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This Survey is published on the responsibility of the Economic and Development Review Committee (EDRC) of the OECD, which is charged with the examination of the economic situation of member countries.

The economic situation and policies of Germany were reviewed by the Committee on 6 February 2008. The draft report was then revised in the light of the discussions and given final approval as the agreed report of the whole Committee on 21 February 2008.

The Secretariat's draft report was prepared for the Committee by David Carey, Felix Hüfner and Nicola Brandt under the supervision of Andreas Wörgötter.

The previous Survey of Germany was issued in May 2006.

Information about the latest as well as previous Surveys and more information about how Surveys are prepared is available at www.oecd.org/eco/surveys.

BASIC STATISTICS OF GERMANY, 2006

LAND

Area, 2004 (1 000 km^2)	356
Agriculture (%)	53
Forest (%)	30

Major cities, 31 December 2005 (1 000 inhabitants):	
Berlin	3 395
Hamburg	1 744
Munich	1 260

PEOPLE

Population (1 000)	82 366
Inhabitants per km^2	231
Natural increase in population, 2005 (1 000)	–144
Net immigration, 2005 (1 000)	79

Labour force[1] (1 000)	42 520
Employment[1] (1 000)	39 088
Agriculture (%)	2
Industry (%)	26
Services (%)	72

PRODUCTION

GDP, current prices (billion euros)	2 322
GDP per capita (1 000 USD in current prices)	35
Gross fixed investment (% of GDP)	18

Origin of value added (%)	
Agriculture	1
Industry	29
Services	70

GOVERNMENT

Public consumption (% of GDP)	18
General government total revenue (% of GDP)	44
Public debt, Maastricht definition (% of GDP)	68

Composition of Parliament	Seats
Social Democratic Party (SDP)	222
Christian Democratic Party (CDU)	178
Christian Social Union (CSU)	46
Greens	51
Free Democratic Party (FDP)	61
The Left	53
Independent	2
Last general election: September 2005	
Next general election: 2009	

FOREIGN TRADE

Exports of goods and services in 2006 (% of GDP)	45
Main exports (% of total merchandise exports):	
Machinery and transport equipment	49
Manufactured items	24
Chemicals and related products	14

Imports of goods and services in 2006 (% of GDP)	40
Main imports (% of total merchandise imports):	
Machinery and transport equipment	37
Manufactured items	25
Mineral fuels, lubricants and related materials	12

CURRENCY

Irrevocable conversion rate (1 euro)	1.95583

Euros per USD:	
Year 2006	0.76
December 2007	0.68

1. Domestic concept.

Executive summary

Following a prolonged period of stagnation, Germany has been enjoying a vigorous recovery. Business and government finances are robust, laying a solid foundation for a continuation of the upswing provided that headwinds from the global financial market turmoil do not become overwhelming. Nevertheless, for high economic growth to last beyond the cyclical upswing, it will be necessary to raise the growth rate of potential output. Past reforms, especially in the labour market, have helped to raise the potential growth rate recently, but there is still much scope to increase hours worked per capita and to increase productivity, notably in certain network industries. Improving education outcomes, including by reducing the impact of socio-economic background on outcomes, will be important for sustaining high economic growth in the long run.

Past achievements in fiscal consolidation need to be preserved. *With the structural budget now in balance, the challenge is to avoid pro-cyclical policies and to deal with the long-term fiscal challenges of ageing. Replacing the current fiscal rule, which has proved to be ineffective, with the requirement of a structural budget balance in line with the Stability and Growth Pact should be considered. In addition, securing future tax revenues requires shifting more of the tax burden from mobile to immobile tax bases. The lowering of corporate tax rates is a step in the right direction but more could be done. Finally, the tax collection process should be made more efficient.*

Reform momentum in the labour market needs to be maintained to achieve lasting improvements. *The focus should be on increasing the low number of hours worked per person employed, notably of women. This could be achieved by lowering financial disincentives for second-earners to work longer and increasing the supply of childcare to allow more mothers to work. Long-term unemployment also remains a problem and while the increase in work incentives implemented with the* Hartz IV *reform has been a first step to improve labour supply of this group, more could be done. On the labour demand side, lowering the strict employment protection legislation for regular job contracts and avoiding too high minimum wages are important challenges. Plans to further phase out early retirement options are welcome in order to raise employment rates for older workers and should be implemented soon.*

Further reforms in education are needed to raise education achievement and attainment and reduce the impact of socio-economic background on outcomes. *To improve education achievement and reduce the large impact of socio-economic and/or immigrant backgrounds on outcomes, the authorities should expand participation in pre-school education, improve teaching quality, and reduce stratification in the education system. Giving universities more flexibility over their funding by allowing them to charge students tuition fees, accompanied by loans with income-contingent repayments, would help to enhance the quality of university education, making it more attractive in* Länder *where these policies have not yet been implemented.*

Product market competition needs to be strengthened, notably in network industries. *Both the energy and railways sectors are dominated by large vertically integrated companies operating networks. Productivity could be increased and consumer prices reduced by lowering entry barriers, including the option of stronger forms of vertical separation. Also,*

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concentration at the wholesale level needs to be reduced. Privatisation in the railway sector should focus on a strong separation between track ownership and operation, on the one hand, and transport services on the other.

Healthcare reforms should help to increase efficiency but need to be taken further. *The government plans to reduce the impact of healthcare costs on non-wage labour costs by increasing budget contributions, but needs to decide quickly on how to finance them. To strengthen price signals in the reformed healthcare system, the government should remove income limits on the surcharge that less efficient insurers charge their members and directly compensate the higher burden for low-income earners. Private insurers should be included in the new financing system to make risk pooling more efficient and to enhance equity.*

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Assessment and recommendations

The major policy challenges are sustaining high economic growth…

Germany has been experiencing a strong economic recovery after a prolonged period of stagnation in the early years of the current decade. With corporate balance sheets and profitability robust and the government structural budget near balance, solid foundations have been laid for the continuation of the upswing. Nevertheless, for high economic growth to be more enduring, as intended by the authorities, it will be necessary to raise the growth rate of potential output. Past reforms, notably in the labour market have helped to lift growth in potential output recently, but there is still considerable scope to increase hours worked per capita, despite the progress made during the current upswing, and to improve productivity, notably in certain network industries. In the long run, improving education outcomes, including by reducing the impact of socio-economic background on outcomes, will be central to sustaining high economic growth and social cohesion.

… maintaining macroeconomic stability, and achieving fiscal sustainability

A factor that aggravated the downturn in Germany that preceded the current recovery is that it was necessary to consolidate the government budget during the downturn, structural public finances having deteriorated during the preceding upswing. Avoiding such pro-cyclicality would contribute to making economic growth more stable; it could also help to raise productivity by reducing investment risk. As in other OECD countries, the overarching objective of fiscal policy is to ensure that public finances are on a sustainable path. Despite major pension reforms in recent years, some further budget consolidation may still be needed to pre-fund future budget pressures related to population ageing. Germany also shares with other OECD countries the challenge of containing and financing long-run growth in healthcare expenditures not related to population ageing.

The economic upswing is set to continue

Following the traditional business cycle pattern in Germany, the current upswing began in the export sector. Exports have grown strongly since 2004, underpinned by high growth in Germany's export markets and its specialisation in capital and intermediate goods (demand for which is sensitive to the global business cycle). So far, appreciation of the euro has not had much effect because exporters make their supply decisions on the basis of their assessment of sustainable exchange rate levels, absorbing exchange rate fluctuations via margin compression, and because real unit labour costs have been declining. Investment expenditure turned around next, following the slump in such expenditure that occurred in the early years of the decade. In contrast to previous recoveries, private consumption expenditure is lagging the recovery. This performance is attributable to unusually weak growth in household incomes, despite much higher growth in total hours worked than in previous upturns, reflecting low growth in real wage rates, which has lagged far behind productivity growth. The upside of these developments for the continuation of the economic upswing is that companies are well placed to continue to invest and expand employment, albeit at a slower pace than in recent years owing to the headwinds coming from the global credit crunch and rising commodity prices. The OECD projects that the economic growth rate will slow from 2½ per cent in 2007 to 1½ per cent in 2009, which is around the estimated potential growth rate. Such growth would see a small positive output gap from 2008 onwards.

Fiscal rules need to be improved to avoid pro-cyclical policies

While the favourable cyclical development has helped to improve government finances, the largest contribution came from expenditure restraint. The revenue share has been broadly stable, despite the increase in the VAT rate in 2007 and strong growth in direct taxation, owing to lower social security contributions. Going forward, past achievements in fiscal policy should be preserved and pro-cyclical policy during the upswing avoided. International comparisons show that sensibly designed fiscal rules can be helpful in this regard. The current fiscal rule arrangement enshrined in the German constitution, which follows a golden rule methodology, states that the deficit should not be higher than investment in a given year, but has not proved to be effective. It has prevented neither a rise in the debt level nor pro-cyclical policies. *It should thus be replaced by the requirement of a balanced budget in cyclically-adjusted terms, in line with the regulations of the Stability and Growth Pact. This rule could be made more effective by making the underlying expenditure path public and binding. This should also be applied to sub-national levels which might require strengthening the tax autonomy of the* Länder*. Allowing them to levy a surcharge to the income tax which would not be taken into account in the fiscal equalisation scheme would be one option.*

Shifting the tax burden more towards immobile bases would help further budget consolidation

As population ageing requires further budget consolidation, efforts also need to be stepped up to safeguard future tax revenues in a globalised world with mobile tax bases. Lowering corporate tax rates and broadening the tax base from 2008 onwards is a step in the right direction as it addresses the problem of outward profit shifting. But it may not be enough over the long run to secure the corporate tax base, as statutory tax rates after the reform will be higher than in a number of other countries and as global tax competition will induce other countries to lower their rates, too. *Thus, shifting more of the tax burden from mobile to immobile tax bases should be considered. Options would be to lower the local business tax and to increase property taxes at the municipal level. Also, pressures to abolish inheritance taxes should be resisted.* Additional tax revenue might also be gained by improving the tax collection process, for example by *centralising corporate tax collection at the federal level.* This

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would help to circumvent a potential loss of revenue induced by the lack of incentives for states to levy the tax rigorously. *Alternatively, the fiscal equalisation scheme could be reformed so that transfers are computed on the basis of tax capacity rather than actual tax revenue. Furthermore, the current application of the reduced VAT rate should be reconsidered for products for which a reduction is no longer justified.*

There is scope to raise living standards by increasing labour utilisation and productivity growth

With relatively low economic growth over the past decade, potential GDP per capita (converted to dollars at PPP exchange rates) has slipped from 78% of the United States level in 1995 to 73% in 2006 (the United States is typically taken as the benchmark as it is the global productivity leader in most sectors). This divergence of potential GDP per capita levels is attributable to lower growth in both hours worked per capita and labour productivity in Germany than in the United States. Focusing on the current gap in potential GDP per capita, the main factor accounting for this shortfall is lower hours worked per capita in Germany, despite the progress that Germany has made in increasing labour utilisation in recent years. An examination of productivity data by sector suggests that there is substantial scope to raise productivity in the energy and transport sectors. These are sectors in which the quality of regulation can have a large impact on competitive pressures and hence on productivity and prices charged to clients.

Disincentives for women to work longer hours need to be reduced

Compared with other OECD countries, the number of hours worked per person employed remains low. This is mainly due to the low number of average hours worked by women, while hours worked by male workers compare more favourably with other reference countries. One reason for this outcome is the fiscal disincentive for second-earners to work longer hours. In particular, the joint taxation system as well as the free healthcare coverage for non-working spouses leads many women to work in part-time jobs with a low number of hours which are not liable for taxes or social security (*mini-jobs*). *Consideration should thus be given to moving towards a system of individual taxation and to phase out the free healthcare coverage. In order to satisfy constitutional constraints, individual taxation could be combined with the option to shift the personal allowance from the non-working to the working partner.* Corresponding social concerns about the availability of healthcare for non working spouses are taken care by the current health insurance reform, which introduces obligatory healthcare insurance and compensates insurance funds for non-contributing members from the budget (see below).

A further reason for low labour input by women is the lack of childcare provision. This is evident by the fact that fewer mothers with small children are employed in Germany than in other countries and those who work, do so for fewer hours. While childcare is cheaper in Germany than in many other countries, relatively little of it is available. The government plan to significantly expand the number of places until 2013 is thus important. *The government should consider introducing a voucher system for childcare while resisting pressures to also subsidise parents who keep their children at home.* Experiments have shown that such subsidisation can actually reduce attendance rates in childcare facilities, in particular of those children who would benefit most. *To encourage greater private supply, the government should also consider easing regulations for the set-up of childcare facilities.*

Impediments for long-term unemployed to take up work need to be reduced…

While the cyclical upswing is also increasingly affecting the long-term unemployed, their share in the total number of unemployed remains very high by international standards. A step in the right direction has been taken with the past *Hartz IV* reform of the labour market, which has significantly increased the work incentives by lowering unemployment benefit replacement rates and shortening their duration. *Those reforms should not be rolled back as international evidence clearly suggests that they will have beneficial effects on labour supply and should lower the structural unemployment rate by around one half of a percentage point.* While the supplementary benefit layer paid to former recipients of unemployment insurance benefits when they move into the new unemployment benefit II scheme smoothes the reduction in benefits it may also weaken work incentives. *Consideration should be given to phasing out supplementary benefits in order to further strengthen work incentives.*

In contrast to the reforms on the labour supply side, more needs to be done to raise labour demand, notably by tackling employment protection legislation (EPL). The past liberalisation of temporary work contracts has resulted in a sharp pick-up of temporary agency work contracts in the current upturn. While this has helped to increase the flexibility of companies and has also helped to keep labour costs down, it risks creating a dual labour market over the longer run where some jobs are more protected than others, leading to well-known insider-outsider problems. *The government should thus consider easing employment protection legislation for regular job contracts, which is strict by international standards, in order to use the current upswing to create as many regular job contracts as possible. One option would be to replace the court route for dismissals for economic reasons with a formula-based severance payment, making the process more transparent and less uncertain.*

The government's decision to introduce minimum wages in the postal sector by legal extension of wage agreements is unfortunate, as it effectively means that those companies who are not part of the original wage agreement in the sector are forced to accept the wage costs of other companies in the sector, reducing competition. Moreover, there are discussions about establishing minimum wages in other sectors. *If a minimum wage is deemed necessary to counter the negative effects of monopsonistic labour demand in certain areas, it should be applied on a nation-wide basis at a sufficiently low level that will not lead to job losses,* i.e. *below the level that would prevail in a market characterised by perfect competition. Based on experience in other countries, decisions on a general minimum wage level should be made by an independent commission of experts so as to avoid politicising these decisions, reducing the risk of the minimum wage being set at a level that harms employment.*

… and work incentives for older workers further increased

One of the most visible successes of past reforms is the increase in the employment rate of older workers, by over ten percentage points since 2003. While employment rates are still

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below the OECD average, a considerable part of the gap has been closed. This reflects foremost efforts by the government to reduce the attractiveness of early retirement, for example by shortening the unemployment benefit duration for older workers and gradually increasing the age at which early retirement is possible. However, the recent decision to lengthen unemployment benefit duration for older workers might put some of the gains witnessed in older worker employment in jeopardy, even though the planned voucher scheme might alleviate the adverse effects. *The current upswing should be used to further raise work incentives for older workers, for example by ending the subsidisation of the part-time employment scheme for persons above 55 years of age (Altersteilzeit) earlier than 2010 as is currently envisaged*. This would also avoid ending this scheme during a potential downturn.

Education has a vital role to play in lifting potential output and securing social sustainability

Improving education outcomes would enhance productivity and employment prospects and, if distributed more evenly, reduce income inequality. The authorities have implemented wide ranging reforms in recent years to improve education outcomes and further reforms are planned. These reforms concern the whole spectrum of education, from early childhood education and care to continuing education. Nevertheless, there remains considerable scope for further improvements in education outcomes:

- The main problem to overcome in student achievement is that socio-economic and/or immigrant backgrounds have a large impact on outcomes. While average education achievement is satisfactory – scores in the 2006 PISA study were above average in science (Germany ranked 8th among OECD countries), and average in reading and mathematics (ranked 14th in both subjects) – there is no reason why Germany should not aim higher, especially in the subjects where performance is average.
- Tertiary attainment is low among younger generations – it is 22% for the 25-34-age group, compared with an OECD average of 32%; post-secondary non-tertiary graduation rates are, however, approximately 8 percentage points higher than the OECD average. While the increase in tertiary graduation rates in recent years will lead to future increases in tertiary attainment, the rise in graduation rates in most other countries has been greater, suggesting that tertiary attainment in Germany will fall even further behind the levels in most other OECD countries.

The areas of education policy that most directly impact on these problems concern early childhood education and care, teaching quality, school structure, and tertiary education. While vocational education and continuing education are also important for human capital development, they are not taken up in this *Survey* as they are less closely related to the specific achievement and attainment issues identified above and have been or will be reviewed in other OECD publications.

To improve student achievement and reduce the impact of socio-economic and/or immigrant backgrounds, further education reforms are needed

International evidence shows that early childhood education and care has a significant effect on learning in subsequent stages of education, especially for children from lower socio-economic backgrounds. In recognition of these effects, the authorities have embarked on reforms to improve its quality. Integrated education programmes for children aged 0-6 have been or are being implemented. Measures are also being taken to identify children with inadequate German language skills, most of whom are immigrants, and provide them with intensive language training so that there is less of a risk of poor language skills being an impediment to learning when children start primary school. These policies would be more effective if more children from lower socio-economic backgrounds attended kindergarten and did so earlier. As fees are generally waived for children from poorer households, the lack of participation is unlikely to reflect affordability issues. *The authorities should find out more about why parents with low levels of education put less weight on participation in early childhood education and care than do other parents so that effective strategies can be identified for raising participation of these children in kindergarten from three years of age onwards.*

Most current research also suggests that teacher quality is very important in determining student achievement. The difficulty in raising teacher quality is that it does not appear to be related to most common measurable teacher characteristics. In view of this difficulty, the most effective approach to raising teaching quality would appear to be to give schools autonomy to decide how to achieve education goals and to hold educators responsible for outcomes. Such an approach enables school leaders to identify and promote high quality teaching.

- It is important to make educators more accountable for delivering high quality education to every child and to put in place the structures needed to support this development. Germany has recently made considerable progress in clearly establishing high achievement goals for students. The *Kultusministerkonferenz* agreed national education standards in 2004, which have already been implemented in all *Länder,* and evaluation instruments for ensuring compliance with these standards in 2006. Accountability of individual schools and teaching staff is being strengthened through greater use of external exit exams centralised in each *Land*. Such exams will have been introduced in all *Länder* but one that did not have them by 2008. In view of the relatively poor achievement of weaker students by international comparison, *it will be important to hold individual schools and teachers more accountable for the progress of all students and to provide individualised support to weaker students to bring them up to the required level quickly, as occurs in Finland. Greater use of financial incentives for good teaching based on adequate evaluation of performance could also help to raise teaching quality.*
- School leadership has an important effect on student learning. Traditionally, school principals in Germany have not played a very significant management role. While this is starting to change – new laws give schools greater autonomy and responsibility in the areas of school development, quality assurance and evaluation – *there is still scope to strengthen selection and development of school principals as effective leaders.*

International empirical studies also tend to find that socio-economic background has a larger impact on education outcomes in countries, such as Germany, that have highly stratified education systems. There is also some evidence that early tracking is associated with a greater impact of socio-economic background on education achievement across German *Länder*. *To reduce this impact, Länder should consider delaying the first tracking decision to beyond age 10, the age at which this decision currently occurs in most Länder.* This could help to reduce the influence of socio-economic background on tracking decisions. *Permeability between education tracks should also be increased so that tracking decisions that do not reflect a child's subsequently revealed academic ability can be more easily corrected. Länder that have not already done so should also consider offering the track leading to the Hauptschule leaving certificate, which generally caters to the least academically able students, together with the track leading to the Realschule certificate, which generally caters to the middle ability group of students, in one school type.* This could help to reduce the impact of socio-economic background on outcomes by reducing social segregation between schools and avoiding the risk of very weak students being grouped together in a school type (*Hauptschule*) with low achievement expectations.

Making tertiary education more attractive and responsive to labour-market requirements would help to increase the tertiary graduation rate

According to a recent OECD study, the low tertiary graduation rate in Germany appears to reflect low internal rates of return on university education and limited university autonomy concerning input and output decisions, amongst other things.

- The low rates of return found in this study are attributable to low gross wage premiums per year of tertiary education and to a relatively progressive income tax system. The move to the two-tier (Bachelors/Masters degree) Bologna system, which now covers about 60% of university programmes and should cover almost all of them by 2010, should help to increase internal rates of return on university education by shortening programmes, focusing them more on occupational qualification, and reducing dropout rates, which are currently high, albeit slightly below the OECD average. *The impact of the progressiveness of the income tax system on incentives to acquire tertiary qualifications should be taken into account, amongst other factors, when making future decisions about the appropriate degree of progressivity in the tax system.*
- Autonomy over inputs is being increased in some *Länder* by giving universities the right to select students; this measure should also contribute to reducing dropout rates, raising expected internal rates of return on university education. In addition, universities in some *Länder* have recently been given the right to set low tuition fees (€ 300-500 per semester) accompanied by student loans. *The Länder that have not already increased their universities' input flexibility should consider doing so.*
- Output flexibility is being increased by the introduction of shorter courses in the context of the Bologna system, and by further easing *numerus clausus* restrictions. To assist the *Länder* to reduce the *numerous clausus* restrictions, the federal government has entered into the "Higher Education Pact 2020" with them in order to finance an expansion in the number of study places. A constraint on there being an adequate number of university places in Germany is that there is the free-rider problem that the *Land* that finances a graduate's university education is not necessarily the one that receives taxes on his/her subsequent earnings. *A solution to this problem that should be considered is for universities to*

charge notional tuition fees on a cost recovery basis that are repaid out of tax receipts in the Land where the graduate subsequently works.

The federal government together with the *Länder* also finance a variety of programmes to improve access to university studies of persons from less favourable socio-economic backgrounds. While these measures are helpful, the most effective approach to improving access of such persons to university studies is to reduce the impact of socio-economic background on achievement at earlier stages of education, as discussed above.

Strengthening product market competition in some network industries would help to increase productivity and reduce prices for consumers

Strengthening competition in *network industries* could help Germany to raise productivity in these sectors and beyond, since they produce important services for other parts of the economy. It would also help bring down prices, which are high by international comparison in the energy sector. Both the energy and railways sectors are dominated by large vertically integrated incumbent companies which operate the networks, giving these companies considerable scope to make market entry for their competitors cumbersome and costly. Unbundling requirements exist in both sectors, but they are weak as the network access provider is not completely vertically separated from the dominant market incumbent. The Federal Network Agency has the task of guaranteeing network access on fair conditions. However, strengthening the separation between network access provision and potentially competitive services will be critical to making these markets more competitive.

In the *energy sector*, Germany has opted against full ownership unbundling, partly because market incumbents are privately owned and forcing them to sell their network assets could involve thorny legal problems. However, recent experience has shown how difficult it is to enforce operational and informational unbundling between affiliates that share an interest in maximising joint profits. *Against this background, Germany should consider stronger forms of vertical separation, including the option of full ownership unbundling and establishment of an independent system operator that operates the network without ownership of the assets themselves.* The gas market in particular is currently much segmented with market areas delineated along network property lines. This increases possibilities for network owners to discriminate against competitors and makes market entry cumbersome and costly for newcomers. *The authorities should consider integrating market areas across the networks of different owners.* This could lead to an independent system operator, because different owners would have to join forces for network operation, making it more neutral. *In addition, it will be necessary to reduce concentration at the wholesale level by fostering market integration with neighbouring countries and market entry of newcomers.*

In the railway sector, the choice of model of the envisaged privatisation of the market incumbent, Deutsche Bahn AG (DB AG), will be important for the development of competition going forward. *In light of the difficulties in enforcing sufficient independence of network operation in a market with private vertically integrated companies, Germany should choose a privatisation model with a strong separation between track ownership and operation, on the one hand, and transport services on the other.* Retaining full ownership of the tracks would allow the government to sell its full stake in transport services, thus disentangling its conflicting roles as a shareholder of DB AG, a regulator and a buyer of transport services. In addition,

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there are indications that tenders have significantly brought down the associated costs for state governments and the government should further strengthen competition by accelerating the process of mandatory tendering lines that are dependent on subsidies.

Healthcare reforms should help to increase efficiency but need to be taken further

In the face of considerable spending pressures stemming from technological and demographic change, Germany needs to reform healthcare financing to make it efficient and limit the negative impact on employment and growth. The envisaged gradual increases in budget contributions to the social health insurance system will help reduce non-wage labour costs, if and when they materialise, as general taxes draw on a larger base than labour-income-dependent social insurance contributions which are the main financing source of the social health insurance system now. *The government should reach an agreement on how to finance increasing budget contributions, soon, to avoid putting this important reform at risk.*

Germany also needs to exploit untapped efficiency potential to limit spending increases to the degree which is necessary to ensure access to high-quality care for all. It has chosen enhanced competition as the main tool to reach this goal. The new financing system for the social health insurance system linked to an improved risk structure adjustment between insurers could reduce the incentives for risk selection and improve the chances for competition between insurers to lead to higher cost-effectiveness, but to avoid distortions some aspects of the design will have to be corrected before the system is introduced in 2009. The largest part of the system's costs will continue to be financed by labour-income dependent contributions, protecting lower income earners, while the price signal will come from a surcharge that those insurers that otherwise cannot cover their costs will have to levy on their members. However, the surcharge will be both weak and distorted as it is limited to 1% of members' income subject to contributions, reducing incentives to switch, in particular for lower income members. Moreover, the associated redistribution will be financed within surcharging insurers' memberships, putting insurers with a large share of low income earners at a competitive disadvantage, because they will have to levy higher surcharges on higher income members. *The government should consider making the surcharge flat, without limits in terms of its share of members' incomes, while increasing its contributions to a larger share of the system's total costs, to strengthen the price signal and decouple healthcare financing from labour costs a bit more. To the extent that additional subsidies for low-income earners would then be needed, they should be financed via general taxes to avoid distorting competition.*

The current segmentation of the health insurance system will be maintained, raising equity and efficiency concerns. Private health insurance members are both healthier and wealthier on average than social insurance members and segmentation leads to less efficient risk pooling, leading to higher social contributions and ultimately to lower employment and economic growth with negative effects for society at large. In addition, it raises equity concerns to exempt private health insurance members from contributing to the financing of the various re-distributive tasks performed within the social insurance system, such as free co-insurance of family members without own income. *Private health insurers should be included in the new financing system.*

The government has also introduced greater freedom for insurers in their contractual relations with providers and pharmaceutical companies to allow them to distinguish themselves on the basis of their products and enhance competition in the insurance, provider and pharmaceutical markets. This is a logical move as the government aims at improving cost-effectiveness through enhanced competition. However, establishing competition in the healthcare system is a challenging task in view of numerous market failures, equity-efficiency trade-offs and consumers who do not pay directly. *The government should monitor closely whether enhanced competition results in the desired outcomes and correct the rules of the game if necessary.*

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Chapter 1

Sustaining higher economic growth

Germany has been enjoying a strong cyclical rebound in economic growth after a long period of stagnation. With strong corporate and household balance sheets and government finances having been consolidated, solid foundations have been laid for sustaining the cyclical upswing or at least mitigating the adverse effects of recent global financial market turmoil. Nevertheless, for more enduring high economic growth, it will be necessary to make reforms that raise growth in potential output. A good start in this regard has been made with the labour market reforms of recent years, which have already contributed to the impressive performance in increasing labour utilisation during the current upswing. Even so, there remains considerable scope to increase the total number of hours worked per person of working age. It will also be important to contain the long-run growth in healthcare expenditures as large increases in social security contributions to finance such expenditures would depress work incentives. Strengthening product market competition, notably in network industries, would increase productivity growth, further lifting potential output. Such product-market reforms would also reduce income inequality, contributing to social sustainability. In the long term, improving education outcomes, notably by reducing the impact of socio-economic background on student achievement and increasing the proportion of younger cohorts with tertiary education, will be central to raising potential output and enhancing social equality of opportunity.

The economic recovery that began in Germany in late 2004 following a long period of stagnation has since strengthened considerably. As in the past, this recovery has been export led, with investment expenditure the next cyclical cylinder to fire. Private consumption expenditure has not yet recovered, mainly owing to low growth in real wage rates. On the other hand, the strong growth in corporate profits in recent years, combined with balance sheet consolidation, has put companies in a strong position to continue to invest and expand. This factor, together with the government budget consolidation that has been achieved and households' relatively sound financial position, has laid a strong foundation for sustaining the cyclical upswing or at least mitigating the adverse effects of global financial-market turmoil should it persist. It will be important for the government to preserve its fiscal consolidation gains during this upswing so as not to be obliged to tighten fiscal policy during the next downturn, as occurred in the last downturn. As for other countries, ensuring that public finances are on a sustainable path as the population ages is important for avoiding large increases in taxes in the future, with their attendant adverse effects on incentives, and/or large reductions in social benefits.

For a long lasting rise in economic growth, it will be necessary to make reforms that lift Germany's speed limit (*i.e.,* its growth rate of potential output). The labour market reforms in recent years represent an important start in this regard. They have already contributed to impressive gains in labour utilisation during the current upswing. Nevertheless, there remains considerable scope to increase labour inputs in Germany. Total hours worked per working-age person are relatively low by international comparison, reflecting low average working time. It will also be important in this respect to contain the long-run growth in healthcare and long-term care expenditures associated with technical progress and income growth because the ensuing increase in social contribution rates would be likely to have adverse effects on work incentives. There is also considerable scope to improve education achievement, notably of students from less advantaged socio-economic and/or immigrant backgrounds, and to increase the tertiary attainment rate. Overcoming these weaknesses in education outcomes would increase potential output by improving the quantity and quality of human capital used in production and by enhancing employment prospects for younger cohorts. Product market competition is weak in the energy sector, contributing to low productivity and high prices. While there have been improvements in the railways sector, there remains considerable scope for enhanced competition to bring down costs and improve quality in this sector as well. Strengthening competition in these sectors could also make an important contribution to raising potential output as the productivity gap with the productivity leaders is very large and these sectors are important suppliers of intermediate services.

This chapter begins by reviewing economic developments both during the current upswing and from a longer-term perspective focusing on the evolution of potential output. In the following section, progress in fiscal consolidation is briefly reviewed and the main long-term budget pressures are identified. The remainder of the chapter points to issues where reforms could contribute to sustaining higher long-term growth in living standards: these issues and associated reforms are developed in more detail in the following chapters of this *Survey*.

The tide has turned after a long period of low economic growth

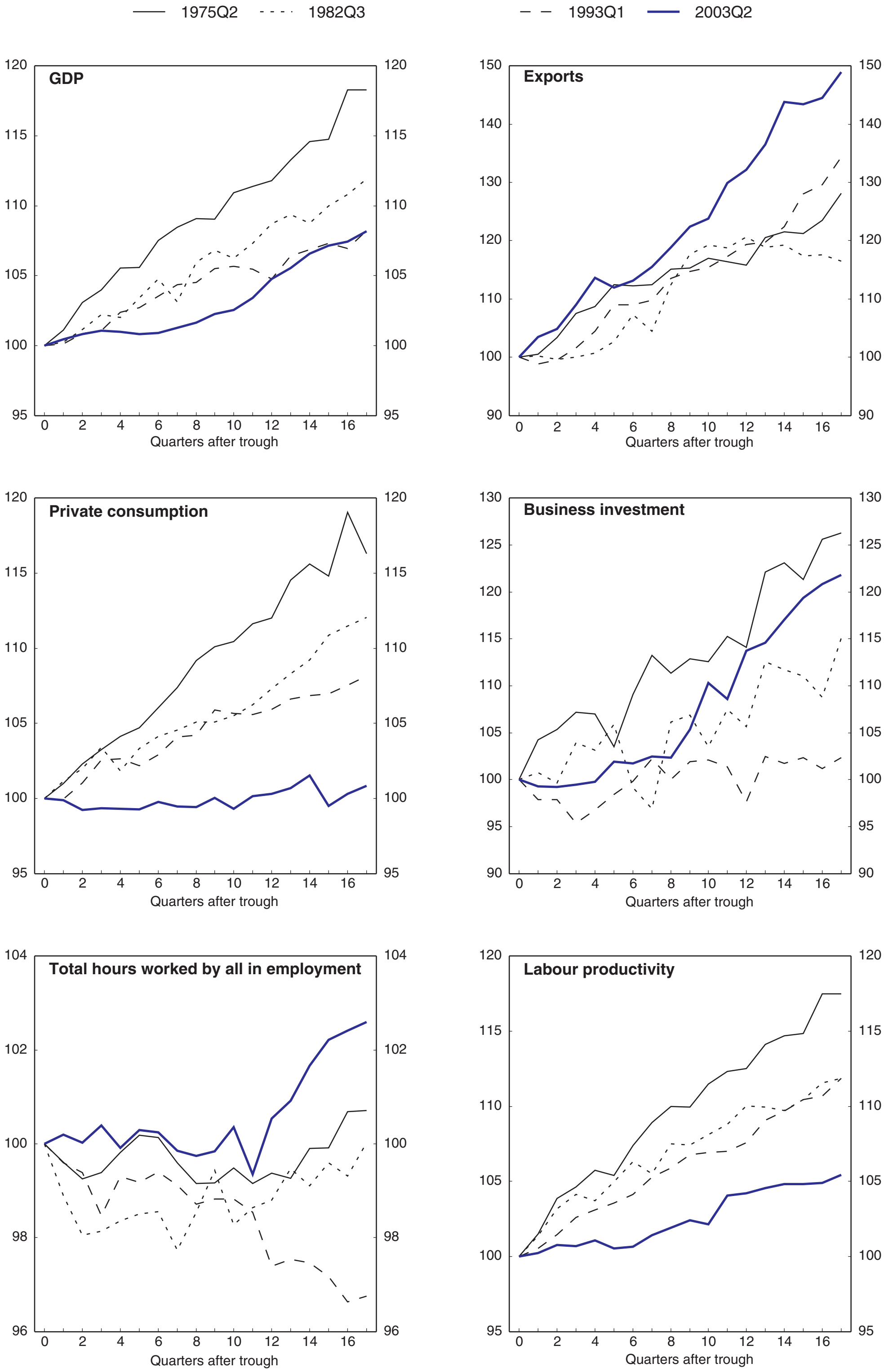
Germany is enjoying a strong cyclical rebound in growth

Following three years of economic stagnation, the German economy began to strengthen in 2004 and has since grown strongly, averaging 2.8% annual growth over 2006-07. The output gap, which reached minus 2½ per cent of potential GDP in 2005, is estimated to have closed by 2007. As in previous cycles, the recovery began in the export sector. Exports have grown more strongly than in previous cycles (Figure 1.1). Strong growth in Germany's export markets, notably in developing countries, oil exporters, and central European countries have underpinned this growth. In addition, Germany's specialisation in capital goods and intermediate goods (which together account for about three quarters of exports), has meant that exports have risen strongly because demand for these goods is sensitive to the global business cycle. Appreciation of the euro exchange rate does not appear to have had much effect on export growth to date. To some extent, this reflects the increasing tendency of German exporters to make supply decisions on the basis of their assessments of sustainable exchange rate levels, not short-term levels. Such an approach entails absorbing short-term exchange rate fluctuations in profit margins and pricing to market. German exporters increased their profit margins during the period of weakness in the euro exchange rate that lasted from the late 1990s to the early 2000s, giving them considerable scope to absorb the costs of the subsequent euro appreciation. Another factor is that German companies have successfully kept unit labour costs under control since the mid-1990s, after strong increases in the years immediately after unification. Against the background of rising unit labour costs in other EMU countries this contributed to substantially increasing cost competitiveness against euro area trading partners and attenuating the loss of cost competitiveness against other trading partners (Figure 1.2). This has been achieved through wage moderation and outsourcing to countries with low wage costs. According to a study by the *Deutsche Bundesbank* (2007a), these factors account for the relatively favourable evolution of Germany's world real export market share since the mid-1990s compared with shares for other industrial countries; Germany's share rose from around 8% in 1995 to 9% in 2005, while other industrialised countries' shares typically declined by around 20% as China's soared from 3% to 10%.[1] The increase in VAT at the beginning of 2007 that was partly used to finance a reduction in non-wage labour costs (and in future taxation in general insofar as the proceeds were used to reduce the budget deficit) could make a small further contribution to enhancing cost competitiveness, although this effect is likely to fade over time (Box 1.1). It could also slightly reduce the size of the traded good sector in the long run (see Box 1.1).

Business investment started recovering next, in late 2004. This recovery followed a period of very depressed investment expenditure: machinery and equipment investment fell by 10% between 2000 and 2002 and stagnated at this level in 2003 (nominal investment in machinery and equipment fell from 9.7% of nominal GDP in 2000 to 8% in 2003); and business construction continued its headlong decline since 1993, falling by a further 35% between 2000 and the beginning of 2005, as correction of the pre- and post reunification boom proceeded. In the early stages of the recovery, investment was mainly for replacement and modernisation. Recently, capital widening has gained in importance. Higher fiscal depreciation rates in 2006 and 2007, which were intended to bring

Figure 1.1. **Comparison of business cycles**

Index, trough = 100[1]



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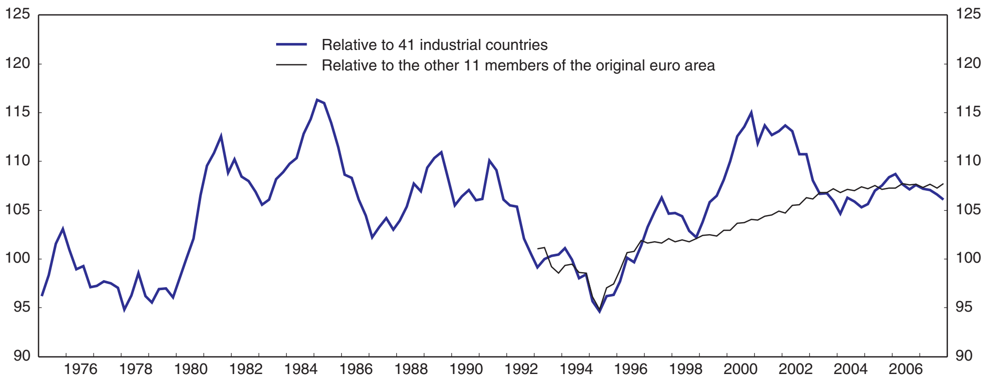
1. In constant prices, chain linked. Labour productivity is real GDP divided by total hours worked by all in employment.

Source: OECD (2007), *OECD Economic Outlook* No. *82 Database* and OECD (2007) *National Accounts Database*.

Figure 1.2. **Germany's international competitiveness**

Real effective exchange rate, CPI based, 1993 = 100[1]



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1. Calculated using weights which take into account the structure of trade. A rise of the graph indicates a real depreciation (gain in competitiveness).

Source: OECD (2007), *OECD Economic Outlook No. 82 Database.*

forward278623637527 some of the benefits of the scheduled cut in the corporate income tax rate in 2008, have also boosted investment. Total construction investment, however, did not begin to rebound until 2006, when public infrastructure investment picked up, supported by an improved fiscal position, and housing investment rose, boosted by temporary stimuli from beating the VAT hike (in January 2007), taking advantage of a subsidy for the construction of new owner-occupied housing before it was terminated, and various fiscal measures (CO_2-building repair programme, tax deduction for household repairs carried out by a qualified tradesman). The rebound in construction investment remained on course in 2007, despite some weakening in housing investment.

The cyclical economic cylinder that has failed to fire is personal consumption, in stark contrast to developments in previous cycles (see Figure 1.1). Personal consumption has been weak mainly because household income growth has been weak; another factor is that the household savings rate increased, partly owing to the introduction of the tax favoured retirement savings scheme (*Riester-Rente*). The weakness in household incomes reflects not the weak growth in the volume of hours – which actually has been much stronger than in previous recoveries[2] – but rather low growth in wage rates. Real compensation of employees per hour in terms of consumer prices (*i.e.*, real consumption wage rates) declined at an annual average rate of 1.7% (1.3% abstracting from the estimated 1.3% increase in the 2007 CPI related to the January 2007 increase in VAT) during the first 13 quarters of the current recovery, whereas it rose substantially in previous recoveries (Table 1.1). As in past recoveries, Germany's terms of trade have deteriorated (owing to increases in energy and food prices), resulting in higher growth in real product wage rates (*i.e.*, compensation of employees per hour deflated by the GDP deflator) than in real consumption wage rates.[3] Nevertheless, the gap between growth in real product and real consumption wage rates in the current recovery after adjusting for the effects of the VAT increase is similar to the gap in the previous recovery, albeit larger than in the earlier recoveries.

The trend decline in the growth rate of real product wage rates during successive recoveries can partially be attributed to declining hourly labour productivity growth, which has fallen substantially from one recovery to the next (see Figure 1.1 and

Box 1.1. **The rise in the VAT rate, competitiveness and traded *versus* non-traded goods**

Apart from changing the domestic tax structure, the increase in the German standard VAT rate by three percentage points in January 2007 and the simultaneous lowering of the unemployment insurance contribution rate from 6.5% to 4.2% is also said to have a beneficial effect on external competitiveness. The argument goes as follows: following the destination country principle, the higher VAT rate applies to both domestic producers and foreign producers exporting to Germany, ensuring that both firms compete on the basis of producer prices. However, only domestic producers in Germany benefit from the lowering of the social security contributions (employers pay half of the unemployment insurance contribution). This analysis assumes that social security contributions are at least partly borne by employers, and that a cut consequently lowers their labour costs. Similarly, exporters benefit from the lowering of the non-wage cost component, although the higher VAT rate does not apply to their goods sold abroad.

A thought experiment may help to cast light on these claims. To simplify the analysis of the effects of such a tax switch policy, we will assume initially that all taxes on labour (including VAT) are borne by labour and that this adjustment occurs immediately. This assumption means that wage rates do not go up (or down) when VAT rises and that labour costs do not go down (or up) when direct taxes on labour income, such as social security contributions, whether paid by the employer or the employee, go down (up). Moreover, we will assume that the tax switch policy is revenue neutral – *i.e.*, the increase in VAT receipts is entirely used to finance a reduction in taxes on labour income. On these assumptions, both the price of imports and the price of non-traded goods initially rise by the amount of the VAT increase while the producer prices of exports are unchanged. The increase in the domestic price level results in excess demand for real money balances. In a floating exchange rate regime, monetary equilibrium would be restored by an appreciation of the nominal exchange rate. This appreciation would reduce export prices, encouraging a switch of resources out of exporting and into non-traded good production. The consequent reduction in exports creates pressure for the exchange rate to depreciate, increasing import prices further and encouraging the substitution of non-traded goods for imports. In the final equilibrium, both imports and exports will be lower as a share of GDP and non-traded goods higher. The final outcome assuming a fixed exchange rate regime is the same, only monetary equilibrium is restored through importing money balances (*i.e.,* running temporary balance of payments surpluses) that validate the higher domestic price level.

On the other hand, if it is assumed that labour does not bear any taxes on labour, then the increase in VAT and associated reduction in taxes on labour incomes will increase import prices by the amount of the VAT increase, leave non-traded good prices unchanged (the effect of the VAT increase is offset by that of the reduction in taxes on labour income), and cut export producer prices by the amount of the reduction in taxes on labour income. This constellation is equivalent to a depreciation of the nominal exchange rate. Just as a nominal exchange rate depreciation that is not accompanied by some other development that changes the equilibrium real exchange rate is not sustainable, so too the increase in competitiveness achieved through the tax switch policy under these assumptions will not last. Under a floating exchange rate regime, pressure to restore monetary equilibrium will cause an exchange rate appreciation that reverses the initial increase in import prices and reduction in export prices, restoring the real exchange rate to its initial value. Under a fixed exchange rate regime, monetary equilibrium will be restored by importing money balances to validate the higher price level. This will entail a rise in prices for non-traded goods and exports that eliminates any competitiveness advantages they initially had.

Box 1.1. The rise in the VAT rate, competitiveness and traded *versus* non-traded goods (cont.)

