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BASIC STATISTICS OF GERMANY, 2008

LAND

Area, 2004 (1 000 km^2)	356	Major cities, 31.12.2007 (1 000 inhabitants):	
Agriculture (%)	53	Berlin	3 416.3
Forest (%)	30	Hamburg	1 770.6
		Munich	1 311.6

PEOPLE

Population (1 000)	82 120	Labour force[1] (1 000)	43 420
Inhabitants per km^2	231	Employment[1] (1 000)	40 279
Natural increase in population, 2007 (1 000)	–142	Agriculture (%)	2
Net immigration, 2007 (1 000)	44	Industry (%)	25
		Services (%)	72

PRODUCTION

GDP, current prices (billion euros)	2 496	Origin of value added (%)	
GDP per capita (1 000 USD in current prices)	45	Agriculture	1
Gross fixed investment (% of GDP)	19	Industry	30
		Services	69

GOVERNMENT

Public consumption (% of GDP)	18	Composition of Parliament	Seats
General government total revenue (% of GDP)	44	Christian Democratic Party (CDU)	194
Public debt, Maastricht definition (% of GDP)	66	Social Democratic Party (SDP)	146
		Free Democratic Party (FDP)	93
		The Left	76
		Alliance 90/The Greens	68
		Christian Social Union (CSU)	45
		Total	622
		Last general election: September 2009	
		Next general election: 2013	

FOREIGN TRADE

Exports of goods and services (% of GDP)	47	Imports of goods and services (% of GDP)	41
Main exports (% of total merchandise exports):		Main imports (% of total merchandise imports):	
Machinery and transport equipment	46	Machinery and transport equipment	32
Manufactured items	23	Manufactured items	24
Chemicals and related products	15	Mineral fuels, lubricants and related materials	14

CURRENCY

Irrevocable conversion rate (1 euro)	1.95583	Euros per USD:	
		Year 2008	0.72
		January 2010	0.70

1. Domestic concept.

Executive summary

The German economy is recovering from a severe recession that followed the collapse of world trade. As pre-crisis production levels are likely to be reached again only over the medium term, unemployment and the budget deficit are set to rise further. The crisis has demonstrated the high exposure of the economy to global developments and revealed some underlying structural weaknesses. In this context, the main challenges are to safeguard a sustainable recovery and boost Germany's growth potential:

Adjusting labour market policy. *Unemployment has barely increased during the downturn as firms substantially reduced working time instead of laying off employees. This reflects primarily increased flexibility on the company level and earlier labour market reforms, as well as the subsidized short-time worker scheme. Going forward, labour market policy needs to prepare for a marked increase in the jobless rate, notably by ensuring sufficient job counselling capacities and reforming the administration of the basic income scheme for jobseekers. The crisis has revealed the risk that a dual labour market may emerge. To avoid this and to facilitate structural change, consideration should be given to easing the strict protection of regular workers, once the economy has recovered.*

Restoring fiscal sustainability. *As a result of the downturn, the fiscal deficit continues to widen considerably, owing to the working of automatic stabilizers and the fiscal stimulus packages. A new fiscal rule should help to bring public finances back to a sustainable path in the medium term, though some implementation issues are tricky and need careful monitoring. Compliance with the new rule will require a combination of spending cuts and revenue-raising measures. Priority should be given to spending cuts as they are likely to be less harmful for economic growth than tax increases. To the extent that tax revenues are raised, this should preferably be done by reducing exemptions. To improve the structure of the tax system, the government should consider shifting the burden from highly distortionary taxes and contributions on economic activity to taxes with a lower damaging impact on economic growth, notably taxes on real estate and consumption. While the coalition agreement acknowledges the need for responsible fiscal policy it nevertheless makes proposals for spending increases and tax cuts for which fiscal room has yet to be found. It is therefore important that the government soon presents a specific plan how it intends to comply with the new fiscal rule.*

Ensuring stability in the banking sector. *After substantial government interventions, the situation in the banking sector has stabilized. However, authorities should continue to play an active role by closely monitoring capital adequacy, notably including the application of stress tests, and maintaining support instruments in order to, if needed and as a last resort, provide public capital to those banks that are not able to raise funds from private sources. A reform of the Landesbanken is a priority, but opening up the savings bank sector to private ownership should also be considered. Further necessary reforms include implementing the planned consolidation of supervision at the Bundesbank, widening the scope for supervision beyond compliance with quantitative requirements,*

considering the introduction of a binding leverage ratio and introducing a framework for restructuring and winding-up of systemically relevant banks.

Broadening growth beyond exports. *Germany's export sector has benefited from strong competitive forces, which have spurred innovation, efficient allocation of resources and strong investment. This enabled the sector to maintain and create employment opportunities. The challenges going forward are to ensure the continued high performance of the export sector and broaden this performance to the other sectors of the economy. While many reforms have been put in place already, more needs to be done to boost potential growth in sectors serving domestic demand. In particular, the policy framework needs to become more conducive to innovation and structural change. Product market regulation needs to be eased to strengthen competition; the innovation framework needs to be improved to ensure a continuously high level of R&D spending as well as its sectoral broadening; the ongoing reform of the education system should continue so that it can supply a larger pool of highly qualified and flexible workers; and migration policy needs to become more favourable to the immigration of high-skilled workers in order to prevent the emergence of skilled labour shortages.*

Assessment and recommendations

The economy is slowly coming out of the crisis

After suffering the steepest downturn in post-war history, growth turned positive again in the spring of 2009. The current recovery is underpinned by fiscal stimulus, expansionary monetary conditions, an upswing in world trade, an improvement in financial conditions and restocking activities of companies. Even though the economy is recovering, the pre-crisis level of production is projected to be reached only by 2013. There will thus be substantial slack in the economy over the medium-term, notwithstanding the fact that the crisis is likely to have led also to a temporary reduction in the growth rate of potential output.

Going forward, the main driving force is likely to remain exports, as investment spending in new capacity is projected to pick up only slowly. The reduced level of production will adversely affect the labour market, thereby keeping the savings rate high and damping private consumption growth. Public finances will deteriorate further, not least because the additional permanent tax cuts introduced at the beginning of this year to stabilise domestic demand also add to the deficit.

The crisis has revealed some structural deficiencies

By many measures, the scale and the structure of the recent crisis is different from past experience. The downturn in growth was driven almost exclusively by the sudden collapse of world trade at the end of 2008, hitting the large export-oriented manufacturing sector particularly hard. In addition, the crisis in the real economy was accompanied by a banking crisis, not least due to earlier investments by German banks in foreign assets linked to the US housing market, requiring substantial government intervention to safeguard financial stability. Both factors demonstrate how interlinked Germany has become with developments in world markets. Even though it is true that the domestic fundamentals prior to the crisis looked comparatively solid (absence of a housing and construction boom, a balanced government budget and solid household and corporate balance sheets), Germany was exporting goods and lending capital to countries where domestic demand was partly on an unsustainable track.

Large crises always present opportunities for reform, because unsustainable structures become more visible. In this regard, major policy challenges need to be addressed:

- The build-up of long-term unemployment should be avoided by keeping the labour market flexible enough to allow for structural change.

- Budget deficits need to be reduced considerably from 2011 onwards in order to comply with the new fiscal rule.
- The deficiencies in the banking sector need to be tackled.
- The growth pattern should be broadened beyond exports to increase the potential of the economy.

While many of the recently elected government's initiatives address the right issues in a sensible way, some might have gone in the wrong direction. The lack of a specified strategy for fiscal consolidation and remaining deficiencies of product and labour market regulation need to be tackled in order to boost potential growth. Improving economic dynamism and increasing the attractiveness of Germany as a location for investment through structural reforms would also contribute to a reduction of external imbalances.

The labour market surprised on the positive side…

Unemployment had fallen significantly prior to the crisis, not least helped by past reforms in several areas of labour market policy and deregulation, and has remained surprisingly stable during this recession, both in comparison with past downturns and relative to other countries. While the increase in the unemployment rate in the average OECD country was 3 percentage points, the German rate rose by only one half percentage point although the fall in German GDP was above average. This was primarily due to increased flexibility on the firm level that allowed a reduction in labour input by decreasing working hours instead of employment. In addition, the short-time working scheme, whereby the labour office replaces some of the lost income of employees if they work shorter hours, has been used extensively especially as this programme was made more generous during the crisis. The scheme has been used more intensively by those companies which reported difficulties finding skilled labour prior to the crisis, suggesting that fear about future labour shortages is one reason for labour hoarding.

… but some labour market policies hamper structural change

While the government's efforts to prevent excessive lay-offs during the recession have been broadly successful, the extent to which they prevent or delay structural change, which generally accompanies large downturns, should be closely monitored. It is therefore important to preserve strong incentives for workers and firms to leave subsidised short-time work programmes at the earliest opportunity. *In this regard, a further prolongation of the extended generosity of the scheme beyond the originally legislated date should be avoided. A further option going in this direction is to require firms that join the scheme from now on to pay back some of the short-time work subsidies if workers are laid off in the period that follows the end of the short-time work. Tapering the replacement rate over time to maintain search incentives for workers should also be considered.* This would help to ensure that only jobs that are viable in the longer run are preserved by increasing the incentives for searching an alternative (full time) employer.

In the context of the downturn, strict protection of regular job contracts compared with other OECD countries threatens to create a dual labour market, in particular as regulations of temporary job contracts have been eased significantly. Those who lost their jobs have

tended to have less protected work contracts (notably temporary work agency contracts) while regular workers, in particular those with very long tenure, are relatively well protected. Evidence suggests that too strict protection of regular job contracts may inhibit the flow of jobs towards their most productive uses in the economy, thereby hampering structural change. In Germany, job separations of workers on regular contracts take a long time and are often challenged in court, increasing the costs for employers. In addition, the requirement for work councils to approve dismissals lengthens the period before a dismissal notice can be given, notably in the case of disapproval as in this case the employer has to wait for a decision by the labour court. Lighter employment protection legislation could lead to less hesitancy to hire people with regular contracts once the recovery becomes self sustained.

Once the labour market has stabilized, the disparities in terms of protection between regular and non-standard job contracts should be narrowed. To this end, the following measures should be considered:

- *Shortening the period before a dismissal notice can be given, for example by reforming the requirement for work councils to approve dismissals while preserving the important consultation mechanism on the company level.*
- *Shortening the period between information about dismissal and the termination of employment for workers with long tenure.*
- *In case of dismissals for economic reasons, give employers the right to choose between paying a severance payment (while leaving the court route open for employees), in line with current regulation, or paying a higher unfair dismissal compensation which would replace the court route.*
- *Rethinking the further liberalisation of fixed-term contracts envisaged by the coalition agreement in order to lower the risk of dualisation on the labour market.*

An increase in long-term unemployment needs to be countered

As firms continue to deal with the downturn and a weak recovery, it is likely that unemployment will increase sharply. On current projections, the unemployment level could well rise by more than half a million (1% of the labour force) in 2010. Labour market policy will need to ensure that these unemployed receive enough placement services to reduce the risks posed by an increase in unemployment duration:

- *Make sure Public Employment Services can adjust capacities to the larger workload.*
- *Reform the administration of the basic income scheme for jobseekers (recipients of unemployment benefit II) quickly as required by the constitutional court's ruling.* Any reform should be implemented in such a way that the procedures for the benefit recipients change as little as possible to ensure that the basic principle of the one-stop shop remains in place.
- *In addition, in case of a marked deterioration of the labour market, expand other active labour market programmes, such as training, hiring subsidies and mobility support.*

Public finances are worsening rapidly

Until the onset of the economic crisis, public finances had improved markedly as the general government budget deficit narrowed to close to balance in 2007 and 2008. However,

the fiscal deficit widened considerably in 2009, owing to the working of the automatic stabilizers and the launch of fiscal stimulus packages in late 2008 and early 2009. The worsening of the fiscal balance is set to continue, not least due to the introduction of further tax cuts in 2010, with the deficit projected to rise to above 5% of GDP in 2010. To realize the proposed measures of the coalition, while at the same time adhering to the European and national fiscal rules, appropriate offsetting measures have to be specified and implemented.

The new fiscal rule needs some fine-tuning to be effective

As the previous fiscal rule had failed to sufficiently restrain the build-up in government debt over the past decades, the government introduced a new – also constitutionally enshrined – fiscal rule in 2009, constraining the structural budget deficit to 0.35% of GDP by 2016 for the federal government and requiring balanced structural budgets for the *Länder* by 2020. A transition path will ensure steadily decreasing structural deficits in the meantime. Based on sound forecasts, the new fiscal rule is likely to help bring public finances back to a sustainable path, but some elements of it are not yet fully specified – the cyclical adjustment mechanism for sub-federal governments for example – or not fully satisfactory and should be fine-tuned once experience has been gained with the new rule. *It would help now to strengthen the stability council, which is meant to monitor budgetary developments, including by providing additional inputs from experts or institutions that are independent of the government. Moreover, the government should move towards a top-down approach to federal budget formulation. Finally, it should ensure through proper prioritisation that an appropriate level of public investment is maintained in implementing the rule.*

Compliance with the new rule requires sizeable consolidation

Economic projections for 2010 imply that the federal government's structural deficit has to be reduced by around half a per cent of GDP per year during the transition phase 2011-16. While in 2011 the phasing-out of several of the fiscal stimulus measures will help to meet this target, additional consolidation effort will be needed in subsequent years. Since empirical evidence suggests that the adverse growth effect of consolidation is likely to be less severe if it is achieved through spending cuts rather than tax hikes, a reduction in expenditures should be the preferred way to achieve consolidation. Given the magnitude of the consolidation required, the expenditure cuts will need to be very ambitious. Moreover, the spending cuts will likely have to be accompanied by revenue-raising measures. Here, priority should be given to base broadening measures.

- *In reducing expenditures, priority should be given to improving government efficiency, as this would allow spending cuts without diminishing the quality and availability of public services.*
- *In addition, the government should further cut back grants, as they are still high by international standards, and give consideration to further reducing government consumption expenditure.* Proposals in this direction had been made by the previous government and more recently by research institutes.

- *The government should broaden the tax base by further phasing out tax concessions. In doing so, the government should also review the current application of the reduced VAT rate. In cases where the reduced rate amounts to an implicit subsidy without clear justification, it should be phased out. In cases where a reduced rate can be justified, it should be verified that the desired objectives cannot be achieved more efficiently through other means. In this regard, the recent reduction in the VAT rate for hotel services seems inappropriate and should be reconsidered.*
- In the past, pensions were increased by more than should have been the case based on the indexation rule, which increased public expenditures. *The government should avoid such discretionary changes and resist pressures not to recover the additional costs associated with past interventions through lower pension increases in the future.* The fiscal consolidation needed to ensure sustainability and also imposed by the new budget rule limits the room for subsidizing the public pension system from the general budget.

The tax structure could be improved

Empirical evidence suggests that indirect taxes, notably those on real estate and consumption are least damaging to long-term economic growth. To improve the structure of the tax system, the government should consider raising the share of indirect taxes in total tax revenues, *e.g.* by further phasing out tax concessions, while reducing the still high burden from distortionary taxes and contributions on economic activity:

- *An increase in taxation of land and buildings could be achieved by further raising the tax rates, though any such decision has to be taken at the municipal level. Moreover, to make the tax more equitable, the government should move closer towards market prices as the basis for evaluating the tax base of the land and building tax (Grundsteuer) rather than relying on the values determined in 1964 (1935 for the eastern Länder).* Concerns about an eventual short term adverse effect on house and land prices of such measures have to be balanced against the long term benefits of a more growth friendly tax structure.
- *Depending on the size of any tax structure reform, a revision of the VAT system should be considered.*
- *The government may also give consideration to raising environmental taxes further.* However, since the primary objective of such taxes is to reduce pollution by changing the behaviour of economic agents, they are associated with an intended erosion of the tax base and should thus not be a key element of a revenue raising strategy.

Problems in the banking sector need to be addressed quickly…

A notable feature of the recent recession was that it was triggered and accompanied by a banking crisis. In contrast to several other countries where the financial sector suffered from excessive domestic lending, for example in relation to housing booms, German banks were affected through their investments in foreign structured credit products, mostly originating in the United States, as well as by the turmoil on international financial markets in the wake of the collapse of Lehman Brothers. The situation was stabilised by a variety of government measures, ranging from bailouts of individual banks at the onset of the crisis, to the setup of the *Special Fund Financial Market Stabilization* (SOFFIN) later on and finally to the creation of the possibility for banks to set up bad banks. The possibilities

created for banks to voluntarily address problems such as the toxic assets on their balance sheets have so far not been used extensively. In that respect, the concern is that banks may not be adequately capitalised in view of the likely rise in company insolvencies, a situation which risks restricting lending in an upswing. *The authorities should play an active role, by closely monitoring capital adequacy, notably including the application of stress tests, and maintaining support instruments in order to, if needed and as a last resort, provide public capital to those banks that are not able to raise funds from private sources.*

…including reforms of the structure of the banking sector…

The structural weaknesses in the banking system that contributed to the crisis also have to be addressed. This concerns foremost reforming the state-owned *Landesbanken* which are the most prominent casualties during this crisis due to their significant exposure to toxic assets. During the long phase-out of government guarantees for these banks from 2002 until 2005, several *Landesbanken* expanded their balance sheets significantly, benefitting from still favourable financing conditions, and invested the funds in risky foreign securities due to the lack of a viable domestic business model. *The crisis has thus reinforced earlier calls for a fundamental reform of the Landesbanken sector, notably through significant consolidation and privatization. Increased pressure by the European Commission has already led to reforms in individual institutions that are receiving government aid, but from there, further sector-wide restructuring and consolidation will be needed.*

Although the capitalization of German banks compared well with other countries on a risk-weighted basis, it was very low on a non-risk weighted basis, raising the structural vulnerability of the German financial system. Remedies will involve regulatory reform with some international co-ordination, and measures in Germany should be consistent with international efforts. *While the increased focus on a leverage ratio as an additional source of information is welcome in order to prevent banks from becoming too leveraged, the authorities should consider making such an instrument binding.*

Furthermore, while the savings and co-operative banks have been a source of stability during the crisis, the banking system nevertheless remains highly fragmented. In this regard, consideration should be given to softening the dividing lines between the three pillars (private banks, savings banks, co-operative banks), which remain strict compared with other countries. *One possibility of levelling the playing field and raising efficiency would be to allow takeovers of savings banks by private banks. This may involve reforming the savings bank sector along the experiences of other European countries, which have allowed private ownership to differing extents.*

… and in banking regulation and supervision

Finally, the crisis has laid bare some deficiencies in banking supervision, which may in part be related to its shared responsibilities as well as to a lack of independence of the regulator. *The government's plan to consolidate banking supervision at the Bundesbank (as opposed to the prior division of labour between the Bundesbank and the German Financial Supervisory Authority) is a step in the right direction, not least as it should raise the independence of the supervisor and provide the framework for a more macro-prudential approach to supervision.*

Given the widespread regulatory arbitrage prior to the crisis, the powers of the supervisor should be strengthened beyond recent legislative changes to allow for the possibility to widen the scope for supervision beyond compliance with quantitative requirements. In this regard, supervisors should address more clearly the risks that business strategies entail. In addition, consideration should be given to introducing capital buffers that fluctuate with the business cycle, akin to the approach practiced in Spain.

The government's initial use of *ad hoc* measures to bail out individual banks showed that the current mechanisms to handle banking crisis do not provide sufficient scope for an appropriate response to systemically relevant banks in distress. *Thus, in order to allow for a more efficient dealing with future bank failures, existing plans for the introduction of a framework for restructuring and winding-up of systemically-relevant banks should be pursued further.* Ideally, such a scheme would allow the negative system-wide effects of an individual bank failure to be limited, while keeping the costs for the taxpayer to a minimum and mitigating incentive distortions. A critical element of such a framework should thus be that supervisory intervention takes place at an early stage, to widen the options for restructuring.

Export-led growth alone is not enough to achieve satisfactory economic performance…

The export focus of the German economy has increased substantially over the past years, testifying to the dynamic nature of the export sector. The importance of exports for economic growth is reflected in an above-average share of manufacturing sectors in total value added, whereas several service sectors are somewhat underrepresented relative to other G7 economies. While a rapid expansion of global demand contributed to the pre-crisis surge in exports, German companies were also able to gain market share from their foreign competitors. These market share gains owed largely to improvements in the price competitiveness of German products associated with extensive offshoring and domestic wage moderation.

In late 2008, the collapse in world trade put an abrupt end to the export boom, fuelling concerns among some commentators about an over-reliance on the German export-led growth pattern. However, the real policy challenge lies elsewhere. Specifically, the challenge is to consolidate and broaden the past success of the export sector to the whole economy by implementing long needed structural reforms. To achieve this goal, the policy framework needs to become more conducive to competition, innovation and structural change.

… which requires more liberal product market regulation,…

Even though anti-competitive product market regulation (PMR) has been considerably reduced in recent years, Germany remains more heavily regulated than many other OECD countries. In the latest edition of the OECD's economy-wide PMR indicator, it ranks 16th out of 28 countries. *The government should continue to ease product market regulation* as an overly strict regulatory framework may hamper structural change and competition. Furthermore, for countries at the technology frontier, lacking competition can hamper

innovation. Possible actions include the simplification of the license and permit system and a further refinement of insolvency legislation in order to encourage a wider use of the possibility for restructuring and to facilitate the closure of those companies that cannot be rescued.

In addition, *further effort should be devoted to easing regulation in professional services sectors*. As these services are used as intermediate inputs by enterprises, a lack of competition in liberal professions not only hampers the expansion of these professions themselves but also imposes costs on other sectors of the economy. *Options to ease conduct regulation include further reducing remaining restrictions on the co-operation between professions, while maintaining high quality standards, further liberalizing prices as well as reassessing the need for remaining restrictions on advertising. The conditions of entry should be simplified by rethinking compulsory chamber membership, while maintaining necessary standards for professional qualification. The number of activities over which certain professions have exclusive rights should be further reduced and the requirements for full chamber membership should be lowered further.*

… more innovation,…

Investment in R&D is a crucial factor for firms to stay competitive, especially in knowledge intensive industries. While overall R&D expenditure (as a share of GDP) is higher than in most other OECD economies, it is skewed towards medium-high technology manufacturing sectors. High-technology sectors and in particular services sectors receive only a below-average share of the total funds spent on R&D activities. In country rankings of innovation performance, Germany generally performs pretty well on the output side, but is just about or even below average on the input side, for example regarding the availability of finance and government support for innovation. This bears the risk that the currently strong performance in outputs will be undermined over time by weak inputs, endangering the country's competitive advantages in the long run.

To address these concerns, the *government should strengthen the venture capital market* which currently only provides a negligible share of overall financing, but is particularly well suited to supporting the creation of innovative and entrepreneurial firms. *In particular, it should ensure that existing institutions on the domestic capital market provide venture capitalists with sufficient exit possibilities. In addition, it should modify the Act on the Modernisation of Framework Conditions for Venture Capital and Equity Investments (MoRaKG) to comply with EU regulation and to reduce the restrictiveness of some of the provisions in the Act. Regarding direct public R&D support, the government should consider introducing tax incentives to complement grants, though duplication of public subsidisation should be excluded*. Empirical studies indicate that tax incentives are more effective in stimulating private R&D and have the advantage that winning projects are picked by the market rather than the government, thus avoiding distortions in the allocation of resources between different fields of research. When considering tax incentives, attention has to be given to the issue of policy design in order to minimize the deadweight loss.

… better education outcomes…

In an increasingly knowledge driven global economy, human capital development is a major driver of a country's trend productivity, not least through its impact on innovation.

Globalisation and technological progress increase the relative demand for high-skilled labour as well as the need for a more flexible workforce that is able to retrain easily in response to changing economic conditions. Recent major reforms notwithstanding, more needs to be done to further prepare the German education system to deal with these challenges. Although there were no indications of broad-based shortages of skilled labour ahead of the economic crisis, a lack of highly qualified personnel seems to have been a constraint in at least some sectors. These problems are likely to reappear once the current crisis dissipates and will aggravate further in the coming years on account of ongoing technological change and population ageing. To address these challenges, further reforms are necessary in three areas.

- As recommended in the previous *Survey*, *tertiary graduation rates should be lifted*. While the government has made considerable progress in facilitating access to tertiary education (for example, for craftsmen), more needs to be done to raise its attractiveness through improvements in the institutional set-up, for example by *further raising the accountability and autonomy of tertiary education institutions.*
- *The system immanent reform of the vocational education system should continue, especially by adaption of vocational training programs to changing labour market needs. Continuing education offers of general skills – in addition to vocational training – must be provided according to need.*
- *The support of participation of adults in lifelong learning activities, like the recently started voucher schemes on the federal and Länder level, should be continued after careful evaluation in order to minimise deadweight losses.* In this context quickly proceeding with the planned incorporation of non-formal and informal activities in the Qualifications Framework for Lifelong Learning could be helpful.

… and high-skill oriented migration

Education reform alone will not be sufficient to address the issue of skilled labour shortages as changes in this area usually need considerable time to feed through into a better educated workforce. In this context, the existing complex immigration rules make it difficult for firms to fill their vacancies for skilled workers. While Germany is an important source of high-skilled migrants to other countries it does not attract a sufficiently high number of high-skilled foreigners. With the launch of the new Immigration Act in 2005, migration policy was fundamentally changed. While the Act by and large kept the ban on the recruitment of unskilled and semi-skilled workers, a number of special entry pathways were created for high-skilled workers. However, overall, the newly created immigration paths have rarely been used. *The government should therefore make the current framework more attractive and should also consider engaging more actively in recruitment policy. In addition, the government should enhance possibilities for the immigration of high-skilled workers, for example by introducing a points system. Finally, based on existing guidelines and forthcoming legislation the government should introduce a fast and transparent system of recognizing foreign qualifications. This would also benefit those high-skilled workers of the large foreign community in Germany who to date cannot mobilise their skills in the labour market according to their capabilities.*

Chapter 1

Emerging from the crisis

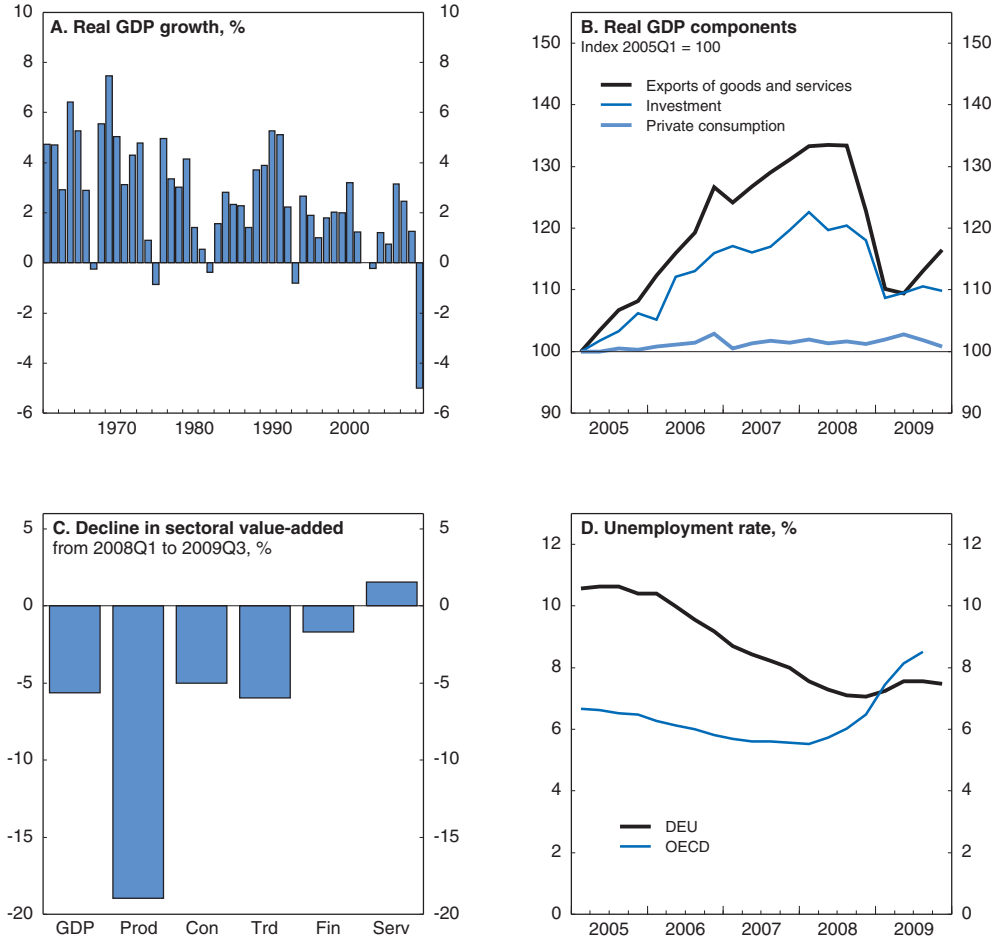
After a sharp fall during the recession, real GDP growth has picked up, but the recovery is expected to be relatively slow. The global crisis has hit the economy mainly through the collapse of world trade, the driving force behind the boom period before the crisis. The challenge going forward is to tackle the damage done by the crisis on the labour market and to public finances. Growth prior to the crisis was mainly export-driven and characterized by the build-up of a large current account surplus. Factors behind this surplus were a rise in corporate and government net lending amid continued high and increasing saving by households. A large part of the capital outflows reflected foreign investments by the banking system. Structural challenges going forward should focus on raising the stability of the banking sector and removing domestic barriers to higher growth.

The economy is coming out of a deep crisis…

The German economy has emerged from a sharp recession. After real GDP fell by more than 6½ per cent from the beginning of 2008, growth resumed in the second quarter of 2009. The pick-up of growth is due to a combination of fiscal stimulus measures, which supported private consumption and investment spending, the inventory cycle, an improvement in financial conditions and a rebound in world trade. Both the extent of the downturn and the swiftness of the rebound have surprised many as they lack historical comparisons. Nevertheless, the level of production still remains 5½ per cent below the pre-crisis levels and the GDP level prevailing at the beginning of 2008 is projected to be reached again only by 2013. Thus, even though real GDP is growing again, the effects of the crisis will be long felt.

This crisis was in many respects different from past ones. *First*, it was by far the deepest in post-war history in terms of lost output, greatly exceeding the previously largest annual output decline which amounted to –0.9% in 1975 (Figure 1.1, panel A). *Second*, it was almost entirely induced by a collapse in world trade, which led to a subsequent drop in non-residential investment, leading some commentators to raise questions about the sustainability of the German export-led growth pattern (Figure 1.1, panel B). *Third*, the downturn was focussed on particular industries, notably manufacturing (Figure 1.1, panel C), and certain geographic regions. Real GDP in the first half of 2009 compared with the same period in 2008 fell by 7.2% in the western *Länder* (without Berlin) and by 4.5% in the eastern *Länder* (including Berlin). The largest output losses occurred in those *Länder* with a large share of export-oriented manufacturing, such as Baden-Württemberg where output dropped by 10.1%. The east German industry, by contrast, is much less export-oriented and its economic structure is to a larger extent characterized by small and medium sized companies, which may be more flexible in adapting to the global economic downturn (Box 1.1). In addition, the financial support of economic development in the eastern *Länder* to balance still existing structural disadvantages had a stabilizing impact. *Fourth*, this recession was accompanied by a severe banking crisis, with the government bailing out several banks. Historical experience suggests that such recessions tend to be longer-lasting than "normal" ones. *Fifth*, the labour market reaction was much more muted than in previous downturns and also compares favourably with the developments in other OECD economies (Figure 1.1, panel D). *Sixth*, this crisis is likely to be associated with a temporarily lower rate of potential GDP growth compared with a non-crisis scenario.

Figure 1.1. **The German economy before and during the crisis**



Note: GDP growth for 1961-91 is for western Germany only. Sectors: Prod: Production excluding construction; Con: Construction; Trd: Wholesale and retail trade, hotels and restaurants and transport; Fin: Financial, real estate, renting and business services; Serv: Public and private services.

Source: Bundesbank; OECD, *Analytical* and *National Accounts Databases*; Statistisches Bundesamt Deutschland.

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Box 1.1. **The east German economy 20 years after the fall of the Wall**

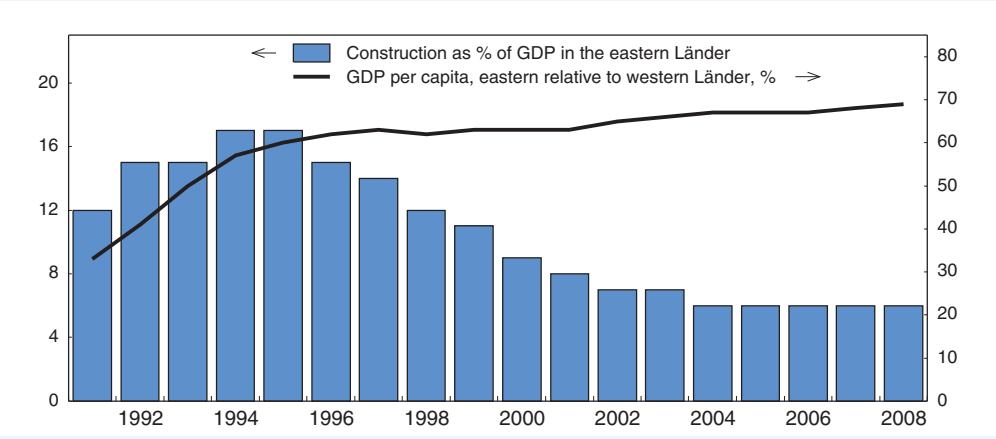
After the rapid catch-up during the early years after unification, the pace of convergence of economic activity in the eastern *Länder* (Brandenburg, Mecklenburg-Western Pomerania, Saxony, Saxony-Anhalt, Thuringia and Berlin) with the western *Länder* has slowed somewhat. GDP per capita has more than doubled from 1991 to 2008, but at EUR 22 840 it still amounts to only 71% of the western *Länder* (Table 1.1).* Saxony has the highest GDP per capita (EUR 22 620) and Mecklenburg-Western Pomerania the lowest among the eastern *Länder* (EUR 21 439).

The convergence process so far proceeded in three phases. Supported by massive financial transfers to rebuild the infrastructure, construction spending rose sharply after reunification and living standards almost doubled within 5 years (Figure 1.2). After the construction boom ended, convergence stagnated from 1996 onwards and only restarted at the beginning of the 2000s. Based on the assumption that convergence rates are maintained at their past average, the per capita GDP in east Germany will reach four-fifths of the level in west Germany by 2020.

Box 1.1. **The east German economy 20 years after the fall of the Wall** *(cont.)*

Hourly labour productivity has increased by 40% since 1991, roughly twice as much as in the west over the same period, but still remains one-third below the levels in the western *Länder*. This is in part a reflection of the different economic structure in the eastern *Länder* with lower productivity sectors accounting for a higher share, notwithstanding substantial convergence with the structures prevailing in west Germany (Ragnitz, 2005). For example, the construction sector is still somewhat larger despite its significant shrinkage following the build-up of overcapacities after the post-unification construction boom. The share of manufacturing in east Germany amounts to 19%, compared with 24% in west Germany and business services also remain behind the west German share. Still, the share of manufacturing in east Germany exceeds the share of other OECD countries, which amounts for example to 13% in the United Kingdom and USA, and 12% in France. The share of exports in total sales in manufacturing amounts to 33% in the eastern *Länder* compared with 46% in the western *Länder*. In addition to the sectoral structure, smaller companies play a larger role in east Germany [only 5% of the 700 largest German companies by revenue are located in the east (Deutsche Bank Research, 2009)].

Figure 1.2. **Economic developments in the eastern Länder**



Note: Based on data excluding Berlin.

Source: Volkswirtschaftliche Gesamtrechnungen der *Länder*, February 2009.

StatLink http://dx.doi.org/10.1787/815687464351

As regards labour input, growth of the labour force remains the main problem as the eastern *Länder* continue to suffer from declines in population, although employment rates compare more favourable with the western *Länder,* despite high unemployment. From 1991 to 2008 population dropped by around 10%, reflecting primarily a lower number of people under 40 years of age due to a drop in births after reunification and emigration to the western *Länder* (the west German population gained 6% over the same period). Notwithstanding some decline since reunification, labour force participation still remains higher in the eastern *Länder* than in the west (at 80% in 2008 *vis-à-vis* 77% in the western *Länder*), primarily reflecting much higher participation rates of women aged 35-55. A larger share of high-skilled women in east Germany, a drop in fertility after unification and better supply of childcare places explain this difference (Grundig, 2008). However, the employment rate declined from 73% in 1991 to 69% in 2008 (compared with an increase by five percentage points to 72% in west Germany over the same period) and the unemployment rate is still around twice as high as in the western part of the country (though the difference has narrowed somewhat recently).

Box 1.1. **The east German economy 20 years after the fall of the Wall** *(cont.)*

Table 1.1. **Economic performance indicators in west and east Germany**

	Eastern *Länder*		Western *Länder*	
	1991	2008	1991	2008
GDP per capita (in EUR)	9 442	22 840	22 030	32 231
Gross value added per hour worked	21.3	30.2	33.4	40.6
Population (in thousands)	18 071	16 509	61 914	65 618
Labour force participation rate (%)	81.5	80.0	70.2	76.7
Employment rate (%)	72.6	69.4	66.6	72.1
Unemployment rate (%)	10.9	13.2	5.2	6.0

Note: East German data including Berlin. Since 2005, employment data are based on the ILO-concept, which is not strictly comparable with the previous years' data.
Source: Destatis, *Volkswirtschaftliche Gesamtrechnungen der Länder*, February 2009.

Demand in the eastern *Länder* still significantly exceeds production with the sum of private and public consumption and gross fixed capital formation amounting to 112% of (east German) GDP in 2006 (Ragnitz *et al.*, 2009). This reflects the transfers from the western *Länder* and the federal government (including the social security contributions) to the eastern *Länder*. The scale of the transfers, however, has declined over time; in 1991, the east German economy's expenditures exceeded production by 72%.

* Data for the eastern *Länder* include Berlin, as a breakdown between west and east Berlin is no longer available in official statistics.

… and the recovery will be slow

Even though the economy is recovering from the severe recession since the second quarter of 2009, actual growth will remain slow until around mid-2010. Investment is lagging due to massive under-utilisation of the capital stock and is expected to contribute to growth from the second half of 2010 onwards. Private consumption is likely to suffer for somewhat longer from the phasing out of the car scrapping scheme and a further rise in unemployment. In addition, the outlook is for low wage growth to restore profitability, which will dampen personal income growth. The economy will continue to be mainly driven by developments in world trade as demand for capital goods picks up and Germany regains the market share that was lost in the downturn. Overall, growth in real GDP is projected to be 1.1% in 2010 (adjusted for the number of working days; Table 1.2). The phasing out of the government's stimulus measures notwithstanding, growth is projected to be stronger in 2011, reaching 1.9%, as private investment picks up and private consumption stabilises. Despite growth above potential (estimated to be 0.8% over the period 2009-11) a sizable output gap will remain even at the end of 2011 which is likely to restrain inflationary forces.

The outlook is highly dependent on developments in the world economy and also on financial markets. In particular, there is a risk that banks restrict credit as the loss burden due to the financial crisis as well as credit losses related to the recession adversely affect their lending capacity. The growth rate of loans to the private sector, notably to non-financial companies, has slowed down significantly. Credit supply factors may play a role as credit standards by German banks as measured by the *ECB Bank Lending Survey* showed a significant tightening since the beginning of the financial crisis and there are reports of reduced credit supply in certain sectors and for large companies. However, cyclical factors

Table 1.2. **Short-term GDP projections**

	2008	2009	2010	2011
	Current prices EUR billion	Percentage changes from previous year, volume (2000 prices)		
GDP at market prices	2 492.3	–4.9	1.1	1.9
Without working day adjustment	2 496.0	–5.0	1.3	1.9
Private consumption	1 408.4	0.3	–1.4	0.6
Government consumption	451.8	3.0	1.2	1.5
Gross fixed investment	472.9	–8.8	0.8	1.3
Public	37.4	7.3	16.1	–14.7
Residential	136.1	–0.6	0.8	0.7
Non-residential	299.4	–14.5	–1.6	4.7
Final domestic demand	2 333.1	–1.0	–0.5	0.9
Stockbuilding*	4.7	–1.0	–0.6	–0.2
Total domestic demand	2 337.8	–2.0	–1.1	0.8
Exports of goods and services	1 176.8	–14.2	8.0	8.1
Imports of goods and services	1 022.2	–8.9	3.0	6.4
Net exports*	154.6	–3.0	2.2	1.2
Unemployment rate		7.4	8.2	8.8
General government budget balance		–3.3	–5.8	–5.2
Government gross financial liabilities/GDP		74.3	79.1	83.0
Output gap		–3.6	–3.2	–2.1
Harmonised index of consumer prices		0.2	0.9	0.8

Note: National accounts are based on official chain-linked data. This introduces a discrepancy in the identity between real demand components and GDP. For further details see *OECD Economic Outlook* Sources and Methods (*www.oecd.org/eco/sources-and-methods*).

* Contributions to changes in real GDP (percentage of real GDP in previous year), actual amount in the first column.

Source: OECD, *OECD Economic Outlook*, No. 86, and Secretariat estimates.

like low credit demand due to the sluggish real economic activity and increased macroeconomic risk appear to be the main explanation for the reduced lending activity (Bundesbank, 2009a). In order to limit the risk of a broad based credit crunch going forward, it should be ensured that banks remain adequately capitalized (Chapter 4).

The crisis will leave permanent potential output losses estimated at 3.9% for Germany, more than the (weighted) OECD average of 3.1%; the unweighted OECD average amounts to 3.9% (OECD, 2010). This is primarily due to higher costs of capital (as risk aversion may return to higher levels than prevailed before the crisis), which reduces the capital-labour ratio, and lower potential employment resulting from an estimated increase in long-term unemployment due to hysteresis effects. In addition, the crisis effects on total factor productivity (TFP) and labour participation can also impact potential output, although they may be partially offsetting as they are affected by opposing forces during downturns (OECD, 2009a). While the crisis itself is not expected to have long-term effects on the growth of potential GDP, this may nevertheless be adversely affected by lower employment growth reflecting population ageing.

Repairing the damage done by the crisis

Preventing the build-up of long-term unemployment

Unemployment has remained surprisingly stable during this recession, both in comparison with history and other countries. This has been due to increased flexibility on the company level that allowed firms to reduce labour input by decreasing working hours, including the subsidized short-time worker scheme (whereby the labour office replaces

some of the lost income of employees if they work shorter hours). In addition, skill shortages prior to the crisis may have induced firms to hoard labour. Due to strict protection of regular job contracts those on less protected job contracts, notably temporary work agency workers, lost their jobs first.

Notwithstanding that the burden of adjustment on the labour market has thus been spread unevenly, the overall social impact of the recession has so far been smaller than in many other OECD countries. However, as the reduction in working time has not been sufficient to prevent a marked uptick in unit labour costs, unemployment is likely to increase further as firms adjust their employment plans. On current projections, unemployment could well rise by more than half a million in 2010 (equivalent to 1% of the labour force). Chapter 2 reviews recent labour market developments, suggests reforms to make employment protection legislation less strict and proposes ways to prevent the short-term unemployed becoming the long-term jobless.

Bringing fiscal policy back on a sustainable path

The fiscal situation has worsened substantially during the crisis with the budget deficit set to increase from close to balance in 2008 to above 5% of GDP in 2010. Fiscal consolidation is the key challenge from 2011 onwards as the country needs to prepare for higher expenditures due to rapid population ageing. Fiscal policy will be constrained by the newly enacted fiscal rule, which requires the structural deficit of the federal government budget to decline to under 0.35% of GDP by 2016 and the *Länder* to have balanced structural budgets by 2020. Options for consolidation include raising spending efficiency, cutting expenditures, and broadening the tax base. Chapter 3 reviews these options and proposes measures that will be the least harmful to long-run growth.

The strong growth of the export sector and the current account surplus

Growth prior to the crisis was skewed towards exports…

Germany entered the crisis supposedly better prepared than other countries. Prior to the crisis a number of OECD economies enjoyed strong consumption and investment growth, often related to substantial real estate price increases, lending booms and current account deficits. By contrast, private consumption in Germany was growing very slowly, reflected by a rising household saving rate, and Germany did not experience increasing real estate prices, let alone a housing bubble (Box 1.2). Investment spending was also fairly

Box 1.2. **German house prices – deviating from the international trend**

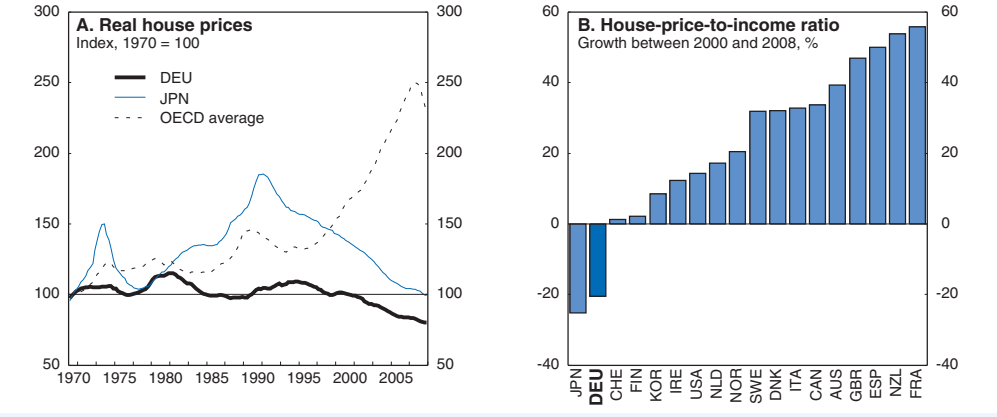
In most OECD countries, a sharp increase in house prices has characterised the period prior to the financial crisis, followed by sharp falls. Germany (along with Japan) stands out as the only OECD country which experienced a fall in prices prior to 2007. While the average increase in real house prices (nominal prices deflated by consumer prices) in the OECD between 2000 and 2008 amounted to around one-third, German real house prices declined by almost one-fifth (real house prices in Japan fell by one quarter). Looking at affordability measures shows the same picture: Germany and Japan were the only two countries which saw marked declines in the house price-to-income ratio (Figure 1.3) and in the house price-to-rent ratio. The decline in German real house prices was not just a short-run phenomenon. In fact, Germany is the only OECD country in which real house prices

Box 1.2. **German house prices – deviating from the international trend** *(cont.)*

have dropped since the beginning of the 1970s. The total decline amounts to 17% (until the end of 2008), while Japan registered a slight increase by 3% and the average real increase in the OECD was 83% over the same period. This fall is solely due to developments since 2000; real prices overall were broadly stable over the prior thirty years.

