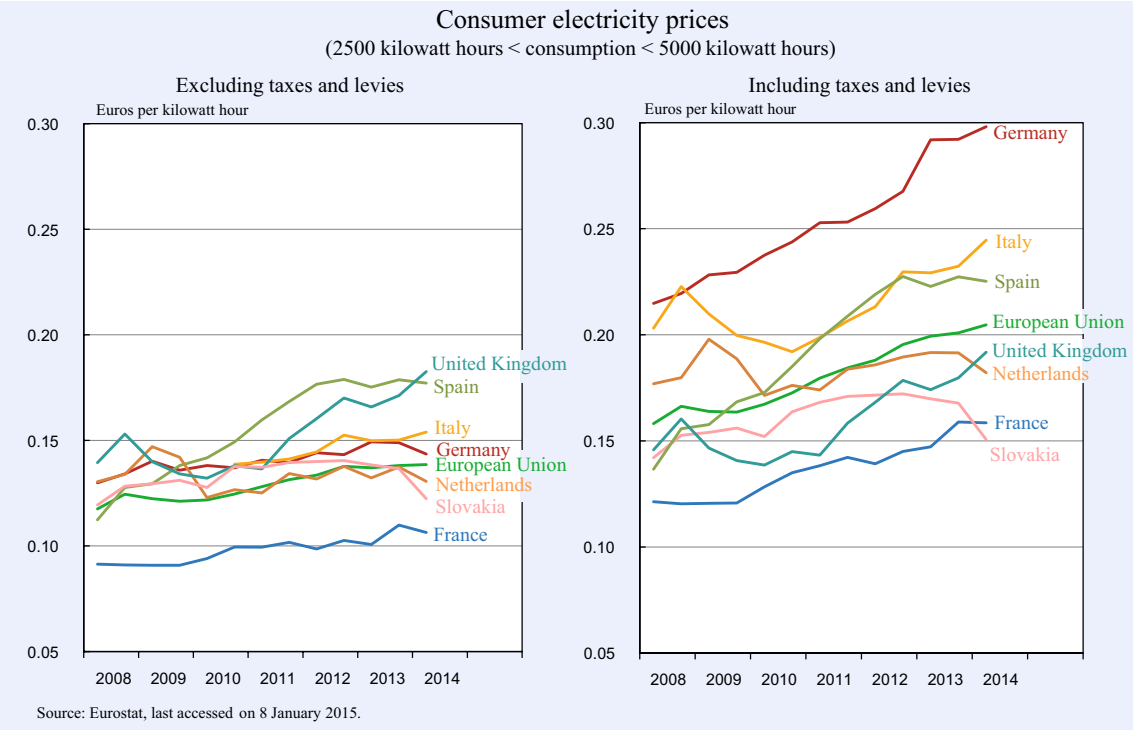
The exercise is costly, as consumers pay a high price for an outcome that reduces bad emissions. Industrial consumers pay a higher price for electricity in Europe than in any other part of the world, except for Japan: the contrast with the US is especially striking (Figure 2.6). The higher cost is a significant element in comparative competitiveness. There is also a consumer issue. From 2008 to 2012, EU household electricity prices increased considerably, at a rate of 4 percent annually.

But the electricity prices in the EU vary considerably, and in this sense defy the logic of a single market that Europe established with the Single European Act in 1986 for most other sorts of economic activity. Countries with a higher share of renewable energy also have significantly higher consumer prices (Figures 2.7 and 2.8; see also Macchiati and Scarpa, 2014).

Figure 2.7 shows how tax and excises contribute to – but are not entirely responsible for – significant price disparities across the EU. Such price disparities violate the law of one price, one of the most fundamental efficiency requirements in economics, implying different marginal energy avoidance efforts among European consumers. If anything, such disparities could be explained by the different local or regional environmental impact of energy consumption. For instance, there might be a difference in local air or traffic congestion externalities that would justify a regional diversification of tax rates. However, the case for an international diversification can hardly be made. It is true that there may be a case for such a diversification for different national revenue needs due to different national debt and expenditure levels, for example, but broad-based taxes such as value added taxes and income taxes are arguably far better suited to cover such needs.

In Germany, national energy policy, which is largely responsible for the high domestic consumer prices, has come under heavy attack. At around 30 cents per kilowatt hour, German consumers now pay double the price for their electricity than French consumers. Thanks to the Renewable Energy Act, German consumers had to pay around 16 billion euros more for green power than the conventional power equivalent in 2013. Energy-intensive industries are either relocating away from Germany, or have to be kept afloat through painful wage restraint. In both cases, the result has no impact on overall carbon emissions, but simply alters in a globally irrelevant way, the geography of energy consumption. According to the German Federal Ministry of the Environment, the energy transformation will cost over a trillion euros. This amount equals around ten years' worth of German re-

Figure 2.7



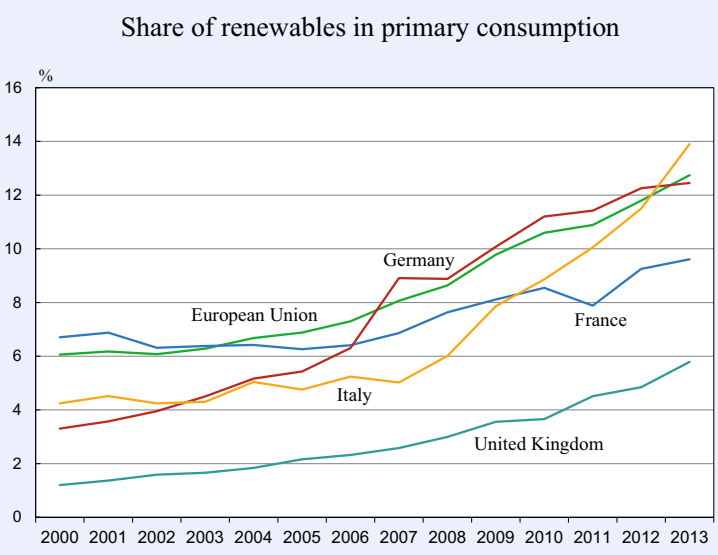
Source: Eurostat, last accessed on 8 January 2015.

unification transfers, or 330 high-speed rail links from Munich Central Station to Munich airport. The subsidies that have been pledged to the suppliers of renewable energy already amount to well over 200 billion euros. In 2013 the increased costs imposed by Germany's energy policy cost 0.6 percent of GDP. Arguably, these costs could have been far more productively invested in energy-efficiency measures, including capacity enhancing networks linking previously isolated or unconnected markets. The financial crisis has highlighted the unproductive side-effects of feed-in tariffs and subsidies: the crisis has led Spain to repeal renewable energy feed-in tariffs, and Italy to cap them (while sharply increasing gasoline taxes).

The subsidies to renewable energy producers also appear to be a violation of the underlying principles, if not the law, of the EU. Their legality was tested in the case of the Finnish wind farm supplier Alands Vindkraft, which complained that the Swedish Energy Agency Energimyndigheten had only awarded certificates to producers physically located in Sweden. Although the European Court of Justice ruled – surprisingly to most observers – against the foreign plaintiffs, it is difficult to see how a systematic energy policy can be built up on jurisdictional practice that allows discrimination against foreign producers.

The German and Swedish practice raises a fundamental conceptual problem that has not yet been solved. Is the best way of solving energy supply problems to allow market mechanisms to work, within an overall

Figure 2.8



Source: Enerdata, last accessed on 10 December 2014.

framework of priorities determined collectively by governments; or is it preferable to manage parts of the energy adjustment process separately in accordance with the preferences of particular national authorities? The latter course has led to a deep incoherence in energy policies, and its elimination requires more precise agreement about energy priorities.

2.5 Flexible pricing and incentives

A fundamental philosophical division is discernible in energy discussions, around the choice between long-term planning or fixing of prices in order to generate certainty about future signals on the one hand, and a response to short-term and noisy market signals on the other. The debate is most pronounced in the case of the two environmentally and politically most sensitive issues: gas pricing, and nuclear energy. The distinction reflects the long legacy of past (and frequently contradictory) policies, and the difficulty of quickly establishing all the institutions that are really required to let market mechanisms work effectively through the generation of price signals. The cases of gas and nuclear energy illustrate the fundamental nature of the choice facing Europe's policy-makers.

The greater the diversity of supply, and the more market alternatives exist (including different forms of energy), the more resilient the energy economy becomes against unanticipated events, including attempts to blackmail energy users. In other words, diversity of supply limits the power of the resource providers. Marketisation can thus also provide a substantial impetus to improve political conditions in other parts of the world, and reduce the monopoly rents that corrupt politicians extract in resource-rich countries.

A great deal thus depends on the adoption of an appropriate energy mix in consuming countries. Flexibility is discouraged wherever there is dependence on long-term price contracts. It is also discouraged by political considerations, as politicians see stable and low energy prices as a response to the demands of voters. An extreme example is the way in which Hungary's populist Prime Minister Viktor Orban legislated lower energy prices and even raised the question of whether this issue should be inserted into the Hungarian constitution.

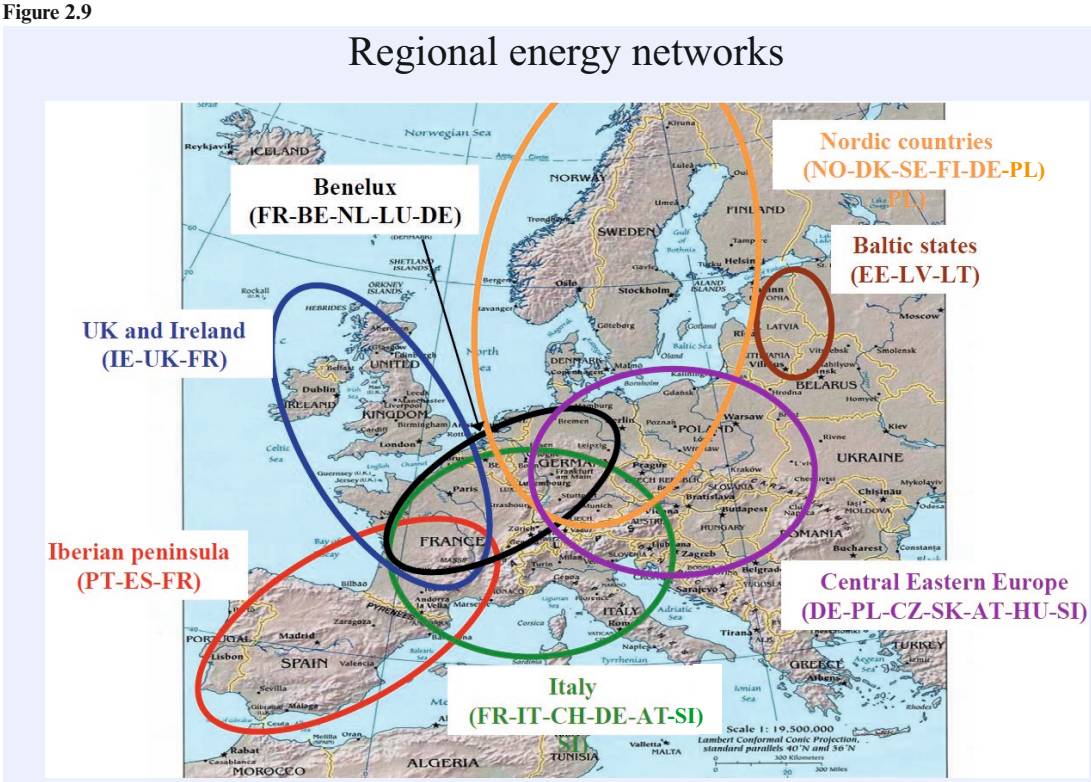
There is a geographical divide in Europe between those countries that rely on spot markets and those that use long-term oil-indexed contracts to purchase and receive their natural gas supplies. Spot markets are more likely to develop in Northwest Europe with LNG import facilities and hubs that can provide gas buyers with access to multiple and geographically diversified suppliers. Oil-indexed contract markets, on the other hand, are more likely to exist in Central, Eastern, and Southern European countries, where only one or two suppliers provide gas to domestic markets and there is little gas supply diversification. The geopolitical strategy of President Putin is based around a pipeline view of the world, rather than a LNG vision (Melling, 2010; Wilson, 2014).

There is a substantial (and at present greatly underused) capacity for handling LNG imports in Western Europe (UK, the Netherlands, Belgium, France, Spain). Indeed, in recent years (after 2011), the proportion of LNG imports has fallen. EU Regulation 994/2010 provided for obligatory investment in infrastructure that would allow the reversibility of gas supplies, where economic calculations showed that such facilities would produce positive spillovers. Poland, which relies on imports for 74 percent of its consumption (almost all of which normally comes from Russia), may now, as a result, cover half of its demand through a reversal of flows in the Yamal pipeline, from Germany and the Czech Republic. On the other hand, Russian flows through Ukraine and Romania to Bulgaria, Greece and Turkey are not operated in accordance with the EU legislation, and there is no provision for reversibility. That result generates a political dynamic that undermines the formulation of a collective EU approach to economic aspects of European security policy. Long-term dependence reduces the opportunity for effective foreign policy coordination.

One result of the Ukraine-Russia crisis of 2014 may be a greater awareness of the security threat, an enhanced willingness to construct LNG facilities, and an expansion of the market principle of spot pricing as a result, rather than long-term indexation to other energy products. That development is harder to imagine in the case of Russian-designed nuclear power plants in Eastern Europe, where technology dependence is far greater.

Flexibilisation is an important principle in wholesale markets; but it can also play a major part in promoting domestic energy efficiency. From a consumer point of view, a move to flexible pricing may be an increasingly attractive way of steering demand away from

Figure 2.9



Source: Everis and Mercados (2010), p. 17.

peak times, at which the production costs/marginal costs are high. Consumers are increasingly exposed to pricing policies that vary substantially with time (on an hourly, weekly, but also seasonal basis): such an approach is now common in transportation (rail and air fares, taxi tariffs with Uber). They may also increasingly be able to use devices that react to price signals to reduce consumption for heating or for energy intensive activities (for instance, domestic washing or drying machines, as well as in industrial food freezers). Storage of energy can be encouraged at the level of individual consumers, with more effective batteries being used to avoid demand at peak energy times. High (and varying) prices at peak times would help to smooth out consumption patterns. Some of the distributional consequences of that move would require a delicate compromise: not all householders, for instance, can be flexible in timing periods of high energy use (think of the use of washing machines in apartment buildings with thin walls).

2.6 Inter-connectedness

Reducing extreme peaks of demand (and consequently of pricing) in an energy supply network that is pushing against capacity restraints requires a better linkage of supply systems that are still not fully integrated. The same is true for the potentially even bigger problem of smoothing peaks in green energy supply. If the national smoothing capacity becomes exhausted thanks to the closure of conventional power plants, as is regularly the case in Germany, there is a case for selling the excess electricity to other national energy markets and use their smoothing capacity. There has been some development in the integration of regional markets (Figure 2.9). But the linkage projects – such as the French-Spanish link across the Pyrenees or the Steiermarkleitung in Austria – are plagued by long delays (ranging up to 25 years); and a number of ENTSO-E (European Network of Transmission System Operators for Electricity) "Projects of Pan-European Significance" have been cancelled. A recent, widely-quoted estimate suggests that annual savings could amount to 2.5 to 4 billion euros. Even once networks are built, their limited capacity and significant leakages imply significant geographical cost differences. Network operators (and indeed whole countries, such as Switzerland) profit from price differentials without completely eliminating them.

Further improving the linkage requires a substantial investment in transmission systems. The European Commission assesses a need for 140 billion euros in in-

vestment by 2020, but it is difficult to see how this investment can be supplied by energy suppliers who are already burdened with very high levels of debts.