The bottom line of this analysis is that the long-run real effect of such tax switch policies can vary from none to a shrinking of the traded good sector depending on the extent to which taxes on labour incomes are ultimately borne by labour. The greater the extent to which this is so, the more the openness of the economy in question is reduced. Empirically, the degree to which taxes on labour income are ultimately borne by labour depends on the relative elasticities of demand for and supply of labour – the more inelastic is labour supply and the more elastic is labour demand, the greater the extent to which taxes on labour will be borne by labour. Empirical studies usually find that labour supply is less elastic than labour demand; the extreme assumption first made above that all taxes on labour are ultimately born by labour corresponds to perfectly elastic demand for labour or inelastic supply of labour. Hence, in the final equilibrium, both imports and exports are likely to be lower as a share of GDP and non-traded goods higher, at least to some extent. As the actual VAT increase in Germany was relatively small (the reduced rate was not changed), any such effects are likely also to be small.

Table 1.1. Hourly labour productivity and real wage rate developments in recent recoveries

Annual average percentage change after 13 quarters

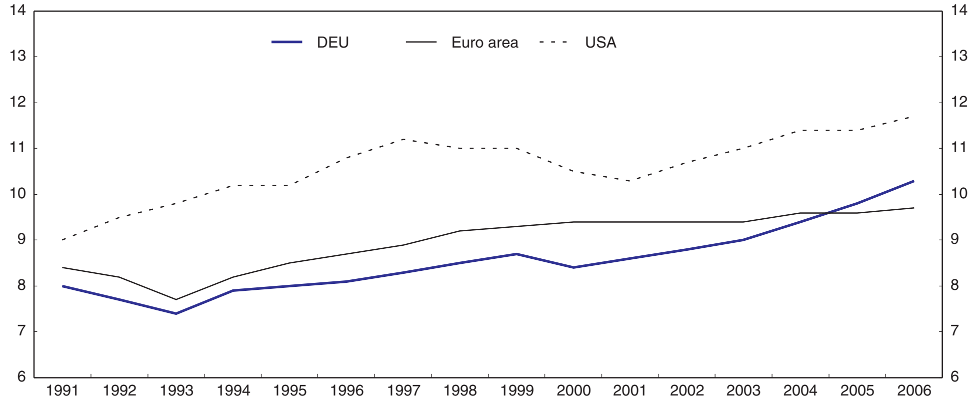
Trough[1]	Labour productivity	Real product wage rate[2]	Real consumption wage rate[3]
1975 Q2	5.5	4.3	4.1
1982 Q3	3.8	1.5	1.3
1993 Q1	2.7	1.5	1.1
2003 Q2	1.6	–0.8	–1.7[4]

1. Cyclical trough as determined by the Deutsche Bundesbank. Data for the first two recoveries relate to Western Germany
2. Hourly wage compensation deflated by the GDP deflator.
3. Hourly wage compensation deflated by the CPI.
4. Abstracting from the estimated 1.3% increase in the CPI associated with the increase in VAT at the beginning of 2007, the annual average rate of decline in the real consumption wage was 1.3%.

Source: OECD (2007), *National Accounts Database* and OECD calculations.

Table 1.1). Nevertheless, the gap between the annual average growth rates in hourly labour productivity and real product wage rates has been relatively large during the current recovery, amounting to 2.4%. This is double the gap recorded during the previous recovery. However, it is the same as the gap in the recovery that began in the third quarter of 1982, highlighting that the experience during the current recovery is not exceptional. In both of these recoveries, German business took vigorous action to lift the net rates of return on the net capital stock from below the average in the euro area countries to above it, whereas in the two other recoveries rates of return in Germany continued to lag those in the euro area countries (Figure 1.3). What distinguishes this recovery from that in the early 1980s, however, is that a large gap between labour productivity and real wage rate growth had already emerged during the course of the previous business cycle – such weakness in wage developments is not on this occasion a correction for the high wage growth during the previous economic expansion (Figure 1.4). The very low growth in producer real wage rates relative to labour productivity that has now lasted for seven years appears to reflect a decline in labour's bargaining power. Outsourcing of production to lower wage sites, often in neighbouring countries, or the threat of doing so, appears to

Figure 1.3. **Net returns on net capital stock, total economy**



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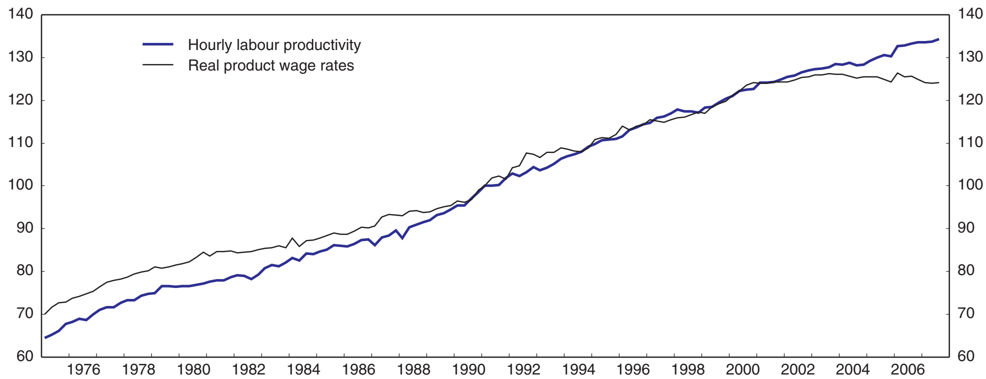
Note: Net domestic income at current market prices minus labour income including imputed income from entrepreneurial activity relative to the net capital stock at purchaser prices, using data from the European Commission's *AMECO Database.*

Source: Federal Ministry of Economics and Technology.

Figure 1.4. **Hourly labour productivity and real product wage rates**

Index, 1991 Q1 = 100



StatLink http://dx.doi.org/10.1787/278787481160

1. Hourly labour productivity is real GDP divided by total hours worked by all in employment. Real product wage rates are compensation of employees divided by total hours worked by all employees.

Source: OECD (2007), *OECD Economic Outlook No. 82* and OECD (2007), *National Accounts Database*.

have made unions more amenable to wage moderation. Moreover, union membership has declined and the proportion of employees covered by sectoral wage agreements has declined. The labour market reforms of recent years have increased effective labour supply, which would also have put downward pressure on wage rates in relation to productivity: this has been necessary to crowd extra labour into employment. Although it is too early to present conclusive empirical evidence that these reforms increased the labour intensity of production, it is certainly striking that an unprecedented increase in total hours worked has occurred in their wake (see Figure 1.1). In addition, these reforms have brought people only able to earn relatively low salaries into employment, further depressing average wage rates.

Despite the strong growth in hours worked in recent years, growth in wage rates has been so low that the labour income share of national income has fallen quite sharply, from 54% in 2000 to 49% in 2007. This decline comes against a long-term decline since the early 1980s, when the wage share reached 60%. Both the decline in the wage share since the mid-1970s and the more recent decline are large by international comparison.

The business sector has laid a very solid foundation for continued growth, with the profit share of national income having risen strongly in recent years and companies having strengthened their balance sheets markedly by restraining investment in a context of high profitability – the financial balance of the "financial and non-financial corporations" sector was positive from 2002 to 2006 (*i.e.,* this sector contributed to the overall savings rate in the economy, the opposite of the normal situation). The German corporate sector is hence unusually well placed to resist adverse shocks, such as the financial turmoil that started in the summer of 2007. So far, the German banking and financial system as a whole has coped well with the direct impact of the credit crisis and proved to be stable (Deutsche Bundesbank, 2007b). Weaknesses, however, became apparent in some of the public credit institutions (*Landesbanken*), revealing some of the problems of state ownership addressed in previous *Surveys* (OECD, 2001, 2003) and hopefully accelerating the consideration of earlier recommendations for privatisation. The solid situation of the corporate sector is reflected in the OECD's projections for continued growth in the short term, albeit lower than in 2007, despite the projected deterioration in the global economy (Box 1.2).

But growth in potential GDP has declined, mainly reflecting a decrease in labour productivity growth

While the recovery in economic activity is very encouraging, it comes against a background of a long-term decline in growth of potential GDP. The OECD estimates that Germany's potential economic growth rate has fallen from around 2% in the early 1990s to approximately 1½ per cent in recent years (Figure 1.5). This decline is mainly attributable to a decrease in trend labour productivity growth of the same magnitude, which occurred during the current decade: there has been no growth in trend total hours worked over this period (the decline in the 1990s being compensated for by the increase in recent years), with the result that growth in potential GDP was equal to labour productivity growth both in the early 1990s and in recent years.[4] The decline in trend labour productivity growth, in turn, reflects a fall in the contribution of capital deepening: the trend MFP growth rate is estimated to have been stable at around 1% per year over the whole period. This fall reflects declining growth in capital services.

The decline in Germany's estimated potential growth rate is large compared with developments in the EU11,[5] where the potential growth rate remained around 2¼ per cent, and recent rates are much lower than in either the US (2¾ per cent) or the EU11 (see Figure 1.5). While hourly labour productivity growth in the EU11 has also declined from around 2% to 1½ per cent, this effect on the potential growth rate has been offset by rising trend total hours worked. Even though labour productivity growth developments have been similar, the decline in the EU11 labour productivity growth rate reflects not only a lower contribution from capital deepening, as in Germany, but also a decrease in MFP growth, in contrast to Germany. Labour productivity growth developments in both Germany and the EU11 have been very weak compared with those in the US, which has experienced an increase from 1¼ per cent in the early 1990s to over 2% in recent years.

Box 1.2. **Short-term economic developments and prospects**

With the economy having grown at almost twice its potential rate for two years in a row, the output gap is estimated to be closed and the expansion is projected to lose steam over the next two years. As a result of the reduction in economic slack and in response to the strong euro, imports are expected to increase and the contribution from external trade to decline significantly. Despite tightening capacity constraints, fixed investment by enterprises is also expected to grow at lower rates, reflecting the change in depreciation rules at the beginning of 2008 and the lagged impact of past tightening in monetary conditions. Although German companies are less dependent on external financing due to their solid profit situation, there is a risk that the crisis on credit markets that started in the summer of 2007 lasts longer than envisaged and could negatively affect investment going forward. The overall weakening in the dynamism of exports and investment is likely to be partly offset by some rebalancing of growth towards private consumption. Such a development would be in line with the experience from previous upswings and would also reflect the income gains of households from the ongoing improvements in the labour market. In addition, the savings rate may decline gradually, lending further support to consumption.

The optimistic outlook for consumption rests on the assumption that inflation does not accelerate further from its elevated level. Although food price increases are assumed to only gradually slow down, annual consumer price inflation is expected to remain elevated during 2008 at 2.3%, not least reflecting some pick-up in wage growth, before falling to 1.8% in 2009. Unemployment is projected to decline somewhat further but at a slower pace than before, also reflecting that the unemployment rate is already below the estimated NAIRU-level.

All in all GDP is projected to grow by 1.8% in 2008 and 1.6% in 2009 (which corresponds to 2.1% and 1.6% without adjustment for the number of working days) (Table 1.2).

Table 1.2. **Demand and output**

Per cent change from previous year, chained previous years prices[1]

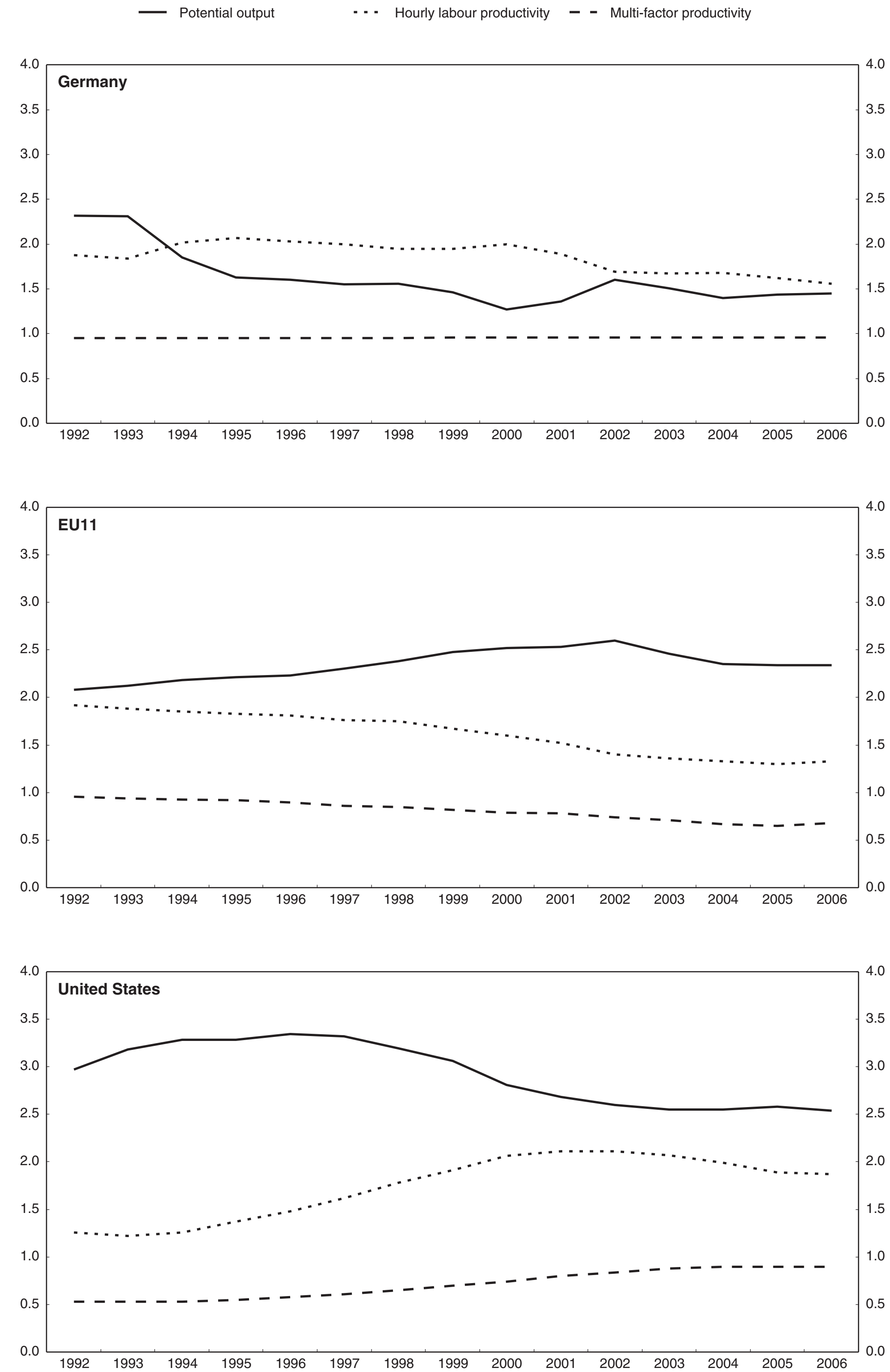
	2003	2004	2005	2006	2007	2008	2009
						Projections	
Private consumption	0.2	–0.2	0.1	1.1	–0.2	1.8	1.7
Government consumption	0.4	–1.5	0.5	0.9	2.0	1.2	1.5
Gross fixed investment	–0.2	–1.1	1.3	7.0	5.2	2.0	2.4
Machinery and equipment	1.2	3.0	6.2	8.7	7.7	3.4	3.4
Construction	–1.4	–4.5	–3.0	5.4	2.9	0.7	1.6
Stockbuilding	0.5	–0.1	0.1	–0.1	0.2	–0.1	0.0
Total domestic demand	0.6	–0.7	0.5	2.1	1.5	1.6	1.8
Foreign balance	–0.8	1.2	0.5	1.1	1.3	0.2	0.0
Exports of goods and services	2.4	9.2	7.4	12.9	8.4	7.2	6.2
Imports of goods and services	5.3	6.5	6.9	11.5	6.4	7.8	7.2
Gross domestic product	–0.2	0.6	1.0	3.1	2.6	1.8	1.6
GDP without working day adjustment	–0.2	1.1	0.8	2.9	2.5	2.1	1.6
Consumer prices (harmonised)	1.0	1.8	1.9	1.8	2.2	2.3	1.8
Total employment	–0.9	0.4	–0.1	0.6	1.7	0.7	0.4
Unemployment rate, %	9.2	9.7	10.5	9.8	8.3	7.6	7.5
Household saving ratio, %	10.3	10.4	10.5	10.5	11.1	10.4	10.0
Current account balance, % of GDP	1.9	4.2	4.6	4.9	6.0	6.0	6.0

1. Growth for all variables except change in stock building and foreign balance which are contributions to change in GDP and except for items beginning with unemployment rate. Employment and unemployment are according to national accounts concepts; projections for the unemployment rate from the *OECD Economic Outlook No. 82* have been brought in line with the revised historical series introduced in 2007 Q3. Employment includes self-employment.

Source: OECD (2007), *OECD Economic Outlook No. 82 Database*.

Figure 1.5. **Evolution of growth in potential GDP, hourly labour productivity and MFP**

Per cent



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Note: EU11 is the original EU15 except for DEU, AUT, LUX, PRT. Calculations use trend series.

Source: OECD (2007), *OECD Economic Outlook No. 82 Database.*

Most of the increase in labour productivity growth in the US is attributable to a rise in MFP growth. It is now around 1%, as in Germany. Concomitantly, the contribution of capital deepening to labour productivity growth in the US is about twice that in Germany.

With the recovery in investment and the strengthening in the growth of total hours worked currently underway (see above), the OECD projects that growth in potential GDP will rise somewhat over the next few years, to around 1¾ per cent. While this would be comparable with rates in the EU11, it would nevertheless be significantly lower than in the US (around 2½ per cent). Approximately one half of the projected shortfall in potential growth in Germany reflects lower hourly labour productivity growth.

There remains considerable scope to lift growth in potential GDP per capita

With relatively low growth in Germany's potential output over the past decade, convergence in potential GDP per capita towards the US level has gone into reverse: potential GDP per capita has fallen from 78% of the US level in 1995 to 73% in 2006 (Figure 1.6). This divergence reflects declines relative to the US in both total hours worked per capita and in hourly labour productivity. Focusing on the current shortfall in potential GDP per capita *vis-à-vis* the US, the main factor accounting for this difference is total hours worked per capita. This deficit in turn mainly reflects relatively low average working time per person employed in Germany (Figure 1.7). Another factor is that the employment rate in Germany is lower than in the US owing to higher unemployment; the labour force participation rates in Germany and the US are similar. Demographic factors (*i.e.,* the proportion of the population that is of working age) have little effect on the gap in labour utilisation between Germany and the US. While Germany has made progress in raising labour utilisation in recent years, there is still far to go to reach the rates in the countries with the best performance.

Hourly labour productivity in market sectors in Germany fell from 95% of the US level in 1997 to 86% in 2004 (Figure 1.8).[6] In sectors with productivity below the US level in 1997, productivity levels converged towards the US level except in ICT manufacturing (*i.e.,* electrical and optical equipment), financial intermediation, and hotels and restaurants. Productivity levels in Germany were higher than those in the US in 1997 in distribution (*i.e.,* wholesale and retail trade), services to business (*i.e.,* real estate and business activities), and communications (*i.e.,* post and telecommunications), but had fallen to US levels in 2004 in all these sectors except communications, where the productivity gap to Germany's advantage continued to widen. There remains substantial scope for catch up in the following sectors: ICT-intensive Manufacturing; Electricity, Gas and Water (EGW); Mining; Transport and Storage; Agriculture; Financial Intermediation; and Hotels and Restaurants.

Annual average hourly labour productivity growth in market sectors over 1997-2004 was 1.7% in Germany, considerably lower than the 3.1% rate achieved in the US (Table 1.3). The ICT-intensive service sectors – distribution; financial intermediation; and services to business – made smaller contributions to labour productivity growth in Germany than in the US, as did ICT-manufacturing and communications. Productivity growth rates lagged well behind those in the US in all of these sectors except in communications, where productivity growth was higher in Germany; this sector represents a smaller share of output in Germany than in the US.

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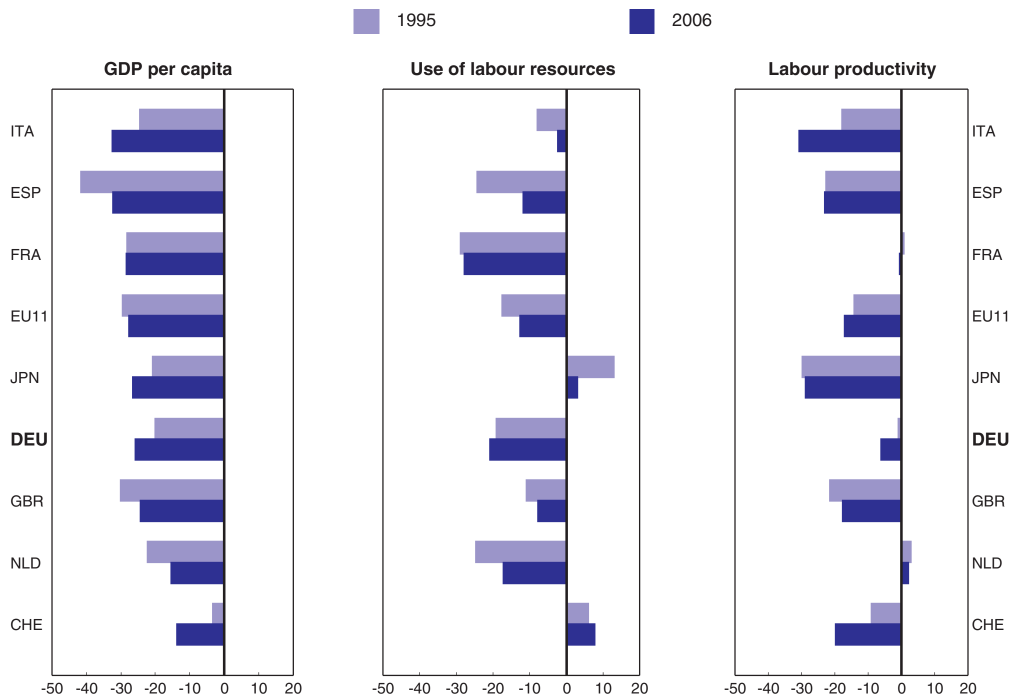
Figure 1.6. **Decomposition of GDP per capita relative to the USA**

Per cent



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Note: The decomposition is based on GDP/POP = [(ET x HRS) / POP] x [GDP / (ET x HRS)], where POP is total population, ET is total employment and HRS is average hours worked per person employed. Except for POP, the series are trends. Current price GDP has been converted to current purchasing power parity in USD. Measures relative to the USA for a variable v and country c are 100 x [v(c) – v(USA)] / v(USA) and are analogous to growth rates over time. An exact additive decomposition of GDP per capita in country c relative to that in the USA is obtained by applying natural logarithms to the multiplicative relationship. Instead, in the above graphs, the exact relatives are shown and so there is a residual for each country which ranges from +6 for ESP, 1995 to –4 for JPN, 1995 and is mostly between +2 and –2. EU11 is the original EU15 except for AUT, LUX, and PRT, for which data are lacking, and DEU.

Source: OECD (2007), *OECD Economic Outlook No. 82* and OECD (2007), *National Accounts Database*.

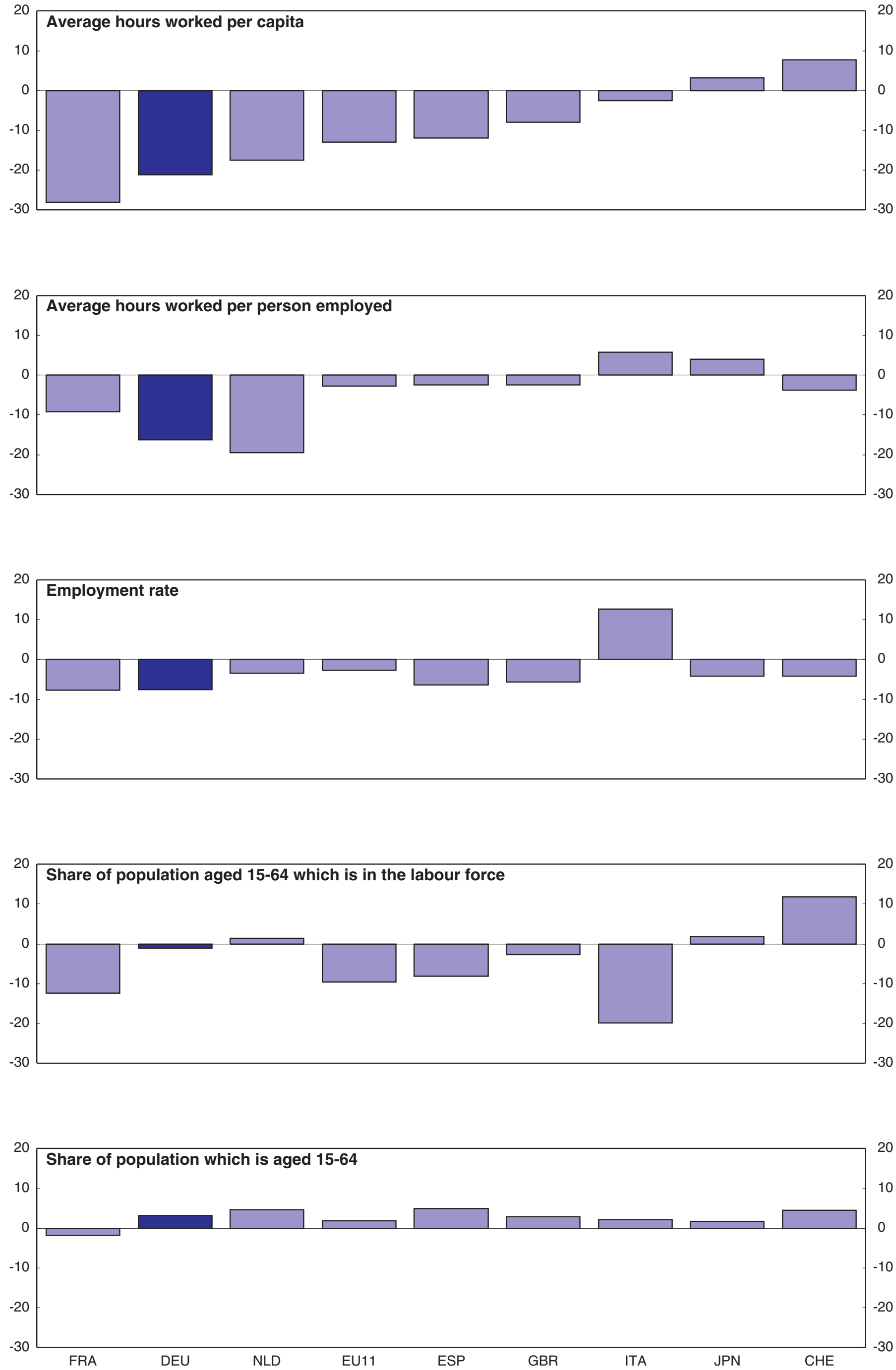
Much progress has been made in fiscal consolidation but long-term pressures loom

Over the past years government finances have improved significantly. The budget deficit has decreased by 4 percentage points of GDP since 2003 and the general government budget has achieved balance in 2007. This outcome reflects almost exclusively a consolidation on the expenditure side, as employment and wage growth in the public sector has been muted, payout of social security benefits has decreased and subsidies have been cut. Despite the increase in the VAT rate in 2007 and higher corporate tax revenues, overall revenues as a ratio to GDP have declined since 2003. This reflects foremost the fact that any increases in revenues have been compensated by continuous declines in social security contributions, not least due to weak growth in jobs paying social-security contributions until recently. Cyclical developments have played a smaller role than structural developments in the improvement in budget outcomes in recent years. Following the budget consolidation in recent years, the cyclically-adjusted budget is now in balance.

The fiscal consolidation achieved in recent years gives Germany a good starting position for confronting long-term budgetary pressures. Public expenditure on healthcare,

Figure 1.7. **Decomposition of labour input per capita relative to the USA**

Per cent



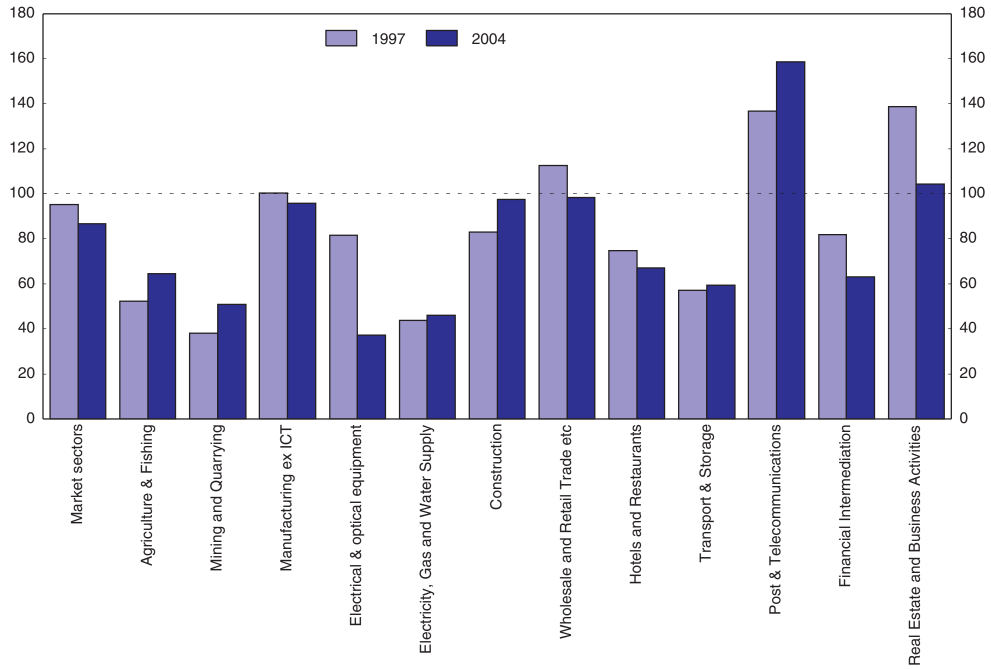
StatLink http://dx.doi.org/10.1787/280070208130

Note: The decomposition is based on (ET x HRS) / POP = (HRS) x (ET / LF) x (LF / POPT) x (POPT / POP) where ET is total employment, HRS is average hours worked per person employed, POP is total population, LF is labour force and POPT is population aged 15-64. Except for POP and POPT, the series are trends. Measures relative to the USA are calculated as described in the note to Figure 1.6 and are for 2006. Residuals are mostly zero or 1, range is –2 to 5. EU11 is the original EU15 except for AUT, LUX, and PRT, for which data are lacking, and DEU.

Source: OECD (2007), *OECD Economic Outlook No. 82*, OECD (2007), *Labour Force Statistics Database* and OECD (2007), *National Accounts Database*.

Figure 1.8. **Progress in hourly labour productivity by sector – Catch up to US levels**

Per cent



StatLink http://dx.doi.org/10.1787/280081043246

Note: Productivity in a German sector as a percentage of productivity in a US sector. Productivity is value-added divided by total hours worked by all in employment. US value-added is converted to purchasing power parity euros based on the 1997 price structure. Market sectors are ISIC Revision 3 codes A to K.

Source: OECD calculations using *EUKLEMS Database*.

Table 1.3. **Sector contributions to hourly labour productivity growth in the market sector**[1]

Per cent

	Germany	United States
Market sectors	1.8	3.1
Agriculture and fishing	0.1	0.0
Mining and quarrying	0.0	0.0
Manufacturing excluding ICT	0.4	0.6
Electrical and optical equipment	0.2	0.5
Electricity, gas and water supply	0.1	0.1
Construction	0.1	–0.1
Wholesale and retail trade, etc.	0.3	0.7
Hotels and restaurants	0.0	0.0
Transport and storage	0.1	0.1
Post and telecommunications	0.2	0.3
Financial intermediation	0.0	0.4
Real estate and business activities	–0.5	0.7
Re-allocation and hours	0.8	–0.1

1. Decomposition of average annual growth 1997-2004, productivity defined as for Figure 1.8. Sector contributions to growth are sector growth rates weighted by their share in value-added. Re-allocation of hours is the weighted average of sector growth in total hours worked minus the growth in hours worked in market sectors. For details see Inklaar, R., M.P. Timmer and B. van Ark (2007), “Mind the Gap! International Comparisons of Productivity in Services and Goods Production”, *German Economic Review* 8(2): 281-307, equation (6) and Table 1, pp. 285, 290.

Source: OECD calculations using *EUKLEMS Database*.

long-term care and pensions is projected to rise by 7½ percentage points of GDP by 2050 (Table 1.4). Almost half of this increase is attributable to healthcare costs (+3.6 percentage points). Most of the projected increase in healthcare costs reflects the effects of technological progress, which makes ever more effective but expensive treatments available; only one ninth of the projected increase in healthcare costs is attributable to population ageing.[7] Technological progress is assumed to increase healthcare expenditures by one per cent per year, as it did on average across OECD countries over the period 1980-2000.[8] Approximately one half of the projected increase in long-term care costs (1.9 percentage points) is attributable to population ageing while all of the projected increase in old-age pension costs (2.0 percentage points) reflects population ageing.

Table 1.4. **Projected change in public spending on healthcare, long-term care and pensions**

2005-50, in percentage points of GDP

	Healthcare		Long-term care		Pensions	Total
		Of which demographic effect:		*Of which* demographic effect:		
United States	3.4	0.2	1.7	0.9	1.8	7.0
Japan	4.3	1.1	2.2	1.4	0.6	7.1
Euro area	3.7		2.2		3.0	8.9
Germany	3.6	0.4	1.9	0.9	2.0	7.5
France	3.5	0.3	1.7	1.2	2.1	7.3
Italy	3.8	0.5	2.9	1.4	0.4	7.0
United Kingdom	3.6	0.4	1.9	1.0	1.7	7.2
Canada	4.1	0.8	2.1	1.1	1.7	7.9
Belgium	3.3	0.1	1.9	0.9	5.1	10.3
Netherlands	3.8	0.6	2.0	0.7	3.8	9.6
Sweden	3.2	0	1.1	0.3	0.8	5.1
Switzerland	3.5	0.2	1.4	0.5	3.6	8.5
Australia	4.2	0.9	2.0	1.3	1.7	7.9
Denmark	3.5	0.3	1.5	0.7	3.2	8.2
Finland	3.6	0.4	2.4	1.4	3.3	9.3
Greece	3.9	0.6	2.7	0.8	10.3	16.8
Ireland	4.0	0.9	3.8	1.0	6.5	14.4
Korea	4.9	1.6	3.8	3.8	7.8	16.4
Luxembourg	3.7	0.5	3.1	0.9	7.4	14.3
New Zealand	4.2	0.9	2.0	1.5	5.9	12.0
Portugal	4.2	1.0	2.0	1.1	9.3	15.5
Spain	4.1	0.9	2.4	0.8	7.0	13.5

Note: OECD projections for increases in the costs of health and long-term care have been derived assuming unchanged policies and structural trends. The corresponding hypotheses are detailed in OECD (2006) under the heading "cost-pressure scenario". Projections of public pension spending are taken from EU EPC (2006) for EU countries, from Visco (2005) for Canada, Japan, Switzerland and the United States and Dang *et al.* (2001) for Australia, Korea and New Zealand.
Source: OECD (2006), "Projecting OECD Health and Long-term Care Expenditures: What Are the Main Drivers?", *Economics Department Working Papers*, No. 477, OECD, Paris; Visco, I. (2005), "Ageing and Pension System Reform: Implications for Financial Markets and Economic Policies", *Financial Market Trends*, November 2005 Supplement, OECD, Paris; EU EPC (2006), *Impact of Ageing Populations on Public Spending*, European Commission, Brussels; and Dang *et al.* (2001), "Fiscal Implications of Ageing: Projections of Age-Related Spending", *Economics Department Working Papers*, No. 305, OECD, Paris.

The total projected increase in expenditures on healthcare, long-term care and pensions in Germany is at the lower end of increases projected for OECD countries. This result reflects in particular significantly lower growth in pension expenditures than in the average OECD country. An important factor contributing to this favourable situation is the reform that introduced a sustainability factor into the pension indexation formula in 2004. This factor, which adjusts pension payments for changes in the ratio of pensioners to contributors, will substantially reduce pensions as population ageing proceeds. Following this reform, the projected increase in pension costs by 2050 was slashed from 5.5% of GDP to 2%. The recently decided reform, phasing in an increase in the retirement age from 65 to 67 over 2012 to 2029 (the reform becomes fully effective for the cohort born in 1964), which is not taken into account in the projections shown in Table 1.4, will further reduce the projected increase in pension outlays. Workers will pay contributions for a longer period and will receive pension payments for a shorter period.[9] By contributing for a longer period, however, pensioners will also acquire higher pension entitlements. The net effect is estimated to reduce the public outlays for pension payments. Projections by the Council of Economic Advisors suggest that the reform is equivalent to a reduction in the contribution rate by 0.5 percentage points by 2030 (*Sachverständigenrat*, 2007).[10]

On current policies (abstracting from the recent pension age reform), net general government debt is projected to rise from 52% of GDP in 2006 to over 170% of GDP in 2050 (Table 1.5). Thus, fiscal policy is not on a sustainable trajectory, defined as one where current policies can be financed indefinitely at constant tax rates without government debt exploding (or imploding). This situation is shared by all OECD countries, although some are only projected to have moderate debt levels by 2050. Reflecting the modest projected increase in expenditures by international comparison (see Table 1.4), the projected increase in net government debt as a percentage of GDP between 2006 and 2050 (120%) is lower than in most other OECD countries. To maintain the net government debt to GDP ratio at the 2006 level in the long run, it would have been necessary to have had a cyclically-adjusted primary surplus of 4.1% of GDP in 2006 rather than the estimated 1.3% actually achieved.

Given that a large part of the projected increase in government expenditures in the long term is not related to population ageing, it would be neither efficient nor equitable entirely to pre-fund this increase in expenditure. Increases in healthcare expenditures that are attributable to technological progress and rising incomes will benefit future generations as they occur. Accordingly, future generations should pay for these benefits as they accrue. In this way, future generations retain the freedom to decide whether the marginal benefits from additional healthcare expenditures are worth the marginal costs, contributing to an efficient allocation of resources to healthcare. And current generations are not called upon to pay for consumption of healthcare services by future generations. Similarly, only the increases in long-term care costs that are related to population ageing should be candidates for pre-funding of healthcare costs in fiscal sustainability calculations. On this approach, a little less than one half of the projected increase in long-term government expenditure shown in Table 1.4 for Germany would need to be pre-funded to achieve fiscal sustainability.[11] Following the pension reforms in recent years, Germany is on track for achieving this degree of pre-funding according to these projections.[12] Nevertheless, containing the growth of healthcare expenditures remains a major challenge.

Table 1.5. **Many OECD countries are still far from fiscal sustainability**

	Net general government debt % of GDP			Cyclically-adjusted primary surplus % of potential GDP		
	Situation	Projection on unchanged policies		Situation	OECD EO 81 projection	Level required to bring net debt to 20% of GDP in 2050
	2006	2013	2050	2006	2007	2007
United States	43	50	267	–0.3	–0.6	3.7
Japan	85	94	425	–1.5	–2.0	5.1
Euro area	50	42	203	1.4	1.7	5.0
Germany	52	45	171	1.3	1.6	4.1
France	42	40	192	0.6	0.6	4.0
Italy	95	91	268	0.5	2.2	5.1
United Kingdom	40	45	247	–0.9	–0.7	3.7
Canada	27	14	129	1.9	2.0	3.8
Belgium	76	57	189	4.7	4.2	6.2
Netherlands	34	26	213	3.5	1.6	4.9
Sweden	–16	–26	6	1.5	1.9	1.5
Switzerland	18	7	137	2.2	2.0	4.1
Australia	–5	–9	99	2.6	2.3	3.2
Denmark	3	–14	137	4.7	3.9	3.8
Finland	–61	–67	66	3.1	2.7	3.6
Greece	67	56	343	1.0	1.2	9.8
Ireland	3	–7	200	2.5	1.5	8.0
Korea	–35	–38	231	1.4	1.4	7.6
Luxembourg	–45	–35	240	–0.1	–0.2	7.2
New Zealand	–9	–20	210	2.8	2.5	5.3
Portugal	45	41	352	0.6	1.1	7.9
Spain	26	7	187	3.2	2.6	6.9

Note: Data on 2006 outcomes and 2007 projections for the cyclically-adjusted primary surplus are taken from the *OECD Economic Outlook No. 81 Database*, 2013 projections for net debt from the *OECD Economic Outlook No. 81 medium-term baseline*. Net debt has been projected until 2050 in a scenario where long-term budgetary pressures (taken from Table 1.1) come in addition to the 2013 structural primary deficit (taken from the OECD *Economic Outlook No. 81 medium-term baseline*) and where potential growth and the long-term real interest rate are frozen at their 2013 levels (also taken from the *OECD Economic Outlook No. 81 medium-term baseline*).
Source: OECD (2007), *OECD Economic Surveys: Euro Area*, and OECD calculations using the *OECD Economic Outlook 81 Database*.

Policies to sustain higher growth in living standards

Preserving fiscal consolidation (Chapter 2)

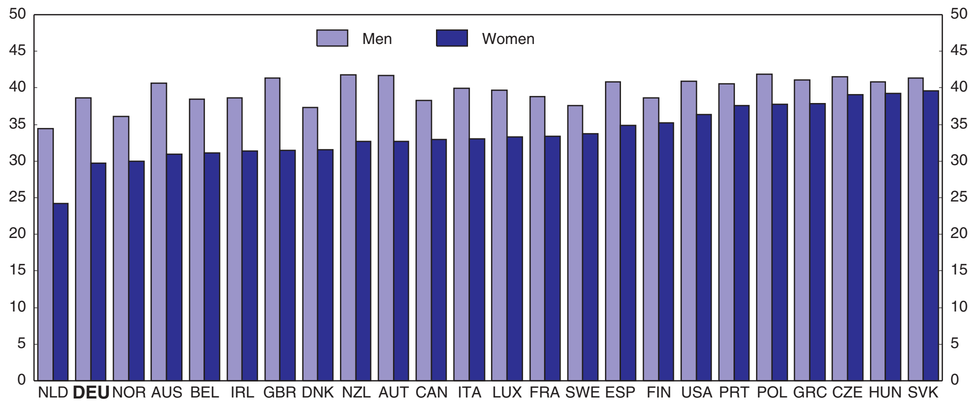
Preserving the recent fiscal consolidation gains will be an important challenge going forward, for both cyclical as well as more long-term reasons. From a cyclical perspective, past pro-cyclical policies should be avoided in the future. In the last cycle, fiscal policy turned expansionary in the upswing as the cyclically-adjusted deficit increased by over 2½ percentage points from 1999 to 2001. Consolidation then had to take place during the downswing from 2003 onwards, as Germany was subject to the Excessive Deficit Procedure as set out by the Maastricht treaty. This arguably prolonged the period of slow growth and made consolidation more painful. In the current upswing it is thus of utmost importance to resist spending pressures. But also from a longer term perspective recent consolidation gains should be preserved in order to deal with the challenges related to ageing costs.

Evidence from other countries suggests that sound fiscal rules can be helpful in making consolidation gains more lasting. However, as past pro-cyclical policies as well as the rise in the debt level demonstrate, the current rule in the German constitution, which states that a budget deficit cannot exceed investment, has proved ineffective and should be reformed. Furthermore, as past increases in the fiscal deficit often came through the revenue side, more focus should be laid on securing fiscal revenues in a globalised economy. The corporate tax reform is a step in the right direction in this regard. However, more could be done to shift the tax burden from mobile to immobile tax bases. Finally, improving the tax collection process should be a high priority in order to get the most out of the current system.

Removing barriers to increased working time and employment (Chapter 3)

Overall labour market conditions have improved markedly during the recent cyclical upswing and past reforms are likely to have helped. However, remaining structural problems should not be overlooked; in fact, the current favourable environment presents a golden opportunity to implement measures that would help to make the improvements more lasting and thus address the gap of labour utilisation identified above. One such problem is the low number of hours worked per person employed, which is mainly due to the prevalence of part-time work with very low weekly hours worked. This outcome applies foremost to married women and mothers (Figure 1.9). Underlying reasons are the significant disincentives coming from the tax system of joint taxation, the free healthcare coverage for non-working spouses as well as the lack of childcare supply.