The difference may be explained by a number of supply- and demand-side factors as well as the institutional framework. On the *supply-side,* the German housing market stands out with the highest price-elasticity of housing supply. As a consequence, the effects of demand shocks on prices are damped and house price volatility is among the lowest in the OECD (Catte *et al.*, 2004). High subsidies for residential construction contributed to a rise in supply, notably after reunification, leading to oversupply by the mid-1990s (and also led to a temporary rise in prices). This, along with substantial emigration, helps to explain why house prices in the eastern *Länder* (where the tax and subsidy-induced construction was most pronounced) have dropped more than in the western *Länder* since 1995. In addition, construction costs have risen less than in other euro area countries over the last years, thereby stimulating supply (Sachverständigenrat, 2006). On the *demand-side*, low population growth relative to other countries damped house price growth. Furthermore, the fall in real interest rates since the mid-1990s was smaller in Germany than in other euro area member countries where rising affordability boosted demand. In addition, the rate of urbanisation was already fairly high in Germany in the early 1970s so that growth in this variable did not contribute as much to house price growth as in several other countries (Kholodin *et al.*, 2007). Finally, *structural* factors relating to the financial system provide some explanation. The liberalisation of the mortgage market during the 1980s and 1990s was more pronounced in other countries than in Germany, which maintained fairly strict requirements on factors like the loan-to-value ratio. Furthermore, the variety of mortgage products (*e.g.* regarding the interest rate structure or repayment options) is more limited, leading to a less "complete" mortgage market (Catte *et al.*, 2004). A much lower share of owner-occupied housing in total housing tenure in Germany compared to other OECD countries may be one consequence of stricter lending standards.

Figure 1.3. **House price developments**



Note: OECD average refers to the group of countries for which data is available from 1970, namely those in the right panel except for Korea and Spain. Refer to Girouard *et al.* (2006), "Recent house price developments", *OECD Economics Department Working Papers*, No. 475 for information on house price concepts.

Source: OECD, *House Prices Database*.

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weak, at least in the first half of the 2000s. As a result, household and corporate financial balances were in surplus. In addition, prudent fiscal policy meant that public finances were solid with the general government budget close to structural balance. Growth was driven mainly by net exports as the economy benefitted from global demand. In this sense, the economy enjoyed an export boom, which at least to some extent was driven by exuberant demand from asset-bubble countries. This boom came to an abrupt end when world trade collapsed in the final quarter of 2008 in the wake of the financial crisis, as it did in Japan and other OECD countries.

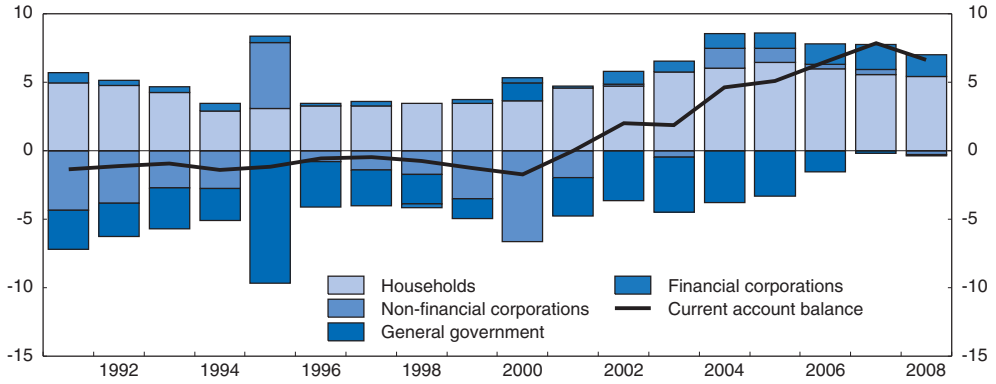
... which was mirrored in a sizable current account surplus

The combination of high external demand and weak domestic demand, notably private consumption, in the years preceding the crisis was mirrored in a large current account surplus which reached almost 8% of GDP in 2007 – the sixth largest among OECD countries. Decomposing the surplus by country shows that more than 60% of the surplus in 2007 was with other euro area countries and 80% was with EU27 member countries. Even though the surplus with the US was the largest in euro terms, it only accounted for around 16% of the total surplus. Within the euro area, the main countries with which Germany had a current account surplus were France, Italy and Spain.

A current account surplus goes hand in hand with a capital account deficit which implies an oversupply of saving relative to investment. In this sense, the surplus since 2000 reflects substantial saving by households and, to a smaller extent, non-financial and financial companies (Figure 1.4). While the private sector surplus partly financed a budget deficit, most of it went abroad as capital outflows, notably after 2005 when government finances improved significantly. This situation differs substantially from the large deficit countries, where capital inflows financed private sector deficits or public sector deficits.

Figure 1.4. **Current account balance and sources of net lending (+)/net borrowing (–)**

% of GDP



Note: General government net borrowing in 1995 includes the debt taken on in that year from the Inherited Debt Fund (6.5% of GDP). Data in 2000 for non-financial corporations and general government includes UMTS licenses (2.5% of GDP). Households include non-profit institutions serving households.

Source: Bundesbank, *Balance of Payments Database* and *Financial Accounts for Germany 1991 to 2008*, June 2009; OECD, *Annual National Accounts* and *Financial Accounts Databases*.

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A rise in corporate net lending…

Cyclical and transitory factors

Net saving by the corporate (both financial and non-financial) sector contributed most to the increase in the current account surplus in the first half of the 2000s. The rise in corporate net lending during this period is not a German-specific phenomenon but rather was common in a number of large OECD economies during this period (André *et al.*, 2007). Cyclical and transitory factors, such as financial-sector buoyancy leading to rising profits and higher savings by financial institutions, are one part of the explanation.[1] In addition, a number of longer-term factors exist, which pushed up corporate saving (which contributed most to corporate net lending in Germany since 2000) and lowered fixed capital investment.[2]

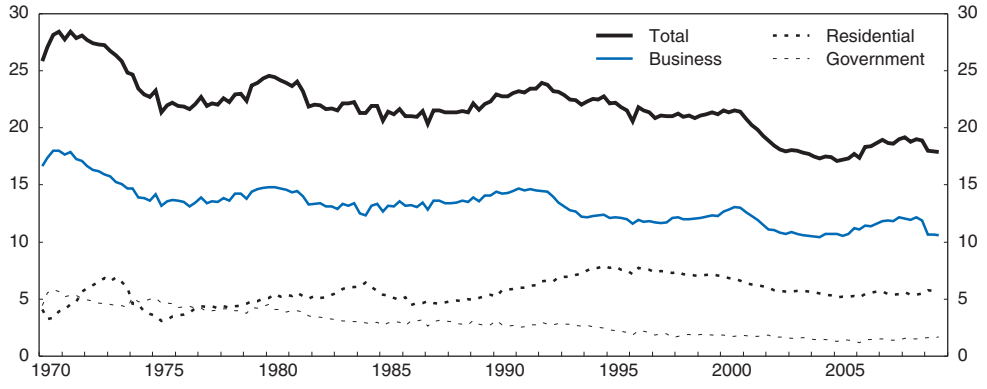
Higher corporate profits…

Corporate saving increased substantially due to a shift in income distribution towards profits. Wage moderation led to sustained gains in competitiveness (in particular in the manufacturing sector) and boosted profitability. Between 2000 and 2007, the level of real compensation of employees declined by 1%, while it increased by more than 9% in the average OECD country. Over the same period, the wage share in GDP declined by more than 4 percentage points, while it remained stable in the average OECD country. Lower net interest payments and higher property income (such as dividends received from abroad) also raised profits. Also, dividend payouts in Germany lagged profits (as in several other OECD countries) in the first half of the 2000s compared with the second half of the 1990s.[3] One factor behind this may have been efforts by companies to reduce their debt burden, which had increased sharply in the second half of the 1990s and in particular in the year 2000 (European Commission, 2007).

… and a lower investment ratio

Furthermore, the investment ratio declined in Germany and, despite a sharp increase since 2005, remains today one of the lowest among OECD countries (Figure 1.5). This is

Figure 1.5. **Declining investment**
% of GDP using nominal values



Note: Business and residential refer to private non-residential and private residential investment, respectively. Government includes residential investment.

Source: OECD, *OECD Economic Outlook Database*.

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mainly attributable to lower business and government investment. Around half of the decline in the German nominal investment ratio from 2000 to 2005 is due to the relative price effect, which, however, is working also in other countries.[4] In addition, many German firms decided to invest abroad instead of domestically, in particular since 2000, reflecting efforts to regain competitiveness through offshoring. However, this is likely to be a short-run phenomenon, as estimates suggest that in the long-run foreign direct investment by German firms abroad and domestic investment spending are complementary (Bundesbank, 2006). Furthermore, corporate tax rates were among the highest in the OECD prior to the major tax reform in 2008, which may have prevented more domestic investment (OECD, 2008). Government investment also fell as government finances were consolidated and its ratio to GDP is now lower than in many other OECD countries.[5] The residential investment ratio compares more favourably with the OECD average despite marked declines since the mid-1990s (which reflect the adjustment of excess capacity after the post-unification construction boom as well as demographic factors).

... an increase in the household saving rate...

Savings by households have also risen markedly since around 2000, following a period of steady declines in the saving rate during the 1990s (even though the German household saving rate is significantly less volatile than the saving rate in other large OECD countries). This increase reflects an adjustment to a higher equilibrium saving rate, suggesting that this is not a temporary phenomenon (Box 1.3). On a macro-level, estimates suggest that the

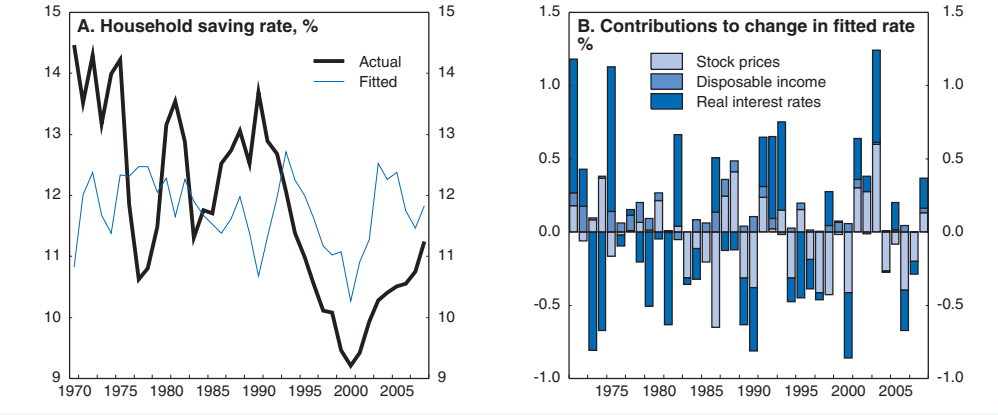
Box 1.3. **Explaining the German household saving rate**

Several explanatory factors have been put forward for the increase in the German household saving rate since 2000. Most of them are country-specific, such as higher precautionary saving because of pronounced labour market uncertainty at least until 2005, adjustment to higher retirement saving in response to a lowering of the pension replacement rate and a widening of the income distribution partly as a result of labour market reforms. To broaden the perspective beyond the individual country level and to identify whether factors common to other industrial countries help explain the behaviour of the German household saving rate, Hüfner and Koske (2010) analyze determinants of saving rates in the G7 countries since the 1970s in a panel co-integration framework. The specification allows for heterogeneity in the long- and short-run parameters across individual countries. Explanatory variables are real per capita disposable household income, real interest rates, inflation, the old-age dependency ratio, liquid liabilities as a ratio of GDP (measuring financial development), the stock of government net liabilities as well as real house and stock prices. Apart from income, interest rates and inflation, asset prices were found to be a significant long-run determinant of household savings in most countries. By contrast, financial development and government indebtedness impacted saving decisions in only a few of the countries considered.

The model is able to explain the recent increase in the German saving rate fairly well, indicating that this is part of an adjustment to a higher equilibrium level (Figure 1.6, panel A). By 2008, the actual saving rate was still slightly below its estimated equilibrium level. Results indicate that the decline in real stock prices in combination with declines in real interest rates pushed up the long-run level of savings in the years 2001-03 and damped it in later years (Figure 1.6, panel B). Higher real household disposable income since 2006 offset some of this damping effect.

Box 1.3. **Explaining the German household saving rate** *(cont.)*

Figure 1.6. **Estimated equilibrium household saving rate and contributions to its change**



Note: The left panel displays the actual household saving rate compared to the fitted value obtained from the estimations in Hüfner and Koske (2010). The bars in the right panel display contributions of different explanatory factors to the change in the estimated fitted value of the household saving rate.

Source: Hüfner and Koske (2010).

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Evidence at the individual household level (using data from the *German Socio-Economic Panel*) broadly confirms the relevance of wealth effects, notably for changes in real estate prices. Households that own real estate significantly increase their saving when house prices decline. The evidence for effects from financial wealth is less robust, however. The introduction of the subsidized retirement saving scheme (*Riester-Rente*) in 2001 is found to have increased total saving in those households that participate in this scheme. However, this result only holds for households above a certain income level; for low-income households we do not find that the retirement saving scheme has raised overall saving. Furthermore, precautionary saving motives are found to be significant. For example, households with temporary job contracts save more than others. The point estimates indicate that the saving rate of those households where the household head has a time-limited job contract is around 1 percentage point higher. A further result is that a higher risk of losing a job is significantly associated with a higher saving rate. In addition, the analysis on the micro-level indicates that households in the eastern *Länder* have a declining saving rate during the 1990s (starting from a higher level in the early 1990s and converging to the lower level prevailing in the west), which may have contributed to the fall in the aggregate saving rate in this period. Demographics also play a role in that households reduce their savings until the household head reaches the age of 30 to 35, and then start increasing their savings again, with the pace of increases slowing down as the household head reaches retirement age. However, there is no evidence of dissaving in retirement, a fact that is well-known for Germany.* Also, larger households tend to save less than smaller ones. Given that household size in Germany tends to decline (not least due to fewer births), this may have contributed to the rising aggregate saving rate over the past decade. Finally, being married has a positive impact on saving as has a higher level of education.

* According to Börsch-Supan *et al.* (2001), "The German Savings Puzzle", *Research in Economics*, Vol. 55/1, pp. 15-38, this "German savings puzzle" is due to the fact that the older generation was surprised by the unprecedented income growth during the 1960s and 1970s and ended up being over-annuitized. Habit formation, possibly combined with capital market imperfections, then prevented them from drawing down their unexpected wealth.

loss in household wealth associated with the stock market declines after 2000 and lower real interest rates pushed up household saving while real income developments damped the increase somewhat. Analysis of household level data confirms the importance of wealth in saving decisions and also indicates that uncertainty about future income and job prospects play a role.

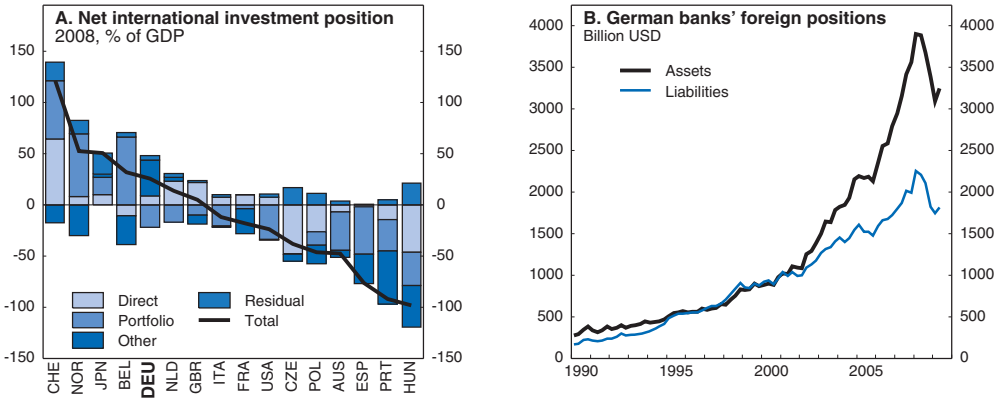
... and a reduction in the budget deficit...

A sharp reduction in the government budget deficit contributed notably from 2005 onwards to the increase in net national saving, and it was not associated with a drop in private saving. The improvement in government finances reflects substantial reductions in government expenditure after Germany came under the EU excessive deficit procedure in 2003.

... led to an improvement in the international investment position

The continuous current account surpluses since the beginning of the 2000s have turned Germany into a major creditor country. The country's net international investment position increased from around 3% of GDP in 2000 to 25% of GDP by 2008 – the sixth largest among OECD countries (Figure 1.7, panel A). To some extent this is a self-perpetuating effect as the returns on the assets have a positive influence on the current account (net factor income accounted for around 30% of the current account balance in 2007). By contrast, revaluation effects through exchange rate changes and asset prices played only a minor role.[6] Part of the capital outflows took place on the company level in the form of outward foreign direct investment, related to outsourcing activities by German companies. The stock of outward FDI increased by 50% between 2000 and 2007, with the new EU countries accounting for one-fifth of this increase. However, the largest part of the capital outflows reflected banks' net lending of capital abroad (Figure 1.7, panel B).[7] The net foreign asset position of the German banking sector has soared since 2000, reaching around 40% of GDP by 2007, the second largest share in value terms after Japan.

Figure 1.7. **Germany's international investment position**



Note: The residual is derivatives and reserve assets.

Source: BIS *Banking Statistics*, December 2009; IMF, *International Financial Statistics;* and OECD, *National Accounts Database*.

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Drawing lessons from the crisis

Safeguarding banking sector stability over the short- and long-run

The large net foreign asset position of German banks may help to explain their exposure to structured credit products linked to the US subprime market. According to Bloomberg estimates, German banks account for around 7% of global write-downs on assets related to the US subprime market.[8] Of course, there is no direct causality between capital outflows and investment in such toxic assets, as investments could also have taken place in riskless assets (even though the low interest environment induced "search for yield" behaviour). Japan is a case in point of a country with large current account surpluses and an even larger net international investment position, but with a banking system that largely avoided investments in toxic assets (OECD, 2009b). China also falls into this category even though there the central bank rather than private investors made the investment decisions. Investments in toxic assets would also have been possible with a balanced current account, for example if domestic banks issue bonds, which are bought by foreigners, and invest the proceeds in toxic assets. Overall, this indicates that macroeconomic factors do not suffice to explain the problems of the German banking sector during the crisis but that domestic microeconomic factors, which are reviewed in Chapter 4, are also playing a prominent role. Policymakers face short- as well as long-run challenges to promote financial stability. In the short-run, more active measures are needed to ensure the adequate capitalization of banks. In the longer-run, structural reforms should take place to improve the efficiency of the banking system. This includes reforming the *Landesbanken* and other measures to raise the efficiency of German banks. In addition, the deficiencies in banking regulation and supervision need to be addressed.

Removing domestic barriers to higher growth

The volatility of GDP growth over the last years – the strong upswing in 2006/07 followed by the significant downturn in 2008/09 – has drawn attention somewhat away from the mediocre underlying potential growth rate. Between 1998 and 2008, potential growth averaged around 1.2%, around 1 percentage point lower than the OECD average. With respect to GDP per capita Germany ranked only 14th in the OECD in 2008 (OECD, 2010). One important obstacle to higher potential growth are domestic growth barriers. They adversely impact growth foremost, but not exclusively, in the non-tradable goods and services sectors. The challenge going forward is to remove these barriers, thereby broadening the growth drivers and ensuring that exports remain competitive. Improving economic dynamism and increasing the attractiveness of Germany as a location for investment through structural reforms would also contribute to a reduction of external imbalances. To this end, the policy framework needs to become more conducive to innovation and structural change to allow for a broader diversification of value added and to encourage companies in all sectors to move up the value chain in order to avoid a direct competition with low-cost emerging markets. While many reforms have been put in place already, more needs to be done to boost potential growth in sectors serving domestic demand. Product market regulation needs to be eased to strengthen competition; the innovation framework needs to be improved to ensure a continuously high level of R&D spending as well as its sectoral broadening; the ongoing reform of the education system should continue so that it can supply a larger pool of highly qualified and flexible workers; and migration policy needs to become more favourable to the immigration of high-skilled

workers in order to prevent the emergence of skilled labour shortages. Chapter 5 provides an in-depth analysis of these issues.

Other areas of structural reform, which were reviewed in previous *Surveys*, are the improvement of labour market performance, notably with regard to raising work incentives for second-earners and mothers, addressing the lack of competition in network industries, ensuring the sustainability of healthcare financing and raising public sector efficiency. Annex 1.A1 reviews the progress in these areas since the last *Survey* was published.

Notes

1. The output gap in Germany widened by around 2¾ percentage points during the cyclical downturn from 2000 to 2004. André *et al.* (2007) estimate that a larger negative output gap by 1 percentage point is associated with an increase in corporate net lending by ½ per cent of GDP.
2. Corporate net lending is calculated in the national accounts by subtracting investment (and other capital expenditures) and adding net capital transfers received to gross saving. Gross saving is equal to undistributed profits plus fixed capital consumption. It is calculated by subtracting dividends paid from profits after tax. Thus, everything else equal, lower investment and higher profits raise corporate net lending while higher dividend payouts lower it. See André *et al.* (2007) for more details.
3. For the US and UK, share buybacks were increasingly used to channel funds to shareholders (since they involve the exchange of cash against equity, they do not affect national accounts gross saving while the payout of dividends would). Although share buybacks have become more common among euro area firms since the late 1990s, they still account for a smaller share of operating income than in the United States (ECB, 2007).
4. The fall in the relative price of investment goods over the long term reflects the growing importance of computers, semiconductors and software in combination with their rapidly falling prices starting in the 1980s. The implication is that firms over this period were able to increase real investment with lower nominal outlays.
5. Cross-country comparisons of the government investment ratio, however, need to take the overall relationship between the private and the public provision of investment into account. Shifts in the boundaries between public and private investment may also impact the interpretation over time. For example, the drop in Austria's public investment ratio since 1999 (to levels below Germany now) is related to the outsourcing of government real estate and highways from the government budget (Bundesbank, 2009b).
6. While the trend appreciation of the euro since the beginning of the decade had a negative effect on the net international investment position, developments in asset prices had a positive effect (Bundesbank, 2008).
7. The granting of standby credit (for example those granted by domestic banks for their foreign domiciled SIVs that invested in US structured credit products) are not included directly in the net international investment position.
8. Hans-Werner Sinn described the combination of a high trade surplus and investments in toxic assets abroad as "selling Porsches against Lehman Brothers certificates" ("Falsches Geschäftsmodell", *Wirtschaftswoche*, 22 June 2009, p. 38).

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ANNEX 1.A1

Progress in structural reform

This annex reviews action taken on recommendations from previous *Surveys*. Recommendations that are new in this *Survey* are listed in the relevant chapter.

Recommendations	Action taken
Improve labour market performance	
Reduce average effective tax rates on labour income of second earners. Consider replacing the joint income tax assessment for spouses by individual income tax assessment and consider introducing contributions for healthcare co-insurance of non working spouses.	Even though from 2010 onwards the wage tax takes into account the actual relation between the incomes of the first- and the second-earner for the calculation of the marginal burden (*Faktorverfahren*), the negative incentive effects of the joint income taxation framework for total household income remain.
Continue with plans to increase childcare places, while resisting temptations to subsidise mothers staying at home. Consider introducing a voucher system for childcare. Lower regulations for the set-up of childcare facilities to encourage more private supply.	Childcare places are being expanded significantly and a legal claim for a place in a day care facility will be introduced by 2013 (the aim is the provision of childcare places for 35% of under-3-year-olds). However, a subsidy for mothers raising their children at home will be introduced.
Consider phasing out the supplementary benefit layer between unemployment insurance benefits and unemployment benefit II (UB II). Refrain from creating a large scale secondary labour market (workfare).	No action taken.
Ease employment protection legislation for regular job contracts by replacing the court route for dismissals for economic reasons with a general severance payment.	No action taken.
If a minimum wage is deemed necessary to counter the negative effects of monopsonistic labour demand, it should be set on a nationwide basis at a sufficiently low level that will not lead to job losses (and which should be determined by an independent commission of experts).	No action taken (but it will be evaluated until October 2011 whether the existing regulations for sectoral minimum wages are harmful for labour market outcomes).
Raise employment rates for older workers by phasing out the subsidized part-time employment scheme for older workers (*Altersteilzeit*) and carefully monitor whether the lengthening of unemployment benefit duration for older workers is having adverse effects on labour supply.	The subsidised part-time employment scheme for older workers (*Altersteilzeit*) expired by the end of 2009.

Recommendations	Action taken
Improve competition in product markets	
Enhance competition in the energy sector, for example by strengthening market integration with neighbouring countries, considering stronger separation of transmission system operation and potentially competitive services, merging market areas across networks of different owners and reviewing the capacities of the regulator.	Several auction offices were founded and put into operation, thereby extending exchange capacities with neighbouring countries. Market coupling, which will further optimise market integration with neighbouring countries, is expected on the western borders for the second half of 2010. A specific regulation (Power Station Connection Ordinance) stimulates the construction of new power plants and thus fosters competition on the market for electricity generation. Enlarging generation capacities is accompanied by legislation to strengthen the grid, *i.e.* by a new *Energy Transfer Expansion Act*). This regulation also allows for increased exchange capacities as required by the internal market. In accordance with European regulation unbundling has already been implemented to a large extent. The coalition agreement envisages explicitly allowing the option of unbundling to counter uncompetitive markets.
Raise competition in the railway sector, for example by fully privatising the transport service subsidiaries while retaining state ownership of the tracks, by making tendering of regional railway services compulsory and strengthening the role of the regulator. Lower restrictions on intercity bus services.	To ensure competition on the railways, the *Third Act amending Railway Regulations* was passed to implement the EU Directives of the 1st Railway Package. This involves improvements with regard to non-discriminatory access to railway infrastructure, the structure of the railways (path allocation and infrastructure pricing independent of railway undertakings) and strengthening competition oversight. The government envisages privatizing the transport service subsidiaries while retaining state ownership of the infrastructure. In addition, it intends to liberalize intercity bus services,
Make domestic service markets in the liberal professions and crafts more open to competition by phasing out legally-set price schedules. Abolish qualification-related entry requirements in the crafts sector.	Competition has been strengthened in the chimney sweep industry.
Make health care financing more sustainable	
Improve healthcare financing, for example by making sure that surcharges are flat and not income-dependent, by tax-financing any surcharges for low income earners, by reconsidering free co-insurance of spouses and by including private insurers in the new financing system based on the central health fund.	Currently, the decision on how to design possible surcharges (flat or income-dependent) is up to the social health insurers against the backdrop of increased competition in the health system. The new government is planning to introduce employee's contributions that are independent from income, with tax financed social adjustment. A governmental commission will develop steps for a reform of health care financing in the first half of 2010.
Enhance competition based on healthcare provision, for example by ensuring a systematic and independent evaluation of the quality of new forms of care, and by monitoring whether new tariffs generate the desired savings or are used primarily to attract high income earners with low morbidity-risk.	The introduction of various elective tariffs, including new forms of health care provision, offers more choice for the insured and gives leeway for insurers' competition. The social health insurers are obliged by law to report regularly on the results of elective tariffs, notably on efficiency and savings.
Enhance competition in the pharmaceutical sector, for example by closely monitoring outcomes of enhanced possibilities for insurers to engage in rebate agreements, by replacing fixed with maximum prices, and by relaxing the requirement that pharmacies can only be owned by a pharmacist who has to work personally in one out of a maximum of four branches he/she is allowed to own.	The savings resulting from rebate agreements are reported on a regular basis in the official statistics (from July 2008). Pharmaceutical prices are not fixed by law but set by the pharmaceutical companies or negotiated between companies and health insurers. The instrument of internal reference pricing (*Festbeträge*) defines the maximum level of reimbursement by the social health insurers. The new government has announced a review of pharmaceutical regulation.

Recommendations	Action taken
Make the education system more efficient	
Increase participation in early childhood care and education and enhance its quality, for example by developing common funding standards across localities to ensure more equitable treatment of children from socially disadvantaged backgrounds and by upgrading training of educators to the tertiary level.	The federal government, the *Länder* and the municipalities have agreed on creating child care places for an average of 35% of children under three years of age until the year 2013. The Law on Child Fostering (*Kinderförderungsgesetz – KiföG*), which came into effect on 16 December 2008, intends to foster need-based and high-quality care supply for children under the age of three years. With the *Action Programme Child Day Care* (*Aktionsprogramm Kindertagespflege*), the federal government promotes the professionalization and qualification of child day care in Germany in the next years, aiming at qualifying day care mothers and fathers nationwide in accordance with the professionally recognized 160-hour curriculum. The federal government established the *Forum for Early Childhood Education* (*Forum Frühkindliche Bildung*) to support and complement the *Länder* in their educational task.
Improve teacher quality, for example by holding schools and teachers accountable for the progress of students and by making greater use of financial incentives for good teaching.	Some *Länder* have introduced performance-based elements in teachers' compensation packages.
Reduce stratification by delaying the first tracking decision until after age 10, by offering the *Hauptschule* and the *Realschule* tracks in one school type and by increasing permeability between education tracks in practice.	Some *Länder* have started to combine different tracks in one school type.
Make tertiary education more attractive and responsive to labour-market requirements by increasing universities' input flexibility and by overcoming the free-rider problem between *Länder* in the financing of university education.	Some *Länder* gave universities the right to set tuition fees. Universities are allowed to allocate 60% of all study places at their discretion.
Widen access to university, ensuring that non-academic tracks of secondary education prepare better for entry to university.	In all *Länder*, individuals who have completed a tertiary type-B programme were given the right to study all subjects at all higher education and individuals who have completed a 2-year apprenticeship were given the right to study subjects that are related to their professional qualification at all higher education institutions provided they have at least 3 years of work experience and pass an entrance exam or successfully complete a probationary period. The *Länder* are allowed to keep *Länder*-specific pathways in addition to these common ones (or introduce new ones), which have to be accepted by the remaining *Länder* after one year of successful study.
Preserve past achievements in fiscal policy and improve public sector efficiency	
Reform the fiscal rule along the lines of the Stability and Growth Pact and supplement it with multi-year expenditure ceilings.	The new constitutional budget rule, which has passed *Bundestag* and *Bundesrat* as the most important element of the second stage of federalism reform, corresponds with the provisions in the preventive arm of the Stability and Growth Pact, incorporating the principle of a balanced budget without net borrowing over the course of a business cycle.
Strengthen the decision powers of the inter-governmental Finance Planning Committee.	The Finance Planning Committee was replaced by a stability council responsible for budgetary surveillance of the federal government and the *Länder*. The council assesses the financial situation of the governments based on pre-defined indicators and can demand a proposal for fiscal consolidation from the government if the indicators point to budgetary distress.
Use economic projections from independent forecasters as the basis for fiscal targets.	No actions taken.
Consider strengthening the tax autonomy of the *Länder* by allowing them to levy a surcharge to the income tax, which would not be taken into account in the fiscal equalization scheme.	The issue of tax autonomy for sub-central government levels was discussed by the recent federalism reform commission II and rejected by the federal government and the majority of the *Länder*. It is currently not under consideration.
Go further in cutting statutory corporate tax rates and avoid differentiation of base-broadening measures by company size.	No actions taken.
Consider lowering or abolishing the local trade tax and raising real estate taxation. Do not abolish the inheritance tax.	The average municipal tax rate of the real estate tax was increased.

Recommendations	Action taken
Phase out inheritance tax advantages for small and medium-sized enterprises (SMEs).	The inheritance tax was reformed recently. Since taxation is mainly based on the status of the heirs, there are no significant special rules depending on the size of the respective enterprise. A tax exemption of EUR 150 000 for every kind of enterprise shall diminish administrative burden for the heirs as well as for the tax administration.
Phase out exemptions from energy taxes for energy-intensive industries.	Currently under investigation
Increase tax collection efficiency by considering the introduction of self-assessment of taxpayers, reviewing the current application of the reduced VAT rate and by centralizing corporate tax collection at the federal level.	A scientific study on "Legal and administrative implementation of self-assessment in the field of corporation tax and trade tax" is planned.
Re-design inter-governmental transfers so as to reduce the disincentive effects for states to develop their own tax base and tax revenue collection efforts. Compute equalisation transfer positions of the states on the basis of notional rather than actual revenue.	No actions taken.
Re-allocate administration of tax revenues, which accrue exclusively to the federal government, or are shared between the different layers of government, from the *Länder* to the federal government.	A process in this direction has been introduced for car taxation and insurance tax.

Chapter 2

Facilitating structural change and preventing long-term unemployment

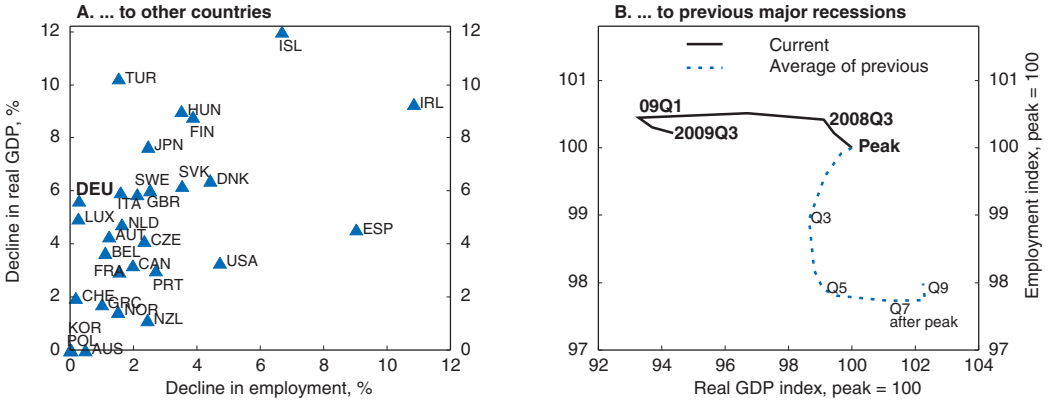
Unemployment has fallen significantly prior to the crisis, not least due to past labour market reforms, and has remained surprisingly stable during this recession – both relative to past experience and vis-à-vis *other OECD countries. This is primarily explained by more flexible working time arrangements, but the government's subsidized short-time work scheme as well as voluntary labour hoarding due to prior skill shortages also played a role. Due to strict employment protection of regular jobs the burden of adjustment so far fell on the less-well protected workers. Going forward, labour market policy needs to adjust to the likely increase in unemployment which will result as firms try to regain their competitiveness. The key challenge is to prevent the build-up of long-term unemployment and to lower the strictness of employment protection legislation for regular job contracts to better allow for structural change in the economy.*

Employment reacted with a long lag to the recession…

In the years prior to the current crisis, unemployment has fallen continuously with the number of unemployed decreasing by one-third from 2005 to 2008. While the decline in unemployment came to a halt at the end of 2008, the reaction of the German labour market to the crisis in the real economy was unusually small, both with respect to previous downturns in Germany and compared to other countries in the current crisis (Figure 2.1). The increase of the unemployment rate during this recession amounted to ½ percentage point up to the third quarter of 2009, compared with a rise by 3 percentage points in the OECD area. To some extent, this development may still reflect the extensive labour market reforms that have taken place. The reduction in the generosity of unemployment benefits through the *Hartz IV* reform (which merged the unemployment and social assistance benefit schemes) and the shortening of the duration of unemployment insurance benefit payments are estimated to have lowered the NAIRU by around ½ percentage point (OECD, 2008). This effect is spread over several years and may in 2008 still have lowered structural unemployment, thereby countering some of the adverse impact of the crisis (Boss *et al.*, 2009). One indication for such an adjustment is the further inward movement of the Beveridge curve between January 2008 and January 2009, which suggests that the matching process continued to improve.

Figure 2.1. **Germany's employment reacted slowly to the downturn**

2008Q1 to 2009Q3 compared



Note: The changes in real GDP and employment between 2008Q1 and 2009Q3 (2009Q2 for employment for CHE, POL, PRT, SWE, TUR) are calculated as (latest value minus maximum value) as a % of the maximum value. All changes are negative or zero. Pre-recession peaks are 2008Q1, 1974Q1 and 1982Q1.

Source: OECD, *OECD Economic Outlook* and *National Accounts Databases*.

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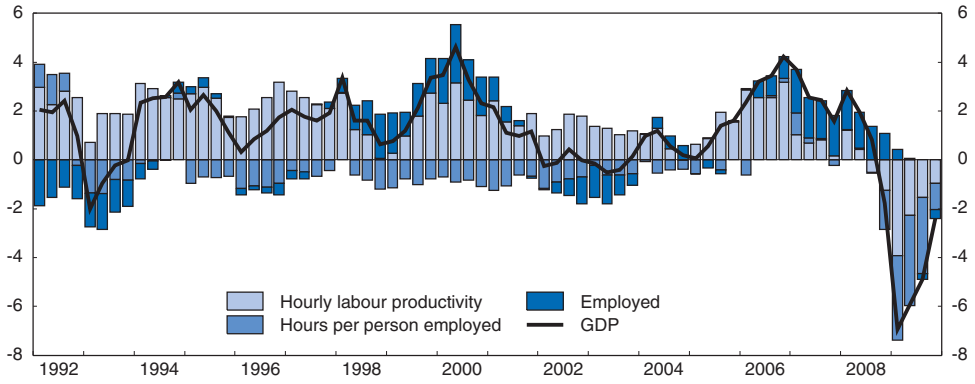
... but hours worked have been reduced significantly

More flexible working time arrangements

The focus on unemployment neglects the substantial adjustment of labour input that has taken place through a reduction in working time.[1] Hours worked per employee have fallen much more than in previous downturns (Figure 2.2). The evidence suggests that most of this adjustment during 2009 can be explained by more flexibility at the company level with regard to working hour arrangements, such as an increased use of exemption clauses from collective bargaining contracts and adjustment of working time on the company level as needed. To some extent this may reflect an increased willingness to compromise by employees as a result of the labour market reforms earlier in the decade. Such arrangements provide the opportunity to reduce working time for a defined period with a proportional reduction in wages.[2] Around 40% of the working time reduction in 2009 is accounted for by such a reduction in weekly working hours in collective wage bargaining contracts. Further factors that helped in the reduction of working time are the increased use of working hour accounts and a reduction in paid overtime (each accounting for around 20% of the decrease in hours worked in 2009). In 2005, one-third of all companies (covering half of all employees) had established working hour accounts. By contrast, in 1998 only one-fifth of all companies and one-third of employees were using such accounts. The manufacturing sector is a pioneer in this regard with almost 60% of employees having such accounts.

Figure 2.2. **Working hours and hourly productivity have fallen**

Decomposition of GDP annual growth, %



Note: Growth in real GDP is decomposed into growth in labour productivity, employed and hours worked using the identity $gdpv = [gdpv/hrs][hrs/emp][emp]$ in logarithmic difference, where *gdpv* is real GDP, *hrs* is total hours worked by all employed and *emp* is total employed. Data is seasonally adjusted and employment and hours are according to the domestic concept.

Source: OECD Secretariat based on OECD, *National Accounts Database*.

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The extension of the short-time worker scheme has prevented lay-offs...

A second factor, which contributed around a quarter to the reduction in working time in 2009, is the wide-spread use of the short-time working scheme.[3] With this scheme, the Federal Employment Agency, under certain conditions, subsidizes part of the foregone income of employees if a company reduces working time for economic reasons. Firms use short-time work as long as opportunity costs of dismissal and rehiring in the next upswing

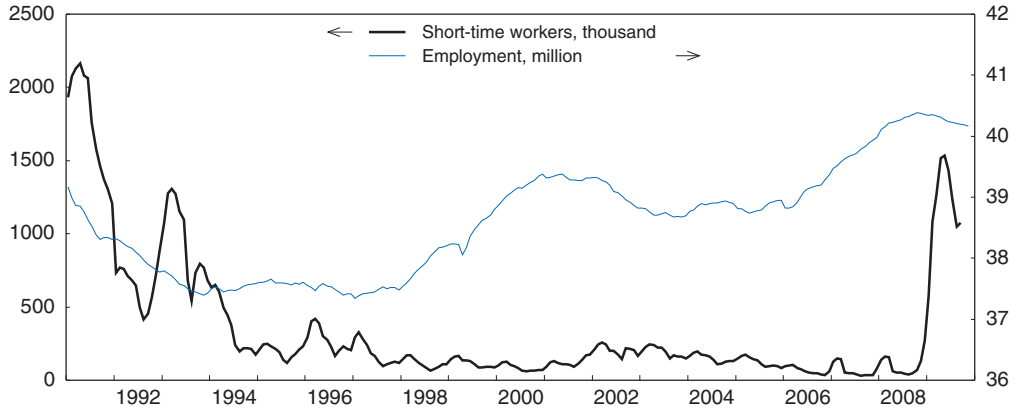
are higher than the costs of current labour hoarding via short-time work. The aim is to prevent "excessive" layoffs, *i.e.* dismissal of workers due to temporary difficulties of the company even though the jobs would be viable in the long run. As part of its fiscal stimulus programme the government eased the prerequisites for short-time work, lengthened the duration of entitlement and reduced the costs for companies (Box 2.1). In the recession, the number of short-time workers jumped to around 1.5 million at the peak in mid-2009, similar to the levels reached during the recession in 1993 (Figure 2.3).[4] On average, the reduction in working time per short-time worker amounts to one third. Thus, during the summer of 2009 the use of short-time work schemes prevented roughly 500 000 lay-offs, preventing a rise in the unemployment rate by around 1 percentage point.

Box 2.1. **The German short-time worker scheme and recent changes**

The subsidy scheme for shorter working hours is meant to reduce the labour costs of companies that are in temporary distress. Companies are eligible for the subsidy if they face a major drop in orders due to economic reasons or extraordinary events, provided the drop in orders is temporary in nature.[1] At least one-third of the employees must lose more than 10% of their gross wage for the company to be eligible, though this condition is suspended from February 2009 to December 2010 (instead, the subsidy can only be paid to employees who lose more than 10% of their gross wage). The scheme can only be introduced if it is agreed in a collective agreement, a company agreement or the working contract of the individual employee. If a works council is active in the company it also has to agree to the implementation of the scheme. Employees participating in the scheme have to accept a cut in their monthly income, as the state only pays 60% of the foregone net wage (67% if the employee has children).[2] Short-time working compensation is paid to employers who must transfer it to employees. Employees remain insured in the social security system as the companies continue to pay their part of social security contributions and the employees' part on 80% of the foregone salary.[3] As part of the government's fiscal stimulus programme, 50% of the social security contributions paid by the employer (100% if the employee is in a non-firm-specific training measure) are reimbursed by the labour office in the first six months and no social security contributions have to be paid after 6 months; these measures expire at the end of 2010. The maximum duration of eligibility is generally limited to 6 months, though it has recently been extended to 24 months for all employees who become eligible before the end of 2009, and to 18 months for those who become eligible afterwards but before end-2010. This allows employers to use the scheme until mid-2012, at least for those workers who start short-time work in December 2010 (but the costs for employers are higher from 2011 onwards as social security contributions will no longer be reimbursed). Since end-2008, the scheme may also be used for workers employed by temporary work agencies.

1. Apart from economic reasons, short-time work may be applied by companies due to seasonal effects (*e.g.* construction companies in winter; so-called seasonal short-time work) or during periods of restructuring (so-called transfer-short-time-work).
2. Some collective agreements stipulate that the benefits paid by the labour office are to be extended by the employer.
3. This relates only to contributions for health- and long-term care insurance as well as pension contributions. Contributions to unemployment and accident insurance do not have to be paid (Bach and Spitznagel, 2009).

Figure 2.3. **Employment and short-time workers**



Note: Short-time workers refers to workers with reduced working time (short-time work for economic reasons, due to restructuring and seasonal short-time work). The series is not seasonally adjusted. Employment is according to the domestic concept and is seasonally adjusted.

Source: Statistisches Bundesamt Deutschland, *Statistik der Bundesagentur für Arbeit.*

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Even though firms' labour costs are reduced through short time work, the reduction is not one-to-one to the decrease in working time. This is because firms have residual overhead costs of employment. For example, wage bargaining agreements often entail some topping up of short-time work transfers paid by the Federal Employment Agency (or prevent a further reduction in salary below a certain floor, even if working time is reduced by more) or have other forms of salary guarantees. Also, indirect labour costs, such as social security contributions on the foregone part of the employee's income, other costs like special payments regulated in wage agreements, and paid annual or sick leave all add to the wage bill. These indirect costs are not reduced during short-time work as they are dependent on the existence of an employment relationship and not the actual working time. Bach and Spitznagel (2009) estimate that these residual overhead costs during short-time work amount to between 24% and 35% of the gross hourly labour costs, depending on the extent of the government's subsidization of social security contributions. Without the subsidization of social security contributions in the government's fiscal stimulus package, the residual costs are estimated to amount to between 46% and 59% of gross hourly labour costs.