2.7 Conclusion

One response to the financial and debt crisis, which is also a crisis of European growth, is to demand higher levels of investment – both public and private – in Europe. The problem is that in the past, much public sector investment has been misdirected as a result of the political bargaining processes. However, private investment has also been misdirected (above all in large construction booms). Investment in energy networks may offer appropriate incentives to private producers looking at innovative ways of producing new clean energy sources. Since the search for funding also coincides with a widespread sentiment that Europe should investigate large infrastructure investment projects, it may be conceivable to fund the new energy transmission channels, both electricity gridlines and gas pipelines, with public or a mixture of public and private funding. A security levy on energy supply might be an appropriate way of ensuring the fiscal sustainability of such investment.

In the past, major increases in electricity availability (and reductions in price) were the result of increased transportation capacity. Can these gains be repeated as a result of innovations in storage and transmission technology? Research into this technology might allow a repetition of the productivity gains of the first electrification revolution, in the late nineteenth century, when electricity supply allowed the localised delivery of energy in appropriate quantities, replacing energy that had previously been generated at high cost through steam engines with mechanical transmission systems. Efficiency gains in energy supply holds out the best way of saving resources.

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European Regional Disparity: Borders Strike Back

3.1 Introduction

The original premise of the Single Market was that the promotion of economic integration would bring prosperity to the European Union, lower income disparities across member states, and by reducing differences between member states and within regions, it would enhance social and political cohesion within Europe. However, five years after the eruption of the European government debt crisis, the economic disparities feel larger than ever, the forces of economic integration seem to be weaker than before and social cohesion also appears to be crumbling. Do national borders matter more to economic outcomes since the crisis?

This chapter explores this issue by analysing the pattern of the evolution in regional GDP per employee on the one hand, and unemployment on the other. The evidence suggests that regional disparities decreased significantly before the financial crisis both in terms of GDP per employee and unemployment. In addition, these regional disparities became less and less national, thus, over time country level differences contributed less and less to regional differences. However, this trend appears to have reversed since the beginning of the crisis: country-specific effects now matter more than before. In other words, borders are back.

3.2 The age of convergence: disappearing national borders

The first crucial question concerning regional disparities is whether they have declined in the European Union. Prior to the crisis there was a strong sense that disparities are declining. This section presents some basic facts about regional disparities in the European Union, focusing on labour productivity and unemployment. The findings do indeed suggest a decline in disparities, but they also indicate that there were signs of potential problems a few years before the crisis started.

3.2.1 GDP per employee

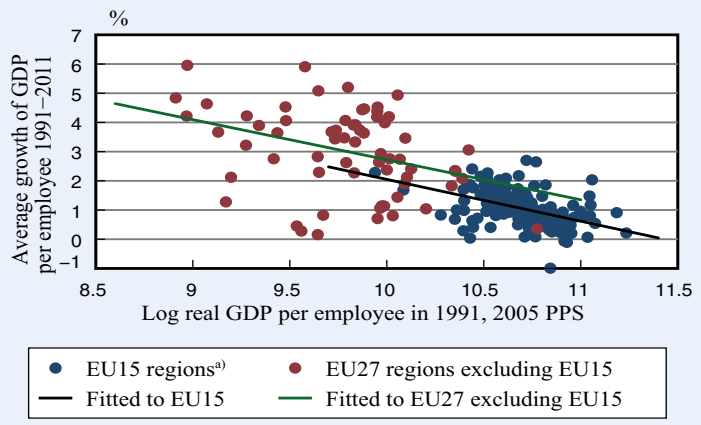
There are several ways to present GDP data to illustrate disparities in GDP across space over time. Figure 3.1 below illustrates what happened to GDP per employee in the European Union. We think that using GDP per employee is more appropriate at the regional level than the more frequently used measure of GDP per capita. This is because population and employee levels are much less correlated at a regional level than at a country level due to commuting. For example, the population of the region of inner London is much lower than its number of employees. Hence the focus of our analysis is GDP per employee, that is, labour productivity. We use these two terms interchangeably.

Firstly, we present the classic graph on the relationship between initial productivity levels and subsequent growth to see whether there was a stronger tendency towards low-productivity regions growing faster than high-productivity ones during the period 1991–2011 (ß-convergence). Secondly, we plot the standard deviation of log real GDP per employee to see whether the dispersion of GDP per employee distribution decreased over time (σ-convergence).[1]

Figure 3.1 shows the EU27 regions where the horizontal axis shows the productivity level in 1991 and the vertical axis represents subsequent average growth over a 20 year period. The figure also indicates whether a region belongs to an old member state (EU15) or to a new member state (EU27 excluding EU15). The figure suggests the presence of ß-convergence as less productive regions tend to exhibit higher labour productivity growth than the more productive regions. Moreover, regions of the new member states grew faster than old member states' regions as their initial labour productivity was lower. It is also important to

[1] See Barro (2012) for a recent overview of the empirics of convergence, and Gennaioli et al. (2015) for an application to regional convergence.

Figure 3.1



[a)] EU15 excludes Eastern German regions.

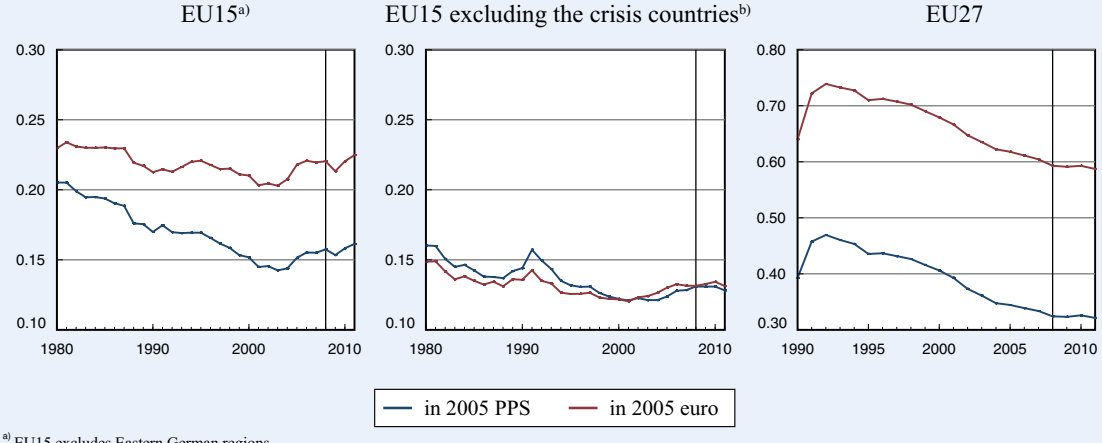
Source: European Regional Database 2013 (Cambridge Econometrics) and EEAG calculations.

point out that the slopes of the fitted regression lines indicate that the slopes, and thus the speed of convergence, for both groups of countries are roughly the same.[2] The strong convergence of the new member states suggests that old and new members belong to the same convergence club.

Next we use the standard deviation of the log real GDP per employee to characterise the overall change in disparities among European regions (σ-convergence). The left side of Figure 3.2 shows the indicator for the old member states, whereas the right side of the figure shows the data for regions of the old and new members together. The graph in the middle shows the indicator for the old member states without the crisis countries (without Greece, Ireland, Italy, Spain and Portugal). We expressed GDP both in the purchasing parity standards of 2005 (PPS) and in euros of 2005 when we calculated real GDP per employee. The time evolution of both indicators is very similar: they show a secular decline in disparity until about 2005. There is one important difference between the left and the right hand side graph that is worth mentioning. The disparity in labour productivity among the regions of old member states (EU15) increased after the mid-2000s. By contrast, the disparity among the regions of old and new member states (EU27) declined as of the mid-2000s. The perceived effect of the crisis is that it has increased disparities among the regions of Europe along several dimensions. Figure 3.2 suggests that the increase in disparities in labour productivity started several years earlier. However, although disparity grew due to an increase in disparity both in crisis and non-crisis EU15 countries, a comparison of the left hand side graph and the middle graph strongly suggests that the bulk of the increase in disparity was due to the crisis countries. Some regions of Italy started falling behind,

[2] This simple figure shows unconditional ß-convergence. Including additional specific country factors may not change the speed of convergence, but may well change the intersection of the fitted line with the horizontal axis that indicates the long term relative productivity levels at which both the old and new member states grow at the same rate.

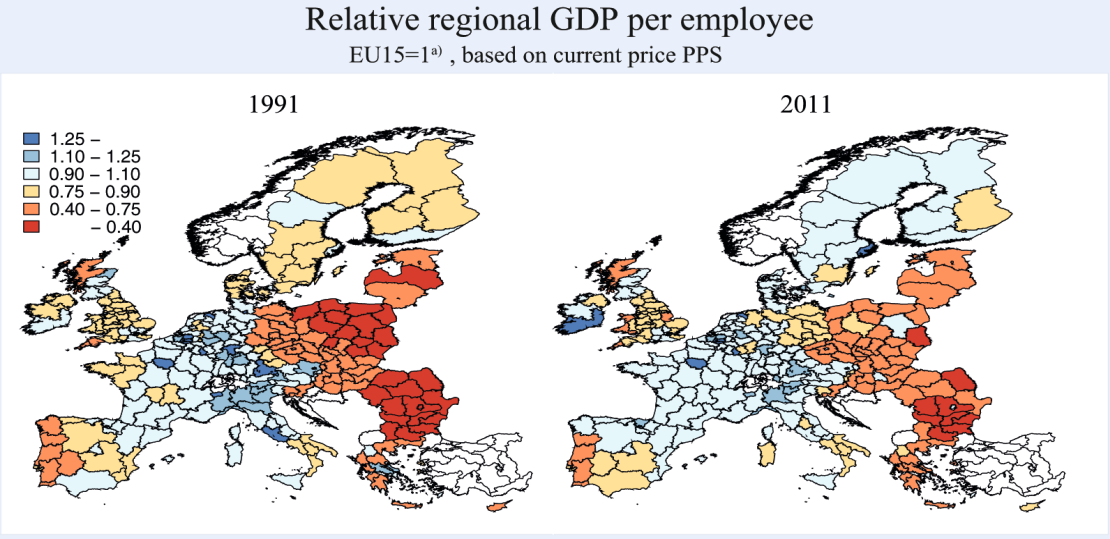
Figure 3.2



[a)] EU15 excludes Eastern German regions.
[b)] Crisis countries are Greece, Ireland, Italy, Spain and Portugal.

Source: European Regional Database 2013 (Cambridge Econometrics) and EEAG calculations.

Figure 3.3



[a] EU15 excludes Eastern German regions.
Source: European Regional Database 2013 (Cambridge Econometrics) and EEAG calculations.

while some regions of Ireland and Spain became more productive than the EU15 average.

It is worth noting that GDP per employee in terms of 2005 euros shows a larger disparity than GDP per employee in terms of PPS. This is not surprising. The former only corrects for price level differences within countries over time, while the latter also corrects for price level differences across countries.[3] Since richer countries tend to have higher price levels than poorer ones, GDP per capita expressed in PPS data shows less disparity than the data expressed in euros.

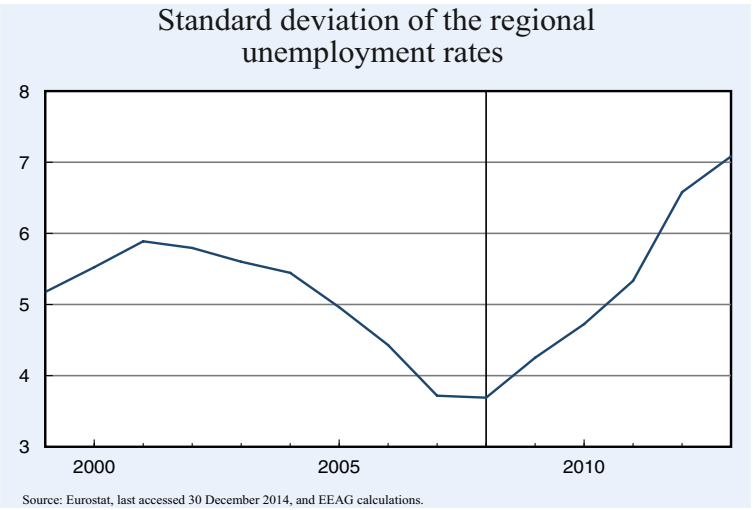
Finally, to attach explicitly geographic locations to the data, we plot GDP per employee relative to the EU15 average in 1991 and in 2011 for the European Union on a map (see Figure 3.3). Illustrating the level data relative to the EU15 average allows us not only to gauge the changes over time, but also to pin point them to successful and unsuccessful geographic locations. As far as the successes are concerned, most new member states from Eastern Europe had a GDP per capita of less than 40 percent of the European average in 1991, while several regions in Eastern Europe enjoyed a level of above 40 percent in 2011. The Budapest region of Hungary and the Bucharest region of Romania are both close to the EU15 average. There was also a significant labour productivity improvement in the regions of Eastern Germany, France, Spain and Ireland. As for the failures: several regions in Italy had lower labour productivity levels in 2011 than in 1991. There are regions in several countries from Germany to United Kingdom that fell behind in relative terms. Thus, while several European regions caught up in relative terms, others fell behind.

[3] It is important to note that price indices are only available at the country level. Thus, adjustment for price level changes both over time and across space can be carried out with country level prices and PPS indices.

3.2.2 Unemployment

Differences in unemployment rates are another key indicator of regional disparity. Figure 3.4 shows the standard deviation of regional unemployment rates

Figure 3.4



Source: Eurostat, last accessed 30 December 2014, and EEAG calculations.

since 1999. The data suggests a substantial decline in unemployment disparity up until 2008. Since then disparities in unemployment rates have been on the rise. In particular, the disparities in unemployment rates are now higher than at any time since 1999. It is also worth mentioning that the decline in the disparity in regional unemployment rates stopped in 2007, while the decline in disparity of GDP per employee ground to a halt 2–3 years earlier.

Figure 3.5 shows the spatial distribution of unemployment across European regions in 2007 and 2013. Most European regions had an unemployment rate of below 10 percent in 2007. Few regions, and interestingly few German regions, had an unemployment rate of higher than 10 percent at that time. The situation has changed dramatically since then. The majority of regions still have unemployment rates of just under 10 percent, but all German regions now have rates of less than 10 percent. By contrast, the unemployment rates in all of Ireland's regions were over 10 percent in 2013, but below 6 percent in 2007.

More importantly, the spatial distribution of unemployment in 2013 shows stronger border effects than that in 2007. The French regions experience an unemployment rate around 10 percent lower than the Spanish regions on the other side of the border. Similarly, unemployment in Greek regions is dramatically higher than that in neighbouring regions in Bulgaria. The French region next to the German border also tends to exhibit a higher unemployment rate than the neighbouring German regions. This pattern was less pronounced before the crisis.