Figure 1.9. **Average weekly working hours, 2006**



StatLink http://dx.doi.org/10.1787/280088823612

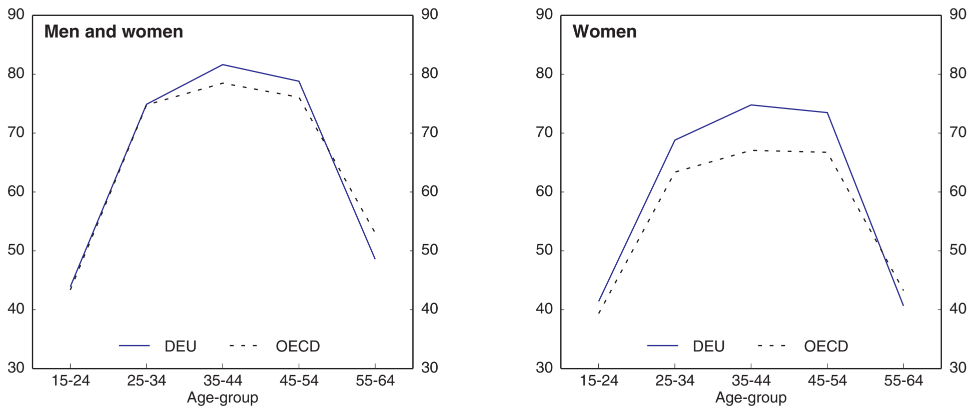
Note: Data is for dependent employment only.

Source: OECD, *Labour Force Statistics*.

In addition to increasing the hours worked per person employed, bringing more people into employment is a challenge. Long-term unemployment as a share of total unemployment is higher than in most other OECD countries and employment rates of older workers are below the OECD average (Figure 1.10). The labour market reforms of the past years have started to deal with these problem areas by increasing work incentives. Unemployment benefit replacement rates have been cut for long-term unemployed and early retirement options have been made less generous. Positive effects are already visible as employment rates for 55-64 year old workers have started to rise significantly. Further reforms, notably an easing in the strict employment protection legislation for regular workers, would help to expand employment opportunities for job seekers with weak

Figure 1.10. **Employment rates**

Per cent



StatLink http://dx.doi.org/10.1787/280115865454

Note: Employment rates are employment of age-group X as a per cent of population of age-group X in 2006.

Source: OECD, *Labour Force Database*.

attachment to the labour market. Unravelling past reforms or introducing new reforms that have harmful employment effects, such as setting minimum wage rates at high levels, put the progress in increasing labour utilisation achieved in Germany in recent years at risk.

Improving education outcomes (Chapter 4)

Improving education outcomes would enhance the quality and quantity of human capital used in production, raising labour productivity and hence potential output. A more highly skilled workforce is also likely to experience less unemployment, strengthening labour market outcomes (see Chapter 3) and further contributing to potential output. Based on a cross-country panel regression analysis, Hanushek and Wößmann (2007) find that student achievement is an important determinant of long-term economic growth; the number of years of schooling, the variable that has traditionally been used in cross-country growth studies, is not statistically significant once student achievement is included in the regression. According to the 2006 OECD PISA study, student achievement in Germany is at or above the OECD average, depending on the subject (above average in science and average in reading and mathematics). However, the distribution of achievement is wide in Germany, especially in reading and mathematics, with weaker students' scores ranking below the country's average score ranking among OECD countries and stronger students' scores ranking above. Germany ranked 16th and 18th among OECD countries at the 10th percentile of student scores in reading and mathematics, respectively, and 10th and 11th at the 90th percentile. Improving achievement of weaker students could make a big contribution to raising average performance in Germany, especially in reading and mathematics: the inequality of outcomes, as measured by the ratio of scores at the 75th to the 25th percentiles is inversely correlated with average PISA scores across OECD countries (see Chapter 4). Often, students with weaker performance come from less favourable socio-economic backgrounds and/or from immigrant backgrounds – indeed, these factors have a relatively large impact on student achievement in Germany. Reducing the impact of these factors on achievement would not only tend to enhance overall performance, it would also contribute to strengthening social sustainability by improving earnings prospects for persons with these backgrounds. Strengthening social sustainability could have positive feedbacks to economic growth by helping to avoid populist economic policies that harm growth prospects.

Another weakness in Germany's education outcomes is that tertiary graduation rates are low by international comparison for younger cohorts. Internal rates of return on tertiary education are relatively low and universities have limited flexibility to adjust inputs or outputs to satisfy client requirements better. Reflecting the situation for student achievement in secondary school, socio-economic background has a large influence by international comparison on a student's prospects of participating in tertiary education.

The *Länder* and federal government have implemented major reforms in recent years to improve education outcomes and further reforms are planned. These reforms have focused or will focus on improving the quality of early childhood care and education and access to it, improving teaching quality in schools, notably by increasing autonomy and accountability, and increasing returns to tertiary education (notably by shortening university courses and focusing them more on labour-market requirements) and giving universities more autonomy in a context of rising accountability. There remains considerable scope to build on these reforms to improve education outcomes further.

Strengthening product market competition, notably in the network industries (Chapter 5)

As pointed out above, the transport and the gas and electricity sectors in Germany have made little progress in recent years in closing substantial productivity gaps with these sectors in the US, which is the overall productivity leader (see Figure 1.8). At the same time, there is a lot of scope for Germany to improve the competitive framework in these industries, which will be important to tap unexploited potential to boost productivity growth and consumer welfare through lower prices. In the gas, electricity and railway sectors, in particular, challenges for competition policy bear similarities, as service provision in these industries is dependent on the use of networks that share natural monopoly characteristics with large sunk investment costs. To ensure that competition can thrive, it is crucial to ensure free and fair network access for service providers. In this respect, Germany faces important political decisions going forward:

- In the energy sector, high concentration at the wholesale level, with companies that dominate the market owning a large part of the country's network and substantial shareholdings in retail companies, has prevented effective competition from developing. There is considerable scope for vertically integrated market dominant companies to discriminate against the competitors of their affiliates demanding network access. To strengthen framework conditions for competition, Germany will have to address the issues of high market concentration and vertical integration in these sectors.
- In the railways sector, competition has developed to some extent, but there is considerable scope to strengthen competition. Political decisions on how to design the privatisation of government stakes in the market incumbent, Deutsche Bahn AG (DB AG), will be crucial. Experience in both the railways and the energy sector suggests that vertical integration generates significant obstacles for regulation to increase the scope for competition as the potential for competition to thrive hinges on sufficient independence of the network operator from service providers.

If Germany takes the right decisions, the potential for stronger competition to boost productivity growth are substantial. There would be both direct and indirect positive effects on overall productivity growth, as both energy and railway transport services are important intermediate products for the rest of the economy.

Making health and long-term care financing sustainable and efficient (Chapter 6)

The cost of healthcare is already high by international comparison – among OECD countries only the US, Switzerland and France dedicate a larger share of its GDP to overall healthcare spending – and it is expected to increase further going forward (Table 1.4).[13] As the social health insurance is mainly financed via social charges levied on labour income, increasing healthcare costs reduce work incentives, while increasing labour costs. This exerts considerable pressure on employment and thereby ultimately on economic growth. Average social security contributions to finance social health insurance have increased from 8.2% of wage costs in 1970 to 13.9% in 2007 (since July 2005 an additional contribution of 0.9% is levied on members of social health insurance funds [SHIFs]). To avoid further pressure on employment, the German government wants to obviate the need for further increases of contribution rates, at a minimum.

With its recent healthcare reform, the government has in principle followed a comprehensive strategy to limit the impact of healthcare financing on employment and make it more sustainable, mainly counting on enhanced competition as a tool to make healthcare more cost-effective:

- A reform of social health insurance financing is intended to decouple healthcare financing more from employment and stimulate competition between insurers.
- A reform to enhance competition between providers and on the pharmaceutical market is intended to make healthcare provision more cost-effective, thus reducing cost increases to the necessary extent to provide citizens with high-quality healthcare.

While the 2007 healthcare reform contains promising elements, the result is partly a difficult compromise between different concepts of the two ruling parties that were not easy to reconcile. The reform goes some way to reaching the government's goals, but it still needs to be taken further.

Partly in response to its difficulties in reaching a compromise on healthcare reform, the government refrained from introducing a capital-funded pillar or elements of pre-saving into the long-term care system, contrary to its original plans. Yet, there is a stronger case for pre-saving in long-term care than in healthcare, given that a much larger share of the projected cost pressures are related to population ageing (Table 1.4); the risk of being in need of long-term care rises steeply in old age. The cost pressures could even be considerably larger than projected above if female labour force participation rates rise by more than expected, as this development would reduce the availability of women to look after frail elderly relatives (notably parents) – the majority of such persons are being looked after by female family members today – raising the need for more expensive formal care provision. Against this background, the government missed an opportunity to make the system more sustainable by introducing pre-saving elements. Instead, it decided to increase benefits, which had been held constant in nominal terms since the introduction of the system in 1995, and to review the need for further adjustments in line with price developments regularly in the future. The challenge remains to make the long-term care system more sustainable, possibly by decoupling financing from labour costs and introducing pre-saving

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elements to make it easier to cope with cost pressures related to Germany's rapidly ageing population. The sooner Germany embraces reform, the lower the costs of pre-saving to contain future contribution increases and the higher the potential benefits.

Notes

1. Specifically, the Bundesbank study finds that the determinants of real world-market-export shares are: improved cost competitiveness; import growth of trading partners (market effect); product mix of exports (product effect); and internationalisation of production (outward FDI, which is complimentary to export growth). Over the period 1995-2005, improved cost competitiveness and internationalisation of production account for the better export performance in Germany than in other industrialised countries. While Germany's market effect and product effect have been more favourable than those for other industrial countries during the global economic upswing, they were less favourable at other times and broadly neutral over the whole period (indeed, the trading partner mix had a slightly negative effect over the whole period).
2. Total hours worked increased at an annual average rate of 0.8% during the first 13 quarters of the current recovery, compared with –0.8% in the recovery that began in 1993 Q1, –0.7% in the recovery that began in 1982 Q3, and –0.1% in the recovery that began in 1975 Q2. Data for the two earlier recoveries relate to Western Germany.
3. Real product wage rates are relevant for profit-maximising employers, who hire extra labour to the point where the marginal revenue product of labour (which depends on producer output prices, not consumer prices) equals the wage rate. For utility-maximising workers, it is consumer prices rather than producer output prices that impact on the amount of extra consumption that additional labour supply can purchase.
4. The surge in total hours worked during the current recovery came too late (from late 2006) to be reflected in these trend estimates.
5. EU11 as defined here is the EU15 less Austria, Luxembourg and Portugal, for which data are missing, and Germany.
6. The discussion of hourly labour productivity developments in this and the next paragraph are based on data from the EU *KLEMS Database*. These data are not in trend terms, in contrast to the data used above to discuss developments in potential GDP and its components.
7. It is assumed that the income elasticity of healthcare expenditures is unity.
8. This assumption is likely to be a worst-case scenario as it assumes that policies to control expenditure growth driven by non-demographic factors are ineffective. If it is instead assumed that expenditure growth on top of demographic and income effects instead converges to zero by 2050 ("cost-containment"), healthcare expenditures increase by 1.6% of GDP by 2050, instead of 3.6% in the base scenario, and long-term care costs increase by 1.1% of GDP, instead of 1.9% (Oliveira Martins and de la Maisonneuve, 2006).
9. Alternatively, workers may decide to retire at age 65 even after the reform. In this case, contributions will not increase compared with the status quo but expenditures are lower as those pensioners will only get a reduced pension payment. The discount factor is currently 0.3% per month of retirement before the statutory retirement age. Werding (2007) argues that actuarially neutral rates would be about twice as high.
10. Their calculations suggest that in comparison with a scenario where working age is extended to 67 but the statutory retirement age remains unchanged, the increase in the statutory retirement age to 67 will lead to a permanent decrease in pension expenditures of between 3.6% and 6%.
11. Of course, the optimal response to long-term budget pressures associated with population ageing is not just to pre-fund. Containing growth in ageing-related expenditures is also important. As noted above, pension reforms in Germany have significantly reduced the projected long-term growth in pension outlays. German workers have already begun to respond to these reforms by retiring later and further extensions of working lives can be expected.
12. However, alternative calculations show that even with lower projected ageing costs, fiscal policy would not be sustainable over the long-run. For example, on the basis of an ageing-related increase in expenditure (net of lower spending on education and unemployment as a result of demographic developments) of 2½ per cent of GDP (compared with 3.3% of GDP in the projections shown in Table 1.3) by 2050, the Federal Ministry of Finance (2005) finds that public debt is on an explosive

path. The IMF (2006) assumes somewhat higher ageing costs (4% of GDP by 2050) and also finds that debt is on an explosive path, with the level of debt being reached much higher than those projected by either the Federal Ministry of Finance or the OECD (in Table 1.4).

13. While Germany ranks fourth among OECD countries in overall healthcare spending, it ranks second after France regarding only public healthcare spending per GDP.

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ANNEX 1.A1

Progress on structural reforms Summary of past recommendations and actions

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 options for early retirement such as the exemption from job search obligations of older recipients of unemployment insurance benefits, the subsidies for the part-time employment scheme for older people (*Altersteilzeit*) and the early retirement schemes that follow up extended periods of unemployment insurance benefits and subsidised part-time employment.	Since January 2008 the exemption from job search obligations for older recipients of unemployment benefits is only applicable if the entitlement to benefits occurred before 1 January 2008 and if the unemployed person had reached the age of 58 years until that date. The rules for unemployment benefit II are in the process of being adapted accordingly. The subsidies for the part-time employment scheme for older people (*Altersteilzeit*) end in 2009. Afterwards the subsidies may only be claimed if participation in the scheme was started before 1 January 2010.
Implement the increase in the retirement age to 67 years with no exceptions for specific occupational groups. Harmonise the minimum entitlement age for preferential income taxation of private or occupational pensions with the statutory entry age in the general public scheme.	As decided in March 2007 the retirement age will gradually be increased to 67 years until 2029 starting in 2012 with persons born in the year 1947 or later. The increase will be applied to all types of pension. There are no exceptions for specific occupational groups.
Focus financial support for child minding outlays on families where both spouses are working with a preference to pre-schooling institutions. Consider introducing a voucher scheme rather than income tax deductibility. Extend opportunities for full-day schooling.	With the Federal Parental Allowance and Parental Leave Act (*Bundeselterngeld- und Elternzeitgesetz*) that entered into force on 1 January 2007, the federal government realigned its family policy benefits. The parental allowance supports mothers and fathers during the first 12 to 14 months of their parenthood. Working parents who take time out from their gainful employment when their child is born or reduce it to a maximum of 30 hours a week receive 67% of their lost income (not more than € 1 800 per month); low-income earners are eligible to a higher replacement rate. Parental allowance amounts to at least € 300 even for non-working parents. A parent can receive parental allowance for a period not exceeding 12 months. Parents qualify for another two months if both wish to take advantage of the parental allowance and the parents' income from work is reduced for at least two of the months they receive the allowance (partner months). The federal, state and local governments agreed to provide day-care places for an average of 35% of under-three year old children throughout Germany by 2013. From 2013 onwards there will be a legal claim to a day-care place for children under the age of three. On principle, the financing and operation of child day-care services falls within the responsibility of the states and municipalities. So, specifically, the possibility to introduce a voucher system is closely tied to the funding modalities obtaining in the state concerned. Therefore, it is a matter for the states to decide on the introduction of a voucher system.

Recommendations	Action taken
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.	In order to reduce the marginal burden on spouses in tax class V, which is optionally applied to second earners, the German government made a proposal to introduce a more incentive friendly system of wage taxation that would reduce the tax burden of the less-earning spouse during the current year. However, this reform will not change the yearly tax amount paid by the household and therefore disincentives will persist. This proposal has not become law while work on feasible approaches is to be continued. In order to overcome some of the negative incentive problems, since 2003 the transition from part-time to regular employment is eased by a "sliding zone" for wages between € 400 and € 800 with reduced social security contributions for employees.
Lower withdrawal rates for unemployment assistance benefits (*Arbeitslosengeld II*, ALG II). Abolish spikes in the provision of benefits for families with children. Revisit unemployment benefit replacement rates. Phase out the supplementary benefit layer between unemployment insurance benefits and ALG II.	As part of an integrated concept the government is currently examining the whole low-wage sector. In this context, lower withdrawal rates for unemployment benefit II will also be reviewed. The spikes in the provision of benefits for families with children will be included in such an integrated concept for the low-wage sector.
Make participation of benefit recipients in activation programmes strictly compulsory once assigned by Labour Office counsellors. Evaluate the effectiveness of active labour market policies. Merge the two available schemes supporting self-employed out of unemployment.	Participation of benefit recipients in any training schemes including vocational as well as further training activities is compulsory. If a benefit recipient does not start or quits a programme without a good reason the benefits will be cut for a certain period of time. The evaluation of active labour market policies as a task of the Federal Labour Agency is defined by law and is implemented by the *Institut für Arbeitsmarkt- und Berufsforschung* (IAB). As well as this institutional framework of a permanent research institution, often labour market reforms have been linked with a parliamentary or compulsory evaluation mandate. The Federal Ministry of Labour and Social Affairs also initiates specific projects to evaluate the impact of labour market policy on certain target groups. The introduction of a so called start-up subsidy (*Gründungszuschuss*) in 2006 merged the previously available two schemes supporting self-employed out of unemployment.
Revisit pay for participation in Work Opportunity schemes (WOs, *Arbeitsgelegenheiten*), make employers within the scheme bear part of the costs of the income replacement and do not lengthen the duration of WOs for older long-term unemployed.	Participants of WOs do not receive remuneration but a subsidy to cover additional expenses, such as travel costs. These schemes need to be for the public benefit and may only cover additional works. As they may not be used to make a profit employers are not able to cover any expenses. The duration of WOs depends on the individual need for training and support and should therefore not be regulated (*e.g.* according to the age of participants).
Concentrate responsibilities for benefit and employment policies at one level of administration, preferably at the Federal Labour Office.	Due to a decision of the Federal Constitutional Court (announced on 20 December 2007) responsibilities for the administration of unemployment benefit II have to be revised until 31 December 2010.
Implement government plans to drop dismissal protection for the first two years of a regular employment contract.	No action taken.
Consider giving workers and firms an option to open work contracts after the probationary period to specify severance pay for workers in case of redundancy in return for a less stringent dismissal protection. Consider introducing experience rating of unemployment insurance contributions.	No action taken.
Apply administrative extension of collectively bargained contracts only if negative consequences for the labour market can be avoided. Consider widening the scope for wage determination at the firm level.	Collective agreements may only be declared generally binding if it is for the public benefit which also includes any consequences on the affected economic sector. It is also examined by the so called tariff commission (equally filled by representatives of employer's and employee's umbrella organisations) which has to give its vote on the declaration. In the past years, the bargaining parties have increasingly agreed on opening clauses in collectively bargained contracts and therefore widened the scope of wage and work hour determination at firm level.

Recommendations	Action taken
Improve competition in the product markets	
Raise the effectiveness of competition law and competition law enforcement by installing a consumer protection agency under the roof of the Federal Cartel Office, expanding the Cartel Offices' resources, making fining procedures more efficient and by raising the independence of the Federal Network Agency.	The Federal Office of Consumer Protection and Food Safety has been set up as the competent authority as regards the enforcement of consumer rights in the case of cross-border infringements, while the German system of the enforcement of consumer rights according to civil law is uphold. Concerning an expansion of the Cartel Offices' resources, new posts have been created in the context of the last legislative amendment to the act against restriction of competition. With regard to the efficiency of fining procedures, an amendment to the act against restriction of competition has been introduced; the Cartel Office has also issued new guidelines on the imposition of fines.
Strengthen competition in public procurement.	The federal government plans to modernise and simplify the complex rules of public procurement in order to provide for more transparent and competitive public procurement procedures.
Phase out state involvement in the business sector, notably in post and telecommunications services as well as in the electricity and gas business of local utilities.	Continuous cutback of state aid since 1990. Gradual progress in the privatisation of the telecoms and postal service incumbents. Privatisation of railway incumbent in progress.
Reduce administrative opacity. Assess costs of existing regulation as well as of new legislation.	Legislative costs at the federal level have been assessed. The government decided to reduce administrative burdens for businesses by 25% until 2011. Administrative burden of new legislation is being assessed through the National Control Council.
Improve regulation of network industries.	Introduced *ex ante* regulation of network access in electricity and gas and raised regulatory powers. Introduced an incentive regulation of third party access fees in the energy sector. Simplified appeals on regulator's decisions in telecoms. Required approval of rail network access charges by regulator.
Strengthen vertical separation in network industries.	Raised managerial and accounting separation standards in the energy and railway sectors.
Reduce costs of achieving environmental targets by reducing subsidies to renewable energy and for improving the insulation of dwellings.	No action taken.
Encourage further competition in telecommunications services.	No action taken.
Improve the conditions for competition in railway services.	Implementation of the European guidelines ensuring a non-discriminatory network access; Control of the conditions for network access by an independent regulator.
Make domestic service markets in the liberal professions, crafts and retailing more open to competition by phasing out legally-set price schedules. Abolish qualification-related entry requirements in the crafts sector.	The federal government is preparing an act on liberalising the market for chimney sweepers' services. The aim is open market access for all qualified competitors within the EU for nearly all relevant services excluding regulatory monitoring. The legally-set price schedule for chimney sweepers will also be abolished.
Abolish prohibition of below-cost pricing when dominant market power is absent.	No action taken.
Ease restrictions concerning the setting-up of large retail outlets. Liberalise shop opening hours further.	Power to determine shop opening hours was turned over from the federal government to the *Länder* and regulations have been eased in some *Länder* subsequently.
Improving the framework conditions for innovation	
Remove administrative burdens on entrepreneurship.	Ongoing projects, such as strengthened regulatory impact analysis in some states. Abolished some tax expenditures and exemptions. Introduced new tax expenditures. Administrative burdens are also reduced by soliciting proposals for reductions directly from the affected companies and citizens. These proposals are then incorporated in a "law on the reduction of administrative burdens particularly for SMEs". After developing this method in a pilot procedure, the parliament has meanwhile adopted two more laws. A third law is currently being drafted.
Increase the efficiency of tertiary education.	Gradual progress in take-up of degrees in new two-tier structure. Implemented competition-based selection of a small number of additionally-funded high performance universities. Raised autonomy of universities. Introduced student fees, coupled with loans and income-contingent repayment schemes, in several states.

Recommendations	Action taken
Establish timetable for all government-funded innovation programmes and eliminate ineffective subsidies.	More frequent evaluation of subsidy programmes and public research institutes.
Facilitate immigration of qualified workers.	Progressed in university reform. Lowered income taxes. Facilitated the admission of mechanical, electrical and vehicle construction engineers of the new EU member states as well as the admission of foreign university graduates who have completed their studies in a German university.
Make the education system more efficient	
Early childhood education and childcare should be better oriented towards improving educational outcomes and access needs to be widened.	The *Länder* have developed a wide range of policies to improve the quality of children's day care centres and transition from kindergarten to primary school. The kindergartens pay special attention to the improvement of linguistic competence of children with migrant backgrounds. In primary education special attention is given to the introduction of national education standards, the introduction and increase in foreign language teaching, flexible school entrance phases and expansion of schools offering all-day activities. The federal government supports the activities of the *Länder* to generate reliable educational concepts for the elementary and primary school sector (transition problem) through educational research and a vocational qualification campaign for the continuing and further training of teaching staff, the expansion of childcare services to achieve a modern range of educational and childcare facilities and the even closer linking of the elementary and primary sectors by providing research-based support for the development of education centres (*Bildungshäuser*); identifying initial learning situations; and developing a frame of reference for determining language competency.
Improve outcomes in secondary education by regularly evaluating pupil performance in all schools against the country- or state-wide standards and by expanding schools' management capacities.	Nationally applicable standards for several subject areas have been put in place and there is a central review of the achievement of education standards in the context of a *Länder* comparison. Comparative tests linked to the education standards are carried out in order to assess the performance of all schools at the national or *Länder* level. In the context of increased school autonomy, school leaders are being trained to fulfil school management tasks.
Consider postponing selection of pupils into different types of secondary schools to a later age.	First selection continues to be made at age 10 in most *Länder*. Two *Länder* delay selection until age 12 and four others have designed grades 5 and 6 (ages 11-12) as orientation years.
Increase autonomy of schools regarding hiring decisions and raise mobility of teachers.	Greater responsibility is accorded to individual schools in the fields of school development, quality assurance and evaluation as well as in hiring teachers. Common standards in teacher education programmes that are mutually recognised have been agreed to facilitate teacher mobility, but they need to be adopted more widely to increase mobility. The *Länder* support teacher mobility by a special exchange programme as a possibility to move from one Land to another one.
Raise the attractiveness of university study programmes by making allocation of government funding more output oriented, strengthening university autonomy. Introduce student fees coupled with a loan scheme and income-contingent repayments.	In connection with the introduction of the two-tier study system, the quality assurance system has been expanded. Many of the old *Länder* have introduced low student tuition fees. However, none of the six new *Länder* has done so.
Widen access to university, ensuring that non-academic tracks of secondary education prepare better for entry to university.	No action has been taken to widen direct access to university programmes for students graduating from secondary school with a restricted university entrance certificate (*Fachhochschulreife*). There remain possibilities in all *Länder* for vocationally-qualified applicants to obtain access to higher education without any school-based higher education entrance qualification, although only a minority of persons entering higher education use this route.
Putting fiscal policy on a sustainable path and improving public sector efficiency	
Strengthen the decision powers of the inter-governmental Finance Planning Committee.	The Federal Ministry of Finance pleads for strengthening the Finance Planning Committee. During the negotiations within the Federalism Reform II Committee the representatives of the federal government promote this approach.

Recommendations	Action taken
Formulate fiscal targets and monitoring indicators in terms of national accounting conventions. Use economic projections from independent forecasters as the basis for fiscal targets.	Since the existence of the Maastricht process the national accountings play a prominent role for the Finance Planning Committee. In the recent past fiscal targets have not been agreed without the view of the National Accounting Conventions.
Condition Solidarity Pact II transfers to the new states on spending adjustment by the new states in favour of investment projects removing bottlenecks for higher growth.	The new states have committed themselves to spend Solidarity Pact II transfers on infrastructure investments. Following the principle of subsidiary the receiving states (which have better knowledge of investment projects in their regions) decide on the spending.
End the bailing out of states with high deficits by the federal government.	The Federal Constitutional Court decided in its adjudication concerning the bail out of the state of Berlin that only in case of absolute and relative financial distress (meaning that a state cannot fulfill its constitutional obligations) the federal community has to provide financial support.
Disentangle legislative responsibilities between the federal government and the states and reduce involvement of the states in federal legislation.	With Federalism Reform I in 2006 the number of federal laws which require the consent of the *Bundesrat* have been much reduced. Furthermore a large number of areas which had been subjects of concurrent legislation are now subjects of exclusive legislative power of the states.
Review co-funding of regional projects by the federal government.	With Federalism Reform I in 2006 several legal requirements concerning co-funding of regional projects by the federal government have been removed.
Re-allocate administration of tax revenues which accrue exclusively to the federal government, or are shared between the different layers of government, from the states to the federal government.	Discussions ongoing during negotiations on the so-called Committee on the Modernisation of Federation-States Financial Relations. The results of the discussions are expected in mid-2008.
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.	Changes to the federal financial equalisation system are currently discussed in the Federalism Reform II.
Give the states the right to raise own taxes (for example by allowing the states to incorporate a surcharge into a reformed – and correspondingly lowered – income tax schedule). Consider giving the real estate tax a larger role in funding municipalities.	With regard to real estate tax, municipalities are already enabled to influence revenue by exercising their right to set a multiplier. This form of autonomy is considered sufficient.
Utilise the benefits from public-private partnerships (PPPs) more effectively.	Standard guidelines on examining profitability of PPPs compared to usual public investment were decided on in September 2006. In December 2007 the federal government decided on further steps founding a special institution to increase the market for PPPs in Germany, a so-called Partnerships-Germany-Corporation, similar to the already existing Partnerships UK, planned as a consulting organisation with public and private capital.
Further reduce tax exemptions.	The federal government's subsidies will fall by approximately € 2 billion to € 21.5 billion between 2005 and 2008 – the reporting period of the federal government's current 21st subsidy report. The biggest contribution here will come from the abolition of tax expenditures. These will fall by 9% to € 15.8 billion. The Ministry of Finance is currently engaged in a research project to evaluate the 20 largest tax expenditures.
Phase out inheritance tax advantages for small and medium-sized enterprises (SMEs).	No action taken.
Phase out exemptions from energy taxes for energy-intensive industries.	Currently under investigation.
Consider allocating future CO_2 pollution permits through an auction mechanism rather than through grandfathering.	During the second 2008 to 2012 trading period an amount of 40 million allowances annually will no longer be allocated free of charge but will be subject to auctioning. This is just under 9% of the total amount of allowances. In return there will be a cut in allocations of approximately 17% for all power generating plants (Incumbents and New Entrants). This introduction into auctioning as principally the most efficient allocation method will reduce windfall profits of energy utilities.

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Chapter 2

Preserving past achievements in fiscal policy and making the tax system more efficient

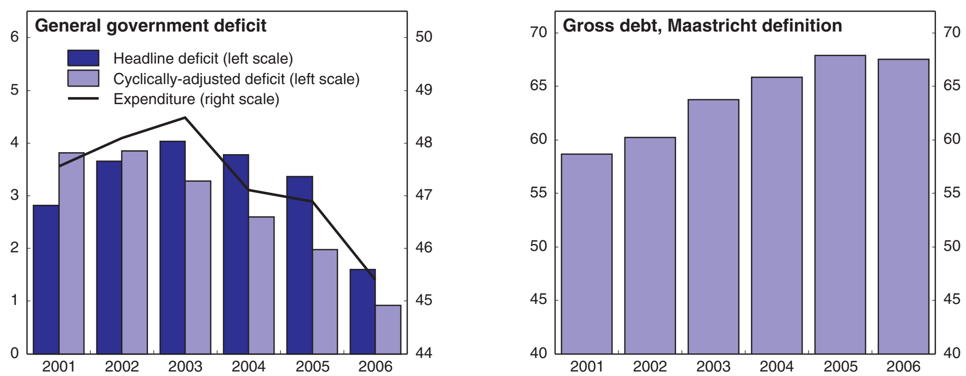
Government finances have improved significantly over the past years on account of both cyclically higher revenues and structural expenditure restraint. In order to preserve these achievements for the longer term, the government should consider replacing the fiscal rule currently enshrined in the constitution, which has proved to be ineffective in preventing an increase in the debt level. Safeguarding future tax receipts is also a challenge and the implemented corporate tax reform will be helpful in this respect. In this chapter, further options to reduce the tax burden even more for mobile bases are considered. Finally, options are explored for making tax collection more efficient.

A balanced budget has been achieved

Government finances have improved significantly since 2003 when the budget deficit came close to 4% of GDP and the Ecofin Council, as mandated by the Stability and Growth Pact, initiated an excessive deficit procedure for breaching the 3% deficit ceiling. Following a period of continuously smaller deficits, the general government budget is likely to be balanced in 2007 for the first time since 1989.[1] While this development has benefitted from the strong cyclical upturn (which increased revenues and lowered social security benefit take-up) as well as the increase in the value-added tax (VAT) rate in 2007, structural factors on the expenditure side also played an important role. The ratio of cyclically-adjusted government disbursements to GDP declined by around three percentage points over this period, helped by wage restraint in the public sector and a decrease in subsidies (Figure 2.1). The cyclically-adjusted budget has reached balance by 2007 as well and the objective of the government as laid out in its Stability Programme is to achieve a surplus of ½ per cent of GDP on this measure by 2011.

Figure 2.1. **Government finances have improved significantly**

Per cent of GDP



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Note: All variables refer to general government. Per cent of potential GDP for cyclically-adjusted deficit.

Source: OECD (2007), *OECD Economic Outlook 82 Database* and *National Accounts Database*.

Reflecting the positive developments in the budget balance, gross debt as a share of GDP (according to the Maastricht criterion) has stopped increasing and started to decline somewhat in 2006. Around two-thirds of the general government debt level is due to the central government. According to the Stability Programme, the debt ratio should fall below 60% of GDP in 2010.

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The fiscal rule needs to be improved

Given the challenges regarding sustainability going forward and in order to avoid the past pro-cyclical policies, the focus should be on preserving the recent achievements in budget consolidation for the future. In this regard, cross-country empirical evidence suggests that countries which operate fiscal rules do experience longer lasting fiscal consolidation (OECD, 2007a). Germany has such a fiscal rule, embedded in article 115 of the constitution, which states that net government lending of the federal state may not exceed government investment spending; this thus resembles a golden rule. Similar rules apply to many *Länder*. However, as pointed out by the German constitutional court, the current arrangement has not proved to be effective and therefore needs to be improved. International experience shows that successful fiscal rules combine transparency with sufficient flexibility to deal with shocks, a wide coverage of budget items and effective enforcement mechanisms (OECD, 2007a).

There are two main criticisms of the current rule: First, the rule focuses on gross investment and thus allows the consumption of capital (depreciation) to be debt-financed and privatisations to be consumed. Rather, the definition of investment should be formulated in net terms, accounting for privatisations and depreciation. As a result of the present rule, the level of assets of the general government has declined continuously, despite a growing debt level (Deutsche Bundesbank, 2007). Second, there is a lack of enforcement, as the rule only applies to *ex ante* budget plans. While *ex-ante* plans were always in line with the constitutional requirements, also due to an escape clause embedded in the constitution article, which allows deviations from the rule in the case of a "disturbance of the macroeconomic equilibrium" (*Störung des gesamtwirtschaftlichen Gleichgewichts*), budget implementation often differed from the *ex ante* plans. Between 1991 and 2005, the rule was not implemented in seven years as the *ex post* budget deficit outcome exceeded investment spending. An additional criticism of the current rule is that it does not exclude a pro-cyclical policy and does not require a compensation of past uses of the escape clause.

While one option for changing the current arrangement would be to move towards a net investment definition in the current rule, this would only solve parts of the problem and is unlikely in itself to make the rule more effective. It would risk leaving compliance with the rule open to arbitrariness, notably in defining investment spending (for example whether spending in education should be included), which would not be helpful in achieving the goal of increased enforceability. In addition, such a rule would not seem to meet the criterion of transparency and it would also not exclude the possibility of pro-cyclical policy.

A better option would be an orientation along the lines of the Stability and Growth Pact, notably embedding in the constitution the requirement of a structurally balanced budget.[2] Such an arrangement would not only be more transparent, it would also strengthen the national ownership of EU rules that Germany has to adhere to anyway. In addition, pro-cyclical policy is not allowed while the goal of a structural budget balance leaves enough room for an increase of the headline deficit (through the impact of automatic stabilisers) without risking a breach of the deficit limit of 3% of GDP. It should also be noted that with a structurally balanced budget (including interest payments), the debt-to-GDP ratio declines over time (as the nominal debt is kept constant over the cycle while nominal GDP increases). Consideration should thus be given to replacing the current article 115 of the constitution with the requirement of a balanced structural budget in line with the definition of the Stability and Growth Pact.

To enhance enforceability and to raise the political costs of breaching the rule, a new arrangement should include a strong reporting system, including *ex post* assessments (as is the case in Sweden or the Netherlands). Instead, the current German constitutional rule only applies to the announced budget plan – not to the *ex post* outcome.

Multi-year national expenditure limits have been successfully used in some other countries to supplement the deficit rule (Sweden, Finland, Netherlands). They aim at limiting policy-induced increases in spending and encourage improvements in the setting of spending priorities. Expenditure ceilings can be set a couple of years in advance – typically for a government period, corresponding with the deficit target and a pre-determined revenue path. If budget results prove to be more favourable than expected, a spending rule would require that policy remains unchanged and the budgetary bonus be saved (*i.e.* debt is reduced further). In contrast, during a weak budgetary performance, a spending rule would tolerate the working of automatic stabilisers, but would not allow further policy shifts (OECD, 2007a, 2007b). While in principle a deficit rule formulated in cyclically-adjusted terms would already provide for these effects, expenditure rules in practice can help adherence to the rule and have proved to be a useful complement.

Analogous to the Swiss debt brake, the Council of Economic Advisors has suggested installing an equalisation account, which serves to register past breaches of the rule (for example through projection errors or discretionary measures). There would be an upper limit to the account, above which no further breaches are possible. While such an account would be helpful in focussing attention on the long-term debt level (in contrast to yearly deficits), questions of implementation remain, such as difficulties in setting an appropriate level for the threshold (above which no more breaches are allowed) and in defining the appropriate sanction mechanism. In addition, following such a rule mechanically could force fiscal policy to act pro-cyclically, if the threshold in the account has been reached in a downturn and expenditures would need to be cut or taxes raised. There is also an inherent asymmetry of correcting for positive and negative windfalls.

A strengthening of the fiscal rule would also need to take into account the sub-national levels of government, as is currently discussed in the second stage of the reform of the federal structure (*Föderalismusreform II*). The current arrangements are widely believed to be ineffective, not least as the obligation that the federal government and the *Länder* strive to achieve balanced budgets is not very strict and stands in contrast to article 115 of the constitution (which allows for deficits if they are associated with investment – Deutsche Bundesbank, 2005). In addition, the implicit debt guarantees among central and state government could be providing an additional borrowing incentive for the *Länder* (Heppke-Falk and Wolff, 2007).[3] Successfully applying a revised rule also at the sub-national level could require strengthening the tax autonomy of the *Länder*. One option would be to allow the *Länder* to levy a surcharge to the income tax which would not be taken into account in the fiscal equalisation scheme (OECD, 2006).

Securing revenues with an internationally mobile tax base

While fiscal rules are helpful in a long-term strategy to improve fiscal outcomes, there is also a need to secure a solid revenue base. In this regard, globalisation has made the taxation of mobile tax bases more difficult, resulting in tax competition among countries.

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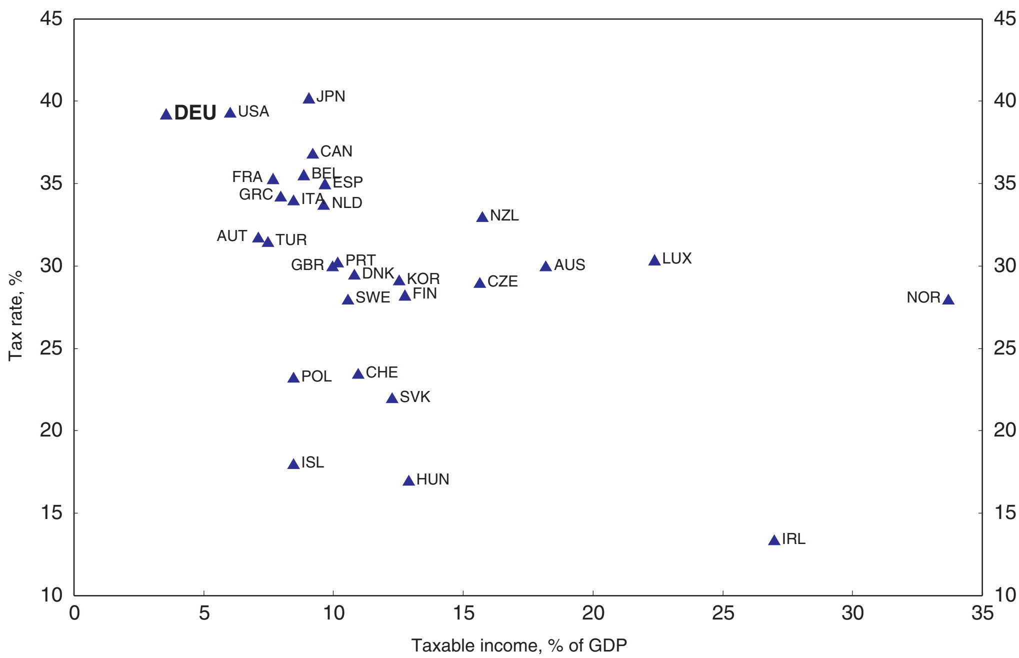
Competition is most visible in corporate income taxation, where tax rates over the last years have declined across Europe and also on an OECD level (OECD, 2007c). Evidence suggests that lower corporate tax rates are generally associated with higher taxable corporate income (Figure 2.2). Countries with a lower tax rate have wider tax bases and despite strong reductions in statutory rates, revenues have kept pace with GDP or even exceeded it. One explanation for this phenomenon is that corporations shift their profits from higher to lower taxed countries (Weichenrieder, 2007).

Figure 2.2. **Corporate tax rates and taxable corporate income**

Average 2002-05



StatLink http://dx.doi.org/10.1787/280258751084

Note: The tax rate is the basic combined central and sub-central (statutory) corporate tax rate. Income is calculated as corporate tax revenue divided by the corporate tax rate.

Source: OECD (2007), *Revenue Statistics 1965-2006* and *OECD Tax Database*.

In comparison with other countries, Germany faces a rather unfavourable position. Throughout the 1990s Germany had the highest statutory tax rate among OECD countries. Even after the corporate tax reform in 2001, it maintained one of the highest rates among OECD countries, along with the smallest taxable corporate income in per cent of GDP. One explanation for the low base is that a large share of German companies is not incorporated and pay income taxes and the local trade tax instead of corporate taxes (Box 2.1). However, even taking the taxes paid by non-corporations into account does not qualitatively alter the picture.[4] Instead, tax saving strategies as well as profit shifting appears to play an important role; according to some calculations these effects lower the tax base by up to 5% of GDP (Bach and Dwenger, 2007).[5]

Box 2.1. **Corporate income taxation in Germany**

The statutory corporate tax rate in Germany is composed of two separate taxes:

- the corporate income tax (including the solidarity surcharge);[1] and
- the local tax on industry and trade – a local business tax accruing mainly to municipalities.

The corporate income tax rate was lowered from 25% of earnings to 15%. The solidarity surcharge is levied at a rate of 5.5% of the corporate income tax liability. The local trade tax is calculated by applying a statutory rate (*Gewerbesteuermesszahl*) of 5% (lowered to 3.5% with the reform) to the tax base and is augmented by a municipal multiplier (*Hebesatz*) which varies between 200% and 490% across municipalities. The tax base for the local trade tax is obtained by making several adjustments to the corporate income tax base, such as adding back half of all long-term interest expenses and other financing expenses (rental and lease payments) and deducting foreign profits as well as a measure related to the real estate value (with the reform, the add-back of financing expenses has been expanded and now includes all interest expenses at a rate of 25%). Prior to the reform, the local business tax was a deductible expense from its own base as well as from the corporate income tax base (abolished with the reform). Theoretically, the composite corporate tax rate, *i.e.* including both the corporate income and the local trade tax, could range from 33.1% to 40.9%, depending on the multiplier applied by the municipality; using a municipal multiplier of 400% (the average multiplier for municipalities with a population of 50 000 and more is about 433%) yielded a rate of 38.7% prior to the reform, which was among the highest statutory corporate tax burdens among OECD countries, only topped by the US and Japan. This composite corporate tax rate was lowered to 29.8% with the reform.

While incorporated companies have to pay both taxes, non-incorporated companies (which make up about 80% of all German companies) are only liable for the local trade tax while the owners are liable for personal income taxation. Prior to the 2008 reform, reduced statutory tax rates for the local trade tax (*Gewerbesteuermesszahl*) applied to individuals and partnerships with profits up to € 72 500 (abolished in favour of a uniform rate of 3.5% with the reform). A number of measures make sure that non-corporations are not hit very hard by the local trade tax. First, un-incorporated firms can deduct an allowance of € 24 500 from their assessed tax base. Second, the owners can deduct a multiple of 1.8 of the local trade tax liability (raised to 3.8 with the reform) before applying the municipal multiplier from their income tax liability, insofar as the latter is based on income from the company (introduced in 2001 to compensate for the then decrease in the corporate income tax rate).

While revenues fluctuate significantly between years, revenues from the local trade tax were about twice as large as the corporate income tax revenues over 2004-05. The corporate income tax is levied by the *Länder* and revenues are shared equally between the *Länder* and the federal government.[2] The local trade tax is levied by the municipalities but the *Länder* and the federal government get a share of the revenues. This share (*Gewerbesteuerumlage*) is based on the tax revenue of the municipality before applying the multiplier (therefore, municipalities with a higher multiplier do not have to share more than others) and hence focuses on their fiscal capacity. Assuming an average multiplier of 433%, the share of revenues to be paid to the *Länder* and the federal government is around 17%.