... but may also hamper structural adjustment

While in general, short-time work schemes can promote equity (by letting all employees work less rather than laying off a few and letting the others continue to work full-time) and efficiency (by preventing transitory factors from destroying valuable job matches), they may also lead to displacement effects (OECD, 2009a). These occur if the programme ends up supporting unviable jobs. One indication that this may partly be the case in Germany is the large share of short-time work in the car industry, which is well known to suffer from overcapacity (OECD, 2009b).[5] There is thus a trade-off between the immediate concern of supporting existing jobs and the longer-term objective of facilitating the reallocation of jobs and workers towards the most productive firms and sectors.

Subsidising training while workers are on short-time does not change the picture that a short-time worker scheme is protecting jobs but not workers.[6]

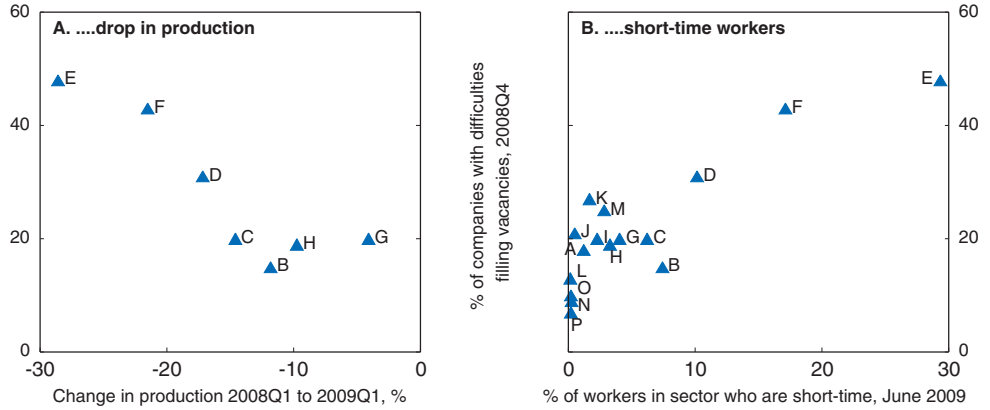
It is very difficult to assess *ex ante* whether economic difficulties are only temporary and the jobs are viable after the subsidy ends. It is therefore essential to preserve strong incentives for workers and firms to leave subsidised short-time work programmes at the earliest opportunity. In this regard, a further prolongation of the extended generosity of the scheme beyond the originally legislated date should be avoided. A further option to improve incentives under the scheme would be to require employers to repay some of the short-term benefit paid to the employee if workers are laid off in the period that follows the end of short-time work. This safeguard is used for a similar short-time work scheme in the Netherlands. Also, the duration of the subsidy should be limited and employers should participate in the costs. One way to maintain search incentives for workers on short-time is to taper the replacement rate paid to the worker over time. The authorities should closely monitor the effects of the extension of the maximum duration of short-time work to 24 months (18 months for those who started short-time work in 2010) and the lowering of the costs to firms to ensure the scheme does not inhibit necessary structural change. In this respect, the generous refunds of the social contributions paid for hours not worked should be reviewed. It is not clear, for instance, why social insurance rights (notably pensions) must continue to accrue also for hours not worked. This amounts to an implicit subsidy that comes on top of the short-time work benefit paid.

Labour hoarding also due to prior skill shortages

Even after taking into account the substantial reduction in hours worked, hourly labour productivity still fell significantly, indicating that firms voluntarily hoarded labour to a larger extent than in previous recessions. One explanation for this behaviour relates to difficulties in finding qualified labour. Firms take into account the costs of hiring new employees in the next upswing and weigh these against the cost savings they could have now by laying off employees. In this regard, it is noteworthy that during the previous upswing, several sectors experienced a shortage of skilled labour. This related foremost to some manufacturing sectors where up to one half of companies said they were experiencing difficulties in filling vacancies in the final quarter of 2008, mostly because of skill shortages (Heckmann *et al.*, 2009).

During the crisis, those sectors that suffered the largest output declines tended to be those that were experiencing labour shortages before (Figure 2.4, panel A). This may help to explain why companies are hesitant to lay off workers even if production levels are still low. Consequently, those firms also tended to be those that make most use of the short-time work scheme in view of potential problems in finding qualified staff during the next upturn (Figure 2.4, panel B). Not least, such behaviour reflects restrictions regarding the immigration of skilled labour into Germany (Chapter 5). Lifting these restrictions would arguably make it easier for firms to adjust their employment across the business cycle, thereby lessening the need to hoard labour.

Figure 2.4. **Sectoral labour shortages**



Note: Sectors are A. Agriculture, forestry and fishing; B. Manufacture of food products, wearing apparel, textiles, furniture; C. Manufacture of paper, print; D. Manufacture of chemicals and chemical products; E. Manufacture of basic metals and fabricated metal products; F. Manufacture of machinery and equipment, electrical equipment, motor vehicles; G. Mining and quarrying; H. Construction; I. Wholesale and retail trade; J. Accommodation; K. Transport, information and communication; L. Financial and insurance activities; M. Business services; N. Other private and public services; O. Social services; P. Public administration.

Source: Heckmann, M., A. Kettner and M. Rebien (2009), "Offene Stellen im IV. Quartal 2008: Einbruch in der Industrie – Soziale Berufe legen zu", *IAB Kurzbericht*, No. 11; Statistisches Bundesamt Deutschland, *Bundesbank and Bundesagentur für Arbeit*.

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Strict employment protection increases the risk of labour market duality

A serious and long-standing structural labour market weakness is strict employment protection legislation (EPL). Germany ranks 9th among the 30 OECD countries in terms of the overall strictness of EPL (Figure 2.5, panel B).[7] The strictness of overall employment protection legislation is primarily due to the regulation of regular job contracts, which is one of the strictest among OECD countries, at least for companies with more than 20 employees.[8] By contrast, protection of temporary contracts is around average, primarily reflecting relatively light protection of fixed term contracts, while protection of temporary agency contracts is more in line with that of other countries. In 2008, the difference between regulation of regular and temporary work contracts was one of the largest among OECD countries, primarily reflecting significant deregulation of temporary work since 2000 and slightly stricter regulation of regular work contracts over the same period.

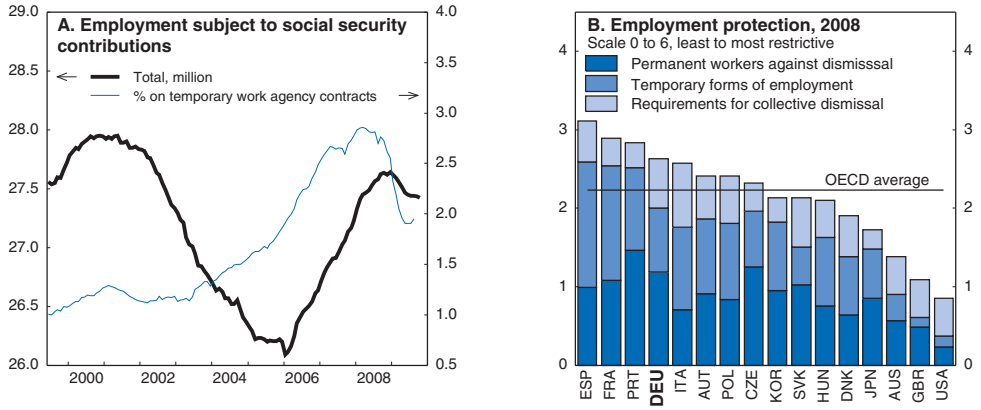
An important consequence of the increased divergence between regulation of permanent and temporary workers has been the growing importance of temporary workers in total employment. The share of temporary workers has risen from 12.7% in 2000 to 14.6% in 2008, while in the average OECD country the share rose from 11.6% to 12.3% over the same period. Temporary employment is thus rapidly gaining ground. For example, in the year 2007, almost half of all recruitments were done on a temporary basis; for companies with more than 250 employees, the share even amounted to two-thirds (Hohendanner and Gerner, 2010). This experience is in line with evidence showing that the strictness of regular EPL is associated with a larger incidence of temporary employment and negatively related to the transition rate from fixed-term contracts to permanent employment (Grubb *et al.*, 2007; OECD, 2004).

The downturn shows features of growing labour market segmentation…

One of the consequences of such an evolving labour market duality has been the divergent development of regular and temporary agency workers during the crisis. While

the number of overall employees subject to social security contributions fell by half a per cent in the year to August 2009, the number of workers on temporary work agency contracts declined by almost 30% (but has since recovered somewhat since then), even though such workers are also eligible for short-time work. Around half of temporary work agency contracts had durations of less than 3 months (Bundesagentur für Arbeit, 2009). This is a typical reaction: among OECD countries, the business cycle sensitivity of total hours worked is 2.5 times higher for temporary than for permanent workers (OECD, 2009a). Temporary work agency contracts rose sharply in the upswing, reflecting far-reaching liberalisation (OECD, 2008), but still peaked at only 3% of employment subject to social security contributions (Figure 2.5, panel A).

Figure 2.5. **Temporary agency workers and EPL**



Note: The time series for temporary work agency workers has been seasonally adjusted using Census X12. For France and Portugal, employment protection data refer to 2009.

Source: Bundesagentur für Arbeit; Bundesbank; IW-Zeitarbeitsindex; OECD, *Indicators of Employment Protection*, *www.oecd.org/employment/protection*.

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... which may adversely affect labour market outcomes over the long term

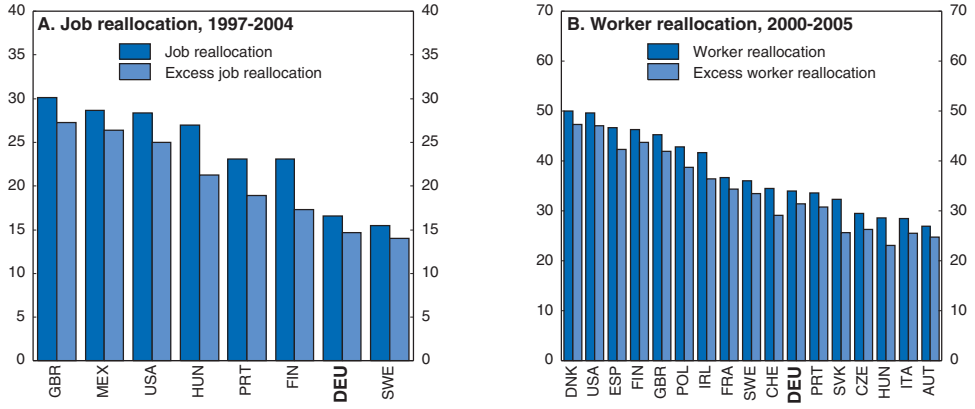
The benefits of enhancing overall firm flexibility notwithstanding, temporary work may adversely affect career progression and productivity if workers get trapped in temporary forms of employment. Countries with a large difference in regulation between regular and temporary work contracts are at risk of developing a dual labour market, as has occurred in Spain and Japan, which disadvantages those at the margin of the labour market. Apart from being socially unjust, such a development is also harmful for long-run economic development as workers on fixed-term contracts are less likely to develop skills, often because companies are less willing to invest in training short-term staff. Moreover, it is primarily the low-skilled that take up temporary employment: of all employees with atypical work contracts, more than one-third do not have vocational training and only 15% have a tertiary degree.[9] This is counterproductive in view of the fact that the relative demand for skilled labour is increasing (Chapter 5). There is also the risk that temporary workers remain stuck in precarious contracts, in particular if companies use temporary workers to circumvent strict employment protection legislation for regular work (Hohendanner and Gerner, 2010).[10] According to business surveys, German companies would prefer a lowering of regular EPL rather than a further easing of the restrictions for temporary work contracts.[11] With this background, it is unfortunate that the government

envisages a further liberalisation of temporary work contracts while planning to leave regulation of regular work contracts unchanged. In particular, it is envisaged to allow temporary work contracts (after a waiting period of one year) also in those cases where the employee has worked in the company at an earlier time.

Strict EPL hinders economic adjustment

Strict EPL also hinders economic adjustment by protecting existing jobs and thereby helps to conserve existing industrial structures. In this regard, it is noteworthy that labour reallocation is fairly low in Germany. Both job reallocation (the sum of job creation and job destruction) and worker reallocation (the sum of hiring and separations) are much higher in other OECD countries (Figure 2.6). Empirical cross-country evidence tends to find a negative relationship between job reallocation and the degree of EPL (OECD, 2009a; Wolfers, 2005).[12] This may be one reason why OECD countries with stricter EPL tend to have more persistent output gaps, *i.e.* it takes them longer to return to potential growth rates in the aftermath of shocks (Duval *et al.*, 2007).

Figure 2.6. **Job and worker reallocation rates, %**



Note: Job reallocation is the sum of job creation and job destruction between t-1 and t, worker reallocation is the sum of hirings and separations between t-1 and t, excess job reallocation is job reallocation minus absolute net employment growth and excess worker reallocation is worker reallocation minus absolute net employment growth. All flow measures are divided by the average of employment in –1 and t. The displayed rates are estimated averages which account for differences in industry composition across countries. Job flows: Germany: 1997-98; Finland: 1997; Hungary: 1998-2000; Portugal: 1997; Mexico: 2000; Sweden: 1997-2003; United Kingdom: 1997-98; United States: 2001-04. Worker flows: Czech Republic: 2002-05; Ireland: 2000-03; Poland: 2004-05; Slovak Republic: 2003-05; Switzerland: 2002-07; United States, 2000, 2002 and 2004; other countries: 2000-05.

Source: OECD, *OECD Employment Outlook 2009*.

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Options to lower the degree of EPL for regular workers

Several features of the German EPL system contribute to its strictness relative to those of other OECD countries (Table 2.1):

- Notification procedures – the works council (if one exists) must approve dismissals, and if it does not, the employer has to wait for a decision by the Labour Court. Germany is the only OECD country where such a procedure exists.[13] This process adds to the delay before the notice period can start, which at 16 days for Germany is around twice as long as the OECD average of 8.5 days.[14]

Table 2.1. **Components of the OECD employment protection legislation indicator**

Regulation of…		Score on a scale from 0 (least restrictions) to 6 (most restrictions)		Rank of Germany among OECD countries
		OECD average	Germany	
Regular contracts	Notification procedures	2.8	5	30
	Delay involved before notice can start	1.1	2	19
	Length of notice period at 9 months of tenure	2.6	3	13
	Length of notice period at 4 years of tenure	2.6	2	7
	Length of notice period at 20 years of tenure	1.6	4	28
	Severance pay at 9 months of tenure	0.8	1	24
	Severance pay at 4 years of tenure	1.5	2	19
	Severance pay at 20 years of tenure	1.3	2	22
	Definition of justified or unfair dismissal	1.4	4	24
	Length of trial period	4.2	3	4
	Compensation following unfair dismissal	2.1	3	18
	Possibility of reinstatement following unfair dismissal	2.6	3	18
	Maximum time to make a claim of unfair dismissal	2.4	1	2
Fixed term contracts	Valid cases for use of fixed-term contracts	1.6	0	1
	Maximum number of successive fixed-term contracts	2.4	2	12
	Maximum cumulated duration of successive fixed-term contracts	1.1	1	13
Temporary work agencies	Types of work for which temporary work agency employment is legal	1.4	1.5	17
	Restrictions on number of renewals of temporary work agency contracts	2.9	4	17
	Maximum cumulated duration of successive temporary work agency contracts	1.5	0	1
	Authorisation and reporting requirements for temporary work agencies	3.0	6	18
	Regulations requiring equal treatment of regular and agency workers	3.7	6	14
Collective dismissals	Definition of collective dismissal	4.2	6	24
	Additional notification requirements for collective dismissals	3.8	3	6
	Additional delays involved before notice can start for collective dismissals	1.8	3	20
	Other special costs to employers of collective dismissals	1.7	3	16

Note: The OECD average is unweighted. A higher rank in the last column denotes a stricter protection. For more complete description and details on the scoring methodology, see *www.oecd.org/employment/protection*.

- The notice period for workers with long tenure is fairly long; for example, 7 months for workers with 20 years of tenure, compared with an OECD average of 3 months.
- Compensation for unfair dismissal is high – 18 months of salary for a worker with 20 years of tenure compared with an OECD average of 12 months. Many countries just give compensation equal to back pay while the court considers the case (typically 6 months). Similarly, according to the World Bank *Doing Business Survey*, redundancy costs are among the highest in the OECD.

Efforts to lower the strictness of EPL for regular work contracts should thus concentrate first on reducing the administrative burden of regular layoffs, notably by shortening the time period it takes to complete the necessary procedures. The notification period should be shortened, for example by reforming the requirement that the works council approves dismissals. For workers with a long tenure, the notice period should be reduced.

Reforms are also needed to lower the incentives for employees to file a lawsuit against dismissal as Germany stands out with one of the largest number of dismissal cases that are contested in court among OECD countries (with around 6 cases per 1 000 workers, against less than 2 in most other OECD countries). More than 80% of cases are resolved in conciliation, settled or otherwise withdrawn, usually in return for an additional payment (Venn, 2009). The government tried to tackle this issue in 2004 by specifying the amount of severance payments if the firm dismisses the worker for economic reasons. The aim of the

legislation was to reduce the incentive of the dismissed workers to file a lawsuit against the dismissal in return for a severance payment. However, Jahn (2008) shows that this reform had no effect on the probability of receiving a severance payment for workers and thus did little to reduce the legal uncertainty that employers face. She argues that it only raised the bargaining power of workers as they may still chose to go to court knowing that the legislatively guaranteed severance payment is likely to be a lower bound for the settlement. The high average actual level of compensation payments compared with the OECD average shows that this strategy is usually successful.

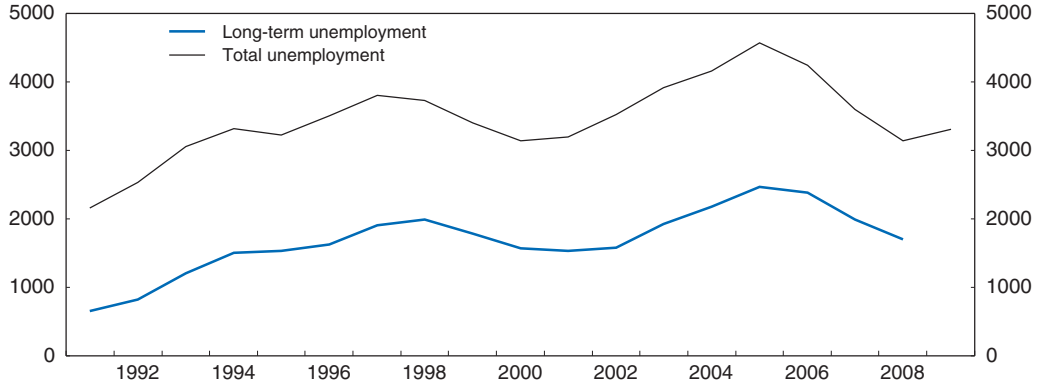
In order to simplify the dismissal procedure the government should consider implementing a reform that entails replacing the court route for dismissals for economic reasons with a specified dismissal payment, making that the dismissal process more transparent and less uncertain (OECD, 2008). Such a regime would leave it up to the companies to choose whether to pay severance payment (and risk the employee challenging the decision in court) or to pay a higher dismissal payment (in effect, admitting that the dismissal is unfair) without leaving the court route open for employees (Jahn, 2005). It would truly reduce the legal uncertainty compared with the status quo. Spain introduced a similar scheme in 2002, which allows employers to effectively admit that a dismissal was unfair from the outset and pay unfair dismissal compensation at the time of dismissal. Even though the initial costs to the employer can be more than double (compared with severance pay), 75% of dismissals are now settled in this way, suggesting that employers seem to be willing to pay a higher price to avoid the cost and uncertainty of court proceedings (Venn, 2009).

Preventing the build-up of long-term unemployment

Even though employment has held up well, unemployment may still increase sharply, in particular if the upswing proves weak and firms ultimately adjust their workforce. Recent projections suggest that unemployment could rise by more than half a million in 2010 (equivalent to an increase in the unemployment rate by 1 percentage point). Labour market policy thus needs to prepare for such an outcome and the challenge will be to avoid many of the dismissed workers slipping into long-term unemployment as happened in the past (Figure 2.7). This may require rethinking the activation policies of past years. While

Figure 2.7. **Long-term and total unemployment**

Thousand persons



Note: Long-term unemployment is persons unemployed for 1 year or more. Total unemployment is based on the ILO concept.

Source: OECD, *Labour Force Database*; Statistisches Bundesamt Deutschland.

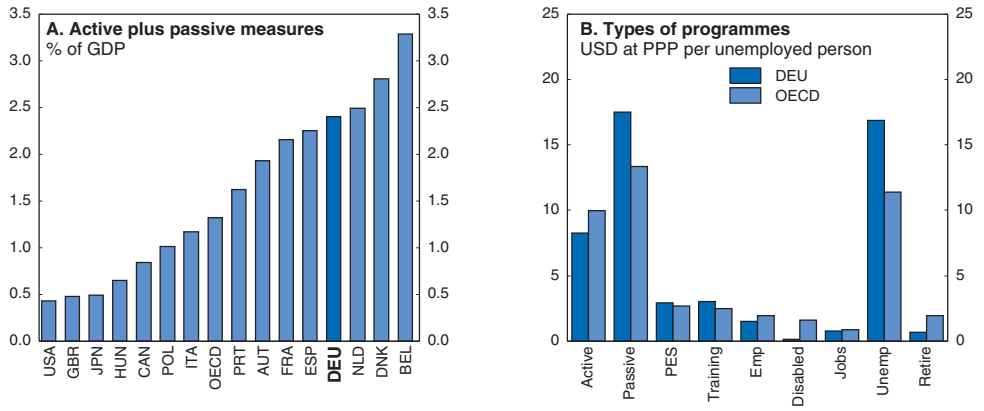
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raising incentives for the long-term unemployed was the main issue from the start of the decade, efforts now have to concentrate on the inflow of short-term unemployed which may require further adjustment of the available tools. The law for the reorientation of labour market policy instruments (*Gesetz zur Neuausrichtung der arbeitsmarktpolitischen Instrumente*) in late 2008 was a helpful step in this regard as it gave labour offices more freedom in adapting available tools to the specific circumstances of individual unemployed.[15]

Spending on labour market programmes is skewed towards passive measures

In 2007, Germany spent around 2½ per cent of GDP on labour market programmes, almost twice the OECD average, reflecting in part the larger number of unemployed (Figure 2.8, panel A). Compared with the average OECD country, spending per unemployed is skewed towards passive measures (Figure 2.8, panel B). Overall, benefits for unemployed are slightly higher than in other OECD countries. Net replacement rates during an unemployment spell on a five-year average (unemployment benefits, cash housing-related benefits and social assistance, taking into account different family types and two earnings levels) amount to 63% of average wages in Germany. This compares with a median value of 60% among OECD countries (OECD, 2009a). By contrast, spending on early retirement programmes is lower thanks to substantial reform in that area (OECD, 2008).

Figure 2.8. **Spending on labour market programmes, 2007**



Note: Spending per unemployed person for country C is adjusted for national income by multiplying by the ratio of per capita GDP, USA/country C. PES, Emp, Unemp and Retire refer to public employment service, employment incentives, unemployment benefits and early retirement respectively. Refer to source for details of concepts and methodology.

Source: OECD, *OECD Employment Outlook* (2009).

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While it is important to alleviate hardship through income support during and after a recession, it will be equally important, as the recovery gains steam, to encourage and assist jobseekers in finding new work and increasing their long-term employability. This is particularly so because steep recessions go hand in hand with structural change which requires adaptation of skills. This suggests an expansion of the funds available for active labour market programmes (ALMP) is warranted, even though in past recessions spending on ALMP was not increased proportionally (OECD, 2009a). Rather than increasing spending overall, however, focus should be put on those measures that have been proven successful

in the past, and where a successful impact is to be expected in this particular recession. Evaluation studies suggest that effective job search assistance schemes promise high returns, notably over the short term, whereas more care must be used in employing other measures (OECD, 2009a; Card *et al.*, 2009).

Intensifying job counselling and placement should be the priority…

The government started to address reintegration of labour by including higher spending on public employment service (PES) staffing and for training measures in the fiscal stimulus programmes. Close monitoring should be given to whether the additional funds are sufficient to maintain the case load per PES worker in view of a rising number of unemployed. A lower number of unemployed per caseworker is generally seen as being associated with better labour market outcomes (Hainmüller *et al.*, 2009; Schiel *et al.*, 2008). Job search assistance is important, because while jobs are being created even in recessions, matching potential candidates with suitable vacancies becomes more difficult.[16] In this context, fostering regional labour mobility is an important part of job search assistance going forward and may require intensifying the use of mobility allowances paid to jobseekers. Increased reliance on private-sector employment service providers could help to avoid bottlenecks in activation services, but service contracts need to be designed to reward good outcomes and minimise cream skimming (provider fails to enrol disadvantaged clients) and artificial manipulation of outcome measures (OECD, 2005).

… and requires institutional reforms of the Public Employment Service

Effective job counselling depends crucially on the institutional setup. Currently, the administration of job-search assistance for the long-term unemployed, unemployment benefit II (UBII) recipients, is shared in most regions between the regional offices of the Federal Employment Agency (dealing with benefit payment and job search activities, accounting for 80% of UBII costs) and municipalities (responsible mainly for housing benefits). However, the constitutional court ruled already in December 2007 against this mixed administration and required a reform by end-2010 (Box 2.2). Uncertainty over the future design of the UBII administration since then has led to loss of staff, and resources that could have been used for job counselling are instead occupied by restructuring. A rapid decision and implementation of a reform is essential in order to maintain the services provided to the currently long-term unemployed but also to deal with the likely future inflow of newly unemployed that drop out of the unemployment insurance system into the unemployment benefit II scheme.

The coalition agreement envisages to change the constitution in such a way that the procedures for the benefit recipients change as little as possible in order to ensure that the basic principle of the one-stop shop remains in place. Even though little systematic research is available to clearly favour one institutional setup among the options, preserving the prior arrangement as best as possible seems a sensible way going forward for two reasons. *First*, a recent evaluation study found that in those municipalities in which the Federal Employment Agency was not involved in the administration of UBII recipients (in the so-called "option municipalities"; Box 2.2), the integration of benefit recipients into the labour market and the ending of benefit dependency was working less well than in those municipalities where the administration was shared between municipalities and the Federal Employment Agency (ZEW *et al.*, 2008).[17] This evidence thus argues against assigning the sole responsibility to municipalities and in favour of co-operation as neither

Box 2.2. **The organisational setup of job counselling for UBII recipients**

The labour market reform that was enacted in 2005 (*Hartz IV reform*) replaced the previous social assistance and the unemployment assistance benefit scheme with the unemployment benefit II scheme (OECD, 2008). The scheme is administered jointly by the municipalities (responsible for housing benefits, one-off payments and special counselling measures) and the Federal Employment Agency (responsible for benefit payments, apart from housing, and job counselling). Three types of organisations were set up at the local level in 2005:

- *Jobcentres* (joint associations, *Arbeitsgemeinschaften or ARGEn)*: In 350 municipalities, the administration of UBII recipients is done jointly by the Federal Employment Agency and the municipality (within a jobcentre) using funding from both administrative layers (their number increased to 354 until September 2009). This set-up arguably comes closest to the *Hartz Commission's* intention to give responsibility for all jobseekers to one institution.
- In 19 municipalities, both the Federal Employment Agency and the municipality offer their services separately without a joint jobcentre (*getrennte Trägerschaft*). Until September 2009, their number had increased to 23.
- *Option municipalities (Optionskommunen* or *zugelassene kommunale Träger)*: In 69 municipalities, municipalities are offering the services themselves with the Federal Employment Agency tackling only the unemployment insurance benefit (UBI) recipients. This option was the outcome of a compromise in the second chamber of Parliament, as the government envisaged assigning responsibility for UBII policies to the Federal Employment Agency while a majority of states wanted to assign it to the municipalities. The maximum number of such option municipalities was limited to 69. While the "option municipalities" pay for UBII benefits, they are partly compensated out of the federal budget. This model was to expire in December 2010, but the coalition agreement envisages prolonging it indefinitely.

In December 2007 the constitutional court ruled that jobcentres, because of their "mixed administration" (*Mischverwaltung*), are unconstitutional because this arrangement cannot guarantee that both institutions (municipalities and the Federal Employment Agency) take independent decisions as required by the constitution. Also, under this arrangement it was not transparent which institution had the responsibility for the fulfilment of public duties. The constitutional court required the current setup to be reformed by end-2010 at the latest.

The available options after the court ruling are now to give sole responsibility to either the municipalities or the Federal Employment Agency, to legalise the mixed administration (possibly requiring a change in the constitution) or to organise the administration separately as is currently done in 23 municipalities (*getrennte Trägerschaft*).

the Federal Employment Agency nor the municipalities have the full expertise to cover all benefit and activation measures for the rather heterogeneous group of UBII recipients (which go beyond simple labour market measures and include social integration measures).

Second, the current government's plan to continue the provision of integrated services follows the trend in the OECD to provide "one-stop shops" or service centres for benefit recipients and job seekers, though to different extents. Examples include the integration of benefit administration and employment services into a single agency (Work and Income)

in New Zealand in 1998 and the Labour Force Service Centres (LAFOS) in Finland (OECD, 2005; Tergeist and Grubb, 2006; Duell *et al.*, 2009).[18] However, the provision of services "under one roof" does not automatically lead to better outcomes, in particular if constitutional reasons set limits for the scope of co-operation. For example, the different institutions involved may have different objectives or misaligned incentives, leading to the risk that some actors will adopt labour market policies that are not geared toward improving employment outcomes (Immervoll, 2009). Thus, much depends on the concrete implementation of the government plans in order to reduce such risks.

Training may be more effective in this recession

When deciding on which other active labour market programmes (ALMP) to focus on, apart from job counselling, it should be noted that their effectiveness may be different in a recession than under normal circumstances. In this regard, an expansion of training programmes may be a desirable option. Germany has significantly reduced its spending on training over the past years, moving towards the lower OECD average. The reduction in spending in part reflects that the efficiency of training programmes in "normal times" is viewed controversially, notably because of lock-in effects. These concerns may be of less importance in a recession where the number of job vacancies per jobseeker declines and thus the opportunity costs of human capital investment are lower, even though the evidence for such effects is small (Lechner and Wunsch, 2009). In addition, this recession is associated with structural change, which may require more re-training of unemployed than in other downturns. In this regard, the scaling up of funds spent on vocational training and re-training in the government's stimulus programmes is a useful step. The effectiveness of training measures depends to a large degree on the type of training. For example, measures that enhance the general skills of the participant (*e.g.* by focussing on IT knowledge or foreign languages) tend to result more often in the take-up of a regular job than measures that improve the job application skills of the unemployed or a combination of different measures (Kopf and Wolff, 2009).

Hiring subsidies should be targeted

ALMP options also include measures on the labour demand side, such as hiring subsidies. The main advantage of hiring subsidies is that they concentrate on newly created jobs and thus are more cost-effective than "stock" subsidies (like general reductions in social security contributions). Such measures may be helpful for groups of unemployed that have problems on the labour market and whose chances to find a job are particularly bad in a recession. In Germany, the Federal Employment Agency may grant such a subsidy (*Eingliederungszuschuss*) for disadvantaged persons for up to 12 months and this measure is generally seen as effective in bringing these persons back to work (Ruppe, 2009). Also, employers who hire long-term unemployed with particular difficulties finding a job have received a special subsidy since October 2007. Making hiring subsidies proportional to *net* employment changes instead of *gross* hiring (marginal stock subsidies) would help to minimise the adverse effects such subsidies may otherwise have. Such adverse effects include hiring workers only for the duration of the subsidy ("churning") or the replacement of existing workers by subsidized hires ("revolving-door effect"). By imposing on employers to keep an employee for whom they received a hiring subsidy employed for one year or at least the same number of months that were previously subsidised, such effects are to some extent avoided in Germany.

Box 2.3. **Recommendations regarding the labour market**

Short-time work scheme

- Closely monitor the effects of the extension of the maximum duration of short-time work and the lowering of the costs to firms, to ensure the scheme does not inhibit necessary structural change. Avoid a further prolongation of the exceptional subsidization of the costs of short-time work beyond the originally legislated date.
- Consider improving incentives under the short-time work scheme by requiring employers that join the scheme from now on to repay some of the short-term benefit paid to the employee if workers are laid off in the period that follows the end of the short-time work. Also consider to taper the replacement rate of the short-time work benefit paid to the worker over time to maintain search incentives for workers.

Easing employment protection legislation

- Consider shortening the period before a dismissal notice can be given, for example by reforming the requirement for the works council to approve dismissals while preserving the important consultation mechanism on the company level.
- Also consider to reduce the notice period for workers with a long tenure.
- In case of dismissals for economic reasons, employers should be given the right to choose between paying a severance payment (while leaving the court route open for employees), in line with current regulation, or paying a higher unfair dismissal compensation which would replace the court route.
- Rethink the further liberalisation of fixed-term contracts envisaged by the coalition agreement in order to lower the risk of dualisation on the labour market.

Active labour market policy

- Monitor whether adequate job counselling and placement capacities are available to deal with the inflow of new unemployed. More intensive use of other active labour market instruments (training, hiring and mobility allowances) may become necessary in case of a marked deterioration of the labour market. Reform the administration of the basic income scheme for jobseekers (recipients of unemployment benefit II) quickly as required by the constitutional court's ruling. Any reform should be implemented in such a way that the procedures for the benefit recipients change as little as possible to ensure that the basic principle of the one-stop shop remains in place.

Notes

1. In addition, firms have accepted a sharp fall in employees' hourly labour productivity, which is very unusual when looking at historical developments. Hourly labour productivity had never hitherto fallen in recessions since 1970, when data became available (Bach *et al.*, 2009).
2. The prototype of a working time arrangement to protect employment was the 4-day working week of Volkswagen in 1994 (Koch, 2001).
3. The sum of the contributions of the different factors to the decrease in working time adds up to more than 100% due to other factors that increased working time during 2009, such as a fall in sickness absence.
4. Over the year 2009 as a whole, on average 1.06 million employees worked short-time due to economic reasons.
5. In June 2009, the share of short-time workers in all employees amounted to 19.1% in the car industry, the second-highest share after manufacturing of basic metals and fabricated metal products (itself a major input to the car sector) with a share of 26.2%. The average share in

manufacturing was 16.9% (Bundesagentur für Arbeit, *Inanspruchnahme von Kurzarbeitergeld*, October 2009).

6. German companies get full relief of the social security contributions they pay on the part of the employees' salary that is lost due to short-time work in case the employee is taking part in a training measure (by contrast, if the employee is not in training, full relief of the social security contributions is only provided after 6 months). However, it should be noted that this only applies if the training measure is not related to acquiring company-specific knowledge.

7. The EPL indicator was almost unchanged between 2003 and 2008 as a relaxation for temporary contracts (increase in the allowable duration of fixed-term contracts for employers launching a new business or hiring older unemployed) was offset by stricter regulation of regular work contracts (introduction of a legislated severance pay for dismissals).

8. Currently, enterprises with 10 or fewer employees (covering about 18% of total employment) are exempt from regular employment protection (while employees are still provided special protection against discriminatory and arbitrary dismissal and employers must not give notice without a minimum of social consideration). Firms with 20 or less employees are exempt from requirements for collective dismissal. Accordingly, the EPL indicator for these firms is one of the lowest among OECD countries (Venn, 2009). Unsurprisingly, firms with very few employees tend to view EPL as less of a problem than larger firms (DIHK, 2008). However, adjusting the overall EPL indicator for the small firm exemption has only a minor impact on the ranking of countries according to strictness of EPL (Box 4 in Venn, 2009).

9. See Destatis, *Niedrigeinkommen und Erwerbstätigkeit*, Press Briefing 19 August 2009.

10. In 2007, 48% of all workers on temporary work contracts obtained regular contracts in the company after the end of the limitation period. The share differs across sectors with two-thirds of manufacturing firms taking over workers that previously were on temporary contracts and only around one-third of companies in the social service sector doing so. Chances for temporary workers of obtaining a regular work contract are lower in larger companies that face stricter EPL and companies with a large churning rate (labour fluctuations without a change in employment level). By contrast, chances of obtaining a regular work contract are higher in companies with recruitment problems (Hohendanner and Gerner, 2010).

11. See DIHK, Flexibilität am Arbeitsmarkt – weiter ganz oben auf der Agenda; Ergebnisse einer DIHK-Unternehmensbefragung, Herbst 2009.

12. However, looking at small firms in Germany that are exempted from EPL, Bauer *et al*. (2007) do not find that job worker turnover is significantly higher.

13. Only Austria maintains a similarly prominent role of the works council in the dismissal procedure. There, the works council needs to be notified of a planned dismissal and has 5 days to react to it. In case the council objects to the dismissal, it can appeal against it before the labour court by request of the dismissed worker.

14. The longer notification period in the case of Germany reflects both the time it takes for the works council to react (around one week) and the regulation that the notice applies from the 1st or 15th of the month (thus adding on average 8 days to the delay before the notice period can start).

15. The law replaced 17 specifically regulated labour market policy instruments with the two broader instruments "placement budget" (*Vermittlungsbudget*, replacing 9 individually regulated instruments such as mobility support) and "measures for activation and integration" (*Maßnahmen zur Aktivierung und beruflichen Eingliederung*, replacing 8 individually regulated instruments) which allows for a more flexible use of private third-party service providers. Based on the law, the labour office introduced in late 2009 a 4-phase model for the integration of unemployed.

16. During the downturn from 2001 to 2005 on average 1 784 000 recruitments (including apprenticeships) happened each quarter, of which 690 000 were filled by the unemployed. This compares with around 1 845 000 recruitments per quarter during the boom period between 2006 and mid-2008 (Rothe, 2009).

17. The third existing type of organisation where both institutions offer their services separately without creating a joint jobcentre (*getrennte Trägerschaft*) was not part of the evaluation due to the limited dataset.

18. At the same time, a number of OECD countries moved towards administration of benefit recipients and job seekers at the municipal level such as the Netherlands and Denmark.

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Chapter 3

After the crisis: Bringing public finances back to a sustainable path

Past consolidation has allowed the automatic stabilisers operate fully during the crisis. Further fiscal easing in late 2008 and early 2009 contributed to a markedly widening fiscal deficit in 2010. A newly enacted fiscal rule, which limits the structural budget deficit of the federal government to a maximum of 0.35% of GDP and requires balanced structural budgets for the Länder, will help bring public finances back to a sustainable path. However, some elements of the new rule may need to be fine tuned in order for it to be more effective. To comply with the transition requirements of the new rule, consolidation beyond a mere phasing-out of the stimulus packages will be needed between 2011 and 2016. Priority should be given to reducing public expenditure, notably by improving public sector efficiency and by cutting back on grants and government consumption, and to phasing out distorting tax concessions. To improve the structure of the tax system, the government should consider raising the share of taxes on property and consumption in total tax revenues.

The economic crisis has reversed fiscal consolidation

Until the onset of the economic crisis, public finances had improved considerably with the general government budget deficit coming down from almost 4% of GDP in 2003 (when the Ecofin Council initiated an excessive deficit procedure) to close to balance in 2007 and 2008 (Table 3.1). Thanks to these improvements, gross public debt relative to GDP declined in 2006 and 2007 (Figure 3.1). Consolidation was expenditure-driven, with general government expenditures falling by more than 4 percentage points of GDP between their peak in 2003 and 2007. Although the fall in the expenditure-to-GDP ratio reflected buoyant economic growth and an associated significant decline in spending on social security benefits, the structural deficit also declined. Restraint in public employment and wages, subsidy cuts, and further cutbacks in public investment all contributed to this development. On the revenue side, the cyclical upswing and the VAT hike in 2007 helped to reverse part of the earlier drop in government receipts.

Table 3.1. **General government finances**

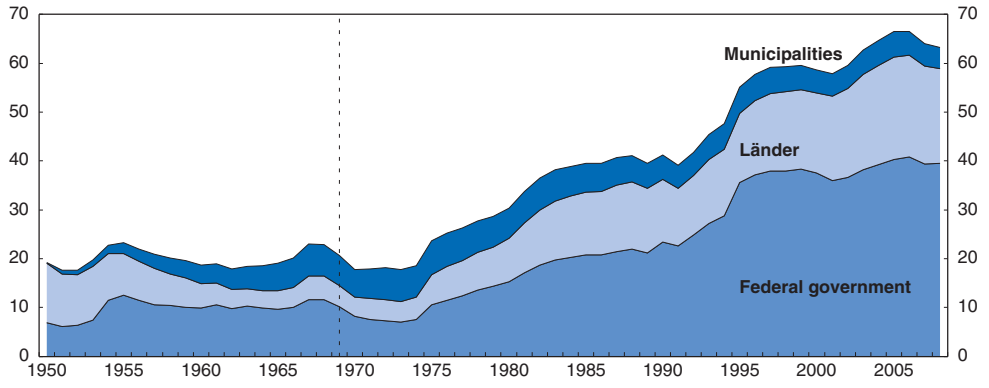
% of GDP

	2005	2006	2007	2008	2009	2010	2011
Financial balance	–3.3	–1.6	0.2	0.0	–3.3	–5.8	–5.2
Cyclically adjusted financial balance	–2.5	–1.8	–0.8	–1.1	–2.0	–4.3	–4.0
Total disbursements	46.9	45.3	43.6	43.8	47.6	48.3	47.4
Total receipts	43.6	43.7	43.8	43.8	44.3	42.5	42.3
Gross public debt (Maastricht)	68.1	67.6	64.9	66.0	74.3	79.1	83.0

Note: Figures for 2010-11 are projections.
Source: OECD, *OECD Economic Outlook*, No. 86, and Secretariat estimates.

Figure 3.1. **Gross debt by level of government**

% of GDP



Note: The vertical line indicates the coming into effect of Article 115 of the constitution in its pre-reform version in 1969. Debt for 1950-90 is for western Germany only.
Source: Federal Ministry of Finance.

StatLink http://dx.doi.org/10.1787/816177506210

Consolidation was abruptly reversed by the economic crisis, as a result of which the economy contracted by an annual rate of almost 6½ per cent between 2008Q2 and 2009Q1. In an attempt to revive the economy, the German government launched two stimulus packages; a modest one in November 2008 and a more substantial one in January 2009 (Box 3.1). Together with some additional measures taken in early October 2008, the stimulus amounted to around EUR 80 billion (3.1% of 2008 GDP), to be spent primarily over the period 2009 and 2010.[1] Applying a set of multipliers to these measures suggests that they boosted the level of GDP by

Box 3.1. **The fiscal stimulus packages**

In the light of the severity of the cyclical downturn, the government decided to not rely exclusively on automatic stabilisers but also to take measures to cushion the fall in activity. Some initial measures were taken on 5 October 2008, which amounted to EUR 12.2 billion (0.5% of 2008 GDP), to be spent over 2009 and 2010, and included, among other things, a temporary cut in the unemployment insurance contribution rate from 3% to 2.8% and an increase in child benefits and the tax allowance for children. The government then adopted two fiscal stimulus packages, a first one on 5 November 2008 and a second one on 27 January 2009. In May 2009, a few more measures were taken, most notably a deferral of VAT payments for small companies and an extension of the car scrapping premium, generating fiscal costs of EUR 5.1 billion (0.2% of 2008 GDP) over 2009 and 2010.

The November 2008 stimulus package

The stimulus package launched in November 2008 envisaged measures of EUR 3.9 billion in 2009 (0.2% of 2008 GDP) and of EUR 7.1 billion in 2010 (0.3% of 2008 GDP), with some measures also producing costs in later years. The two most important measures of the package were a temporary reintroduction of declining-balance depreciation for certain types of investment goods (EUR 6.3 billion in 2009 and 2010) and an increase in public investment (EUR 2 billion in 2009 and 2010). In addition, the tax deductions permitted for handicraft services were extended, new cars were temporarily exempted from motor vehicle tax, the special depreciation allowance for small and medium sized enterprises (SMEs) was temporarily broadened, a special programme to improve regional economic structures was launched, investments in the energy efficiency of buildings were subsidised, and the programmes of the Kreditanstalt für Wiederaufbau (KfW), for example for structurally weak local authorities, were topped-up.

The January 2009 stimulus package

The second stimulus package was significantly larger than the first one, amounting to EUR 54.3 billion (2.1% of 2008 GDP) to be spent in 2009 and 2010. Some of the measures included in the package are not restricted to 2009/2010 but are of a permanent nature. The specific measures of the second stimulus package comprise the following:

- EUR 14.7 billion were earmarked for the purpose of infrastructure improvements. Two-thirds of the funds were supposed to be used to improve educational facilities with the remainder being spent on other forms of infrastructure, for example in the area of health, transportation and information technology.
- Income tax rates were lowered by increasing the basic tax allowance (from EUR 7 664 in 2008 to EUR 7 834 in 2009 and to EUR 8 004 in 2010), reducing the bottom tax rate (from 15% to 14%) and by raising the other tax brackets (by EUR 400 in 2009 and an additional EUR 330 in 2010). Overall, these measures were expected to lead to tax shortfalls of EUR 3.1 billion in 2009 and EUR 5.8 billion from 2010 on.