3.3 Polarisation and the crisis: neighbour versus country effects

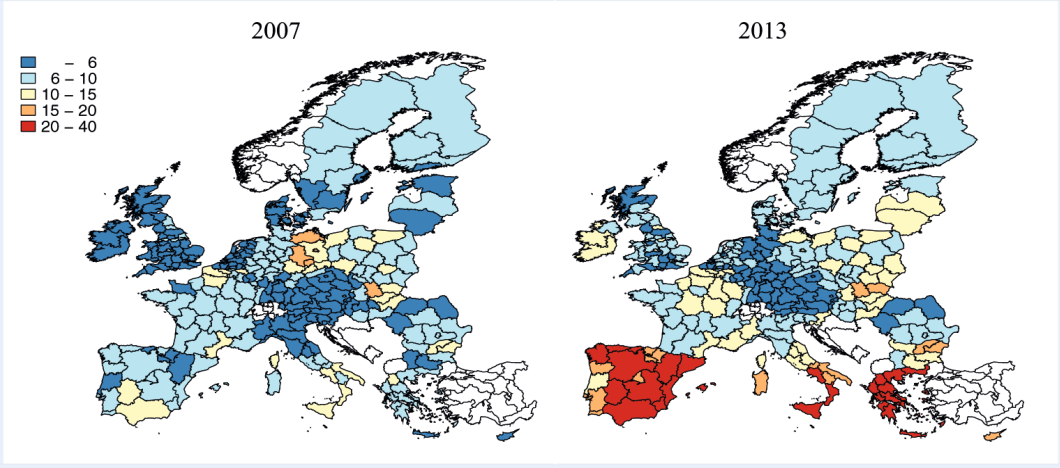
One crucial question concerning regional differences is whether the economic performance of a region is shaped by its neighbouring regions, or by the national economy. Did economic integration in the European Union reduce the effect of national borders representing differences in institutions and national economic policies, or do national borders still have significant economic effects? Did the crisis alter the economic effect of national borders? In this section we restricted ourselves to the old member states, the EU15 countries, as the forces of economic integration have had a longer time to unfold their effect in these states than in the EU27 countries.

3.3.1 GDP per employee

In an attempt to shed light on the effect of national borders on the economy, we begin by decomposing the standard deviation of the log regional real GDP per employee into within-country and between-country components. The former represents the regional effects, and the latter represents the country-specific effects. Figure 3.6 shows that between-country standard deviation in labour productivity, or country specific factors, declined between 1994 and 2008. At the same time, the within-country standard deviation, or the regional factors within countries, remained flat throughout the period. This could be interpreted as a sign that the effect of borders on disparity changed over time: countries converged to each other, and disparities

Figure 3.5

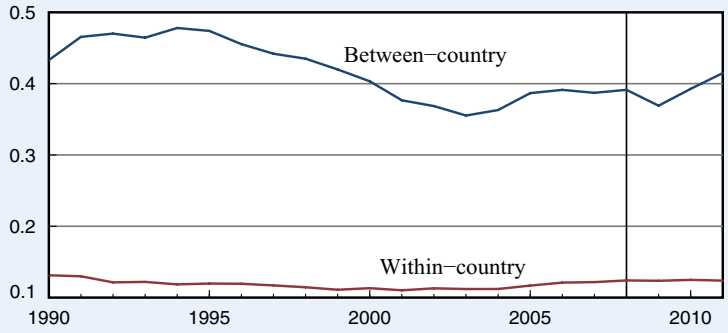
Regional unemployment rates in Europe, percentage



Source: Eurostat, last accessed 30 December 2014.

Figure 3.6

Decomposition of the standard deviation of log regional real GDP per employee[a] in EU15 regions[b]

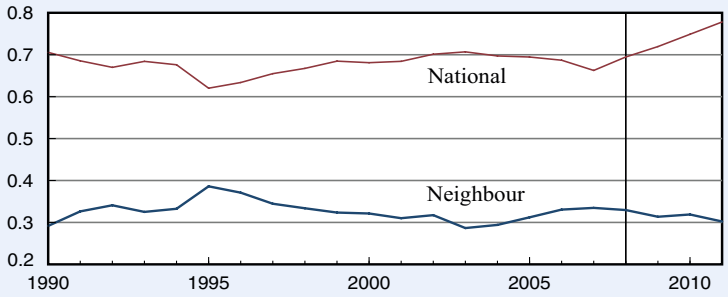


[a] Regional real GDP per employee in 2005 PPS.
[b] EU15 excludes Eastern German regions.

Source: European Regional Database 2013 (Cambridge Econometrics) and EEAG calculations.

Figure 3.7

Elasticity of regional real GDP per employee with respect to neighbour and national real GDP per employee[a] in EU15 regions[b]



[a] Regional real GDP per employee in 2005 PPS is normalised with EU15 average.
[b] EU15 excludes Eastern German regions.

Source: European Regional Database 2013 (Cambridge Econometrics) and EEAG calculations.

Table 3.1

Neighbour and national effects on the growth of regional real GDP per employee over the previous four years in EU15 regions[a]

	2007	2011
Growth in neighbours real GDP per employee over previous 4 years	0.230** (0.095)	0.116 (0.088)
Growth in national real GDP per employee over previous 4 years	0.615*** (0.105)	0.978*** (0.102)
Constant	– 0.001 (0.001)	– 0.001 (0.001)
Number of observations	187	187
R^2	0.339	0.645

[a] *** p<0.01, ** p<0.05, * p<0.10; standard errors are in parenthesis; OLS regressions; EU15 excludes Eastern German regions; regional real GDP per employee in 2005 PPS are normalised with EU15 average.

Source: European Regional Database 2013 (Cambridge Econometrics) and EEAG calculations.

across regions were increasingly explained by factors unrelated to the county's average GDP per employee. However, since the beginning of the crisis, country specific factors have been on the rise again.

To learn more about whether neighbour or country-specific effects matter more to regional real GDP per employee, we calculated its within-period elasticity with respect to neighbours and national labour productivity for every year.[4] Figure 3.7 shows that elasticity with respect to national labour productivity was far greater than elasticity with respect to neighbour labour productivity as of 1990. If anything, national elasticity has slightly increased since the mid-1990s. This increase was far more pronounced as of the beginning of the crisis, which suggests that regional labour productivity is strongly related to the national average, and much less to neighbour productivity.

To get a better idea of how country specific factors are relevant relative to local regional factors, we regressed the four-year average growth in regional real GDP per employee on the change in neighbour and national real GDP per employee (all variables were normalised with the log real GDP per employee of the EU15). The results are presented in Table 3.1.

The evidence suggests that national effects became stronger and more important relative to neighbour effects as of the begin-

[4] We regressed the log of regional real GDP per employee on the log of neighbour real GDP per employee and on the log of national real GDP per employee. The point estimates of the cross-sectional OLS for each year correspond to elasticities. All real GDP per employee data is normalised with EU15 average real GDP per employee.

Table 3.2

Comparing the domestic and foreign neighbour effect on growth in regional real GDP per employee over the previous four years in EU15 regions[a)]

	2007	2011
Growth in foreign real GDP per employee rate over previous 4 years	– 0.024 (0.060)	0.080 (0.075)
Growth in domestic real GDP per employee rate over previous 4 years	0.213 (0.176)	0.321 (0.207)
Growth in national real GDP per employee over previous 4 years	0.758*** (0.182)	0.691*** (0.244)
Constant	0.001* (0.001)	– 0.001 (0.001)
Number of observations	72	72
R^2	0.554	0.660

[a)] *** p<0.01, ** p<0.05, * p<0.10; standard errors are in parenthesis; OLS regressions on 4 years differences; EU15 excludes Eastern German regions; regional real GDP per employee in 2005 PPS are normalised with EU15 average.

Source: European Regional Database 2013 (Cambridge Econometrics) and EEAG calculations.

ning of the crisis.[5] In particular, neighbour and national labour productivity growth had a significant positive effect on regional productivity growth between 2004 and 2007, while only the national effect remained significant between 2008 and 2011. In addition, the coefficient of national labour productivity growth also increased. This data, together with Figures 3.6 and 3.7, seems to suggest that national borders never went away: national policies and institutions always mattered a great deal, but during the crisis they became even more important.

Our next question is: to what extent do neighbour effects matter? In particular, does it make any difference whether the neighbouring region is in another country? Here we only considered regions in EU15 countries, which have both foreign and domestic regions as neighbours. We regressed growth in regional GDP per employee on growth in GDP per employee of foreign and domestic regional neighbours and the national economy. The results are presented in Table 3.2. It shows that national effects were important both before and during the crisis, as in the case where we considered all regions. However, the productivity growth of the domestic and foreign neighbours had no significant effect on regional productivity growth in either of the two time periods. Thus, there was no significant cross-border effect between regions on two sides of a national border. National effects therefore dominated regional growth in the border areas.

When do cross-border productivity growth effects emerge? They may emerge in the presence of cross-border specialisation. Cross-regional complementarity in industrial structure can lead to positive correlations between labour productivity growth across neighbouring regions due to complementarity in production.[6] If those regions are located in different countries, cross-border correlation may emerge. To check this idea, we computed the Krugman Specialisation Index (KSI) using six-industry disaggregation of total employment in each region.[7] KSI measures the difference between the industrial structures of a geographic unit of interest and a reference group.[8] The geographic units of interest in our case are the European regions with foreign neighbours. The index takes the value between zero and two. It is zero if the industrial structure of the region is identical to that of its foreign regions. A higher value implies a more different, and hence a more specialised industrial structure, and greater complementarity between the region and the reference. The index for each region is computed with foreign neighbours once the domestic neighbours average as reference group, and once the foreign neighbours average as reference group. The KSI based on foreign neighbours is plotted against the KSI based on the domestic neighbours to see relative to which group the degree of specialisation is larger. We also wanted to see whether the pattern changed during the crisis, which is why we prepared the graph for 2006 and 2011. The results are presented in Figure 3.8. On the horizontal axis KSI is based on domestic neighbours as the reference group, and on the vertical axis KSI is based on foreign neighbours as the reference group.

[5] This and other simple regressions are used in this chapter to characterise the properties of the data, and we do not intend to imply that they necessarily represent a causal relationship even if we use the term "effect".

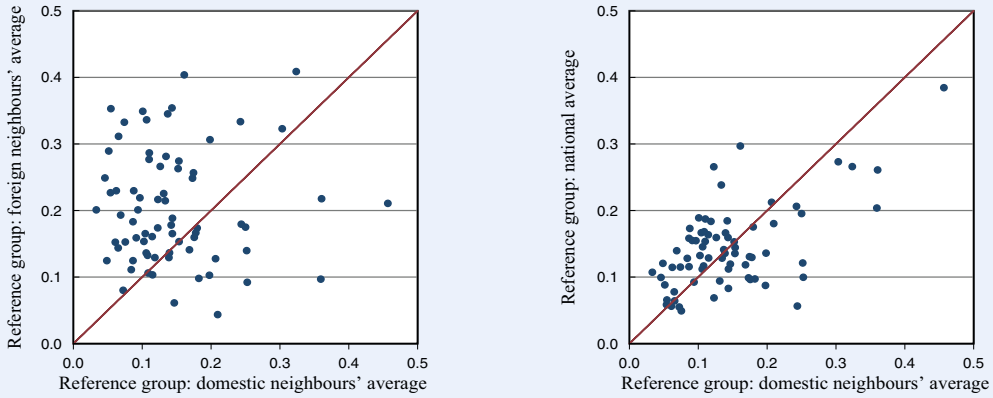
[6] For a theoretical analysis of the spatial evolution of industrial structure, see among others Puga (1999).

[7] The six industries are Agriculture (A); Manufacturing & Energy (B-E); Construction (F); Distribution, Communications and Transport (G-J); Financial & Business Services (K-N); Non-market Services (O-U).

[8] Formally, the Krugman Specialisation Index is defined as $KSI = \sum_{i=1}^{n} |s_i - \bar{s}_i|$ where n is the number of industries, s_i and $\bar{s}_i$ are the shares of industry i's employment in total employment in the geographic unit of interest and in the reference group, respectively, cf. Krugman (1991).

Figure 3.8

Krugman Specialisation Index[a] for EU15 regions[b] with respect to foreign neighbours and national averages in 2007



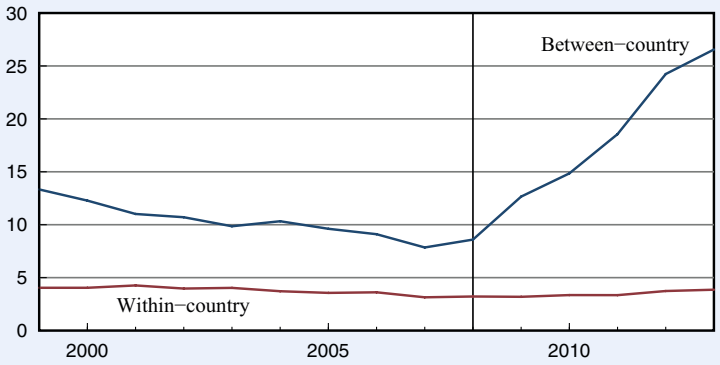
[a] A lower value of the Krugman Specialisation Index indicates a more similar industrial structure to the reference group.
[b] EU15 excludes Eastern German regions.

Source: European Regional Database 2013 (Cambridge Econometrics) and EEAG calculations.

The figure suggests that the majority of regions were more similar to their domestic neighbours in terms of industrial structure than to their foreign neighbours. This is because the KSI index pairs represented by a dot on the figure lay above the 45-degree line for the majority of the regions, thus, the KSI index for these regions is higher when the reference group consists of foreign, rather than domestic neighbours. This suggests that there tend to be more complementarities between neighbouring regions, which are on different sides of the border, than between neighbouring regions on the same side of the border. Previously, however, we found no systematic relationships between the growth of a region and its foreign neighbours. These two findings seem to imply that there are unexploited opportunities in cross-border specialisation.

Figure 3.9

Decomposition of the standard deviation of regional unemployment rates



Source: Eurostat, last accessed 30 December 2014, and EEAG calculations.

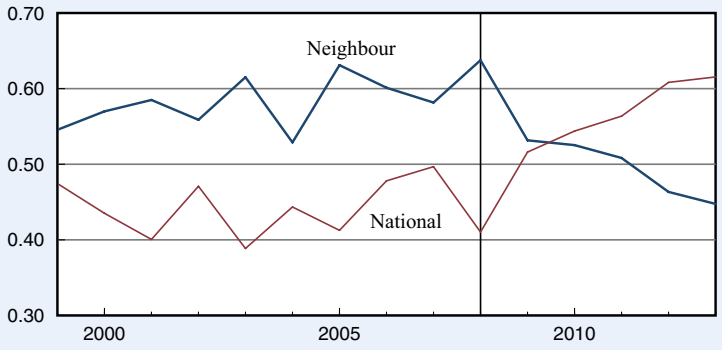
3.3.2 Unemployment

Turning to unemployment, Figure 3.9 shows the decomposition of the standard deviation of unemployment across regions into within-country and between-country components. Again, the former represents regional factors, and the latter represents country specific factors. The figure shows that the within-country standard deviation was flat throughout the period between 1997 and 2013. By contrast, the between-country standard deviation followed a declining path until 2007–2008, but sharply increased afterwards. This means that the observed increase in the disparities between regional unemployment rates characterised by the evolution of standard deviation in Figure 3.4 occurred primarily due to the increase in the disparities between unemployment rates across countries. By contrast, disparities in unemployment rates within countries remained largely the same. Thus, country specific factors are the primary reason for the decline in regional disparities before 2008, and their increase afterwards.

To give an alternative characterisation of neighbour versus national effects on regional unemployment rates, we calculated its within-period elasticity with re-

Figure 3.10

Elasticity of regional unemployment rates with respect to neighbour and national unemployment rates[a)]



[a)] Unemployment rates are normalised with EU15 average.