1. The solidarity surcharge was introduced in 1995 and is levied on personal and corporate income.
2. Within the tax equalisation framework of the *Länder* (*Länderfinanzausgleich*), revenues are shifted from those *Länder* which have (total tax) revenues above the population-weighted *Länder* average to those where revenues are lower.

The tax reform of 2008 lowers statutory tax rates…

The tax reform agreed upon in July 2007 – and introduced in January 2008 – has two objectives: to make Germany more attractive as an investment location and to protect the tax base. To this end, the international trend towards cutting statutory rates and broadening the tax base is followed. Several of the financing measures are designed to counter profit-shifting, in particular a barrier for the deduction of interest expenses for large companies (Annex 2.A1). The net costs of the reform are estimated to be around € 5 billion per year or 0.2% of GDP (the costs of lowering rates is more than € 25 billion).

Taking all reform measures into account, the composite statutory tax rate decreases to 29.8% (Table 2.1). Among OECD countries, Germany's rank improves from 28th place to around 17th.[6] However, this assumes that the average municipality does not increase its multiplier for computing the local trade tax in response to the lowering of the basic rate (Box 2.1). In order to retain its previous overall tax rate for the local trade tax, a municipality would have to increase its multiplier from 400% to 476%. If this were the case, the composite statutory corporate tax rate would only decrease to 32.5%.[7]

Table 2.1. **Statutory corporate tax rates**

	2007			2008		
Municipal multiplier	200	400	490	200	400	490
Composite statutory tax rate	33.1	38.7	40.9	22.8	29.8	33

Tax competition between countries has an effect on multinational firms' behaviour in different ways. First, it is a determinant for the location of the firm or its investment. Second, even if the location of the firm is fixed, the firm can try to shift its profit to a country with a lower tax burden (profit-shifting) in order to reduce its worldwide corporate tax liability.

… and will help to counter outward profit shifting

Shifting taxable profits from a company's home country to subsidiaries in other countries can be achieved through various transactions. The most common are (Huizinga and Laeven, 2005):

- transfer pricing (charging a higher or lower than the "arm's length" price for intra-firm transactions);
- allocating common expenses (such as R&D expenses or headquarter services) strategically to subsidiaries in different countries; and
- adjusting the financial structure by placing high-interest debt to high tax countries or by charging higher interest rates for intercompany financial transactions.

The shifting of profits takes place from a high-tax country (where *e.g.* interest expenses are deducted) to a low-tax country. As the tax base is irrelevant for profit-shifting, it is the statutory tax rate that matters for the choice of the profit location. Based on company data for 1999, Huizinga and Laeven (2005) estimate that Germany (along with Italy and Romania) was one of the few European countries experiencing outward profit-shifting, reflecting its high statutory tax rate.[8] According to their estimates for Germany, reported pre-tax profits should fall by 0.32% following a 1 percentage point higher statutory tax rate. Dischinger (2007) finds a semi-elasticity of 0.7% in a cross-country study of European companies.

Following the 8.9 percentage point cut in the statutory rate due to the tax reform, the Finance Ministry expects an increase in the tax base by 9% (€ 13 billion, equivalent to ½ per cent of GDP) and thus assumes an elasticity of close to one.[9] While this elasticity is somewhat higher than empirical studies would suggest, it should be noted that the tax reform augments the incentive effect of lower statutory rates by explicit reform measures to counter profit shifting, such as the interest barrier an the expansion of the add-back of interest and other financing expenses to the local trade tax base (Annex 2.A1). By granting escape-clauses and generous allowances, which in practice mainly affect small- and medium sized companies, in order to mitigate the damaging impact of these measures, it is clear that one goal of the reform is to target the multinationals which most likely engage in outward profit-shifting activities. The regulations seem sufficiently flexible in order to circumvent the interest barrier in cases where debt financing is not designed to avoid taxation.[10]

Taken together, the existing evidence suggests that the implemented reform may well succeed in countering some profit shifting. However, even after the reform German statutory tax rates will remain significantly above those of several smaller countries, such as Hungary and the Slovak Republic, which are among the main beneficiaries of European profit-shifting (Huizinga and Laeven, 2005). And while the new regulations against profit-shifting can be helpful, the risk is that companies find ways around them. Thus, after the reform German companies will face reduced, but not zero incentives to shift profits out of Germany. In this regard, future reforms might be necessary.

Effective tax rates also decline

As the second aim of the reform was to promote the attractiveness of Germany as an investment location, effective tax rates (which in contrast to statutory rates measure the actual tax burden in relation to the tax base, thereby taking into account base widening measures) have also been lowered. From a taxation point of view, it is the average effective tax rate that matters for the investment location decision, while marginal effective tax rates should determine the optimal level of an investment in a country, once the location decision has been made (Devereux and Griffith, 1998).[11] Average effective tax rates in Germany prior to the reform were among the highest in the OECD (Figure 2.3).

Given that most of the foregone revenue of the tax rate cut is financed by a broadening of the tax base, the effective tax rate is estimated to only decrease by around 4 percentage points (Figure 2.3). However, such estimates are rather uncertain as they depend on a number of assumptions and there are two studies with a higher number.[12] The cross-country estimates shown in Figure 2.3 only incorporate statutory tax rates and capital depreciation allowances and thus do not reflect the more detailed base-widening measures that target companies of different size in different ways. According to calculations by the ZEW research institute, the effective tax burden for the typical German company over a ten-year period declines by 8½ percentage points.[13] This is because the representative company in the ZEW calculations is too small to be fully affected by the main financing measures like the interest barrier, the change to linear depreciation and the add-back rules. Including the smaller companies in the base-widening measures would have made the reform cheaper and/or would have allowed for a larger cut in statutory rates.[14] This implicit subsidy by granting generous allowances benefitting in particular SMEs could have negative incentive effects for firms to grow above a certain size.

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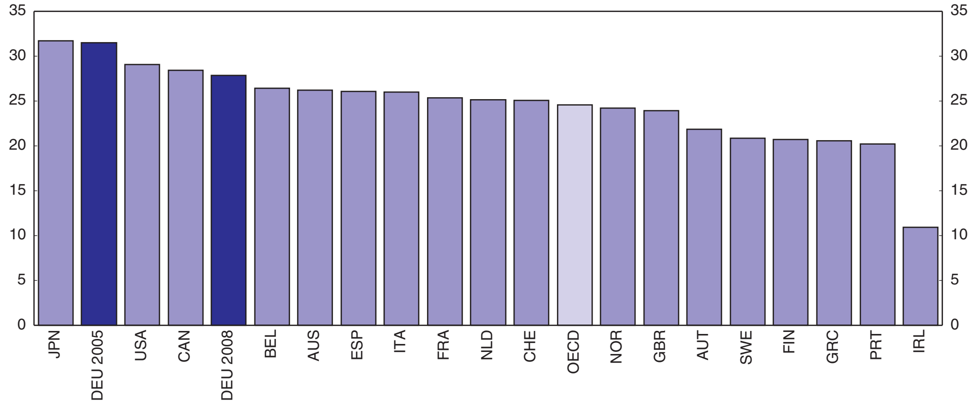
Figure 2.3. **Effective average tax rates, 2005**

Per cent



StatLink http://dx.doi.org/10.1787/280266463231

Note: Effective average tax rates are defined as the difference between the net present value (NPV) of economic rent in the absence and presence of tax relative to the NPV of pre-tax total income. The calculation refers to the base case scenario as in Devereux and Griffith (2003) where investment in plant and machinery are financed by equity or retained earnings and taxation at shareholder level is not included. The rate of economic rent is 10% (*i.e.* financial return: 20%), the real discount rate is 10%, the inflation rate is 3.5% and the true depreciation rate is 12.25%. To compute the present discount value of the depreciation allowance for Germany 2008, a lifetime of the asset of five years was assumed.

Source: Institute for Fiscal Studies and OECD calculations.

Empirical studies suggest that changes in effective as well as statutory tax rates have significant effects on location decisions and inward FDI. In a survey of 25 studies, De Mooij and Ederveen (2003) find a median semi-elasticity of inward FDI of –3.3% to a one percentage point change in either effective or statutory tax rates.[15] Taking the roughly 4 percentage point reduction in the effective average German tax rate after the reform yields an increase in FDI of around 13%. Becker *et al.* (2006) find a semi-elasticity of inward FDI of –1 suggesting an expansion of investments in Germany by around 4%.[16] While these estimates indeed point to significant positive effects on FDI, the danger is that the reduction in effective rates is concentrated on companies of small- to medium size, which are not predominantly engaged in FDI.[17] Thus, the effects might turn out to be lower than suggested above. While the government should go further in the direction of cutting statutory corporate tax rates, it should avoid differentiating the base-widening measures by company size.

Shifting more taxation to immobile bases

Notwithstanding the criticism voiced above, the corporate tax reform rightly addresses the issue of tax competition and will improve Germany's position in this respect. However, other countries will follow suit in the hunt for mobile corporate tax bases. Thus, over the longer run Germany would be better advised to shift more of the tax burden to immobile tax bases. The structure of German tax revenues reveals a greater reliance on income taxation (and social security contributions) than on consumption and property taxes when compared to other countries (Table 2.2).

The increase in the VAT rate at the beginning of 2007 and the simultaneous decrease in the contribution rate for the unemployment insurance brought the structure closer to the OECD average. But more could be done to shift the tax burden further away from mobile

Table 2.2. **Structure of tax revenues**

In per cent of total tax revenues

	Germany			OECD		
	1995	2000	2005	1995	2000	2005
Income tax and social security contributions	69	69	68	60	61	61
Personal income tax	28	25	23	27	26	25
Social security contributions	39	39	40	25	25	26
Corporate income tax	3	5	5	8	10	10
Consumption tax	27	27	28	31	30	30
Property tax	3	2	3	6	6	6

Source: OECD Revenue Statistics.

tax bases to immobile ones. One option would be to lower or abolish the local trade tax (as has been argued in previous *Surveys*). In any case this tax on business does not match well the spending needs of local government services (such as education and social welfare), which mostly accrue to individuals (OECD, 2006). To compensate for the lost revenues, increasing property taxation at the municipal level, which is low by international standards, should be considered. For example, the property tax (*Grundsteuer*) could be based on actual prices rather than on the land values determined in 1964 (*Einheitswerte*), as is currently the case. Plans to abolish the inheritance tax should be resisted.

Improve tax collection efficiency

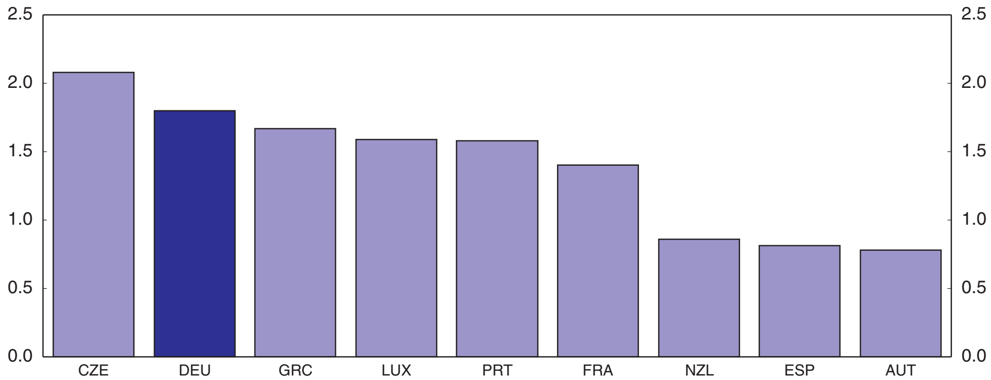
Even though changing the structure of taxation should remain a priority of the government, Germany could also get more revenue out of the current tax system by improving the tax collection system. Compared with other OECD countries, the efficiency of tax administration is somewhat lower than elsewhere (Figure 2.4). One reason might be the complexity of the tax system which results in tax compliance costs for corporations, but also in enforcement costs for tax authorities (as it requires frequent training of tax collectors and is time consuming) (OECD, 2007d; *Bundesrechnungshof*, 2006). As a step towards increasing tax collection efficiency, the introduction of self-assessment of taxpayers would reduce the workload for the tax authorities.

Increase incentives for corporate tax collection for the Länder

The organisational structure of the tax administration might be a further reason for its high costs. Studies suggest that the efficiency costs (declaration costs by the taxpayer and control costs by the tax authority) are particularly high for collecting the corporate tax, amounting to 10½ per cent of tax revenue – higher than for all other German taxes (see Wagner, 2006; RWI, 2003) and more than twice as high as in other countries (OECD, 2007d). Corporate tax revenues are shared between the federal government and the *Länder*, but are collected by the tax authorities of the *Länder* (in the name of the federal government). This might lead to the situation where some *Länder* do not have a strong incentive to maximise corporate tax revenues, for example if they are net payers in the fiscal equalisation scheme (and thus expenses for additional personnel might not be compensated by higher net revenues for them) or if they have an interest to lower the tax burden for their companies (subsidy element) (*Bundesrechnungshof*, 2006). If this is a widespread phenomenon, overall revenue collection suffers. One solution for improving the efficiency of tax collection would be to transfer the tax collection process for corporate taxes to the federal government.

Figure 2.4. **Tax administration efficiency**

Ratio of tax administrative costs to net revenue collection, per cent



StatLink http://dx.doi.org/10.1787/280270247108

Note: Data is the average of ratios for available years 2000-04. For Germany, data is for 2004 and is an estimate based on data from 12 out of 16 states. For all countries in the graph, the revenue base excludes social security contributions and the tax/GDP ratio is fairly similar. Refer to the source for further information on suitable international comparisons.

Source: OECD (2006), *Tax Administration in OECD and Selected non-OECD Countries: Comparative Information Series*, February 2007.

A study commissioned by the Ministry of Finance found significant efficiency gains from moving to a centralised tax collection of shared taxes at the federal level (*Bundesfinanzministerium*, 2007a).

Another option is to reform the fiscal equalisation scheme, as recommended in previous *Surveys* (OECD, 2006). A key weakness of the current scheme is that transfer positions are computed on the basis of actual revenue, which provides disincentives for the states to develop their tax base and administer taxes efficiently as mentioned above. Consideration should be given to replacing the fiscal equalisation scheme by basing the transfer positions on notional revenue, as practised in some other jurisdictions, or by making more use of lump sum transfers over a multi-annual period.[18]

Review the application of reduced VAT rates

Another area where tax collection could be improved is the application of the VAT. Despite the hike in the regular VAT rate to 19% at the beginning of 2007, there are still many products where a reduced rate (7%) is charged. Around 16% of the VAT tax base is benefitting from the reduced rate, and the tax expenditure resulting from applying the reduced rate could amount to almost € 20 billion in 2007 (0.8% of GDP).[19] The differentiation between the regular and the reduced rate is often arbitrary and often amounts to an implicit subsidy. The government should review the current application of the reduced rate and consider raising the VAT rate to the regular level for products for which a reduction is no longer justified, which would thereby allow for reductions in more distortive taxes.

Box 2.2. **Recommendations on fiscal policy**

Fiscal rules

- Implement a reform of the current fiscal rule oriented at the Stability and Growth Pact (which could include putting it in the constitution), possibly supplemented with multi-year expenditure ceilings.
- 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 equalisation scheme.

Corporate tax reform

- Go further in the direction of cutting statutory corporate tax rates and avoid differentiation of base-broadening measures by company size.
- Consider lowering or abolishing the local trade tax and raising property taxation (base property tax [*Grundsteuer*] on the basis of actual prices rather than on land values determined in 1964 [*Einheitswerte*]). Do not abolish the inheritance tax.

Tax collection efficiency

- Consider the introduction of self-assessment of taxpayers which would reduce the workload in tax authorities.
- The government should review the current application of the reduced VAT rate and consider raising the VAT rate to the regular level for products for which a reduction is no longer justified.
- Consider centralising corporate tax collection at the federal level to circumvent a potential loss of revenue induced by the lack of incentive for states to levy the tax.
- Reform the fiscal equalisation scheme so that transfer positions are computed on the basis of notional rather than actual tax revenue.

Notes

1. While a significant budget surplus was achieved in the year 2000, this was mainly reflecting the one-off revenues from the sale of mobile telephone licenses.
2. The Stability and Growth Pact imposes medium-term budgetary objectives to achieve and maintain a status close to balance or in surplus (in practice seen as a cyclically-adjusted deficit of 0.5% of GDP) as well as a ceiling on fiscal deficits at 3% of GDP.
3. Article 109 of the Basic Law states the independence of the German federal states' budgetary policy. However, in a historical ruling in 1992 the Federal Constitutional Court decided that two *Länder* (Bremen and Saarland) were in a situation of "extreme budgetary distress" which would justify bail-out transfers by the central government on the basis of the loyalty principle. This had implications for the risk perception in the German sub-national bond market. Heppke-Falk and Wolff (2007) show that financial markets price in a smaller default risk for bonds issued by the *Länder* if their financial position (measured by the interest payments-to-revenue ratio) deteriorates significantly. They explain their finding with the market's expectation of a bail-out in terms of additional financial aid by the central government (investor moral hazard).
4. According to Bach and Dwenger (2007), taxes on profits by corporations and non-corporations amounted to 2.2% and 2.7% of GDP in 2001 and 2005, respectively. Divided by the average statutory corporate tax rates yields a taxable income of 6.1% of GDP on average. While this is higher than the 3.5% of GDP based on corporate tax receipts between 2002 and 2005 alone, it is still significantly below the unweighted OECD average of 11.3% of GDP.

5. This can be seen by comparing national accounts profits with profits in the tax statistics. According to Bach and Dwenger (2007), the difference amounts to € 100 billion (5% of GDP).
6. See *OECD Tax Database* 2006; *www.oecd.org/ctp/taxdatabase*.
7. But even if multipliers remain unchanged, the weight of the local trade tax in the overall tax burden increases from 43.1% to 47%, thus potentially increasing the importance of location choice within Germany (Spengel *et al.*, 2007).
8. Looking at German multinationals and their foreign affiliates, Weichenrieder (2007) shows that a 10 percentage point increase in the parent's home country tax rate is associated with around half a percentage point rise in the profitability of the foreign affiliate. This is indicative of profit shifting.
9. The Finance Ministry expects additional corporate tax revenues of € 2 billion which corresponds to a tax base broadening of € 13 billion (using a tax rate of 15%). Under the tax base assumption of € 146 billion this corresponds to a 9% increase. Compared with a lowering of the tax rate of 23% (from 38.7% to 29.8%) this equals an elasticity of tax revenues to the tax rate change of –0.4 (Bach *et al.*, 2007).
10. By aiming at net interest expenditure, banks are not hit by the interest barrier. Also, for them the add-back of finance-related expenditures in the local trade tax does not apply.
11. The effective marginal tax rate (EMTR) reflects the percentage difference between the cost of capital of an investment and the post-tax real rate of return and thus is equal to the share of the return on a marginal investment that is cut by taxation. The effective average tax rate (EATR), in contrast, equals the percentage reduction of the net present value of a profitable, inframarginal investment (Overesch, 2005).
12. This estimate is based on OECD calculations using the approach and historical data from the Institute for Fiscal Studies (Devereux and Griffith, 2003). These calculations refer to the effective taxation at the company level and do not take into account the taxation of capital income at the domestic investor level as the marginal investor is assumed to be a pension fund or another institutional investor for whom the domestic taxation is not a relevant factor. Using a similar approach but allowing for different asset classes and financing options, Berrer *et al.* (2007) and Kremer and Ruf (2008) estimate that the average effective tax rate in Germany will decline by 7½ percentage points as a result of the corporate tax reform.
13. The calculations by the ZEW are based on their European Tax Analyzer and measure the tax-induced change in a company's assets after ten periods (thereby taking account of the interest effects of a change in tax payments). The model company is a medium-sized manufacturing sector enterprise with typical balance sheet relations and profit situation (based on the Bundesbank's balance sheet statistics) (Spengel *et al.*, 2007).
14. Heinemann and Janeba (2007) find that the weight German parliamentarians attach to the importance of profit-shifting differs significantly by party membership which helps to explain the compromise between lowering statutory rates and exempting some companies from base-widening measures.
15. Hajkova *et al.* (2006) estimate the semi-elasticity of the stock of FDI with respect to a one-percentage point change in the EATR to be in the range of 3.5 to 5.5%.
16. According to Buettner and Ruf (2007), a decrease in statutory tax rates by 10 percentage points significantly raises the odds of an investment in Germany by around 25%. According to their study, hourly labour costs would have to fall by € 1.40 to achieve a similar effect on investment. However, it is important to keep in mind that corporate tax rates as a tool for attracting FDI is often overestimated. Hajkova *et al.* (2006) show that a far larger share of cross-country FDI flows is related to policy variables like labour market arrangements (EPL, tax wedge) product market regulation.
17. The average size of inward FDI flows by foreign corporations (excluding banking and finance sector) in 2003 was around € 50 million (the size is € 70 million if the immediate investor is a foreign-owned intermediate company located in Germany – Weichenrieder, 2007).
18. This would entail designing transfers for each state so as to fill part of the gap between the states' differential per capita tax revenues for a base year, without adjustment to reflect the actual growth performance of revenues over the chosen period.
19. Total revenue from the VAT in 2007 is estimated to amount to € 172.6 billion, of which € 11.22 billion are coming from the reduced rate of 7% (*Bundesfinanzministerium*, 2007b). Discounting these revenues with the respective VAT tax rates (€ 11.22 billion/0.07) and (€ 172.6 billion-€ 11.22 billion)/0.19 yields an overall VAT tax base of € 1 009.66 billion. Taxing the

tax base for which the reduced rate applies (€ 11.22 billion/0.07 = € 160.29 billion) at 19%, instead of 7%, would yield revenues of € 30.4 billion, *i.e.* bring in additional revenues of € 19.18 billion compared with the *status quo*, or somewhat less taking into account somewhat decreased demand for these goods following higher taxation.

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ANNEX 2.A1

The main corporate tax reform measures in detail

The corporation tax rate was reduced in January 2008 from 25% to 15% and the basic rate of the local business tax (*Gewerbesteuermesszahl*) was cut from 5% to 3.5%. In addition, non-incorporated companies benefit from an increase in the multiple of the local business tax base (from 1.8 to 3.8) that can be deducted from the income tax liability incurred on business earnings (which effectively means that the local business tax burden will be neutralised up to a municipal multiplier of 380%). Also, those companies will have the option of taxing retained earnings with a flat rate of 28.25% (to avoid a disadvantage as they do not benefit from the cut in the corporate tax rate). At the investor level, private capital income will be subject to a 25% withholding tax (26.4% including solidarity surcharge) from 2009 onwards (previously, 50% of dividend income as well as full interest income were subject to the personal income tax rate), including capital gains which previously were tax free after a one year holding period (for shares). Individuals with an income tax rate below 25% have to pay the withholding tax first but can chose to add it to their tax declaration later on (paying the lower income tax). These reform measures are estimated to cost € 30.6 billion.

The net costs of the reform are estimated to amount to € 5 billion yearly and this is achieved by both assuming a certain self-financing element (more earnings expected to be declared in Germany due to the lower statutory rate) and by introducing a range of base-widening measures. The most important of these are (financing contribution in brackets):

- The deductibility of the local business tax from its own base as well as from the corporate tax base is abolished (€ +11.4 billion).
- The 30% declining-balance depreciation will be abolished and replaced by linear depreciation (€ +3.4 billion).
- Tightening of shell purchase rules, limiting the carrying forward of losses in case of a company sale* (€ +1.5 billion).
- Restrictions in relation to securities lending (expenses for securities lending will no longer be tax deductible; this prevents corporations from borrowing securities from banks, pocketing 95% of the dividend tax-free (as this is the legal basis for equity

* As risk capital provision can be expected to be negatively affected by the tightening of shell company purchase rules (as losses cannot be carried forward) a further law (*MoRaKG – Gesetz zur Modernisierung der Rahmenbedingungen für Kapitalbeteiligungen*) is in the legislative process exempting Private Equity firms that hold their investment for a minimum of 4 years from this measure.

holdings of companies) and deducting the borrowing costs from the tax base) (€ +1.2 billion).

Measures that are aimed at countering debt-driven, cross-border profit shifting:

- An "interest barrier" will be implemented, restricting the deduction of interest expenses for group enterprises. This replaces the previous ruling on shareholder debt financing (section 8a of the German Corporation Tax Law) and widens it by including all external debt financing (not only financing provided internally by shareholders). The restriction applies if (net) interest expenditure is larger than 30% of EBITDA or exceeds € 1 million (assuming an interest rate of 5%, this is equal to € 20 million debt). In these cases, the amount of interest deducted cannot exceed 30% of EBITDA and the remainder may be carried forward without time restrictions. An escape-clause regulates that this barrier does not apply to group enterprises whose equity capital base is at most 1% below that of the group as a whole (€ +1.5 billion).
- The tax base for the local business tax will include all interest expenses (and a certain share of comparable financing expenses such as rents, leasing payments and royalties) at a rate of 25%. There will, however, be an allowance of € 100 000. Previously, only 50% of interest on permanent debt as well as some other financing expenses were included (€ +1.0 billion).
- Ensuring taxation in the case of "transfer of functions" abroad, for which expenses have been made at home (*e.g.* R&D results that will be marketed abroad – € +1.7 billion).

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Chapter 3

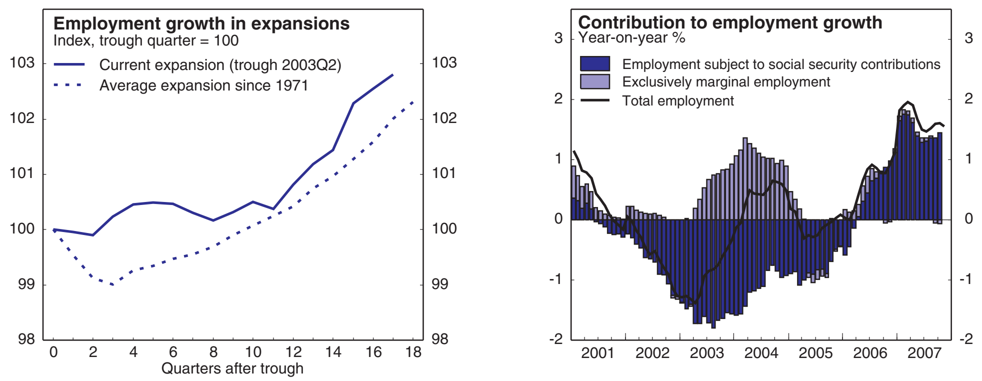
Maintaining the reform drive to make labour market improvements more lasting

Labour market outcomes are improving rapidly in the current upswing, also reflecting previous reform efforts. To make those improvements more lasting, but also to widen the positive effects, further reform efforts should focus on: i) raising the number of hours worked per person employed; ii) reducing the high share of long-term unemployed; and iii) further increasing employment rates of older workers. These challenges require new reform efforts in some areas, such as reducing barriers to taking up work for second-earners and reforming employment protection legislation for regular work contracts. In other areas it should be ensured that past reforms are not rolled back and that the reform drive is maintained. This relates above all to past increases in work incentives for the long-term unemployed and measures to phase out early retirement options for older workers. Also, potential negative employment effects associated with the introduction of minimum wages should be minimised.

Labour market performance has been impressive…

In tandem with the strong cyclical upswing of the economy, labour market performance has improved markedly. Employment creation has been stronger than in previous expansions and is increasingly driven by jobs liable for social security contributions rather than by marginal employment (Figure 3.1). Unemployment has fallen to multi-year lows and is also increasingly bringing the long-term unemployed into work, although on a smaller scale than short-term unemployed. The average number of short-term unemployed in 2007 was almost 30% lower than in 2005, while the number of long-term unemployed (over 12 months) has declined by 13% over the same period. Past labour market reforms are likely to have contributed to this decline in unemployment by increasing incentives to take up work. At the same time, this decline is not yet associated with a visible fall in vacancy rates, suggesting that most of the development is cyclical. However, it still remains too early to firmly distinguish cyclical from structural effects, not only because of the short time span, but also due to the available labour market data, which have been affected by past methodological changes, revisions and the impact of labour market reforms (Box 3.1).

Figure 3.1. **Employment creation has been strong**



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Note: The average expansion since 1971 includes expansions that started in 1975 Q2, 1982 Q3, 1993 Q1 (see Deutsche Bundesbank, Monthly Bulletin September 2007 for the timing of business cycle troughs).

Source: Federal Statistical Office, National Accounts; Deutsche Bundesbank; and the Federal Labour Office.

Box 3.1. **German labour market statistics – A layman's guide**

While the Labour Force Survey is the primary data source for labour market statistics in most OECD countries, in Germany the data based on the registers provided by the Federal Labour Office also play an important role.

For **employment** data the source generally used is the Employment Accounts which are anchored in the system of National Accounts. Employed persons for the national accounts statistics are published monthly following the ILO norms. Both the domestic and the resident concept of employment are published (but only the domestic concept is used in the national accounts). The collection is based on 48 different official and external sources (among them the microcensus household survey, public sector employment statistics, sample surveys for certain sectors, labour office statistics, etc.). This source is also preferred by Eurostat as it has been shown that using only the labour force survey tends to underestimate minor jobs or marginal employment. More details on different types of employment are provided by the Federal Labour Office data on social security paying employment, marginal employment and other forms of employment (*Kurzarbeiter*), based on social security reports of employers.

For **unemployment** data, the two main sources are the Labour Force Survey (LFS) (used to calculate the internationally comparable unemployment rate according to ILO norms) and the Federal Labour Office registers (published on a more timely basis than the LFS data). Both sources differ significantly in terms of the unemployment definition (Table 3.1).

Table 3.1. **Definition of unemployment**

ILO definition	Federal Labour Office definition
Any person at working age is considered unemployed if he/she does not work (or works **less than one hour per week**), was actively looking for work during the last four weeks and could take up new work within two weeks.	Any person is considered unemployed if he/she is **registered** with an employment agency or a local institution, does not work (or works **less than 15 hours per week**) and is looking for an employment of at least 15 hours per week.

Labour Force Survey

The Labour Force Survey is used to construct unemployment rates according to the ILO norm. The survey is part of the microcensus – a household survey conducted since 1957 (in the new *Länder* since 1991) – and besides employment information, includes deeper information about living standards, education, etc.[1] Until 2005, the survey was conducted on an annual basis during a fixed reference week in the spring. To calculate the monthly ILO-conforming unemployment rates, Eurostat used to use the annual microcensus results in combination with monthly information from the registered unemployed. In order to improve European harmonisation, the German Federal Statistical Office switched from an annual frequency to a continuous survey with a sliding reference week in 2005 (the survey is spread evenly across the year). However, due to the simultaneous implementation of the Hartz IV labour market reforms, which was expected to have a significant influence on the number of registered unemployed, the assumption of a sufficiently stable relationship between the registers and the unemployed according to the LFS was no longer assured. Under those circumstances, it was agreed to base data collection for a fixed period on a telephone survey (from January 2005 until April 2007). During this time work was ongoing to make the continuous LFS suitable for producing monthly unemployment figures. Since October 2007, the telephone survey has been replaced by the continuous microcensus Labour Force Survey, which has resulted in a significant upward revision of historical data (only seasonally adjusted unemployment data are available for a longer time span). As the questionnaire of the two surveys is largely similar,

Box 3.1. **German labour market statistics – A layman's guide** *(cont.)*

the underlying causes for the disparate results – which are still analysed by the Federal Statistical Office – may be due to big differences in the methodology and field work.[2]

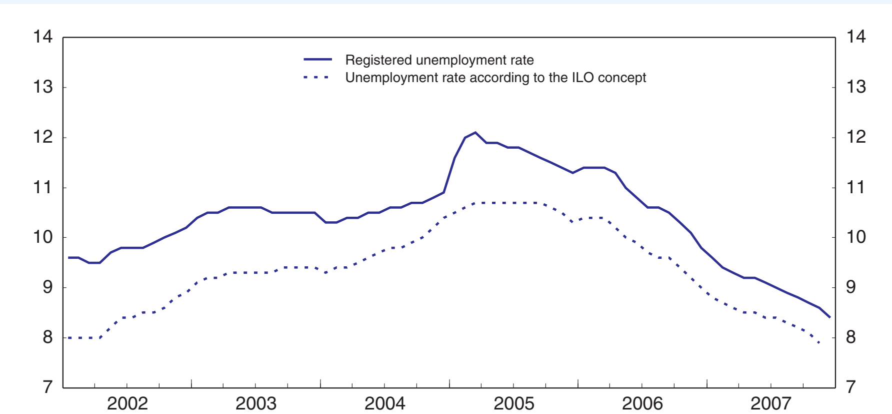
Registered unemployment (Federal Labour Office)

The Federal Labour office publishes monthly data on the unemployed based on their registers. The denominator of the unemployment rate is a measure of the civilian labour force, which differs from the national accounts employment measure.[3] As a result of their differing definition of unemployment as well as employment, the Federal Labour Office unemployment rate tends to be somewhat higher than the LFS based measure (although the difference has become substantially smaller following the upward revision of the LFS measure in October 2007) (Figure 3.2). The strong increase in the number of registered unemployed in January 2005 is related to the Hartz IV labour market reforms, as previous recipients of social assistance capable of work had to register as unemployed in order to receive the newly introduced unemployment benefit II.

The Federal Labour Office also publishes data on vacancies on a monthly basis based on their registers. However, as only around one third of all vacancies are reported to the labour office, its use as an indicator of labour shortages in the economy is fairly limited. A wider measure of vacancies is gathered by the IAB institute in their quarterly survey among companies.

Figure 3.2. **Unemployment rates**

Per cent



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Source: Deutsche Bundesbank and German Federal Statistics Office.

1. The sample size is around 1% of the population, *i.e.* around 830 000 persons in 380 000 households. Its regular frequency makes the microcensus useful for bridging the gap between two population censuses (the last census for Germany was conducted only in 1987 the next is scheduled for 2011).
2. In contrast to the telephone survey, participation in the microcensus is compulsory. The non-response rate in the Labour Force Survey is approximately 5%, compared to more than 50% initial non-response (and a further 10% non-response each time persons are re-interviews) in the telephone survey. In addition, interviews by the Labour Force Survey are mostly collected by direct visits and personal face-to-face interviews (in contrast to the supervised telephone interviewing in the telephone survey). This may well have an effect on the responses, for example the extent to which marginal employment is registered. Many persons in marginal employment might find themselves – subjectively or objectively – within the grey area surrounding illicit work. Any fears that the respondents may have about the use of their data may lead them to conceal such activities in a face-to-face interview. The proxy interviews (one household member may supply information on other household members), which are permitted in the microcensus, may be another source of errors. Finally, although questions regarding the employment status are similar in both surveys, there are differences with regard to the questions on job search to be answered by the non-employed. See Eurostat background document "Revision of the monthly harmonised unemployment figures for Germany" for further information.
3. Determined on the basis of firm's reporting to the social security registers and other sources, comprising employees liable for social security, apprentices, marginal employment, civil servants (without soldiers), self-employed and registered unemployed.

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… but challenges remain

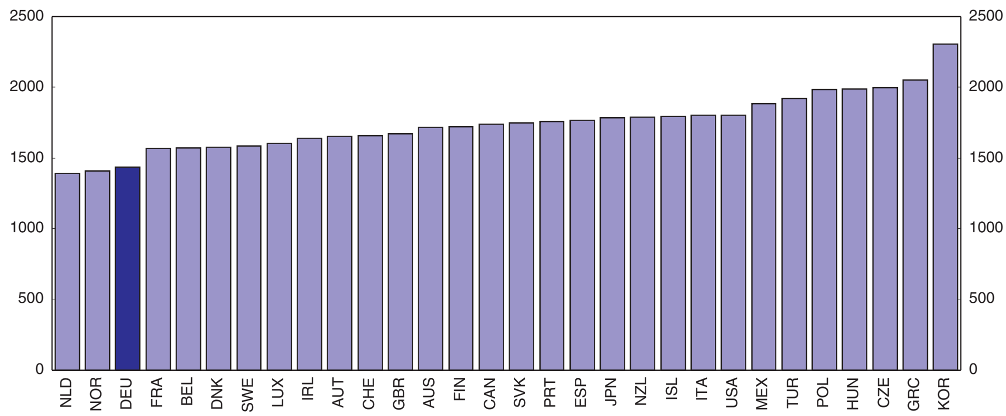
Notwithstanding the buoyant situation on the labour market, remaining structural problems should not be overlooked. In fact, the current upswing demonstrates the benefits of past reforms, such as higher employment rates for older workers, and presents a golden opportunity to go further in implementing reforms to improve labour market performance over the long run. Three reform areas stand out:

1. The number of hours worked per person employed is among the lowest in the OECD, with the main factor being the high share of second-earners working part-time with very few hours.
2. The share of long-term unemployed in total unemployment is high by international comparison.
3. Employment rates of older workers remain below other countries, despite recent increases.

The number of hours worked per person employed is low

Among OECD countries, Germany stands out as having a very low number of hours worked. At around 1 430 average annual hours worked per person employed, performance in 2006 was around 17% below the OECD average and around 30% below those OECD countries with the highest number of hours worked. While this comparison is based on national accounts data, which are not necessarily comparable across countries, the overall cross-country pattern does not change much if different data sources are used.[1] Also, while there has been a trend towards shorter working hours across OECD countries, the decline has been somewhat stronger in Germany.

Figure 3.3. **Average annual hours worked per person in employment**



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Note: Data refer to total employment for 2006 or 2005 and are from national accounts, or where these are not available, labour force survey sources.

Source: OECD, *Hours Worked Database*.

Most of the divergence in hours worked relative to other countries relates to Germany's share of part-time employees (in % of total employees) which is above the OECD average. In particular, part-time employees work fewer hours than in any other OECD country (OECD, 2008). In fact, the share of employees working up to 19 hours per week amounts to 12.5% – close to twice the average OECD share. The difference is accounted for almost exclusively by female workers (22% of all female workers work up to 19 hours – compared with 11% in the OECD). In particular, the average working hours of employed married and single mothers as well as childless married women deviate significantly from the OECD average. In contrast, working hours of single childless women are around the OECD average (Table 3.2).

Table 3.2. **Usual weekly working hours by marital status and existence of children**

Per person employed, 2005

	Men				Women			
	Married		Single		Married		Single	
	Children	No children	Children	No children	Children	No children	Children	No children
Germany	41.88	40.28	37.55	39.22	24.3	30.59	29.8	35.12
OECD	43.09	41.78	36.24	39.77	32.99	35.51	32.27	36.02
W-Europe	42.4	41.1	37.59	39.97	29.9	32.52	30.45	35.55

Source: OECD (2008), *Labour Force Surveys*.

While societal preferences might be one factor behind this outcome, empirical research points to the importance of policies (Jaumotte, 2003; OECD, 2008). The available evidence suggests two potential policy areas: first, the status of marriage matters, which points to a fiscal disincentive for second-earners; second, having a child matters for the working time decision (for example, whether to move from part-time to full-time work), suggesting that childcare (or the lack thereof) may be a problem. Moreover, having children also matters for the fundamental decision of whether to take up work at all, as comparative statistics of employment rates demonstrate. While overall female labour force participation in Germany compares favourably with other countries, there is a significant gap between mothers and childless women (Table 3.3). This becomes even more pronounced for women with two or more children.

Table 3.3. **Maternal employment rates**

Mothers' employment rates by age of youngest child, in 2005, as a percentage of 15-64 persons

	Age of youngest child		
	Under 2	3 to 5	6 to 16
Germany	36.1	54.8	62.7
Sweden	71.9	81.3	76.1
France	53.7	63.8	61.7
Austria	60.5	62.4	67.5
United States	54.2	62.8	73.2
EU19	51.1	58.2	63.2
OECD	**51.9**	**61.3**	**66.3**

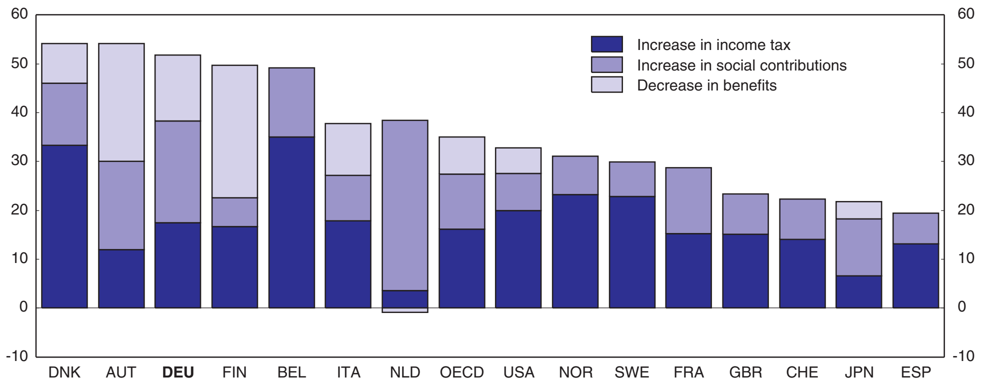
Source: OECD (2007), *Babies and Bosses: Reconciling Work and Family Life*.

Reducing fiscal disincentives for second-earners

One of the main findings of the literature on the impact of taxation on labour supply is that women are more responsive in their work decision to economic conditions than men. This holds for both the employment decision (higher taxation tends to reduce employment rates, Bassanini and Duval, 2006) as well as the decision of employed persons on how many hours to work (OECD, 2008). In Germany, the effective tax burden – *i.e.* taking into account taxes, social security contributions and the withdrawal of cash benefits – on second earners (most often women), relative to first earners or single persons is particularly high (Figure 3.4). Consequently, marginal employment (*Minijobs*), which is exempted from employees' social security contributions up to € 400 (*Geringfügigkeitsgrenze*), is predominantly taken up by women.[2] If the income rises above the threshold, an individual health insurance is obligatory.

Figure 3.4. **Second earners moving into low-wage jobs: The role of taxes and benefits**

Increase in effective tax burden on family, % of gross earnings in new job



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Note: The increase in effective tax burden is equal to the share of additional income that goes into paying increased household taxes when a previously inactive spouse takes up a job. It is assumed above that the active spouse earns 100% of Average Production Worker earnings (APW), that the second-earner moves from inactivity to earning 67% of APW and that the couple has two children. The effective tax rate on a second earner is thus equal to the difference between the tax due by a "(100% + 67%)*APW" household and a "(100% + 0%)*APW" household, as a ratio to the second earner's income (67% of APW). The tax rates include employee social security contributions and are net of universal cash benefits. They do not include employer social security contributions, indirect taxes, nor means-tested benefits (except child benefits that vary with income).

Source: OECD (2007), *OECD Benefits and Wages 2007*.

A specific factor at play in the German case is the system of joint taxation (*Ehegattensplitting*) whereby the income tax of a married couple is calculated by first applying the tax function to half the sum of the spouses' income and then doubling the resulting tax amount. Thus, for married couples the income tax amount (on a given household income) is always the same, regardless of how the income is split between the two. This system results in a "splitting advantage", equal to the difference in income tax payments compared with a non-married couple, which depends on the income distribution between husband and wife.[3] The maximum tax advantage of joint taxation (with only one earner) is reached at a yearly household income of € 104 304 and adds up to € 7 914 (referring to year 2006; Sachverständigenrat, 2007). The more the second-earner contributes to household income, the smaller is the gain from joint taxation *vis-à-vis* a non-married couple. In other words, the second-earner's income has to offset the decrease in the splitting advantage before contributing to family net income. The marginal tax rate on second-earners thus is higher than for singles or in a system that taxes the individual and there is no fiscal incentive to distribute work more evenly among spouses.

Moving instead to individual taxation of spouses, as is the case in the majority of OECD countries (OECD, 2005), would significantly increase the additional household income when the second-earner takes up work (Table 3.4). While the initial level of net household income would be lower due to the absence of the splitting advantage, such a change would result in substantial labour supply effects: Steiner and Wrohlich (2004) estimate that the female participation rate would increase by around 4¾ percentage points and the total number of hours worked by women would rise by 11½ per cent.[4]

Table 3.4. **Average household income effects of reforming joint taxation**

Mother	Joint taxation		Individual taxation	
	Average Income in €	Increase in %	Average Income in €	Increase in %
Non-participation	33.487		30.388	
Part-time work	38.100	+13.78	36.980	+21.69
Full-time work	38.819	+1.89	38.179	+3.24

Note: Based on a policy simulation using data from the 2004 Socio-Economic Panel for Germany.
Source: Dearing *et al.* (2007), "Why are Mothers Working Longer Hours in Austria than in Germany? A Comparative Micro Simulation Analysis", *DIW Discussion Paper* No. 695.