Box 3.1. **The fiscal stimulus packages** *(cont.)*

- The standard child allowance for unemployment benefit II recipients was raised and, as a one-off in 2009, the sum of EUR 100 was paid for every child entitled to child benefits, leading to overall costs of EUR 2.3 billion.
- The rate of social security contributions payable by employers for employees on short-time work was halved during the first 6 months of short-time work and waived altogether provided the employees participate in training programmes (EUR 2.3 billion in 2009 and 2010). In addition, new active labour market programmes were launched (EUR 2.8 billion) and a total of 5 000 additional jobs were created at job centres (EUR 0.8 billion).
- The lowering of the unemployment insurance contribution rate from 3% to 2.8% in 2009 (originally envisaged to be phased out in mid-2010) was extended until the end of 2010, costing EUR 0.8 billion, and the health insurance contribution rate was cut by 0.6 percentage points, costing EUR 9.5 billion in 2009 and 2010.
- Consumers were encouraged to scrap vehicles that were at least nine years old and buy new or nearly new cars with the aid of a government subsidy of EUR 2 500 per car. Initially, EUR 1.5 billion were earmarked for this measure, but the fund was later extended to EUR 5 billion. Moreover, the long planned reform of motor vehicle tax, incorporating a stronger link to CO_2 emissions, was implemented in mid-2009, generating fiscal costs of EUR 0.3 billion in 2009 and 2010.
- A loan and guarantee programme amounting to EUR 100 billion was introduced to help companies secure access to credit.
- Other measures included a subsidy for R&D investment by SMEs, the promotion of the development of environment-friendly transportation technologies and the upgrading of broadband networks.

around 0.5% in 2009 and will boost it by a further 0.2% in 2010 (OECD, 2009a).[2] This relatively small multiplier effect reflects the composition of the stimulus packages which contained many measures with only a small impact on GDP growth, such as personal income tax cuts. As a result of the fiscal stimulus measures and automatic stabilizers, the general government deficit reached 3.3% of GDP in 2009 and is expected to widen further, to more than 5¾ per cent of GDP, in 2010. Gross public debt is expected to increase to around 80% of GDP by the end of 2010, also owing to measures to support the financial sector, such as the recapitalization of financial institutions. Guarantees for the bond issues of financial institutions have in addition considerably increased the contingent liabilities of the government (Chapter 4).

Now that the economy is recovering, the main policy challenge is to put public finances back to a sustainable path. Because the worsening of the fiscal position since the start of the economic crisis is also due to structural factors such as higher interest payments and lower potential growth, consolidation will have to go beyond just removing the fiscal stimulus packages (which will be difficult anyway as some measures are not time-limited). Fiscal consolidation will have to be implemented under relatively unfavourable conditions, when potential output growth is reduced because of population ageing and public expenditures are coming under additional pressures due to rising pension and health care costs.

To address this challenge, the government introduced a new fiscal rule in 2009, which will become binding for the central government in 2016 and for the *Länder* in 2020. This

step is very welcome, as cross-country empirical evidence suggests that fiscal consolidation is more successful if associated with clear prior commitment, as embodied, for example, in credible fiscal targets or expenditure rules (OECD, 2007a; European Commission, 2006; Ayuso-i-Casals *et al.*, 2007). Nonetheless, a number of implementation issues remain to be addressed. *Firstly*, the design of the rule needs to be improved so that it can better fulfil its purpose of limiting the accumulation of public debt. *Secondly*, though the rule strengthens the government's commitment to fiscal consolidation, the question remains of how to raise revenues and/or cut expenditures to ensure that the rule is met. *Thirdly*, although the rule does not cover the social insurance system, obeying the rule might force the government to no longer finance any deficits in the insurance system, meaning that the system must be sustainable on its own (as the social security system cannot issue its own debt).[3] Estimates of the implicit debt embedded in the social insurance system put it at 185% of GDP in 2007 (Raffelhüschen and Moog, 2009), requiring sizable adjustment in terms of eligibility, contribution hikes and/or benefit cuts.[4]

A new fiscal rule will help to improve public finances...

Constitutional borrowing limits have a long tradition in Germany. The most important rule at the federal level is article 115 of the constitution which had not been changed since 1969 and stated that net government lending may not exceed gross government investment spending, with exceptions allowed only to avert a disruption of macroeconomic equilibrium. Similar rules were embedded in the constitutions of most *Länder*. However, these arrangements had failed to sufficiently restrain the build-up in government debt over past decades; the GDP share of general government debt almost quadrupled between 1970 and 2007.[5] Reasons for the failure of the German fiscal rule include, among other things, the focus on gross rather than net investment, which allowed the consumption of fixed capital to be debt-financed, the vague formulation of the exception clause, which was legally not enforceable and therefore used rather frequently, and the lack of an adjustment mechanism, which would have allowed the clawing back of breaches of the rule during more buoyant times (*e.g.* Sachverständigenrat, 2007; Bundesbank, 2007). In light of the ineffectiveness of the borrowing limit, the Federal Constitutional Court asked for a revision of article 115 in its ruling in 2007 on the constitutionality of the 2004 federal budget. The Federalism Reform Commission II was mandated to draft a new fiscal rule, which was adopted by both houses of parliament in May 2009 (Box 3.2).

Box 3.2. **The new fiscal rule**

Instead of moving towards a stricter, but still investment-oriented, deficit ceiling, the Federalism Reform Commission II opted for a deficit ceiling along the lines of the European Stability and Growth Pact (SGP) for reasons of greater transparency and clarity. This shift in focus has the advantage that changes in the cyclically adjusted balance become more visible (*e.g.* in 2008, when the cyclically adjusted balance deteriorated despite an improvement in the actual balance). The new fiscal rule restricts the cyclically adjusted budget deficit of the federal government to a maximum of 0.35% of GDP and requires balanced cyclically adjusted budgets for the *Länder*.[1] No borrowing limits are specified for municipalities and social security funds.[2] The new rule essentially formalizes the preventive arm of the European Stability and Growth Pact, which requires countries to maintain a fiscal position close to structural balance. The numerical ceiling of the new rule is consistent with Germany's latest medium-term objective under the SGP, which specifies a maximum structural deficit of ½ percentage point of GDP for the general government.[3]

Box 3.2. **The new fiscal rule** *(cont.)*

Deviations of the actual net borrowing from the maximum admissible level (assessed *ex post* based on the actual cyclical development of the economy)[4] are to be recorded on an equalization account. These deviations can result from errors in predicting revenues and expenditures that stem, for example, from difficulties in projecting the effects of legislative changes. As the *ex post* assessment of the cyclical position of the economy relies on the original estimate of potential GDP growth made at the time the budget was approved, revisions to the potential growth estimate do not translate into debits/credits on the equalization account. If a negative balance on the control account exceeds a threshold of 1.5% of GDP, the provisions of the constitution require this excess to be reduced in a manner that takes account of the cyclical situation. Because repayment is spread over time, the government has to start reducing debits on the equalization account already once they exceed a lower threshold value of 1% of GDP. In this case, the borrowing limit in the following budget year is reduced by the amount exceeding the 1% threshold, though by no more than 0.35% of GDP. To avoid that this obligation has a detrimental impact on the business cycle, the need for redemption only applies to years with an increasing positive output gap or a declining negative one (in absolute terms).

Within the framework of supplementary budgets, the cyclically adjusted borrowing limit may be exceeded by up to 3% of the originally budgeted tax revenue. According to the new rule, the supplementary budget must not foresee any new measures that would lead to an increase in expenditures or a decrease in revenues. Additional borrowing is possible in the case of natural disasters or other exceptional events that are outside government control and severely affect the state of public finances. If the government makes use of the exception clause, it has to set up a repayment plan, which foresees the ensuing debt being paid back within an appropriate (not further specified) time horizon.

Although the new rules will enter into force as early as 2011, they will be fully applicable only following a transition period during which existing structural deficits (which partly result from the stimulus measures taken to tackle the economic crisis) have to be reduced in equal instalments. The new borrowing limit of 0.35% of GDP for the federal government will become binding in 2016 with the necessary fiscal consolidation supposed to start in 2011.[5] A longer transitional phase, lasting until 2020, was agreed for the *Länder*, mainly because of particularly serious consolidation needs in Bremen and Saarland.[6]

Alongside the new borrowing limit, an early warning system was introduced to prevent the government from sliding into financial distress. At the heart of this new system is a stability council, consisting of the Minister of Finance, the Minister of Economy and the finance ministers of the *Länder*. The stability council will regularly monitor the budgets of the federal government and the governments of the *Länder* based on a set of indicators to be defined by the council. If the council deems that a government risks falling into financial distress, the government has to propose measures to reduce net borrowing over a period of five years. The council monitors the implementation of the consolidation plan based on semi-annual progress reports by the government.

1. The new article 115 of the constitution is complemented by a federal law (*Gesetz zur Ausführung von Artikel 115 des Grundgesetzes*) which governs implementation details.
2. The borrowing requirements of municipalities and social security funds are, however, part of the general government balance and taken into account in the assessment of the 3% of GDP deficit ceiling of the SGP.
3. The maximum deficit of 0.35% of GDP for the federal government represents 70% of the maximum deficit of 0.5% of GDP under the SGP, which corresponds approximately to the federal government's share in total public debt (Baumann *et al.*, 2008).
4. The deviation is first assessed on 1 March of the year following the budget year and then constantly updated until 1 September, when the assessment is considered as final.
5. In case further stimulus measures are required in 2011 to combat the economic crisis, the consolidation may start later, though it has to be completed by 2016.
6. To help these and three other *Länder* (Berlin, Sachsen-Anhalt and Schleswig-Holstein) comply with the balanced budget rule in 2020, grants are offered to these *Länder,* which amount to a total of EUR 800 million per year (half of which will be financed by the federal government with the other half financed by the *Länder*). Berlin, Sachsen-Anhalt and Schleswig-Holstein will each receive EUR 80 million per year, Saarland will receive EUR 260 million per year and Bremen will receive EUR 300 million per year.

... though its design may need to be refined

By moving away from an investment-oriented deficit ceiling, the reform will lead to greater transparency and clarity. Moreover, it will make the national framework more consistent with the European Stability and Growth Pact, an explicit aim of the reform. Nonetheless, implementation is tricky and needs careful monitoring. Areas of concern include *i*) the design of the equalization account, which may not sufficiently take care of data revisions; *ii*) the lack of a safety margin *vis-à-vis* the borrowing limit, which might cause procyclical behaviour when expenditures have to be cut in a downturn in the light of sudden revenue shortfalls; *iii*) the budgeting framework underpinning the rule, which should be moved from a bottom-up to a top-down approach; *iv*) remaining loopholes in the system, which could be exploited to circumvent the rule and in that case have to be closed; and *v*) the stability council, which is meant to monitor budgetary developments but lacks sufficient independence from the government.

The design of the equalization account might need adjustment

Under the new fiscal rule, the task of measuring the cyclical position of the economy is of key importance. Obtaining a reliable measure of the business cycle is fraught with difficulties as potential output is unobservable and, hence, any measure of the gap between actual and potential activity is highly uncertain and often subject to considerable revision over time. The limits of measuring potential output have been clearly revealed by the recent economic crisis. The federal government's decision to rely on the European Commission's methodology to estimate potential output is welcome in that it will strengthen transparency and ensure consistency with the fiscal rules of the Stability and Growth Pact. An equally transparent approach to determining the output gap should be adopted by the *Länder*.

Even *ex post* output gap estimates are, on occasion, subject to sizable and persistent revisions over time (*e.g.* Koske and Pain, 2008; Orphanides and Van Norden, 2002). Calculations for Germany show that annual revisions on the order of ½ percentage point are not unusual, even several years after the initial estimate was published.[6] The new fiscal rule stipulates that the GDP estimate published in the autumn of the year following the budget year is to be considered as final, thus ignoring any revisions that take place in later years. Whilst this has the advantage of creating certainty about the necessary corrective actions early on, it may lead to persistent changes in public debt if the disregarded revisions are not symmetric. Analyses of the output gap estimates published by the European Commission show that the German output gap was generally revised upwards in the past, *i.e.* becoming less negative (Table 3.2), particularly in the first two years following the budget year.[7] The cyclical component of the fiscal deficit was thus initially overestimated and the structural component underestimated. Under the current rule, this would cause an accumulation of structural deficits which are not recorded on the equalization account and thus need not be corrected in future years (Table 3.2), thereby causing public debt to increase over time or to decline less than if revisions in later years were taken into account. If this asymmetry materializes in practice, also later data revisions might have to be taken on board. Revisions taking place more than two years after the budget year have been roughly symmetric in the past, so that ignoring those revisions is unlikely to have lasting implications for the public debt-to-GDP ratio.

Table 3.2. **Data revisions to potential output and the cyclically adjusted budget balance**

Percentage points

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Revisions to potential output									
Data outturn autumn *t*+1	–1.8	0.4	–0.1	–0.3	–1.6	–0.6	–1.3	–0.5	1.3
Data outturn autumn *t*+2	–0.8	1.0	0.8	–0.4	–1.1	–1.0	–2.1	0.2	3.0
Data outturn autumn *t*+4	–0.1	1.0	1.1	0.0	–1.6	–1.4	–1.1		
Revisions to the GDP share of the cyclically adjusted budget balance (general government)									
Data outturn autumn *t*+1	–0.5	–1.6	–2.8	–3.4	–3.0	–3.4	–2.6	–1.3	–0.8
Data outturn autumn *t*+2	–1.3	–1.9	–3.3	–3.5	–3.5	–3.2	–2.3	–1.6	–1.5
Data outturn autumn *t*+4	–1.5	–1.7	–3.4	–3.6	–3.2	–3.1	–2.8		
Cumulative error									
By autumn *t*+2	–0.8	–1.1	–1.6	–1.7	–2.2	–2.0	–1.7	–2.0	–2.7
By autumn *t*+4	–1.0	–1.1	–1.7	–1.9	–2.1	–1.8	–2.0		

Source: European Commission and OECD calculations.

A safety margin vis-à-vis *the borrowing limit could avoid pro-cyclical behaviour*

Whilst deviations between the actual net borrowing and the maximum permissible amount of net borrowing that emerge during the execution phase of the budget or *ex post* can be dealt with by the equalization account, deviations that already emerge during the planning phase have to be corrected immediately through adjustments in the budget plan. Revisions to projections of government revenues can at times be quite sizable. For example, in its November 2006 forecast (which was underlying the final budget for 2007) the finance ministry projected tax revenues of EUR 219 billion for 2007, which was EUR 9 billion (0.4% of GDP) more than its forecast from May 2006 (which was underlying the draft budget) while the actual outcome was even EUR 20 billion larger. Reasons for such revisions include, among other factors, revisions to the potential growth rate and thus the trend growth rate of tax revenues (Kremer and Stegarescu, 2009).

Sudden downward revisions to tax revenues during the budget planning phase require an equal reduction in expenditures if the original budget plan envisaged a deficit close to the upper ceiling. This problem is further exacerbated by the fact that there appears to be a base effect whereby an unforeseen change in (cyclically-adjusted) revenues in one year tends to persist in future years (Kremer and Stegarescu, 2009). Sudden revenue revisions may become a problem as soon as the rule becomes binding for the federal government. The risk of procyclical behaviour of fiscal policy could be mitigated if the government aimed to maintain an adequate safety margin *vis-à-vis* the borrowing limit (so that the cyclically-adjusted scope for incurring debt is not utilised in draft budgets). Based on historic projection errors for tax revenues, Kremer and Stegarescu (2009) suggest a safety margin of 0.85% of GDP, meaning that the government should aim at a structural surplus of ½ percentage point of GDP.[8]

A top-down budgeting approach could facilitate implementation of the rule

Traditionally, the government's budgeting process has been formulated according to the bottom-up approach, with each agency and ministry sending requests for funding to the finance ministry. Starting from these requests, which typically exceed what the agencies and ministries can expect to get, the finance ministry and line ministries go through iterative rounds of negotiation until common agreement is reached. A major

drawback of this approach is the lack of global expenditure control by the finance ministry, especially in times when the macroeconomic situation requires additional consolidation measures. In such situations "across the board" expenditure cuts are typically applied, which ignore prioritisation of expenditure programmes. This approach thus does not fit well with the new fiscal framework which might require the achievement of certain consolidation targets even under difficult circumstances.

To strengthen strategic planning and budget discipline, the government should move towards a top-down approach to budget formulation. This was also the route chosen by several other OECD countries, which were confronted, during the 1990s, with growing fiscal deficits and thus the need for sizable consolidation. In a top-down budgeting approach the main task of the finance ministry is to specify an aggregate target and spending limits for line ministries, according to national objectives and priorities (Kim and Park, 2006). Once these are confirmed by the cabinet they become binding during the budget process. Within their assigned expenditure ceilings line ministries then allocate resources to individual programmes to best meet their policy objectives. Provided sufficiently deep monitoring and evaluation procedures are in place, there is no need for the finance ministry to intervene in detailed resource allocations made by line ministries. Instead, the finance ministry merely monitors that allocations are in accordance with set rules. The budget process therefore creates a sense of ownership in line ministries for the actions they take. However, for the approach to be effective, a longer-term perspective is needed. Countries with a top-down budgeting approach typically opted for a planning horizon of 3 to 5 years (Petkova, 2009), which is in line with the five-year budget framework currently applied in Germany. Experience of other OECD countries shows that a top-down budgeting system needs to incorporate elements of the bottom-up approach as a complementary method in the budget process to be successful, *e.g.* for funding decisions for new programmes or projects (Kim and Park, 2006).[9]

The framework still contains some loopholes

The reform of the fiscal rule closed a number of loopholes that had been excessively used in the past to circumvent the constitutional borrowing limits. In line with the European fiscal framework, revenues and expenditures will be adjusted for financial transactions when calculating the borrowing limit. Privatisation proceeds and loan repayments, often employed in the past to fill budgetary gaps, can therefore no longer be used to achieve compliance with the borrowing limits. Borrowing limits can also no longer be circumvented by creating special funds. Examples of such funds include the *Federal Railways Fund* (set up in 1994 for the liabilities of *Deutsche Bahn*) and the *Redemption Fund for Inherited Liabilities* (set up in 1995 for the debt and assets of the *Treuhand* agency) which increased public debt as measured. Whilst the old fiscal rules excluded special funds from the deficit ceiling, the results of such funds are regarded as ordinary public borrowing/lending under the new rules.

But even after the reform, serious loopholes remain. For example, there could be attempts to record payments to enterprises or other institutions as loans or capital injections (thus ignoring them when calculating the distance from the borrowing limit) even where no associated market-based returns are expected (Bundesbank, 2009). If this occurs, classification rules might have to be adjusted. As an explicit aim of the reform was to align national rules with the SGP the natural option would be to follow the European framework, which reclassifies such payments as capital transfers, thus having a negative

impact on the budget balance. The same applies to non-cash debt reliefs and debt assumptions. As Germany anyway has to adhere to the rules of the SGP, there is of course already a disciplining effect.

A second potential loophole relates to the treatment of the municipalities in the new fiscal framework. As the revised article 115 of the constitution does not specify any borrowing limits for municipalities, their borrowing will continue to be governed by the existing rules in the constitutions of the *Länder*. These typically specify credit limits similar to a golden rule on borrowing by municipalities, whereby borrowing is allowed only for capital investments if other financing is not feasible or appropriate, and such borrowing is subject to approval by the respective *Land*. In addition, municipalities are allowed to borrow for short-term liquidity management purposes (so-called *Kassenverstärkungskredite*). Although debt for liquidity management purposes is supposed to be repaid no more than six months after the end of the budget year, the instrument has been increasingly used for long-term borrowing purposes in order to finance structural shortfalls in revenues *versus* expenditures (Kreditanstalt für Wiederaufbau, 2009; Heinemann *et al.*, 2009; Junkernheinrich and Micosatt, 2008). A stricter enforcement of the budget law is needed to avoid such behaviour. This is all the more important as the exemption of the municipalities from the new constitutional borrowing limits entails the risk that the *Länder* will shift expenditures to the municipal level in order to ease their own budget constraints, even though the scope of expenditures that could be transferred to the municipalities is limited.

The treatment of potential output estimates in the assessment of the permissible amount of net borrowing represents another potential loophole in the new framework. Since changes in potential output are not under the direct control of the government, the *ex post* assessment of the cyclical position of the economy relies on the original estimate of potential GDP growth made at the time the budget was approved. Revisions to potential output thus do not trigger adjustments in the permitted amount of net borrowing.[10] This might induce the government to produce overly optimistic forecasts of potential output, thereby portraying the cyclical position of the economy as worse than it is.[11] This would inflate the permissible amount of net borrowing not only *ex ante*, but, more importantly, also *ex post*. One possibility to avoid this would be to assign the task of producing forecasts of potential output (and, possibly, other key economic variables that feed into the budgeting process) to an authority that is independent from the finance ministry and the government. A number of OECD countries (*e.g.* Austria, Belgium and the Netherlands) already use economic forecasts in the budgeting process that are produced by independent authorities. In addition, the government may consider basing the *ex post* assessment of the borrowing limit on revised estimates of potential output.

The stability council lacks independence

The newly created stability council, which will conduct surveillance of the finances of the federal government and the governments of the *Länder*, is an important step to prevent financial distress early on. However, in the current set up, the council consists of the finance ministers of the *Bund* and the *Länder*, so that the federal government and the governments of the *Länder* essentially control themselves. This may cause the council to be too lax in reacting to budgetary slippages or fiscal gimmickry. To ensure success of the early warning system, the council should be strengthened, possibly through the use of inputs from independent experts.

Another potential problem is that the council has no binding authority. If a government does not comply with the agreed consolidation plan, the stability council can only ask it for further action. While sanctions could help secure compliance, designing appropriate sanctions is a challenging task.[12] They must be credible and effective and represent a reasonable policy response to the potential problem. Monetary sanctions have the drawback that fining a government already experiencing financial troubles might worsen the situation and be politically difficult. Administrative sanctions imply costs in terms of loss of reputation and administrative freedom and are more likely to be implemented than monetary sanctions, though designing such sanctions is difficult, not least due to information asymmetries. Another possibility would be to subordinate new expenditure programmes of non-complying federal or *Länder* entities under collective authorisation procedures.

Compliance with the new fiscal rule requires fiscal consolidation…

Although the new deficit ceiling will become binding for the federal government only in 2016, the law requires a step-wise reduction of the 2010 structural deficit from 2011 onwards. According to current projections, the cyclically adjusted deficit of the federal government will amount to around 3% of GDP in 2010.[13] This deficit-to-GDP ratio has to be reduced to 0.35% of GDP by 2016.[14] The reductions have to be implemented in equal steps, implying a deficit reduction of around ½ percentage point of GDP per year.[15] While in 2011, the phasing-out of several of the fiscal stimulus measures will help to meet this target, additional consolidation effort will be needed in subsequent years.

While this calculation already accounts for changes in revenues and expenditures related to the implementation of the *Growth Acceleration Act* (*Wachstumsbeschleunigungsgesetz*) at the beginning of 2010 (*e.g.* the government raised child allowances, lowered the corporate tax burden, cut inheritance tax rates, and reduced the VAT rate for hotels), additional consolidation needs will arise from the income tax cuts planned for sometime between 2011 and 2013. Overall, this measure is expected to entail additional costs of around ½ per cent of GDP per year at the federal level. As stressed by the Council of Economic Experts, it is highly unlikely that these tax cuts will finance themselves through higher GDP growth (Sachverständigenrat, 2009).[16] Instead, expenditures will have to be cut or taxes be raised in other areas to fill the financing gap. It is important that the offsetting measures that have to be taken are less harmful to GDP growth than the taxes that are cut.

… which has to be achieved through a combination of expenditure cuts…

Empirical evidence suggests that the adverse cyclical effect of fiscal consolidation is likely to be less severe if it is achieved through spending cuts rather than tax hikes, although this also depends on categories of taxes and expenditures (Cournède and Gonand, 2006; Afonso *et al.*, 2005). Spending cuts (notably of government consumption and transfers) have the further advantage that they tend to be associated with more lasting fiscal consolidation (Guichard *et al.*, 2007; European Commission, 2007). In this sense, the government should give priority to expenditure cuts and increase taxes only to the extent that the necessary fiscal consolidation cannot be achieved otherwise. The room for expenditure cuts is, however, clearly limited (Sachverständigenrat, 2009). Certain expenditures (*e.g.* interest payments on government debt, which accounted for about 15% of total federal government expenditures in 2008) cannot be cut; others (*e.g.* spending

on education, infrastructure and R&D) should not be cut as this could damage long-run living standards, unless such cuts are accompanied by sizeable productivity gains.

Increasing public sector efficiency

Improving the efficiency of the public sector should be the preferred means by which to achieve the necessary fiscal consolidation as this would allow reducing expenditure without diminishing the quality of public services. A number of studies suggest that there is ample room for increasing efficiency. In its latest report, the Federal Court of Auditors argues that sizable savings could be reaped by improving the co-operation between the federal and *Länder* governments, and by eliminating redundancies between the two levels of government (Bundesrechnungshof, 2009). A voluntary merger between *Länder* should also not be excluded as a means to improve efficiency. At a minimum, opportunities for joint service provision should be exploited wherever feasible. The Federal Court of Auditors also points to potential efficiency gains through a re-organization of public administration, including a wider use of quality management and the further centralization or outsourcing of certain internal services such as IT. In addition, a wider use of e-government should help to improve public sector efficiency (in the 2008 *e-Government Survey* of the United Nations, Germany was still ranked 20th in the OECD on e-government readiness). In 2006, the government launched the *e-Government Programme 2.0* to make its services and systems simpler, faster and more customer-friendly. As the programme runs until 2009/2010, its impact cannot yet be fully assessed.

A number of empirical studies based on Data Envelopment Analysis compare inputs and outputs of the public sector across countries. These confirm the existence of inefficiencies for specific spending areas. Afonso *et al.* (2008) assess the efficiency of social spending in promoting greater income equality and show that Germany has room for improvement.[17] The input oriented efficiency score suggests that it would be theoretically possible to attain the same level of income distribution (as measured by the Gini coefficient) with roughly 38% less public social spending. The Federal Court of Auditors has recently made a number of suggestions for how to improve the efficiency of social spending, including the elimination of unnecessary interfaces between the different government bodies involved (Chapter 2) and the introduction of country-wide standards for the assumption of housing costs for unemployment benefit II recipients (Bundesrechnungshof, 2009).

Afonso and St. Aubyn (2005) and Joumard *et al.* (2008) investigate the efficiency of health care spending in the OECD and show that Germany performs worse than many other countries. As the two studies do not yet take into account a number of reforms that have been enacted in this area in the recent past, they are, however, likely to overstate the scope for improvement. In particular, the introduction of the health fund (*Gesundheitsfonds*) in 2009 was a step in the right direction and should not be reversed. Nonetheless, the system could be refined to strengthen competition between insurers. As recommended in the previous *Survey*, the surcharges that insurers can levy on their members (in case the payments that insurers receive from the central health fund are not sufficient to cover the costs) should be income-independent without any limitation in terms of their share in members' income to avoid distortion of the price signal (OECD, 2008a).[18] To the extent that additional redistribution is needed, this should be achieved through tax subsidies. Gonand *et al.* (2007) and Afonso and St. Aubyn (2006) show that Germany could also improve the efficiency of education spending, which would make it easier to achieve the necessary

improvement of service quality as described in the in-depth chapter on education policy reform in the previous *Survey* (OECD, 2008a).

Cutting back on grants and on government consumption

One area where (wasteful) spending could be reduced further is government grants. The government has made important progress in the recent past in cutting back on grants, especially in the years that followed the publication of the *Koch-Steinbrück Report* in 2003, a list of grants (and tax concessions – see below) that should be reduced or eliminated (Koch and Steinbrück, 2003). Overall, the consolidation volume achieved by the government between 2000 and 2008 amounted to around 0.1 to 0.2% of 2008 GDP (depending on the precise definition of grants).

Nonetheless, there is room to further cutback grants, not least because new ones have been introduced in recent years. The Kiel Institute for the World Economy puts the total volume of direct and indirect grants by the federal government at EUR 34.7 billion in 2008 (1.4% of GDP), EUR 8.6 billion of which concern new grants that had been introduced since 2003 (Institut für Weltwirtschaft, 2008). In terms of sector-specific grants, the transport sector receives the largest amounts, followed by mining and agriculture. The Kiel Institute calculates that a reduction of grants by EUR 23.5 billion (0.9% of GDP) is feasible by 2012 (Institut für Weltwirtschaft, 2008).[19] Such a further reduction also seems justified from an international perspective. According to the classification used by the European Commission, state aid in Germany was the tenth highest in the EU in 2007 (Federal Ministry of Finance, 2010).[20]

The government should also give consideration to further reducing government consumption expenditures, which are a very significant element of public spending, amounting to around 18% of GDP. Proposals in this direction estimate the amount of potential savings at above EUR 10 billion and include a broad spectrum of measures that ranges from a further reduction of public sector employment to cuts in the travel expenses of public sector employees and in the funds spent on public relationship management (Sachverständigenrat, 2009).

Not jeopardizing past achievements in containing pension expenditures

Almost half of all public expenditure is on social protection, with pensions accounting for the lion's share.[21] In the light of rising ageing-related cost pressures on the public pension system, the government enacted a series of pension reforms. The most significant change was introduced with the 2001 reform (the *Riester Reform*), which transformed the monolithic system of old-age provision into a genuine multi-pillar system. With the *Riester Reform* a rather complex new benefit indexation formula was introduced, which reduces the annual increase in pensions (linked to wage increases in the previous year) by around 0.6 percentage points. The purpose of this adjustment (the *Riester* factor) is to split the financial burden of the partial substitution of the public pillar by a private pillar between the working-age population (which, on a voluntary basis, contributes to the private pillar in addition to paying contributions to the public pillar) and pensioners. The 2004 pension reform then transformed the public first pillar into a notional defined contribution (NDC) look-alike by introducing a sustainability factor in the benefit indexation formula, which reflects the development of the number of pensioners relative to the number of contributors.[22] A safety clause, also introduced in 2004, prevents pensions from declining due to the combined impact of the *Riester* factor and the sustainability factor, with missed

(downward) adjustments made up for in later years. Overall, these reforms significantly improved the sustainability of the German pension system. In its latest *Ageing Report*, the European Commission projects pension expenditures to rise from 10.5% in 2007 to 12.8% of GDP by 2060, which is less than in many other EU countries (European Commission, 2009).

A number of recent legislative changes put these achievements into question. With the aim of letting pensioners participate in the economic recovery, the government decided in 2008 not to apply the *Riester* factor in 2008 and 2009. This caused pensions in the eastern and western *Länder* to increase by respectively 0.7% and 0.6% more than otherwise. The missed adjustments are supposed to be offset by reducing pension increases in 2012 and 2013. Moreover, ahead of the 2009 elections, the government extended the safety clause to prevent pensions from declining in the case where wages decline in the previous year. Again, any missed (downward) adjustment is supposed to be made up for in later years. Such discretionary action should be avoided as it sends the wrong signal to the population and particularly harms the trust of younger generations in pension policy. It also weakens the sustainability of the pension system, as making up for the missed adjustments in later years might prove politically difficult. The government should resist pressures not to recover the additional costs related to the missed adjustments, not least as the necessary fiscal consolidation limits the potential for subsidizing the public pension system from the general budget.

... and revenue-raising measures

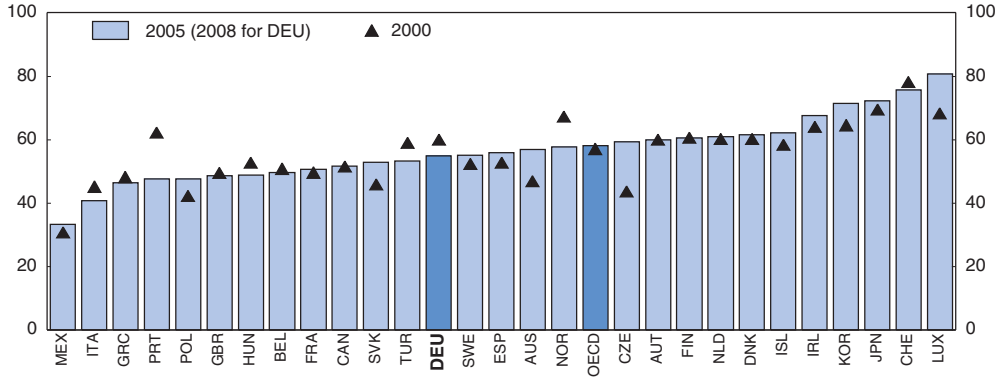
Given the magnitude of fiscal consolidation required, the spending cuts will most likely have to be accompanied by revenue-raising measures. To generate additional revenues in order to fill the gap, the government should broaden the tax base by further phasing out tax concessions. The government has already made some progress in this area in recent years.[23] The most important individual action was the abolition of the tax relief for home owners (*Eigenheimzulage*) in 2006, which led to additional revenues of more than EUR 2 billion in 2008 (0.08% of GDP).[24] Despite these achievements, there is ample room to further reduce or eliminate tax concessions. The Kiel Institute for the World Economy estimates the revenue potential from such measures at EUR 41 billion in 2012 (1.6% of 2008 GDP), EUR 23 billion of which concern the federal government (Institut für Weltwirtschaft, 2008). However, fully realizing this potential would mean abolishing all tax concessions for which such a step is not hampered by contractual obligations, which might be very difficult politically.[25] Thöne *et al.* (2009) evaluate the 20 largest tax concessions (in terms of revenue foregone) with respect to their economic impact and the deadweight loss involved, as well as with respect to their justification and fairness. The study concludes that 5 of the 20 tax concessions should be abolished (translating into additional revenues of almost EUR 4.8 billion), with a further 10 tax concessions (which account for revenue losses of EUR 10.8 billion) needing careful monitoring.[26] Only 5 of the evaluated concessions should be maintained without further consideration, though these concessions account for revenue losses of only EUR 2.8 billion per year.

In light of the mounting consolidation pressures, the government should continue to eliminate tax concessions. One tax concession that should be reviewed is the reduced value added tax (VAT) rate. Since 2007, the VAT rate in Germany has been 19%. However, many goods and services fare a reduced rate of 7% and a number of goods and services are fully exempt from VAT (*e.g.* certain healthcare and postal services). One internationally comparable measure of the broadness of the tax base, the extent of reduced rates and the

effectiveness with which taxes are collected, is the so-called VAT Revenue Ratio, which expresses the revenue collected from the actual VAT in a country as a proportion of the revenue that would be raised if the standard VAT rate were applied to all final consumption. Germany has a VAT Revenue Ratio of 55%, meaning that due to reduced rates, zero rating and non-collection almost half of potential revenues are not collected. This value puts Germany in the lower middle range of OECD countries (Figure 3.2).

Figure 3.2. **VAT revenue ratio**

%



Note: VAT Revenue Ratio = (VAT revenue)/((consumption – VAT revenue) x standard VAT rate). Calculation for Canada is for federal VAT only.

Source: OECD (2008), *Consumption Tax Trends 2008 – VAT/GST and Excise Rates, Trends and Administration Issues*, OECD, Paris.

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Differentiated consumption taxes are often justified on equity grounds. It is considered desirable to reduce the tax burden on goods and services that form a larger share of expenditure of the poorest households, such as basic food, in order to mitigate the regressive impact of consumption taxes on the distribution of household disposable income. However, although the assumption of a regressive impact may be right based on annual income, consumption taxes are likely to be less regressive or even progressive when their effect is assessed over an individual's lifetime (Warren, 2008). In any case, the effectiveness of reduced VAT rates to achieve distributional objectives is questionable in that wealthier households also benefit from the reduced rates and in terms of expenditure on non-essential goods are likely to purchase more in absolute terms (OECD, 2008b). Empirical studies for Germany confirm that VAT differentiation has only negligible redistributive effects (*e.g.* Boeters *et al.*, 2006). Direct lump-sum payments to households that depend only on their socio-economic characteristics (Deaton and Stern, 1986) or targeted transfers (Ebrill *et al.*, 2001) are more effective in enhancing equity than VAT exemptions. Furthermore, a reduced rate entails additional administrative and compliance costs, legal uncertainty and opportunities for fraud through deliberate misclassification of items (OECD, 2008b).

To improve efficiency, the government should review the current application of the reduced VAT rate. There are various goods and services, which are taxed at the reduced rate without any clear justification (*e.g.* funiculars, chipped wood, hotel services – the latter introduced at the beginning of this year). In these cases, the reduced rate amounts to an

implicit subsidy and should be phased out.[27] For those goods and services where a reduced rate can be justified on distributional or other grounds (for example, the reduced rate on books and cultural activities such as museum and theatre visits is justified by the otherwise too low consumption level), the government should verify whether the desired objectives cannot be achieved more efficiently through other means such as monetary transfers which can be better targeted. Overall, around 16% of the VAT tax base is benefitting from the reduced rate (Federal Ministry of Finance, 2007). With total VAT revenues of EUR 176 billion in 2008, the abolition of the reduced rate could boost government revenues by up to EUR 20 billion per year (0.8% of GDP). The final impact is likely to be somewhat smaller though, since the increase in the reduced VAT rate might have an adverse impact on demand. Moreover, to the extent that the reduced VAT is replaced by more targeted instruments, the associated costs have to be set against the additional VAT revenue.

The government should also phase out tax concessions in other areas. In particular, it should simplify the income tax system by reducing the number of exception clauses, which give rise to a reduction in personal or corporate income tax payments. While many of the provisions were too small individually to be included in the evaluation study by Thöne *et al.* (2009), the combined volume of foregone tax revenue is by no means negligible. Boss and Rosenschon (2008) list a total of 48 different tax concessions, amounting to annual revenue shortfalls of more than EUR 25 billion. When phasing out income tax concessions, a broad approach seems preferable as the elimination of individual provisions might violate the equality principle of the constitution (as was the case with the reduction of the commuter tax relief in 2007). In addition to abolishing the aforementioned tax concessions, the government should give consideration to eliminate those that were proposed for abolition in the recent evaluation study by Thöne *et al.* (2009).

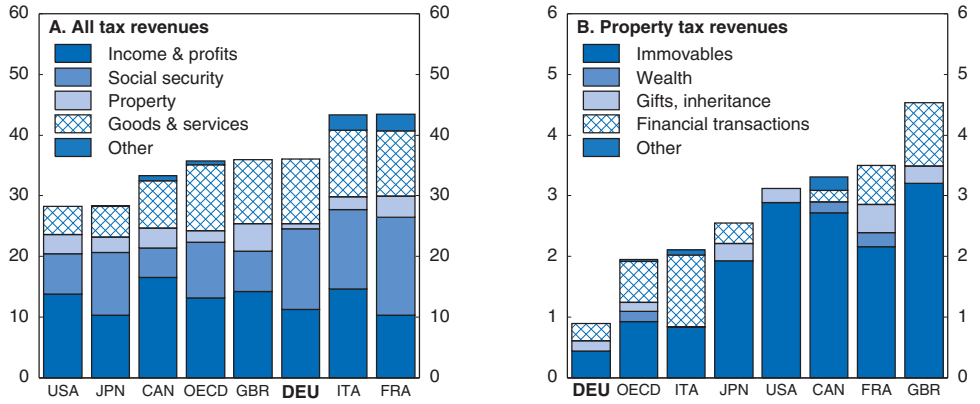
Improving the structure of the tax base

Taxes affect the decisions of households and firms, for example regarding the supply of and demand for labour, the level and composition of investment and production and the choice of savings channels and assets. What matters for these decisions is not only the level of taxes but also the tax structure, *i.e.* the way in which different tax instruments are designed and combined to generate revenues. Previous OECD work finds strong evidence that indirect taxes, notably those on consumption and property, are less harmful for growth than direct taxes (Johansson *et al.*, 2008; Arnold, 2008). To improve the structure of the tax system and make it more conducive to economic growth, the government should consider raising the share of taxes on property and consumption in total tax revenues and reducing the excessive burden of more distortionary levies, notably social security contributions. In addition, the government may give consideration to raising environmental taxes to change the behaviour of economic agents so as to reduce pollution.

Increasing property taxes

The German government is generating only a small part of its revenues from property taxation. In 2007, total revenues from these taxes amounted to only 0.9% of GDP, which was less than half the OECD average (Figure 3.3, panel A). In particular, revenues from taxes on land and buildings (*Grundsteuer*) were very small, amounting to less than ½ per cent of GDP (compared with an OECD average of 1.3%; Figure 3.3, panel B).[28] This is very unfortunate as taxes on land and buildings (especially residential buildings) are generally

Figure 3.3. **Composition of tax revenues**
% of GDP, 2007



Source: OECD (2009), *Revenue Statistics*.

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argued to be less distortive than other types of taxes as they have a smaller impact on the decisions of economic agents (*e.g.* to supply labour or to invest in human and physical capital) and are also more difficult to evade (Johansson *et al.*, 2008). Another advantage is that the tax base is relatively stable (*e.g.* Joumard and Kongsrud, 2003).

Against this background, the government should increase taxation on land and buildings with special arrangements put in place to reduce the liquidity constraints that the tax may imply for people with low incomes and illiquid assets (for example, new mortgage products could allow mortgage financing of the tax liability; see OECD, 2007b, Box 4.7). An increase in taxation could be achieved by further raising the tax rates (*Hebesätze*), though any such decision has to be taken at the municipal level. If Germany were to increase its taxation of immovable property to the OECD average, this could boost revenues by an amount of EUR 20 billion or more. Concerns about an eventual short term adverse effect on house and land prices of such measures have to be balanced against the long term benefits of a more growth friendly tax structure. Moreover, to make the tax more equitable, the government should move towards actual prices as the basis for evaluating the tax base of the *Grundsteuer* rather than relying on the values determined in 1964 (1935 for the eastern *Länder*) and then regularly update these values as is done in other OECD countries (*e.g.* United States, Denmark, Sweden).[29]

Regarding the other types of property taxes, net wealth taxes and inheritance taxes are more distortive than taxes on land and buildings as they discourage savings and may induce people to move their wealth offshore (Johansson *et al.*, 2008). Since inheritance taxes are levied only at the end of a person's life they avoid the taxation of most life-cycle savings. They are also less distortive than annual wealth taxes because a large part of inheritances are unplanned (Auerbach, 2006). In 2007, revenues from estate, inheritance and gift taxes amounted to 0.17% of GDP, which is close to the OECD average of 0.15% (Figure 3.3, panel B). Taxes on capital and financial transactions, while relatively easy to collect, are highly distortive (Johansson *et al.*, 2008). They not only discourage the ownership of assets (as do taxes on income, consumption and wealth), but have the added distortionary cost of discouraging transactions that would allocate these assets more efficiently.[30] Germany taxes transfers of real estate (at a rate of 4½ per cent in Berlin and

Hamburg and 3½ per cent in the other *Länder*) and generates revenues of around EUR 6 billion (¼ per cent of GDP). While this is below the OECD average, taxing the ownership of assets should be preferred because of its less distortive nature.

Revising the value added tax system

While taxes on residential property are likely to be best for economic growth and should thus be given priority, the scope for switching revenue to recurrent taxes on immovable property is clearly limited. Any strategy to improve the structure of the tax base should therefore also include a revenue shift into consumption taxes, which scored second in the tax and growth ranking by Johansson *et al.* (2008). Germany has already made an important step in this direction in 2007 when the standard VAT rate was raised from 16% to 19% and social security contributions were reduced in return (about two-thirds of the revenues generated from the VAT increase were used to finance the cut in social security contributions). At 19%, the standard VAT rate is still somewhat lower than that of most other EU countries, suggesting that a further movement in this direction is feasible and should be considered.

Increasing environmental taxes

Preserving the environment is high on the agenda for all OECD governments. Using a variety of instruments, Germany has made considerable progress in recent years in restraining environmentally harmful behaviour. In particular greenhouse gas emissions were reduced significantly (Box 3.3). Among different tools to curb pollution, taxes have

Box 3.3. **German policies to mitigate climate change**

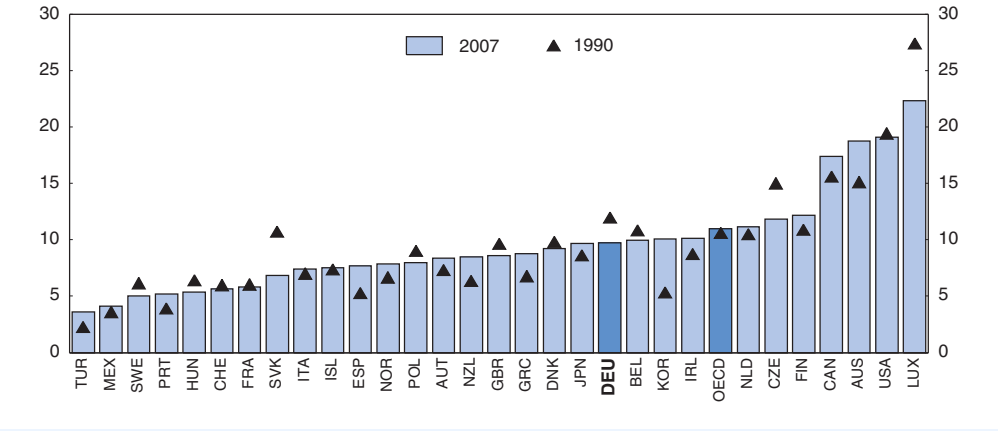
Although the level of CO_2 emissions per capita is still relatively high compared to other OECD countries, Germany has reduced emissions markedly since the early 1990s – not least because of downsizing overly energy intensive industries in the eastern *Länder*. Between 1990 and 2007, emissions from fuel combustion were cut by 2.3 tonnes per capita, which is the fourth-largest reduction in the OECD (Figure 3.4). Relative to their absolute level in 1990, emissions were 16% lower in 2007. This compares with a Kyoto target of reducing greenhouse gas emissions by 21% by the period 2008-12.[1] Germany has committed itself to reduce greenhouse gas emissions beyond what was agreed in the Kyoto protocol: By 2020, it plans to emit 40% less greenhouse gases than in 1990. A wider use of renewable energy sources plays a key role in achieving this objective. By 2020, the government plans to satisfy 18% of total final energy consumption from renewable sources.

The cut in greenhouse gas emissions that was achieved over the past two decades was split relatively unevenly across different sectors. For example, while manufacturing and construction sectors reduced their CO_2 emissions by 34.6% between 1990 and 2007, producers of heat and energy contributed nothing to the reduction in emissions. On the one hand, this is a reason for concern, as this sector is the main producer of CO_2 emissions, accounting for about 40% of the total (OECD, 2009c). But on the other hand, it stresses the immense reduction potential that could be realized if this sector were to curb its emissions to a similar extent to other sectors.