Source: Eurostat, last accessed 30 December 2014, and EEAG calculations.

spect to neighbour and national unemployment rates.[9] The elasticities are shown in Figure 3.10. Firstly, elasticity with respect to neighbour unemployment rate was higher than elasticity with respect to the national unemployment rate until 2008. Thus, changes in local labour market conditions mattered more than changes in their national counterparts for regional unemployment rates. After 2008 the former elasticity rates declined steeply, while the latter rose sharply. By 2013, the national unemployment rate mattered more than its neighbour counterpart. Hence Figure 3.10 yet again suggests that the crisis made national borders matter more than previously.[10]

To better gauge the extent to which regional and country factors respectively explain unemployment, we regressed the 4-year change in regional unemployment rate on the 4-year change in neighbour and national unemployment rates for EU15 countries in the years 2008 and 2013. The results are presented in Table 3.3. The coefficients suggest that both neighbour and national unemployment rates have a significant association with the regional unemployment in both periods. This, in turn, points to an interdependence of regional labour markets through commuting flows (see Patacchini and Zenou, 2007). However, the neighbour effect is smaller during the crisis than before it, while the national effect is larger. The evidence again suggests that the crisis made the local effects weaker and the national effects stronger.

We now turn to the EU15 regions, which have both domestic and foreign neighbours, to assess the difference between the two neighbours' effects. We run the same regressions as for Table 3.3 and the results are presented in Table 3.4. Firstly, the effect of the change in the national unemployment rate on regional unemployment was significant both before and during the crisis. Moreover, the effect, represented by the coefficient, became stronger during the crisis, conforming with our results so far that the crisis reinforced national effects. Secondly, the domestic neighbour effect was significant but small in both periods. Curiously, it was positive before the crisis and negative during it, suggesting that an increase in the unemployment rate in a region was associated with a decline in the unemployment rate of its domestic neighbours. This could imply a lack of labour mobility within the country. Thirdly, the effect of foreign neighbours was insignificant before the crisis, but positive during the crisis. The co-movement of the regional unemployment rate with the unemployment rate in the foreign region suggests that there was labour mobility across the border, leading to the equalisation of

Table 3.3

Neighbour and national effects on changes in regional unemployment rates in EU15 regions[a)]

	2008	2013
Change in neighbours unemployment rate over 4 years	0.277*** (0.097)	0.160** (0.070)
Change in national unemployment over 4 years	0.571*** (0.107)	0.827*** (0.065)
Constant	0.008 (0.012)	0.015* (0.009)
Number of observations	174	189
R^2	0.488	0.916

[a)] *** p<0.01, ** p<0.05, * p<0.10; standard errors are in parenthesis; OLS regressions on 4 years differences; all unemployment rates are normalised with EU15 average.

Source: Eurostat, last accessed 30 December 2014, and EEAG calculations.

[9] We regressed the log of regional unemployment rate on the log of neighbour unemployment rate and on the log of national unemployment rate. The point estimates of the cross-sectional OLS for each year correspond to elasticities. All unemployment rates are normalised with EU15.

[10] One reason why borders mattered during the crisis is the welfare policies that were still conducted primarily at the national level, see Bertola (2007).

Table 3.4

Comparing the domestic and foreign neighbour effect on changes in regional unemployment rates in EU15 countries[a)]

	2008	2013
Change in foreign neighbours unemployment rate over 4 years	– 0.048 (0.110)	0.162*** (0.058)
Change in domestic neighbours unemployment rate over 4 years	0.084** (0.042)	– 0.090*** (0.023)
Change in national unemployment over 4 years	0.631*** (0.122)	0.917*** (0.036)
Constant	– 0.026 (0.021)	0.001 (0.012)
Number of observations	67	72
R^2	0.414	0.924

a) *** p<0.01, ** p<0.05, * p<0.10; Standard errors are in parenthesis; OLS regressions on 4 years differences; all unemployment rates are normalised with EU15 average.

Source: Eurostat, last accessed 30 December 2014, and EEAG calculations.

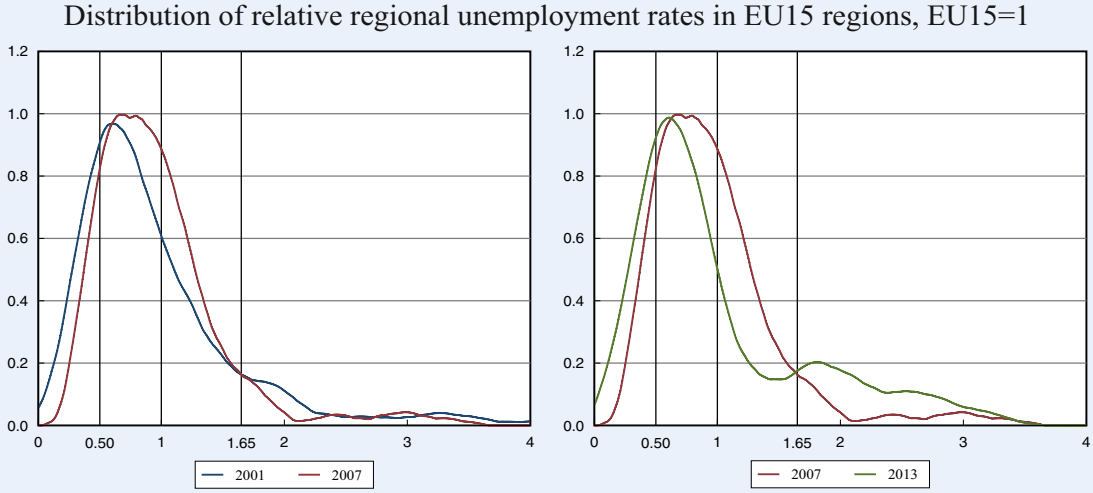
unemployment rates. This cross-border labour mobility implies that although national labour market conditions mattered more during the crisis than prior to it, borders became more blurred as workers sought jobs on the other side of the border to a greater extent than before the crisis.

Our final piece of evidence on regional unemployment rates can be found in Figure 3.11, which shows the estimated distribution of regional unemployment rates normalised with the EU15 average for 2001, 2007 and 2013. We paired together 2001 with 2007 and 2007 with 2013 to contrast the changes in unemployment distribution before and during the crisis. The left side of the figure shows a decline in regional inequality in unemployment from 2001 to 2007. In particular, the left tail of the distribution below 0.5 was reduced primarily due to the fall in average unemployment, taking the regions with low unemployment closer to the mean. More importantly, the mass on the high unemployment part of the distribution above 1.65 on the right declined significantly. Thus, the number of regions with unemployment levels of more than twice the EU15 average was reduced. Hence unemployment became less polarised across European regions before the crisis.

However, the crisis changed everything, as shown by the right side of Figure 3.11. The number of regions with over 1.65 of the EU15 unemployment average increased (the density for 2013 is higher than the density for 2007 above 1.65), and the number of regions with unemployment below 0.5 declined. European regions therefore became more polarised in terms of unemployment rates.

The change between 2001 and 2007 is particularly interesting. After analysing the distribution of regional unemployment for the EU15 countries, Overman and Puga (2002) argue that there was a polarisation in regional unemployment between 1986 and 1996. This was because both the number of regions with less than the EU15 average unemployment rate and the number of regions with more than twice the average EU15 un-

Figure 3.11



Source: Eurostat, last accessed 30 December 2014, and EEAG calculations.

employment rate increased. The authors claim that this polarisation was partly caused by the fact that unemployment is more regional than national. In other words, unemployment levels in neighbouring regions started to align independent of national boundaries. These geographic clusters caused the polarisation in unemployment.

Overman and Puga (2002) construct a similar graph to Figure 3.11, whereby the distribution of relative European regional unemployment in 1996 is very similar to the distribution on our graph for 2001; and their estimated distribution for 1986 is very similar to our estimated distribution for 2007. Thus, the evolution in the distribution of unemployment suggests polarisation for the EU15, while the evolution in the distribution of regional unemployment between 2001 and 2007 indicates that unemployment became more uniform. Overman and Puga (2002) suggest that neighbour effects are stronger than national labour market policies, hence transnational and regional labour market policies are required to reduce polarisation in regional unemployment. Our figure implies that this may not be the case, as there was a significant reduction in polarisation between 2001 and 2007 when labour market policies became less, rather than more coordinated (see Bertola, 2013, 2014). Our regressions suggest that during the crisis, polarisation did not occur because unemployment became more localised. By contrast, polarisation in European unemployment occurred because unemployment became more national.[11]

3.4 Regional disparities and policy coordination

Article 2 of the Treaty on European Union states that one of the objectives of the EU is "[…] to promote economic and social progress and a high level of employment […] in particular […] through the strengthening of economic and social cohesion […]". The relevant instruments adopted to promote "economic and social cohesion" are primarily left to the member states and lower levels of government. Only a small set of supranational policy instruments exists in the form of EU cohesion policy directly motivated by the effects on regional and national income inequality of the European economic integration process. We argue that the evidence on the evolution of disparities before and after the crisis indicates that uncoordinated national economic policies led to a fall in regional disparities at first, and to their subsequent rise. This happened despite the presence of supranational redistributive policy instruments.[12]

These supranational policies, called cohesion policies, are the second largest item in the EU Budget.[13] Low GDP levels are an important criterion for making EU funds accessible to specific countries and regions both in theory and in practice. There is a negative correlation between GDP levels and funds received under the EU cohesion policy. In addition, to ensure that cohesion policy supports investments that otherwise would not have been made, the disbursement of funds is also conditional to a set of economically debatable additional indicators. There is a large body of literature assessing the effects of EU cohesion policies on convergence. Studies based on poor early data sets did not find evidence for EU cohesion policies having any effect (Boldrin and Canova, 2001). More recent studies, however, did find that the policies have helped to reduce disparities between core and peripheral regions (Leonardi, 2006; Becker et al., 2010). The problem, however, is that although convergence across the regions of Europe occurred (see Figure 3.1 for example), it is hard to establish what would have happened in the absence of structural policies.

The evidence gathered in this chapter suggests that convergence did indeed take place in the European Union, and particularly in the EU15 countries, which are the main focus of our analysis. Disparities in terms of labour productivities and unemployment rates declined. This decline primarily occurred due to a reduction in disparities between countries, and, to a much lesser extent, to a reduction in disparities across regions within countries. However, the disparities in terms of labour productivity started rising again some time in the mid-2000s (see Figure 3.2). This was primarily due to divergence between the crisis and non-crisis countries, but we also found some divergence within the non-crisis countries. In terms of unemployment, the disparities increased again after 2008 due to the crisis. The increase in disparities both in terms of labour productivity and unemployment was primarily due to an increase in disparities between countries and, to a much lesser extent, due to an increase in disparities across regions within countries (see Figures 3.6 and 3.9).

[11] For a recent and more comprehensive analysis of the European regional labour markets, see Beyer and Smets (2015).

[12] A theoretical analysis of such supranational policies can be found among others in Martin (1999, 2005).

[13] For a more detailed discussion see Aghion et al. (2003) among others.

The evidence suggests that country specific factors played a more important role in shaping the convergence process than sub- or super-national ones. This conclusion leads us to the same factors that were at the heart of the crisis in Europe, which our previous reports EEAG (2013, 2014) have already discussed. Here we take the theoretical perspective from Bertola (2014), who demonstrates how uneven macroeconomic conditions across countries are linked to uneven policy choices and to a new set of macroeconomic outcomes.

Expectations of fast convergence with the core were already high in the periphery in the 1990s, and were reinforced when the euro was firmly announced at the Madrid Summit in 1995. Due to the elimination of exchange rate uncertainty, capital flew from the capital-rich core to the capital-poor periphery. Capital outflow depressed wages in the core while capital inflow raised wages and employment in the periphery. This led to falling disparities both in terms of labour productivity and unemployment across regions, primarily due to falling disparities across countries, while disparities across regions within countries did not change much. The lack of investment and the subsequent stagnation in the core – and in Germany in particular – made it necessary to implement labour market reforms aimed at enhancing the downward flexibility of wages and inducing a period of wage restraint that improved the competitiveness of workplaces.[14] At the same time, a credit-driven boom with increased internal demand and rising wages, which eventually turned into a bubble, made similar reforms in the periphery superfluous.[15] The lack of coordination in policy choices reversed the convergence of the European regions – initially in terms of labour productivity before the crisis even broke out – while the bursting bubble subsequently reversed it in terms of unemployment rates.[16] Primarily, national policies shaped both the initial convergence and the subsequent divergence process. The seed of the divergence and decline in cohesion currently being observed was already planted by uncoordinated policies during the convergence period.

3.5 Conclusion

Convergence across European regions was not driven by cohesion policies, but by expectations, and its reversal was caused by the uncoordinated policy choices of the core and periphery countries, as well as the bursting credit bubble in the periphery; and not by a lack of structural funds. National borders are now back with a vengeance. They never really went away, but merely blurred slightly. Country specific factors such as optimistic expectations about convergence, national economic reforms, and country specific crisis management, by contrast, were crucial in shaping regional disparities over time. Whatever the effect of supranational cohesion policies, they seem to be dominated by national policies and by the lack of coordination between them.

Thanks to the creation of the euro, monetary policy is coordinated. The Fiscal Compact attempts to coordinate some aspects of fiscal policy. However, the last twenty years of the European Union suggest that there are other economic areas in which a lack of policy coordination can give rise to a severe crisis.

[14] See Sinn (2003, English version: 2007).
[15] Bertola (2014) shows under what conditions this holds. See also Sinn (2014), Chapter 2.
[16] The periphery does not include Italy, as the latter did not benefit from substantial capital inflows before the crisis although it is one of the crisis countries. The root of the Italian problem is different from the problem of the periphery, but is still related to a lack of policy coordination.

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Migration in the European Union: Too Much of a Good Thing?

4.1 Introduction

The principle of the free movement of labour – along with capital, goods and services – is one of the central tenets of the European Union. But in recent years it has come under attack. There are proposals to restrict the ability of migrants to access welfare benefits, and limit the ability of EU citizens to move within the EU. These proposals are one aspect of a general shift in sentiment, which also encompasses immigration from outside the EU. Several member states have already tightened their entry criteria.

The British government has recently engaged in strident anti-immigration rhetoric. It has toyed with the adoption of a target for net immigration into the UK in the tens of thousands per annum, and has been considering tightening entry criteria for non-EU citizens to the UK (Lewis et al., 2012). However, its stated aims have been frustrated by its limited ability to control migration within the EU, and a large net inflow of EU citizens continues. There are plans to place more restrictions on the access of new immigrants to welfare benefits.[1] Similar noises have been coming from Austria, the Netherlands, Belgium, and Germany.

In 2008 Belgium started writing to unemployed recent immigrants from other EU states. In 2013 it intensified this programme, instructing more than 2,700 unemployed EU citizens to return to their home countries within thirty days or risk being returned, on the grounds that they had become an unreasonable burden on the welfare system.[2] Most of those written to were from Romania, Bulgaria, Italy and Spain. Over 10 percent of Belgian residents are foreign nationals. But Belgium was not violating EU rules with its programme, it was merely applying them. EU law allows a country to send back citizens from another EU member after six months if they lack the means to support themselves and to pay for health insurance. As in the UK, the Belgian government has come under pressure from far right nationalist anti-immigration parties like Vlaams Belang, which has influenced the policies of the New Flemish Alliance (the largest party in the Belgian parliament) and the moderate Flemish Liberals.