Taxing persons on a purely individual basis, however, might well run into constitutional difficulties in Germany.[5] Instead, a system of individual taxation combined with the option to transfer the personal tax allowance from the non-working partner to the working spouse could be introduced which would also satisfy the constitutional court ruling (Spangenberg, 2005). This would help to alleviate some of the disincentives of the current system, but would also reduce the tax advantage granted to married couples, in particular for higher incomes (by removing the advantage in connection with the flattening of the progression). The additional tax revenues are estimated to amount to around € 25 billion (Sachverständigenrat, 2007).[6]

In addition to financial disincentives to take up work, the joint taxation system exerts a negative psychological effect for the second-earner at the time of the monthly tax collection: as even at low incomes the higher tax rate resulting from joint taxation is applied when income tax is deducted monthly, the payslip of the second-earner may show only a small net income (as the splitting advantage usually is shifted to the payslip of the earner with the higher net income).[7] This burden is only corrected at the time the annual tax declaration is done. From 2009 onwards the government plans to introduce a reform of this system which will distribute the entire allowances on the basis of the respective shares in overall income (*Anteilsverfahren*) and will reduce the marginal tax burden to be paid monthly for the second-earner. As this reform will not change the yearly tax amount paid by the household, it will not reduce the financial disincentives of the current system. However, as unemployment benefits are linked to the person's last net income, this reform would help to eliminate the potential disadvantages for second-earners in case they become unemployed.

In addition to the financial disincentives stemming from the joint taxation system, the free health insurance coverage for non-working spouses induces a further obstacle to take up work. The need for an own insurance in case where the previously non-working spouse takes up work implies a high effective marginal taxation at the threshold where liability for social insurance starts; this is of the same magnitude as the disincentive coming from

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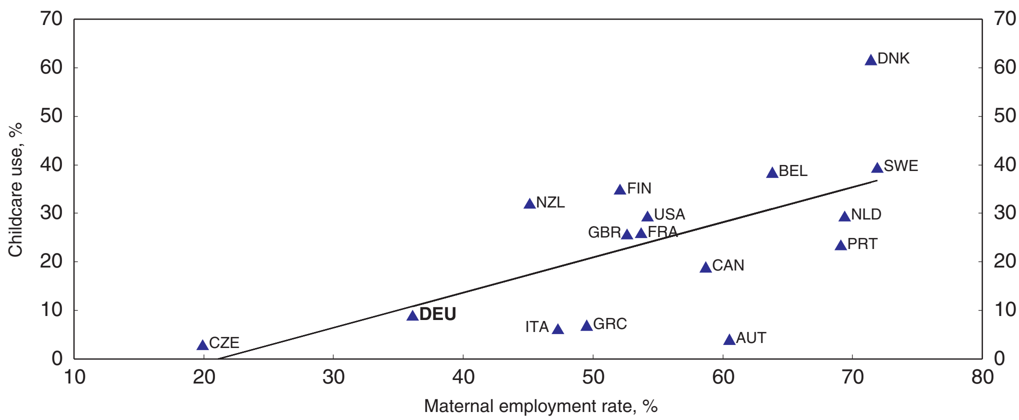
income taxation (Figure 3.4). The government should therefore consider abolishing free health insurance coverage for non-working spouses within a reform of the healthcare financing system which assures adequate access to healthcare (Chapter 6).

Improving the supply of childcare

Apart from financial disincentives for married second-earners, the labour supply for mothers in particular is low. One positive step has been taken through the parental leave benefit reform implemented in 2007 which is likely to have positive incentive effects on female labour participation and working hours after the child's first year of life (Spiess and Wrohlich, 2006).[8] However, a crucial hurdle for an expansion of labour supply of mothers remains the lack of childcare: among OECD countries, fewer German mothers with small children work and a substantially smaller share of young children are in childcare facilities (Figure 3.5).

Figure 3.5. **Employment of mothers and childcare use**



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Note: The maternal employment rate is mothers with a youngest child under 3 years old and who are employed, as a percentage of persons aged 15-64. Childcare use is children in registered care as a percentage of children aged 0 to 2 years. Data refer 2005 or latest available year.

Source: OECD (2007), *Benefits and Wages* and *Society at a Glance: OECD Social Indicators,* 2006 edition.

The childcare situation for children up to three years is characterized by an excess demand for subsidised slots. However, the overall use of childcare facilities in Germany masks significant differences across the *Länder*: while the attendance rate in the West is 10%, it reaches close to 41% in the Eastern *Länder*.[9] Empirical estimates suggest that there is a considerable lack of childcare facilities: For working mothers with small children, around 250 000 places are missing; if mothers who would like to work as well as mothers with marginal employment are included in the estimates, a further 160 000 places would be needed (Wrohlich, 2005).[10] The government plans to increase the number of childcare places (mostly institutionalized, but also daycare) by 465 000 by 2013, which would result in a coverage ratio of 35%, in line with the 33% target formulated at the EU Summit in Barcelona 2002.

Currently, childcare centres in Germany are overwhelmingly publicly provided, highly regulated and highly subsidised. Overall childcare costs (taking into account fees charged by childcare centres, childcare benefits and tax reductions) are only about half as high as the OECD average (OECD, 2007).[11] However, spending on childcare is not targeted in a way that would be most supportive of maternal employment. While overall public expenditures on family benefits (cash, services and tax breaks) are higher than in the average OECD country, almost no other OECD country spends as little on childcare services (crèches, day care centres and family day care for children under 3) as Germany (Table 3.5). Policy simulations show that an increase in public spending on childcare has a larger effect on maternal employment than higher child benefits or a reduction in childcare fees (Jaumotte, 2003, Wrohlich, 2006). Shifting some of the expenditures such as family tax breaks (the highest among OECD countries) towards more targeted support for creating childcare supply would thus remove a major constraint for female labour participation.

Table 3.5. **Public spending on family benefits and childcare (in % of GDP)**

	Tax breaks towards families	Cash	Services	Total	*of which*: childcare support
Germany	1.0	1.2	0.77	3.0	0.04
OECD average	0.2	1.3	0.9	2.4	0.31

Note: Public support accounted here only concerns public support that is exclusively for families (*e.g.* child payments and allowances, parental leave benefits and childcare support). Tax breaks do not include support for married couples such as joint taxation. Spending recorded in other social policy areas such as health and housing support also assists families, but not exclusively, and is not included here. Public expenditure on childcare includes all public financial support (in cash, in-kind or through the tax system) for families with children participating in formal day-care services (crèches, day care centres and family day care for children under three).
Source: OECD Social Expenditure Database.

The government's plan to increase childcare supply (and to introduce a legal claim for a childcare place for all children aged one to three by 2013) should thus be implemented quickly. An effective approach would be to replace regulated fees with a combination of market prices and a switch towards a voucher system for childcare. Families with children could use the vouchers to pay for a childcare slot of their choice, either public or private. Such a system would also guarantee that only those families in need of childcare are supported rather than those leaving their children at home. Potential negative consequences of providing cash payments to parents (for example in the form of *Betreuungsgeld*, as discussed currently) if they choose to leave their children at home rather than in a childcare facility can be seen in Thuringia where such a system was introduced in 2006: since the implementation, the attendance rate of children in this age group has dropped significantly compared with the situation before.[12] Introducing such a scheme could thus well prove counterproductive.

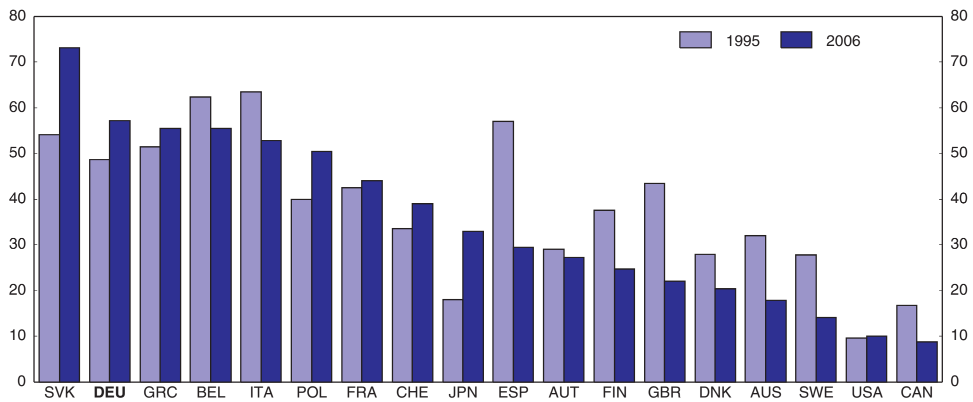
A comprehensive policy solution would tackle the under-provision problem by also removing supply-side barriers for more private facilities. Currently, every facility needs public authorisation and regulations exist regarding qualification of employees, group size or the staff-child ratio (all determined on the *Länder* level). Similar regulations apply for private nannies. While regulations to ensure standards of good quality are important, in particular when parental choice is promoted through a publicly provided voucher system (potentially leading to more variety in types of services and service providers), such regulations may be too strict in Germany. In a survey among 1 100 companies, two-thirds of respondents mentioned reducing bureaucracy for childcare supply at the company level as a necessary measure for a better compatibility of family and work (DIHK, 2007). Reforming regulations for the set-up of childcare facilities to encourage more private supply should be considered.

While the general supply of childcare slots is an important factor for female labour supply decisions, it is not the only one. In this sense, extending opening hours of childcare facilities plays a key role. Furthermore, a strategy targeted at raising maternal employment rates also needs to include mothers with children at school age. This calls for a sufficient supply of all-day schools. Beblo *et al.* (2005) estimate that the current government plans to increase the share of full-day schools to 30% would increase the participation rate of mothers by 1 percentage point and hours worked by 4%.[13]

Long-term unemployment remains high

The current upswing on the labour market is also increasingly affecting the long-term unemployed. However, the number of long-term unemployed as a share of total unemployment remains among the highest in the OECD (Figure 3.6).[14] Both for the individual unemployed as well as for the economy as a whole, long-term unemployment represents particular costs in terms of loss of human capital. Cross-country analysis points to labour market policies such as high and long-lasting unemployment benefits, high tax wedges and strict employment protection legislation as important factors contributing to long-term unemployment (Bassanini and Duval, 2006; OECD, 2006a).

Figure 3.6. **Incidence of long-term unemployment**



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Note: Persons unemployed for one year and over as a percentage of total unemployed.

Source: OECD, *Labour Force Statistics Database*.

Reforms have raised incentives on the labour supply side

The government's labour market reform efforts (the *Hartz* laws) on the labour supply side have to be seen in this light. In particular the last step, the *Hartz IV* reform, was aimed at activating long-term unemployed (Box 3.2). The merger of the former unemployment assistance (granted to former recipients of unemployment benefits who had exhausted their unemployment insurance benefit claim) and the former social assistance (paid to individuals not eligible for the unemployment assistance) to form the so-called unemployment benefit II resulted in lower replacement rates for most individuals.[15] The OECD summary measure of benefit entitlements for Germany has declined by more than in most other member countries between 2003 and 2005. Incentives to take up work were further increased in 2006 through a significant cut in unemployment benefit duration for

Box 3.2. **The *Hartz IV* reform in a nutshell**

The *Hartz IV* reform is part of the broader package of labour market reforms named after the head of the commission, Peter Hartz, that came into effect between 2003 and 2005. The *Hartz I-II* reforms (2003) were aimed at improving the integration of job seekers by creating new opportunities for temporary work, self-employment and employment in households, as well as a new job contract with lower social security contributions. The *Hartz III* reform (2004) was primarily aimed at turning the Federal Employment Agency into a modern service provider. The *Hartz IV* reform introduced in 2005 was focussed primarily on activation by increasing the employment prospects and work incentives for welfare recipients. Led by the concept of "demanding and supporting" (*Fordern und Fördern*) its main change was to reform income support for the longer-term unemployed as well as welfare recipients.

Until 2005, German social insurance had differentiated between former unemployment benefit recipients and individuals who had not worked before or were not eligible for those benefits (Wunsch, 2005). The reform combined unemployment assistance (UA; granted to former recipients of unemployment benefits who had exhausted their unemployment insurance benefit (UB) claim at a lower replacement rate than UB but still in proportion to previous earnings) and social assistance (paid to individuals not eligible for UA) to form the so-called unemployment benefit II (UB II). For a majority of former UA recipients, this reform entailed a cut in benefits. In contrast to the unemployment benefit I (unemployment insurance), which is granted for a period of 12 months (up to 24 months for persons above 50-years of age) and depends on previous earnings, UB II is a means-tested tax financed benefit for employable persons oriented at the legally defined social minimum of households.* The basic benefit level is currently € 347 per month (adjusted for type of household) plus living costs (dependent on household size). Up to a monthly gross income of € 1 200 (€ 1 500 for households with children), benefit withdrawal rates are below 100%.In addition, supporting measures were introduced such as the so-called 1-Euro Jobs (work opportunities whereby UB II recipients have to accept employment in the secondary labour market in return for a supplementary compensation (*Mehraufwandsentschädigung*) while retaining the full UB II benefit) and a number of subsidies, *e.g.* for starting self-employment. Apart from the difference in benefits paid, the reform also made social assistance recipients eligible for the same active labour market policies that previously employed individuals receive (which they were not under the previous regime). Changes from January 2007 include the introduction of significant sanctions in case of non-acceptance of work offers (or other duties) that can, *in extremis*, lead to a complete benefit cut.

* Persons who are not considered employable (defined as someone who, due to illness or a handicap, is not able to work under usual conditions for at least three hours a day) receive an equal benefit amount called *Sozialgeld*, but have no job search obligation.

long-term unemployed older workers although it was recently decided to lengthen the benefit duration again somewhat, while simultaneously intensifying activation of older workers (Figure 3.7).[16]

While it is still too early to firmly identify the effects of those reforms in current labour market data, cross-country empirical evidence suggests that the impact on structural unemployment could be significant (a large part of the cross-country differences in structural (*i.e.* equilibrium) unemployment is due to differences in the incidence of long-term unemployment). Based on estimates for the average OECD country, the impact of the *Hartz IV* reforms through lower average replacement rates could lead to a decline in structural unemployment by around half a percentage point (Table 3.6). This is backed by

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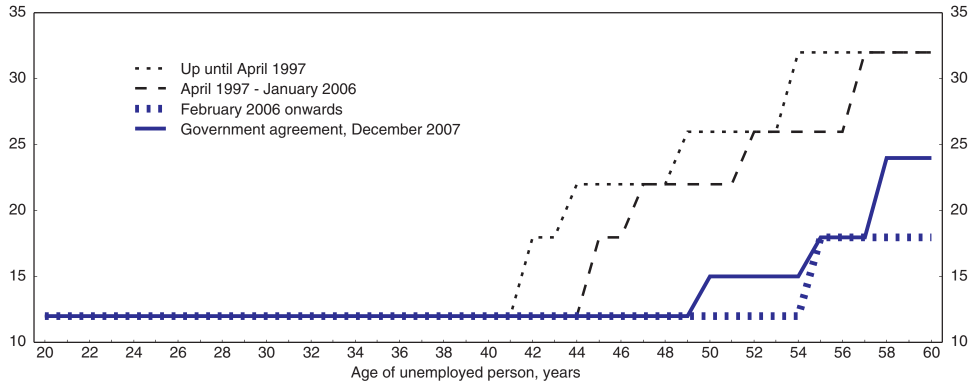
Figure 3.7. **Maximum unemployment benefit entitlement period by age**



StatLink http://dx.doi.org/10.1787/280401521700

Note: The maximum entitlement period is dependent on the number of months worked in the last seven years.

Source: Schmitz, H. and V. Steiner (2007), "Benefit-Entitlement Effects and the Duration of Unemployment: An *Ex-ante* Evaluation of Recent Labour Market Reforms in Germany", *DIW Discussion Paper* No. 678.

Table 3.6. **Likely effects of the *Hartz IV* reform on the labour market**

	Using change in gross replacement rates	Using change in net replacement rates
Structural unemployment rate	–0.58 pp	–0.46 pp
Employment rates of 20-24 year olds	1.16 pp	0.91 pp
… of 25-54 year old men	0.82 pp	0.65 pp
… of 25-54 year old women	1.54 pp	1.22 pp
… of 55-65 year olds	0.92 pp	0.72 pp

Note: Estimates based on Bassanini and Duval (2006) using the marginal effects of the respective baseline equations. Their estimations use gross replacement rates; the above effects for net replacement rates assume that marginal effects are equal for both net and gross rates. The replacement rate measure used (both net and gross) is the OECD summary measure of benefit entitlements which is the average benefit replacement rate across two income situations, three family situations and three different unemployment durations. While the summary measure based on net replacement rates has declined by 4 percentage points between 2001 and 2005, the gross replacement rate measure declined by 5 percentage points between 2003 and 2005.

Source: Bassanini, A. and R. Duval (2006), "Employment Patterns in OECD Countries: Reassessing the Role of Policies and Institutions", *Economics Department Working Papers* No. 486, OECD, Paris and OECD calculations.

evidence from surveys among employers that unemployed job applicants are increasingly accepting concessions in wage negotiations and the number of unsolicited applications had increased since 2005, suggesting that incentives to seek work have increased (Kettner and Rebien, 2007). In addition to the decline in structural unemployment, the reform is likely to lead to significantly higher employment rates.

In addition to the lowering of replacement rates by the *Hartz IV* reform, a reform in October 2005 also reduced unemployment benefit withdrawal rates, which previously had been 100% across a wide band of earned income. Recipients of unemployment benefit II (UB II) who work for less than 15 hours per week can now keep earnings up to € 100 without a decrease in the benefit level. For earnings between € 100 and € 800 the benefit withdrawal rate is 80% and for earnings between € 800 and € 1 200 (€ 1 500 for households with children) it is 90%, meaning that recipients can keep 20% and 10%, respectively, of additional income earned without a respective decrease in the benefit level. This reduction in withdrawal rates has reduced the effective average tax rate (EATR) for someone considering a move into work and reduced the risk of "unemployment traps" (whereby taking up work is financially unattractive). Withdrawal rates now compare more favourably than before with countries that have rather low long-term unemployment, such as Australia or the UK. However, current rules still encourage the take up of Mini-jobs or other part-time jobs rather than full-time jobs.

While lowering withdrawal rates further should be considered in order to encourage longer hours of work, as suggested in the previous *Survey* (OECD, 2006b), the fiscal costs of such a reform need to be taken into account. Several of the proposals put forward by various research institutes are for a significant reduction in withdrawal rates, financed by a reduction in the unemployment benefit II (UB II) level, while at the same time granting work opportunities (workfare) that would allow UB II recipients to retain their previous benefit level (Sinn *et al.*, 2007). When considering such reforms, some important points should be kept in mind. *First*, the UB II level is designed to represent a subsistence level, suggesting that this amount cannot be reduced without letting the recipient fall below the socially agreed living standard.[17] While many proposals base the positive employment impact on the incentive effects of lowering of the benefit level (see *Sachverständigenrat*, 2006), most proposals are aware of this problem and suggest the expansion of work opportunities. *Second*, while expanding the work opportunities would allow UB II recipients to regain their previous benefit level, it would need to be ensured that this does not lead to the creation of a large scale publicly-provided secondary labour market (*i.e.* private employers would need to be engaged in the programme). But such an instrument could generate crowding out effects, and would also reduce the time available for benefit recipients to search for work. This is the main counter-argument against workfare proposals. Empirical studies suggest that movements from secondary to primary labour markets are relatively scarce, above all if the recipient has to work full-time in a secondary job in order to regain the old benefit level. *Third*, without an offsetting effect through benefit reduction, the fiscal costs of reducing withdrawal rates might indeed be very high.

Rolling back previous achievements should be avoided

Given the difficulties of a further major reform of the benefit system, and also given the success of past reforms, the government should at least resist pressures to roll back these past achievements. The recent decision to lengthen unemployment benefit duration for older workers might put some of the gains witnessed in older worker employment in jeopardy, even though the planned voucher scheme, which significantly subsidises employers' wage costs under certain conditions, might alleviate the adverse effects. It should be carefully monitored whether this package is having a negative impact on labour supply.

Work incentives could be further strengthened for the short-term unemployed. While the supplementary benefit layer paid for two years to former recipients of unemployment insurance benefits when they move into the new unemployment benefit II scheme smoothes the reduction in benefits, it may also weaken work incentives.[18] Consideration should thus be given to phasing out supplementary benefits, as has been argued in the previous *Survey* (OECD, 2006b).

More could be done to strengthen labour demand for the long-term unemployed

With the focus of past reforms having been on the labour supply side, more could be done to increase the demand for labour. Two areas stand out: the discussion on minimum wages and a reform of the strict employment protection legislation for regular workers.

Preventing damage from minimum wages

Minimum wages can currently be introduced by legal extension of sectoral wage agreements. The law (*Arbeitnehmer-Entsendegesetz*) allows the government to declare a wage agreement as the legal minimum in the building sector, the commercial cleaning sector and the letter services part of the postal sector. An amendment to this law to cover further sectors is intended. The government preferred this introduction of minimum wages by legal extension over the alternative of having a general nation-wide minimum wage, arguing that it would be better to leave it up to the social partners to determine the right minimum wage level. However, the government's decision to introduce minimum wages by legal extension of existing wage agreements is unfortunate, as it effectively means that those companies who are not part of the original wage agreement in the sector are forced to accept the wage costs of other companies in the sector, reducing competition. Indeed, this can be observed in the postal sector, where a wage agreement for postmen, which mainly covered those postmen employed by the incumbent Deutsche Post AG, was legally extended to the whole sector. This may prevent competitor companies, whose business models are based on lower wage costs, from entering the letter services market following the liberalisation of this market in January 2008. Thus, the current application of the minimum wage in Germany has rendered competition in this service sector null and void and should be reconsidered. Competitors of Deutsche Post AG have challenged in court the legal extension of the wage agreement for postmen.[19]

In contrast to legal extension of wage agreements, minimum wages that are set at a nation-wide level can be effective for countering monopsonistic labour demand, *i.e.* a situation in which employers use their monopsony power to pay workers lower wages than in the case of perfect competition. In such a situation an appropriately set minimum wage (*i.e.* higher than the wage level under monopsony but at or below the wage level which would prevail in a situation characterised by perfect competition) raises both the wage rate and employment (Boal and Ransom, 1997). In Germany, minimum wages are discussed in the context of persons employed in the low-wage sector receiving in-work benefits. An employee whose income is below the UB II benefit level receives a top-up to reach the UB II benefit level (such employees are called "upgrader" or *Aufstocker*). In January 2007, around 1.3 million employees (3.3% of all employees) received such in-work benefits.[20] The granting of these in-work benefits may make it easier for employers to lower wage rates for such employees whose income is anyway topped up to the UB II level (the in-work benefit would then effectively subsidise employers' wage costs). However, also this argument rests on the assumption that the employer has monopsony power.

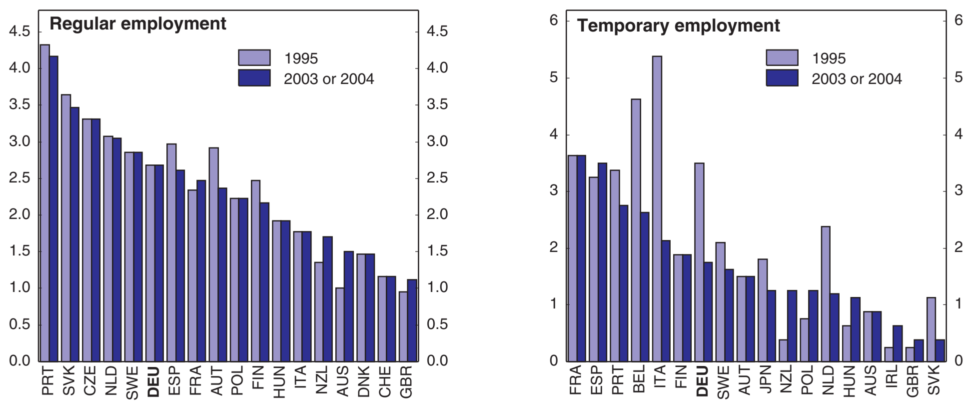
The extent to which monopsony power exists in the labour market is unknown and empirical evidence is scarce, notably for Germany (Neumark and Wascher, 2007). While in theory the minimum wage would constitute an appropriate instrument for bringing wages back to their equilibrium level in case of monopsonistic labour demand, in practice this requires knowledge of the right equilibrium wage level. The risk associated with a minimum wage is that it is set at a too high level, thereby leading to job losses. The different effects minimum wages have across countries crucially depend on differences in their level. If a minimum wage is deemed necessary to counter the negative effects of monopsonistic labour demand in certain areas, it should be applied on a nation-wide basis at a sufficiently low level that will not lead to job losses, *i.e.* below the level that would prevail in a market characterised by perfect competition. Based on experience in other countries, decisions on a general minimum wage level should be made by an independent commission of experts so as to avoid politicising these decisions, reducing the risk of the minimum wage being set at a level that harms employment.

Employment protection legislation should be lowered for regular jobs

An area where little overall progress has been made is the relaxation of employment protection legislation (EPL) for regular job contracts (Figure 3.8). Reform steps that were taken recently include the deregulation of temporary work agencies in 2003, the raising of the threshold of company size from which EPL applies in 2004 and in 2007 the introduction of 5-year temporary contracts for individuals above 52 years who have been unemployed for a minimum of four months.[21] The coalition agreement plan to increase the probation period for new labour contracts to two years, however, has not been implemented. These past reforms thus focused on a particular sector of the labour market rather than a more general liberalisation.

Figure 3.8. **Regulation of regular and temporary employment**

Index of 0 to 6 from least to most restrictive regulation



StatLink http://dx.doi.org/10.1787/280447074451

Source: OECD (2004), *OECD Employment Outlook*.

The overall effect of strict EPL on unemployment is ambiguous as it may lead to less hiring, but also to fewer dismissals. The more serious problem is that strict EPL tends to disadvantage those with weak attachment to the labour market, such as long-term unemployed, especially if the level of EPL differs by groups or job contracts. In this regard, cross-country evidence suggests that the policy of liberalising temporary employment without a similar adjustment of regular employment risks creating a dual labour market where some jobs are more protected than others, adding to the well-known insider-outsider problems (between those who work and those who do not) associated with strict EPL.

Indeed it is striking that the share of workers with fixed term contracts has increased significantly in Germany in recent years following the liberalisation of temporary employment (from around 10% in the mid-1990s to 14.8% in 2006, which is around the OECD average). One example is the rise in temporary agency workers in recent years (Figure 3.9). Employers are increasingly using this kind of flexible employment to circumvent relatively strict employment protection legislation and to lower their labour costs. Although legislation states the principle of equal treatment for temporary agency

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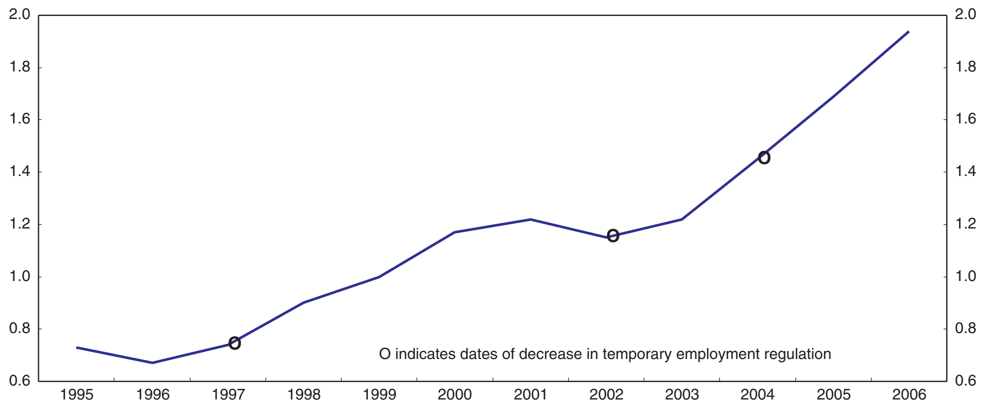
Figure 3.9. **Temporary employees as a share of employees who pay social security**

Per cent



StatLink http://dx.doi.org/10.1787/280456644555

Note: Temporary employees are those employed by temporary employment agencies and exclude mini-jobs.

Source: Federal Labour Office.

workers in client firms, in practice this has no effect as contract parties may circumvent the principle if a collective wage agreement in the temporary work sector exists. Gross wage differentials between temporary agency workers and regular employees are reported to be around 40% (Antoni and Jahn, 2006). The benefits of facilitating temporary work contracts for enhancing overall firm flexibility notwithstanding, temporary work may affect career progression and productivity of workers trapped in temporary forms of employment, which are typically characterised by weak job attachment and limited opportunities for upgrading human capital (OECD, 2004).

However, clawing back the past deregulation of temporary work would be the wrong decision. The government should instead consider easing employment protection legislation for regular job contracts, which is strict by international standards, in order to use the current upswing to create as many regular job contracts as possible. While EPL has clear benefits, such as long-term employee-employer contracts which might induce a greater willingness to invest in on-the-job training, it also bears costs for employers, as it lowers firms' ability to cope with a rapidly changing environment. In Germany, those costs are considerable due to the role courts play in the implementation of EPL (around 20% of all layoffs are brought before the courts, more than in many other OECD countries [OECD, 2004]). Owing to the uncertainty of the court ruling and the length of the procedure, many labour disputes are resolved by reconciliation even before appealing to the court (or an agreement is reached during the court hearing and the dispute is withdrawn before the court ruling).

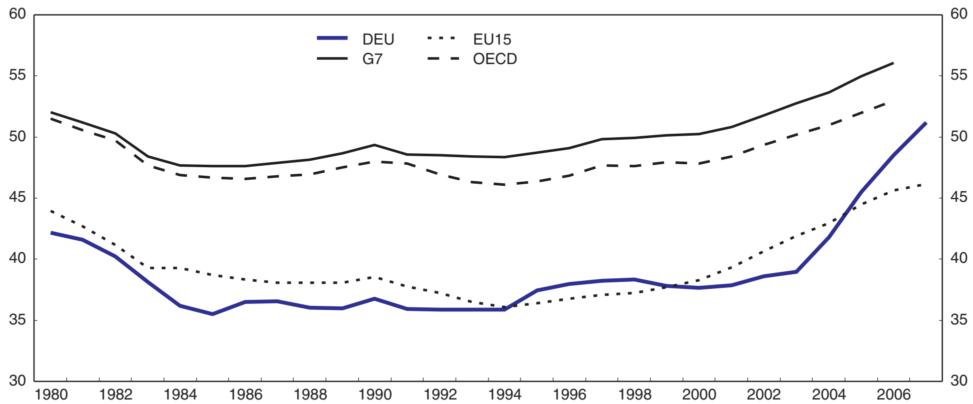
Cross-country evidence suggests that in order to minimise those costs, EPL should be made as efficient as possible by ensuring that the implementation of dismissal regulations is quick, predictable and distorts labour turnover as little as possible. This includes ensuring that the costs of administrative and judicial procedures are transparent. One option to ease the implementation of EPL in Germany would be to replace the court route for dismissals for economic reasons with a formula-based severance payment, making the process more transparent and less uncertain. A reform along those lines, which would lay open the implicit costs of EPL and would significantly reduce the current legal insecurity, has been presented by the Council of Economic Advisors (*Sachverständigenrat*, 2006).[22]

Employment rates for older workers could be increased further

One distinctive feature of the current upswing on the labour market is the integration of older workers. Employment rates for workers aged 55 and above have risen sharply by over ten percentage points since 2003 to just above the Lisbon target of 50% in 2007 (Figure 3.10). Even more marked was the increase in the age group 60 to 64. This development has significantly reduced, if not yet closed, the gap with the OECD average which had historically characterised the situation of German older workers.

Figure 3.10. **Employment rates of 55-64 year-olds, internationally**

Per cent



StatLink http://dx.doi.org/10.1787/280462331513

Note: Rates are employment of 55-64 year-olds as a percentage of population of 55-64 year-olds. Data for 2007 is the average of rates for Q1 to Q3 where available.

Source: OECD, *Labour Force Database* and Eurostat.

Past reforms have been successful...

Part of the increase in employment rates which started in the mid-1990s can be related to the arrival of better educated cohorts, which tend to have higher employment rates, into this age group (reflecting the education efforts of the 1960s). However, employment rates have also increased across different levels of education (Brenke, 2007). In fact, employment rates for persons with the lowest education level have increased even more since 2003 than the rates for persons in the highest education category, which is indicative of a more general behavioural change induced by past reforms.

International evidence suggests that the *Hartz IV* reforms, by lowering average replacement rates, could raise employment rates for older workers by up to ¾ of a percentage point (Table 3.6). Furthermore, recent performance is likely to reflect past efforts in phasing out early retirement options. One of these is the early pension for unemployed (*Altersrente wegen Arbeitslosigkeit*) which allowed unemployed individuals to start receiving pension benefits at age 60.[23] The age threshold for this pension is gradually being increased to age 63 from 2006 until 2008.[24] For people born after 1952 this route into early retirement will no longer be available. Also, the previous unemployment benefit duration of 32 months guaranteed that someone who became unemployed at age 58 could receive unemployment benefits until age 60 and then start receiving the early pension for unemployed. Such behaviour was implicitly encouraged by a regulation that allowed

Box 3.3. **Recommendations regarding the labour market**

Raising the number of hours worked per employee

- Consider abolishing the system of joint taxation in favour of individual taxation, possibly combined with the option to transfer the personal allowance from the non-working to the working spouse.
- Phase out the free healthcare coverage of non-working spouses.
- 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.

Reducing long-term unemployment

- Consider phasing out the supplementary second-layer paid to former unemployment benefit recipients for two years when moving into the unemployment benefit II scheme in order to further strengthen work incentives. While lowering the UB II benefit withdrawal rates should be considered, the government should refrain from creating a large scale secondary labour market (workfare).
- If a minimum wage is deemed necessary to counter the negative effects of monopsonistic labour demand in certain areas, it should be set on a nation-wide basis at a sufficiently low level that will not lead to job losses rather than on a sectoral basis as currently. Delegating the decision about a nation-wide minimum wage level to an independent commission of experts would help to avoid politicising the decision, reducing the risk that the minimum wage is set at a level that harms employment.
- Ease employment protection legislation for regular job contracts by replacing the court route for dismissals for economic reasons with a general severance payment, making the process more transparent and less uncertain.

Raising employment rates for older workers

- Continue with the phasing out of early retirement options and consider phasing out the subsidised part-time employment scheme for older employees (*Altersteilzeit*) earlier than planned.
- Carefully monitor whether the lengthening of unemployment benefit duration for older workers, which is linked with an intensified activation of older workers, is having adverse effects on labour supply.

unemployed persons aged 58 to receive unemployment benefits without having to actively search for jobs if they agreed to enter the early retirement scheme for the unemployed at the earliest possible time (*58er Regelung*).[25] This regulation has been phased out in January 2008.

... and remaining early retirement options should be phased out soon

In addition, the subsidised part-time employment scheme for older employees (*Altersteilzeit*) will only be available for new entrants until December 2009. The scheme allows employees from age 55 onwards to halve their remaining working time until retirement. In practice, most users of this scheme continue working full-time for five years and then stop working until retirement. Employers have to pay a premium of 20% of the part-time wage (not liable for taxes or social security contributions), which leaves the employee with 70% of his old net wage even though he works only half as much as before. Also, employers have to continue to pay pension contributions on 90% of the previous full-time wage. Employers' additional costs are reimbursed by the Federal Labour Office if an unemployed person or a recently graduated apprentice is employed instead.[26] This subsidisation is due to end by 2010. Since its inception in 1996 the scheme has been very popular and in 2006 more than 5% of the population in the age group 55 to 64 were participating (with 80% of them still in the work phase). In the current upswing, however, which is increasingly characterised by a lack of qualified labour and increasing demand for older employees, the case for the government subsidising workers to stop working early appears low. In addition, the risk is that by the time of the scheduled phasing-out in 2010 the labour market situation is less favourable than currently. Thus, the government should seriously consider to phase out subsidisation of this scheme earlier than planned, not least because waiting longer could mean that the phasing out would fall into a period of labour market weakness.

More recently, the government has launched a series of initiatives to further increase employment of older workers, primarily aimed at supporting labour demand for workers in that age group. These include the provision of financial support to companies for the employment of older workers as well as a relaxation of the rules for temporary work (Annex 3.A1). Such measures indeed can be helpful for a transition period in order to facilitate the integration of older workers, following the improved incentives on the labour supply side to work longer.

Notes

1. Statistics on average hours worked per person employed, such as those published in the *OECD Productivity Database* or the *Employment Outlook* (the data for Germany mentioned in the text are according to the national accounts concept and are obtained through the IAB institute), usually suffer from a lack of comparability across countries (although they are comparable in the time dimension). This is due to differences in methods, hours concepts and data sources used across countries. A standardised dataset based on labour force surveys created in the OECD secretariat (OECD, 2008) finds that cross-country differences are smaller. Based on this dataset, Germany has the sixth-lowest number of hours worked, around seven per cent below OECD average and 19% below the best performer.
2. A job is classified as marginal employment (introduced in April 2003) if it regularly earns less than € 400 (exceptionally higher earnings in one month are thus tolerated). The conditions for marginal employment are also granted if it is taken up in addition to a regular job. The marginal employee is exempted from income taxation and social security contributions, but the employer has to pay a certain fixed share of social contributions and a 2% income tax (amounting to around 30% of the actual wage). However, despite the employer contributions, the employee does not have health insurance coverage (but the employer payments to the pension system are credited to his pension account). In the income range € 400-800 jobs are classified as *Midijobs*, which are classified as jobs liable for social security but grant the employee a reduced increase in social security contributions.
3. The splitting advantage reflects both the effective doubling of the personal tax allowance as well as the flattening of the progression.
4. However, according to their results, male participation rates would drop by almost 1 percentage point and male working hours decline by 1.8%.
5. The German constitutional court ruled in 1957 that married couples should not be disadvantaged relative to non-married couples and that an equal share of the total household earnings belongs to each person in a marriage. Before 1957, both incomes were added and taxed in the progressive system; this resulted in a tax disadvantage for married persons as both incomes would be subject to the higher marginal tax rate. Reforms led to the current joint taxation system which satisfies the constitutional court ruling requirement by allowing a notional transfer from the higher-income to the lower-income spouse (of half the difference between both incomes). However, it is not the only

system that satisfies the constitutional requirement; the notional transfer notably could be smaller than currently.

6. The splitting advantage reflects a tax expenditure of € 29.3 billion, of which € 24.7 billion are due to the flattening of the progression and € 4.6 billion are due to the doubling of the personal tax allowance (*Sachverständigenrat*, 2007). Reforming the current system by moving to individual taxation but leaving the option to shift the personal tax allowance from the non-working to the working spouse would thus reduce the tax expenditures by € 24.7 billion. Calculations by the *Sachverständigenrat* (2007) show that additional tax revenues would be considerably smaller if instead of allowing for a transfer of only the personal allowance (€ 7 664) between spouses, the transfer amount would be of € 15 000.
7. The monthly wage tax deduction follows a system of different tax classes. Married couples often opt for the combination of tax class III for the first-earner and tax class V for the second-earner. This ensures that the splitting advantage is shifted to the first-earner with the higher income while the second-earner receives no personal allowance on his monthly income. The splitting advantage is thus received during the year. Married couples can also opt both for tax class IV which ensures equal treatment (as for singles) but also means that they receive the splitting advantage only at the time of the annual tax declaration.
8. In January 2007 a wage-dependent parental leave benefit (*Elterngeld*) modelled on the Scandinavian countries' experiences was introduced. The benefit replaces 67% of net earnings and will be granted for 12 months (14 months if the two parents share the parental leave). Compared to the previous system of a means-tested child-rearing benefit (*Erziehungsgeld*) granted for two years (parents enjoyed job protection for up to three years) the reform might contribute to reducing the employment interruption of German mothers as work incentives are strengthened (Spiess and Wrohlich, 2006).
9. Data refer to 2007 and exclude Berlin (See *Destatis* press release No. 515, 19.12.2007). They do not include "informal" childcare (*e.g. Tagesmütter*). According to survey data for Germany up to 7% of children under 2 years are in such arrangements (no cross-country evidence available; Spiess and Wrohlich, 2005).
10. The situation for early education for children aged 3-6 is very different as parents have a legal claim for a place in kindergarten. Attendance rates are between 70% for 3 year old children and 87% for 5 year old children, which is somewhat higher than the OECD average. The coverage ratio for kindergarten is 90% in West Germany (mostly part-time) and 105% in East Germany (generally full-time – Wrohlich, 2006).
11. Cross-country data on childcare fees uses North-Rhine Westphalia as the benchmark for Germany while recognising that fees differ regionally. Two-thirds of childcare costs are tax deductible up to a cap of € 4 000 if both parents are working. Wrohlich (2006) reports that subsidised full-time slots cost around € 110 per month while the costs of private childcare (*e.g.* a nanny) are around € 800 per month.
12. See "Eltern nutzen Betreuungsgeld", in *Frankfurter Allgemeine Zeitung*, 31 October 2007.
13. These results refer to West Germany; for East Germany the effects are only half the size.
14. Within Germany, this is a broad-based phenomenon: data from the Federal Labour Office show that while the overall unemployment rate is twice as high in the Eastern *Länder* than in the West (13.7% *vs.* 6.7%), the share of long-term unemployed in the East is only marginally higher (40.1% *vs.* 37.1% of total unemployed).
15. Around half of the individuals that previously received unemployment or social assistance experienced a decline in their benefit amount (of 31% on average) through the 2005 *Hartz IV* reform. This applies in particular to those individuals with relatively high incomes when they were still employed. At the same time, a third of those individuals who previously received unemployment or social assistance experienced higher benefits after the reform. This applies mostly to former social assistance recipients as the UB II can be higher than the previous social assistance (Goebel and Richter, 2007).
16. The decision in December 2007 to increase unemployment benefit duration for older workers (from 12 to 15 months for the age group of 50-54 years and from 18 to 24 months for unemployed persons above 58 years of age) has been accompanied by a subsidy to wage costs. Older workers (above 50 years of age) who are unemployed for more than a year will receive a voucher which significantly subsidises employer wage costs if the new employment contract is for at least one year, working time is at least 15 hours per week and the job is liable for social security contributions. The subsidy is paid for 12 months and amounts to 50% of wage costs. Older workers above 50 years of age which are unemployed for less than 12 months but have a claim for unemployment benefits for a

period of over 12 months can receive such a voucher (at the discretion of the labour office). In this case the subsidy amounts to between 30% and 50% of wage costs.

17. See Dietz *et al.* (2006).
18. The supplementary benefit is paid to individuals who receive UB II during the two years after having received unemployment insurance benefits. The supplement amounts to 2/3 of the difference between the two benefits with a monthly maximum of € 160 (€ 320 for couples) in the first year and a reduction by 50% in the second year.
19. *Financial Times,* "Court Rules German Minimum Wage Illegal", 8 March 2008.
20. More than half of those persons receiving this kind of in-work benefit are working in marginal employment. Of those working in full-time jobs, the majority received in-work benefits for a maximum period of 3 months (Bruckmeier *et al.*, 2007).
21. The deregulation of temporary work agencies included the elimination of the maximum period of assignment to a client firm (previously 24 months) and the principle of equal treatment unless a collective bargaining agreement specifies otherwise. The company size from which employment protection legislation is applied was raised from 5 to 10 employees. Regarding the 5-year temporary contracts for older workers, a previous more liberal regulation had to be abandoned due to a ruling from the European Court of Justice.
22. The notice period in their proposal would amount to a maximum of six months, depending on the job duration.
23. This option was also available for persons participating in the subsidised part-time employment scheme for older employees (*Altersteilzeit*). For every month of retirement before the official retirement age of 65 the pension benefit is reduced by a discount of 0.3%. Early retirement at 60 thus implies a discount of 18% (60 months * 0.3%).
24. This applies to individuals born between 1946 and 1951 (equal to the age group 55-60 in 2006).
25. These regulations still hold for persons who become unemployed prior to the shortening of unemployment benefit duration in spring 2006. Persons becoming unemployed after this date still do not have to actively look for work, but will only receive benefits over the shortened period, usually leaving them with a benefit gap between the end of unemployment benefit payments and the start of early retirement. This might have already deterred some individuals from pursuing this road into early retirement.
26. The subsidy amount paid by the Federal Labour Office was € 1.26 billion in 2006 (0.05% of GDP).