Box 3.3. **German policies to mitigate climate change** *(cont.)*

Figure 3.4. **CO_2 emissions**

Tonnes per capita



Source: OECD (2009), *CO_2 Emissions from Fuel Combustion*, OECD, Paris.

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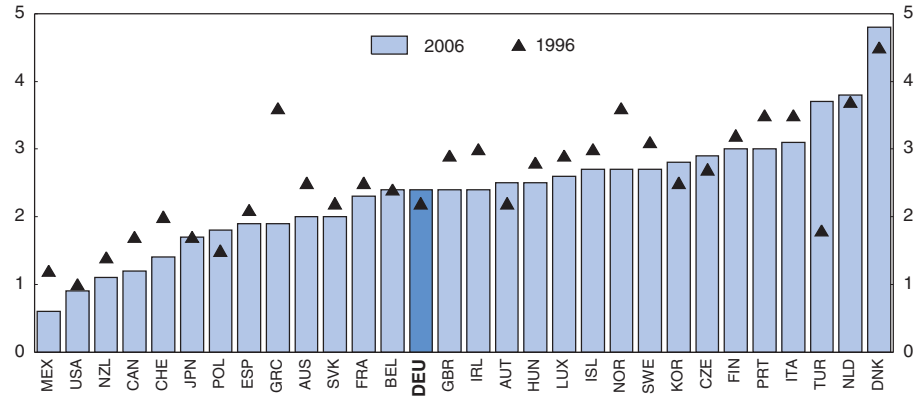
The reduction in greenhouse gas emissions is supported by a wide range of tax measures.[2] Most notably, in 1999, the government enacted an environmental tax reform, which, over a number of years, increased taxes on energy, while reducing social security and pension contributions. According to a recent evaluation study, the policy cut CO_2 emissions by 2-3% while having only minor negative effects on GDP growth (Deutsches Institut für Wirtschaftsforschung, 2007). More recently, in 2009, Germany reformed its vehicle tax by introducing a CO_2 element. By increasing the price for the use of fossil fuels, taxes can also provide a strong stimulus for investment in alternative renewable energy sources. However, sectoral competitiveness concerns often limit the application of such taxes. In Germany for example, such concerns required exemptions from ecological taxes for coal and much industrial energy use (European Commission, 2008).

Germany is fostering the use of renewable energies also through several non-tax instruments. Regarding electricity production, a feed-in tariff system guarantees the purchase of electricity from water power, wind and solar energy, biomass and geothermal energy and for a period of 15 to 20 years pays a fixed amount for each kilowatt-hour fed into the grid. This amount is reduced each year in order to not harm incentives for innovation and efficiency improvements. Thanks to this tariff system, the share of renewables in electricity production has more than quadrupled between 1991 and 2006 (European Commission, 2008). To promote the use of renewable energies in heating, firms and households who install a solar heating system, a wood pellet or firewood stove or a geothermal energy probe receive a grant, which varies depending on the size and quality of the system. The use of biofuels in the transport sector is promoted by a blending obligation requiring the addition of renewable fuel to conventional fuels. While these measures to promote green growth are highly welcome, a continuous monitoring and assessment of their effectiveness in promoting green growth is crucial to ensure that they foster innovation and only support the most efficient and sustainable technologies (for example, the environmental impact of biofuel support policies crucially hinges on the feedstock used).

1. The targets apply to a basket of six greenhouse gases.
2. A detailed overview on policy instruments used by the German government to combat climate change is provided by the International Energy Agency in its databases on policies and measures (*www.iea.org/textbase/pm/*).

proven efficient from an economic point of view and offer flexibility to adapt for those affected. While direct regulation of polluting activities forces immediate compliance regardless of the comparative cost for different businesses and individuals, environmental taxes leave more flexibility for those affected, because they allow firms and individuals to buy time to adapt (and thus not having to pay the tax in the future). In terms of revenues from environmental taxes, Germany ranks in the lower middle range of OECD countries with annual revenues of slightly less than 2½ per cent of GDP (Figure 3.5). A duty on mineral oil is the most important revenue source, accounting for about two-thirds of the total. The government should consider raising environmental taxes further. However, although the moderate level of revenues points to untapped revenue potential, it is important to keep in mind that an achievement of the objective of environmental taxes – a reduction in environmentally unfriendly behaviour – is associated with a reduction in the tax base, thus limiting the revenue potential of such taxes.

Figure 3.5. **Revenues from environmental taxes**
% of GDP



Source: OECD (2009), *OECD Economic Surveys: Japan*, OECD, Paris.

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Box 3.4. **Recommendations for bringing public finances back to a sustainable path**

Refining the design of the fiscal rule

- Carefully monitor implementation of the rule and adjust the new framework where necessary.
- Move towards a top-down approach to budget formulation.
- Strengthen the stability council, possibly by providing additional inputs from experts or institutions, which are independent from the government.
- Ensure that the *Länder* adopt a transparent approach to determining the output gap.
- Ensure a stricter enforcement of the law on short-term borrowing by municipalities to prevent that this instrument is used to finance structural shortfalls in revenues *versus* expenditures.

Box 3.4. **Recommendations for bringing public finances back to a sustainable path** *(cont.)*

Achieving fiscal consolidation

- Improve public sector efficiency. In particular, raise the efficiency of health and social spending.
- Further cutback grants and give consideration to further reducing government consumption expenditures.
- Avoid discretionary changes of the pension indexation formula and resist any pressures not to make up the past missed downward adjustments of pension increases.
- Broaden the tax base by further phasing out tax concessions. In particular, review the current application of the reduced VAT rate. In cases where the reduced rate amounts to an implicit subsidy due to the lack of any clear justification, phase out the reduced rate. In cases where a reduced rate can be justified on distributional or other grounds, verify whether the desired objectives cannot be achieved more efficiently through other means such as monetary transfers.

Improving the structure of the tax base

- Consider increasing taxation on land and buildings (*Grundsteuer*), for example by moving closer towards actual prices as the basis for evaluating the tax base or by further raising the tax rates. Put special arrangements in place to reduce the liquidity constraints that the tax may imply for people with low incomes and illiquid assets.
- Depending on the size of any tax structure reform, a revision of the VAT system should be considered.
- Give consideration to raising environmental taxes further.

Notes

1. This does not include tax allowances for health and long-term care contributions and for commuting to work, which had to be introduced due to constitutional court rulings. Together these measures generated fiscal costs of EUR 5.5 billion in 2009 and will generate costs of EUR 10.3 billion in 2010.
2. The overall size of the estimated GDP impact is similar to that of other studies. The Council of Economic Experts (Sachverständigenrat, 2009) and Cwik and Wieland (2009) obtain estimates of respectively 0.5% and 1.1% for the cumulative impact over 2009 and 2010.
3. This does not reduce the government's responsibility to finance types of services which are not funded by contributions.
4. The implicit debt is the net present value of all future primary deficits, assuming unchanged policies (see Raffelhüschen *et al*., 2006, for methodological details).The implicit debt splits up into obligations for public pension insurance (101% of GDP), for public health insurance (99% of GDP), and compulsory long-term care insurance (33% of GDP), which are partly offset by claims in other subsystems. Hagist *et al*. (2009) compare the implicit public debt of eight OECD countries based on 2004 data and show that Germany's implicit debt level is somewhat above average.
5. Most of the strong increase in public debt originated at the federal level and the *Länder* level; at the municipal level, debt ratios remained roughly constant over that period (Figure 3.1).
6. Analyses by Koske and Pain (2008) for output gap estimates published by the OECD suggest that a bit more than half of such revisions are due to revisions in actual GDP, with the remainder being due to revisions in potential GDP.
7. The same applies to the output gap estimates published by the OECD (Koske and Pain, 2008).

8. The introduction of a safety margin raises the issue of what to do with unused funds. The Dutch government (which establishes expenditure ceilings at the start of a government), for example, uses such funds for tax reforms.

9. In the case of new programmes or projects, line ministries are usually required to submit detailed proposals to the finance ministry, which include performance data and longer-term cost projections about the total programme. Australia and Canada, for example, have cabinet committees that review new policy initiatives.

10. For example, if GDP growth turns out to be lower than orginally envisaged, the permissable borrowing limit increases even if the lower GDP growth rate is entirely due to lower potential growth.

11. Jonung and Larch (2006) show that in the past, official German forecasts systematically overestimated the underlying growth of the economy. However, since a few years the government's forecasts orient themselves strongly at the forecasts of a consortium of independent research institutes.

12. Joumard and Kongsrud (2003) give an overview on sanctions used by OECD countries to secure sub-national governments' compliance with fiscal rules.

13. This represents 70% of the cyclically adjusted deficit of the general government, which is projected at around 4.3% of actual GDP in 2010 (over the years 2002 to 2008, the federal government's average share in the actual deficit of the general government was around 70%).

14. Taking the nominal GDP growth rates that underlie the OECD's medium term baseline projections, nominal GDP will increase from EUR 2 449 billion in 2010 to EUR 2 853 billion in 2016. In absolute terms the structural deficit thus has be reduced from EUR 73 billion in 2010 to EUR 10 billion in 2016.

15. Further consolidation will be necessary for many of the *Länder*. However, no precise transition paths have been specified for them.

16. For example, Trabandt and Uhlig (2009) estimate the degree of self-financing of tax cuts on labour income in Germany at around 50%.

17. Social expenditure refers to spending on old age, survivors, incapacity-related benefits, health, family, active labour market programmes, unemployment, housing, and other social policy areas. For an in-depth comparison of social spending across OECD countries see Adema and Ladaique (2009).

18. A more detailed discussion of the German healthcare system and further recommendations on how to improve its efficiency are provided in Chapter 6 of the previous *Survey* (OECD, 2008a).

19. The study considers the abolishment of a grant as feasible if it is not hindered by long-term contractual obligations, by legal obligations on the basis of which private sector agents have taken (far-reaching) decisions, or by the need for approval by other levels of government.

20. The state aid definition of the EU comprises not only grants but also tax concessions.

21. Germany has the fourth largest GDP share of spending on social protection in the OECD (OECD, 2009b).

22. The pension benefit indexation formula is:

$$AR_t = AR_{t-1} \times \frac{BE_{t-1}}{BE_{t-2}} \times \frac{d_t/100 - AVA_{t-1} - RVB_{t-1}}{d_t/100 - AVA_{t-2} - RVB_{t-2}} \times \left(\left(1 - \frac{RQ_{t-1}}{RQ_{t-2}} \right) \times \alpha + 1 \right),$$

where *AR* is the pension value, *BE* is gross income, *d* is a sensitivity factor, which takes the value of 100 until 2010 and then decreases to 90, *AVA* is a fictitious contribution rate to the newly introduced private pension accounts (gradually increasing from 0.5% in 2003 to 4% in 2009), *RVB* is the actual contribution rate to public pensions, *RQ* = (pensioners/(contributors + unemployed)), and α = ¼. The *Riester* factor is the third term on the right hand-side of the equation and the sustainability factor is the fourth term.

23. The Kiel Institute for the World Economy (Institut für Weltwirtschaft, 2008) estimates that the concessions that were phased out since 2004 generated additional revenues of EUR 8¾ billion in 2008 (this excludes the reduction of the commuter tax relief, which would have raised revenues by an additional EUR 2½ billion but had to be reintroduced after a ruling of the Constitutional Court).

24. Individuals who were accorded the tax relief prior to its elimination still benefit from the relief until the end of the 8-year period for which the relief was granted.

25. Tax concessions that cannot easily be abolished for this reason are the tax relief for foreign investments by enterprises, the exemption from the mineral oil tax on lubricants used by aviation and on heavy fuel used by shipping enterprises for commercial purposes.

26. Note that the abolition of one of the 5 tax concessions (exemption from mineral oil tax on lubricants used by aviation for commercial purposes) is considered as not feasible by the Kiel Institute for the World Economy (Institut für Weltwirtschaft, 2008).

27. The reduced rate for cultural and entertainment services is among the 5 tax concessions proposed for abolition by Thöne *et al.* (2009).

28. This comparison neglects cross-country differences in charges for property-related services such as waste disposal, water supply, and sewerage. However, accounting for these differences does not change the conclusion that Germany generates far less revenue from this source than the average OECD country (Fuest and Thöne, 2008).

29. Already at the end of the 1980s, these values (*Einheitswerte*) represented on average only 10 to 20% of the actual market value of the property (Bach and Bartholmai, 2002).

30. For example, taxes on real estate transactions discourage individuals from buying and selling houses and so prevent them from moving to areas where their labour is in greater demand.

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Chapter 4

The banking system: Lessons from the financial crisis

The German banking system came under pressure during the financial crisis, not least due to its significant exposure to toxic assets which originated in the US. In the short run, the stability of the system has been achieved, in large part through substantial government support measures. However, ensuring adequate capitalization of the banking system remains a major challenge going forward and may require more active government involvement. The underlying causes of the banking sector problems are related to: i) *the activities of the Landesbanken which benefitted from government guarantees without a proper business model;* ii) *weak capitalization and high fragmentation of the whole banking system, possibly related to the particularly rigid three-pillar structure; and* iii) *deficiencies in banking regulation and supervision. The challenge is to address these three causes in order to raise the long-run stability of the banking system.*

The banking sector was hit hard in the crisis

Although real GDP growth in Germany remained buoyant until early 2008, German banks were among the first to suffer from the crisis on financial markets that reached Europe in mid-2007, leading to several bail-outs of banks by the government. This disconnect between bank performance and domestic economic developments is due to the direct and indirect exposure of German banks to developments in international financial markets.

Significant direct exposure to toxic assets

In particular, banks were directly affected through their substantial exposure to structured credit products originated in the US, often through off-balance sheet vehicles (Table 4.1). In total, toxic structured credit securities in the German banking system are estimated to amount to EUR 230 billion (2¾ per cent of 2008 total assets).[1] According to Bloomberg, German banks accounted for around 7% of global write-downs on such assets in the period January 2007 to October 2009. Although almost all groups of banks are affected, the state-owned *Landesbanken* stand out, accounting for one-third of all losses even though their share of business volume is only 20%. Recent estimates suggest that significant risks still remain on the balance sheets and that further write-downs could amount to EUR 10-15 billion, most of it due to Collateralized Debt Obligations (Bundesbank, 2009).[2]

Table 4.1. **Exposure of selected German banks to conduits and special investment vehicles prior to the crisis**

	Ownership	Conduit- and SIV financed assets	
		In % of capital	In % of assets
Sachsen-Finanzgruppe	Public (Landesbank)	1 126	30.3
WestLB	Public (Landesbank)	542	12.7
IKB	Private	494	20.5
Dresdner Bank	Private	364	9.9
Landesbank Berlin	Public (Landesbank)	179	2.2
Bayern LB	Public (Landesbank)	170	5.1
HSH Nordbank	Public (Landesbank)	126	4
Deutsche Bank	Private	114	3.3
HVB	Private	105	6.6
NORD LB	Public (Landesbank)	89	2.9
Commerzbank	Private	85	2.2
Helaba	Public (Landesbank)	68	1.1
DZ-Bank	Private (Co-operative)	61	1.3
LBBW	Public (Landesbank)	59	1.7
KfW	Public	58	2.6

Note: Comparability is limited by different dates and varying definitions.
Source: Fitch Ratings (2007), *ABCP Concerns Trigger Liquidity Issues for German Banks*, Germany Special Report, August.

Adverse effects from the turmoil in money markets

In addition, notwithstanding the fact that German banks are less reliant on borrowing in financial markets than banks in other countries, some institutions indirectly suffered from the substantial turmoil in money markets following the collapse of Lehman Brothers as they could not roll over their wholesale funding. The most prominent casualty of this development was Hypo Real Estate, which had to be rescued by the government at the end of September 2008. The weakness in the domestic economy, by contrast, has not yet affected the banking system significantly, although write-downs on loans are likely to rise sharply (Bundesbank, 2009).

Massive government bailouts have stabilized the system…

As of August 2009, the volume of the government's rescue programmes amounted to 24% of 2008 GDP, broadly comparable with that in other countries; the average EU country provided 26% of GDP and the United States 26% of GDP (Stolz and Wedow, 2009).[3] The government's actions can be divided into several steps. In a first step, from August 2007 until the fall of Lehman Brothers in September 2008, government involvement comprised mostly stand-alone actions for individual institutions. During this period, four banks (IKB, WestLB, BayernLB and SachsenLB) received capital injections, credit lines and asset-backed security loss guarantees. In a second step, a more comprehensive support package was introduced following the rescue of Hypo Real Estate at the end of September 2008. The government proceeded on 5 October 2008 by guaranteeing all private bank accounts and on 13 October 2008 announced the setup of a EUR 480 billion Financial Market Stabilization Fund (SOFFIN). SOFFIN can guarantee up to EUR 400 billion of bank financing and use EUR 70 billion for recapitalization and asset purchases (the amount can be increased by EUR 10 billion on the approval of the Budget Committee of the parliament). So far, a few banks have received government capital through the SOFFIN and several have obtained guarantees.[4] Banks that obtain help from SOFFIN have to cap the salary of board members at EUR 500 000 and are not allowed to pay bonuses.

The first two phases in the government's crisis response were thus primarily dealing with the immediate threat of banking failure and avoiding bank runs. Since then, the discussion has moved towards addressing the balance sheet problems of the banking sector at large, notably the removal of bad assets. While the SOFFIN can purchase assets from banks, only one bank has made use of this option so far, which may be related to the fact that the maximum amount is restricted to EUR 5 billion per institution. Thus, in July 2009 the government put forth a plan to set up individual bad banks which do not require immediate government funding (Box 4.1). The intention was to break the vicious cycle of deleveraging and uncertainty that emerges when assets previously not at risk become impaired.

Box 4.1. **The government's bad bank scheme**

In July 2009 parliament passed a law on the establishment of bad banks. Two types of bad bank were envisaged, one allowing the transfer of toxic assets to a special purpose vehicle (SPV) (which can be used by both private and public banks) and one allowing the establishment of public sector vehicles targeted at public sector banks and allowing them to transfer a broader set of assets (this is called the "consolidation model"). Neither vehicle requires authorisation to conduct banking business nor has to fulfil regulatory capital requirements.

Box 4.1. **The government's bad bank scheme** *(cont.)*

Under the SPV model, financial institutions may apply to the SOFFIN to set up a bad bank to which they can transfer structured credit products (no loans). In exchange, the SPV issues securities equal to either the book value (as of 30 June 2008) of the transferred assets minus a 10% discount or the real economic value[1] (whichever is higher). These securities have a government guarantee (under the SOFFIN guarantee scheme), for which the bank has to pay a fee, and may be used for refinancing operations at the ECB. As a consequence, the participating bank does not have to fear further write-downs on those assets and the guaranteed bonds they receive in return reduce capital requirements due to their lower risk weighting, thus increasing lending capacity. At the time of the transfer, the expected losses of the SPV are calculated (equal to the difference between the estimated true value of the transferred assets minus a discount and their transfer value) and spread over a period of up to 20 years. The transferring bank has to cover these losses in equal instalments out of future net profits to the extent that these would be paid out to shareholders.[2] The shareholders also remain liable for any losses that exceed those estimated at the time of transfer and need to pay them out of future distributed earnings.[3] This structure is important as under both German and IFRS accounting rules, banks normally need to build up reserves for future liabilities (which would mean that the losses effectively remain on the banks' balance sheets). However, if a liability depends on future earnings and the decision of the supervisory board whether to pay out a dividend or not, the bank may not have to account for it as it is only an indirect liability. This accounting trick therefore effectively cleans the balance sheet from losses associated with the transferred assets. However, the treatment of such future liabilities under IFRS accounting rules is still waiting for a final verdict from the International Financial Reporting Interpretations Committee (IFRIC).

In order to attract new capital, the transferring bank may issue preference shares (also with voting rights) having preferential treatment over the SOFFIN. Banks participating in the scheme have to be available for stress testing under the SOFFIN's guidelines, the results of which are not published, however. Rather than removing the assets by selling them to the SPV, the intended model works more like a balance sheet trick: the shareholders remain liable for the losses but they do not have to be put on the balance sheet and thus do not adversely affect capital. Applications for setting up a bad bank under the SPV model had to be submitted by 22 January 2010, but no bank had announced to set up such a scheme.

Under the consolidation model, banks are allowed to transfer not only structured credit products but also other debt securities as well as loans and receivables to a public sector vehicle (PSV). This vehicle is organisationally and economically independent and does not have to mark-to-market assets (German accounting rules under HGB apply). It can be set up either under federal law under the SOFFIN (*Anstalt in der Anstalt*) or under state law (*Anstalt des öffentlichen Rechts nach Landesrecht*). The purpose is to remove whole portfolios of non-core assets or business units (assets and liabilities) with a view to shrinking the balance sheet and restructuring the bank. This scheme is therefore particularly aimed at facilitating restructuring of the *Landesbanken*, which are in need of finding a new business model (the scheme is thus also called "consolidation model"). If the PSV is set up under federal law, structured securities that are transferred may receive in return securities that are guaranteed by the SOFFIN as is the case in the SPV model (this is not possible if the PSV is set up under state law). The risks related to the transferred assets have to be borne by the owners of the banks, *i.e. Länder* and regional savings banks associations, as they remain owners of the assets. The future losses of the PSV have to be paid out of net profits of the transferring bank and the owners if the earnings are insufficient. The loss liability of the regional savings bank associations is capped at the extent of liability they had on 30 June 2008. So far only two banks are planning to set up a PSV.[4]

1. However, the value of the transferred asset may not exceed its book value on 31 March 2009. Only assets that the bank acquired before 31 December 2008 may be transferred. The discount to the transferred asset's book value is only applied if the bank retains a core capital ratio of at least 7%. The real economic value is estimated by the transferring bank and is checked by an expert third party nominated by SOFFIN and confirmed by the banking supervisors.
2. If in any year, the profit available for payout to shareholders is lower than the annual loss instalment, the loss compensation to be paid in future years will be increased accordingly.
3. The loss may also be covered by issuing shares to SOFFIN. If at maturity the SPV ends up with a profit, this will be given to the shareholders of the transferring bank.
4. WestLB wants to transfer assets worth EUR 85 billion and Hypo Real Estate is planning to transfer EUR 210 billion.

... but the clean-up of bank's balance sheets needs to proceed more forcefully

Participation in these bad bank schemes has been very limited. Only two banks decided to transfer assets with one of the two transactions replacing an earlier asset transfer with SOFFIN mentioned before. Banks may still be hesitant as there remains some uncertainty regarding the accounting of the future liabilities arising from losses on its toxic assets under IFRS rules (Box 4.1). Also, the scheme was intentionally set up as a voluntary one so that participation could have negative reputation effects for the bank.

With the lessons from earlier banking crises suggesting the importance of recapitalization of asset-cleansed banks, the limited use of the government's scheme is worrisome and could unnecessarily prolong the crisis or prevent a sustained recovery (OECD, 2009a). Therefore, the authorities should play an active role by closely monitoring capital adequacy. One way to proceed is to pursue mandatory stress-tests of the whole banking system to identify those institutions that are undercapitalized. In order to provide public funds if needed and as a last resort, to those banks that are in need of capital but that are not able to raise it from private sources, current support instruments should be maintained.

What factors led to the impact of the crisis on German banks and how to fix them?

Beyond the immediate challenge of restoring and maintaining the stability of the banking system, the underlying causes of the crisis need to be understood in order to draw lessons for reform. The evidence points to the importance of three connected factors:

- The role of the *Landesbanken*.
- Structurally low profitability and capitalization of German banks.
- Severe shortcomings in banking supervision.

The state-owned Landesbanken invested heavily in toxic assets...

The German financial system is distinguished by two features: *First*, it is a bank based rather than a capital-market based system. For example, the ratio of bank assets to GDP is higher than in most OECD countries and stock market capitalisation as a ratio of GDP is lower. *Second*, the structure of the banking system is very fragmented, with the public sector exerting a strong influence (Box 4.2). The share of the German banking system in

Box 4.2. **The German three-pillar banking system**

The German banking system is divided into three pillars: private commercial banks, public-sector banks and co-operative banks with the distinction being made on the basis of their legal form.[1] It is dominated by universal banks (accounting for 97% of all institutions and 75% of assets) and the majority of institutions are not strictly profit-maximizing entities (82% of institutions and 44% of assets).

Private commercial banks account for around one-tenth of all credit institutions in Germany and for around one-third of the total business volume. They comprise the large banks and smaller regional banks, private banks and branches of foreign banks. While the large banks are truly universal banks, combining retail and corporate banking business with investment banking activities, the regional commercial banks have a strong local presence and are often engaged in special activities like housing finance. The smaller private banks often specialise in industry financing and wealth management. Foreign banks play only a small role.

Box 4.2. **The German three-pillar banking system** *(cont.)*

Public sector banks include savings banks, which are owned by the state governments (*Länder* or municipalities), and the *Landesbanken*, which are usually jointly owned by the savings banks and the state governments.[2] Together they account for one-third of total business volume. Savings banks offer a wide range of banking services and have to serve the public welfare (*e.g.* they are obliged to open up a current account for every applicant). Savings banks are also universal banks but are limited in their regional activity (the "regional principle"); thus, they hardly compete with other savings banks, but only with private or co-operative banks in their region. Their core business is retail banking and relationship banking to SMEs and they maintain the largest branch network of all banking groups. The traditional role of the *Landesbanken* was to act as central institutions for the savings banks (serving as clearing houses, holding their excess liquidity reserves, providing marketing services and access to capital markets and offering savings banks clients investment banking services, access to foreign markets and credit on a larger scale) and serve as the main bank of the respective *Land* in which they are located in (*e.g.* pursuing the interest of the state in regional business development). However, these roles, notably acting as central institutions for the savings banks, have decreased in importance over time and the *Landesbanken* have increasingly operated in similar ways to private commercial banks on an international scale.

Due to their public ownership, savings banks and *Landesbanken* used to enjoy a guarantee by the public founding entity in the event of default (*Gewährträgerhaftung*) as well as a maintenance guarantee (*Anstaltslast*) whereby the owners ensure that the bank can meet its financial obligations at all times (*i.e.* providing liquidity support and capital injections if the bank is threatened by insolvency).[3] This guarantee was less important for the savings banks as they are mostly refinanced by deposits, but very important for the *Landesbanken* due to their market refinancing. In 1998, private banks initiated proceedings against the system of state and municipal guarantees. Following a ruling by the European Commission that these guarantees were not in line with state aid regulations, a compromise in February 2002 between the European Commission, the federal government as well as the *Länder* and the Association of Savings Banks and *Landesbanken* required the abolition of the guarantee obligation while existing liabilities were still fully covered, and the replacement of the maintenance guarantee (Fischer and Pfeil, 2004). However, a generous phasing-out period until July 2005 allowed the banks to enter liabilities with government guarantee at a maximum duration until 2015.

Credit co-operative banks comprise the largest number of independent institutions among the banking groups. Together with their head institutions they account for around one-tenth of overall business volume. They are owned by their members who receive a profit-dependent dividend. These institutions, however, are not standard profit-maximizing entities, their function is to support the business of their member-owners. The main difference from a corporation is that members usually only have one voting right, irrespective of the size of their investment in the co-operative. The two central institutions of the co-operative banking group provide a wide array of services to the individual co-operatives, similar to the *Landesbanken*.

Mortgage banks and building and loan associations (*Bausparkassen*) operate in all three sectors and account for 13% of the balance sheet total. In addition, a number of banks with special tasks exist in the private and public sector, such as development banks, the *Industriekreditbank* and the publicly-owned Kreditanstalt für Wiederaufbau (KfW), which together account for around 11% of business volume.

Box 4.2. **The German three-pillar banking system** *(cont.)*

This three-pillar system has changed little over time as most mergers occur within each pillar. While private-sector banks in general do not have the opportunity to take stakes in public-sector banks, there are no restrictions for public-sector banks to take over private banks. Takeovers of credit co-operative banks are made difficult due to the regulation that each member has one voting right.

Table 4.2. **Structure of the German banking sector**

	Balance sheet total (EUR million)	% of total	Number of institutions	% of total	Domestic branches
Private commercial banks	2 407	31	283	14	11 277
Big banks	1 441		5		
Regional banks	764		173		
Branches of foreign banks	202		105		
Savings banks group	2 590	33	448	22	
Landesbanken	1 539	20	10		482
Savings banks	1 050	13	438		13 457
Credit co-operative group	934	11	1 201	60	
Regional institutions	269	3	2		12
Credit co-operatives	665	8	1 199		12 344
Mortgage banks	824	11	19	1	56
Building and loan associations	189	2	25	1	1 872
Special purpose banks	897	11	19	1	31
Total	**7 841**	**100**	**1 995**	**100**	**39 531**

Source: Bundesbank. Data refers to March 2009 (balance sheet volumes) and 2008 (number of institutions and branches).

1. The following is based on Schmidt and Tyrell (2004) and Hackethal (2004).
2. In total there are currently seven *Landesbanken*: Landesbank Baden-Württemberg (LBBW), Bayerische Landesbank (BayernLB), WestLB, HSH Nordbank, Norddeutsche Landesbank (NordLB), Landesbank Hessen-Thüringen (Helaba) and Landesbank Berlin (LBB). Three other *Landesbanken* exist, but they are majority-owned by other *Landesbanken* (such as Bremer Landesbank and Landesbank Saar) or are divisions of other *Landesbanken* (in the case of Landesbank Rheinland-Pfalz).
3. In practice, the *Anstaltslast* prevents a default and thus the *Gewährträgerhaftung* serves more to strengthen the maintenance guarantee (Sinn, 1997).

public ownership prior to the crisis amounted to around 40% of total assets, by far the largest share among OECD countries (Portugal came in as second with a share of 25%).[5] In 2008, four of the ten largest German banks by assets were publicly owned. Apart from some special purpose banks, this mainly reflects the savings banks group (along with associated mortgage banks and building and loan associations) including the *Landesbanken,* which account for one-fifth of the total assets of the banking system (equal to the share of the five big private commercial banks).

... due to governance problems,...

The publicly-owned *Landesbanken* are at centre stage during this crisis as their exposure to toxic assets and the write-downs (relative to assets) so far exceed those of other banking sectors (Table 4.1). The savings banks were not directly exposed to toxic assets due to their regional domestic focus (but as owners of the *Landesbanken* are indirectly affected). From a theoretical point of view, public ownership is not necessarily

related to more risk taking, as profit maximization is not the primary concern. However, weaker banking skills and governance structures, unstable business models and political influence may well raise the fragility of publicly owned banks. The empirical evidence is inconclusive. Iannotta *et al.* (2007) find in a sample of European banks that public-sector banks exhibit poorer loan quality and higher insolvency risk than other banks. By contrast, Garcia Marco and Robles Fernandez (2008) find that Spanish commercial banks are less stable than Spanish savings banks and Beck *et al.* (2009) find for Germany that privately-owned banks are the least stable, followed by the savings banks and the co-operative banks (but their sample ends in 2007 and excludes the *Landesbanken*, the five largest private banks and two co-operative central institutions). The analysis by Hau and Thum (2009) points to governance problems in German banks in public ownership due to lack of skills. They find that the financial and managerial competence of supervisory board members is systematically lower in state-owned banks compared to private banks. In particular, their results suggest that bank performance during this crisis was directly correlated with supervisory board competence. This is in line with the observation that even before the crisis the *Landesbanken* were among the worst performing banking groups in Germany.[6]

... and the lack of a viable business model...

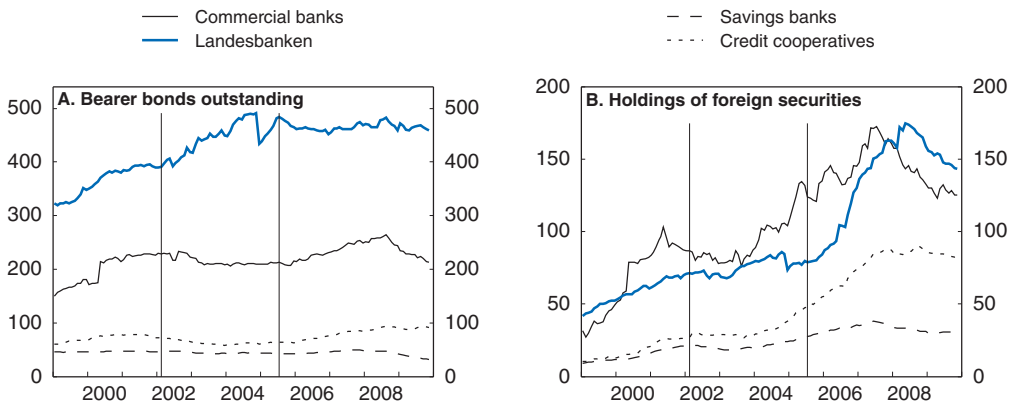
The key to the problem of some of the *Landesbanken* was the lack of a viable business model. Their role as main bank of the state and municipalities was reduced in recent years and their business of providing services for the savings banks, which was one of the main purposes for their creation, now accounts for only a small share of revenues. In addition, efforts by the *Landesbanken* to expand into retail banking or into lending to small businesses were hindered by the savings banks, which tried to protect their own business.[7] As an alternative they focussed on wholesale activities, increasing their investment banking business and international activities, and thus were in direct competition with private banks. Also, they were under pressure from their owners to achieve ambitious performance targets (Schrooten, 2009).

... helped by the long phasing-out period of government guarantees

However, a more direct factor for the large exposure of the *Landesbanken* to toxic assets is related to the long phasing-out period of government guarantees. This led them to build up excess liquidity available for lending to foreign banks or buying foreign securities, including complex securitization portfolios, and reduced the pressure to find a viable business model. In the period leading up to the phase-out of state guarantees for new liabilities in July 2005 (Box 4.2), these institutions increased the volume of their capital market refinancing sharply, accumulating large funding reserves, as refinancing costs would rise sharply once the state guarantees vanished (Figure 4.1, panel A). Between February 2002 and July 2005, the outstanding stock of bonds with government guarantee rose by around 25% while other bank's outstanding bonds fell. The *Landesbanken* used these funds to invest abroad with the amount of assets invested in foreign securities more than doubling in size between mid-2005 and mid-2008 (Figure 4.1, panel B). While private banks started reducing their holdings of foreign assets already in mid-2007, the *Landesbanken* increased their holdings until well into 2008. When the high-yielding structured credit products in their portfolios were downgraded, two *Landesbanken* were forced to merge immediately (SachsenLB and LBBW) and others had to be bailed out by various state governments (BayernLB, WestLB, HSH Nordbank).

Figure 4.1. **Refinancing and investments across banking sectors in Germany**

Billion euros



Note: Credit co-operatives include regional institutions. The decline in bonds outstanding for the *Landesbanken* in December 2004 is primarily due to a reclassification. The vertical lines indicate the period during which state guarantees for new liabilities of the *Landesbanken* were phased out, February 2002 to July 2005.

Source: Bundesbank.

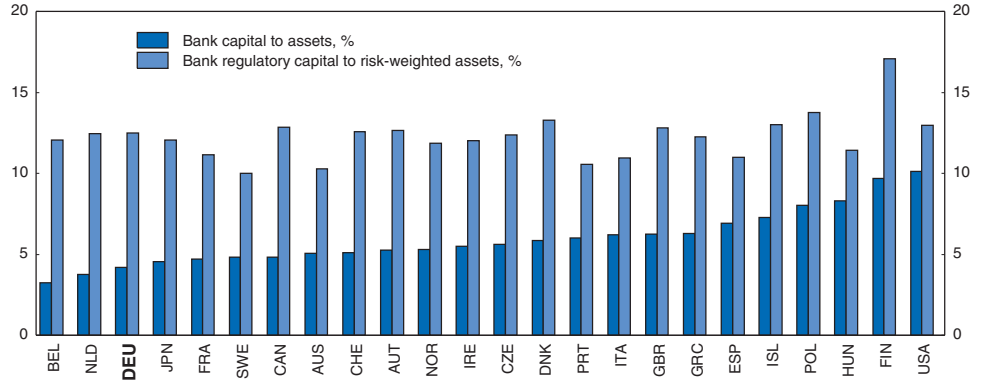
StatLink http://dx.doi.org/10.1787/816312781443

Overall, the evidence during the crisis underlines once more that the arguments for state-ownership of *Landesbanken* are weak. Notably, they simply compete with private banks and no longer fulfil a public service function. So far, larger reforms are envisaged for several *Landesbanken*, as the EU Commission (as a condition for their approval of state aid for the institution) is demanding significant adjustments (typically refocusing business models, significant reducing balance sheets and changing the bank's corporate governance and ownership structures). In the case of WestLB, the EU Commission expects a public tender procedure before the end of 2011.[8] While these reforms are a step in the right direction, they do not provide a sector-wide solution. Further privatization steps need to follow for the other *Landesbanken*. Significant consolidation among the *Landesbanken* should be fostered, in part to further dilute the influence of each state owner on the banks' business models, thereby improving governance structures. These fewer institutions may then be re-focussed on their traditional role as the central bank of the savings banks to the extent that there is a demand for such services (there is no need to have seven regional institutions performing this role).

German banks have a high leverage…

The vulnerability of the German banking system in the crisis was heightened by its higher leverage compared with other OECD countries. German banks stand out with an average capital-to-asset ratio of 4.2% over the period 2000-07, lower than in most other countries (Figure 4.2). However, the regulatory capital-to-risk-weighted asset ratio is higher, partly reflecting the favourable risk-weighting under current guidelines but also the more traditional business models with less risk exposure. In other words, German banks exhibit one of the highest absolute leverage ratios as they carry large volumes of assets to which they attach low risk. The gap between the risk-weighted regulatory capital ratio and the leverage ratio is very large compared with other OECD countries and particularly large for the big commercial banks, the *Landesbanken* and the mortgage banks (IMF, 2009). This may lead to under-pricing of credit risk and exposes German banks relatively more to unexpected shocks than banks in other countries. In fact, net provisioning (in % of total

Figure 4.2. **Bank capital to asset ratios**
Average ratio, 2003-07



Note: Due to differences in national accounting, taxation and supervisory regimes, Financial Soundness Indicators (FSI) data are not strictly comparable across countries. Refer to the FSI website, *http://fsi.imf.org/* for details.

Source: IMF, *Global Financial Stability Report*, October 2009.

StatLink http://dx.doi.org/10.1787/816313673340

assets) is significantly higher than in other OECD countries, indicating that risk pricing may be inadequate. Notwithstanding the fact that in the post-war period Germany has not had a wide spread banking crisis, in contrast to many other countries, it is nevertheless more vulnerable to large shocks, such as the current crisis.

One way to prevent a significant discrepancy between regulatory capital to risk-weighted assets and the bank capital to (unweighted) assets is to introduce a cap on the overall leverage of banks' balance sheets in the form of a leverage ratio, as is currently discussed internationally. A leverage ratio helps to contain excessive leverage in the banking system and introduces additional safeguards against model risk and measurement error. While the recent decision by the government to require banks to notify a leverage ratio to the supervisors (Box 4.4) is welcome in order to prevent banks from becoming too leveraged, the authorities should consider making such an instrument binding. In order to prevent competitive disadvantages, differing accounting standards among countries need to be taken into account when assessing the level of the ratio as is intended in the recent consultative proposals to strengthen the resilience of the banking sector announced by the Basel Committee (BIS, 2009). Off-balance sheet assets also need to be taken into account when calculating the ratio.

Under-pricing of risk is most likely during boom periods and may also allow weak banks to expand their loan portfolio. This increases the vulnerability during a downturn when banks are forced to deleverage as risk ratings of their credit portfolio become less favourable, thus leading to pro-cyclicality. One approach to counter such behaviour is to require increased capital buffers in good times that can be drawn upon in periods of stress, akin to the Spanish approach of dynamic provisioning and to the proposal of the Basel Committee (BIS, 2009). According to this method, banks determine the provision for specific loan losses in their individual institution as well as a statistical provision, as determined through a collective assessment provided by the regulator and based on historical information on credit losses for homogenous groups of loans. Whenever the statistical provision exceeds the provision for specific loan losses, banks have to raise their

provisioning by the difference (and *vice versa*), thereby building a buffer in lending booms to be used in recessions. The authorities should consider applying this tool to German banks.

... and structurally low profitability

German banks also compare poorly with other countries in terms of profitability. In some cases, this may have resulted in excessive risk taking. The pre-tax return on assets (ROA) was around ¼ per cent on average over the period 2000-07, the lowest return by some margin among those countries available in the OECD *Bank Profitability Database* (unweighted average: 0.9%, Table 4.3). Across sectors, profitability is somewhat higher for savings and co-operative banks but in absolute terms it also remains well below those of other countries.[9] This indicates that low profitability is not directly related to the specific structure of the banking system, notably the high share of banks without a strict profit-maximization goal. However, the *Landesbanken* stand out as having very poor profitability compared with the other banking groups. Reforming them as outlined before may thus also help in raising the overall profitability of the banking sector.

Table 4.3. **Performance indicators of the German banking system**
As % of total assets, average 2000-07

	Capital and reserves	Income pre-tax	Net interest income	Non-interest income	Operating expenses
Austria	5.23	0.54	1.09	1.20	1.52
Belgium	3.60	0.53	0.89	0.76	1.02
Canada	5.50	1.03	1.92	1.92	2.54
Czech Republic	8.80	1.23	2.27	7.68	
Denmark	6.03	1.06	1.52	1.22	1.42
Finland	9.30	1.30	1.52	1.26	1.31
France	4.48	0.57	0.73	1.28	1.29
Germany	**4.20**	**0.26**	**1.34**	**0.62**	**1.32**
Ireland	5.15	0.81	1.22	0.71	0.97
Italy	7.01	0.91	2.15	1.05	1.87
Korea	4.79	0.76	2.79	0.44	1.40
Luxembourg	3.90	0.56	0.64	0.61	0.52
Netherlands	3.59	0.60	1.33	1.10	1.65
New Zealand	6.70	1.57	2.19	1.10	1.55
Norway	6.05	0.99	2.00	0.76	1.61
Poland	9.28	1.47	3.42	2.63	3.76
Slovak Republic	6.61	1.22	2.68	1.61	3.50
Spain	7.94	0.86	1.98	0.95	1.56
Sweden	5.75	1.05	1.11	1.40	1.55
Switzerland	5.47	0.71	1.06	1.57	1.55
United States	9.58	1.65	3.12	2.13	3.12
Unweighted average	***6.14***	***0.94***	***1.76***	***1.52***	***1.75***

Source: OECD, *Bank Profitability Database*.

Comparing the income statements of banks across countries it becomes evident that the low profitability of German institutions is mainly due to lower income. Operating expenses as a share of assets, by contrast, are significantly below the (unweighted) OECD average.[10] On the revenue side, German banks lag behind due to lower non-interest income, while net interest income compares somewhat more favourably. Apparently, German banks were less able than banks in other countries to compensate for the decline

in net interest income that occurred across countries as a result of deregulation and competition from non-bank sources. This problem is more pronounced for the private banks, which tend to have much lower net interest margins than the savings or co-operative sector (which in case of the savings banks may reflect not least cheaper refinancing due to their implicit government backing).

The fact that weak profitability is due to the income side suggests that a high degree of competition drives down margins. Indeed, there is some evidence for this view, even though competition is hard to measure (Box 4.3). High competition would be beneficial for consumers and thus a positive feature. However, it may also help to explain why German banks were investing abroad in search for higher returns, even though the empirical

Box 4.3. **Measuring the extent of competition in the German banking system**

At first sight the German banking system seems to exhibit a high degree of competition with around 2 000 banking institutions (roughly 1.5 times the OECD average). The ratio of population to the number of institutions is one-fourth of the OECD average. This interpretation of a fragmented and competitive banking sector becomes obvious when looking at concentration ratios: The assets of the five largest banks as a share of the total assets of all credit institutions amounts to 22% in 2007, the lowest value in the EU27. Similarly, the Herfindahl-Index (which equals the sum of the squares of all the credit institutions' individual market shares in terms of total assets) is the lowest by a wide margin in the EU27 (ECB, 2008). Apparently, the market power of single institutions, based on these measures, is very small.

However, these measures treat all banks as individual institutions that compete against each other, neglecting the structure of the banking system and overstating competition. In particular, retail banking markets are local in nature, thus the geographic reach of every institution matters. The largest number of credit institutions belongs to the savings and co-operative banks which operate under the regional principle. Thus, most of them conduct their business in narrowly defined regional markets and within-group competition is of only minor importance. If the individual savings and co-operative banks were instead treated as members of their two institutions, concentration would be higher and competition lower (and more in line with other European countries).

To circumvent these problems microeconomic studies analyse directly the behaviour of individual banks in terms of price-setting. Indicators include the H-statistic, which measures the revenue elasticity with respect to a change in costs. Studies using this approach usually find that the extent of competition in Germany is within the average of other countries. Similar results are found for the Lerner-Index and the Boone-Indicator (see studies cited in Sachverständigenrat, 2008). Net interest margins (defined as net interest income as % of total assets as in Table 4.3) are lower than the OECD average but do not point to a particularly high degree of competition.

Studies that focus on the German banking sector suggest that competition is largest for private commercial banks and *Landesbanken*, while savings banks and credit co-operatives are operating under less intensive competition (even though results need to be interpreted with caution as they depend on the methodology used; Fiorentino and Herrmann, 2009). This indicates that the latter are operating in sheltered local markets where they have more market power. This view is supported by net interest margins, which are very high for the savings and co-operative banks, while the margins earned by private commercial banks are lower.

evidence for the link between banking competition and risky behaviour is weak (Allen and Gale, 2004; Boyd *et al.*, 2006). However, low profitability seems only partly explained by competition factors. Brunner *et al.* (2004) find that less adequate pricing of risk (high provisioning) and a lower proportion of high-value-added activities/output (low revenue from sources other than interest margins) play a role.