Since 2010 the French government has been conducting large-scale deportation programmes for Sinti and Roma, involving the demolition of camps in France by police forces, often following arson and other hostile acts by the local population. The programme was deemed "voluntary" as the individuals received 300 euros for accepting both deportation and a re-entry ban. In the first quarter of 2013 alone, the police destroyed around 40 Roma camps, 15 of them on the outskirts of Paris.[3]

The German government is considering capping its voluntary scheme of providing child benefits to immigrants' children not residing in Germany at the levels paid in their respective countries of residence, echoing UK government proposals to reform overseas payment of child benefit.[4] The German proposal affects people who come to work in Germany while their children stay at home with grandparents or other relatives. In December 2013, payments were made for 92,000 children outside Germany, 41,000 of which live in Poland alone, where the purchasing power of a euro

[1] In November 2014 the British Prime Minister David Cameron proposed restricting the access of EU immigrants to Britain to housing benefit and tax credits for at least four years after arrival. While such a restriction could be enforced for non-working migrants within the first five years of residence in the UK according to existing EU treaties and laws, it could not be implemented for working migrants or those seeking work, since they are guaranteed equal treatment to permanent residents under EU treaties. An alternative solution not requiring changes to EU treaties would entail restoring the insurance principle in social insurance and making eligibility for housing benefit dependent on a history of national insurance contributions. Tax credits (a tax concession to low-paid workers) would be harder to deal with. The European Commission has accused the UK of creating problems for itself by providing excessively generous non-contributory social assistance.

[2] A. Byrne (2014), "Free flow of labour stemmed as Belgium cracks down on migrants," *Financial Times,* 16 March, http://www.ft.com/cms/s/0/d736fe48-a912-11e3-bf0c-00144feab7de.html?siteedition=uk.

[3] S. Harraudeau (2013), "Roma in Frankreich: Fakten und Daten," *Arte Journal,* 17 June, http://www.arte.tv/de/roma-in-frankreich-fakten-und-daten/7556828,CmC=7552026.html.

[4] J. Vasagar and G. Parker (2014), "Germany considers capping child benefit for migrants," *Financial Times,* 27 August, http://www.ft.com/cms/s/0/48e0faec-2df4-11e4-8346-00144feabdc0.html on 23rd September 2014.

is 1.8 times that in Germany. Germany is also introducing laws to limit the rights of out-of-work migrants from other EU states to remain in the country, as well as time-limited bans on re-entry in cases of fraud (German Government, 2014).

The rhetoric has grown louder since the financial crisis of 2008–9, the European public debt and banking crises that followed, and the lingering stagnation of the EU's economy and high unemployment. The rise of right-wing nationalist and anti-immigration parties is widespread. Their growing popularity has forced mainstream politicians to shift to the right and adopt the same rhetoric. The UK Independence Party (UKIP) is forcing the Conservative-Liberal Democrat coalition government to harden its line on immigration.

Anti-migration sentiment has grown with the enlargement of EU membership to include poorer countries in Eastern Europe, widening income disparities within the Union. This has raised fears among various electorates that large numbers of low-paid workers from Bulgaria and Rumania will migrate to richer north-western states and undercut low-skilled local workers in the labour market, raising unemployment (directly and indirectly) and placing a higher burden on the welfare state. The relatively generous social security provisions of Northern Europe have been portrayed as a magnet for migrants – the "welfare magnet" – implying that migration is stimulated by the prospect of generous welfare benefits. This parallels the US where operation of the "welfare magnet" has been thoroughly documented (Borjas, 1999).

The rise of militant Islam since 9/11 – 11 September 2001 – and the belief that the West faces a growing terrorist threat is also a factor. Liberal Western European attitudes to religion, religious practices, religious symbols and aspects of dress, like the wearing of headscarves, or the acceptability of irreverence towards religion, have clashed with those of mostly Islamic, immigrant groups. The murders of the Charlie Hebdo journalists in France on 7 January 2015, by people claiming to be avenging insults to Islam, have galvanised public opinion in France and around the world, as the most direct and shocking assault on the liberal value of freedom of expression. That the killers were not recent immigrants, but French citizens deepens the horror, that Western democracies are threatened by an "enemy within", nurtured by these societies themselves. The recent "Pegida" demonstrations against Muslims in Germany that spread from Dresden, and the counter-demonstrations that followed, point to the apparently growing polarisation in Western societies. There are signs of a lack of integration of immigrants with native populations, pockets of poverty and unemployment concentrated among immigrant communities, and intermittent outbreaks of unrest and violence. France has unresolved problems with the banlieues, where disaffected populations of unemployed low-skilled immigrants from the Middle East and North Africa erupted into violence in October 2005. Sweden faces problems of discrimination against immigrants in the Stockholm hinterland and around Malmo. The Netherlands was rocked by the murder of Theo van Gogh by an Islamist in 2005 (Buruma, 2006). These experiences have raised concerns about the possibility of integration. Indeed, the very viability of a multicultural society is being called into question. Western governments' responses to the Islamist threat have themselves contributed to the alienation of immigrant groups.

Meanwhile poverty and violence in Africa and the Middle East have led to a stream of asylum-seekers and people desperate to get into Europe by any possible means. Thousands die, packed by ruthless agents into overcrowded boats, trying to sail from North Africa to Italy and Spain. The survivors of these journeys have imposed costs on the economies that have had to receive them. The issue of whether or not to rescue would-be immigrants from Africa whose boats sink in the Mediterranean poses an awkward moral dilemma for the EU and member states, particularly Italy. What quantities of resources should be devoted to this effort? Italy operated a surveillance and rescue operation, Mare Nostrum, which has now been terminated due to its cost (estimated at 9 million US dollars a month) to the Italian state. It has been succeeded by the more modest Operation Triton carried out by Frontex, the EU's border forces, at an estimated cost of around 3 million euros a month. The European authorities fear that the existence of a rescue operation encourages traffickers and agents to send migrants to sea in unseaworthy vessels, risking their lives. But pursuing a policy of not rescuing shipwrecked voyagers to discourage illegal immigration also is immoral.

Besides Africa, Italy receives many illegal immigrants from Albania. The UK is to contribute 12 million British pounds to France's costs of policing the port of Calais, where crowds of illegal immigrants, desperate to get into the UK, mob, and try to hide in or under trucks boarding cross-channel ferries. In 2013 Ger-

many took in over 35,000 asylum-seekers who originally had entered other EU countries, although the Treaty of Dublin (1990) stipulates that the country of first entry is responsible for dealing with asylum-seekers.

It follows that there are at least four key aspects to the immigration issue. One is the migration of EU citizens, who have the right to move freely and work wherever they wish in the Union. For such individuals, migration is driven largely by their desires in response to economic and social incentives. Migration is effectively supply-driven. Individual member states are not able to restrict the movements of the citizens of the Union, except indirectly, through the design of their welfare systems or other aspects of labour markets. This is the part of immigration that has attracted a lot of media attention in recent years, as the numbers are large and EU laws restrict member states' freedom of action.

A second aspect is immigration from outside the EU of citizens of non-member states. This is largely under the control of EU member states, as they are free to limit numbers and apply any selection criteria to aspiring immigrants, including their educational level, occupation, wealth or other criteria. Non-EU citizens who have been admitted to one member state do not have the right to move freely between EU member states. EU states are free to grant access to social security benefits to whatever extent they wish. These migrants pose less of a problem for governments. Of course, the questions of how immigration policies should be designed, whether current policies are appropriate and what improvements, if any, might be made nevertheless remain.

A third aspect of immigration is the flow of illegal immigrants and asylum-seekers from Africa, the Middle East, and other parts of the world.

A fourth aspect is the movement of students taking advantage of the international market for higher education. A growing number of students from India, China, and other emerging economies are coming to European universities to study. The UK higher education system derives a substantial fraction of its income from overseas students. It is useful to consider students separately from other migrants because they most often intend to stay in the host country for the duration of their studies, and in some cases stay on briefly to obtain some post-qualification work experience after their studies.

Given the breadth of this topic, this chapter focuses on the issues surrounding the free movement of EU citizens within the EU that have attracted a great deal of attention in recent years.

4.2 European Union laws on free movement

The rights of free movement for workers go back to the early days of the European Communities. They were included in the Treaty of Paris (1951) that set up the European Coal and Steel Community, which gave freedom of movement to workers in those industries. The 1957 Treaty of Rome extended these rights to workers in the European Economic Community. They were subsequently extended to the family members and other citizens of EU member states. More recent directives have clarified the terms on which migrants can access welfare benefits.

The principle is set out in the broadest terms in Article 3, paragraph 2, of the Consolidated Version of the Treaty of the European Union[5], which states that:

> "The Union shall offer its citizens an area of freedom, security and justice without internal frontiers, in which the free movement of persons is ensured in conjunction with appropriate measures with respect to external border controls, asylum, immigration and the prevention and combating of crime."

The principle is further elaborated upon in Article 20 of the Treaty on the Functioning of the European Union[6], which establishes citizenship of the Union, and gives citizens inter alia

> "[…] the right to move and reside freely within the territory of the Member States."

Article 21 of the same treaty repeats the right of citizens' free movement. Article 45 guarantees that

> "[…] freedom of movement for workers shall be secured within the Union."

And that

> "[…] such freedom of movement shall entail the abolition of any discrimination based on nationality

[5] European Union (2012a).
[6] European Union (2012b).

between workers of the Member States as regards employment, remuneration and other conditions of work and employment."

Directive 2004/38/EC[7] amends and consolidates a number of earlier directives on the free movement of EU citizens and family members. It grants an unqualified right of residence in the territory of any member state for up to three months. All Union citizens have a right of residence for more than three months if they are workers or self-employed persons; or if they have enough resources not to become a burden on the social assistance system of the host member state and have comprehensive sickness insurance; or if they are students or family members of an EU citizen.

According to Directive 2004/38/EC, EU citizens (and non-EU family members who have lived with them) automatically acquire the unconditional right to permanent residence in another member state once they have lived there legally for five years, and are entitled to all tax-financed social benefits and other local amenities just like a native. This means that immigration into the welfare system is possible without ever participating in the official labour market, subject to the constraint that no social benefits are available for the first five years. The qualifying period is reduced to three years for workers and self-employed persons who have been resident for three years when they reach the age at which they qualify for an old-age pension, and to two years or less for persons who become permanently incapacitated and unable to work, or who have had a work-related accident.

EU citizens who were workers or self-employed continue to be regarded as such if they become temporarily unable to work because of illness or accident, are involuntarily unemployed and are looking for a job, have had a fixed term job that has come to an end, or embark on vocational training.

The directive makes clear that an EU citizen's dependency on social assistance will not automatically lead to being ordered to leave the country. Furthermore, a state may not attempt to expel an EU citizen or their family members if the citizens are workers or self-employed persons, or entered the host member state to seek employment, in which case, they may not be expelled for as long as they can show that they are continuing to seek work and have a genuine chance of finding it.

[7] European Parliament and Council of the European Union (2004).

Nevertheless, a case recently brought before the European Court of Justice has established that nationals of one member state who travel to another solely to claim benefits there may be excluded from receiving certain social benefits during the initial five-year period.[8] Thus, while the existing treaties and directives strictly limit the freedom of member states to do so, it remains possible for them to temporarily (for five years) refuse certain benefits to people who may be classified as "welfare tourists".

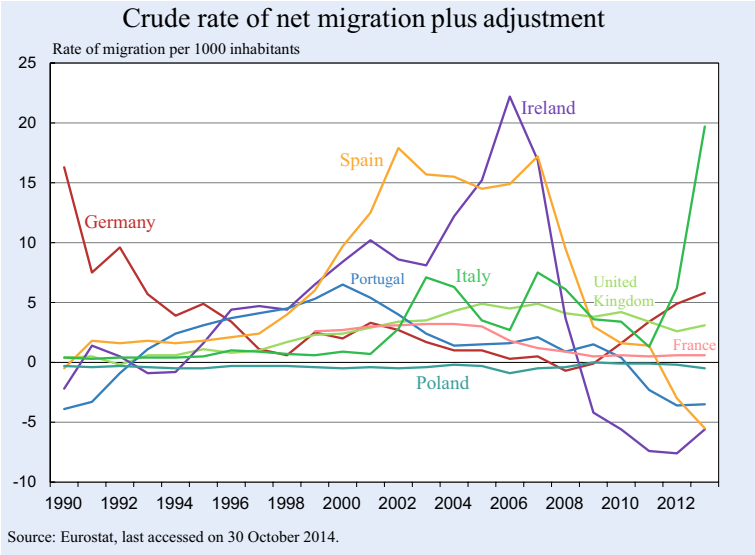
4.3 How much immigration has there been?

It is important to bear in mind the scale of the issue, and the patterns of movement that have taken place in recent years. Eurostat publishes figures for a "crude rate of net migration plus adjustment."[9] Data for selected countries is given in Figure 4.1 below. The figure shows the rapid inflow into Germany in the early 1990s following unification and the collapse of the Soviet Union, when Germany absorbed about two-thirds of Europe's East-West migration, followed by a long period of modest net immigration, rising again since 2009 to just over 0.5 percent based on provisional figures for 2013. Immigration to France, by contrast, has been low, which is perhaps unsurprising in view of the harsh measures taken by the Sarkozy government. The rate of net inflow into Spain in the boom years between 1997 and 2008 is strikingly high, as is the flow into Ireland between 1995 and 2008; again, while the Irish economy was booming. These dramatic inflows have turned negative since the financial crisis. A net outflow of workers may be making a modest contribution to lowering the rate of unemployment in these countries. Portugal shows a similar pattern. A net inflow between 1993 and 2010 has turned clearly negative. Interestingly, the data for Poland, a country

[8] In this case the persons who moved to Germany had been there for more than three months but less than five years, and so could not claim a right of permanent residence in Germany. As they were not seeking work and did not have sufficient resources to maintain themselves, they could not claim a right of residence in Germany and were not entitled to certain benefits. Court of Justice of the European Union (2014), "Economically inactive EU citizens who go to another Member State solely in order to obtain social assistance may be excluded from certain social benefits," *Press release* No 146/14, Luxembourg, 11 November, http://curia.europa.eu/jcms/upload/docs/application/pdf/2014-11/cp140146en.pdf.

[9] The "crude rate of net migration plus adjustment" is calculated by taking the actual increase in population over the period of time in question and deducting from it the estimated natural change in population, i.e., the change that would occur in the absence of migration, based on estimated fertility and mortality rates. This, in principle, gives the same answer as taking the data on immigration and subtracting the estimated emigration. For many countries the two methods give almost identical answers, but for some there are differences. However, as the direct figures on emigration are subject to wide margins of error, the "crude rate of net migration plus adjustment" figure may be the better estimate.

Figure 4.1



Source: Eurostat, last accessed on 30 October 2014.

famous for being a massive source of emigration into the rest of the EU since joining in 2004, does not show a massive net outflow. There has been a consistent small net outflow since 1990, with a small increase in the rate in around 2005–6, but the numbers look modest, compared to the inflows into Spain and Ireland. The net inflow into the UK has clearly grown since 1996, peaking at around 0.5 percent in 2005, shortly after Poland joined the EU when many Polish workers moved to the UK.

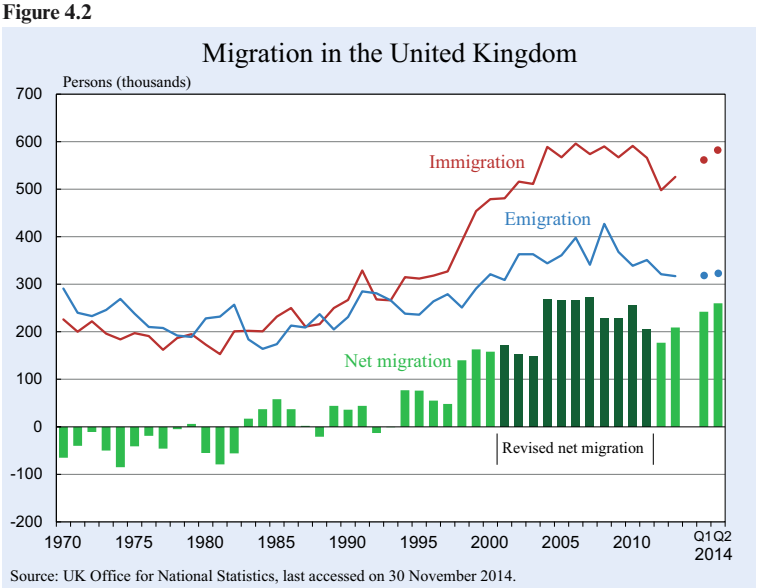
Although the intra-EU flows have been large enough to cause anxiety among electorates and politicians, it is surprising that they are not larger, in view of the huge disparities in real wage rates, and particularly in unemployment rates. The outflows from the crisis countries – Greece, Ireland, Portugal, Spain, Italy and Cyprus – were relatively modest. Obviously migrants still face considerable social and economic obstacles, despite the guarantee of free movement.