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ANNEX 3.A1

The government's initiatives to bring older workers into work

In order to support the employment of older workers the government has launched a series of measures called the "Initiative 50plus", some of which have been put in place in May 2007 (*Gesetz zur Verbesserung der Beschäftigungschancen älterer Menschen*), including the following:

- Previously unemployed individuals of age 50 and above who take up a job where they earn less than in their prior job are partly compensated for the difference (*Entgeltsicherung*).[1] In addition, contributions to the pension system are supplemented so that they amount to 90% of the contributions of the previous job.
- Employers who employ individuals aged 50 and above who previously had difficulties becoming employed (unemployment period of 6 months or above) receive wage subsidies amounting to between 30% and 50% of the wages paid for up to 36 months (*Eingliederungszuschüsse*).
- Existing rules for subsidising continuing education are expanded. Now, employees aged 45 years or above working in companies with less than 250 staff may get support for continuing education outside of the workplace.
- Previously unemployed (4 months and more) individuals aged 52 or above can be offered a temporary job contract for five years without stating an objective reason for doing so.[2]

In addition, the government launched a federal programme in 2005 (Perspektive 50plus) to support 62 different employment pacts for older workers in regions. While they are based on a variety of approaches, they are all providing lasting support for the integration of older long-term unemployed persons into the general labour market. Also, activation measures have been increased for older long-term unemployed, including the creation of 30 000 additional public jobs for up to three years. Lifelong learning is also to be supported financially.

Notes

1. The compensation amounts to 50% of the difference in the net wage in the first year and 30% in the second year.
2. This differs with the usual regulation for temporary work contracts which states that such contracts can only be offered for durations longer than two years in case an objective reason for the limitation of the contract duration is given.

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Chapter 4

Improving education outcomes

Improving education outcomes is important for Germany's long-term economic performance and social cohesion. While student achievement is above the OECD average in science and at the OECD average in reading and mathematics according to the 2006 OECD PISA study, weaker students tend to do badly by international comparison and socio-economic and/or immigrant backgrounds have a large impact. Another problem is that the proportion of younger people that completes tertiary education is relatively low. The authorities are undertaking wide ranging reforms touching all levels of education to tackle these problems. Nevertheless, there is scope to go further by: increasing participation in early childhood education and care of children from less advantaged socio-economic backgrounds and improving the quality of such education; improving teaching quality; reducing stratification in the school system; and making tertiary education more attractive and responsive to labour-market requirements. With the reforms underway or suggested, Germany would be able to look forward to higher education achievement and attainment and, especially, greater equality of education opportunity.

Human capital development is a major driver of long-term economic performance (see Chapter 1). Its distribution is also an important factor in preserving social cohesion. Student achievement at age 15 in Germany is at or above the OECD average, depending on the subject (above average in science, average in reading and mathematics; OECD, 2007a), but is strongly influenced by socio-economic and/or immigrant background. At the same time, the tertiary attainment rate among younger cohorts is low by international comparison and again is strongly influenced by socio-economic background. Following an examination of the key education outcomes that need to be improved, this chapter analyses the causes of these weaknesses, discusses the reforms that are being undertaken to improve performance, and makes suggestions for building on these reforms. The areas of education policy discussed in the chapter concern early childhood education and care, teaching quality, school structure, and tertiary education. While vocational education and continuing education are also important for human capital development, they are not taken up here as they are less closely related to the specific achievement and attainment challenges focussed on in this chapter and because vocational education and continuing education have been or will be reviewed in other OECD publications.[1]

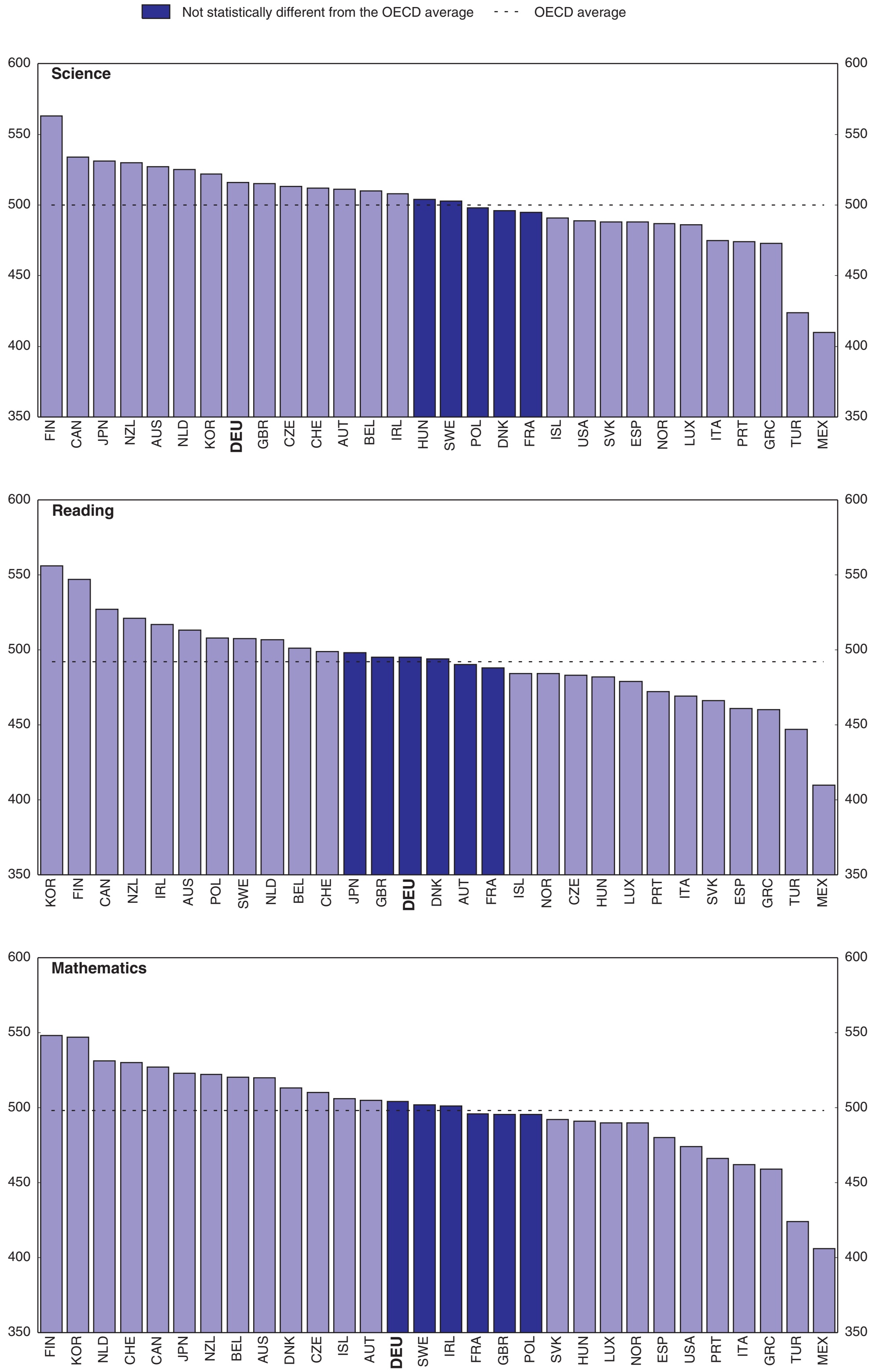
Education outcomes

Student achievement is at or above the OECD average, depending on the subject, but is significantly affected by socio-economic and immigrant backgrounds

Education achievement of 15-year olds in Germany is above the OECD average in science (ranking 8th highest among OECD countries) and average in reading and mathematics (ranking 14th highest among OECD countries in both subjects) according to the 2006 OECD PISA study (Figure 4.1). The results for reading and mathematics are not statistically significantly different from those in 2000 and 2003, respectively, indicating that there is no trend in achievement over the longest periods for which inter-temporal comparisons can be made (*ibid.*, Figures 6.9 and 6.21); inter-temporal comparisons in science cannot be made owing to changes made to the examination.[2] The distribution of PISA scores is wide in Germany, especially in reading and mathematics. Germany's ranking among OECD countries rises in each successive achievement percentile above the 10th in reading and mathematics but only rises up to the 25th percentile in science. This suggests that a factor in the better average performance in science than in the other two subjects may be that Germany has been more successful in improving achievement among weaker students in this subject. This result would be consistent with the pattern observed across OECD countries: countries that have a smaller gap in achievement between the 25th and 75th percentiles, for example, tend to have higher average achievement.[3]

Socio-economic background (as measured by the OECD's ESCS index)[4] has a large impact on achievement in Germany by international comparison, explaining 19% of the variance in student performance in science, the results for which were analysed in depth in the 2006 PISA study, compared with an OECD average of 14% (*ibid.*, Figures 4.6 and 4.10)[5]. A decomposition of this effect shows that it reflects a steep overall socio-economic

Figure 4.1. **Student performance in the OECD 2006 PISA study**



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Note: The higher the score, the higher the performance. Dotted line indicates average of country performances. Darker bars indicate scores not statistically different from the OECD average.

Source: OECD (2007), *PISA 2006: Science Competencies for Tomorrow's World*, Vol. 1, OECD, Paris.

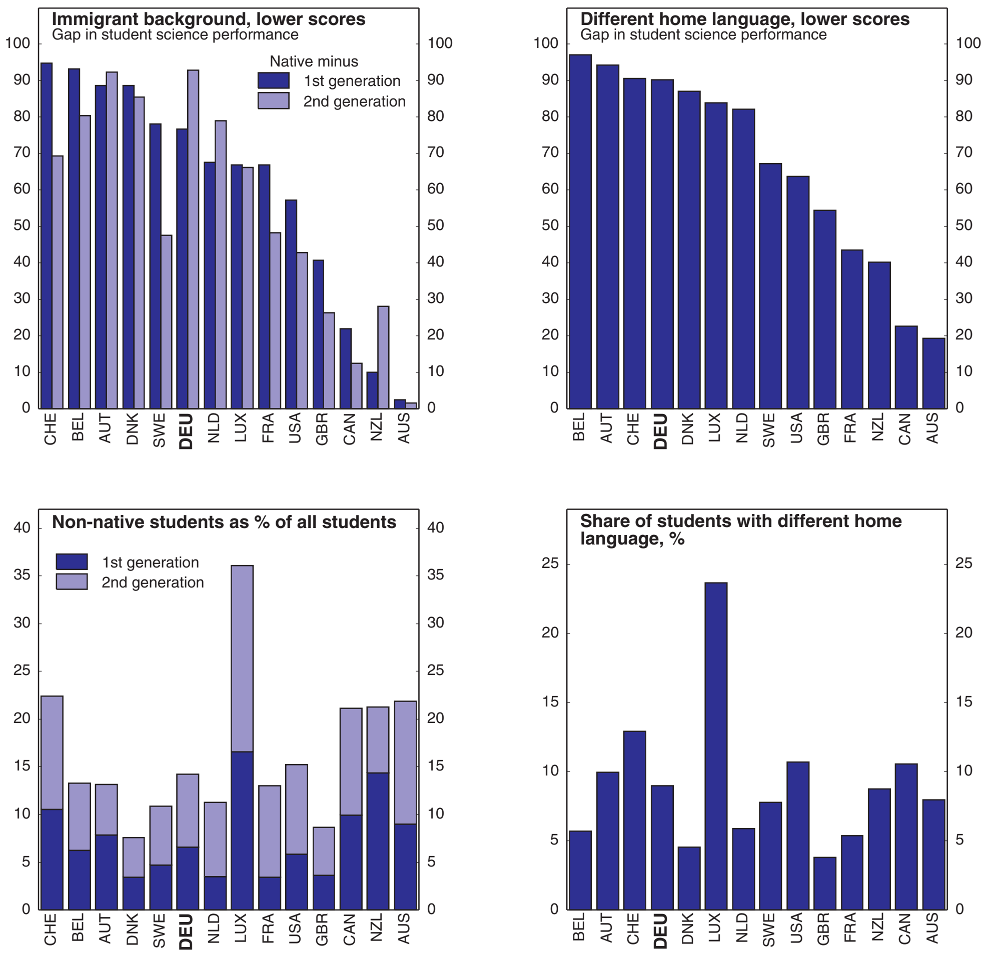
gradient, which measures the increase in achievement associated with a one unit increase in the ESCS index, and not wide variation in the ESCS index (the standard deviation of the ESCS index is near the OECD average [OECD, 2007b, Table 4.4a]). The steep socio-economic gradient in Germany, which indicates low equality of education opportunity, mainly reflects a strong impact of a school's average student ESCS on performance, the within school effect of ESCS being relatively small (OECD, 2007a, Figure 4.11).

Students with an immigrant background in Germany have much lower scores in science (and the other subjects tested) than native students,[6] this gap in performance being one of the largest among OECD countries (Figure 4.2; OECD, 2007b, Table 4.2d for reading and Table 4.2e for mathematics). Given that Germany has a relatively large share of students with an immigrant background, this performance shortfall has a large negative impact on Germany's average PISA scores: Germany's rankings among OECD countries in science, reading, and mathematics were 3, 4, and 5 places higher, respectively, when only native students in Germany and other OECD countries are considered. An unusual feature in Germany is that achievement for second-generation students is lower than for first-generation students. This reflects the different populations from which first- and second generation students are drawn: a large proportion of first-generation students come from the former Eastern-Bloc countries and acquired German language skills through their families; the great majority of second-generation students have Turkish immigrant backgrounds and often do not acquire their German language skills through their families. The difference in performance between those students speaking a language at home most of the time that is the same as the language of assessment (or other official languages or national dialects) and those students speaking a different language at home is larger than that for immigrants in general, as in other OECD countries, and is also one of the largest among OECD countries (see Figure 4.2; *ibid*., Table 4.3a for science and Table 4.3b for reading and mathematics); these gaps also approximately correspond to those between native and second-generation students.

An important factor contributing to the relatively weak performance of students with an immigrant background is that they also tend to have a relatively low socio-economic background. Indeed, the gap between the average ESCS index for native students and for students with an immigrant background is considerably larger in Germany than in most other OECD countries (*ibid*., Table 4.3d). Such differences account for approximately one half of the gap in performance between native and non-native students and one quarter of the gap in performance between students speaking the language of instruction at home most of the time and those speaking a different language (*ibid*., Table 4.3c). Thus, while a large part of the gap in performance between native students and students with an immigrant background can be explained by the latter students' less favourable socio-economic backgrounds, there is still a significant additional disadvantage to having an immigrant background in Germany, especially if German is not spoken at home.

There are large differences in achievement across German *Länder*, with some *Länder* (Bavaria and Saxony) having average PISA 2003 scores in mathematics that are high by international comparison and others (Hamburg and Bremen) scores that are relatively low (Figure 4.3; Prenzel *et al.,* 2005); PISA 2003 data are used for this analysis because the 2006 state-level PISA data (PISA-E) are not yet available. Differences in performance between *Länder* narrow at higher percentiles, suggesting that the *Länder* with low average scores are being held back by particularly low achievement for weaker students; the same pattern holds in the international study.[7] A relatively high proportion of students by

Figure 4.2. **Relative performance in science of immigrants and natives**



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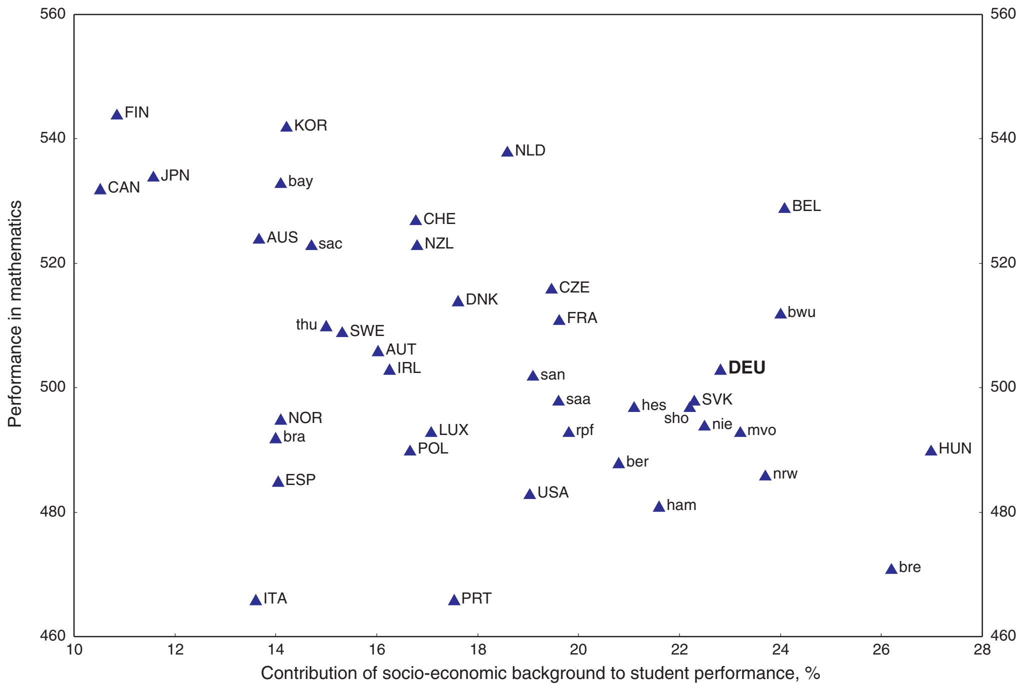
Note: Native students are those born in the country of assessment or who had at least one of their parents born in the same country. First generation students are those born in another country and whose parents were also born in another country. Second generation students are those born in the country of assessment but whose parents were born in another country. Language spoken at home most of the time is classified as the same or different from the language of assessment, from other official languages or from other national dialects.

Source: OECD (2007), *PISA 2006: Science Competencies for Tomorrow's World,* Vol. 1, OECD, Paris.

international comparison in the *Länder* with weak average scores perform at or below level 1 on the PISA scale for mathematics (which goes up to level 6), indicating that many students will have difficulties going further with their education (Figure 4.4); these problems are even more severe in reading, where 20-30% of students only perform at or below level 1 in three quarters of the *Länder*. In *Länder* with relatively high mathematics scores, socio-economic background tends to have a smaller impact on achievement than in *Länder* with relatively low scores (see Figure 4.3). Indeed, the slope of the socio-economic gradient is inversely correlated with average achievement across *Länder*.[8] Of the four *Länder*[9] scoring significantly above the OECD average, the average slope of the socio-economic gradient is below the OECD average (42) in all but one case whereas it is at or above the OECD average in three quarters of the other states.[10] The share of migrants is also inversely correlated with achievement across *Länder*.[11] The three *Länder* with the

Figure 4.3. **Performance in mathematics and the impact of socio-economic background**



StatLink http://dx.doi.org/10.1787/280517122183

Note: Codes for the German States are in lower case and are in the Glossary. Student performance in mathematics (dependent variable) was regressed on the PISA index of economic, social and cultural status (ESCS). The contribution of socio-economic background to student performance is the R squared of this regression (multiplied by 100). It indicates the proportion of the variation in performance that is associated with the variation in background.

Source: OECD (2004), *Learning from Tomorrow's World: First Results from PISA 2003*, OECD, Paris and Prenzel, M. *et al.* (2005), *PISA 2003: "Ergebnisse des Zweiten Ländervergleichs Zusammenfassung"*.

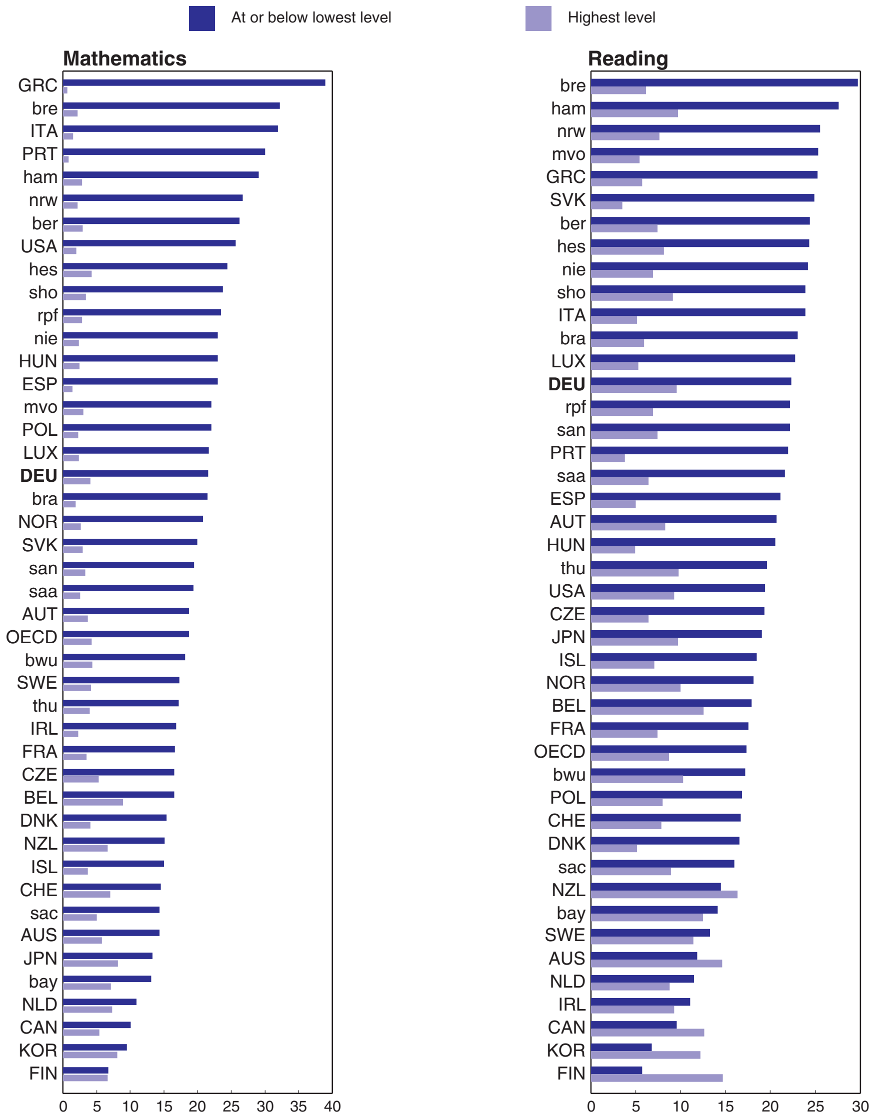
lowest PISA scores – Bremen, Hamburg, and North-Rhine-Westphalia – have migrant shares of 30-36%, well above the national average of 22%.

Attainment has stagnated and is now relatively low at the tertiary level

A relatively high proportion of the population aged 25-64 has at least upper secondary attainment (83% in 2005, OECD, 2007c, Table A1.2a). However, in contrast to most other OECD countries, there has been no tendency for this proportion to increase in successive age cohorts (Figure 4.5); the only rise that occurred is between the cohorts in the 45-54 and 55-64 age groups. Whereas the upper secondary attainment rate for the population aged 45-54 is the fourth highest among OECD countries, the rate for the 25-34-age group is only 13th highest (*ibid.*). The level of upper secondary attainment for the younger cohorts leaves a significant minority of persons (17%) without the minimum level of education attainment that is usually necessary to avoid marked difficulties on the labour market: the employment rate for persons with attainment below the upper secondary level was only 52% in 2005, compared with 71% for persons with upper secondary or post-secondary non-tertiary attainment[12] and 83% for persons with tertiary attainment (*ibid.*, Tables A8.3a); the unemployment rate in 2005 for persons with below upper secondary attainment was almost twice as high as that for persons with upper secondary or post-secondary non-

Figure 4.4. **Proportion of students at lowest and highest 2003 PISA competence levels**

Per cent



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Notes: Highest levels are 6 and 5 for mathematics and reading respectively. OECD refers to the arithmetic average of proportions for countries in the graph.

Codes for the German States are in lower case and are in the Glossary.

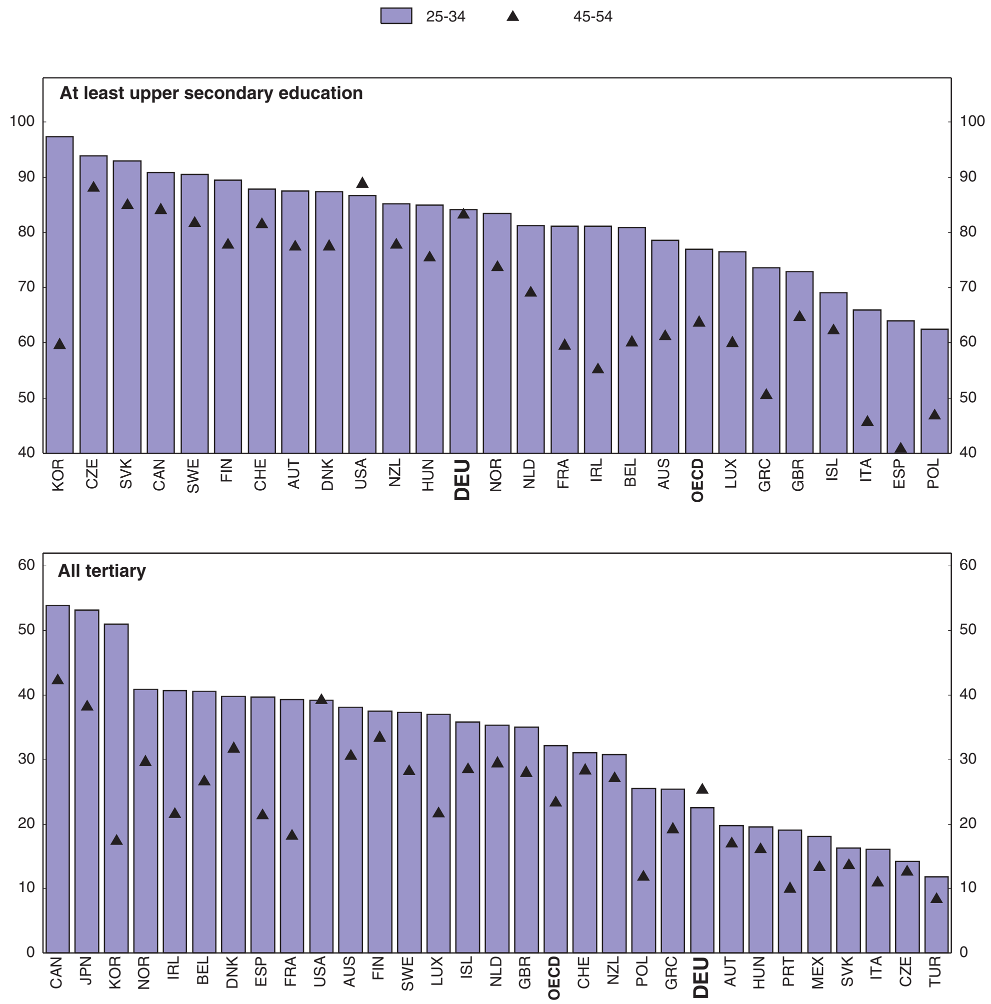
Source: OECD (2004), *Learning from Tomorrow's World: First Results from PISA 2003*, OECD, Paris and Prenzel, M. *et al.* (2005), *PISA 2003*: "*Ergebnisse des Zweiten Ländervergleichs Zusammenfassung*".

tertiary attainment and four times as high as that for persons with tertiary attainment (*ibid*., Tables A8.4a).

Tertiary attainment has also generally stagnated in Germany from one age cohort to the next, in contrast to the sharp increases that have occurred in most other countries (see Figure 4.5). While tertiary attainment for cohorts in older age groups is above the OECD average, such attainment is below average for the younger cohorts; for the population aged 25-64, tertiary attainment is 25% (*ibid*., Table A.1.3a), which is around the OECD

Figure 4.5. **Education attainment by age-group, 2005**

% of population in age-group



StatLink http://dx.doi.org/10.1787/280542624141

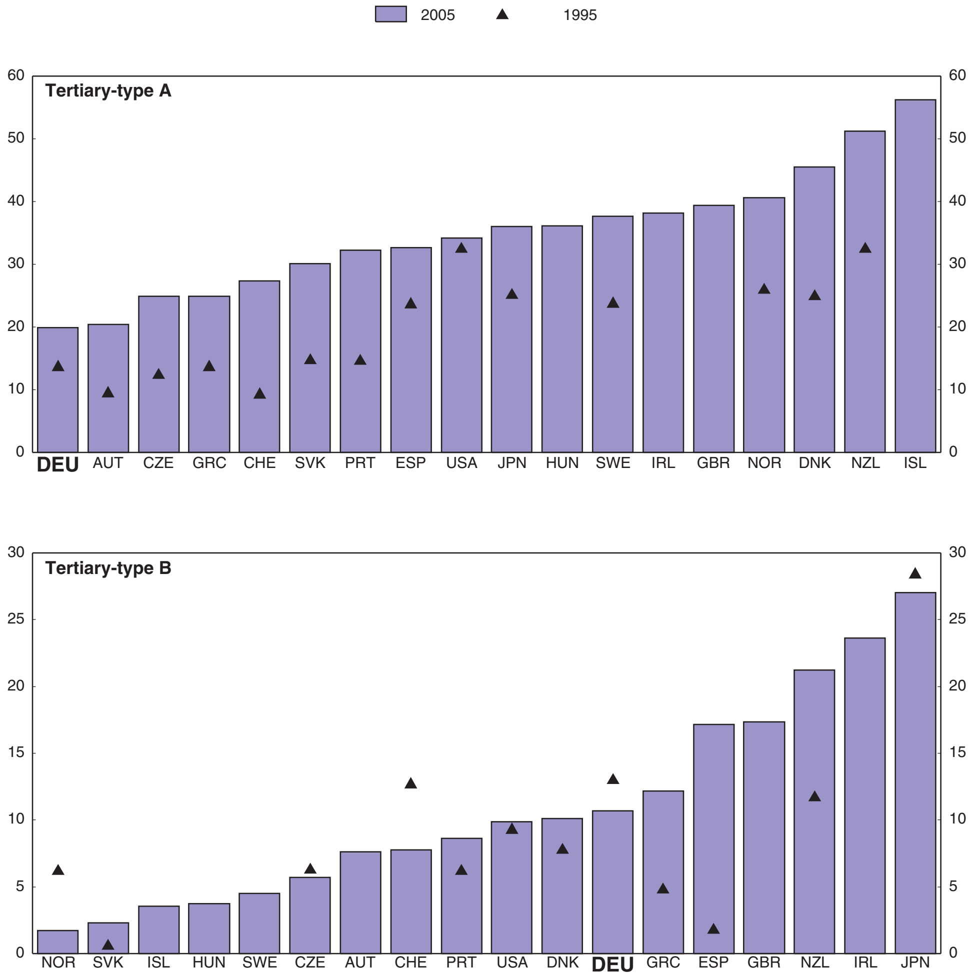
Source: OECD (2007), *Education at a Glance 2007: OECD Indicators*, OECD, Paris.

average. Tertiary graduation rates have increased somewhat in recent years, reflecting a rise in tertiary-type-A[13] graduation rates partially offset by a decline in tertiary-type-B[14] graduation rates, but remain low by international comparison (Figure 4.6); specifically, tertiary-type-A graduation rates are well below the OECD average whereas tertiary-type-B graduation rates are around the average. While the increases in tertiary graduation rates will lead to a future increase in tertiary attainment, the rise in graduation rates in most other countries has been even more pronounced, suggesting that tertiary attainment in Germany will fall even further behind the levels in most other OECD countries.[15]

The number of tertiary (A and B) science[16] graduates per 100 000 persons employed in the 25-34 age group is below the OECD average (OECD, 2007c, Chart A3.4). This reflects the low tertiary graduation rate rather than a low share of students opting for these subjects; the share of science graduates in total graduates is actually second-highest in the OECD, after Korea (*OECD Education at a Glance Database*, Chart A3.7). A report commissioned by the Federal Economics Ministry states that the low supply of graduates in these fields could

Figure 4.6. **Tertiary graduation rates**

Per cent



StatLink http://dx.doi.org/10.1787/280546005532

Note: Tertiary-type-A programmes provide qualifications for advanced research or higher skill professions. Tertiary-type-B programmes focus on practical, technical or occupational skills. Data are not available for all countries for earlier years.

Source: OECD (2007), *Education at a Glance 2007: OECD Indicators*, OECD, Paris.

constrain expansion possibilities in sectors with high R&D intensities, notably the automobile industry, capital goods manufacturers and electronic companies.

Earnings (not adjusted for the length of study programmes) for persons with tertiary education have increased quite sharply in recent years in relation to earnings for persons with upper secondary attainment, from 133% in 1997 to 156% in 2005, suggesting that supply has not kept up with demand for such persons. This contrasts with developments in most other OECD countries, where expansion in the supply of persons with tertiary attainment has been associated with relative stability in the earnings premium for tertiary qualifications. The increase in relative earnings in Germany is entirely attributable to a large rise in tertiary-type-B earnings, from 102% of upper secondary attainment earnings in 1997 to 115% in 2000 and 132% in 2005; tertiary-type-A earnings have remained steady at slightly over 160% of upper secondary earnings. The fact that tertiary-type-B graduation rates have declined over the same period (see above) points to a lack of flexibility in the education system to respond to changes in labour market conditions.

Socio-economic background of parents has a large impact on students' participation in higher education in Germany (BMBF, 2004). The odds of a higher education student having a blue-collar father are low by international comparison (OECD, 2007c, Chart A7.1.) while the odds of having a father with higher education are high (*ibid.,* Chart A7.2b). Inequalities in the performance of students in PISA appear to be carried forward to higher education (*ibid.*, pp. 120-121 for this statement and the remainder of the paragraph). Providing an equitable distribution of learning outcomes and opportunities at school would appear to be important in order to have more students from less affluent backgrounds participating in higher education.

Reforms to enhance outcomes

Increasing participation in early childhood care and education and enhance its quality

Early childhood education and care (ECEC), which covers both childcare arrangements for infants and toddlers and pre-school education (kindergarten) is the foundation upon which lifelong learning is built. The skills acquired in ECEC impact on learning in subsequent stages of education – skill begets skill (Carneiro and Heckman, 2003). There is evidence that high-quality centre-based programmes improve education achievement and behaviour of young children, especially of poor children and children whose parents have little education (Brooks-Gunn, 2003). By developing skills that are important for success in education and labour markets, quality ECEC can contribute more effectively than later policy interventions to raising the proportion of the population with tertiary education attainment (Caneiro and Heckman, 2003). Very early interventions accompanied by parent mentoring can be particularly effective in reducing the impact of socio-economic background on education outcomes (Box 4.1). Unfortunately, enrolment in pre-school education in Germany appears to be less effective in reducing the impact of socio-economic background on education achievement than in most other countries based on evidence from cross-country studies (Wößmann, 2007).[17] Language skills are an impediment to learning for some children, essentially immigrants, when they begin primary school – indeed, it is estimated that 5-6% of children at the age for beginning compulsory schooling are not ready to do so (Aktionsrat Bildung, 2007). Such deficiencies in language skills are an important factor contributing to lower education achievement of immigrant students (as found in successive PISA studies, for example) as these weaknesses contribute to later enrolment and grade repetition for these students, factors that are associated with lower achievement (Ammermueller, 2007).

The German authorities have embarked on a series of reforms to improve the quality of ECEC, especially for children from lower socio-economic or immigrant backgrounds. Following the lead of Bavaria and Saarland, which introduced integrated education programmes in the 1970s and 1980s for children aged 0-6, other *Länder* are now doing likewise. The *Länder* agreed in 2004 a framework to guide this development ("*Gemeinsamer Rahmen der Länder für die frühe Bildung in Kindertageseinrichtungen*"; and "*Stärkung und Weiterentwicklung des Gesamtzusammenhangs von Bildung, Erziehung und Betreuung*"). A priority is to ensure that there is a strong linkage between education programmes in the last year of pre-school and the first year of primary school (which is compulsory from age 6).[18] To avoid language skills being an impediment to learning, compulsory language

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Box 4.1. **Targeted programmes to enhance skill development of children from disadvantaged backgrounds**

A large body of empirical work has established that fundamental cognitive and non-cognitive abilities are produced in the early years of childhood, long before children are five years old (Heckman and Masterov, 2007, p. 34).[1] Empirical evidence suggests that children from disadvantaged families receive much less cognitive and emotional stimulation than other children, retarding development of their abilities (*ibid.*, 2007, Figures 8c and 8d). Experience with voluntary programmes in the United States (entailing enriched pre-school centres made available to disadvantaged children with home visitation programmes to help parents mentor their children)[2] that partially compensate children from disadvantaged environments for these deficits in cognitive and emotional stimulation shows that abilities can be permanently increased through early interventions (*ibid.*).[3] Given that learning and motivation are dynamic, cumulative processes, the strengthening of cognitive and non-cognitive abilities early in life facilitates subsequent learning, resulting in very high rates of return from the programmes (*ibid.*, Figure 12 and Table 7); they also contribute to reducing social inequality. Similarly, a home visitation programme (*i.e.*, like the US programmes but without the enriched pre-school centres) in New Zealand (Early Start) targeted on children from disadvantaged backgrounds yielded significant improvements in child health, participation in early childhood education, parenting behaviours and child behaviour.

A pilot project that overlaps aspects of the US and NZ programmes is underway in the city of *Monheim* in North Rhine-Westphalia (*Monheim für Kinder, Mo.Ki*) (OECD, 2004b, Box 8). This project aims to prevent and overcome the consequences of poverty on young children from birth through to age 12. The programme has three main fields of action: preventative programmes for children (care and early promotion); strengthening parents' competencies; and coordinating and connecting existing programmes and supporting new ones. Childcare centres have been chosen as the first line of action. The lessons drawn from this and comparable international projects should be used to develop programmes specifically aimed at compensating very young children (from a few months old) from disadvantaged backgrounds for lacuna in their home environments for the development of abilities. Such programmes could be highly effective in reducing the large impact of socio-economic backgrounds on education outcomes in Germany.

1. Cognitive abilities include IQ and the capacity to learn. Non-cognitive abilities refer to emotional characteristics such as perseverance, motivation, time preference, risk aversion, self-esteem, self-control, and preference for leisure that are important for success both in developing cognitive abilities and more generally in life (Heckman and Masterov, 2007).
2. The programmes discussed by Heckman and Masterov (2007) include the following: Perry Preschool Experiment; Abecedarian Project; and the Chicago Child-Parent Centre and Expansion Programme.
3. The average age of children entering the Abecedarian Project in the United States (between 1972 and 1977) was 4.4 months. This programme appears to have had a lasting effect on IQ, but it is concentrated primarily among girls (Heckman and Masterov, 2006).

competence tests are administered to children one to two years prior to beginning school, whether or not they attend kindergarten, followed by compulsory intensive language training for a period of 6 months to 1 year in the event that German language skills are inadequate. Some *Länder* give kindergartens extra funds for immigrant children in recognition of the extra costs entailed in getting them ready to begin primary school; in Bavaria, for example, there is a 30% premium for immigrant children.

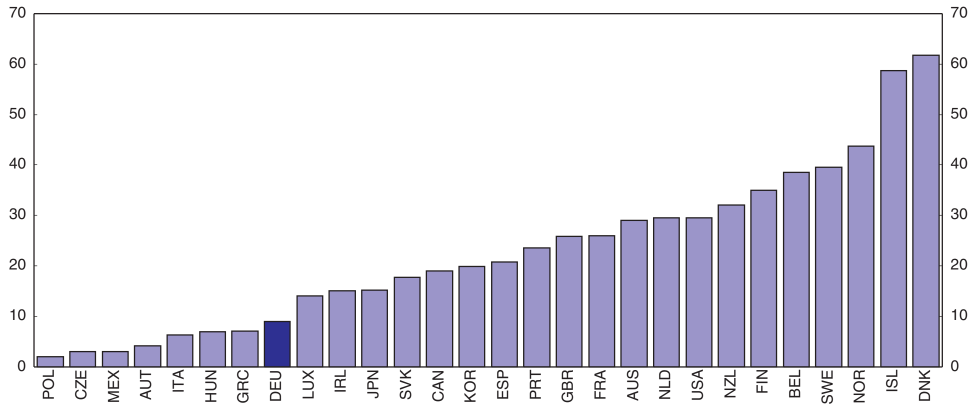
The decentralised funding arrangements for ECEC services in Germany contribute to geographic inequalities in provision. There are wide variations in funding across *Länder* and municipalities, leading to difficulties in access or a lowering of quality (owing to larger groups with less experienced personnel) in low-income and immigrant districts (OECD, 2004b); these inequalities are attributable to the different funding standards of the various authorities responsible for ECEC services, not to differences in the fiscal capacity of local districts. Yet these are the areas where providing suitably adapted ECEC services is likely to be most expensive (*e.g.* for paying extra language training and for extra teachers to provide more individual attention) but to have the greatest potential benefits (notably by compensating for lacuna in children's home environments for the development of skills). The variety of financing procedures and support also leads to uncertainty for private providers (*freie Träger*). This uncertainty limits their capacity to respond adequately to new needs (*ibid.*). The federal government, *Länder*, municipalities and major stakeholders should cooperate to develop common funding standards that ensure more equitable treatment of children from disadvantaged and/or immigrant backgrounds.

Training of educators in the ECEC sector in Germany mostly occurs at the post-secondary non-tertiary level in state-accredited specialised technical schools (*Fachschulen*).[19, 20] This is a lower level of education than in any other western European country other than Austria, where such educators are also trained at the post-secondary non-tertiary level (*ibid.*). There is evidence that "staff who have more formal education and more specialised early childhood training provide more stimulating, warm, and supportive interactions with children, not least in the area of language (development)" (*ibid.*). Another disadvantage of training taking place outside the university sector is that the ECEC field remains to a great extent outside the field of university research (*ibid.*). The authorities should consider upgrading training of ECEC educators to tertiary level, preferably at the university level, and providing more specialised training for educators of very young children (aged less than 3) in childcare institutions (*Kindertageseinrichtungen*). Such children need more individual attention than do older children. Meeting this need may also call for training more teachers for this group. It may also be worth considering upgrading training requirements for private childcare providers (*Kindertagespflege*), which are much lower than for educators in childcare institutions: such training consists of a two-day crash course and another 60 hours of tuition.

Enrolment of children aged less than 3 in formal childcare arrangements (*Kindertageseinrichtungen* and *Kindertagespflege*) is low by international comparison (Figure 4.7); enrolment rates for immigrant children are particularly low at around two thirds of the native rate. For children up to age one, the low overall enrolment rates seem to reflect social preferences – demand for childcare places for this age group is very low. However, for 1-2 year olds, there is a severe shortage of (publicly subsidised) childcare places; a factor supporting strong demand for such places is that parental childcare costs net of benefits and tax concessions are very low by international comparison (Immervoll and Barber, 2005, Figure 2.3). The federal and *Länder* governments have committed themselves to increasing the number of childcare places for children aged under 3 by 465 000 by 2013, from 285 000 places currently.[21] This will increase the number of places available as a proportion of the population aged less than 3 to around 35%, which is higher than is currently available in most other countries. The federal government will contribute € 4 billion annually towards the cost of this expansion, even though childcare is a state responsibility under the federal constitution; public subsidies for childcare currently cost around € 11 billion. The federal and *Länder* governments plan to guarantee access to a childcare place for each child aged less than 3 by 2013, as is currently the case for kindergarten places for children aged 3-6, and there are plans to pay a monthly fee to

Figure 4.7. **Proportion of children aged 0 to 2 years using formal childcare arrangements**

Per cent



StatLink http://dx.doi.org/10.1787/280570674055

Note: Data refer to early 2000s.