Opening up the savings bank sector should be considered

The current reform initiative should be used for further improvements of the German banking system that may help increase its efficiency. Reforming the unprofitable *Landesbanken*, as recommended above, would certainly go some way towards achieving this. However, while the savings and co-operative banks have been a source of stability during the crisis, the banking system nevertheless remains highly fragmented. In this regard, legal restrictions on mergers across bank types, notably regarding the takeover of savings banks by private institutions, may limit synergies. One indication that consolidation may not have gone far enough is that the number of credit institutions relative to population is still around 40% higher than in other euro area countries.[11] Consolidation has so far taken place predominantly through mergers and takeovers of mostly smaller banks within one pillar of the banking system. Evidence suggests that these takeovers often do not lead to improvements in efficiency (Bundesbank, 2006). For example, a major objective of takeovers taking place in the savings bank and co-operative bank sectors is to rectify problem cases.[12] This may be one reason why profitability remains low despite significant merger activity in recent years (the number of credit institutions fell by almost half since 1995, against around one-third in the euro area).

While cross-pillar consolidation remains a controversial issue in Germany, other European countries are more advanced in restructuring their public banking sector. In Austria, savings banks were allowed to transform into joint stock companies and the regional principle was abolished. In France, savings banks were turned into co-operatives owned by local savings societies (that sell shares to employees and public entities), allowing for some (limited) private participation. In Italy, the savings bank sector has been privatized, with foundations playing a large role as owners. In Spain, very limited private sector participation (no voting rights) was allowed (even though public sector involvement remains high) and the regional principle was abolished. In Sweden, savings banks were transformed into joint stock companies in the early 1990s, consolidated into one entity and later privatized (see Brunner *et al.*, 2004; Deutsche Bank Research, 2004; Sachverständigenrat, 2008; Ayadi *et al.*, 2009). These reforms are generally thought to have led to consolidation and an improvement in profitability in the concerned countries. Consideration should thus be given to open up the German savings bank sector to private ownership. This would help to ensure a level playing field between public sector and private financial institutions. Even though profitability of the savings banks is better than that of private banks, the current setup of the savings bank sector may have adverse implications for the profitability of other banking groups. In addition, reducing public ownership also lowers the risk of potential political influence on business operations. One possibility along this line is the proposal by the Sachverständigenrat (2008) to turn the savings banks into joint stock companies owned by foundations, akin to the reforms in Italy. This would reduce political influence on the operating business by increasing transparency and open up the possibility of selling shares to institutions outside of the

savings bank pillar, thus reducing the fragmentation in the banking system and opening the way for a market-oriented restructuring.[13]

The crisis revealed problems in banking regulation and supervision

The crisis has revealed a number of weaknesses in the regulatory and supervisory framework, both in Germany and internationally. While the German approach in these areas takes place within a framework of European regulations (OECD, 2009b) and international practices, there is substantial national discretion to impose regulations and the way supervision is applied is largely a national matter. The European and international regulatory contexts may change substantially as a consequence of the financial crisis, but there is nevertheless important scope for Germany to strengthen its own arrangements.

Banking supervision can be organized more efficiently

Currently, supervision is shared between the Bundesbank and the German Financial Supervisory Authority (*Bundesanstalt für die Finanzdienstleistungsaufsicht;* BaFin). The BaFin is an integrated supervisor created in 2002 when the Federal Banking Supervisory Office, the Federal Supervisory Office for Insurance Enterprises and the Federal Supervisory Office for Securities Trading were merged into one entity. According to a directive in 2008 (*Aufsichtsrichtlinie*), which clarified the distribution of tasks, the Bundesbank is responsible for most of the operational tasks in banking supervision. In the ongoing monitoring process, the Bundesbank's responsibilities include evaluating the documents, reports, annual accounts and auditors' reports submitted by the institutions as well as regular audits of banking operations. It holds both routine and *ad hoc* prudential discussions with the institutions. The key output of the monitoring process is a prudential risk profile, which is produced at least yearly for each banking institution and includes a detailed assessment of the risks of the institution as well as other factors such as its profitability, organization, ownership structure and internal processes.

The final assessment and decision-making power on all supervisory measures rests with the BaFin. The prudential risk profile prepared by the Bundesbank provides the main basis for the supervisory judgment. Only in exceptional cases does the BaFin carry out audits of banking operations, either together with the Bundesbank or on its own. While the BaFin is a functionally and organisationally independent body, it is subject to legal and technical oversight of the Ministry of Finance. The ministry can in principle issue instructions to the BaFin on a range of organizational and other matters and is the "supreme official authority" for the BaFin management (IMF, 2003). BaFin is funded by the supervised institutions and around half of the members of the administrative council come from the industry. To facilitate the co-operation between the Bundesbank and the BaFin, the *Forum for Financial Market Supervision (Forum für Finanzmarktaufsicht*) has been created.

Despite the recent efforts to improve the co-ordination between both institutions, the current fragmented setup of supervision may be a problem as analysis is done in one institution while execution is done in the other. In this regard, the plan by the new coalition government to concentrate banking supervision at the Bundesbank moves in the right direction since it concentrates the decision-making powers and the underlying analytical work in one institution. In order to raise the efficiency of supervision, it also needs to be ensured that the supervisory institutions have adequate human resources. This relates less to the headcount (Germany has fewer personnel in relation to the number

of banks than France or Spain, but more in relation to the banking assets) than to their qualification. Human capital available for supervision should be strengthened by offering more flexible pay structures but also by offering a research environment that will be attractive to more qualified personnel.

The independence of the supervisor needs to be strengthened

Early warning signs of the crisis were missed due to a lack of more prospective supervision including more scrutiny in the analysis of the viability of business models. For example, the risks associated with the lack of a viable business model for the *Landesbanken* in connection with the build-up of large liquidity stocks during the phase-out of government guarantees should have rung alarm bells. Even though the prudential risk profiles include an analysis of business plans, they were often not assessed critically enough. Supervisors did not see it as their role to interfere with business strategies as long as supervisory rules were not breached. In addition, interference with the business models of some state-owned banks may have been delicate for BaFin as it is working under the legal and technical oversight of the Ministry of Finance, which itself has representatives on the supervisory boards of the supervised banks. According to Quintyn *et al.* (2007), banking supervision in Germany is among the least independent in a sample of 32 industrial and emerging countries (although the score for accountability is the highest in the sample).

Going forward, the supervisor should be sufficiently independent from political interference (Rochet, 2008). Concentrating supervision at the Bundesbank may help in this regard. A further step in this direction could be setting up an independent commission outside the BaFin, Bundesbank or Ministry of Finance to write regular reports on financial supervision (similar to the Council of Economic Experts or the Monopoly Commission and mirroring the intended European Systemic Risk Board) as suggested by Hartmann-Wendels *et al.* (2009).

Widening the scope for supervision beyond compliance with quantitative requirements

Although banks adhere to quantitative regulations, they also engage heavily in regulatory arbitrage. This concerns for example the issue of granting liquidity lines to special purpose vehicles (SPV), which invested in structured credit products while being refinanced on the money market. One way to circumvent the mandatory reporting of large credits to the Bundesbank was to split the SPVs up into several independent asset companies, under a financial holding company, in order to keep the size of the individual credit lines sufficiently small.[14] In the case of the Industriekreditbank IKB, the sum of the liquidity lines was reportedly too large to satisfy the large exposure criterion of the banking act. Also, the limitation of the duration of liquidity lines to 364 days in order to circumvent reporting is an example of regulatory arbitrage.[15] Overall, banking supervision was arguably too much oriented at quantitative regulations and put too little focus on qualitative regulations that would also allow for some discretionary leeway for supervisors. Qualitative regulations are also more forward-looking as supervisors do not have to wait for quantitative targets not to be met. However, there is also a downside of going too far towards more discretionary leeway if supervisors use increased flexibility to implement "light-touch regulation". In practice, thus, a fine balance between qualitative and quantitative supervision needs to be struck. Going forward, the scope for supervision beyond compliance with quantitative requirements may need to be widened in Germany, giving banking regulators more leeway and moving towards a more principle-based

regulatory framework with more qualitative assessments (while maintaining the rules). This would include supervisors addressing more clearly the risks entailed by certain business strategies.

Putting more focus on macro-prudential analysis

Finally, systemic risks were not taken into account to a sufficient extent as banking supervision – as in other countries – focused on micro-prudential analysis. This concerns, for example, the risks from a maturity mismatch in the refinancing of long-term loans, which was the key issue in the fall of Hypo Real Estate. As the money markets dried up in the wake of the fall of Lehman Brothers and market participants became highly risk-averse, short-term refinancing was not available. However, adequately capturing systemic risks necessarily involves activities that go beyond national borders. One step forward would be the publication of systemic risk indicators. The centralisation of supervision at the Bundesbank is in line with this necessity as it has natural advantages in the field of macro-prudential analysis, for example by publishing *Financial Stability Reports*.

Responding to the apparent weaknesses, the government enacted a law to strengthen banking supervision in July 2009 (Box 4.4). The overall intend to strengthen the supervisory powers and to allow for more preventive measures, such as a discretionary requirement for higher capital ratios, is highly welcome. However, more wide-ranging steps could have been taken, for example by setting a mandatory leverage ratio instead of merely requiring its reporting to the supervisor. The requirement of higher capital buffers in a benign economic

Box 4.4. **Government initiatives to strengthen banking supervision**

The core changes concerning banking supervision that are put in place by the Act on the Strengthening of Financial Market and Insurance Supervision (*Gesetz zur Stärkung der Finanzmarkt- und Versicherungsaufsicht*) implemented in July 2009 are the following:

- The BaFin may require higher capital ratios, for instance if it considers a bank's risk absorption capacity to be inadequate; this also allows the supervisor to require higher capital buffers in a benign economic environment. Higher capital ratios can also be required in case a bank does not have a proper business organization. In addition, the BaFin may also require higher liquidity ratios.
- Banks will have to report their leverage ratio (ratio of capitalization to total unweighted assets, including off-balance sheet assets and the settlement value (*Wiedereindeckungswert*) of derivatives).
- Dividend payout and coupon payments on hybrid instruments that exceed the annual net profit may be prohibited in case the supervisor considers that there is a danger of breaching minimum capital requirements (before this was only possible after the breaching).
- During crisis times, the BaFin may order a prohibition of payments by a domestic lender to a foreign parent-company (so-called ring fencing) to prevent the absorption of liquidity.
- The BaFin is entrusted with the authority to remove members from supervisory board at banks and insurance companies in case of incompetence or lack of reliability (conscientiousness). The *Banking Act* also regulates that supervisory board members are allowed to have at most five mandates in banking institutions and not more than two prior management members may be on the supervisory board.

environment could be broadened so as to apply beyond the individual institution (Krahnen, 2009), for example following the example of dynamic provisioning as practiced in Spain (see above). Also, requiring higher capital ratios for banks without a proper business organization may not be sufficient to enforce sufficient change in such an institution.

Introducing a framework for restructuring and winding-up systemically-relevant banks

The government's initial use of *ad hoc* measures to bail out individual banks showed that the current mechanisms to handle banking crisis did not provide sufficient scope for an appropriate response to systemically relevant banks in distress. As in most other countries, there is thus the need for a new restructuring and winding-up regime. Ideally, such a scheme allows the negative system-wide effects of an individual bank failure to be limited, while keeping the costs for the taxpayer to a minimum and avoiding incentive distortions as best as possible. A critical element of such a framework should be that the state intervention takes place at a sufficiently early stage, so as to allow for preventive measures long before a potential bankruptcy.[16] A framework along these lines has recently been proposed by the Council of Economic Experts (Sachverständigenrat, 2009). Within the government, various draft laws have been put forward by the Ministry of Justice and the Ministry of Economics. The government should act quickly to put in place an efficient regime, not only to prepare for the next eventual large banking crisis but also to be prepared if individual institutions encounter difficulties during the remainder of the current crisis.

Box 4.5. **Recommendations regarding the banking sector**

Ensure that banks are adequately capitalized

- Continue efforts to clean bad assets from banks' balance sheets and ensure that banks are adequately capitalized. The authorities should play an active role, by closely monitoring capital adequacy, notably including the application of stress tests, and maintaining support instruments in order to, if needed and as a last resort, provide public capital to those banks that are not able to raise funds from private sources.

Reforming the *Landesbanken* and raising the efficiency of the banking system

- Restructure the *Landesbanken*; options include privatization, consolidation into one entity and focusing on core activities. Make sure they have a viable business model.
- Ensure a level playing field between the savings banks and privately owned banks, *e.g.* by opening up the savings bank sector for private ownership as in other European countries.

Banking regulation and supervision

- Centralize supervision at the Bundesbank as planned but ensure that this leaves the institution with sufficient independence from the Ministry of Finance. Strengthen the macro-prudential elements of supervision.
- Widen the scope for supervision beyond compliance with quantitative requirements. Prevent regulatory arbitrage by continuing to move closer towards a more principle-based regulation. Supervisors should address more clearly than in the past the risks that certain business strategies entail.
- Consider introducing dynamic provisioning as well as a binding overall leverage ratio.
- Introduce a framework for restructuring and winding-up framework systemically-relevant banks that allows for a sufficiently early intervention by the government.

Notes

1. See speech by Finance Minister Steinbrück "Die Rolle des Staates in der Sozialen Marktwirtschaft" on 9 July 2009 in Frankfurt/Main.
2. These estimates are based on a comparison between nominal values and book values of securitized assets on the balance sheets of large German banks and their market price development since January 2007.
3. The data are total committed amounts including capital injections, liability guarantees and asset support.
4. Until October 2009, SOFFIN provided EUR 127.7 billion of guarantees, EUR 21.9 billion in capital injections and took over EUR 5.9 billion of assets (Sachverständigenrat, 2009).
5. Data refer to 2005 and are taken from the Worldbank Financial Regulation Database. Public ownership of the banking system has increased significantly during the financial crisis in several OECD countries due to rescue operations.
6. The average pre-tax return on equity over the period 2000-07 was 4% for the *Landesbanken* and the central institutions of the credit co-operatives, almost 10% for the savings banks and credit co-operatives and 7½ per cent for the private banks.
7. In those *Landesbanken* which were more closely integrated with the savings banks (such as Helaba), exposure to toxic assets and losses during the crisis tended to be less severe (Dawson-Kropf and Rioual, 2009).
8. See European Commission (2009), State aid: Commission approves aid package for German bank WestLB (Press release IP/09/741, 12 May 2009). The EU Commission demanded smaller reforms for Landesbank Baden-Württemberg (LBBW): the institute will have to be transformed into a joint stock corporation but the ownership structure may be maintained, even though the political impact on its business is to be reduced by installing an independent expert as the head of the supervisory board (Press release IP/09/1927, 15 December 2009). Further state aid cases for other *Landesbanken* are still under consideration.
9. The average ROA over the period 2000-07 was 0.2% for commercial banks, 0.4% for savings banks, 0.5% for co-operative banks and 0.1% for other miscellaneous banks. Regression analysis indicates that the lower profitability also seems unrelated to the economic cycle (Brunner *et al.*, 2004).
10. However, analysis on a disaggregated basis finds that the cost-income ratio of the median German bank is high compared with other countries (Sachverständigenrat, 2008).
11. In 2007, the ratio of credit institutions per 100 000 inhabitants was 2.46 in Germany, compared to 1.73 for the euro area excluding Germany.
12. Acquired banks in these sectors are predominantly characterised by a low level of capitalisation, increased credit risk and comparatively low efficiency (Bundesbank, 2006).
13. In the proposal by the Sachverständigenrat, outside shareholders would be limited to minority holdings in order to maintain the public mandate to supply banking services locally and to maintain the advantage of being in the savings bank network.
14. Pursuant to sections 13 to 14 of the Banking Act, institutions have to report their large exposures and loans of EUR 1.5 million or more to the Bundesbank on a quarterly basis. The key provision is the limitation of a single large exposure to 25% of the liable capital for the banking book and 25% of the own funds for the overall business of trading-book institutions. Large exposures are defined as exposures to an individual borrower or a single borrower unit which amount to or exceed at least 10% of the liable capital or own funds. Loans of EUR 1.5 million or more to an individual borrower or a single borrower unit have to be reported to the Bundesbank. Its credit register collates all such reports, computes the total indebtedness of an individual borrower or a single borrower unit and then notifies the reporting institutions of that total amount of indebtedness of their borrowers.
15. Until the end of 2007 exposure to such off-balance sheet vehicles (SPVs) did not have to be backed by capital. Specifically, liquidity lines granted to the SPV only had to be backed by capital if they could not be terminated without notice and unconditionally and had an original maturity of more than a year. In practice, credit lines were typically granted with a maturity of 364 days so that they did not have to be included in the capital charge. Such a zero weighting for short-term credit lines has been largely abolished with the introduction of Basle II in January 2008 (see Bundesbank, 2007, Box 1.6).
16. The thresholds for intervention should usefully consist of quantitative targets (the bank undershoots certain ratios), as done in the prompt corrective action framework if the US FDIC, but also allow for a sufficient qualitative assessment based on principles, as is the case in the UK's Banking Act (Bundesbank, 2009).

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Chapter 5

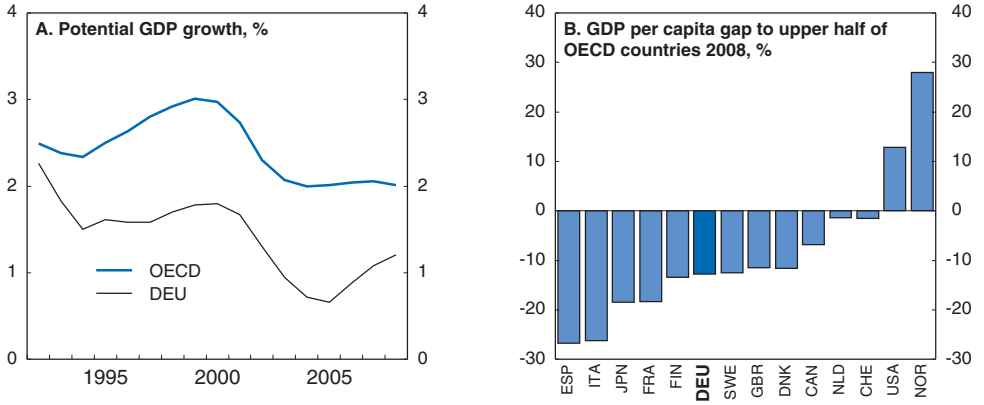
Structural reforms to lift potential growth in a globalised world

The potential growth rate of the economy has been low for a long time and the crisis has had a further adverse impact. The meagre growth performance mainly reflects low growth in a number of services sectors; most manufacturing sectors, by contrast, expanded at a rapid pace in the years preceding the recent crisis, on the back of robust foreign demand. The challenge is to consolidate the past success of the export sector and to broaden it to the whole economy by making the policy framework more conducive to innovation and structural change. Specifically, product market regulation needs to be eased to prevent it from sheltering uncompetitive industries; the framework conditions for innovation need to be improved; the education system needs to be reformed further to supply a sufficiently large pool of highly qualified labour; and immigration policy needs to become more favourable to the immigration of high-skilled.

Considerable scope remains to lift potential growth

Although the volatility of GDP growth over the last years – the strong upswing in 2006/07 followed by the harsh downturn in 2008/09 – has drawn attention away from the dismal underlying growth performance, the low potential growth rate of the economy remains a fundamental reason for concern. Between 2000 and 2008, potential growth averaged around 1.1%, more than 1 percentage point below the OECD average (Figure 5.1, panel A). Even though several reforms have helped push up potential growth in recent years (for example, the *Hartz* reforms contributed to an increase in labour utilisation), the room for improvement remains large. The country's GDP per capita gap *vis-à-vis* the upper half of OECD countries also widened further over the past decade. In 2008, the GDP per capita level stood at 86% of the average of the upper half of OECD countries, placing the country 14th in the OECD (Figure 5.1, panel B).

Figure 5.1. **Potential growth and living standards**



Note: In panel B, percentage gap with respect to the simple average of the upper half of OECD countries in terms of GDP per capita in constant 2005 PPPs.

Source: OECD, *Economic Outlook* and *National Accounts Databases*.

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Growth has been particularly slow in a number of services sectors…

Growth has been particularly weak in several services sectors (Table 5.1). Overall, value added growth in market services[1] over the period 2000-07 was 2.2% per year, considerably lower than the 3.4% rate achieved by the United States or the 4.2% rate achieved by the United Kingdom and also much lower than the OECD average of 3.1%. The difference with the OECD average was particularly marked for wholesale and retail trade, where growth was more than 1½ percentage points lower in Germany (though it has to be acknowledged that in some countries growth in this sector prior to the recent crisis was overstated by cyclical developments and that value added in wholesaling has picked up in Germany in recent years with average annual growth over 2005-07 exceeding the OECD average by

Table 5.1. **Value added growth by sector**

Annual average 2000-07, %

	DEU	OECD[1, 2]	FRA	ITA	JPN[1]	GBR	USA
Total	1.7	2.4	2.1	1.5	1.4	2.7	2.5
Agriculture, hunting, forestry and fishing	0.4	1.4	–0.3	–0.7	–0.9	0.9	4.5
Mining and quarrying	–5.0	–1.5	–	–0.8	1.7	–4.8	–1.5
Manufacturing	2.7	2.4	1.4	0.7	2.7	0.4	2.4
Electricity, gas and water supply	0.7	1.9	2.7	1.2	2.0	1.2	1.8
Construction	–3.3	0.1	2.1	2.5	–2.2	2.6	–2.3
Market services	2.2	3.1	2.8	2.0	1.4	4.2	3.4
Wholesale and retail trade, restaurants and hotels	1.5	2.5	1.7	1.0	0.0	3.1	3.3
Transport, storage and communications	3.2	3.8	4.0	3.7	1.4	3.8	4.1
Finance, insurance, real estate and business services	2.3	3.2	3.0	2.3	2.4	4.8	3.3
Community, social and personal services	1.1	1.8	1.1	1.1	1.6	1.8	1.8

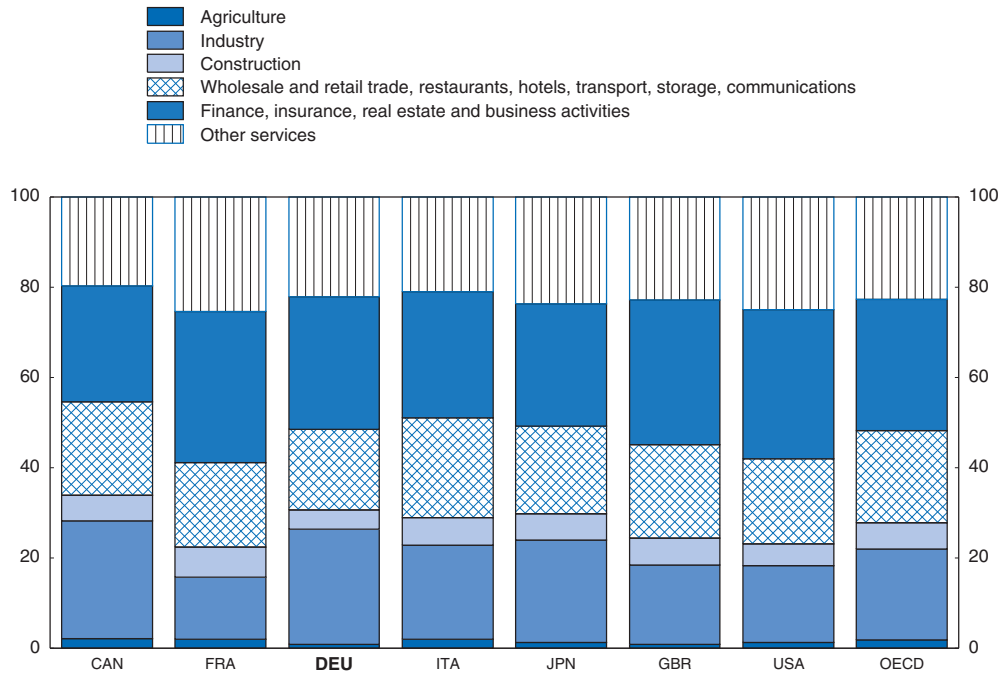
1. 2000-06.
2. Weighted average of 27 OECD countries (mining and quarrying: 24 OECD countries), using real GDP in 2005 purchasing power parities as weights.

Source: OECD (2009), *STAN Database for Structural Analysis*.

around ½ percentage point). Other sectors with below-average growth include business services, education, and personal services such as culture and sports. The special situation of services sectors is also reflected in the composition of value added (Figure 5.2). Market services account for about 46½ per cent of total value added, which is the second lowest share among the G7 economies (after Japan).

Figure 5.2. **Composition of value added**

%



Note: OECD refers to the average of shares of value added of 27 member countries using as weights 2005 GDP in 2005 USD PPPs. Shares refer to 2007 for Japan, USA and OECD, 2004 for Canada and 2008 otherwise.

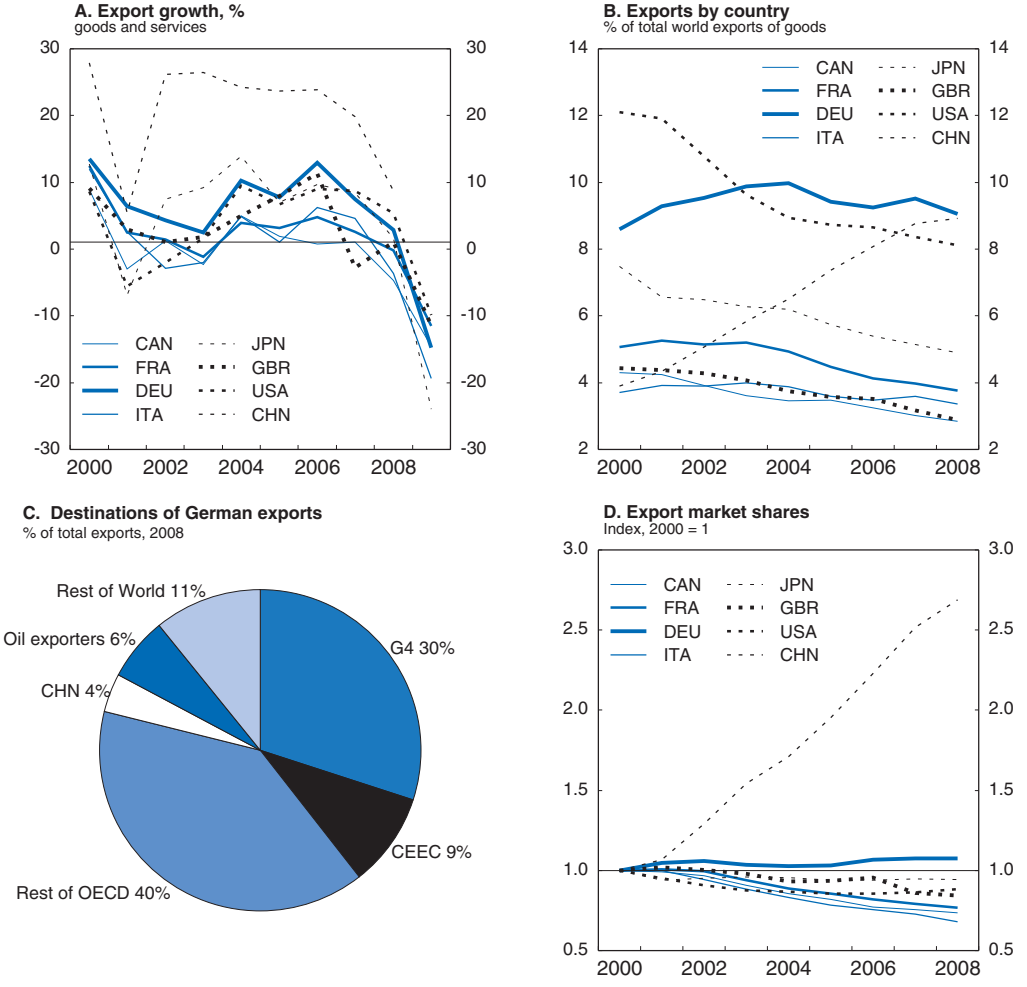
Source: OECD, *National Accounts Database*.

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... whereas most export-oriented manufacturing sectors expanded rapidly

In contrast to services sectors, most manufacturing sectors expanded rapidly prior to the recent crisis, helped by robust foreign demand. Growth was particularly strong in the machinery and equipment sector as well as in the transport equipment sector, with average annual growth of around 5% between 2000 and 2007. The robust growth in manufacturing sectors was mirrored in a surge in exports (Figure 5.3, panel A). Even though the export boom became most visible during the last recovery, which especially at the beginning had relied exclusively on foreign demand, export growth had been strong also in earlier years. Between 1995 and 2007 real exports increased by 8% per year on average. Germany was recently overtaken by China as the world's largest exporter (at current exchange rates), but still accounts for about one-tenth of total world exports

Figure 5.3. **Some stylized facts about foreign trade**



Note: In panel A, data for 2009 for CAN, ITA, GBR refer to averages based on Q1 to Q3. G4 refers to France, Italy, United Kingdom and United States. CEEC refers to Czech Republic, Hungary, Poland and Slovak Republic. In panel D, export market shares are calculated as the ratio between the volume of exported goods and services and a measure of export market, where the latter is calculated using the methodology outlined in Box A of Pain, N., A. Mourougane, F. Sédillot, and L. Le Fouler (2005), "The new international trade model", *OECD Economics Department Working Papers*, No. 440.

Source: OECD (2009), *Economic Outlook,* No. 86; IMF (2009), Direction of Trade Statistics; and OECD *National Accounts Database*.

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(Figure 5.3, panel B). The strong increase in both imports and exports during past years led to the emergence of the bazaar theory, according to which Germany is merely a trading floor for goods and services (Box 5.1).

One factor behind the strong growth in exports was a rapid expansion of global economic growth and thereby Germany's potential export market. Between 2000 and 2007, the size of the potential export market (measured as the weighted sum of goods and services imports by Germany's trading partners) increased by more than 50%. Despite the rising importance of non-OECD economies (in particular, China and oil-exporting countries) as a destination for German exports, the OECD still purchases around 80% of goods shipped abroad (down from 85% in 2000).[2] Among OECD countries, the Central and Eastern European countries (*i.e.* the Czech Republic, Hungary, Poland, and the Slovak Republic) saw the strongest increase in their demand for German goods (Figure 5.3, panel C). However, despite similar increases in their potential export markets, most other OECD countries did not experience an export boom of a magnitude comparable to that of

Box 5.1. **The bazaar theory debate**

The bazaar economy theory developed by Sinn (2006) stipulates that high and rigid domestic wages caused German companies to respond to growing competition from low-wage countries by shifting domestic value added towards physical and human capital intensive downstream activities, while outsourcing and/or offshoring upstream activities, which make greater use of unskilled labour, to foreign countries (Central and Eastern Europe in the automobile industry, Asia for computer components). These upstream activities are then re-imported as intermediate goods. To some extent, such a shift is in line with the international division of labour – and thus welcome – as Germany is capital rich. However, Sinn argues that wage rigidities in Germany prevented factor price equalisation and thus led to excessive outsourcing/offshoring by firms. As a consequence, Germany moved away from producing goods towards merely trading them. This bazaar effect is reflected in an increase in FDI outflows, an increase in exports (as the internationalisation of supply chains helped German firms to improve their cost competitiveness), an increase in the import share of exports, and a decline in the depth of domestic production. Moreover, as the shrinking labour intensive sectors set free more workers than the expanding capital intensive sectors could absorb, unemployment increased. According to the argument, if wages had been allowed to decline, large parts of labour intensive industries would have survived and industries would have been induced to choose less capital intensive production processes.

The bazaar theory has caused much dispute in the German economic debate over the past years. In a recent paper, Snower *et al.* (2009) argue that the globalisation process that started in the mid-1990s is not characterized by a specialization of developed countries on skilled labour and capital intensive products as stipulated by Sinn (2006), but rather by a geographic decomposition of value chains with workers, performing similar tasks in different countries, competing with each other. The implications of Sinn's theory were also challenged empirically. For example, Moser *et al.* (2009) cannot find any evidence that offshoring reduces the depth of domestic production as implied by the bazaar theory. Instead, offshoring plants increase their domestic and foreign market share against firms that do not offshore, thanks to productivity improvements.* Similarly, Bundesbank (2006a) shows that outward German FDI has a neutral effect on domestic business investment in the short run, while raising it in the long-run.

Box 5.1. **The bazaar theory debate** *(cont.)*

Nonetheless, offshoring might be associated with a decline in domestic labour demand if the gains that are associated with the improvements in international cost competitiveness do not outweigh the losses that stem from the relocation of jobs to foreign countries (see also Sachverständigenrat, 2004). Empirical studies for Germany yield mixed results on this issue. Using micro data, Moser *et al.* (2009) find that the downsizing effect on labour demand outweighs the productivity effect. In line with this, Becker *et al.* (2005) find that a 1% larger wage gap between Germany and Central and Eastern European host countries is associated with 0.05% smaller employment in German multinational parents. Geishecker (2006) shows that international outsourcing is an important explanatory factor for the observed decline in relative demand for manual workers in German manufacturing sectors during the 1990s. In a later study he finds that international outsourcing markedly reduces individual employment security with the effect roughly equal across different skill levels (Geishecker, 2008). Bachmann and Braun (2008) by contrast cannot find any significant impact of international outsourcing on overall job stability in the manufacturing sector (in the service sector job stability even rises), though the authors acknowledge that unemployment risk increases for some groups of manufacturing workers, notably the medium-skilled and the elderly. A similar result is obtained by Molnar *et al.* (2008), showing that an expansion of employment in the foreign affiliates of German-owned companies does not have any significant impact on domestic employment. A number of studies even point to positive domestic employment effects of offshoring activities (*e.g.* Klodt, 2004; Kreditanstalt für Wiederaufbau, 2004).

* Empirical evidence on the link between international outsourcing and productivity is also presented by Amiti and Wei (2006); Egger and Egger (2006); and Görg *et al.* (2008).

Germany.[3] What set German companies apart from their competitors in other OECD countries was their ability to gain market share at a time when low-cost emerging countries were entering the global economy. Whilst many OECD countries suffered market share losses during recent years to the benefit of emerging economies from Asia and Central and Eastern Europe, German exporters were able to even slightly expand their market share (Figure 5.3, panel D).

Empirical evidence indicates that the market-share gains resulted to a large extent from improvements in the price competitiveness of German products (Box 5.2). Nominal wages grew at very low rates, especially from the 2002/03 recession onwards, pushing down unit labour costs. Indeed, in 2008, the level of real wages (deflated with the GDP deflator) was virtually the same as in 2001. German companies also benefited from cost reductions by offshoring and/or outsourcing parts of their supply chains to lower-cost countries in Central and Eastern Europe (Box 5.1).[4] Marin (2004) estimates that unit labour costs can be reduced by around 72% through such offshoring activities. Non-price factors, which were mostly behind the export gains observed during the 1990s, seem to have played only a minor role in the pre-crisis surge in exports.

The export boom was suddenly stopped by the global economic crisis. In the second quarter of 2009, German exports were about 18½ per cent lower than a year before, the sharpest decline in post-war history. Although Germany was not an outlier in this respect – the majority of OECD countries recorded unprecedented declines in their export volumes during this period – it was harder hit than many others. The reason for this lies in the composition of German exports, which are heavily skewed towards those sectors that were

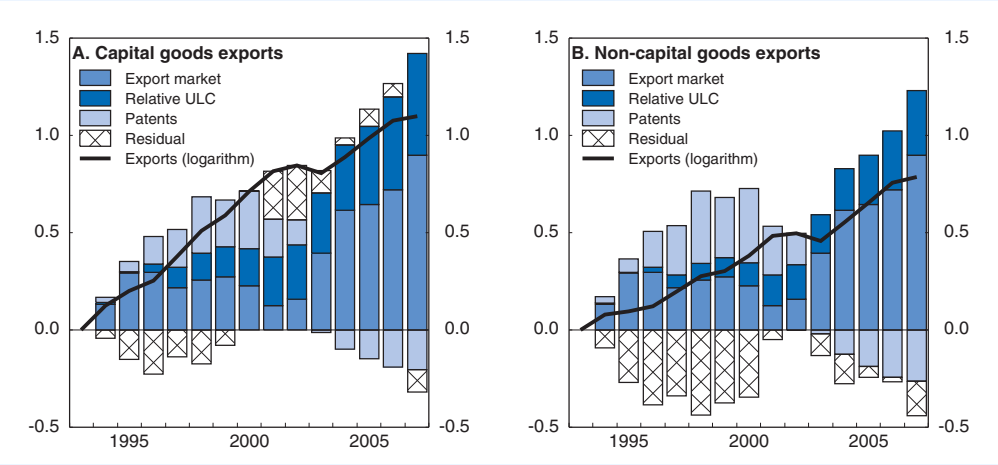
Box 5.2. **What drove the German export boom?**

A number of empirical studies have investigated the reasons behind the strong increase in German exports. Allard *et al.* (2005) show that an increase in foreign demand was the main factor behind the growth of goods exports between 2001 and 2004, whereas much of the increase in services exports is explained by a time trend (an increase in foreign demand played a somewhat smaller role). An appreciation of the unit labour cost based real effective exchange rate made a negative contribution to export growth, though the size of the effect is relatively small in the case of goods exports. Danninger and Joutz (2007) explore the relevance of four potential explanations: ties to fast growing trading partners, improvements in cost competitiveness through offshoring, improvements in cost competitiveness through wage moderation, and specialisation on capital goods. The authors find that the first two factors account for about 60% of the faster increase of German exports between 2000 and 2005 *vis-à-vis* other industrial countries, whereas relative declines in unit labour costs contributed relatively little. Regarding the role of Germany's specialisation on capital goods, the authors do not obtain conclusive results. A similar conclusion is drawn by Stahn (2006) who regresses exports on real demand in export markets and a measures of price competitiveness (deflator of total sales relative to competitor countries). The influence of economic activity in trading partner countries is found to have outweighed the effect of price competitiveness over the period 1993 to 2004. Bundesbank (2006c) also takes into account the role of non-price competitiveness, measured as the level of German inward and outward direct investment relative to global direct investment stocks. The study finds that improvements in price competitiveness were the main factor behind the market share gains between 1995 and 2005 with improvements in non-price competitiveness (though statistically significant) playing a negligible role.

To further explore the reasons behind the strong increase in German exports a number of equations are estimated relating the volume of exports to a measure of export market, and measures of price and non-price competitiveness (see Appendix 5.A1 for details on methodology and dataset). The equations are estimated separately for capital and non-capital goods to explore whether the importance of explanatory variables differs across the two types of goods. The estimation results indicate that the strong growth in capital goods exports observed during the 1990s was to a large extent caused by improvements in the non-price competitiveness of German exports (Figure 5.4, panel A). The increase in the number of triadic patents per million population filed each year at the European Patent Office, the Japan Patent Office and the US Patent and Trademark Office relative to the number of patents of competitor countries explains two-fifths of the increase in capital exports observed between 1993 and 2000. From 2000 onwards, changes in the non-price competitiveness did not contribute much to the surge in capital goods exports, a finding that is consistent with Bundesbank (2006c). From 2003 onwards the variable even contributed to a decline in capital goods exports as the number of patents grew more slowly in Germany than in its competitor countries. By contrast, export growth was supported by improvements in the price-competitiveness of German products. From 2000 to 2007, German unit labour costs declined by 1¾ per cent whereas they increased by 16½ per cent (on a trade weighted basis) in competitor countries. The picture looks fairly similar for non-capital goods exports (Figure 5.4, panel B). Improvements in the cost-competitiveness of German firms contributed to growing exports in recent years, which was more than offset by losses in non-price-competitiveness. The growth in non-capital goods exports was thus solely due to an expansion of the size of Germany's export market, while market share was lost.

Box 5.2. **What drove the German export boom?** *(cont.)*

Figure 5.4. **Determinants of capital and non-capital goods exports**



Source: OECD estimates.

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most affected by the crisis. Machinery and transport equipment is the leading export sector, accounting for around two-fifths of total exports. Exports of this sector dropped by around a third between the second quarter of 2008 and the second quarter 2009, with particularly pronounced declines for vehicles and vehicle components, which have the highest weight within the machinery and transport equipment sector.[5]

Economic dynamism needs to be consolidated in export sectors and broadened elsewhere…

The collapse in exports fuelled concerns among some commentators about an over-reliance on exports as the main source of economic growth. However, the setback faced by export industries will most likely be a temporary phenomenon with export growth expected to recover alongside a recovery of world GDP. The real policy challenge therefore lies elsewhere. *Firstly*, the past success of the export sector needs to be broadened to the whole economy. To the extent that the expansion of certain sectors – notably services sectors – is held back by policy (*e.g.* in form of industrial policy or regulation favouring specific sectors), such policy has to be changed to allow these sector to flourish and make use of the opportunities offered by globalization.

Secondly, policymakers need to ensure that there are no structural impediments that could hinder firms from maintaining and/or expanding their competitive edge. Globalisation means that firms are heavily exposed to foreign competition, a fact that does not only apply to manufacturing firms but more and more also to services firms given that many services are nowadays also traded internationally. The rising integration of emerging countries in the global economy challenges the existing comparative advantages of firms in OECD countries.[6] Relying primarily on cost cutting in order to stay competitive as happened during the export boom years of 2004-07 does not appear to be a sustainable business model for them in the medium to long run due to the large pool of cheap labour

that is available in emerging markets, most notably China and India. Instead, they need to rely more on improvements in the quality and variety of products and services as happened during the 1990s (Box 5.2) and focus more on knowledge-intensive, high value-added activities (OECD, 2007a). Although Germany appears to be reasonably well positioned in terms of the knowledge intensity of its products (Box 5.3) there is a risk that this advantage will not last as emerging markets are likely to enter those activities in which German companies are currently strong.

Improving economic dynamism and increasing the attractiveness of Germany as a location for investment through structural reforms would also contribute to a reduction of external imbalances. As discussed in Chapter 1, the decline in domestic investment by the corporate sector in the first half of the 2000s contributed significantly to the increase in the current account surplus. This decline in domestic business investment was reflected in net capital outflows, which partly took the form of foreign direct investment with firms attempting to benefit from the more favourable business environment particularly in eastern Europe, and partly in the form of foreign net lending by banks. Structural reforms could reverse this trend by encouraging firms to invest more heavily within Germany as opposed to abroad, which would also translate into higher bank lending to the domestic corporate sector.

Box 5.3. **The knowledge intensity of German products**

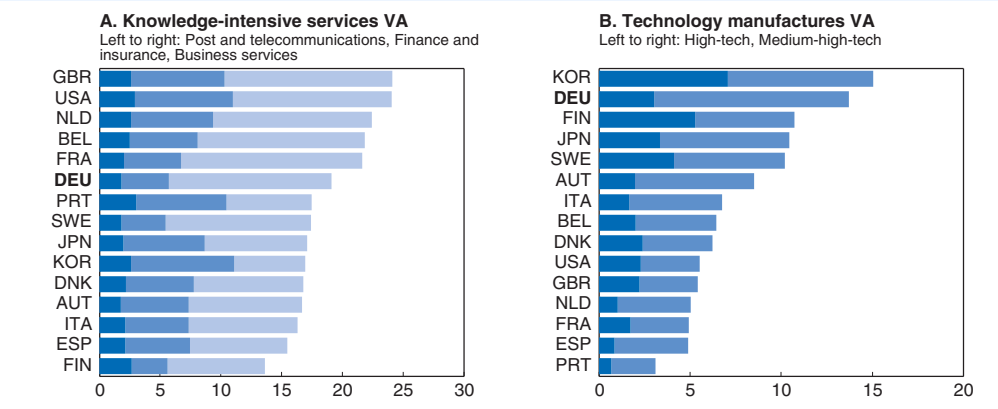
The rising trade integration of emerging economies requires companies in OECD countries to move up the value chain in order to keep their competitive edge. The share of high- and medium-high-technology manufacturing in OECD value added has been declining over the past decade, reflecting the continuing global shift of such activities towards non-OECD countries (OECD, 2007a). Of the larger OECD countries, only Germany, Japan and Korea have maintained a strong and persistent presence in high and medium-high-technology manufacturing. The share of knowledge-intensive market services, by contrast, has steadily risen, now accounting for more than one-fifth of OECD value added.

In Germany, knowledge-based market services account for 19½ per cent of value added, which is just slightly below the OECD average (Figure 5.5, panel A). Within this category, business activities (*e.g.* legal and accounting activities, consultancy) have the highest weight, whereas financial and insurance services play a more moderate role. At the same time, Germany is the largest producer of medium-high-technology manufacturing goods (Figure 5.5, panel B), with machinery and equipment and transport vehicles accounting for the lion's share. The share of high-technology manufactures in total value added is about the OECD average with medical, precision and optical instruments being relatively overrepresented and radio, television and communication equipment being relatively underrepresented. The composition of Germany's value added is mirrored in its trade structure. Looking at net exports (which allows a better assessment of a country's strengths and weaknesses than simply looking at exports since the rising importance of global value chains makes exports heavily dependent on imports in the same industry) shows that Germany specializes in medium-high-technology products, where it has a trade surplus of around 7%.[1]

Box 5.3. **The knowledge intensity of German products** *(cont.)*

Figure 5.5. **Technology manufactures and knowledge-intensive market services**

% of total gross value-added (VA), 2007 or 2006



Note: Data refer to 2007 for Austria, Belgium, Denmark, Finland, France, Germany, Italy and Spain and 2006 otherwise. For a technology classification of manufacturing industries see OECD (2007), *Science, Technology and Industry Scoreboard*, Annex 1.

Source: OECD (2009), *STAN Database for Structural Analysis*.