The net migration figures do not tell the whole story. Behind them, there have been a variety of developments in gross in- and outflows. In the case of the UK (Figure 4.2) both the gross outflows and inflows have grown substantially since the 1990s, and, as shown above, net migration has changed markedly. Gross flows were around 200,000 per year until the early 1990s. There was a small net outflow every year from 1970 to 1982, with the exception of 1979 when there was a net inflow. Since then gross flows have increased, with the gross inflow rising to nearly 600,000 in the early 2000s and the outflow to between 300,000 and 400,000, giving a net inflow of roughly 200,000 since 2000. A clear upward jump in the net inflow between 2004 and 2005 coincides with the accession of Poland and other new members to the EU, at which point there was a large movement of people from Poland to the UK (the UK was one of few EU member states that did not restrict these flows). Net migration to the UK was 243,000 in the year to 31 March 2014, according to provisional estimates.

In the case of Germany, on the other hand, gross flows started at a high level in 1998, but they have not grown since then, as Eurostat data in Figure 4.3 shows. Both immigration and emigration fell from around 700,000 persons in 2008 to around 300,000 in 2009. Since then emigration has continued to fall modestly, while immigration has grown sharply, reaching 600,000 in 2012.

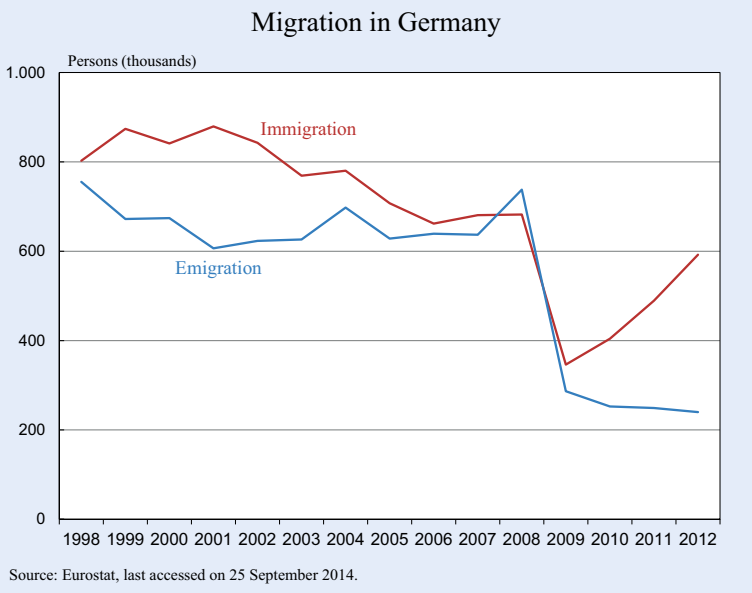
The cumulative effect of these movements of people is that in 2011 (the most recent year for which figures are available), the foreign-born population of Germany

Figure 4.2



Source: UK Office for National Statistics, last accessed on 30 November 2014.

Figure 4.3



Source: Eurostat, last accessed on 25 September 2014.

was 13.1 percent of the total, compared to 12.0 percent in Britain, 11.6 percent in France and 9.0 percent in Italy.

While opposition to immigration has grown in those Northern European countries that have had sustained net inflows of people, the fact that several million of their citizens are living in other European and non-European countries is mentioned less frequently in public debates. Emigration gets far less attention than immigration, and indeed the data on emigration is far poorer.

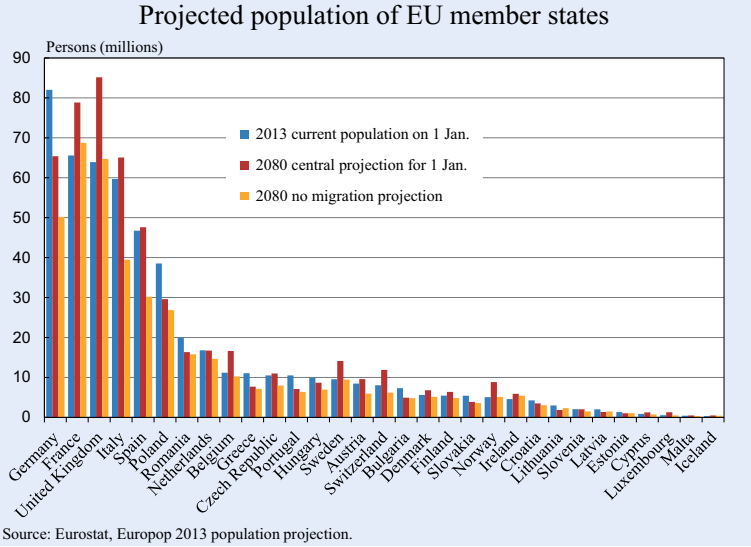
Migration at rates recently experienced will have a substantial effect on population sizes in the decades ahead. In most cases it will partly offset a large fall in population that would occur in the absence of migration. While migrants may be younger than the native populations on average, the ageing of populations continues, with steadily rising dependency ratios. Figure 4.4 features data from Europop2013, the most recent population projections to 2080. Based on current assumptions about migration flows, fertility and mortality, the population of Germany will fall from 82 million to 50 million in the absence of migration, while it will be 65 million according to the central projection. The population of the United Kingdom, which totalled 64 million on 1 January 2013, is projected to rise to 85 million according to the central projection, but to just 65 with no migration. The population of France is forecast to rise from 66 million to 79 million according to the central projection and to 69 million without migration. The difference is not entirely accounted for by net inward migration; it also takes into account the fertility of migrants and their own projected migratory behaviour. The data underlying Figure 4.4 is featured in Table 4.A.1 in the appendix.

The share of people with foreign backgrounds is forecast to rise substantially between 2011 and 2061 (based on calculations of Eurostat staff; see Lanzieri, 2011), as shown by Figure 4.5.

4.4 Effects of migration

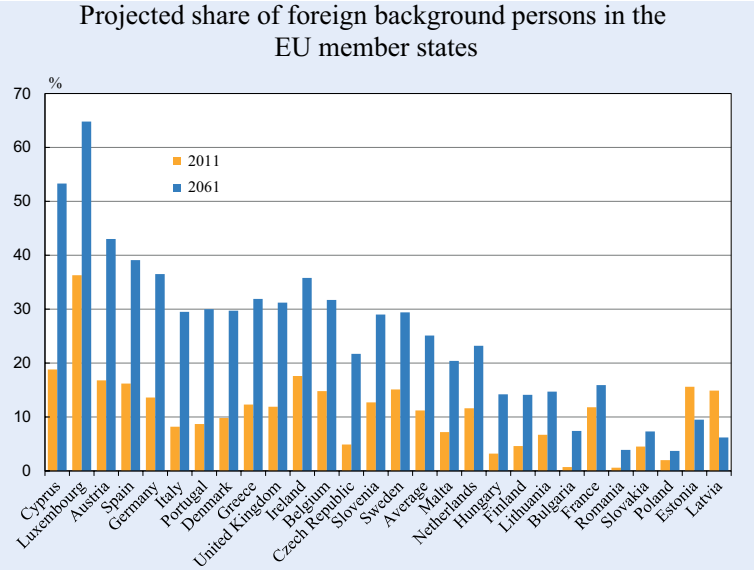
The problem with migration, like many aspects of international trade, is that it produces clear losers as well as winners. While the migrants themselves are among the winners, and some sections of the receiving economy gain (some workers, employers, shareholders, and property owners), those groups of workers who compete for jobs with migrants are losers. They suffer

Figure 4.4



Source: Eurostat, Europop 2013 population projection.

Figure 4.5



Source: Lanzieri (2011), p. 18.

more unemployment and their wages are pushed down. Immigration adds to pressure on public infrastructure: public services become more congested. Housing also becomes scarcer or more expensive or both as rents and property prices are pushed up. Tax payers may stand to lose out in cases where migrants make heavier use of social welfare than the indigenous population and, despite working and paying taxes, contribute less than they receive in terms of transfers and free public goods, as members of lower-income groups in a redistributive fiscal system.

What makes migration a particularly inflammatory issue is that the losses caused by it are immediate and up-front: people can see jobs being taken by migrants, houses occupied, new shops and religious establishments appearing. The benefits – as the labour market adjusts to produce more jobs, and the supply of housing grows to meet demand – are slower to appear and less obvious. The beneficial effect of migrants lowering the dependency ratio and easing the pension problem is even less apparent.

4.4.1 Effects on employment and wages in receiving economies

In principle, an inflow of migrants will increase the supply of labour in the economy and either reduce a shortage of it (or increase a surplus), or, if wages can adjust, cause wages to fall, relative to what they would otherwise have been, while the additional workers are absorbed into employment. On the demand side of the labour market, the increase in consumption caused by migrants increases labour demand, thereby limiting its negative effects on some workers (Borjas, 2014). If labour is viewed as a single homogeneous factor of production, the fall in wages applies to all workers. At the same time, the return to capital increases. In an extreme and ideal case where there are no fixed factors of production and firms face a perfectly elastic supply of capital – because they can effectively raise funds on an international capital market, which enables them to invest and increase the economy's capital stock, causing production to expand – wages might even be restored to their pre-immigration level.[10] To the extent that capital mobility is less than perfectly elastic and fixed factors such as land play a role, only a partial restoration of wages is possible.

Immigration is likely to affect all workers in the same way when the composition of the immigrant workforce is similar to that of the host country, in terms of age, education and skills. In practice, immigrants tend to be different. Some countries have had waves of relatively low-skilled immigrants, such as Germany, France, Italy and other European countries, while others have experienced the immigration of relatively skilled workers, the United States being a case in point. Immigrants tend to be younger and more entrepreneurial than the existing workforce. European economies are increasingly restricting immigration from outside the European Union to limit overall numbers and to grant entry to workers whose skills meet shortages and serve other national objectives. Typically, this means granting entry to highly educated immigrants and excluding low-skilled workers.

In cases where immigrants are less skilled than the existing work-force, an influx of such immigrants lowers the wages of unskilled workers relative to skilled workers. This kind of immigration is likely to be resisted by low-skilled workers, who see their jobs being taken by cheap foreign labour, and supported by higher skilled workers and employers whose earn-

[10] Dustmann et al. (2008) provide a fuller analysis of these effects.

ings and profits rise because the factors of production that they offer are complements to, rather than substitutes for those offered by the immigrants. The immigration of skilled workers has the opposite effect on workers: the skill-differential narrows (relative to what it otherwise would have been). Low-skilled workers and employers stand to gain. The immigration of skilled workers may generate productivity gains or adjustments in production technology, which also benefit existing residents; or at least mitigate the negative effects of immigration (Lewis, 2012). If migration is restricted to meet skill shortages, or expands the supply of groups of workers for whom demand is rising over time and whose relative earnings are growing, it may dampen relative wage growth without causing wages to actually fall, and may not be perceived as a threat to the existing workforce. The migration of health care professionals to the UK is a case in point. Such individuals lessen a shortage of National Health Service staff and are not perceived to have depressed the earnings of doctors and nurses. This kind of immigration generally encounters little opposition.

There have been many studies of the wage and employment effects of immigration, and indeed many surveys of these studies. The following paragraphs summarise findings from a small number of them, which convey the general thrust of writing on this topic.

Dustmann et al. (2008) report on a number of studies of immigration in the UK, which find that it has very modest effects on wages and the employment of existing workers. Disentangling the effects of immigration is not straightforward statistically, and the results depend to some degree on the methods and assumptions used. Nevertheless, the broad message is clear. The authors report study-findings that immigration has no effect on the wages of young Austrians. Studies for Israel have found a positive effect on Israeli wages (although not statistically significant), while studies for Spain have found no effect. For the US, while some earlier research had found modest negative effects, more recent studies have found that immigration has a zero or positive effect on wages. In their own work on the UK, Dustmann et al. (2008) find no effect on the employment of native workers. This, however, does not prove that no effect exists, as the failure to find an effect may simply mean that the available data is not good enough to reach a conclusion.

When they break down the labour force into groups with different levels of skill (low, medium and high), Dustmann et al. (2008) find, however, that the employment of the medium skill group is reduced, while the employment of high-skill workers is increased. For existing workers with intermediate skills an increase in immigration amounting to 1 percent of the native population leads to a decrease of 1.8 percentage points in the employment rate, a decrease of 1.1 percentage points in the participation rate, and an increase of 1 percentage point in the unemployment rate. This confirms a theoretical result reached by Sinn (2005) whereby an unemployment system with benefits not immediately available to immigrants implies that immigrants drive domestic residents of the same skill group into unemployment, given that they have lower reservation wages due to their initial non-eligibility for unemployment benefits. However, these effects are offset by an increase in the employment of natives with high skills. For the latter group, a similar inflow of immigrants leads to an increase of 1.1 percentage points in employment and participation rates, and has no effect on the unemployment rate. Dustmann et al. (2008) do not find a significant effect on workers with low skills. As for the effects of immigration on wages, Dustmann et al. (2008) report that they seem to be positive rather than negative.

Further analysis by the same researchers confirms a widely-held belief about immigrant workers, namely that they tend to be more highly skilled than the native work-force, but work in less-skilled jobs than their educations and qualifications merit, particularly in the early years following migration.

A large body of research on employment and wage effects supports these conclusions. Examples include Kerr and Kerr (2011) who survey a wide range of material for many European and non-European countries. The British government itself argues that immigration has few adverse effects on the employment and earnings of UK natives (UK Government, 2014). The report concludes that

> "[…] there is relatively little evidence that migration has caused statistically significant displacement of UK natives from the labour market in periods when the economy has been strong. However, in line with some recent studies, there is evidence for some labour market displacement in recent years when the economy was in recession."

It finds that

> "[…] displacement effects are also more likely to be identified in periods when net migration volumes are high […]"

and that any effects that exist are likely to be concentrated on low-skilled natives. The report states that

> "[...] the labour market adjusts to increased net migration when economic conditions are good. But during a recession, and when net migration volumes are high as in recent years, it appears that the labour market adjusts at a slower rate and some short-term impacts are observed."

It goes on to remark that:

> "To date there has been little evidence in the literature of a statistically significant impact from EU migration on native employment outcomes [...]"

and

> "[...] where there has been a displacement effect from a particular cohort of migrants, this dissipates over time – that is, any displacement impacts from one set of new arrivals gradually decline as the labour market adjusts, as predicted by economic theory."

The latter statement seems plausible insofar as immigrants are entitled to full unemployment benefits after they have worked in the economy for some time and therefore adopt the higher reservation wages stemming from the availability of the unemployment benefits.

This summary of research may suggest that immigration within the EU has mainly displaced low-skilled native workers. Economic principles suggest that migration has the strongest negative effects on those who are the closest substitutes for immigrants, as stated above. The finding that low-skilled natives have suffered most from immigration depends on whether the immigrants in question are predominantly low-skilled. This is true of some, but not all EU countries. Evidence provided by Ottaviano and Peri (2012) suggests that the main negative effects of new immigrants may be on previous immigrants, as natives and immigrants may be imperfect substitutes even within skill groups for various reasons.