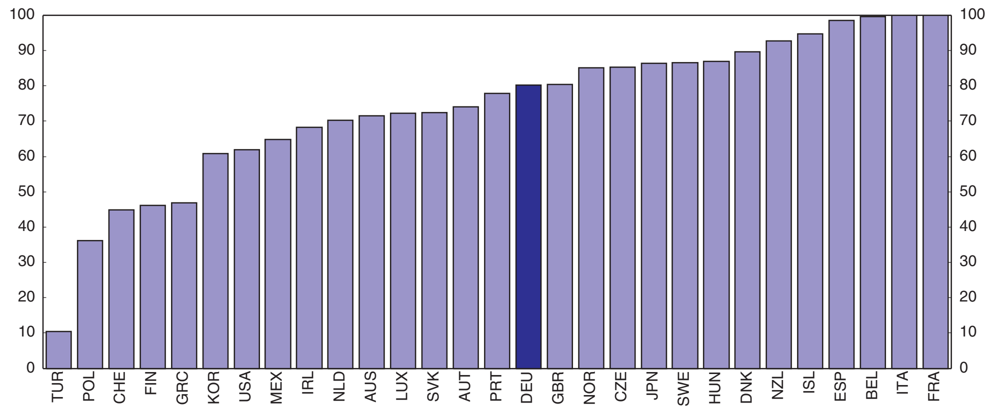
Source: *OECD Family Database.*

parents who instead care for their children themselves. Experience with pilot arrangements along these lines has shown that such an offer to pay a fee leads to participation in childcare declining. Unfortunately, this decline in participation tends to concern children from lower socio-economic backgrounds, the very group that has most to gain from participating in quality childcare, especially in terms of developing language competencies if they come from an immigrant background.

The net enrolment rate of children aged 3-5 in pre-school education is 80% (although many of these enrolments are only for four hours per day), which is above the OECD average but significantly lags the rates recorded in many countries where participation is universal or nearly so (Figure 4.8). As a (half-day) kindergarten place is guaranteed for every child in this age range, the less than universal participation reflects a lack of demand. Unfortunately, children not enrolled in kindergarten are most likely to come from lower socio-economic backgrounds (*Bundesministerium für Bildung und Forschung*, and *Kultusministerkonferenz*, 2006, p. 150), even though these are precisely the children who would gain most from attending.[22] The lower attendance of children from such backgrounds is unlikely to reflect affordability issues as fees are generally waived for children from poorer households.[23] In view of the large impact of socio-economic background on education outcomes in Germany, it is vital to increase enrolment rates of children from lower socio-economic backgrounds. Efforts are being made to convince parents with low levels of education of the importance for their children of participating in kindergarten from age 3. These efforts seem to be more effective if kindergarten is promoted to the family by friends or associations. Nevertheless, it remains important to understand better why enrolment rates for children from such backgrounds are not higher and take steps to overcome these barriers. The shortfall in enrolment rates for immigrant children – rates are 7 percentage points lower than for native children in the 3-6 age-group – appears to reflect their socio-economic background rather than immigrant status (*Bundesministerium für Familie, Senioren, Frauen und Jugend*, 2004).[24]

Figure 4.8. **Enrolment rates of children aged 3 to 5 years in pre-schools**

Per cent



StatLink http://dx.doi.org/10.1787/280571607127

Note: Data refer to early 2000s.

Source: *OECD Family Database*.

The government is also encouraging the development of all-day kindergarten places. These are comparatively rare in western Germany (only 24% of places) but are universal in eastern Germany. Such a development should help mothers to reconcile family and work responsibilities as well as providing extra time to develop children's abilities at kindergarten. It is to be hoped that the planned improvements in the education component of kindergarten education will be marked for the afternoon sessions of all-day kindergartens because these sessions, which have generally had little or no educational content, do not appear to have been particularly beneficial to students in terms of enhancing their lifetime education prospects.[25]

The planned and suggested reforms to enhance the quality of ECEC services and participation are undoubtedly costly for public budgets. Nevertheless, it does seem that an expansion in public expenditure on ECEC services could be warranted given that such expenditure in Germany is low (0.42% of GDP in 2001)[26] compared with the level of investment in other European countries and the target proposed by the EC Childcare Network (1996) of 1% of GDP (OECD, 2004b).

Improving teaching quality

Most current research suggests that teacher quality is very important in determining student achievement (Hanushek and Wößmann, 2007; Hanushek and Rivkin, 2006). Some teachers consistently produce more gains in student achievement than others. Based on a study in a single large urban district in the United States, Hanushek (1992) finds that a teacher near the top of the quality distribution range (95th percentile) will get a gain of 1½ grade-level equivalents in a year from his/her students whereas a low quality teacher (5th percentile) will only get a gain of one half of a grade-level equivalent. Not only are the effects of teacher quality large, they are cumulative (Sanders and Rivers, 1996). Having a succession of high quality teachers could substantially narrow the average achievement gap between students from low-income and high-income families (Hanushek, 2003; OECD, 2005b). Raising teaching quality is perhaps the policy direction most likely to lead to substantial gains in school performance (Hanushek, 2004).

The difficulty in raising teacher quality is that it does not seem to be closely related to most common teacher characteristics, such as education attainment (Hanushek and Wößmann, 2007). In view of this difficulty, Hanushek and Wößmann (2007) conclude that policy should focus on ensuring that institutions and incentives promote high quality education outcomes. In particular, giving schools autonomy to decide how to achieve education goals and holding educators responsible for outcomes enables school leaders to identify and promote high quality teaching. The effectiveness of such a process can be reinforced by providing high-quality teacher training and by strengthening school leadership.

Increasing autonomy in schools that are held accountable for outcomes

There is empirical evidence that increased autonomy in schools that are held accountable for outcomes contributes to improved student achievement.[27] Autonomy allows schools to make better use of local knowledge to improve student performance but also increases scope for opportunistic behaviour (Wößmann, 2005, for this statement and the rest of the paragraph). The main decision areas concerned by this trade-off are teacher salaries and course contents. In decision areas where opportunistic behaviour is possible but local knowledge advantages are minor (school autonomy in budgeting; teacher influence on the subject matter to be covered in class; decisions on firing teachers; and teachers of a school collectively having a say on the curriculum to be taught), central exit exams result in school autonomy not having a negative effect on student performance.

Traditionally, German schools have had little autonomy. Schools have operated in a highly regulated environment: most of the rules of their operation are defined by higher authorities, and schools themselves have had relatively little impact on teaching programmes, personnel, or material resources (Halász *et al.*, 2004). Measured by the 2000 PISA index of school autonomy, German schools (3.9) have been less autonomous than the OECD average (5.0). New laws have come into effect giving schools greater autonomy and responsibility in the areas of school development, quality assurance, and evaluation. An important reform in this respect was the Civil Service Law Reform Act, 1997, which introduced "pay-for-performance" elements and new career paths where promotion is no longer based on seniority but on performance (*ibid.*); following a probationary period, teachers are civil servants in the old *Länder*. Greater use of financial incentives by school managers for good teaching based on adequate evaluation of performance could be an important instrument for raising teaching quality. There is evidence that monetary incentives for teachers based on their students' performance does improve student learning (Hanushek and Wößmann, 2007; Vegas, 2005; Vegas and Umansky, 2005). Financial incentives for teachers based on their students' achievement appear to have been very effective in improving performance in Israel (Lavy, 2002, 2004) and in the United Kingdom (Atkinson *et al.*, 2004).

Making educators more accountable

Germany has recently made considerable progress in clearly establishing high achievement goals for students. The *Kultusministerkonferenz* (KMK) agreed education standards for German schools in 2004 and evaluation instruments for ensuring compliance with these standards in 2006. The education standards have already been implemented in all *Länder.* The Institute for Quality Development in the Education System (*Institut zur Qualitätsentwicklung im Bildungswesen, IQB*) was established in 2004 to support the verification of these standards in schools and to further develop the standards. For the purposes of reviewing achievement of education standards on the basis of *Länder* random samples, the *IQB* has developed central testing procedures that conform to the technical and methodological standards of international comparison studies. In the primary school sector, the *Länder* comparisons in German and mathematics will be carried out at five-year intervals, tied to the PIRLS/IGLU[28] cycle, with the first such test occurring in 2011. In the lower secondary school sector, the *Land* comparison will be carried out in two subject groups – German, English and French; and mathematics, biology and chemistry – and will be tied to the relevant PISA cycle.[29] *Länder* comparisons will in future be made using these tests and not, as in the past, using the IGLU-E[30] or PISA-E formats. The key aims of education monitoring are to identify learning performance in education systems, to analyse the possible reasons for any unsatisfactory results and then to derive appropriate reform measures in education policy and administration. In the process, information about the education system will be closely linked to measures for instructional and quality improvement that can be applied in all schools.

The testing of random samples of students to check compliance with the national education standards described above holds each *Land* accountable for student outcomes. Accountability of individual schools and teaching staff is being strengthened through greater use of external exit exams centralised in each *Land*: all *Länder* but one (Rhineland-Palatinate) that did not already have such exams have either (re)introduced them (Brandenburg, 2005; Hamburg, 2005; Berlin, 2006; Lower Saxony, 2006; Bremen, 2007; Hesse, 2007; North-Rhine-Westphalia, 2007) or plan to do so (Schleswig-Holstein, 2008). These central exit exams concern both the school-leaving certificates at the end of lower secondary school and the *Abitur* higher education entrance qualification. This development is positive as empirical evidence suggests that some form of external accountability mechanism, such external exit exams, improves student achievement; such mechanisms do not, however, appear to have any significant effect on the impact of socio-economic backgrounds on outcomes.[31] Furthermore, comparative testing and other central test procedures are carried out for various age groups to test students' achievement levels. The primary aim of this testing is to support schools with large numbers of pupils who do not achieve adequate learning outcomes in terms of the applicable learning goals in order to help these schools to achieve better results in the future.

In view of the poor achievement of students at the lower end of the achievement distribution in Germany, it will be important to hold individual schools and teachers accountable for the progress of all students, including the weaker ones, and to provide the support needed to raise performance. Taking responsibility for students falling behind means providing the individualised tuition that is necessary to bring these students quickly up to the required level – as occurs in Finland[32] – rather than simply failing students or relegating them to a less demanding education track; repeating classes, which is generally recognised to be bad educational practice, remains frequent for weaker students in Germany (Prenzel *et al.*, 2005). Schools with a relatively large proportion of weaker students would need to be given extra resources to be able to offer such services. Such measures would also enhance equality of education opportunity as weaker students tend to come from lower socio-economic and/or immigrant backgrounds.

Strengthening school leadership

School leadership has an important, though indirect effect on student learning (Leithwood *et al.*, 2004; Marzano *et al.*, 2005). School leadership significantly influences school climate, teaching and learning conditions, and school development. Until the early years of this decade, the German school principal was not commonly viewed as the leader of collective efforts of the teaching staff to achieve commonly agreed goals. Principals were often teachers with part-time administrative duties and were "rarely expected to lead processes like school development or school-based self-evaluation" (Halász *et al.,* 2004, describing the situation in 2002). Since then, the role of school leaders in Germany has begun to change. New laws give schools greater autonomy and responsibility in the areas of school development, quality assurance, and evaluation. The perception that school leaders have of their role and their actual role have been changing significantly owing to their ability to influence their school's profile. The implementation of agreements on objectives between schools and school authorities and/or agencies for quality assurance and quality development has resulted in a higher degree of accountability of school principals. This development has obliged principals to focus on improving teaching quality. In light of these changes, requirement profiles for school principals now call for a greater management orientation. In addition to the traditional administrative tasks,[33] school principals must also focus on quality development and assurance and human-resource development. Various support arrangements are often available to help principals carry out their duties. These include that the responsible ministry of education and cultural affairs (*Kultusministerium*) can request teachers to consult with special advisors who guide and support teachers in their professional duties.[34]

Improving initial teacher training[35]

Teacher training in Germany consists of two phases, both ending with an examination regulated by *Land* authorities. The first stage (3 to 4 years) is provided at universities while the second (1½ to 2 years) follows the dual model, being partly organised in schools as on-the-job training, and partly in non-university teacher training institutions ("Seminars"). During the second stage, trainee teachers work under the supervision of a mentor teacher. While this dual approach to initial teacher education is a major strength in helping entrants to the profession to improve their teaching practice, there may be scope to do better. Initial teacher education could be improved by linking the first and second phases together more closely and linking them both more closely to teachers' continuous professional development. A problem in this regard is that the institutions responsible for initial teacher education, induction and continuous training operate separately from each other, despite the efforts of several *Länder* to make them cooperate. Care will also be needed in implementing the Bologna Bachelors/Masters degree reforms to ensure that the dual approach to initial teacher education, which is a major strength of the German system, does not get downgraded.

Despite the focus on building practical skills, teacher training in Germany does not do enough to develop methodological skills and general teaching competencies. According to Halász *et al.* (2004), German teachers are not sufficiently prepared to develop students' learning competencies, to individualise teaching, to enhance self-regulated learning, or to organise learning in cooperative teams. Consistent with these observations, German students expressed low satisfaction in the PISA study with the support they receive from their teachers. In the context of increasing teachers' accountability for student outcomes (see above), it is vital that both initial teacher training and continuing education for teachers be adapted to overcome these weaknesses.

Reducing stratification in the school system

Germany's education system is highly stratified: it has three tracks into which students are sorted; first selection between tracks occurs early, at age 10, earlier than in any other OECD country except Austria, where first selection also occurs at age 10;[36] and the different tracks are mostly offered in separate school types, except in the new *Länder* and Rhineland-Palatinate where the lower- and middle ability tracks are offered in a single school type (similar arrangements will also apply in Hamburg and Schleswig-Holstein from 2008) – Annex 4.A1 describes the basic structure of the school system. Approximately 32% of students enter the grammar school (*Gymnasium*) track, which is for the most academically able students, 26% enter the *Realschule* track for students in the middle ability group, with a further 22% entering the *Hauptschule* track for the less academically able group, although there is considerable variation in these proportions across *Länder*. In addition, 8% of students enter comprehensive schools (*Integrierte Gesamtscule*), which offer courses leading to an unrestricted university entrance certificate (*Allgemeine Hochschulreife*, as in a *Gymnasium*), a *Realschule* leaving certificate (*Mittlerer Schulabschluss*), or a *Hauptschule* leaving certificate, and a further 7% of students enter the two-track school type (*Schularten mit mehreren Bildungsgängen*) referred to above offering the *Hauptschule* and *Realschule* tracks, with remaining students mainly in special education facilities for students with special needs.

The first tracking decision in Germany does not predetermine a student's subsequent school career as he/she may change tracks at a later stage. According to data collected by the authorities, some 10% of 9th grade students in the 2004/05 school year were in a different track from their 5th grade track in 2000/01 (Bundesministerium für Bildung und Forschung, und Kultusministerkonferenz, 2006). Nevertheless, permeability is much more pronounced in terms of moving to a lower track than to a higher track: approximately 60% of the track changes between the 5th and 9th grades were classified as being downwards, while only 20% were classified as being upwards (the remaining movements could not be classified as up or down) (*ibid*.). Nor does failure to enter the *Gymnasium* track preclude acquiring a higher education entrance qualification – it is possible for students from the *Hauptshule* and *Realschule* tracks to acquire higher education entrance qualifications. In 2006, of the 415 267 individuals who acquired a general or restricted higher education entrance qualification, 258 272 were graduates of general education courses whereas 156 993 graduated from vocational schools. Since the mid-1990s, the proportion of students who acquired a general higher education qualification in vocational education has increased in almost all *Länder* (overall, the proportion is 14%, although it is much higher in some *Länder*, particularly in Baden-Württemberg, where about one third of the students acquire a general higher education entrance qualification at *Berufliche Gymnasien*). Non-traditional pathways to acquire higher-level school leaving qualifications have also increased. In recent years, school leaving qualifications have tended to be much less linked to specific school types than in the past (*Bildung in Deutschland,* p. 76).

Selection into tracks is based on the teacher's assessment of his/her students' aptitudes, although these recommendations often can be overridden by parents. Such selection is intended to allocate the most academically able students to the *Gymnasium* track and the least academically able students to the *Hauptschule* track, which by and large is what happens. Nevertheless, socio-economic background has a large influence on whether or not children go to a *Gymnasium*, even after controlling for ability. Prenzel *et al*. (2005) find that after controlling for reading and mathematics scores in PISA, a child from the top quartile of socio-economic background is 4.0 times more likely to go to a

Gymnasium than a child from the second lowest quartile of socio-economic background, on average in Germany; without controlling for achievement in PISA tests, the ratio is 6.9 (Table 4.1). This finding suggests that the process of selecting students according to teacher recommendations does not work very well. Spinath (2005) finds that diagnostic competencies among German teachers regarding primary school students (grades 1-4) are very poor. In addition, parents with more advantaged socio-economic characteristics may override teachers' recommendations more often to get their children into a more academically demanding track, notably the *Gymnasium* track. The fact that students are being selected to a large degree on the basis of their socio-economic background independently of their ability suggests that early tracking in Germany leads to the reproduction of social inequalities and, accordingly, to relatively low intergenerational social mobility.

Table 4.1. **Odds of attending a grammar school in the *Länder* by socio-economic background**

ESCS[1]

	75-100% – Quartile		50-75% – Quartile		25-50% – Quartile		0-25% – Quartile	
	Model I	Model II	Model I	Model II	Model I	Model II	Model I	Model II
Bavaria	7.77	6.65	2.35	2.06	1	1	0.51	0.93
Saxony-Anhalt	10.44	6.16	2.76	2.30	1	1	0.39	0.68
Rhineland-Palatinate	8.28	4.60	2.68	2.03	1	1	0.37	0.61
Baden-Württemberg	8.41	4.40	2.57	1.94	1	1	0.35	0.65
North Rhine-Westphalia	8.07	4.35	2.57	2.04	1	1	0.28	0.61
Hamburg	7.53	3.55	1.89	1.63	1	1	0.30	0.53
Saarland	6.71	3.48	2.28	1.51	1	1	0.35	0.57
Mecklenburg-W. Pomerania	7.96	3.47	2.24	1.58	1	1	0.31	0.50
Thuringia	5.13	3.23	2.34	2.53	1	1	0.36	0.56
Schleswig-Holstein	6.24	2.88	1.85	1.25	1	1	0.23	0.45
Bremen	9.06	2.83	2.32	1.39	1	1	0.55	1.05
Saxony	4.49	2.79	2.19	1.72	1	1	0.36	0.69
Hesse	5.70	2.71	2.38	1.55	1	1	0.50	0.81
Berlin	4.45	2.67	1.77	1.57	1	1	0.34	0.79
Lower Saxony	6.45	2.63	2.24	1.52	1	1	0.40	0.73
Brandenburg	3.71	2.38	1.72	1.70	1	1	0.44	0.84
Germany	6.87	4.01	2.30	1.79	1	1	0.37	0.68

1. ESCS is the PISA index of economic, social and cultural status. Its derivation is described in footnote 4 of the main text.
Model I = Without controlling for PISA reading and mathematics scores.
Model II = Controlling for PISA reading and mathematics scores.
Source: Prenzel *et al.* (2005), PISA 2003, *Der zweite Vergleich der Länder in Deutschland – Was wissen und können Jugendliche?*, Waxmann, Münster.

Based on a multilevel regression analysis of the 2006 PISA science results, early tracking increases the impact of socio-economic background on student achievement but has no effect on average scores (OECD, 2007a, Box 5.2).[37] In a review of the empirical literature, Meier and Schütz (2007) reach the same conclusions, namely that early tracking reduces the equality of education opportunities but does not have a significant effect on average achievement.[38] Hence, there does not appear to be a trade-off between efficiency and equity from reducing the intensity of tracking. Concomitantly, this result suggests that the gains in teaching efficiency from having more homogenous classes in an early tracking system are offset by the adverse effects on lower ability students of being separated from more able students.[39]

There is also evidence that inequality of achievement tends to increase in tracked school systems between the primary and secondary levels, with the effect being particularly marked in Germany (Hanushek and Wößmann, 2005). Wößmann (2007) finds that the intensity of tracking is positively associated with inequality of opportunity across German *Länder*, whether this effect is measured by the number of tracks or the proportion of students attending the lowest exiting track in a *Land* (reflecting the exclusion of low-performing students from the mainstream), and that delayed tracking is negatively related with the inequality of education opportunity.[40] Furthermore, there is evidence that early tracking increases the impact of socio-economic background on labour-market outcomes, notably by increasing the influence of socio-economic background on attaining a tertiary education qualification (Brunello and Checchi, 2006;[41] Meghir and Palme, 2005).[42]

Expectations of continuing to theoretical higher education given PISA maths scores are more dependent on socio-economic background in Germany than in most other OECD countries (OECD, 2007c, Table A4.4; see OECD (2006) for more information about these and the other estimates discussed in this paragraph).[43] This could reflect that children from lower socio-economic backgrounds have already been placed in education tracks that diminish such education expectations, despite their ability to profit from higher education. Second-generation immigrants overall are much less likely to expect to continue to theoretical tertiary education, although this is not so for some ethnic groups. However, controlling for socio-economic background and maths scores, immigrant children are much more likely to expect to continue to such education than native children. This result points to high motivation and positive attitudes to education among immigrant children.

In view of the findings of the empirical literature on the effects of early tracking, *Länder* governments could reduce the intergenerational transmission of inequality by reducing the degree of early tracking in their education systems.[44] Some suggestions for doing so are discussed in the remainder of this section.

Delaying the first tracking decision

A problem with making the tracking decision at a young age is that there is an increased risk of making a mistake in measuring true ability, and hence of assigning a child to the wrong track. This is so because ability is only revealed gradually and there are large differences in maturity amongst younger children (Meier and Schütz, 2007); indeed, younger children in a class are more frequently upgraded following an earlier tracking decision (Puhani and Weber, 2007). Making the tracking decision at a younger age increases the influence of socio-economic background on the placement decision; for example, Bauer and Riphahn (2006), using data for the 26 Swiss cantons, find that making the tracking decision early greatly increases the advantage of children with highly educated parents in being placed in the academic education track. Younger children are more dependent on their parents and parental resources than older children (OECD, 2005c). It is interesting to note that, controlling for reading and mathematics performance in PISA tests, a child from the top quartile of socio-economic background is only 2.4 and 2.7 times more likely to attend a *Gymnasium* than a child from the second quartile of socio-economic background in Brandenburg and Berlin, respectively, these being the two *Länder* that delay the first tracking decision until age 12, compared with a Germany wide average of 4.0 (see Table 4.1). Other *Länder* wanting to reduce the intergenerational transmission of socio-economic inequality should also consider raising the age of first selection. At least for the four *Länder* that have a two-year orientation period before the tracking decision becomes final, this would not represent a major organisational change – curricula during this two year period are already common. Permeability between education tracks should also be increased so that tracking decisions that do not reflect a child's subsequently revealed academic ability can be more easily corrected. As noted above, most transfers between education tracks are currently to a less academically demanding track.

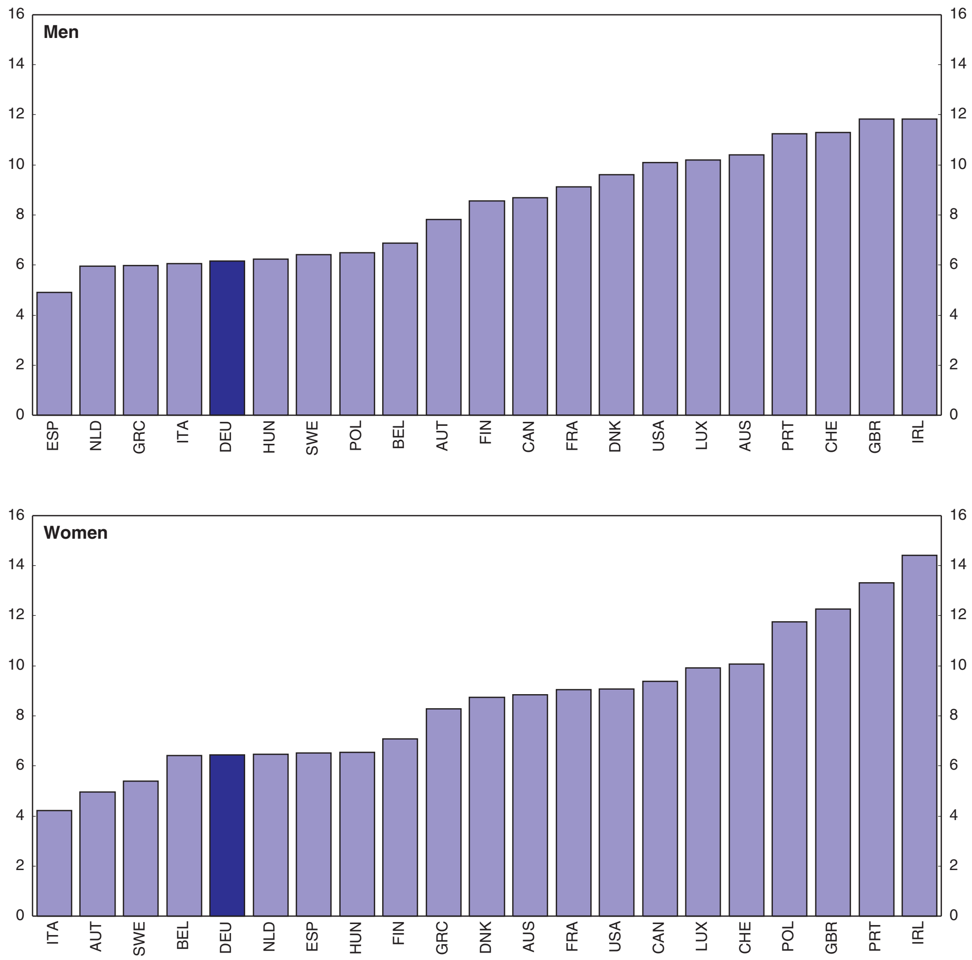
Combining the Hauptschule and Realschule tracks in one school type

As noted above, some *Länder* (the new eastern *Länder* and Rhineland-Palatinate) have adopted two-school type systems or are moving towards such an arrangement (Hamburg and Schleswig-Holstein) in which the tracks leading to the *Hauptschule* leaving certificate and *Realschule* leaving certificate are offered in one school type, with the other school type being the *Gymnasium* (grammar school). Such an arrangement reduces socio-economic segregation between schools and avoids the risk of very weak students being grouped together in a single school type (*Hauptschule*) with low achievement expectations. By so doing, these arrangements tend to reduce the impact of socio-economic background on student achievement. Other *Länder* wishing to reduce the impact of socio-economic background on education outcomes should consider such a reform, especially where the proportion of students attending the *Hauptschule* track is low (say less than 25%), representing a rump of poor performance and low expectations. Some other countries with similar early tracking education systems (Luxembourg, the Slovak Republic) are encouraging similar reforms.

Make tertiary education more attractive and responsive to labour market requirements

There are factors on both the demand and supply sides of the market for tertiary education that contribute to explaining the relatively low new[45] tertiary graduation rate in Germany. Based on a panel regression analysis for OECD countries, Martins *et al.* (2007) find that new tertiary graduation rates as a share of the population aged 20-29 are positively related to internal rates of return on tertiary education (a demand factor) and to tertiary education supply flexibility/accountability (summarised in the Composite Supply Indicator for Tertiary Education, STE – the coverage of the indicator is outlined in Annex 4.A2)[46] but negatively related to liquidity constraints (another demand factor). Germany stands out as having low internal rates of return (Figure 4.9) and low university supply flexibility as summarised by the STE indicator (Figure 4.10); liquidity constraints in Germany are relatively low. The main factors giving rise to the low internal rates of return on tertiary education in Germany found in this study are low gross wage premiums per year of tertiary education, a relatively progressive income tax system (*ibid.*, Box 2, Figure A for both gross and net wage premiums per year of tertiary education), long study programmes, and high gross out-of-work replacement rates (reducing the value of the lower probability of being unemployed for tertiary graduates) (Martins *et al.*, Box 2, Figure B). German universities have little flexibility or autonomy concerning either inputs or outputs, lowering the STE indicator; these effects are partly attenuated by above OECD average accountability requirements (see Figure 4.10). The low input flexibility reflects low autonomy in selecting students; autonomy in the areas of budgets and staff policy is around the OECD average. The low output flexibility reflects *numerus clausus* provisions,[47] the limited supply of short programmes (maximum duration 3 years), low regional mobility of students, and limited autonomy of institutions in setting course content. Accountability is average in terms of funding rules but slightly above average in terms of evaluation of outputs.

Figure 4.9. **Estimates of the internal rates of return to tertiary education**
Per cent



StatLink http://dx.doi.org/10.1787/280583601533

Note: Uniform labour productivity growth across countries assumed to be 1.75% per year. Data is for 2001 except Poland and Switzerland: 2000 and Hungary: 1997.

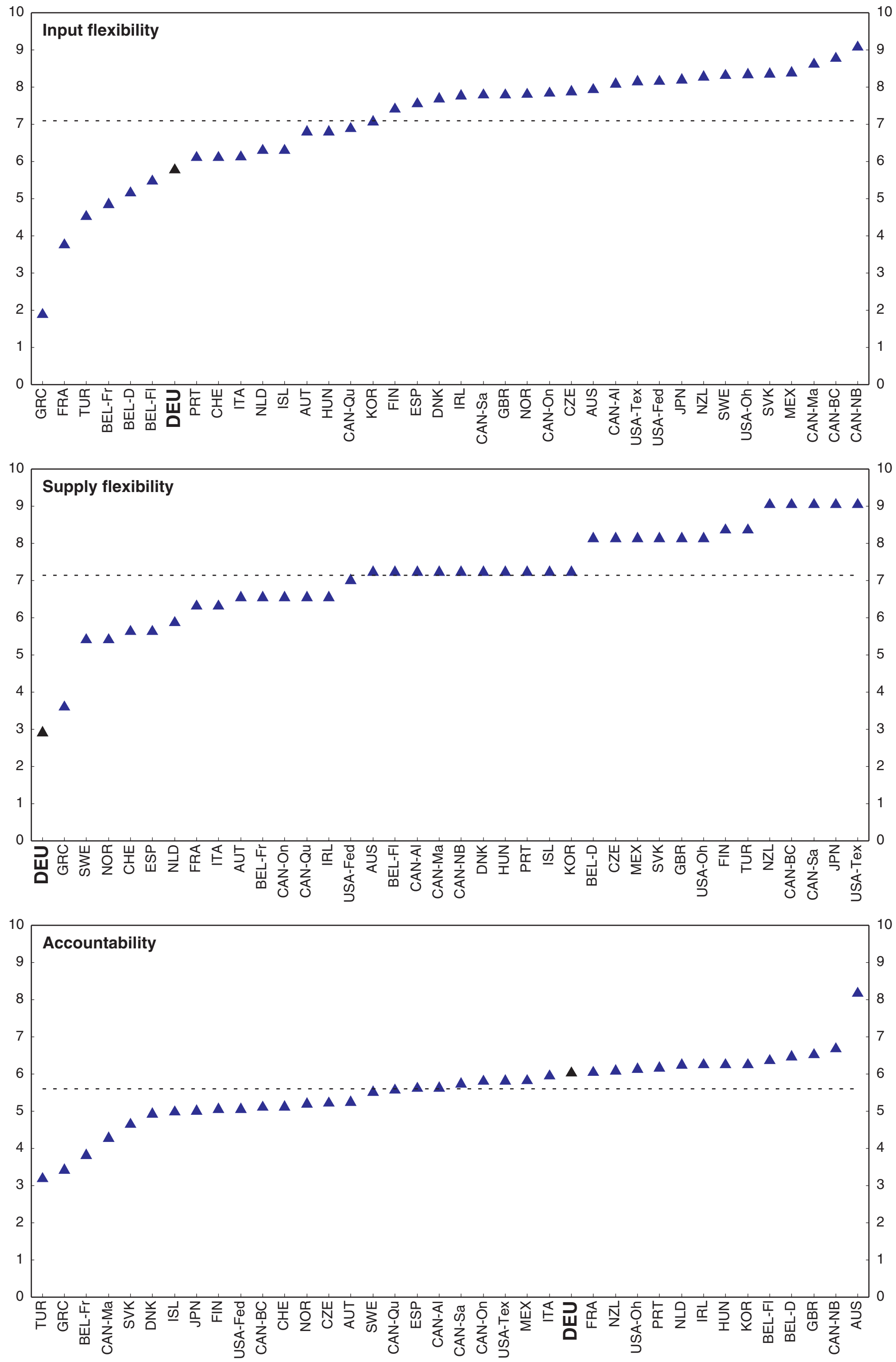
Source: Martins *et al.* (2007), "The Policy Determinants of Investment in Tertiary Education", *Economics Department Working Papers* No. 576, OECD, Paris.

Strengthening the demand for tertiary education

From the information on internal rates of return on tertiary education and on relative earnings (see above), it can be deduced that it is the internal rate of return per year of tertiary-type-A education that is low by international comparison: tertiary-type-B earnings relative to upper secondary earnings are quite high in Germany, while programme length is similar to that in other countries (by definition, tertiary-type-B programmes last less than three years). This would concord with the tertiary-type-A graduate rate being low by international comparison but the tertiary-type-B graduation rate being around the OECD average (see Figure 4.6). It is also consistent with the observation that many students who are qualified to enter tertiary-type-A programmes do not in fact do so – after five years, only 75% of persons with such qualifications have entered tertiary-A programmes, with this proportion being particularly low (50%) for students with a restricted university entrance

Figure 4.10. **Tertiary education supply indicator by category, 2005-06**

Increasing flexibility or accountability indicated from 0 to 10, dotted line is average



StatLink http://dx.doi.org/10.1787/280633215665

Notes: Accountability for USA-Fed is indicative as federal funds only account for a small share of total funding of tertiary education institutions.

Codes for the regions or states of Belgium, Canada and USA are in the Glossary.

Source: Martins *et al.* (2007), "The Policy Determinants of Investment in Tertiary Education", *Economics Department Working Papers* No. 576, OECD, Paris.

certificate (*Fachhochschulreife*).[48] Many of these students are undoubtedly attracted to tertiary-type-B programmes by their relatively favourable internal rates of return. Another factor underlying the choice of some of these students not to enter a university of applied science (*Fachhochschule*) is that they find such good career options in the dual system that they do not feel the need to go on to tertiary education, at least within five years of gaining their *Fachhochschulreife*: companies are eager to hire such persons and offer them opportunities to rise to management positions without having a university education.[49]

The move to the two-tier (Bachelors/Masters degree) Bologna system, which now covers about 60% of university programmes and should cover almost all of them by 2010, should help to increase internal rates of return on university education by shortening programmes, focusing them on occupational qualifications (along with scientific foundations and methodological competence), and reducing dropout rates (by enabling students to interrupt or terminate their studies after a Bachelors degree without being classified as a dropout). The social partners influence the content of the new degree programmes in the context of accrediting them, making them more labour-market relevant.[50] This makes graduates more attractive to employers. The fact that the programmes are shorter reinforces this attraction as graduates are able to start gaining work experience and adapting to business culture at an earlier age, when such induction may be more efficient.

The impact of the Bologna system reforms on rates of return from *Fachhochschulen* (universities of applied sciences) degrees is likely to be less marked than for other university-level degrees as the *Fachhochschulen* degrees were already relatively short and occupationally oriented. Nevertheless, they have been upgraded to bring them into line with a Bachelors/Masters schema. This upgrading would appear to meet employers' demands for graduates in occupationally-oriented disciplines with a higher level of education that is nevertheless completed at a relatively young age. By better meeting employers' demands, the internal rate of return on *Fachhochschulen* degrees might also be expected to rise, increasing demand for such education, notably from secondary school graduates with a *Fachhochschulreife*. On the other hand, the fact that the Bologna reforms are making degree programmes in general universities shorter and more occupationally oriented could reduce the relative attractiveness of *Fachhochschulen*.[51]

As noted above, the other factors that depress the internal rate of return on tertiary education in Germany are the relatively progressive income tax system and high out-of-work benefits. Policies in these areas depend on many other factors than incentives to acquire tertiary education. The fact that these policies nevertheless also affect tertiary-education incentives suggests that this factor should also be taken into account when making decisions in these areas. The *Hartz* reforms that reduced the generosity of unemployment benefits in recent years were rightly aimed principally at reducing long-term unemployment and inactivity. But they also increased incentives to acquire tertiary qualifications as tertiary graduates have a lower risk of unemployment than other persons. This factor has not been taken into account in the estimates of internal rates of return on tertiary education presented above because they relate to 2001, before the *Hartz* reforms came into effect. Future decisions about the appropriate degree of progressivity in the income tax system should take the impact of this factor on incentives to acquire tertiary qualifications into account, amongst other effects.

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Making supply of tertiary education more responsive to demand

Input flexibility is being increased in some *Länder* by giving universities the right to select students; this measure should also contribute to reducing dropout rates, raising expected internal rates of return on tertiary education. Another measure that is increasing input flexibility is that universities in some *Länder* have recently been given the right to set tuition fees.[52] A constitutional constraint in setting these fees is that they must not result in some students being excluded because they cannot afford the fees. This requirement has been satisfied by setting fees for full-time students at a low level (€ 300-500 per semester) and providing student loans. The *Länder* that have not already increased their universities' input flexibility should consider doing so.

Output flexibility is being increased by the introduction of shorter courses in the context of the Bologna system, as discussed above, and by further easing of *numerus clausus* restrictions. To assist the *Länder* to reduce *numerus clausus* restrictions, the federal government has entered into the "Higher Education Pact 2020" ("*Hochschulpakt 2020*") with them in order to expand the number of study places.[53] The aim is to increase university entry rates to 40% of a cohort (from around 30% presently). Special attention is to be given to increasing the number of new students in universities of applied sciences (*Fachhochschulen*), which train a large proportion of the country's engineers.

A constraint on there being an adequate number of university places in Germany is that they are mainly financed by the *Länder* in which they are located without there being a compensation mechanism for students attending university outside their home *Land*. In these circumstances, there is an incentive for *Länder* to restrict the number of university places (especially for students from other *Länder*). The Rhineland-Palatinate government recently proposed a formula to the *Kultusministerkonferenz* for providing partial compensation for these costs.[54] However this solution does not address the free-rider problem that the *Land* that finances a graduate's university education is not necessarily the same one that receives taxes on his/her subsequent earnings. *Länder* with net immigration of high-skilled workers, notably Bavaria, benefit greatly from the current arrangements and would continue to do so if the Rhineland-Palatinate government's proposal were implemented, although this benefit is diminished through fiscal equalisation; as a net contributor to the fiscal equalisation system, Bavaria only keeps about 40% of extra tax receipts. A preferable solution to these free-rider problems could be for universities to charge notional tuition fees on a cost recovery basis with repayment of these fees being made out of tax revenue in the *Land* where the graduate subsequently works.

Concerning accountability, the *Länder* have been reforming university financing, most of which they provide, to strengthen incentives for improved performance. Global budgets, along with increasingly merit-oriented funding allocations – including within universities – and merit-oriented salary structures for university teachers are being adopted. In this way, university autonomy is being increased. Nevertheless, the proportion of funding competitively allocated remains low in some *Länder*. Through the "Excellence Initiative", the federal government awards extra funds to the universities with the highest quality research.[55]

Box 4.2. **Policy recommendations to improve education outcomes**

Increase participation in early childhood care and education (ECEC) and enhance its quality by:

- pilot-testing programmes aimed at compensating very young children from disadvantaged backgrounds for lacuna in their home environments, which hinder the development of their abilities;
- developing common funding standards across localities that ensure more equitable treatment of children from socially disadvantaged backgrounds;
- upgrading training of educators in ECEC to the tertiary level, preferably at the university level, and providing more specialised training for educators of very young children (aged less than 3);
- rethinking the payment of a monthly fee to parents who look after their children themselves instead of placing them in a childcare facility, as is currently being considered;
- identifying strategies to raise participation of children from lower socio-economic backgrounds in kindergarten from age 3 onwards; and
- improving the quality of all-day kindergarten programmes.

Improve teacher quality by:

- holding individual schools and teachers accountable for the progress of all students and putting in place the structures needed to support this development;
- making greater use of financial incentives for good teaching in schools that are held accountable for outcomes based on adequate evaluation of performance;
- developing school principals as more effective leaders; and
- focusing teacher training more on developing methodological skills and general teaching competencies.

Reduce stratification in the school system by:

- delaying the first tracking decision until after age 10, the age at which this decision currently occurs in most *Länder*;
- offering the *Hauptschule* and *Realschule* tracks in one school type; and
- increasing permeability between education tracks in practice.

Make tertiary education more attractive and responsive to labour-market requirements by:

- increasing universities' input flexibility, including by allowing them to charge tuition fees (and introducing loans with income-contingent repayments to ensure that students are not excluded for liquidity reasons) where this is not already the case; and
- overcoming the free-rider problem between *Länder* in the financing of university education by charging notional tuition fees on a cost recovery basis that are repaid out of tax receipts in the *Land* where the graduate subsequently works.

Improving access to university studies for persons from lower socio-economic backgrounds

The federal government together with the *Länder* finance a variety of programmes to improve access to university studies of persons from less favourable socio-economic backgrounds. In particular, funding is provided to students subject to parents' income under the Federal Education and Training Assistance Act (*BAföG*), which is also available for other forms of education and vocational training at school. Such funding is provided as a subsidy if school training is concerned and as half subsidy and half loan (up to a maximum amount for the loan of € 10 000) in the tertiary sector. Following the 2001 *BAföG* reform, the proportion of *BAföG* recipients among students grew to 25% (2000: 21%). The average funding amount provided was increased to € 375 (2000: € 326).[56] The recent amendment Act increases the amount of individual support significantly (10% or more) from autumn 2008 and will also increase the number of students supported (the proportion of students receiving *BAföG* support is expected to rise to 28% by the end of 2009). Besides the *BAföG* support, the federal "*KfW-Förderbank*" offers bank loans for all students. These are not means tested (so called "*Studienkredit*") and are designed as an additional option for individual study financing, but not as part of social benefits. In some *Länder*, students in special social hardship situations are supported via students' associations (*Studentenwerke*), and by universities themselves, with loans of various sizes. In addition, a range of foundations – both at the federal and local levels, the latter mostly being smaller and private – also support gifted students, the aim being to provide stipends to the most talented 1% of students (*Begabtenförderungswerke*). While all of these measures are helpful, the most effective approach to improving access to university studies of persons from lower socio-economic backgrounds is to reduce the impact of socio-economic background on achievement at earlier stages of education. Much is being done by German education authorities in this respect, and there remain considerable possibilities to build on these reforms, as discussed in the earlier sections of this chapter.

Notes

1. Continuing education was reviewed in OECD (2005a). An OECD study on vocational education is currently underway, with results likely to be published in 2009.
2. Comparisons over time can only be made in a subject once a comprehensive test has been administered. Such tests occur when that subject is the special focus of a PISA study. Comprehensive tests were administered in reading, mathematics, and science in 2000, 2003, and 2006, respectively. Accordingly, inter-temporal comparisons can be made for reading since 2003 and for mathematics since 2006 and will be possible for science from 2009, the year in which the next PISA study is planned. Such comparisons are made using a representative sample of questions covering all fields examined in the comprehensive tests when the subject concerned is not the special focus.
3. The correlation coefficients between average achievement and the ratio of scores at the 75th to the 25th percentiles in science, reading and mathematics are –0.52, –0.73 and –0.64, respectively.
4. The index of economic, social and cultural status (ESCS) is derived from: the highest international socio-economic index of occupational status of the student's father or mother; the highest level of education of the father or mother converted into years of schooling; and the number of books at home as well as access to home educational and cultural resources. The student scores on the index are factor scores derived from a Principal Component Analysis that are standardised to have an OECD mean of zero and standard deviation of one. See OECD (2004a, p. 307) for further details.
5. These results are based on a simple (*i.e.,* one explanatory variable) regression.
6. Native students were born in the country of assessment as was at least one of their parents.
7. The correlation coefficient between the ratio of scores at the 50th to the 25th percentiles, reflecting the degree to which weaker students lag behind average students, and average scores is –0.58 across OECD countries. For the ratio of scores at the 75th to the 50th percentiles, reflecting the degree to which stronger students outperform average students, the negative relationship with average scores is less marked – the correlation coefficient is –0.36. The corresponding correlation coefficients for the German *Länder* are –0.76 and –0.69, respectively, indicating that this relationship is even stronger within Germany than across OECD countries.