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Despite a somewhat lower share of high-technology products compared with other OECD countries, Germany appears to be reasonably well positioned in terms of its sectoral specialization. Nonetheless there is a risk that this advantage will not last. Emerging economies currently still tend to focus on labour-intensive products (China may be exporting high technology products such as ICT equipment, but nevertheless focuses on the labour intensive stages of the production process such as assembly, importing the sophisticated parts and components), but it is very likely that in future phases of their development they will target some of the sectors where Germany is presently dominant such as the automotive industry (Denis *et al.*, 2006; Egeln *et al.*, 2007).[2] Some indicative evidence that this is already happening is provided by OECD (2007b), showing that although the correlation between Germany's revealed comparative advantages and that of dynamic Asian economies is still negative, it is rising faster than for any other OECD economy covered in the study.[3] At the same time, the number of enterprise creations in knowledge intensive and high-technology sectors is declining (Niefert *et al.*, 2006), which may point to a gradual weakening of Germany's position in these industries.

1. The country has trade deficits in high-technology, medium-low-technology and low-technology products.
2. Although China has registered strong growth in its patenting activity since 1995, its share in triadic patents (patents issued at the US Patent and Trademark Office, the Japan Patent Office and the European Patent Office) is still small. In 2006, China accounted for 1% of all patent applications compared with a share of 12% for Germany and 97% for the OECD.
3. Comparative advantage is not directly observable but Balassa (1965) argued that it can be revealed through actual trade patterns. He proposed an index of revealed comparative advantage,which measures a country's export share of each commodity relative to the world export shares of that commodity. See Rae and Sollie (2007) for a further discussion.

... by making framework conditions more conducive to innovation and structural change

The two challenges discussed above – the lack of dynamic growth in a number of sectors (mostly services sectors) and the rising competition from emerging markets – have

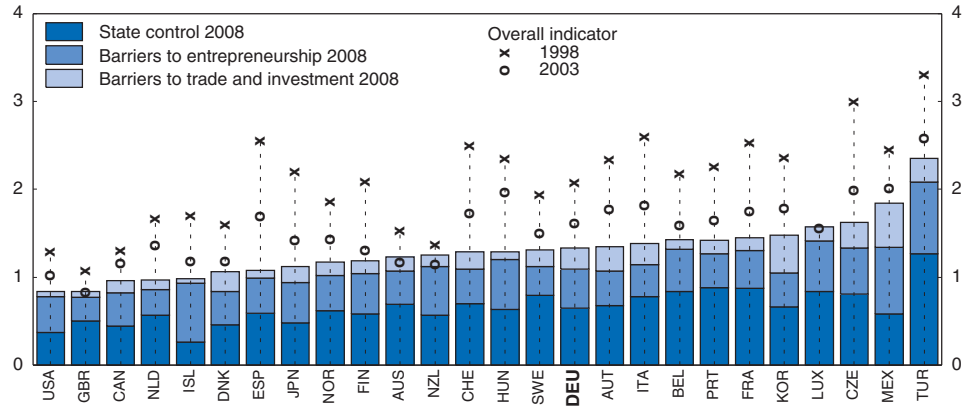
a similar policy implication, namely that framework conditions need to become more conducive to innovation and structural change. Despite some considerable progress made in this area in recent years, a number of concerns remain:

- *Employment protection legislation* for regular jobs remains strict by OECD standards which risks slowing down structural change by reducing job turnover and labour mobility and may inhibit growth in (labour intensive) services sectors. In addition, a further expansion of active labour market policies could help reduce the negative impact of structural change on workers by allowing a smoother transition between jobs (Chapter 2).
- Even though anti-competitive *product market regulation* (PMR) has been considerably reduced in recent years, Germany remains more heavily regulated than many other OECD countries, which may hamper structural change by sheltering uncompetitive industries. Arnold *et al.* (2009) estimate that aligning PMR with the most advanced economies in the OECD would potentially free an extra one percentage point growth in labour productivity over a period of 10 years.
- *Investment in R&D* is crucial for firms to stay competitive, especially in knowledge intensive industries. As a share of GDP, Germany spends more on R&D than most other OECD economies. Whereas R&D expenditure is concentrated in medium-high technology manufacturing sectors, high-technology sectors and in particular services sectors receive a below-average share of the total funds spent on R&D activities.
- Globalisation and technological progress increase the relative demand for high-skilled labour as well as the need for a more flexible workforce that is able to retrain easily in response to changing economic conditions. Recent reforms notwithstanding, more needs to be done to prepare the German *education system* to deal with these challenges.
- Germany lacks a comprehensive *immigration policy* that would allow the country to attract highly skilled foreign workers (including also foreign graduates having successfully studied in Germany) who will be necessary to prevent the emergence of skilled labour shortages (especially in the short- to medium run given the long impact lag of education reform). In this context an emerging brain drain has also to be mentioned as a concern.

Product market regulation needs to become more competition-friendly

Despite some considerable progress in reducing anti-competitive product market regulation, Germany remains more heavily regulated than many other OECD countries.[7] On the OECD's economy-wide PMR indicator Germany ranks 14th out of 28 countries on state control, 16th on barriers to entrepreneurship and 20th on barriers to trade and investment (Figure 5.6). The picture is confirmed by the 2010 edition of the World Bank's *Doing Business* survey which also ranks Germany only in the middle range of all OECD countries. As coping with globalization is essentially about coping with change, the still relatively high barriers to competition in certain sectors are a reason for concern. By slowing down the pace at which firms react to changing market conditions and adjust their business strategies, they reduce the economy's capability to deal with the challenges of globalization.[8] Especially for countries at the technology frontier, competition is conducive to more innovation.

Figure 5.6. **Economy-wide product market regulations**
0-6 from least to most restrictive



Source: OECD (2009), *International Product Market Regulation Database*, *www.oecd.org/eco/pmr*.

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Removing remaining obstacles to the entry and exit of firms will facilitate change

Germany has taken important steps towards removing barriers to entrepreneurship in recent years. Since 2003 the country has moved up 6 positions in this subcategory of the OECD's PMR indicator. The administrative burden for corporations was eased significantly (the country moved from number 17 in the OECD to number 2 on this indicator) by reducing the number of mandatory procedures that entrepreneurs have to complete in order to register a company as well as the number of public and private bodies that they need to contact (for example, single points of contact were introduced in line with the EU Services Directive). These reforms have considerably reduced the time and cost of starting up a business. Nonetheless, a number of issues remain that need to be addressed. Most notably, the license and permit system remains more cumbersome than those in many other OECD countries (Germany ranks 23rd out of 27 countries on this indicator). In addition, entry barriers remain high in several service sectors as discussed below.

Besides the creation of new businesses, the closure of failing ones is also often regarded as a source of economic dynamism. Closing a business appears to be more burdensome in Germany than in many other OECD countries. The latest *Doing Business* survey places the country 21st in the OECD on this indicator due to the high costs involved – in terms of both money and time. A major reform of insolvency legislation was enacted in 1999 which shifted the focus from a liquidation of distressed companies towards their orderly restructuring akin to the provisions of Chapter XI of the US insolvency law. The possibility for restructuring is however rarely used, despite several recent attempts to simplify procedures. Obstacles include stringent conditions on the sale of insolvent companies (for example, layoffs due to a change in ownership are illegal) and procedures which are still too complex. To encourage a wider use of the possibility for restructuring and to facilitate the closure of those companies that cannot be rescued, it is important that the existing insolvency legislation is refined and developed further.

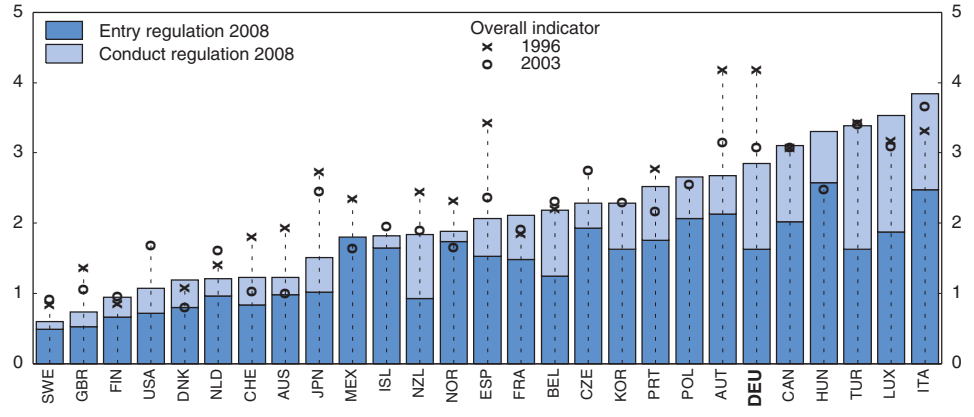
Strict regulation of professional services hampers competition

While the overall regulatory framework has become more conducive to competition in recent years, additional effort is needed to improve sector-specific regulation. Two areas that stand out are professional services (*e.g.* accounting and legal advice) as well as network industries.[9] As professional services are used as intermediate inputs by enterprises, a lack of competition in these sectors not only hampers the expansion of these sectors themselves but also imposes costs throughout the economy. In most OECD countries, professional services are subject to a broad range of regulations such as the duration of compulsory practice for recognition as a full member, the passing of mandatory professional exams, restrictions on the co-operation between professions, and rules concerning the tasks that the professional can perform. These regulatory barriers, which may be imposed either by the government or by the professional chambers themselves, are generally motivated by market failures due to information asymmetries between the professional and the consumer. However, the considerable cross-country variation in the restrictiveness of such regulation suggests that in some countries the rules go beyond what is necessary to assure a sufficient quality of the service. There appears to be a tendency, particularly in the case of self-regulation, to impose overly strict rules in order to exploit economic rents (OECD, 2007c). At the same time, empirical studies show that the economic outcomes of professional services in countries with lower degrees of regulation are comparable with those in more highly regulated countries so that the restrictions could be eased, at least to the level of peer countries (Paterson *et al.*, 2007).

While Germany has made some progress in the past in rendering the regulatory framework of professional services more competition-friendly (for example, education requirements and restrictions on the form of business were relaxed in several professions), not much has happened in recent years (Figure 5.7).[10] In the latest PMR indicator Germany scored 22nd out of 27, with both conduct and entry regulation on professional services more restrictive than in other countries. Despite the difficulties associated with such reforms in face of the long-entrenched rents, further effort should be devoted to easing conduct regulation. Options include further reducing remaining restrictions on the co-operation between professions (*e.g.* accountants, architects and lawyers/notaries are

Figure 5.7. **Regulation in professional services**

0-6 from least to most restrictive



Source: OECD (2009), *International Product Market Regulation Database*, *www.oecd.org/eco/pmr*.

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only allowed to co-operate with comparable professions), while maintaining high quality standards, further liberalizing prices (*e.g.* certain services by engineers, architects and lawyers/notaries are still subject to minimum prices determined by legally set price schedules) as well as reassessing the need for remaining restrictions on advertising (while most OECD countries still regulate or prohibit advertisement in legal professions, Germany also regulates advertisement by architects which is rare among OECD countries). The conditions of entry should be simplified by rethinking compulsory chamber membership, while maintaining necessary standards for professional qualification in order to protect consumers. At the very least, the number of activities over which certain professions have exclusive rights should be further reduced and the requirements for full chamber membership should be lowered further (for example, for many professions the duration of compulsory practice is still above the OECD average).

Innovation should become less dependent on currently strong sectors

Country rankings of innovation performance show Germany in the middle to upper range of OECD countries.[11] In general, Germany tends to perform fairly well on output indicators. For example, German companies file the third most PCT[12] patents (per million workers) in medium-high and medium-low-technology sectors (after Switzerland and Sweden), and in high-technology sectors they rank eighth. Triadic patent families show a similar picture with Germany scoring third after Japan and Sweden.[13] Germany performs somewhat worse on the input side. While the strength of intellectual property rights is similar to other OECD countries, indicators of the availability of finance for innovation projects, government support for innovation activities and the quality of human capital are just about or even below average. These weaknesses on the input side give reason for concern as they could endanger the country's advantageous position in the long run Indeed, some indications suggest that Germany's lead in innovation performance is already shrinking. For example, while the number of patents filed each year was still growing by 4.8 patents per million workers in the 1990s, growth dropped to just 1 patent per 4 million workers during 2000-06. Similarly, the share of innovative companies peaked at the end of the 1990s and since then has been declining (Egeln *et al.*, 2007). In line with this, the number of new company foundations in high- and medium-high-technology sectors was 40% lower in 2006 than in 1995 and company foundations in knowledge intensive service sectors were 15% lower (Gottschalk *et al.*, 2007).

Another reason for concern is the composition of business R&D expenditure, which is heavily skewed towards manufacturing sectors. In 2006 services sectors received less than 10% of total business R&D, compared with 25% for the average OECD country. Within manufacturing, medium-high-technology sectors receive a relatively large share of R&D expenditure (60% of total manufacturing R&D *vis-à-vis* 36% for the average OECD country), whereas high-technology sectors receive relatively little (34% *versus* 49% for the average OECD country).

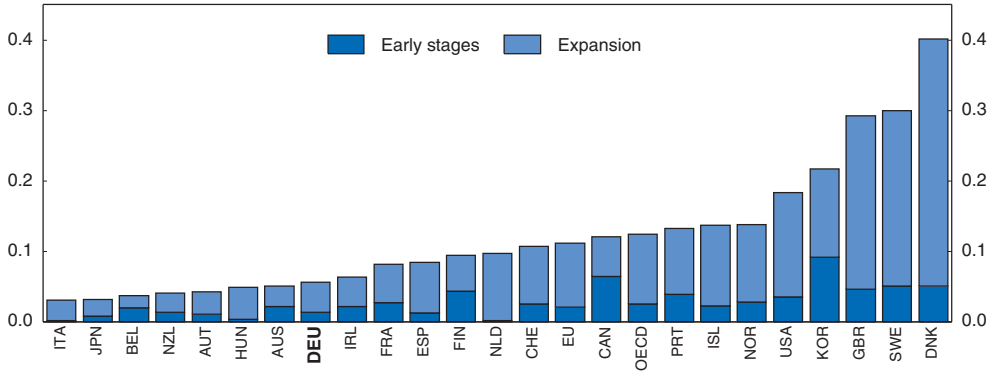
Young entreprises suffer from a lack of financing

Insufficient financing is a major obstacle to start-ups in technology and knowledge intensive sectors. In a survey conducted by the Centre for European Economic Research (the so-called *Mannheim Entreprise Panel*) 34% of all surveyed companies cite the lack of available financing as a very important constraint on their business, with another 26% considering this factor as of medium importance (Niefert *et al.*, 2006).[14] High collateral

requirements and the risk aversion of banks are listed as the two most important barriers for obtaining external financing. The situation is unlikely to have improved since then; if anything, the financial crisis has further intensified the problem. In particular, R&D intensive companies appear to have troubles finding external investors. This might be related to the larger proportion of intangible assets involved in innovation which aggravate the information asymmetries between the company and a potential investor. For example, a provider of external financing typically finds it much harder to assess the market potential of a new-to-market product innovation than the innovator himself, prompting the investor to raise loan standards. Moreover, expenses for innovations are often not associated with the purchase of capital goods that could be used as collateral.

Against this background it is not surprising that cash flows and own resources of the founder are the two most important sources of financing for young high-tech firms, even several years after the formation of the company (Gottschalk *et al.*, 2007). Venture capital provided by dedicated venture capital funds or business angels (which in contrast to banks often provide management services to the firms as well in order to reduce information asymmetries) play only a negligible role, with less than 5% of all surveyed firms obtaining funds from these sources. The Commission of Experts for Research and Innovation estimates that there are about 33 to 41 business angels per million inhabitants in Germany, compared with 850 in the United States (Expertenkommission Forschung und Innovation, 2009). The importance of business angels is the highest in the early stages of a company's development (they mainly provide seed-financing) whereas venture capitalists tend to step in a few years after the company is established (see also Fryges *et al.*, 2007). The small scale of venture capital financing is also striking when comparing Germany to other OECD countries (Figure 5.8). In 2005, venture capital financing accounted for a bit more than 0.05% of GDP, compared with levels as high as 0.3% in the United Kingdom and Sweden and 0.4% in Denmark.

Figure 5.8. **Venture capital**
% of GDP, 2005



Note: Data on venture capital only capture formal venture capital provided by specialised intermediates; capital provided by business angels is excluded. Data for Japan and Korea refer to 2001 and those for Iceland to 2002. For New Zealand, the allocation between early stages and expansion is an estimation based on 2001.

Source: OECD (2007), *Science, Technology and Industry Scoreboard*.

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Venture capital is a particularly well suited type of financial intermediation to support the creation of innovative and entrepreneurial firms. As stressed by Da Rin *et al.* (2005), venture capital funds not only provide money, but also knowledge about markets and entrepreneurial processes as well as access to their networks of contacts.[15] A strengthening of the venture capital market should therefore be a key element of any strategy to improve the German innovation framework. In this sense, the Act on the *Modernisation of Framework Conditions for Venture Capital and Equity Investments* (*Gesetz zur Modernisierung der Rahmenbedingungen für Kapitalbeteiligungsgesellschaften*, MoRaKG), adopted in 2008, was an important step in the right direction. In addition, the *High-Tech Start-ups Fund* which was set up within the federal government's *High-Tech Strategy* (Box 5.4) will bridge part of the financing gap arising from the insufficient depth of the private venture capital market.

These recent initiatives notwithstanding, more needs to be done to improve the framework conditions for venture capital. In particular, the MoRaKG needs to be modified as the EU competition regulator recently stopped parts of the Act and thereby the introduction of the law on venture capital investment (*Gesetz für Wagniskapitalbeteiligungen*, WKBG). When revising the Act, the government should also fix a number of flaws in the original version. For instance, several provisions of the Act appear excessively restrictive and may thus not fundamentally improve the attractiveness of Germany as a location for venture capital funds. Moreover, the Act risks reducing transparency by leading to a legal fragmentation of the market as venture capital companies are to be supervised by the BaFin and capital investment companies by the ministries for economic affairs of the *Länder*.[16] The government should also ensure that sufficient exit possibilities exist for venture capitalists. This includes a close monitoring of the *Entry Standard* segment of the German stock exchange to see whether it adequately serves this purpose. Da Rin *et al.* (2005) provide some evidence that the opening of a stock market segment targeted at entrepreneurial companies considerably increases the share of venture capital that is used for early stage investment as well as the share of private equity that is channelled to high-tech firms.

Shifting public R&D support towards tax incentives could raise efficiency

The high uncertainty about the outcome of R&D activities and the substantial spillover effects related to the inability of firms to appropriate all the rents from successful innovation expenditures are generally used to justify state intervention in this area to avoid potential underinvestment.[17] Although the R&D intensity of the private sector is higher than in most other OECD countries (Germany ranks eighth in the OECD), the country is gradually falling behind, reflecting below-average growth rates in private R&D spending (during the 1980s, Germany was still among the three top performers). Against this background, the German government has considerably increased its financial support for R&D in recent years. In 2006, the *High-Tech Strategy* was launched, including plans to invest some EUR 14.6 billion (0.6% of 2006 GDP) in the years 2006 through 2009 to support R&D activities (Box 5.4). The lion's share of the funds (EUR 11.9 billion) were used to support research and the dissemination of new technology in 17 designated sectors, with the rest channelled to general measures that are not linked to specific sectors. In addition, the second fiscal stimulus package included several measures to stimulate R&D activities over the period 2009 to 2011 (Chapter 3).

Box 5.4. **The High-Tech Strategy**

In 2006 the German government launched the *High-Tech Strategy* as a comprehensive initiative, encompassing all ministries, to stimulate private R&D investment.* The strategy pursues three main goals:

- **Creating/expanding lead markets in four priority areas: health, climate protection/ resources conservation/energy, mobility and security.** Examples of recent actions include the establishment of innovation alliances and strategic partnerships such as *Organic Light-Emitting Diodes* and *CarbonNanoTubes*; and the launch/expansion of a number of funding programmes such as *WING – Materials Innovations for Industry and Society*, which promotes research aimed at producing more efficient and lower-cost materials.
- **Building new bridges between industry and science by promoting co-operation, networks and clusters, with a special focus on SMEs.** Examples of actions include accelerated access to funding programmes for SMEs via the *KMU-innovativ* programme; launch of the top cluster competition; consolidation and expansion of SME funding via the *Central Innovation Programme*; and support for clusters and networks via special programmes such as *Cutting-edge Research and Innovation in the New Länder*, *Entrepreneurial Regions* and *Innovation Competence East*.
- **Improving the framework conditions for innovation.** Examples of actions include the facilitation of start-ups through an amendment of the law on limited liability companies; innovation support via public procurement; and advice and support for higher education institutions and start-up entrepreneurs in connection with patent law issues.

Over the period 2006-09 EUR 14.6 billion were to be invested to support R&D activities. Out of the total funds, EUR 11.9 billion were to be channelled to 17 selected sectors (sectors that either belong to one of the four priority areas or that provide key technologies for several of those areas) with space technologies, energy technologies and ICT receiving a bit more than half of the funds. The remaining EUR 2.7 billion were to be used for general measures that are not linked to specific sectors such as improving the conditions for innovative SMEs (EUR 1.8 billion), strengthening the links between science and industry (EUR 0.6 billion) and supporting technology start-ups (EUR 0.2 billion).

* For more detailed information on the *High-Tech Strategy* see Federal Ministry of Education and Research (2006), *The High-Tech Strategy for Germany*, Bonn/Berlin; and Federal Ministry of Education and Research (2009), *Research and Innovation for Germany*, Bonn/Berlin.

The recent efforts to broaden public support for R&D investment are highly welcome. Even so, there appears to be room for further improvement. Germany currently mainly relies on direct government subsidies to support private R&D activities. Tax incentives, which are becoming an increasingly popular measure among OECD and non-OECD governments, are not used. Even though the literature on the efficacy of the two types of government support is far from reaching a consensus, a number of recent papers point towards tax incentives as the more effective tool. For example, Harris *et al.* (2009) argue that the literature on the effectiveness of government grants yields mixed results, whereas there is broad agreement that tax incentives stimulate R&D.[18] Recent empirical studies reporting positive effects of tax incentives on R&D expenditures include Bloom *et al.* (2002), Klassen *et al.* (2004), Falk (2004), Wu (2005) and Jaumotte and Pain (2005a, b).[19] The size of

the effect is often found to be relatively small, but still larger than the effect of direct funding (Johansson *et al.*, 2008).

In addition to the impact on overall R&D spending, other aspects have to be taken into account when deciding about which policy tool to use. For example, there is a higher probability of research duplication when support is offered by means of tax reliefs rather than by grants, and there is less chance of expenditure occurring in areas with high social but relatively low private returns, such as basic research, which is an important determinant of a county's longer-run innovation capabilities. New and small firms may also be at a relative disadvantage if support is provided only through the tax system, as such firms may have relatively little taxable income (Sachverständigenrat, 2009; Jaumotte and Pain, 2005a). On the other hand, grants have the disadvantage that the winning projects are picked by the government rather than the market, which may generate distortions in the allocation of resources between different fields of research (though in some cases such distortions are desired to ensure that industry helps address public objectives, such as defence or energy security). Two striking features of the *High-Tech Strategy* are the importance given to space technologies (almost one-third of the funds were earmarked for this area) and the low importance given to services (0.5% of the funds). At the same time, the share of business R&D conducted by services sectors is amongst the lowest in the OECD.

Against this background, the government should consider introducing tax incentives as a complementary tool to direct subsidies, though duplication of public subsidisation should be excluded. When introducing tax incentives, attention has to be given to the issue of policy design as the social gains from such programmes do not necessarily outweigh the associated costs.[20] In general, fiscal incentives for R&D come in three forms: *i*) tax deferrals, which are reliefs in the form of a delay in the payment of a tax; *ii*) tax allowances or extra amounts over current business expenses deducted from gross income to arrive at taxable income; and *iii*) tax credits or amounts deducted from tax liability (OECD, 2003). In OECD countries, tax credits have become more popular over time than tax allowances with a tendency to favour small firms in the R&D tax provisions. A case for providing special support to SMEs could be made on the grounds that the share of business R&D conducted by small firms (less than 250 employees) is amongst the lowest in the OECD (despite a high number of innovative SMEs).[21]

An important choice to make for both tax credits and tax allowances is whether to base them on the level of R&D expenditures in a given year or on the increment of R&D expenditures (or on a combination thereof). Incremental incentives have the advantage that they only subsidize new R&D and not R&D that a firm would have done anyway, thus addressing the problem of windfall gains. On the other hand, they involve the difficulty of defining a base period or base level of R&D to determine the increment with some methods potentially distorting incentives (Bloom *et al.*, 2001; Mohnen and Lokshin, 2009). Another aspect to consider is that subsidies and tax incentives might be substitutes (with an increased intensity of one reducing the effect of the other on business R&D) as indicated by the empirical study of Guellec and Van Pottelsberghe (2000).

The education reform needs to continue

In an increasingly knowledge-driven global economy, human capital development is a major driver of a country's economic competitiveness, not least through its impact on

innovation. Globalisation and technological progress increase the relative demand for high-skilled jobs. As argued by Autor *et al.* (2003), most of the jobs that are hollowed out in advanced economies by offshoring and computerisation are medium-skilled jobs that require routine manual and cognitive skills (*e.g.* assembly line work, technical jobs in programming). By contrast, the least skilled jobs that typically require non-routine manual skills (most often in services occupations) are unlikely to disappear and the most-skilled jobs that require non-routine cognitive skills (*e.g.* managers, scientists) are even likely to grow.[22] Globalisation and technical progress also increase the need for a more flexible workforce that is able to retrain easily in response to changing economic conditions. As argued by Snower *et al.* (2009) it is the capacity to adapt which is crucial for making most out of globalisation.

Despite some progress in recent years in reforming the German education system, there remains scope for further improvement to ensure that it is well prepared to deal with these challenges.[23] Although there were no broad-based shortages of skilled labour ahead of the economic crisis, a lack of highly qualified personnel seems to have been a constraint in at least some sectors, such as metals/metal products and machinery/electrical/optical/transport equipment, where the share of hard-to-fill vacancies was more than twice the national average (*IAB Job Vacancy Survey* 2008). In terms of qualifications, specialists in the areas of mathematics, informatics, natural science and technology, and with completed technical training (at the technician and master craftsman levels) were in particularly high demand (Federal Ministry of Education and Research, 2009). In line with this, the *Mannheim Enterprise Panel* pointed to skilled labour shortages as one of the most important obstacles for new firm creations in high-tech sectors (Niefert *et al.*, 2006; Gottschalk *et al.*, 2007). These problems are likely to reappear once the economic crisis dissipates and will be aggravated further in the coming years on account of ongoing technological change and population ageing.[24]

To address these challenges, reforms are necessary in a number of areas. Most importantly: *i*) tertiary graduation rates need to be lifted further to ensure a sufficient supply of highly qualified labour;[25] *ii*) the vocational education system needs to be modified to ensure that apprentices are more equipped with general skills that allow them to easily adapt to changing job requirements; and *iii*) the participation of adults in lifelong learning activities should be strengthened further.

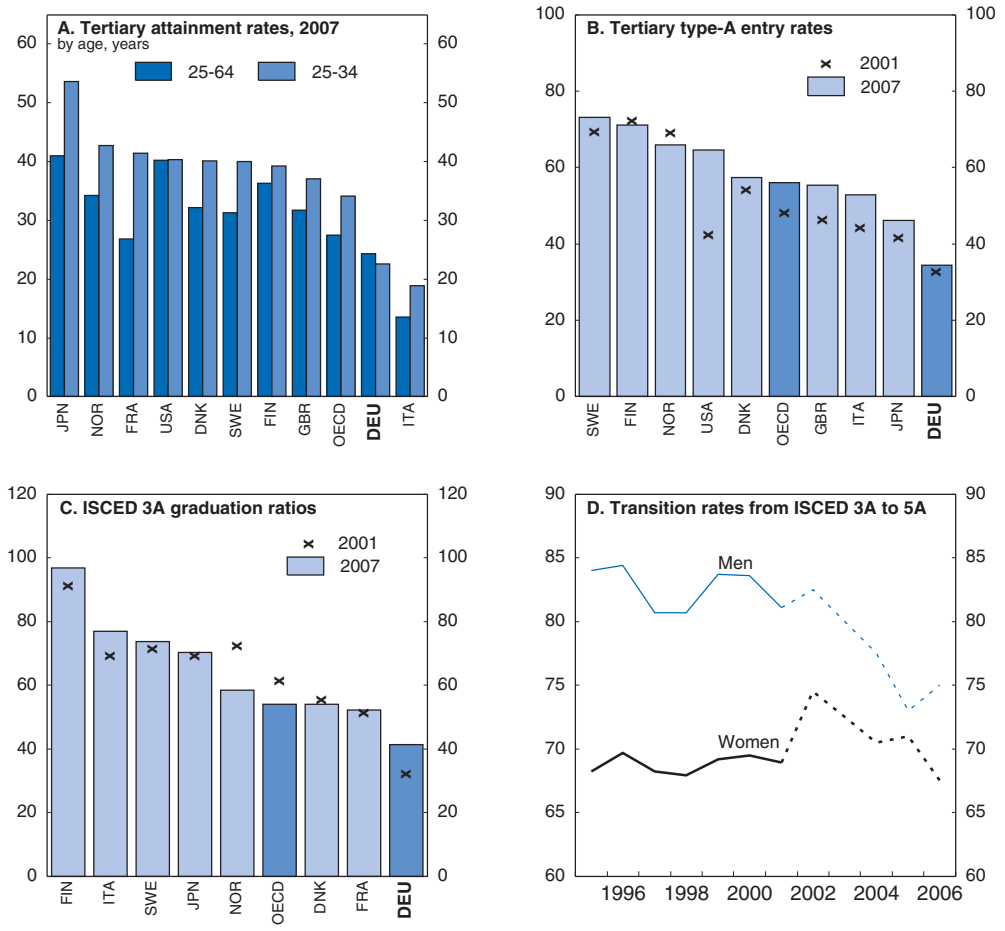
Tertiary attainment remains low among younger age cohorts

Whilst tertiary attainment rates are about average for the working-age population as a whole, they are below the levels seen in most other OECD countries for 25-to-34-year-olds (Figure 5.9, panel A). Despite some increase in graduation rates in recent years, tertiary attainment of younger age cohorts in Germany has fallen further behind the OECD average as other countries have seen even stronger increases. Drop-out rates are modest by OECD standards (in 2005 23% of tertiary students failed to successfully complete a programme equivalent to this level of education, compared with an OECD average of 30%), suggesting that the low graduation rates reflect low entry rates into tertiary education. Indeed, while entry rates are about average for tertiary type-B programmes, it is estimated that only 34% of young adults in Germany enrol in a tertiary type-A programme during their lifetime, compared with 56% in the average OECD country (Figure 5.9, panel B).[26]

The low entry rate for tertiary type-A programmes reflects a low number of young adults who have the necessary qualification to enrol in such programmes.[27] Although

Figure 5.9. **Some stylized facts about tertiary education**

%



Note: In panel B, entry rate is an estimated probability that a school leaver will enter tertiary education during his/her lifetime. In panel D, values for 2002 to 2006 are estimates and that for 2003 is the average of values for 2002 and 2004; data refer to share of students with 3A qualification who enrol for 5A programme.

Source: OECD (2009), *Education at a Glance*; Autorengruppe Bildungsberichterstattung (2008), *Bildung in Deutschland 2008 – Ein indikatorengestützter Bericht mit einer Analyse zu Übergängen im Anschluss an den Sekundarbereich I*, Bertelsmann Verlag, Bielefeld.

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graduation from upper secondary education programmes designed to provide direct access to tertiary type-A education (ISCED 3A) has increased in recent years, it remains well below the OECD average (Figure 5.9, panel C). In fact, together with Austria and Switzerland, Germany is among the few countries where both female and male students are more likely to graduate from upper secondary programmes leading to vocationally oriented tertiary education (tertiary type-B) rather than tertiary type-A programmes (OECD, 2009c). In addition, only about 71% of all students who achieve qualifications designed for university level entrance actually take up university studies. While Germany does not appear to be an outlier among OECD countries in this respect (OECD, 2009c), the decline in this share in recent years provides reason for concern (Figure 5.9, panel D), especially since it appears to have more than offset the positive effect on tertiary-type A entry rates that was coming from the rising number of upper secondary graduates with a type-A qualification.

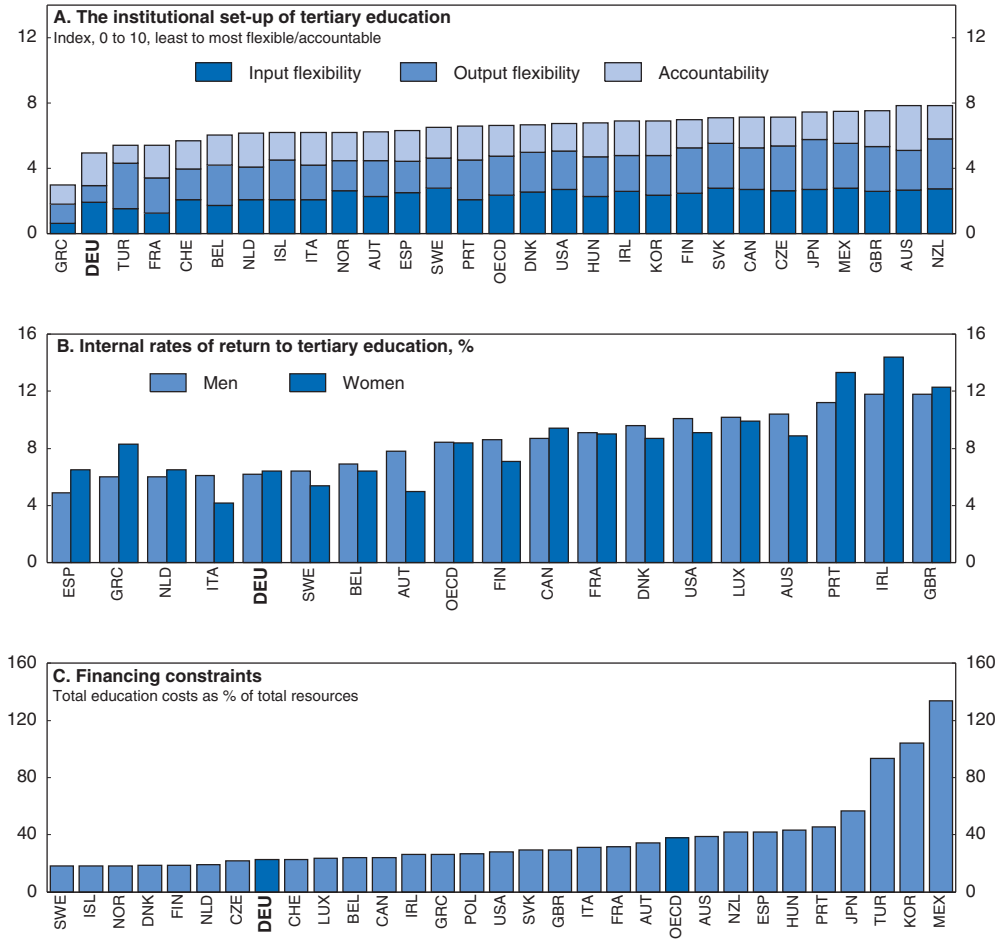
The low number of students who graduate from upper secondary education programmes that facilitate direct entry into tertiary type-A education is likely to reflect two factors. *Firstly*, the high stratification of the German school system may prevent some students who would be able and willing to pursue university education from obtaining the required qualification.[28] The German school system is characterized by early tracking with the first selection between tracks generally occurring at the age of 10, earlier than in any other OECD country except Austria. In some *Länder* students are sorted into three tracks (the *Hauptschule* track for less academically able students, the *Realschule* track for students in the middle ability group and the *Gymnasium* track for the most academically able students), while others have a two-track system. The different tracks are mostly offered in separate school types (around 80% of all students enter such specialized schools). Whilst students might theoretically change tracks at a later stage, this rarely happens in practice and if it happens, the transition is usually from a higher to a lower track (Autorengruppe Bildungsberichterstattung, 2008). Similarly, although failure to enter the *Gymnasium* track does not preclude acquiring a tertiary type-A entrance qualification, less than 5% of such qualifications were obtained outside this track in the school year 2006/07. Tracking decisions are influenced by the socioeconomic background of the child (with children from a more favourable background having a higher likelihood of attending a *Gymnasium*; OECD, 2008), suggesting that tracking closes off possibilities for some students. The impact is less pronounced in Berlin and Brandenburg, the two *Länder* that delay tracking until age 12.

The recent decision to introduce common standards across all *Länder* for admitting students to university education based on their professional qualification is an important step in the right direction (see also the discussion in the next section). This measure increases transparency which should eventually show up in higher enrolment and graduation rates. Nonetheless, more needs to be done in this area. In particular, the stratification in the school system should be reduced further to raise the equality of education opportunities, as recommended in the previous *Survey* (OECD, 2008). Possibilities include delaying the first tracking decision to reduce the risk of making a mistake in measuring true ability, offering the *Hauptschule* and *Realschule* tracks in one school type to avoid grouping very weak students together in a single school type with low achievement expectations, and increasing permeability between education tracks in practice.

Secondly, a low attractiveness of tertiary type-A education might deter students from completing the additional years of schooling that are necessary to earn an upper secondary type-A rather than type-B qualification. Oliveira Martins *et al.* (2007) show that an individual's decision to invest in tertiary education is influenced by the internal rate of return to tertiary education, the institutional setting for supplying tertiary education and the availability of individual financing. Whilst students in Germany generally face low liquidity constraints, the country scores pretty poorly on the other two indicators (Figure 5.10). The low internal rate of return mainly reflects a low net wage premium (the increase in after-tax income entailed by an additional year of education) whereas the poor supply side performance is related to universities' lack of autonomy over issues such as student selection, staff policy, and course content.

Several reforms aimed at improving the attractiveness of university studies have been initiated in recent years. These include the introduction of shorter programmes in the context of the Bologna reform, the strengthening of the labour-market focus through the involvement of social partners in programme design, and the easing of *numerous clausus* restrictions.[29] In addition, all *Länder* gave universities the right to select 60% of their

Figure 5.10. **The attractiveness of tertiary education**



Note: In panel B, internal rates of return are computed by estimating labour market premia on cross-country comparable individual level data and then adjusting the premia for fiscal and education cost. In panel C, education costs correspond to tuition fees and living costs. The resources are those available through each country's financing systems (grants and loans) when available, and also through families' financing capacity, as well as possible revenue from student part-time work.

Source: Oliveira Martins, J. *et al.* (2007), "The policy determinants of investment in tertiary education", *OECD Economics Department Working Papers*, No. 576; Boarini, R. and H. Strauss (2007), "The private internal rates of return to tertiary education: new estimates for 21 OECD countries", *OECD Economics Department Working Papers*, No. 591.

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students and some to set tuition fees.[30] In light of these reforms, it is surprising that in 2007 relatively fewer students entered tertiary-type A programmes than in 2003. One explanation is the rising uncertainty that comes with wide-ranging reforms such as the move to the Bologna system (for example, regarding the employment opportunities after a bachelor's degree), which may temporarily discourage students from enrolling in the new programmes. In the longer run, the reforms are likely to contribute to an increase in tertiary attainment. For example, based on a cross-section regression (Oliveira Martins *et al.*, 2007) simulate for Germany that a reduction in the average study duration to about 3 years should boost the tertiary graduation rate by around ¾ percentage points.

Even so, more needs to be done to encourage students to seek university education. In particular, those *Länder* that have not yet taken sufficient steps to improve the institutional set-up of tertiary education (*e.g.* by giving universities more autonomy regarding tuition fees) should consider doing so. Also, the autonomy of universities regarding student selection could be raised further. In addition, the government should address the problem of low net returns to undertaking tertiary education. The design of the tax and benefit system appears to be a major reason for the low internal rates of return, as the net wage premium is even further below the OECD average than the gross wage premium (the net wage premium is 50% below the OECD average *versus* 30% for the gross wage premium).[31] Policy decisions in this area depend of course on many other factors than students' incentives to invest in education. Nonetheless, as recommended in the previous *Survey*, it would help if future decisions about the progressivity of the personal income tax would take the impact of this factor on the incentives to acquire tertiary qualification into account.

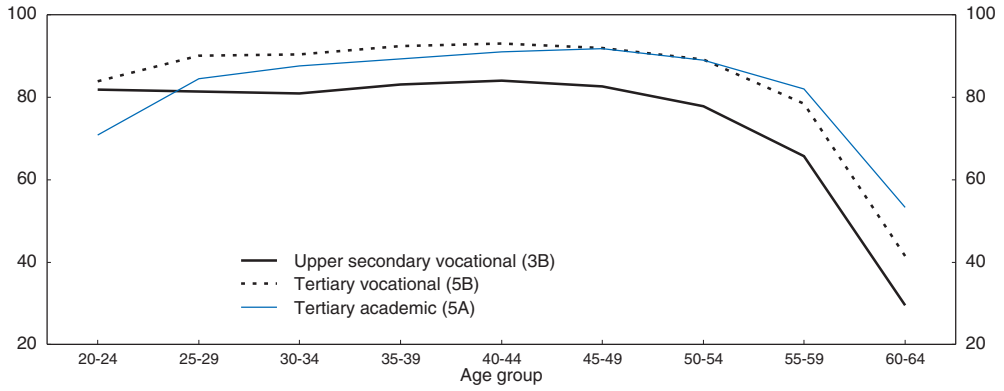
Adapting the vocational education system to the demands of a globalised world

Vocational education and training (VET) plays an important role in the German education system with about two-thirds of a typical age cohort obtaining a qualification from an upper-secondary vocational programme.[32] About 70% of these individuals obtain their qualification in the dual system, which combines practical training on the workplace with formal education at a part-time vocational school. The remaining 30% obtain their qualification in entirely school-based vocational programmes (Autorengruppe Bildungsberichterstattung, 2008).[33] In the past, the VET system has contributed substantially to the economic success of the country, providing the labour market with high-skilled craftsmen and technicians. In particular, it allowed for a smooth transition of youth into the labour market, thereby keeping youth unemployment rates low. However, there is a risk that these advantages are diminishing in a world that is increasingly driven by rapid technological change and the forces of globalisation. The vocational education system may equip apprentices with too much specialised and too little general knowledge, thereby reducing their ability to adapt to changing job requirements or to switch professions during their career. Moreover, as stressed by Baethge (2008), the system appears to have difficulties in teaching non-cognitive skills such as communication skills or the ability and willingness to solve problems, make judgements and engage in life-long learning – skills which are becoming ever more important in a knowledge-driven society.

Krueger and Kumar (2004a, b) provide some evidence that Germany's focus on vocational education worked well between the 1960s and 1970s, when available technologies changed slowly, but may have hampered economic growth in a quantitatively significant way in the ICT age of the 1980s and 1990s. Similarly, Gervais *et al.* (2007) argue that skill-specific human capital is more valuable in relatively stable environments while general human capital appears to suit better under high uncertainty. This is consistent with the observation that labour market outcomes of upper secondary vocational graduates are similar to those of tertiary graduates at the beginning of the career, but compare less favourably over the life cycle. The gap in employment rates between graduates of tertiary and upper secondary vocational education programmes rises markedly as workers approach retirement age (Figure 5.11), which might be related to a faster depreciation of human capital under conditions of structural change (OECD, 2009d). This is supported by Ludwig and Pfeiffer (2005), who use survey data to show that the depreciation rate of human capital for individuals with vocational education is

Figure 5.11. **Employment by age group and highest education attainment in Germany**

% of population, 2007



Note: Codes refer to the ISCED97 classification of educational programmes.

Source: OECD, Education Directorate.

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about 0.42%, whereas it is not statistically different from zero for university graduates. What makes matters worse, the depreciation rate for VET graduates appears to be increasing over time which the authors attribute to an increasing pace of organizational and technological change. VET graduates appear to be disadvantaged particularly in the case of a change in profession, when almost 80% of the knowledge learned in vocational education programmes becomes obsolete. By contrast, the usability of knowledge learned in university programmes is reduced by just 20% in such a case.

While the general setup of the VET system should be maintained, some modifications are necessary in order to help VET graduates better meet the challenges associated with globalization. *Firstly*, the existing balance between general and specialized study content is questionable. The number of VET qualifications is relatively high (around 350 separately defined professions) and some professions are rather specific (*e.g.* ice cream maker). As an early specialization on a narrowly defined profession may reduce an individual's ability to switch professions at a later stage of his career, the number of VET qualifications should be reduced by combining similar professions. This could for example be achieved by having a common basic education for similar professions during the first phase of the VET programme and then specializing in a specific profession during the second phase (Sachverständigenrat, 2009). Moreover, VET students in the dual system obtain relatively little universal education in the part-time vocational schools (Baethge, 2008). As globalization has increased the importance of core literacy and numeracy skills (OECD, 2007b), a broader teaching of such skills appears essential. The same is increasingly true with respect to ICT competences.

A *second* area of concern is the interplay between the two pillars of the dual system. The school-based part (approximately 1 to 2 days per week) currently receives much less attention than the workplace training. In most *Länder*, the final examination is dominated by the professional chambers with the vocational schools not involved in its preparation and only marginally in its execution. It is possible to fail the final exam in the vocational school and still obtain the dual VET degree in case the student passes the chamber exam (Baethge, 2008).[34] A better approach would be for schools and chambers to prepare and

carry out the final examination together, as is already done in some *Länder*. Such a joint exam would not only increase the weight of the school-based part in the dual system but might also enhance collaboration between the two learning places more generally.