4.4.2 Effects on countries with a net outflow of migrants

Most of the excitement is generated by immigration rather than emigration, but migration has effects on the countries that migrants leave. Poland and others saw waves of emigration after joining the EU in 2004. Since 2009 there have been significant outflows from Ireland, Spain, Portugal, and Greece. There is often concern in these countries that the most able and entrepreneurial workers are leaving, resulting in a brain drain and diminishing the economy's potential for growth. In principle, emigration might be expected to reduce unemployment and raise wages (of the groups of workers who emigrate). Remittances sent back to their country of origin by emigrants are a major source of income in some developing countries. However, although we do not have data on this phenomenon for Europe, the indications suggest that it is not a major factor. The experience of Poland indicates that moderate emigration may have benign effects.

Poland has a long history as a source of emigrants. To some degree, the post 2004 exodus was business as usual. The scale of emigration was nevertheless dramatic. Between 1 May 2004 and 1 January 2008, approximately 6 percent of the population of a working age went abroad. In January 2008 there were 2,270,000 Poles abroad as "temporary migrants", 690,000 of them in the UK, 490,000 in Germany, and 200,000 in Ireland, with the rest mainly in other EU countries. Polish migrants to the UK were disproportionately highly educated, many of them from small towns and villages; while migrants to Germany were relatively less educated.

Kaczmarczyk and Okólski (2008) note that:

> "The outflow of men was more than 50 percent greater than that of women; the loss in males amounted to 4.4 percent of the population, while the loss in females was 2.2 percent. The largest loss according to age was noted in the group 25–29 years, and it stood at 9.3 percent. The other groups lost, respectively: 20–24 years – 8.8 percent; 30–44 years – 3.8 percent; 45+ years – 1.1 percent; and 15–19 years – 0.8 percent."

Young and relatively well-educated men were particularly likely to migrate, especially to countries that did not impose temporary restrictions after Poland's EU accession. Middle-aged and less highly educated men

were also inclined to migrate, but they tended to move to Germany, Italy, or the Netherlands.

Before accession, Poland, like many other Central and Eastern European countries, had severe job shortages and high unemployment. The unemployment rate was roughly 20 percent in 2002. The labour market improved steadily thereafter. An improvement was already visible in 2003, and gained additional momentum after May 2004. Between the second quarter of 2004 and the first quarter of 2007 the number of unemployed persons fell from 3.1 million to 1.5 million. In 2007 the unemployment rate fell below 10 percent. The Polish economy grew vigorously after accession to the EU. There is no evidence that out-migration hindered growth. The labour market effects of outward migration per se appear to have been modest, rather in line with the evidence on effects of inward migration in the UK and Germany.

The actual emigration figures were much higher than had been anticipated in various studies financed by the EU in the years before accession. For example, Bauer and Zimmermann (1999) predicted that only 2–3 percent of the population of Eastern European countries would emigrate after EU accession over 10–15 years. Similar estimates were published by Boeri and Brücker (2001).

4.4.3 Migration and social cohesion

This is a report by the European Economic Advisory Group, and most of the analysis here is of the economic causes and effects of migration. However, much of the recent political debate surrounding migration has been propelled by its social implications, not its economic effects.

Examples of the effects of migration abound, but it is difficult to gauge the scale of the phenomena from them. People see jobs being taken by migrants and housing being sold or rented to migrants. They see changes in the shops in their local areas. They may see businesses run by immigrants, employing immigrant workers, and selling services and goods to the same immigrant communities. These businesses may appear to employ workers at less than the minimum wage, which is possible since the immigrant workers believe that they are not eligible for social security benefits if they become unemployed, and are therefore less likely to press for minimum wages to be paid. Similarly, their conditions of work may fall short of legal standards of health and safety. These practices may then undermine the pay and conditions of work of native workers in the same country, creating resentment and opposition to immigration. This kind of scenario is often reported.

At the other end of the scale, namely at the pro-migration end, employers argue that without migration, they would not be able to obtain workers of the right calibre for the job at the right price, or occasionally at any price. These employers may look for high-level skills that are in short supply, e.g. skills in electronics, information technology, and medical research, or they may look for low-level skills, e.g. in agriculture where farms look for seasonal workers to harvest crops, and other sectors where it is often claimed that the indigenous work force is not willing to do the work at reasonable wages. Speaking about the benefits of mobility, Boris Johnson, Mayor of London, pointed out in a speech that the most striking thing about Prince Albert, consort of Queen Victoria and a revered figure who brought Christmas trees and many other charming innovations to the British Isles, had one met him at the time, would have been that he was German. The superior academic performance of pupils in London schools compared with the rest of the UK is attributed to the cultural diversity of the city. It is one of the ironies of the migration debate that opposition to migration seems strongest in areas that have little migration, whereas areas with more migration are relatively relaxed about it.

Societies require some degree of mutual understanding and trust among their members to be able to function satisfactorily. The American sociologist Robert Putnam has labelled this as "social capital". More social capital, deeper trust and understanding, enables societies to function better. This may explain why some of the small and homogeneous Scandinavian nations have performed so well economically and socially, although they lack the advantages of natural resources possessed by the United States, a more disparate nation. Collier (2013) argues that excessively rapid immigration can undermine trust across society, as a growing presence of recent immigrants with different cultures and practices to those of the native population causes the latter to retreat within itself, "hunker down" in Collier's phrase, and not cooperate effectively with the new arrivals. Migration tends to introduce new, easily recognised persons into a society. There is a long history of societies – tribes, clans, communities,

and states – identifying some group or another as outsiders, and variously giving them less favourable treatment than insiders, treating badly, or expelling them altogether. The instinct to expel outsiders, symbolically purifying the clan, is ancient and seems deep seated; even in modern societies that regard themselves as sophisticated. This accounts for the ease with which hostility to migrants, and particular groups with identifiable characteristics, can be excited, and the tendency of the popular media to use inflammatory language about them. It reflects the tendency of the native population to "hunker down" and the decline in social capital. For these reasons Collier (2013) argues in favour of limiting the pace of immigration, to give time for recently arrived migrants to become absorbed into the host society.

Despite the qualitative and anecdotal nature of the evidence, the social effects of migration exert a powerful influence. Some would even argue that economics has nothing to do with the case. Facchini and Mayda (2008) document the influence of attitudes to migrants on policy towards migration. They find that there is not a total disconnection between economic realities and social perceptions. Data for many OECD countries shows that people with more education and higher incomes, groups who are on the whole more likely to benefit from migration, have more positive attitudes towards it. Given the prevalence of hostility towards migration, they conclude that it is puzzling why countries allow as much migration as they actually do. According to their analysis, the median voter would vote against it, and if democracy worked in a simple textbook way, migration would be prohibited. They argue that, in practice, migration continues because various interest groups who benefit from it, such as business, can lobby effectively for it.

4.5 Migration and the welfare state

Politicians and economists have shown increasing concern about welfare migration, or the idea that migrants are drawn to their country not only because of wage differences, but also because of the benefits of a redistributive state.[11] Following the surge of immigration figures, various countries have hardened their stance on immigration in recent years.

[11] For scholarly debates see Auerbach and Oreopoulos (1999), Borjas (1999 and 2014), Borjas and Trejo (1991) or Sinn (2002).

As all EU countries are democracies that guarantee individual freedom, migration between EU-countries is driven by economic factors. These are predominantly differences in wages, availability of jobs, taxes and availability of public benefits, including transfer payments and freely available public goods.

If the EU countries differed only by their wages, and labour markets were flexible, migration would probably be efficient. As it can be assumed that a person migrates only when his or her annualised migration costs in the sense of pecuniary and non-pecuniary costs of staying abroad (while commuting regularly back home) are lower than the wage increase s/he can realise through migration, migration increases the aggregate EU GDP net of migration costs. In fact, the invisible hand of market forces allocates people across space such that the joint GDP net of objective and subjective migration costs is maximised.

If, however, the countries sustain redistributive tax and expenditure systems that impose a net burden on the skilled, high-wage earners and offer fiscal net benefits to the less-skilled, low-wage earners, migration is distorted, and it can no longer be assumed that the free migration decision maximises EU GDP net of migration costs. States with an above-normal redistributive system attract too few skilled people and too many unskilled. The latter is the deeper reason for the current concern about EU-internal migration in some parts of the EU with well-developed welfare benefits.

In the European Union these concerns have led to provisions that make the direct immigration into welfare states difficult. While each EU citizen has the right to live and work in every other EU state, welfare benefits without work are constrained. Thus a migrant who does not come to work as an employee or be self-employed, but prefers not to work, is not, in principle, eligible for welfare benefits for the first five years of residence. Only after five years does s/he receive a permanent right of settlement and eligibility to the same tax financed social benefits as a domestic resident. Someone who takes on dependent work, on the other hand, is immediately integrated into the fiscal system and must pay all taxes and contributions while participating in all tax and contribution financed benefits available to nationals.

It is debateable whether these provisions are sufficient or appropriate to limit welfare migration, and whether they might even act as a deterrent to useful migration. What

is clear, however, is that it makes no sense to ask the blanket question of whether or not migration per se is good or bad. Instead, different judgements and possibly policy reactions are necessary for different types of incentives affecting the migration decisions. Two polar cases are non-working migrants and working migrants.

4.5.1 Non-working migrants

The fact that non-working migrants are fully integrated into the welfare state after a waiting period of five years clearly gives rise to distorted migration incentives, although these incentives are smaller than they would be in the absence of such a period. Consider, for example, a migrant aged 60 who comes with savings sufficient to finance five years of residence. This person will be fully eligible to social welfare at the age of 65, as then s/he will be unable to work and will therefore be entitled to receive a sort of pension in terms of ordinary welfare until his or her death. Given that this "pension" would in many Northern EU states be much bigger than an ordinary wage income at home, there is an incentive for inefficient welfare migration.

As a remedy, a home country principle could be introduced for non-working migrants between EU countries. The basic idea is that all EU countries must take care of their poor in a reasonable way and provide them with satisfactory social benefits. However, they should not restrict the places where these people want to consume their benefits, be it at home or any other country. The migration decision in this case would be strictly welfare enhancing. There would be no welfare migration, but everyone would enjoy the right to migrate to countries where the welfare benefits would buy him or her a higher living standard. Thus, a welfare recipient from Northern Europe could freely move to Southern, poorer countries, consuming his or her benefits there. Arguably, this idea makes the home country principle harmonise well with the EU's basic aim of securing free migration, while the current residence principle discriminates against the migration of welfare recipients from well-to-do countries, given that they would have to be satisfied with the local benefit levels.

4.5.2 Working migrants

It is extremely difficult to come to a similar judgment on the current treatment of working migrants as two basic arguments need to be considered.

The first is the fact that migrants will participate in the pay-as-you-go pension system. As no such system is actuarially fair and all systems involve redistribution from later to earlier generations, it is clear that migrants will normally make a positive net fiscal contribution for the existing population. This contribution is particularly large if immigration is of a permanent dynastic nature. As the immigrants' children will, via their own contributions to the system, take care of the funds needed to finance their parents when old, the first generation's gross contributions to the pay-go system is a net fiscal externality benefitting the resident society (Sinn, 2001). This net fiscal externality, which acts as an entry fee, could be extremely large. In Sinn's words:

> "Obviously, the pay-go system involves a substantial entrance fee for immigrant families, which is a major gain for the incumbent population."

The second concerns the fact that all modern states sustain huge redistribution machinery through the public budget. Every working migrant pays taxes and contributions in proportion to, or even progressively with, his or her income, but participates in the public goods and services that the state provides on more or less equal terms. Thus, migrants with above average skills and incomes tend to be net contributors, while those with below-average skills are net recipients of public resources.

Taking the first and the second consideration together implies that, from a fiscal perspective, high-skilled immigrants definitely benefit domestic residents. Their net pension contributions add to the net contributions in the redistributive state.

For the less-skilled strata of the immigrant population the situation is more ambiguous, as it is unclear whether their net contributions to the pension system are large enough to outweigh the net receipt of benefits from the redistributive state. The answer largely depends on the length of time that immigrants stay in a country, and particularly on whether immigration is permanent in the dynastic sense, or whether immigration is more similar to temporary commuting.

In earlier studies Sinn and Werding (2001) and Sinn et al. (2001) found that in 1997, the net fiscal costs of an immigrant resident in Germany for less than a decade, a valid assumption for most migrants, were 2,367 euros per year. However including long-term immi-

grants, and assuming that the children of these immigrants would contribute to the pay-go system, they found that, on average, the fiscal net cost of an average immigrant was 726 euros per year.[12]

By contrast, in their study of the fiscal effect of migration into the United Kingdom, Dustmann and Frattini (2014) have found that the fiscal effects of immigrants were positive on the whole, migrants from outside the European Economic Area being among the exceptions.[13]

The difference in these studies could stem from the fact that the UK maintains a less generous welfare system and, perhaps for that reason, attracts far better qualified immigrants than Germany. While 46 percent of immigrants to the UK have a tertiary education, only 21 percent of immigrants to Germany fall into this category, for example.[14] Another reason could be that Dustmann and Frattini (2014), in the absence of better data, have been forced to approach the problem by making a great many assumptions as to how immigrants would participate in certain public expenditure and revenue categories, while Sinn and Werding (2001) were able to base their analysis on the German Socio-Economic Panel, a micro survey from a representative sample of the population residing in Germany. Thus, for example, Dustmann and Frattini (2014) assume that immigrants and domestic residents of the same age living in the same region consume the same amount of health care and social protection, and they allow for systematic deviations between these two groups only to the extent that there are differences in age and place of residence.[15] Sinn and Werding (2001), by contrast, were able to simply count the actual use of medical and social protection among the immigrants and the domestic population without having to resort to theories or assumptions.

Another, more recent study that was also based on the German Socio-Economic Panel is that of Bonin (2014). The author comes to the conclusion that an average foreigner in the year 2012 paid 3,300 euros more in taxes than s/he received in terms of social transfers and free schooling. While this result prima facie seems to confirm Dustmann and Frattini (2014), it in fact does not, as the latter not only take the cost of schooling, but all government expenditure into account. Bonin (2014) mentions that extending his study in a similar way would change the sign of the fiscal balance he calculated, but does not provide the numbers.[16] Adjusting the Bonin calculations for the rest of government expenditure to make it compatible with Dustmann and Frattini (2014) as well as Sinn and Werding (2001) turns Bonin's number into minus 1,800 euros. Even if defence spending were taken out of this figure on the grounds that defence might come close to a pure public good, whose cost is unrelated to the size of the population, the fiscal balance still would be minus 1,450 euros per year. Interestingly enough, in a generational accounting variant of his calculations, Bonin does take all government expenditure into account and finds that in present value terms and over a full lifetime, the average migrant costs the German state 79,100 euros.[17]

An aspect that compounds the difficulties of properly calculating the potential externalities of migration for the domestic population is the existence of natural public goods like forests and lakes, or public goods that were produced a long time ago and that involve only small variable maintenance costs like railways, canals or other parts of the public infrastructure. The free access to such public goods may involve much higher negative congestion externalities for the domestic population that would legitimate a sort of membership fee for the "nation club". Just as a market-equilibrium with freely accessible private clubs and congestion externalities inside the club would not be able to function properly, a migration-equilibrium with freely accessible nation clubs also might not be efficient. Perhaps the net contributions to the pay-go system can be interpreted as such a club fee. There may be some "pure" public goods that do not suffer from congestion externalities, such as national defence, for which costs do not depend on the size of the population. For these goods, inward migration increases the number of taxpayers contributing and lowers the tax burden on each one.

Given the difficulties of properly calculating the relevant migration externalities for countries other than Germany, whose Socio-Economic Panel offers exact empirical data on at least the direct pecuniary costs and benefits accruing to migrants such as taxes, con-

[12] Sinn et al. (2001), p. 227.
[13] They summarise their findings as "[...] when considering the resident immigrant population in each year from 1995 to 2011, immigrants from the European Economic Area (EEA) have made a positive fiscal contribution[...] while Non-EEA immigrants, not dissimilar to natives, have made a negative contribution." They add that: "Notable is the strong positive contribution made by immigrants from countries that joined the EU in 2004."
[14] OECD (2014), p. 48.
[15] See Dustmann and Frattini (2014), pp. 41 and 42.
[16] See Bonin (2014), p. 56.
[17] Bonin (2014), ibidem.

tributions and social transfers, it is hard to conclude this chapter with clear policy proposals for working migrants. By and large it seems to us that the EU is on the right track by defending the four fundamental freedoms: the free movement of capital, services, goods and people.

However, concerning the non-working migrants who receive both net welfare benefits and free access to the existing public goods in the nation club, an abolition of the EU's residence system might be worth considering. After making sure that all EU countries satisfy certain minimum welfare standards, the home country principle might be advisable for non-working migrants. Such a system would not encourage welfare migration, and is compatible with the EU's right of free movement, as welfare recipients would not be constrained from choosing their country of residence by being threatened with a deprivation of their social entitlements.

4.5.3 Evidence on welfare migration

What about the actual experience of welfare migration? Does this appear to have been an important phenomenon in the past? In Switzerland, for example, there appear to have been very few actual "welfare migrants", despite the substantial political discussion of the topic.

Giulietti and Wahba (2012) distinguish between two aspects of the welfare-magnet hypothesis. One is the extent to which immigrants make more use of the welfare system than the native population. The other is the extent to which the existence of generous welfare systems influences the migration decision: whether to migrate and, if so, to which destination. Of course, these two issues are linked, but they are not exactly the same thing.

Do migrants make more use of the welfare system than the native population? The evidence is mixed. Using Swedish data for 1990 to 1996 Hansen and Lofstrom (2003) find that that after controlling for observable characteristics, immigrants use welfare more than natives, but the difference is smaller the longer they have been in Sweden. This contrasts with findings of Borjas and Trejo (1991) for the United States. Riphahn et al. (2010) found that Turkish immigrants in Germany were more prone to welfare use than natives. After controlling for a set of individual and household characteristics, however, the difference is statistically significant only for second-generation immigrants. A review of various studies by Barrett and McCarthy (2008) concludes that the evidence across countries is mixed.

On the question of whether generous welfare benefits induce greater migration, evidence is provided by De Giorgi and Pellizzari (2009), using the European Community Household Panel (ECHP) and the OECD Database on Unemployment Benefit Entitlements and Replacement Rates. Measuring welfare generosity by the net replacement rate, the ratio between the income received when not working (e.g. unemployment benefits) and the average wage, they look at immigration in the EU-15. They find that, although welfare generosity does indeed influence migration decisions, the effect is small. In a study of OECD countries, Pedersen et al. (2008) find that while social networks are an important pull factor for immigrants, welfare – measured by social expenditure in percent of GDP – does not exert a significant role. Thum (1995, 2000), on the other hand, shows that network effects strengthen the long-term effects of fiscal incentives, since via network effects today's migration depends partly on the fiscal and wage incentives of the past. Moreover, the results of Pedersen et al. (2009) might be due to immigration policies that restrict the entry of some types of workers. Examining the skill composition of immigrants, Brücker et al. (2002) find that welfare-generous countries attract low-skilled workers, whilst countries with low social spending are more likely to be a magnet for high-skilled workers, since taxes are also low in these countries. As a result, welfare generosity may induce a negative sorting of immigrants. The skill differences between emigrants from Poland to Germany and those to the UK, who tended to be more highly skilled (which is discussed above in Section 4.4.2), supports the view that welfare generosity induces a sorting of immigrants.

4.5.4 The race to the bottom

While generous public welfare may affect migration, the reverse may also be true: Migration may affect the generosity of public welfare systems. It has been feared that free migration induces a "race to the bottom" in welfare provision. Indeed, this is the result of a large body of public finance literature starting with the work of Oates (1972), Musgrave (1959) and oth-

ers.[18] While the term "race" may be an overstatement, the redistributive activities of the state are curtailed by clear incentives and legal requirements to keep public budgets under control.

A telling example of this effect is the social reforms of New York's Mayor Lindsey. These reforms made New York so attractive for welfare recipients that poor people from all over the US flooded into the City to reap the benefits. The result was that New York came close to bankruptcy in the early 1970s and had to abandon the programmes.

Allowing unrestricted migration into welfare states has parallels with allowing potential purchasers of insurance to sign contracts after learning whether or not damage has occurred. Of course, the insurance market would collapse under such rules, as no insurer would be able to make profits.

These difficulties point to a fundamental incompatibility among the goals of free migration, social inclusion and sustaining a welfare state. One of these goals may have to be sacrificed or constrained in order for the others to be achievable. As, in our opinion, neither the welfare state nor the right to move freely among the EU member states should be touched, the inclusion principle, regrettably, may need to be diluted, at least in the short term. This is another argument in favour of the home country principle for non-working migrants.

4.6 Conclusions and policy recommendations

Migration has become a major issue in recent years. The enlargement of the EU, with 100 million people from poorer Eastern European countries becoming members, most recently from Bulgaria and Rumania, has put the combination of comprehensive welfare systems based on the inclusion principle and free movement of labour under considerable strain. There is anxiety among the populations of longer-established member states that large numbers of people will migrate to them, putting job prospects, pay, and conditions of work at risk. Less-skilled, lower-paid workers are particularly concerned at this prospect, as they see their jobs under threat.

Moreover, there are fears that the generous welfare state acts as a magnet that will prove particularly attractive to low-skill low-paid migrants. Some of these workers may migrate not to work, but to collect benefits; while for others the decision to migrate into low-paid jobs is incentivised by the redistributive activities of the state, which involve the implicit payment of immigration premia for the less-skilled. By the very definition of the redistributive state, the low-paid are likely to be the net beneficiaries of progressive taxation and public spending.

The public finances of host countries may therefore come under pressure. Migration will also put more pressure on housing markets, raising prices and rents, unless the production of new housing responds sufficiently. Public infrastructure like roads, railways, schools and hospitals may be more congested, at least in the short run before the supply of these goods can be adjusted, but when it is adjusted, marginal congestion costs translate into marginal pecuniary costs of the state.

These are the economic effects described in the literature on the subject. But public animosity and political rhetoric on migration may be fuelled predominantly by other factors, social and political. The lingering recession, high unemployment in many countries, and falling real incomes for low-wage workers, while the rich get richer and richer, is creating a sense of injustice. The larger inflows and outflows of migrants, in this age of greater mobility, create a greater sense of social instability, as greater numbers of new and unfamiliar people move into neighbourhoods. The lack of trust between newly-arrived migrant groups and established residents reduces social capital, and makes society work less effectively. Mainstream politicians are challenged by populist fringe parties with anti-immigration policies, and have been adapting their own policies.

It is a great irony that the EU has too little labour mobility to enable a monetary union to function satisfactorily, but has too much mobility for social harmony and for a redistributive welfare state to operate fairly and at reasonable cost. Successive British governments, which have advocated enlargement of the EU to slow down progress towards ever deeper union, may now feel they are hoist with their own petard.

The evidence on the economic effects of migration suggests that they are in fact relatively modest. Wages fall, but not by much. Unemployment increases in the short run, but labour markets adjust, unless wage ad-

[18] See for example Hettich and Winer (2004), Josselin and Marciano (2004), and Sinn (2003).

justments are hampered by minimum wages; more jobs are created; unemployment falls back to its former levels. A report issued by the British government in 2014 argued that the economic costs are modest at most. It remains true that while costs are modest, immigration redistributes incomes and creates winners and losers.

The effects on public finance are contested. German studies, based on Socio-Economic Panel accounting suggest that migrants are likely to be net beneficiaries, receiving substantially more social benefits and public goods from the welfare state than they contribute in terms of taxes and social security contributions. British studies, based on indirect econometric evidence, find modest effects in the other direction for EU citizens, and the same direction for non-EU citizens.

A factor that tilts the balance in favour of more immigration is the demographic transformation that most European countries face. All EU member states expect old-age dependency ratios to rise over the next fifty years and most will actually have shrinking populations. According to current forecasts, migration is likely to alleviate this problem, but it is important to note that migration from outside Europe is a crucial element here, since internal migration within the EU may redistribute the current EU population more efficiently around the EU, but it cannot offset the EU-wide population decline.

What lessons for public policy can be drawn from these facts? As we showed, migration would be efficient from an overall EU perspective if it were not disturbed by the migration incentives of the redistributive state. Migrants would move up to the point where the "last" migrant enjoyed a wage increase that equals his or her marginal migration cost. If wages reflected marginal productivities, as they would in a perfectly functioning market economy, this condition would ensure an allocation of people across space so as to maximise EU GDP net of migration costs. Under these circumstances, free migration would be efficient.

If the welfare state redistributes incomes, migration decisions will be distorted as low-skilled migrants receive an immigration premium, while high-skilled ones pay an immigration fee. Given that taxes and benefits differ widely across the European Union, excessive immigration of low-skilled people into the Northern European welfare states is likely.

The home country principle for non-working migrants, which keeps the responsibility for welfare payments for a couple of years with the countries of origin rather than the countries of residence, could be a solution. This principle is compatible with free migration, as the welfare recipient has the right to consume his or her benefits in any other EU country. For working migrants, however, the current rules based on inclusion principles should not be changed.

The home country principle is also beneficial insofar as it eliminates the incentive for countries attractive to welfare migrants to curtail their social expenditure, thus inducing the risk of a race to the bottom. Even if in some distant future the EU countries have become equal, such that no net migration will occur in equilibrium, the incentives summarised under the term "race to the bottom" risk would bring about an equilibrium with too little redistribution. The home country principle would eliminate such incentives.

An alternative means of eliminating the forces of systems competition would be the harmonisation of social benefits. However, for the time being such a solution would be very difficult to implement and may actually do more harm than good, given the huge differences in living standards and productivities across the EU. If a common social safety net were to be put in place today in Europe, there is the danger that large swathes of the Union would suffer intolerable levels of unemployment.

Apart from these considerations, the current magnitude of migration from East to West in the EU following the accession of Bulgaria and Rumania are likely to be temporary. They stem from a removal of a barrier to movement. This is more a stock-adjustment phenomenon, than a change in a permanent flow.

The experience of Poland suggests that a large fraction of the migrants from Bulgaria and Rumania may want to return to their home countries when job prospects and wages improve there. The likely return of many migrants in a few years is another reason why some of the current problems may be temporary. As growth returns, unemployment falls, and real wages start to rise again in the future, labour markets will absorb immigrants more effectively, and social problems will recede. Unfortunately, however, the incentives to undercut the welfare of other countries so as not to become a target for welfare migration would remain, unless the home country principle is introduced.

At the same time, there is a case for the EU doing more to speed up the economic development of new member states. The sooner incomes converge across the Union, the sooner the pressure of migration will dwindle. While convergence is a laudable goal, evidence on regions that we discuss in another chapter of this report is not very encouraging.

It is obviously not appropriate to make permanent policy changes to address a short-term issue. EU member states may wish to use the freedoms they currently have under existing EU laws to limit welfare benefits to migrants who have not established permanent right of residence. This will give the electorate the sense that natives cannot be ripped off by welfare tourists, and may stem resistance to migrants.

For the longer term, if free movement continues to lead to unacceptably high rates of net inward migration to some EU members, there are a variety of changes to social welfare systems that can be made. Apart from introducing the home country principle for welfare recipients, it might be wise to strengthen the insurance principle in welfare, and relate benefit payments more closely to contributions into the system. Under such a scheme, there are no distortions from the inclusion principle. Rights to benefits acquired in the various EU member states where a person had made contributions would be portable across the borders, as is the case with social security pensions today. Recipients would be able to take their benefits to whatever state they happened to be residing in. The cost of benefits should be borne by the states that received the contributions. Such a scheme would require a vast amount of data collection across the EU and harmonisation of social security systems, if run centrally. However, such a centralised system is not necessary if claims can be directed towards the countries where they were acquired, regardless of the country of residence.

Member states can use stiffer tests of availability for work as a means of reducing payments to welfare tourists. Of course, this may be one aspect to the "race to the bottom" that one wants to avoid.

One of many complaints about immigrants is that, because they believe that they cannot apply for unemployment benefits if they lose their jobs, they are willing to work for low pay, often below the minimum wage, and under very poor conditions of health and safety at work. In the UK few if any firms have been penalised for paying less than minimum wages, although anecdotal evidence suggests that this practice is widespread. It may be that the UK government is willing to turn a blind eye to the practice. There are two potential solutions to this problem. One option is that governments perform more rigorous tests of availability for work and enforce minimum pay laws, so that native workers are not undercut by migrants who believe they have no welfare rights.[19] The other is that minimum pay laws are abolished and wage setting is returned to market forces. The latter avoids a problem of minimum wages, which is that they risk limiting the availability of jobs for the low-skilled and turn immigration into a direct route into unemployment. However, the abolition of minimum pay laws does not address popular fears that migrants drive down already-low wages even further and undercut the employment of the existing population.

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[19] Textbook analysis predicts that minimum wage laws create unemployment among the low-skilled. But UK experience has been that a modest minimum wage has few if any negative effects on employment while raising the lowest wages in the economy. There is always a danger with minimum wage laws that the level is raised over time and their negative effects dominate.

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Table 4.A.1

Population projections for the European Union

	2013 current population on 1 Jan.	2080 central projection for 1 Jan.	2080 no migration projection
Belgium	11,161,642	16,614,305	10,254,226
Bulgaria	7,284,552	4,925,270	4,798,771
Czech Republic	10,516,125	10,998,397	7,986,243
Denmark	5,602,628	6,792,190	5,128,723
Germany[a)]	82,020,578	65,378,410	50,201,169
Estonia	1,320,174	1,029,443	1,053,324
Ireland	4,591,087	5,895,992	5,395,583
Greece	11,062,508	7,697,872	7,108,055
Spain	46,727,890	47,599,370	30,190,375
France	65,578,819	78,842,668	68,713,709
Croatia	4,262,140	3,471,568	3,022,548
Italy	59,685,227	65,059,083	39,469,771
Cyprus	865,878	1,253,155	717,636
Latvia	2,023,825	1,351,057	1,462,345
Lithuania	2,971,905	1,841,709	2,294,330
Luxembourg	537,039	1,287,296	479,224
Hungary	9,908,798	8,685,213	6,936,101
Malta	421,364	481,567	333,268
Netherlands	16,779,575	16,718,275	14,633,500
Austria	8,451,860	9,562,386	5,964,504
Poland	38,533,299	29,582,117	26,844,419
Portugal	10,487,289	7,113,878	6,367,101
Romania	20,020,074	16,338,339	15,789,732
Slovenia	2,058,821	2,006,508	1,500,376
Slovakia	5,410,836	3,868,254	3,581,459
Finland	5,426,674	6,381,733	4,829,970
Sweden	9,555,893	14,110,527	9,448,922
United Kingdom	63,896,071	85,148,887	64,710,496
Iceland	321,857	467,187	397,561
Norway	5,051,275	8,851,414	5,077,041
Switzerland	8,039,060	11,870,552	6,188,784

[a)] Until 1999 former territory of the Federal Republic of Germany.

Source: Eurostat Europop 2013 population projection.

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