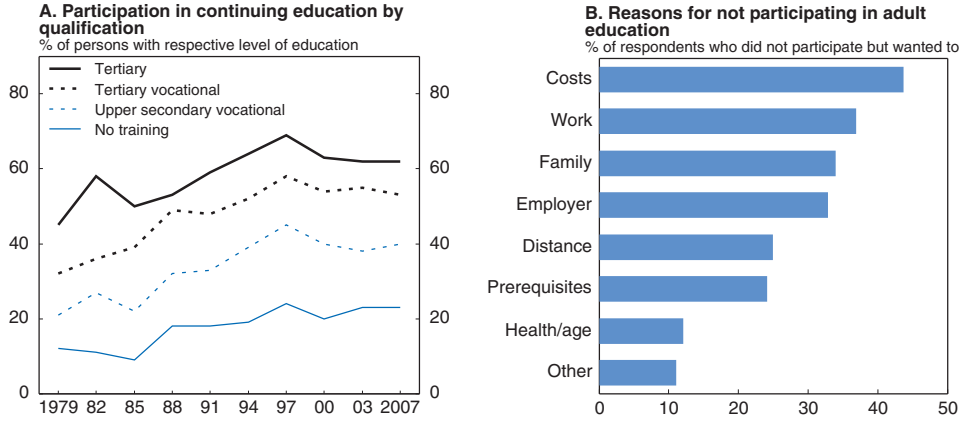
A *third* shortcoming of the German system is the low mobility between upper-secondary VET and tertiary type-A education. Only 1% of all students who enrolled in a university or a university of applied sciences in 2006 were admitted based on their professional qualification, *i.e.* without a school-based entry qualification (Autorengruppe Bildungsberichterstattung, 2008). The government has taken several initiatives to dismantle barriers between the two areas of education. Most recently, individuals who have completed a tertiary type-B programme were allowed to study all subjects at all higher education institutions and individuals who have completed a 2-year apprenticeship and have at least 3 years of work experience were granted the right to study subjects that are related to their professional qualification at all higher education institutions after passing an entrance exam or successfully completing a probationary study.[35] As this reform was just introduced in 2009 it is still too early to properly assess its impact on tertiary type-A enrolment rates of VET graduates. Another area worth looking into is the vocational baccalaureate – an optional additional degree for students in upper-secondary vocational programmes who wish to enrol in a university or a university of applied sciences. While the vocational baccalaureate exists in most *Länder*, institutions and programmes differ widely across *Länder* which risks reducing transparency. This may discourage students from pursuing this additional degree, although empirical studies on this link are missing.

Encouraging participation in lifelong learning

Globalisation has increased the pace of organisational and technological change and hence the risk that workers' skills and knowledge become obsolete. Participation in lifelong learning is thus more important than ever to ensure the continuous acquisition of new skills and the upgrading of existing ones. How Germany compares to other OECD countries regarding the participation is hard to assess as different data sets point in different directions. The *Adult Education Survey* produced by the Statistical Office of the European Communities puts Germany in the upper range of participating countries on non-formal learning (where the country scores 4th after Sweden, Finland, and Norway), but in the lower middle range on formal learning (where the country scores 12th). The *Lifelong Learning Survey*, which was carried out as an *ad hoc* module to the EU *Labour Force Survey*, places Germany in the lower middle range of EU countries on all three forms of learning (formal, non-formal and informal).[36] Regarding the development over time, participation rates have increased strongly throughout the 1990s but have stagnated or even declined in recent years (Figure 5.12, panel A). Less well qualified individuals do not participate as much in lifelong learning activities as individuals with a higher educational attainment. Although this is a general phenomenon across countries, it is a reason for concern particularly for Germany as upgrading the skills of less qualified workers could help prevent ageing-related skilled labour shortages.

The government is undertaking a number of initiatives to promote a wider participation in lifelong learning activities. The Federal Ministry of Education and Research and the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* work together on the development of a Qualifications Framework for Lifelong Learning (*Deutscher Qualifikationsrahmen*, DQR), which represents the first comprehensive

Figure 5.12. **Participation in lifelong learning**



Note: In panel B, 2006/2007 or latest available period; Work, Family, Employer and Other refer respectively to Work schedule, Family constraints, No employer support and Not willing to go back to school.

Source: Deutsches Institut für Erwachsenenbildung (2008), *Trends der Weiterbildung – DIE Trendanalyse 2008*, Bielefeld; Eurostat (2009), *Adult Education Survey*.

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matrix for the alignment of qualifications.[37] In a first step, all formal qualifications within the German education system are included in the framework with the results of non-formal and informal learning supposed to follow in future steps. Currently, there are a wide variety of procedures and approaches to the recognition of non-formal and informal learning, each having different goals and responsibilities, rather than one standardised system.[38] The associated loss in transparency may discourage adults from engaging in continued education. Ongoing work to increase transparency in this area is therefore welcome. In particular, it is crucial that non-formal and informal activities are included in the qualification framework in due course as a standardized system of recognition makes the acquired skills credible, transparent and easily signalled to both individuals and firms, thereby ensuring that the skills are not devalued in the labour market (OECD, 2005).[39]

The adult education market in Germany is characterized by a wide variety of institutions, programmes and overlapping legal orders which significantly reduces transparency (Faulstich, 2008). The coalition treaty of the new government foresees to improve transparency and, in particular, to facilitate access to guidance on adult education and training. As high-quality information and guidance provision facilitates access to participation in adult learning and ensures a better match between the demands of individuals and supply, these initiatives are highly welcome and should be swiftly implemented. Experience from other OECD countries suggests that individual counselling support is effective, particularly in the case of low-skilled and disadvantaged adults (OECD, 2005). Moreover, it appears important to link providers by a network through which they can share and exchange information (for example in the form of one-stop shops as they exist in the United States).

A major obstacle to continued education is the high cost involved. In the 2006/07 *Adult Education Survey*, almost half of all respondents who had not participated (but wanted to participate) in a training activity claimed high costs as one of the reasons (Figure 5.12, panel B). The same survey indicates that the costs of education and training are indeed relatively high in Germany. On average, a participant spends EUR 1 025 (EUR 223) on formal

(informal) education and training. Among the 15 OECD countries that participated in the survey only two came out with even higher costs for informal education and training (Austria and Norway); formal training and education was higher in five OECD countries. Financial constraints are likely to be particularly severe for low-income earners and older workers who usually only have a short period available in the labour market over which to recoup the returns on investment in training. Moreover, individual firms may not have sufficient financial incentives to invest in general as opposed to firm-specific employee skills, even when this may be worthwhile for the economy as a whole (OECD, 2005).

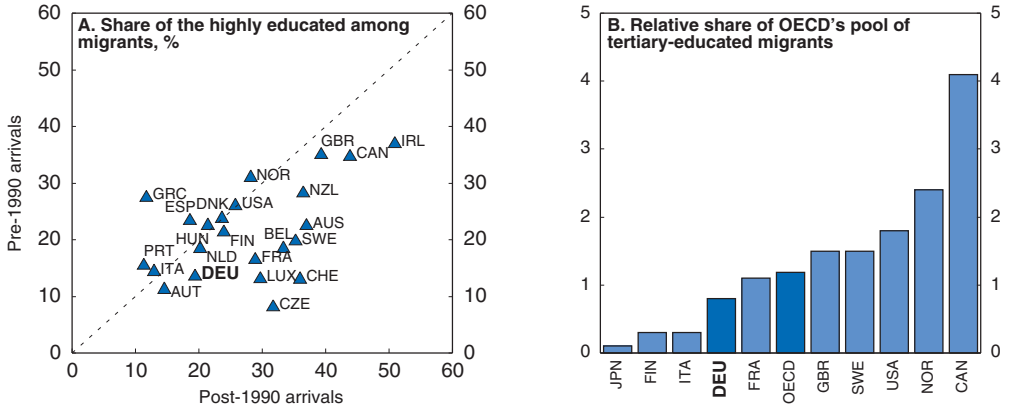
There is thus a case for public support, especially for low-skilled and disadvantaged groups as well as for employees of certain types of firms, such as SMEs. However, as education generates considerable private returns, the adult learning expenses should be co-financed by firms and individuals. The government has recently launched a set of programmes to financially support adult education. Since end-2008, adults with an annual taxable income of less than EUR 25 600 (EUR 51 200 for couples) are eligible for an education voucher of up to EUR 500 per year, provided they spend at least the same amount on the training activity. Since early-2009, all households, irrespective of their income, can access funds accumulated on special savings accounts that are subsidized by the so-called employee savings bonus (*Arbeitnehmersparzulage*) without an early withdrawal penalty provided the funds are used to finance learning activities.[40] Moreover, the government is planning to introduce continued education loans (by analogy to student loans) to finance more expensive education and training activities. These measures have the potential to contribute towards a wider participation of adults in lifelong learning. However, the government should carefully monitor the outcome to avoid measures turning into a waste of public resources to fund learning with public subsidies that would have been undertaken anyway.

Immigration policy needs to make Germany more attractive to high-skilled foreigners

Education reform alone will not be sufficient to address the issue of skilled labour shortages as changes in this area usually need several years to tackle through into a better educated workforce.[41] In this context the existing overly strict immigration rules make it difficult for firms to fill their vacancies for skilled workers. While Germany is an important source of high-skilled migrants to countries such as the United States (*e.g.* Borrmann *et al.*, 2007), it does not attract a sufficiently high number of high-skilled foreigners. The proportion of highly educated among migrants is lower in Germany than in many other OECD countries (Figure 5.13, panel A). This unfavourable skill-mix is partly related to the heavy recruitment of low-skilled labour in the post-war economic boom which triggered additional low-skilled immigration in later decades through family reunification (OECD, 2007e). Germany also performs poorly on another indicator of the skill-level of immigrants, which is the country's share of the OECD's pool of tertiary educated migrants relative to its share of the OECD's population (Figure 5.13, panel B). Germany has 7% of the OECD's total population, but only 5.7% of all tertiary-educated foreigners living in OECD countries (corresponding to a ratio of 0.8). Canada, on the other hand, has 11.4% of all tertiary education foreigners, which is four times as great as one might anticipate from its relative population size (it has 2.8% of the OECD's population).

Borrmann *et al.* (2007) show that a greater openness to countries with poorly educated populations contributes to the low share of high-skilled migrants in Germany, but that a

Figure 5.13. **Educational attainment of immigrants**



Note: In panel B, ratio of a country's share of the OECD's pool of tertiary educated migrants to its share of the OECD's population. Total population as of 2007 and foreign tertiary-educated population as of 2000.

Source: OECD (2008), *A Profile of Immigrant Populations in the 21st century*, OECD, Paris, Chart 4.4; OECD (2009), *The future of international migration to OECD countries*, OECD, Paris, Table 2.12.

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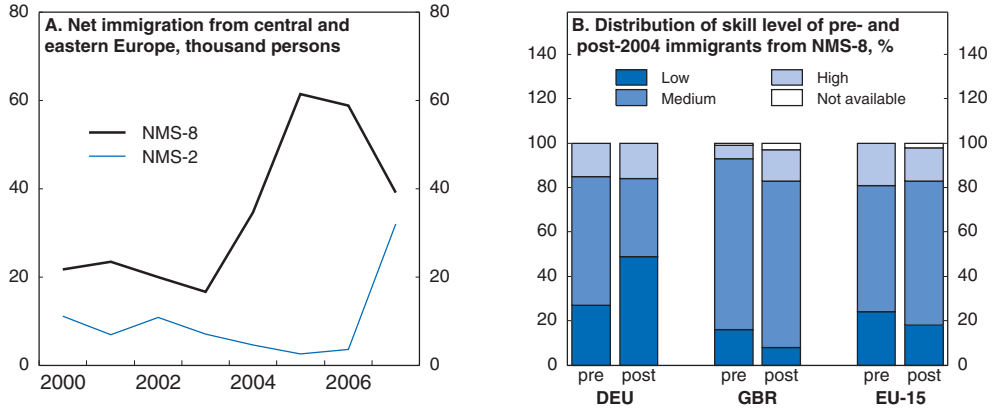
less favourable (self-)selection of migrants is the main factor (meaning that Germany attracts less high-skilled migrants from a certain country of origin than other OECD countries do). Factors contributing to a higher immigration of highly educated individuals in other countries include the after-tax skill wage premium and immigration legislation which favours high-educated immigrants relative to less educated ones (Grogger and Hanson, 2008; Bertoli *et al.*, 2009).

The free movement of workers from the new EU member countries was postponed…

An investigation of German migration policy needs to distinguish between intra-EEA migration and migration from third countries.[42] Workers from EEA countries enjoy the right of free movement which is governed by Article 2 of the *Immigration Act*. An exception applies to citizens of the new EU member states (NMS) that joined the union in 2004 and 2007. The treaty regulating their accession allowed existing members to postpone free immigration of workers from these countries for up to 7 years.[43] All member countries opted for such transitional restrictions following the 2004 enlargement with the exception of the United Kingdom, Ireland and Sweden. While most member countries have by now fully opened their labour markets, Germany and Austria decided to maintain restrictions until 2011. As to the 2007 enlargement, Germany's restrictions on immigration from Bulgaria and Romania were recently prolonged until the end of 2011 and may be extended further until the end of 2013.

During the transition period, citizens from the new member states still require an EU work permit to take up employment in Germany (similar to non-EEA citizens, see below), which is only approved by the competent labour agency if no workers from old member states are available (the so-called priority examination). However, NMS citizens are free to enter and stay in the country, and to carry out any legal self-employed or entrepreneurial activity. Since the beginning of 2009 academics from the new member states are exempt from the priority examination. The new pathways to immigration were welcomed by NMS citizens as indicated by a jump in net immigration following the 2004 and 2007 enlargements (Figure 5.14, panel A). Especially the possibility to work in Germany as a

Figure 5.14. **Migration flows**



Note: NMS refers to new EU member states. NMS-8 is Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia; NMS-2 is Bulgaria and Romania. In panel B, data for NMS-8 exclude ethnic Germans (so-called *Spätaussiedler*) which have migrated from the NMS into the EU15 during the 1990s.

Source: OECD (2009), *Migration database*; Brücker and Damelang (2007), *Labour mobility within the EU in the context of enlargement and the functioning of the transitional arrangements: Analysis of the scale, direction and structure of labour mobility*; Institut für Arbeitsmarkt- und Berufsforschung, Nürnberg.

StatLink http://dx.doi.org/10.1787/816508077047

self-employed was widely used. As documented by Brenke and Zimmermann (2007) about 40% of the migrants that came from the Czech Republic, the Slovak Republic, Hungary and Poland after 2004 are self-employed, whereas this share just amounts to 14% for migrants that had lived in Germany already prior to 2004.

Nonetheless, the overall increase in net immigration was small relative to other EU15 countries. Between 2003 and 2007 the share of NMS-8 citizens in the total population increased by 15% in Germany, but more than doubled in the EU15 countries as a whole.[44] Empirical studies on the impact of post-enlargement migration on the host country's economy point to substantial gains in terms of GDP growth, whereas adverse effects on the employment and wages of natives are generally found to be small or non-existent (Box 5.5).[45] Due to its restrictive policies, Germany participated little in these developments. Simulations by Baas *et al.* (2007) suggest that the 2004 enlargement boosted the factor income of natives in the United Kingdom by 0.31 percentage points during the period 2004 to 2007 (after the

Box 5.5. **The economic impact of EU enlargement on incumbent member states**

Studies on post-enlargement migration flows suggest that the number of immigrants moving from new to old member states was quite modest on average, though large discrepancies exist between countries (European Commission, 2008). The average population share of NMS-8 citizens living in the EU15 rose from 0.2% in 2003 to 0.5% by the end of 2007. The population share of Bulgarians and Romanians living in the EU15 increased by roughly the same amount over that period with migration starting well ahead of the two countries' accession in 2007. The majority of immigrants from the NMS-8 – mostly from Poland, Lithuania and Slovakia – went to Ireland and the United Kingdom, while Spain was the main destination country for Bulgarians and Romanians. Yet, with the exception of Ireland, post-enlargement flows from the new to the old member states have been significantly outnumbered by recent immigration of non-EU nationals (European Commission, 2008, Table 5.A3).

Box 5.5. **The economic impact of EU enlargement on incumbent member states** *(cont.)*

Simple models of migration imply that the first-order effect of immigration is to lower real wages in the host economy, to the extent that the labour demand curve is downward-sloping. The overall welfare of natives increases as capital owners gain more than workers lose. In the presence of barriers to the downward adjustment of wages, immigration results instead in higher unemployment. In the long run, higher returns to capital stimulate investment and firm creation, so that capital per worker and the number of firms adjust and wages, unemployment as well as the return to capital return to their original levels. This should be reinforced by tax and social security contributions made by migrants, which at least in the first phases of immigration exceed the value of public services for migrants. A number of factors make the impact of immigration more complex. For example, additional welfare gains may result from skill-mix differences between immigrants and natives. Moreover, equilibrium unemployment may be lowered as immigrants often have lower reservation wages and are more flexible in terms of their location decision, thus improving labour market efficiency. For these reasons the size of the economic impact of immigration remains to a large extent an empirical issue.

Baas *et al.* (2007) estimate that migration from the NMS-8 during 2004-07 increased aggregate GDP in the EU15 by around 0.13% in the short-run and 0.26% in the long run, *i.e.* after the adjustment of capital stocks. The effects were much smaller for Germany, 0.04% in the short run and 0.1% in the long run. Migrants from Bulgaria and Romania boosted GDP by similar amounts. The impact on GDP per capita in the receiving countries is found to be negative in the short run, but neutral or even slightly positive in the long run. The results are confirmed by Barrel *et al.* (2007) showing that post-enlargement migration will boost GDP in receiving countries by between 0.09% (Italy) and 1.66% (Ireland) in the long run (2015). For Germany, the authors find a long-run effect of 0.14%. In addition, research suggests that labour migration from the new member states reduced inflationary pressures in receiving countries (Barrel *et al.*, 2007; Blanchflower *et al.*, 2007). The effect was the highest in Ireland where inflation is estimated to have been reduced by around ½ percentage point on average during the period 2005-09 (Barrel *et al.*, 2007, Table 3).

The impact of post-enlargement labour migration on wages and employment of native workers is generally found to be very small. Baas *et al.* (2007) find that wages in the EU15 are on average 0.09% lower in the short run than they would have been without additional migration from the NMS-8, with no impact at all in the long run, *i.e.* once the capital stock has adjusted to the higher labour supply. Similarly, the increase in unemployment is found to be small in the short run (around 0.06 percentage points for NMS-8 citizens and 0.1 percentage points for NMS-2 citizens) and even smaller in the long run (0.02 percentage points for NMS-8 citizens and zero for NMS-2 citizens). For Germany, the short-run labour market effects are estimated to be smaller than for the EU15 aggregate (wages fell by 0.03% and unemployment rose by 0.03 percentage points due to immigration from NMS-8), reflecting the smaller inflow of immigrants. Due to the very balanced skill distribution of immigrants, the impact does hardly differ across skill levels. The moderate impact on wages and unemployment is confirmed by several other studies. Barrel *et al.* (2007) show that the labour market impact of EU enlargement was the greatest in Ireland and the United Kingdom where unemployment was respectively 0.8 percentage points and 0.2 percentage points above the baseline level on average between 2005 and 2009. In the other countries that are covered in this study the average impact over this period was smaller than 0.05 percentage points (in Germany, unemployment was on average 0.03 percentage points above the baseline). The long-run effect (by 2015) is found to be either zero or negative (meaning that unemployment declines) in all countries considered. Lemos and Portes (2008) estimate the impact of migration from new EU member states on labour market outcomes of natives in the United Kingdom. The wage and employment effects are either found to be small or insignificant, a result that is robust across different specifications, subsamples and estimation methods.

adjustment of capital stocks), but by only 0.03 percentage points in Germany. In this sense it is unfortunate that Germany did not open its labour markets earlier. The economic upswing in 2006/07 would have presented a good opportunity for such a move. Instead, the labour market will now have to be fully opened in 2011, at a time when unemployment is expected to reach its peak during the current downturn.[46]

The skill structure of post-enlargement immigrants deviates from that of earlier vintages. In Germany, the average skill level of NMS-8 immigrants has deteriorated since enlargement and is below that of the same communities in other destinations (Figure 5.14, panel B). In particular, the share of low-skilled immigrants has substantially increased. This is in contrast to some other countries such as the United Kingdom, where the education level of immigrants from the NMS-8 countries has markedly improved over time (though many of the higher skilled immigrants worked in low and medium-skilled occupations). This can be interpreted as indirect evidence that migrants from the new member states are less favourably (self-) selected with regard to their education level in Germany (Baas and Brücker, 2007). Differences in the returns to human capital may have contributed to this phenomenon. For example, as argued by Baas and Brücker (2007), the exclusion of migrants from welfare benefits in the United Kingdom may have resulted in a better skill composition relative to Germany. However, differences in immigration policies are likely to have played a role as well. According to this line of reasoning, the restrictive policies of Germany may have led to a diversion of high-skilled migrants to more open countries like the United Kingdom, whereas those who migrated to Germany concentrated on semi-skilled operations, working as self-employed (Kahanec and Zimmermann, 2008; Brenke *et al*., 2009). Against this background, the decision to fully open the labour market in 2009 for workers from the new member states that possess a university degree is highly welcome.

... and the immigration law for non-EEA citizens remains overly restrictive

The legislation governing migration from non-EEA countries was fundamentally changed in 2005 when the new *Immigration Act* came into force. While the Act by and large kept the ban on the recruitment of unskilled and semi-skilled workers, a number of entry opportunities exist for skilled and high-skilled workers. The main statute governing immigration for employment purposes is article 18 of the *Residence Act*, according to which a residence permit for employment purposes requires approval by the competent employment agency, which in turn requires: *i*) a legal provision granting access to the German labour market; *ii*) a specific job offer; *iii*) that no EEA citizen or third-country national with unrestricted labour market access is available for the specific job (the above mentioned priority examination); and *iv*) working conditions comparable to those of Germans.[47] In addition, a number of special pathways exist for high-skilled workers which fully or partially waive the requirements of article 18 of the Act. *First*, a temporary residence permit for the purpose of employment can be obtained without employment agency approval for certain professions such as journalists and, since the beginning of 2009, for all academics. *Second*, article 19 of the *Residence Act* gives scientists with special expertise and teachers in senior functions the right to a permanent settlement permit which is issued without approval by the employment agency. The same applies to specialists and executives with a special professional experience provided they receive a salary of at least EUR 64 800 per year (until 2009 this threshold was EUR 86 400). *Third*, article 20 of the *Residence Act* gives researchers the right to a (temporary) residence permit

for the purpose of carrying out a research project with a research establishment certified for implementing the special admission procedure for researchers, which is issued without approval by the employment agency. *Fourth*, foreign graduates from German universities and technical colleges may remain in Germany for up to one year to seek employment. In 2007, the labour market access of foreign graduates was eased by exempting them from the priority examination if the job corresponds to their field of studies. A *fifth* pathway (which is not exclusive to the high-skilled) is the possibility to work in Germany as self-employed. A number of conditions are attached to this pathway, which are considered as fulfiled if the immigrant invests at least EUR 250 000 and secures the creation of more than 5 jobs.

Overall, the newly created special pathways have been little used by high-skilled immigrants. For example, between 2005 and 2008 fewer than 1 400 of the immigrants were granted a settlement permit in accordance with article 19 of the *Residence Act*. This number increased after the easing of the income threshold in 2009 (in that year about 690 settlement permits were granted, which represents an increase of 45% on 2008), but remains fairly low.[48] One potential factor contributing to low take up is the income ceiling which is still well above the earnings level of individuals with a university degree at the beginning of their career, *i.e.* at the time when most individuals make their migration decision.[49] Similarly, foreign students are not sufficiently used as a talent pool. While the number of foreign students at German universities (relative to its population) is reasonably high for a non-English speaking country, only few foreign students stay in the country after graduation. In 2006, fewer than 2 000 of the about 14 500 foreign graduates from non-EU countries took advantage of the possibility to remain in the country to look for work (Chalaff and Lemaitre, 2009). To what extent the recent waiving of the priority examination has improved the situation remains to be seen.

OECD countries use a wide range of policy tools to manage high-skilled labour migration. Their experience with these tools might provide some guidelines for Germany on how to increase its intake of high-skilled immigrants. As stressed by Chalaff and Lemaitre (2009), there is a tendency among OECD countries to move away from employment tests towards a broader use of shortage lists. This reduces the time delays and arbitrariness often associated with employment tests (Burkert *et al.*, 2008, provide some indicative evidence of such discretionary behaviour in Germany), though other issues arise such as finding an appropriate definition of occupations in short supply that is neither too narrow nor too broad. While the recent opening of the labour market to foreign academics is a welcome step, the government might consider complementing the employment test with a list of occupations in short supply (for which the employment test is waived). Another incremental change concerns the income threshold for the immigration of specialists and executives with a special professional experience under article 19 of the *Residence Act*, which could be reduced further.

A more far-reaching reform would be to introduce a points system to manage immigration as is done in several other OECD countries like Australia, Canada, Denmark, New Zealand, and the United Kingdom.[50] In such a system candidates are assigned points based on their characteristics and are considered for admission if the number of points exceeds a certain threshold. Criteria for points include language skills, age, educational attainment, work experience (in the host country), financial security, and the holding of an occupation considered to be in shortage (Table 5.2). A points system was envisaged in the original draft of the 2005 *Immigration Act*, but failed in the legislative process. Compared to

Table 5.2. **Points attributed under a points system, selected OECD countries**

Characteristic	Australia	Canada	New Zealand	United Kingdom
Language ability	15-25	0-24	Obligatory	10
Sufficient funds for initial period		Obligatory		10
Age (younger = more points)	15-30	0-10	5-30	5-20
Qualifications/academic	5-25	0-25	50-55	30-50
Skilled occupation	40-60			
Work experience in occupation	5-10	0-21	10-30	
Recent earnings				5-45
Spouse/partner skills	5	0-10	50	
Shortage occupation	15-20		20	
In-country work experience	10	0-10	5-15	5
Regional study	5			
Designated area sponsorship	25			
Job offer		0-10	50-60	
State/territory of settlement	10		10	
Professional language skills	5			
Number required	**100-120**	**67**	**100–140**	**95**

Source: Chaloff and Lemaitre (2009), "Managing highly-skilled labour migration: A comparative analysis of migration policies and challenges in OECD countries", *OECD Social, Employment and Migration Working Papers*, No. 29.

a system in which the initiative for immigration comes from the employer who has a perceived need for a certain foreign worker, a points system has the drawback that the immigrant is not immediately employed upon arrival, though (as in New Zealand) a job offer could add points. On the other hand, a points system is very transparent and flexible and takes into consideration general human capital needs rather than the specific immediate occupational needs of employers. In any case, as argued by Chaloff and Lemaitre (2009), an employer-driven system might be less appropriate for non-English speaking countries such as Germany, where hiring directly into jobs is difficult except in special circumstances (for example in multinational enterprises where the language of work is English). In this case, a points system may be superior, with significant investments made in language teaching for new arrivals.[51]

Germany might also have to engage more actively in recruitment policy, including through international job fairs, multilingual job postings, and special assistance to high-skilled immigrants who often lack host-country-specific human capital such as knowledge of job-search channels or contacts with potential employers (Chaloff and Lemaitre, 2009). As noted by Heß and Sauer (2007), programmes or organisations to systematically recruit highly qualified foreign labour hardly exist in Germany. In addition, a fast and transparent system of recognizing foreign qualifications is urgently needed, not least because many highly qualified immigrants continue to arrive without job offers in the country, for family or humanitarian reasons. Empirical evidence indicates that employers attribute less value to qualifications and experience obtained abroad and in particular from non-OECD countries (OECD, 2007e), leading to less favourable labour market outcomes for immigrants relative to natives. Recent government initiatives in this direction are welcome. For example, the government ratified the *Convention on the Recognition of Qualifications concerning Higher Education in the European Region* which allows for a more transparent process for recognising foreign qualifications that provide access to higher education, and has agreed on key points for legislation to improve the assessment and recognition of vocational qualifications acquired abroad.

Box 5.6. **Recommendations to lift potential growth in a globalised world**

Making product market regulation more competition-friendly

- Further simplify the license and permit system.
- Further simplify the insolvency law to ensure that the possibility for restructuring is used more frequently.
- Ease conduct regulation of professional services, for example, by further reducing restrictions on the co-operation between professions (while maintaining high quality standards), by further liberalizing prices and by reassessing the need for restrictions on advertising.
- Simplify entry conditions into professional services by rethinking compulsory chamber memberships while maintaining necessary standards for professional qualification in order to protect consumers. At the very least, reduce the number of activities over which certain professions have exclusive rights and further lower education requirements for full chamber membership.

Improving the framework conditions for innovation

- Ensure that the existing institutions on the domestic capital market (such as the designated stock market segment for SMEs) provide venture capitalists with sufficient exit possibilities.
- Modify the MoRaKG so that it complies with EU regulation and fix flaws in the original version (such as the reduced transparency that stems from having venture capital companies supervised by the BaFin and capital investment companies by the ministries for economic affairs of the *Länder*).
- Consider introducing tax incentives to complement grants, though duplication of public subsidisation should be excluded.

Raising education attainment and outcomes

- Raise tertiary attainment by reducing stratification in the school system and by improving the institutional setup of tertiary education also in those *Länder* that have not yet taken steps in this direction.
- Continue the reform of the vocational education and training (VET) system by adapting it to changing labour market needs. In this regard, consideration should be given to reducing the variety of VET qualifications. Continuing education offers of general skills – in addition to vocational training – must be provided according to need. This refers in particular to the teaching of general skills in mathematics, German, and foreign languages as well as sufficient computer skills in dual VET. Let vocational schools and chambers jointly prepare and carry out the final examination of dual VET programmes.
- Raise participation in lifelong learning by swiftly implementing the plan to improve transparency in the adult education market and to facilitate access to guidance on adult education and training, by quickly proceeding with the planned incorporation of non-formal and informal activities in the *Qualifications Framework for Lifelong Learning*, and by carefully monitoring the outcome of recently introduced financial support programmes for adult learning and education to minimize the deadweight loss.

Attracting high-skilled immigrants

- Enhance possibilities for immigration of high-skilled workers, for example by introducing a points system. In addition, consider further reducing the income threshold for obtaining a permanent settlement permit for the immigration of specialists and executives with a special professional experience and complementing the employment test for foreign academics with a list of occupations in short supply.
- Consider engaging more actively in recruitment policy, including through international job fairs, multilingual job postings, and special assistance to high-skilled immigrants.
- Introduce a fast and transparent system of recognizing foreign qualifications.

Notes

1. Wholesale and retail trade, restaurants and hotels; transport, storage and communications; finance, insurance, real estate and business services.
2. This comparison does not take into account that some of the goods exported to other OECD countries are (perhaps after some further processing) re-exported to non-OECD countries or *vice versa*.
3. Only Korea and the four Central and Eastern European OECD countries recorded an even larger increase in their exports than Germany over the period 2000 to 2007. Germany's export performance therefore sticks out among larger, more developed economies.
4. These outsourcing and offshoring activities can also explain the above mentioned surge in German exports to these countries as the foreign-based subsidiaries or contracting firms are likely to have been equipped at least in part with capital goods produced in Germany and are sourcing intermediate inputs from there (Bundesbank, 2006b). Similarly, the strong increase in imports from Central and Eastern Europe might be explained by subsidiaries or contracting firms supplying intermediate goods or finished products to the group's parent company.
5. See OECD (2009a) for a discussion of the impact of the crisis on the automotive industry.
6. As argued by Snower *et al.* (2009), new advances in information and telecommunication technologies enable companies to decompose their various stages of production geographically into clusters of tasks, locating each cluster in the country and region where it is the most profitable.
7. Some of this progress was related to the implementation of the EU Services Directive, which was adopted by the European Council and the European Parliament in 2006 and had to be fully transposed by member states into their national systems by end-2009.
8. Empirical evidence that anti-competitive product market regulation reduces an economy's adjustment capacity is provided by Duval *et al.* (2007).
9. The growth inhibiting impact of uncompetitive network industries was the focus of Chapter 5 of the previous *Survey* (OECD, 2008).
10. Two recent legislative changes (introduced in respectively November 2008 and April 2009) concern the services provided by chimney sweepers, several of which were opened up for competition, and consulting services by architects and engineers, for which price setting was liberalized.
11. The *Synthetic Innovation Indicator* by Rae and Sollie (2007) ranks Germany 11th out of 27 OECD countries and the country scores 9th out of 29 OECD countries in the *Global Innovation Scoreboard* produced by the European Commission (European Communities, 2009), 7th out of 16 OECD countries in the *Innovation Benchmarking* by the IW Köln (Hülskamp and Koppel, 2005) and 9th out of 17 OECD countries in the *Innovation Indicator* by the DIW Berlin (Von Hirschhausen *et al.*, 2009). All three rankings are produced by compiling information on a wide range of indicators that capture a country's performance both on the output and input side of innovation.
12. The Patent co-operation Treaty (PCT) procedure provides the possibility to seek patent rights in a large number of countries by filing a single international application with a single patent office.
13. A triadic patent family is a set of patent applications filed at the European Patent Office, the Japan Patent Office and the US Patent and Trademark Office. While PCT applications have an advantage in terms of timeliness (they are published 18 months after the first application of the patent worldwide), triadic patent families have an advantage in terms of quality (inventions of high value aiming to cover main international markets). See OECD (2009b) for further details.
14. The survey focuses exclusively on companies in high-technology and medium-high-technology manufacturing sectors as well as in knowledge-intensive service sectors.
15. A recent cross-country study by Meyer (2008) shows a significant positive correlation between the volume of venture capital investment and the turnover from innovations. For Germany, the causality appears to run from venture capital to turnover and not *vice versa*.
16. See the reports of the Council of Economic Experts and the Commission of Experts for Research and Innovation for a more detailed discussion (Sachverständigenrat, 2008; Expertenkommission Forschung und Innovation, 2009).
17. Grants, tax credits, public procurement, and direct performance of research (through universities and public research institutes) are the main policy tools.

18. Similar conclusions are drawn by García-Quevado (2004) stating that the literature on the relationship between public funding of business R&D and private R&D expenditure obtains contradictory results that are difficult to reconcile and Hall and Van Reenen (2000) claiming that there is substantial evidence that R&D tax reliefs have a positive impact on the amount of private sector R&D spending.

19. Even if R&D tax credits are effective, the question remains as to whether the foregone tax revenues could have been better spent on other measures with a higher social return (Jaumotte and Pain, 2005a). Using a computable general equilibrium model, Russo (2004) finds that the welfare gains from R&D tax reliefs are markedly higher than those from corporate or personal income tax cuts.

20. For example, the OECD country with the most generous tax regime for R&D by a representative firm is Spain. Yet, Spain is one of the OECD countries with the lowest private sector R&D intensity. A number of countries have recently provided estimates of the revenue forgone due to R&D tax incentives (OECD, 2007d). Most countries estimate the cost at around 0.03% to 0.05% of GDP (*e.g.* Australia, France, Ireland, Mexico, Portugal, Spain, United Kingdom, United States), though some report higher numbers (*e.g.* Canada with 0.2% of GDP).

21. This is supported by Lach (2002) showing for Israeli firms that government subsidies have a significant positive impact on company financed R&D expenditures for small firms, but no effect on expenditures by large firms.

22. Spitz (2003) provides evidence for Germany that the technological features of computer technologies shift the relative skill requirements of occupations towards analytical and interactive activities for which employees with higher educational attainment have comparative advantages.

23. The in-depth chapter of the previous *Survey* (OECD, 2008) provides a thorough discussion of the challenges of the German education system, looking also at childhood care and education as well as at primary and secondary school education.

24. As the productivity-adjusted capital-labour-ratio remains constant over time irrespective of fluctuations in labour supply (Brücker and Jahn, 2009; Ottaviano and Peri, 2006), demographic change does not necessarily lead to labour shortages or a drop in unemployment. However, as the age cohorts that will quit the labour force in the coming years are relatively well educated, there will be a lack of skilled labour (and an oversupply of less skilled labour). The Centre for European Economic Research is forecasting a shortage of between 180 000 and 490 000 skilled persons, resulting from ageing and structural change, for the year 2014 (Egeln *et al.*, 2007). See also Bonin *et al.* (2007), Fuchs and Reinberg (2007), Schnur and Zika (2007) and Biersack *et al.* (2008) for a discussion of this issue.

25. With the number of youth projected to decline by one third by 2050, the tertiary graduation rate has to increase by about 12 percentage points merely to keep the number of university graduates constant (Fuchs and Weber, 2007).

26. 5A programmes are largely theoretically based and are intended to provide sufficient qualifications for gaining entry into advanced research programmes and professions with high skills requirements whereas 5B programmes are generally more practical/technical/occupationally specific than ISCED 5A programmes.

27. An *allgemeine Hochschulreife* (*Abitur*) provides admission to all subjects at all higher education institutions and a *Fachhochschulreife* provides admission to universities of applied sciences. In addition, a *fachgebundene Hochschulreife* entitles the holder to study particular subjects at a higher education institution. For a detailed overview on the German education system see Annex 4.A1 of OECD (2008).

28. As stressed by Meier and Schütz (2007), tracking decisions at a young age involve a higher risk of making a mistake in measureing true ability (and hence of sending a child to the wrong track) because ability is revealed only gradually and because younger students show stronger differences in maturity.

29. *Numerus clausus* restrictions limit the number of students admitted for study, normally by requiring a minimum average mark in the upper-secondary graduation exam (*Abitur*).

30. Empirical evidence suggests that any negative effects of tuition fees on enrolment can be fully offset by improvements of financial aid schemes (Santiago *et al.*, 2008; Heller, 1999).

31. This comparison does not yet take into account the *Hartz* reforms which should have raised the net wage premium somewhat as tertiary graduates have a lower risk of unemployment than other groups.

32. For an in-depth survey of the German VET system see Hoeckel (2010).

33. The dual system and the full-time school system are complemented by the so-called transition system which provides basic vocational training without leading to a recognized vocational qualification (it is meant for school leavers from general education schools who cannot immediately find a place in the dual system or the full-time school system).

34. Since the 2005 reform of the *Vocational Education and Training Act* (*Berufsbildungsgesetz*, BBiG), VET graduates may request that the results of the school exam are shown in the final VET certificate.

35. Also before this reform, pathways to university education existed for individuals with a professional qualification, though the precise rules differed across *Länder*. The major achievement of the recent reform was thus the introduction of a harmonized set of university entry requirements based on professional qualification that is applicable in all *Länder*. In addition to these common pathways, the *Länder* are allowed to have *Länder*-specific pathways which have to be accepted by the remaining *Länder* after one year of successful study.

36. Formal education corresponds to education and training in the regular system of schools, universities and colleges; non-formal education includes all types of taught learning activities which are not part of a formal education programme; informal learning corresponds to self-learning which is not part of either formal nor non-formal education and training, by using printed material, computer or web based learning, educational broadcasting, audio or videotapes, or by visiting facilities aimed at transmitting educational content (*e.g.* libraries).

37. The DQR is not limited to improving continuing education and training in Germany, but aims at improving transparency and transfer opportunities for all areas of education.

38. See Federal Ministry of Education and Research (2008) for an overview on the current setup.

39. Detailed recommendations on how best to structure and organise systems for recognition of non-formal and informal learning are provided by OECD (2010).

40. In addition, there are some *Länder*-specific support programmes such as the *Bildungsscheck NRW* in North Rhine-Westphalia.

41. For example, with an average duration of bachelor programmes of 3½ years, a postponement of the tracking decision beyond the age of 10 will impact the pool of skilled labour with a minimum time lag of 10½ years.

42. The European Economic Area (EEA) includes all 27 EU countries plus Iceland, Norway and Liechtenstein. Swiss citizens enjoy the same rights as EEA-citizens.

43. The transitional arrangements are based on the 2-3-2 formula: For the first two years following enlargement, access to the labour markets in incumbent member states depends on national laws and policies, which can be extended for a further period of three years. Should a member state find that after that period its labour market has been severely disrupted it is possible to have the national rules extended for a further two years. Citizens of Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia, and Romania are subject to these transitional arrangements.

44. Data on migrant stocks in the EU15 are taken from Brücker and Damelang (2007), Table 3a.

45. This favourable assessment refers to the pre-crisis period. To what extent the picture is changed by the recent crisis remains to be seen.

46. Although historical evidence demonstrates that migration flows adjust to a downturn of the business cycle, it is unclear to what extent such historic patterns apply to the current downturn, given that both host and home countries are affected simultaneously (see OECD, 2009e, for some early evidence). Moreover, the effects of immigration on unemployment in a downturn are not yet sufficiently understood, such that some uncertainty about the exact impact remains in any case.

47. In addition, the issuance of a residence permit for employment purposes requires approval by the *Aliens Authority* which examines the foreigner's application according the *Residence Act* and concomitant ordinances. However, in line with the one-stop government principle, immigrants have to submit only one application.

48. Most immigrants from non-EEA countries use family reunification and similar channels for immigration.

49. The average annual starting salary for a bachelor's degree is about EUR 39 000, for a master's degree it is about EUR 42 000.

50. Brücker and Ringer (2008) show for a panel of six OECD countries that the qualification level of immigrants is notably higher in countries which manage migration based on a points system.

51. Even with a points system, employer-initiated migration may still be needed to satisfy temporary labour needs, which a points system is not able to address expeditiously.

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ANNEX 5.A1

What factors were behind the German export boom?

To explore the reasons behind the strong increase in German exports prior to the recent crisis, a number of equations are estimated relating the volume of exports to a measure of export market, and measures of price and non-price competitiveness. A coefficient of unity is imposed on export market size, so that ultimately the export market share is modelled. The equations are estimated separately for capital goods and non-capital goods to investigate whether the importance of explanatory variables differs across the two types of goods (capital goods play a crucial role for the German export sector, accounting for about 62% of the total value of goods exports in 2008, down from around 65% in 2000). The data set is annual and covers the period 1994 to 2007. To account for the unit-root characteristics of the time series, the analysis makes use of the dynamic OLS estimator proposed by Saikkonen (1991) which involves adding leads and lags of the changes in all explanatory variables to the equation:

$$\ln\left(\frac{EXP_t}{EXPM_t}\right) = \alpha + \beta_1 \ln(PC)_t + \beta_2 \ln(NPC)_t + \sum_{p=-n}^{n} \gamma_{1p} \Delta \ln(PC)_{t-p} + \sum_{p=-m}^{m} \gamma_{2p} \Delta \ln(NPC)_{t-p} + \varepsilon_t,$$

where *EXP* is the volume of respectively capital and non-capital goods exports, *EXPM* is the size of the potential export market, and *PC* and *NPC* are measures of price and non-price competitiveness. Given the short sample period, *n* and *m* are set equal to unity. To obtain a parsimonious specification, insignificant dynamic terms are dropped. Unit root tests indicate that the residuals of the estimated equations are stationary.

Data on capital and non-capital exports (in value terms) are obtained from the UN *Comtrade Database*.[1] As no price data are available for capital and non-capital goods, export values are deflated using the private non-residential fixed capital formation deflator for capital goods and the private consumption expenditure deflator for non-capital goods. These data are obtained from the *OECD Analytical Database*. The export market is computed as a weighted average of imports in trading partners, following the procedure described in Box A of Pain *et al.* (2005) with all data taken from the UN *Comtrade Database*.[2] It is calculated separately for capital and non-capital goods. Price competitiveness is alternatively measured by total economy unit labour costs and export prices, with data on both variables taken from the OECD *Analytical Database*. The latter variable has the advantage that it is a more direct measure of a country's price competitiveness, accounting not only for changes in the costs of labour input but also in the costs of other input factors (*e.g.* cheaper sourcing of intermediate goods due to offshoring activities) as well as for changes in profit margins. The two price competitiveness variables are measured relative to a weighted average of respectively unit labour costs and export prices in competitor

countries, where the weighing procedure follows again Pain *et al.* (2005).[3] Non-price competitiveness is measured by the number of triadic patent families per million population. The variable is measured relative to a weighted average of competitor countries. Data on patents are obtained from the OECD *Patents Database* and population data are taken from the OECD *Analytical Database*. As patenting activity is likely to affect competitiveness with a lag, a 3-year moving average of the series is used in the estimation.

The long-run coefficients are displayed in Table 5.A1.1. The coefficients on the two measures of price competitiveness are significant for Germany in all four specifications and have the expected negative sign. The significance of the variable is somewhat lower for non-capital goods exports than for capital goods exports. The point estimates of the coefficients are somewhat smaller for non-capital goods exports, but the difference is not statistically significant. The relative number of triadic patent families per million population has a highly significant impact on both capital and non-capital goods exports, suggesting that non-price factors are an important determinant of German exports. The size of the estimated coefficients is higher for non-capital goods than for capital goods, but again the difference is not statistically significant.

Table 5.A1.1. **Estimation results**

Specification	(1)	(2)	(3)	(4)
Dependent variable	$\ln(EXP^{C}/EXPM^{C})$	$\ln(EXP^{NC}/EXPM^{NC})$	$\ln(EXP^{C}/EXPM^{C})$	$\ln(EXP^{NC}/EXPM^{NC})$
$\ln(RULC)$	–1.944***	–1.235*		
	(0.546)	(0.656)		
$\ln(RPEXP)$			–5.372***	–3.475**
			(1.210)	(1.220)
$\ln(RPAT)$	3.237***	4.132***	3.000***	3.726***
	(0.656)	(0.789)	(0.951)	(0.958)
Adj. R-squared	0.937	0.812	0.802	0.588

1. EXP^{C} = capital goods exports; EXP^{NC} = non-capital goods exports; $EXPM^{C}$ = export market for capital goods; $EXPM^{NC}$ = export market for non-capital goods; *RULC* = relative unit labour costs; *RPEXP* = relative export prices; *RPAT* = relative patents per million population (3-year moving average). ***, **, * denote significance at the 1%, 5%, 10% significance level. Standard errors in parentheses.

Notes

1. Capital goods include manufactured metals, machinery/transport equipment, manufactured professional/scientific/photographic/optical apparatus and watches and clocks. They are defined as SITC Revision 3 commodity codes 67+68+69+7+87+88. Non-capital goods are defined as the remaining SITC Revision 3 commodity codes except for non-classified commodities, which are omitted from the analysis.
2. Data availability problems restrict the set of trading partners to Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Mexico, Netherlands, New Zealand, Norway, Korea, Spain, Sweden, Switzerland, United Kingdom and the United States.
3. The set of partner countries is identical to the one used for the calculation of export markets.

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