8. The correlation coefficient between *Länders* mean PISA scores in mathematics and the slope of the socio-economic gradient is –0.49. By contrast, there is virtually no relationship across OECD countries (excluding Mexico, which is an outlier) between mean PISA scores in mathematics and the slope of the socio-economic gradient (the correlation coefficient is 0.14).
9. These *Länder* are: Bavaria (mean 533, slope of the socio-economic gradient 38); Saxony (523, 39); Baden-Württemberg (512, 45); and Thuringia (510, 40).
10. The three *Länder* with below OECD average PISA scores and below average socio-economic gradients are: Brandenburg (mean 492, slope of the socio-economic gradient 38); Hamburg (481, 41); and Saarland (498, 40).
11. The correlation coefficient between *Länders* mean PISA scores in mathematics and the share of migrants is –0.43.
12. Post-secondary non-tertiary qualifications are upper secondary level qualifications that are acquired by persons who already have upper secondary qualifications. In Germany, for example, dual system qualifications acquired by persons already holding an unrestricted university entrance qualification (*Abitur*) would be so classified.
13. Tertiary-type-A programmes lead to university degrees corresponding to a Bachelor's or a Master's degree in the Bologna system. These degrees are classified in the International Standard Classification of Education (ISCED) as ISCED 5A. Such programmes take at least three years to complete (for a Bachelor's degree or its equivalent).
14. Tertiary-type-B programmes are classified at the same level of competencies as tertiary-type-A programmes but are more occupationally oriented and usually lead to direct labour market access. The programmes are typically shorter than type-A programmes – usually two to three years – and generally are not intended to lead to university-level degrees. Such programmes are classified as ISCED 5B.
15. A factor to bear in mind, however, when considering the consequences of the low overall tertiary graduation rate is that training for certain occupations, such as kindergarten teachers, occurs at the upper secondary level (ISCED 3) rather than at the tertiary-type-B level (ISCED 5B); contrary to popular perceptions, nursing qualifications in Germany are, however, classified at the tertiary-type-B level, as in other countries.
16. Science fields include: life sciences; physical sciences; mathematics and statistics; computing; engineering and engineering trades; manufacturing and processing; and architecture and building.
17. Education achievement in Wößmann's (2007) study is measured by students' scores in mathematics in the 2003 PISA study and enrolment in pre-school education refers to enrolment rates for 3-5 year olds.
18. Measures that help enhance relevant co-operation and curricula development include, for example, joint conferences in connection with children's entry into school, topic-oriented parents' evenings, two-way guest teaching programmes, and early intensive language programmes with methods suitable for children.
19. The only exception is Baden-Württemberg, which trains ECEC educators, primary school teachers, part of lower secondary teachers, and special education teachers at non-university tertiary (*i.e.,* tertiary type-B) institutions (*Pädagogische Hochschulen*) (Halász *et al.*, 2004).
20. Educators of children aged below three in childcare institutions (*Kindertageseinrichtungen*) and of children aged 3-6 in kindergartens receive essentially the same training.
21. This commitment is enacted in the 2005 Children's day-care expansion Act (*Tagesbetreuungsausbaugesetz*).
22. Roughly 80% of children aged 3-6 whose parents are married and have a monthly income of at least € 3 800 were enrolled in pre-school education in 1999. In the family income range of € 500-900 per month, only 64% of children were enrolled in pre-school education (*Bundesministerium für Familie, Senioren, Frauen und Jugend*, 2004).
23. Parents with low incomes generally do not have to pay kindergarten fees. In the case of Berlin, no fees are paid by parents of half of the students.
24. Specific national origins have little impact on children's kindergarten attendance rates once socio-economic background is taken into account (*Bundesministerium für Bildung und Forschung, undKultusministerkonferenz*, 2006). This study also shows that on the whole foreign children's attendance rates moved closer to native children's rates over 1991 to 2004.

25. Landvoigt *et al.* (2007) find that not attending kindergarten and attending kindergarten full time are associated with lower participation in the grammar school track (*Gymnasium*). Full-time participation is a disadvantage, even when adjusting for socio-economic background. The authors speculate that such participation does not compensate enough for the missing educational stimulation at home.

26. Including parents' and providers' contributions, funding of ECEC services in Germany was 0.57% of GDP in 2001.

27. Wößmann (2005) finds that school autonomy generally improves student performance in a system with centralised exit exams, which hold schools accountable for student achievement, but has the opposite effect in the absence of external exit exams.

28. *Internationale Grundschul-Lese-Untersuchung* (IGLU) is the German name for the Progress in International Reading Literacy Study (PIRLS).

29. This means that the first group of subjects will be examined for the first time in 2009, while the second group will be examined for the first time in 2012.

30. Extension (E) refers to the extension of the study from the national level to the *Land* level.

31. Wößmann (2005) finds that central exit exams improve student achievement as measured in three recent international student achievement tests: the 1996 Third International Mathematics and Science Study (TIMSS); the 1999 TIMSS-Repeat study; and the 2000 Programme for International Student Assessment (PISA) in reading, mathematics and science. This effect tends to increase with student ability, although it does not differ substantially for most measured family-background statistics. The effect of central exit exams increases during the course of secondary education, and regular standardised examinations have additional positive effects. Similarly, based on 2003 PISA data, Wößmann (2007) finds that central exit exams are associated with higher student performance but are not related to the equity of outcomes. This result holds for both the sample of the 16 German *Länder* and the wider sample also including OECD countries. Jürges, Schneider and Büchel (2005) and Bishop (1997) also find that education standards and external exams help to improve student achievement. However, a multiple regression analysis of the 2006 PISA results for science failed to find a significant relationship between standards-based external examinations and average science scores (OECD, 2007a).

32. Processes and structures are in place within schools in Finland to identify when individual students are starting to fall behind, with interventions following to improve the child's performance. There are specialised teachers who coach small groups of students falling behind so as to bring back up to the required standard in regular classes quickly. Some 30% of students participate in such classes at one time or another.

33. These tasks include making instruction assignments, preparing schedules, supervisory plans and substitution plans and managing school administrative tasks, such as procuring teaching tools and equipment. The school principal must inform himself/herself about the work taking place in the various classes by visiting classrooms, reviewing pupils' written work. He/she participates in parents' and pupils' assemblies and is responsible for assuring that various regulations pertaining to compulsory education and health and to accident prevention are respected.

34. Other forms of support are that the deputy school principal takes responsibility for ongoing tasks, and/or that some organisational and administrative tasks are assigned to individual teachers. In addition, some *Länder* have begun appointing administrative directors to schools.

35. This section is based on Halász *et al.* (2004).

36. First selection only occurs at age 12 in Berlin and Brandenburg. Based on a *Kultusministerkonferenz* (*KMK*) agreement, the other *Länder* have an "orientation period" in grades 5 and 6 (the first two years of secondary school, which follow the initial tracking decision) during which students can still decide which track to follow. Curricula are structured during this period to enable pupils with suitable achievement to make the transition into a different track.

37. The early tracking variables included in the analysis were: system with early selection (each additional year between the first age of selection and the age of 15); and system-level number of school types or distinct educational programmes available to 15-year olds. The following demographic and socio-economic background factors were included in the analysis at the student level – the PISA index of economic, social and cultural status of the student, gender, students' and parents' country of birth and the language spoken at home – at the school level – the socio-economic intake of the school, the school location and the school size – and at the country level – the national average economic, social and cultural status.

38. However, Waldinger (2006) finds that early tracking does not have a significant effect on equality of education opportunity based on 2003 PISA scores. While socio-economic background has a significantly greater effect on 2003 PISA achievement in early-tracking countries, he finds that this inequality of education opportunity was already present before tracking occurs. A drawback of this study, however, is the relatively small sample of countries included (Meier and Schütz, 2007).

39. Education entails joint production, with the abilities of all students in a class entering as factors of production. High ability students are able to support classmates in learning. Such students may also stimulate others and themselves to make greater efforts. Moreover, expectations for achievement are likely to be higher in a class with more able students. On the other hand, weaker students are more likely to disrupt the learning process. In a tracked education system, these peer group effects would tend to be positive for higher ability students, who are separated from weaker students, and negative for lower ability students. The fact that the overall impact of early tracking on achievement is insignificant despite the production efficiencies associated with having more homogenous classes suggests that the adverse peer group effects on weaker students outweigh the positive effects on more able students.

40. Wößmann (2007) did not find any significant difference in the equity of student outcomes between the four *Länder* with the so called orientation period and those with tracking at age 10; nor did he find any significant difference in the efficiency of student outcomes between these two groups of *Länder*.

41. Brunello and Checchi (2006) find that early tracking increases the impact of socio-economic background on education attainment and on earnings of 20-24 year olds but reduces the impact of this factor on adult literacy and on access to training. These results suggest that the reinforcing effect of socio-economic background on attainment in early tracking systems outweighs the favourable reinforcing effects on adult literacy and access to training. The authors confirm the results in other empirical literature that show that early tracking increases the impact of socio-economic background on reading achievement in the PISA study, indicating that early tracking reduces the impact of socio-economic background on literacy between the ages of 15 and 20-24.

42. In a study of the Swedish education reform in the 1950s that abolished early tracking, extended compulsory schooling, and introduced a national curriculum, Meghir and Palme (2005) find that the reform increased education attainment of individuals with unskilled fathers, with the effect being particularly strong for the more able students. Earnings for individuals with unskilled fathers increased significantly. However, earnings of individuals with skilled fathers declined, suggesting that the quality of education for this group, which formerly attended the academic track, declined, and/or that they were subject to more competition in the labour market from the children of unskilled fathers.

43. This paragraph is based on OECD (2007c, Indicator A4). Note that an odds ratio in OECD (2007c, Tables A4.4 and A4.5) greater than one means that students from a high socio-economic background or immigrant background, respectively, are more likely to expect to complete university studies than students with a low socio-economic background and/or native background.

44. "Thus, in tracked systems the final school degrees of parents and their rank in the wage distribution will to a higher extent be mirrored in the achievements of their children", Meier and Schütz, 2007, based on: Dustmann, 2004; Bauer and Riphahn, 2006; and Pekkarinen *et al.*, 2006.

45. Graduates are only counted the first time they graduate. Graduation from subsequent degrees is not counted again. This is to increase comparability between countries having long degree programmes, which deliver few degrees to a graduate, and countries having shorter modular programmes, which deliver more degrees to a graduate. Thus, the share of graduates in the population aged 20-29 is being measured rather than the ratio of graduations to this age group.

46. The three main sub-categories of institutional features covered by the STE indicator are:
    - *Input flexibility*, which comprises the criteria for the selection of students, institutional autonomy to decide on the sources and structure of funding and staff policy.
    - *Output flexibility,* which includes the possibility to decide on course content, product diversity (short-term, part-time, distance learning), regional restrictions on access to universities (captured by the degree of regional mobility of students), and *numerus clausus* provisions; and
    - *Accountability,* which covers features of the type of evaluation and its public availability and of funding (output based, grandfathering, inputs based, and the types of private entities that provide funding) Martins *et al.* (2007).

47. *Numerus clausus* provisions restrict the number of entrants to certain programmes of study to a lower level than the number of applicants. The only nationwide *numerus clausus* provisions are in medicine and psychology.

48. The *Fachhochschulreife* gives access to a university of applied sciences (*Fachhochschule*). *Fachhochschule* is a type of higher education institution established in the 1970s that has the particular function of providing application-oriented teaching and research, particularly in the fields of engineering, business, administration, social services, and design.

49. According to the 2007 *Vocational Training Report*, 10.3% of persons with a higher education entrance qualification commenced a dual vocational programme in 2005.

50. The quality assurance system in Germany has been expanded in the context of the introduction of the Bologna system. This was positively assessed in the 2007 Stocktaking of progress by European countries in implementing the system.

51. Another factor that may increase the rate of return on general university programmes relative to *Fachhochschulen* programmes is the shortening of *Gymnasium* programmes from nine years to eight years, giving graduates an extra year to amortise their education investments; presently, one year less of study is normally required to obtain the *Fachhochschulreife* than the *Allgemeine Hochschulreife*. The first students from the shorter *Gymnasium* programme will graduate from secondary school in 2010.

52. None of the new *Länder* has given its universities the right to levy tuition fees on full-time students. This approach has been taken to attract students and reflects a concern to maintain student numbers in coming years in the face of very adverse demographic trends.

53. The federal government and the *Länder* are sharing the relevant costs – the cost to the federal government is € 565 million for the years up to 2010.

54. Under these arrangements, Berlin would receive the greatest amount of compensation while Brandenburg would have to pay the most.

55. The Excellence Initiative aims to strengthen science and research in Germany in the long term, improve its international competitiveness and raise the profile of the top performers in academia and research. Two of the three universities so far rewarded are in Munich. It would appear that greater funding and higher quality university appointments than in the rest of Germany have contributed to this success. In addition, the top performers have had a greater influence on university management decisions in Bavaria than in other parts of Germany.

56. The maximum debt level resulting from *BAföG* support has been limited to € 10 000 per individual.

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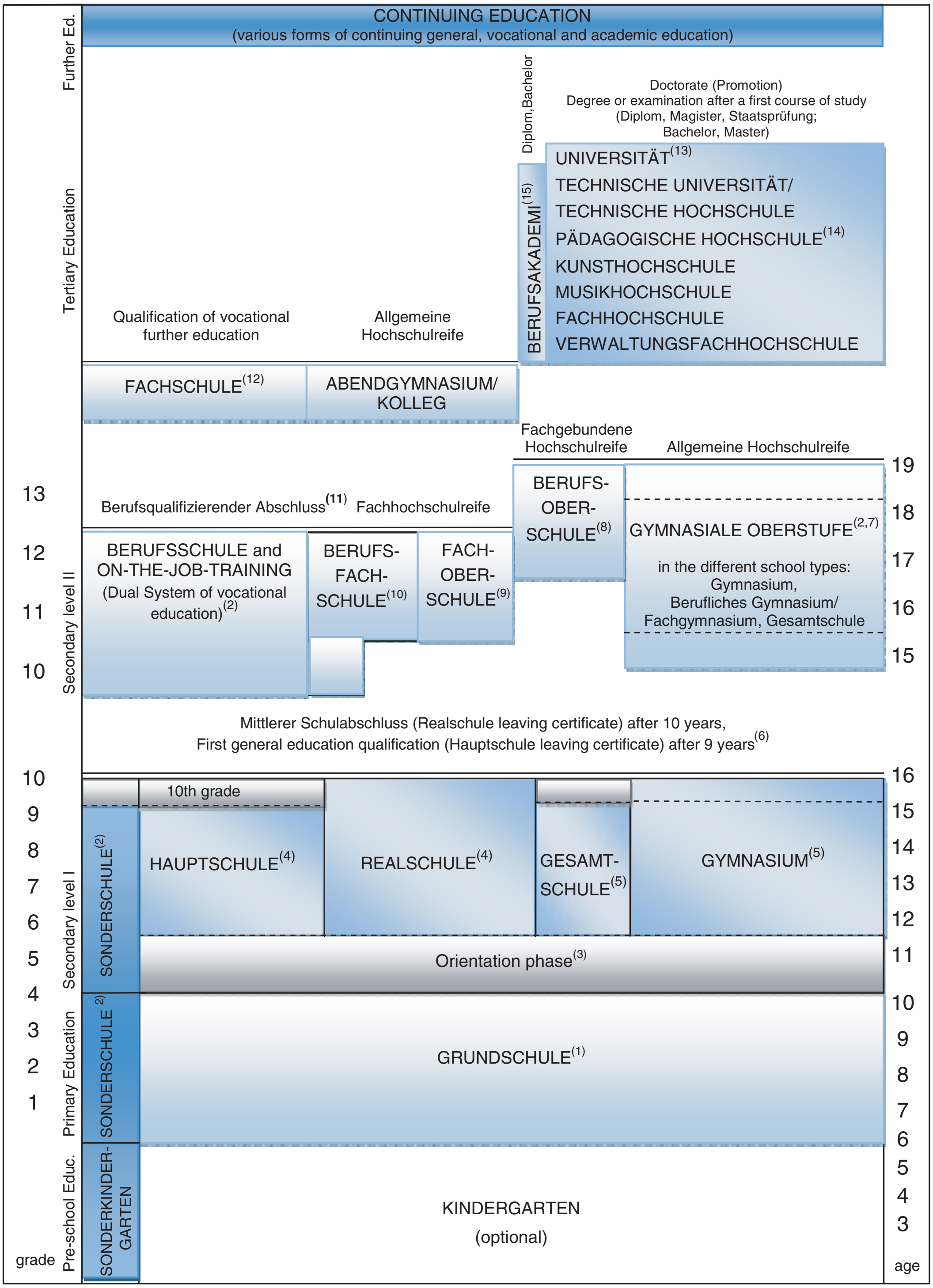
ANNEX 4.A1

Basic structure of the educational system in the Federal Republic of Germany

Figure 4.A1.1. **Basic structure of the educational system in the Federal Republic of Germany**

As at November 2007



Source: Secretariat of the Standing Conference of the Ministers of Education and Cultural Affairs of the *Länder* in the Federal Republic of Germany.

Diagram notes

Diagram of the basic structure of the education system. The distribution of the school population in grade 8 as per 2005 taken as a national average is as follows: *Hauptschule* 22.5%, *Realschule* 25.8%, *Gymnasium* 30.9%, *integrierte Gesamtschule* 8.5%, types of school with several courses of education 6.3%, special schools 5.3%.

The ability of pupils to transfer between school types and the recognition of school-leaving qualifications is basically guaranteed if the preconditions agreed between the *Länder* are fulfilled. The duration of full-time compulsory education (compulsory general education) is nine years (10 years in four of the *Länder*) and the subsequent period of part-time compulsory education (compulsory vocational education) is three years.

1. In some *Länder* special types of transition from pre-school to primary education (*Vorklassen, Schulkindergärten*) exist. In Berlin and Brandenburg the primary school comprises six grades.
2. The disabled attend special forms of general-education and vocational school types (partially integrated with non-handicapped pupils) depending on the type of disability in question. Designation of schools varies according to the law of each Land.
3. Irrespective of school type, grades 5 and 6 constitute a phase of particular promotion, supervision and orientation with regard to the pupil's future educational path and its particular direction (*Orientierungsstufe* or *Förderstufe*).
4. The *Hauptschule* and *Realschule* courses of education are also offered at schools with several courses of education, for which the names differ from one Land to another. The *Mittelschule* (Sachsen), *Regelschule* (Thüringen), *Erweiterte Realschule* (Saarland), *Sekundarschule* (Bremen, Sachsen-Anhalt), *Integrierte Haupt- und Realschule* (Hamburg), *Verbundene oder Zusammengefasste Haupt- und Realschule* (Berlin, Hesse, Mecklenburg-Vorpommern, Niedersachsen) *Regionale Schule* (Mecklenburg-Vorpommern, Rheinland-Pfalz), *Oberschule* (Brandenburg), *Regionalschule* (Schleswig-Holstein) and *Gemeinschaftsschule* (Schleswig-Holstein), as well as comprehensive schools (*Gesamtschulen*) fall under this category.
5. The *Gymnasium* course of education is also offered at comprehensive schools (***Gesamtschule***). In the cooperative comprehensive schools, the three courses of education (*Hauptschule, Realschule* and *Gymnasium*) are brought under one educational and organisational umbrella; these form an educational and organisational whole at the integrated *Gesamtschule*. The provision of comprehensive schools (*Gesamtschulen*) varies in accordance with the respective educational laws of the *Länder*.
6. The general education qualifications that may be obtained after grades 9 and 10 carry particular designations in some *Länder*. These certificates can also be obtained in evening classes and at vocational schools.
7. Admission to the *Gymnasiale Oberstufe* requires a formal entrance qualification which can be obtained after grade 9 or 10. At present, in the majority of *Länder* the *Allgemeine Hochschulreife* can be obtained after the successful completion of 13 consecutive school years (nine years at the *Gymnasium*). Yet in almost all *Länder* the gradual conversion to eight years at the *Gymnasium* is currently under way, where the *Allgemeine Hochschulreife* can be obtained after a 12-year course of education.
8. The **Berufsoberschule** has so far only existed in a few *Länder* and offers school-leavers with the *Mittlerer Schulabschluss* who have completed vocational training or five years' working experience the opportunity to obtain the *Fachgebundene Hochschulreife*. Pupils can obtain the *Allgemeine Hochschulreife* by proving their proficiency in a second foreign language.
9. The **Fachoberschule** is a school type lasting for two years (grades 11 and 12) which admits pupils who have completed the *Mittlerer Schulabschluss* and qualifies them to study at a *Fachhochschule*. Pupils who have successfully completed the *Mittlerer Schulabschluss* and have been through initial vocational training can also enter the *Fachoberschule* directly in grade 12.
10. **Berufsfachschulen** are full-time vocational schools differing in terms of entrance requirements, duration and leaving certificates. Basic vocational training can be obtained during one- or two-year courses at *Berufsfachschulen* and a vocational qualification is available at the end of two- or three-year courses. Under certain conditions the *Fachhochschulreife* can be acquired on completion of a course lasting a minimum of two years.
11. Extension courses are offered to enable pupils to acquire qualifications equivalent to the *Hauptschule* and *Realschule* leaving certificates.
12. **Fachschulen** cater for vocational continuing education (1-3 year duration) and as a rule require the completion of relevant vocational training in a recognised occupation and subsequent employment. In addition, the *Fachhochschulreife* can be acquired under certain conditions.
13. Including institutions of higher education offering courses in particular disciplines at university level (*e.g.* theology, philosophy, medicine, administrative sciences, sport).
14. **Pädagogische Hochschulen** (only in Baden-Württemberg) offer training courses for teachers at various types of schools. In specific cases, study courses leading to professions in the area of education and pedagogy outside the school sector are offered as well.
15. The **Berufsakademie** is a tertiary sector institution in some *Länder* offering academic training at a *Studienakademie* (study institution) combined with practical in-company professional training in keeping with the principle of the dual system.

Glossary

Abendgymnasium

Establishment of the so-called *Zweiter Bildungsweg* at which adults can attend evening classes to obtain the general higher education entrance qualification.

Allgemeine Hochschulreife

General higher education entrance qualification. Entitles holder to admission to all subjects at all higher education institutions and is usually obtained at upper Gymnasium level (*Gymnasiale Oberstufe*) by passing the Abitur examination. The certificate of *Allgemeine Hochschulreife* incorporates examination marks as well as continuous assessment of pupil's performance in the last two years of upper Gymnasium level (*Qualifikationsphase*).

Bachelor

The Bachelor's degree as a first degree provides basic qualification for a profession. It can be obtained after a standard period of study (*Regelstudienzeit*) of at least three and at most four years at universities and equivalent institutions of higher education, at colleges of art and music, at *Fachhochschulen* and at *Berufsakademien*. Together with the Master's degree, the Bachelor's degree is part of a recently introduced graduation system of consecutive degrees (two-cycle degree system) that exists alongside the traditional system of higher education qualifications (→ *Diplom,* → *Magister,* → *Staatsprüfung*).

Berufliches Gymnasium

Type of school at upper secondary level offering a three-year course of education which includes both the general education subjects taught at upper Gymnasium level (*Gymnasiale Oberstufe*) and career-oriented subjects, such as business and technology, but which also leads to the general higher education entrance qualification.

Berufsschule

Vocational school at upper secondary level generally providing part-time instruction in general and vocational subjects to trainees receiving vocational education and training within the dual system.

Diplom

The *Diplom* degree as a higher education qualification provides qualification for a profession. It may be obtained either at universities and equivalent institutions of higher education (particularly in social or economic sciences and in natural and engineering sciences) or likewise at *Fachhochschulen* (in all subjects, with the specification *Fachhochschule* or FH added to the degree title). The *Diplom* degree may also be obtained as a tertiary education qualification providing qualification for a profession at *Berufsakademien* (with the specification *Berufsakademie* or BA added to the degree title).

Fachgebundene Hochschulreife

Qualification entitling holder to study particular subjects at a higher education institution. May be obtained through certain courses of vocational education at upper secondary level.

Fachhochschule

University of applied sciences. Type of higher education institution established in the 1970s, which has the particular function of providing application-oriented teaching and research, particularly in engineering, business, administration, social services and design.

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Fachhochschulreife

Qualification entitling holder to study at a *Fachhochschule*. May usually be obtained after 12 years of schooling at a *Fachoberschule* or – under certain conditions – at other vocational schools.

Grundschule

Compulsory school for all children of the age of six onwards. It comprises four grades, except in Berlin and Brandenburg where it covers six grades.

Gymnasiale Oberstufe

The upper level of the *Gymnasium*, which can however be established at other types of school such as the *Gesamtschule*. It comprises grades 11-13 (or 10-12, 11-12, depending on the Land). Course of general education concluded by the Abitur examination, which leads to the general higher education entrance qualification (*Allgemeine Hochschulreife*).

Gymnasium

Type of school covering both lower and upper secondary level (grades 5-13 or 5-12) and providing an in-depth general education aimed at the general higher education entrance qualification. At present, in almost all *Länder*, there is a change from the nine-year to the eight-year Gymnasium in which the *AllgemeineHochschulreife* is acquired after grade 12.

Hauptschule

Type of school at lower secondary level providing a basic general education. Compulsory school, unless pupil is attending a different type of secondary school, usually comprising grades 5-9.

Kindergarten

Pre-school establishment for children aged between three and six as part of child and youth welfare services – may be either publicly or privately maintained (not part of the school system).

Kolleg

Establishment of the so-called *Zweiter Bildungsweg* where adults attend full-time classes to obtain the general higher education entrance qualification.

Kunsthochschule / Musikhochschule

The colleges of art/colleges of music teach the entire gamut of artistic subjects or only certain branches of study, in some cases also the pertaining theoretical disciplines.

Magister

Higher education degree awarded by universities and equivalent institutions of higher education or colleges of art and music, particularly in arts subjects, on the basis of the Magister examination; course of study comprises either two equally weighted major subjects or a combination of one major subject and two minor subjects.

Master

The Master's degree as a further higher education degree provides an advanced qualification for a profession. The entry requirement for a Master's study course is a first higher education degree qualifying for a profession. The Master's degree can be obtained after a standard period of study of one to two years at a university or equivalent institution of higher education, at colleges of art and music, as well as at *Fachhochschulen*. Together with the Bachelor's degree, the Master's degree is part of a recently introduced graduation system of consecutive degrees (two-cycle degree system) that exists alongside the traditional system of higher education qualifications (→ *Diplom,* → *Magister,* → *Staatsprüfung*).

Mittlerer Schulabschluss

General education school leaving certificate obtained on completion of grade 10 at → Realschulen or, under certain circumstances, at other lower secondary level school types. It can also be obtained at a later stage during vocational training at upper secondary level. In some *Länder* called *Realschulabschluss*.

Promotion

Award of a doctoral degree on the basis of a doctoral thesis and either an oral examination or a defence of the student's thesis. As a rule, the doctorate is embarked on after completing a first course of study culminating in the → *Magister,* → *Diplom* or → *Staatsprüfung*, as well as after obtaining a Master's qualification, and the promotion serves as proof of ability to undertake in-depth academic work.

Realschule

Type of school at lower secondary level, usually comprising grades 5-10. Provides pupils with a more extensive general education and the opportunity to go on to courses of education at upper secondary level that lead to vocational or higher education entrance qualifications.

Sonderkindergarten

Pre-school establishment for children with disabilities – also known as a *Förderkindergarten*.

Sonderschule

Special school – school establishment for pupils whose development cannot be adequately assisted at mainstream schools on account of disability. Also known as *Förderschule, Schule für Behinderte* or *Förderzentrum*.

Staatsprüfung

State examination concluding a course of study in certain subjects (*e.g.* medical subjects, teaching, law). Also refers to examination taken by law students and teaching students at the end of their preparatory service (known as the Second State Examination). The examinations are administered by examination committees staffed not only by professors from the institutions of higher education but also by representatives of the state examination offices of the *Länder*.

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Technische Hochschule/Technische Universität

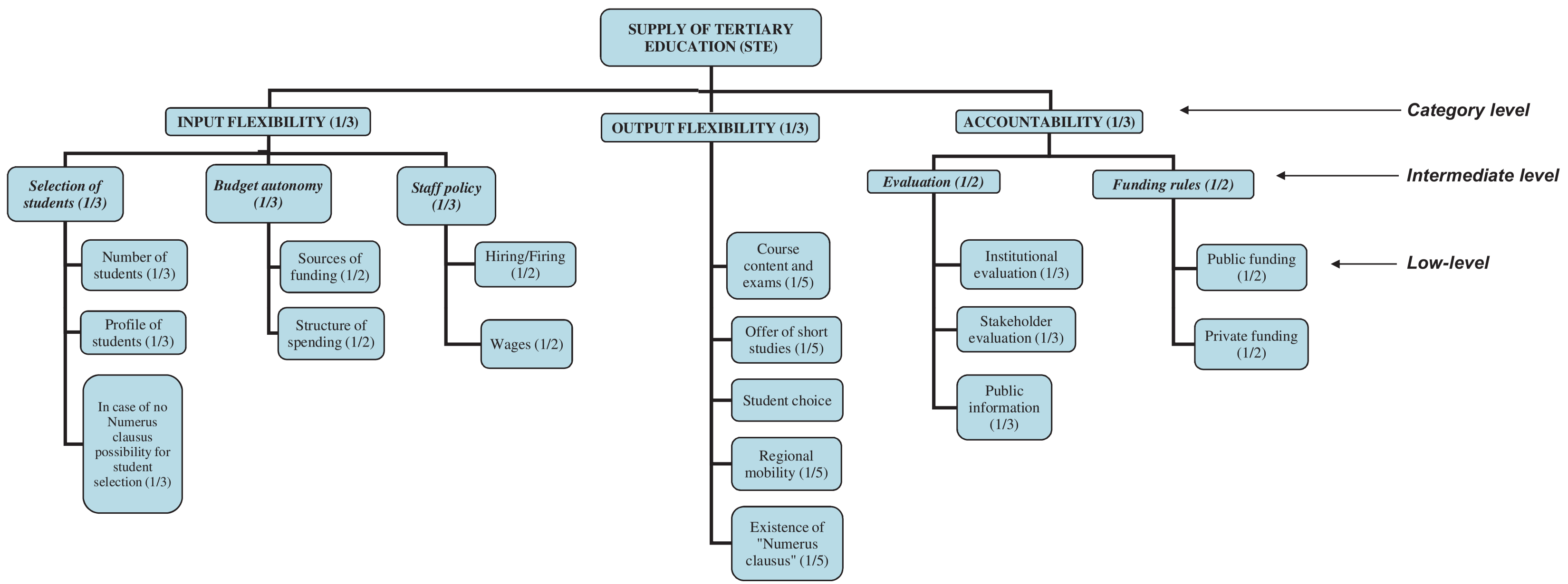
Type of higher education institution equivalent in status to university. Focus traditionally lies in natural science and engineering.

Verwaltungsfachhochschule

Fachhochschule maintained by the Federation or a Land which trains civil servants in a particular sector of public administration for careers in the so-called higher level of the civil service.

ANNEX 4.A2

The structure of the supply of tertiary education indicator



Note: The weights of each sub-level indicator are in parentheses.

Source: Martins, J., R. Boarini, H. Strauss, C. de Maisonneuve and C. Saadi (2007), "The Policy Determinants of Tertiary Education", *Economics Department Working Papers*, No. 576, OECD, Paris.

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Chapter 5

Reaping the benefits of stronger competition in network industries

The potential to strengthen productivity growth and enhance consumer welfare through more competition is large in the energy and railway sectors. Lowering entry barriers, including through the option of stronger forms of vertical separation between network access provision and potentially competitive services will be the main challenge for Germany going forward. In particular, it will be a crucial point in designing the envisaged privatisation of state stakes in the railway sector market incumbent Deutsche Bahn AG. In the energy sector, concentration in the wholesale market is another crucial issue that Germany will need to tackle, including by fostering market integration with neighbouring countries as well as market entry of newcomers. A more systematic approach to tendering unprofitable transport services will be key in the railway sector.

The scope to boost productivity growth through more effective competition in the energy and railway sectors is large and this could have beneficial effects on overall productivity growth and potential, both directly and indirectly, as these sectors produce important intermediate inputs for the rest of the economy. There is also considerable scope to enhance consumer welfare through potentially favourable effects of stronger competition on prices and quality.

Competitive service provision in these industries hinges on free and fair access to networks prevalent, which are subject to large sunk investment costs and therefore natural monopoly characteristics. In the railway sector this also extends to other essential facilities, such as stations and to some extent to the rolling stock (trains) and distribution. Competition policy therefore faces similar challenges in these sectors and experience in one of them may imply useful lessons for the others. Specifically, the government may need to keep in mind the difficulties it currently faces in trying to establish functioning competition in the energy sector when designing the envisaged privatisation of the state-owned incumbent in the railway sector.

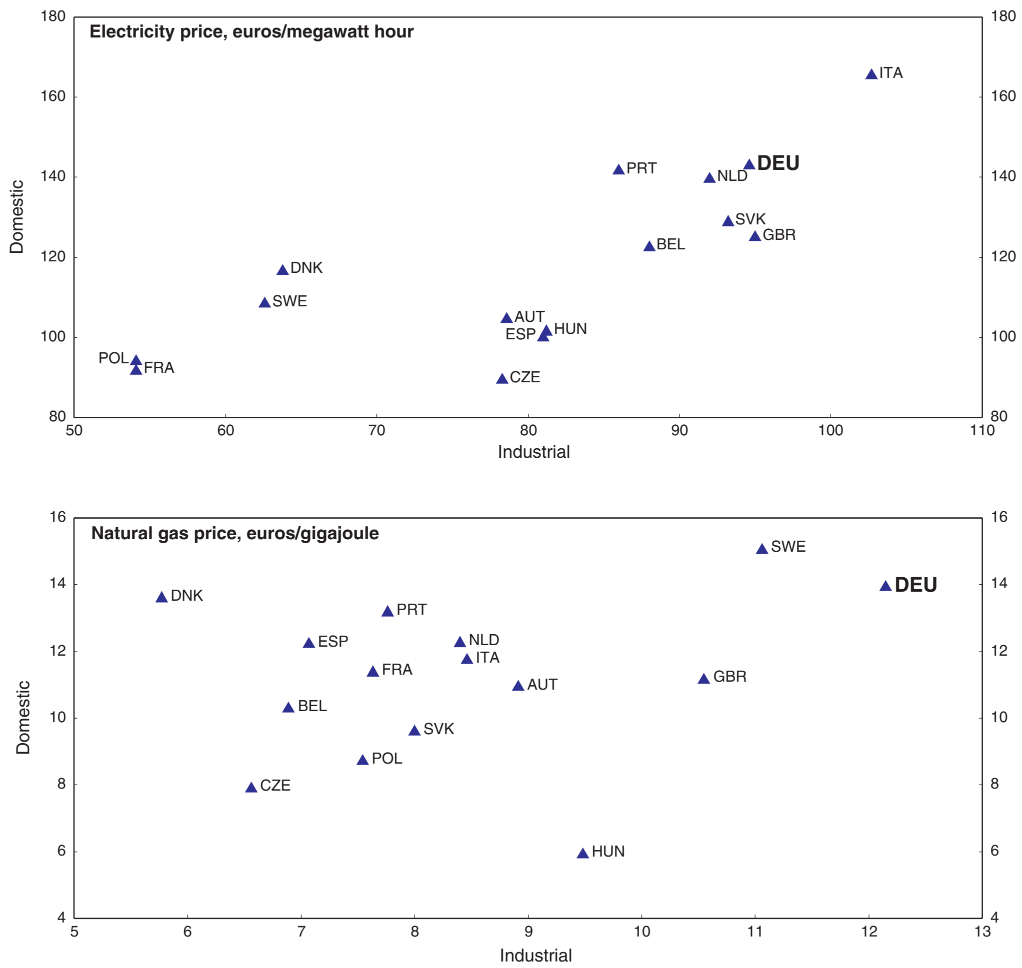
The root causes of weak competition should be addressed in the energy sector

Weak competition leads to high prices

German households and industrial consumers have to cope with some of the highest gas and electricity prices in Europe (Figure 5.1) and much points to a lack of effective competition as the main reason for this. Unlike in other European countries, a liquid market for gas trading has not developed in Germany to this date. While liberalisation started relatively early with consumers having had the legal right to choose their suppliers[1] since 1998, little attention was given in the beginning to the benefits of a strong separation between potentially competitive services and network access provision or to the need for forceful regulatory interventions to ensure free and fair network access for all competitors. Concentration was already high before the onset of liberalisation, but it was allowed to increase thereafter (OECD, 2006). In particular, the experience with self-regulation, whereby market participants negotiated network access among themselves with lighter regulatory oversight, had not been encouraging. While the competitive framework is improving, thanks to the revised Energy Act that came into force in July 2005 and the establishment of a sector regulator, the Federal Network Agency (FNA), this takes time to show effects, and some of the decisions taken earlier in the liberalisation process are hard to reverse. Crucial points that will need to be addressed to improve competition include the following:

- **Concentration:** Concentration is very high in the wholesale market in both the electricity and gas sectors and both market entry of newcomers and more competition from abroad will be needed to overcome this.
- **Vertical integration:** The dominant companies also own and operate the largest part of the transmission network, implying disincentives for them to provide network access under fair conditions for their competitors or to invest in capacity to allow for more

Figure 5.1. **Retail energy prices**



StatLink http://dx.doi.org/10.1787/280653674070

Note: All prices exclude all taxes and refer to 1st January 2007.

Source: Eurostat.

independent market entry. To address this issue, the European Union requires its member countries to separate or unbundle network access provision from potentially competitive services in energy markets, but leaves considerable freedom as to how far unbundling has to go. Germany has chosen a weak form of compliance with European unbundling requirements. However, Germany requires the companies by law to provide non-discriminatory access to the network for third parties. In case someone was discriminated against, the affected party has the right of complaint to the FNA which can order the network operator to cease the discriminatory behaviour. Incidentally, implementation is difficult and it takes time, while regulation will remain very demanding in this context.

- **Market segmentation:** Market areas in both the electricity and gas markets tend to be delineated along network property lines, strengthening the position of incumbents and making market access more likely to depend on time consuming regulatory action. In the gas sector, the large number of market areas makes entry costly and bureaucratic for newcomers.

- **Transparency:** There is a lack of transparency about the availability of infrastructure owned by vertically integrated companies. This creates an information asymmetry making it more difficult for potential entrants to properly assess all risks of market entry and challenge incumbents if applicants think they have been unfairly denied network access.
- **Effective sector regulation:** While FNA has entered the scene as an independent sector regulator in 2005, the legacy of self-regulation and negotiated network access practiced before is still present, so firmly establishing independent regulation remains a challenging task and remaining legal loopholes are not helpful in this respect.

Another symptom of weak competition are small customer switching rates, 1.25% (7% including switching to a more favourable contract with the same supplier) in the gas sector and around 8% in the electricity market in terms of total final consumption (*Bundesnetzagentur*, 2007), considerably lower than in other European countries (see EC, 2005) However, this process has gained some speed lately owing to announced price increases and thanks to the regulator's efforts to facilitate switching procedures in both sectors as well as government efforts to improve the regulatory framework in this area.

While the government is working on addressing these issues progress takes time and meanwhile prices remain high. Recent price increases together with the industry's announcements of more to come have sparked vivid controversy in Germany, leading the government to consider how to strengthen the Federal Cartel Office's (FCO) powers to act against an abuse of market power in the energy sector and create visible effects in the short term. In particular, the amendment of the *Gesetz gegen Wettbewerbsbeschränkungen* (Act against Restraints on Competition) considers prices or conditions that are substantially less favourable than those of competitors or of companies on comparable markets to suffice as evidence for the FCO to act against an abuse of market power. Alternative evidence would be prices unduly exceeding costs. The burden of proof would be shifted to the industry. The law will expire by 2012 because it is considered as a short-term measure to bring immediate relief to customers, before broader measures to strengthen competition can take effect.

While the aim of the law is to curb price setting power of large incumbents, there is a risk that the law could instead harm competition in a more fundamental sense and undermine its potential to bring down prices. By effectively requiring energy companies to match their competitors' prices, the law could stabilise collusive behaviour, as there is the possibility that competitors would have to follow once a market incumbent lowers prices. This will increase the risk for newcomers or incumbents about how much market share can be gained through lower prices (see also *Monopolkommission*, 2007a). While the law will increase the diffusion of lower prices of successful market entrants throughout the sector it will also lower the chances of successful market entry.[2] The fact that the law will expire in a few years opens the possibility to address the underlying problem of German energy markets rather than to deal with the symptoms of high prices. In what follows, possibilities for the government to foster competition are discussed.

The government should take measures to reduce concentration in the wholesale market

The concentrated structure in electricity generation (Box 5.1) entails the risk of strategic behaviour by incumbent companies, such as tacit collusion, that could make market entry for newcomers difficult. In the electricity market, independent companies are finding it hard to trade electricity bilaterally across market areas covered by networks of different vertically integrated incumbents. This could indicate that these companies have effectively divided the market geographically (*Monopolkommission*, 2007b). Several studies have found evidence that the market-dominating companies in the electricity sector have exercised their market power by setting prices significantly above costs, including by holding back capacity (Müsgens, 2006; Lang and Schwarz, 2007; Hirschhausen *et al.*, 2007a; London Economics, 2007). The FCO is currently investigating evidence for collusion between market dominant companies in the electricity sector. While it is not clear that it will be possible to find hard proof of such behaviour, the perception that tacit collusion takes place may well be a barrier to entry for newcomers (independent companies report that they find it hard to judge the profitability of planned investments [EC, 2006]).

Box 5.1. **Market concentration and vertical integration in the gas and electricity sectors**

Concentration had already been high before the onset of liberalisation, but it has increased further thereafter as companies were allowed to merge across all stages of the production chain. In each merger case the Federal Cartel Office assessed the merger's impacts on competition. Clearance was only given if there were no indicators for negative impacts on the individual markets. In the electricity market, the four largest producers and their associated trading sisters and affiliated companies now control around 90% of total electricity generation capacity (EC, 2006). In the gas market, a few big companies contract all gas imports, while also controlling national production. Since the merger of Ruhrgas and E.ON was allowed in 2002 by ministerial decree, overruling a decision by the FCO, E.ON-Ruhrgas has controlled 60% of the wholesale market. Moreover, the gas and electricity sectors are closely intertwined, with two of the big four electricity companies being major gas wholesale suppliers.

The largest part of the transmission network is owned and operated by the large vertically integrated companies, which also own significant stakes in retail companies and control other essential facilities. In the *electricity sector*, the country is divided into four large market areas, plus two smaller ones, each of which is covered by a transmission network owned and operated by one of the large four companies. As these companies have acquired shares in municipal utilities, they also control close to 50% of the retail market. The big players in the *gas market* own 80% of the storage capacity and a large part of the transmission system, together with a number of regional transmission companies. Most of the incumbent companies have acquired shares in municipal utilities which, in addition, have tended to be tied to wholesale gas suppliers through long-term supply contracts with prices determined by those of delivered oils. E.ON-Ruhrgas alone controls 30% of the retail market.

One measure to address the issue of high concentration would be to increase the relevant market and enhance competition from abroad by extending cross-border interconnection capacity and improving management of existing capacity. In the electricity sector, cross-border interconnections are owned and operated by the big four electricity generation companies and the associated capacity is frequently congested. Capacity at congested borders is auctioned and under EU rules revenues can be used for investments in interconnection capacities, but also for investments in other parts of the network or reductions of network tariffs. German grid operators that manage interconnection capacity have used only € 20-30 million for investments in interconnection capacity out of € 400-500 million revenues from auctioned capacity earned during the period 2001-05 (EC, 2007). To speed up market integration with neighbouring countries, the government should require companies to use revenues from cross-border auctions exclusively for investments in interconnection capacity, as long as congestion remains a problem (IEA, 2007). Vertically integrated, market dominant companies have weak incentives to invest in network extension, even if there are physical bottlenecks. It may be worth considering giving the regulator the power to order investment in capacity if necessary, as long as the market structure remains as concentrated as it currently is (*Monopolkommission*, 2007b). The government and its regulator should continue to work together with companies on improving management of existing capacity in line with existing regulations as well as planning, financing and co-ordination of investment in new capacity.

Similarly, competition and market entry in the gas market could likely be enhanced through a combination of cross-border interconnection capacity extension and a more rigorous enforcement of existing capacity release and management rules, as new entrants are finding it difficult to secure transit capacity on key routes or entry capacity into the German market. The interconnection capacities in the gas grid are almost completely booked for the coming years. Although physical capacity constraints appear not to be binding, the domestic network is subject to contractual congestion. Four of the five big transmission network operators, who operate around 70% of the total capacity, report contractual congestion in their transmission network and three quarters of the booked capacity are subject to contract terms of more than one year. In contrast, physical capacity constraints seem to be much less binding (*Bundesnetzagentur*, 2007). While contractual congestion entails a legal requirement for transmission system operators to auction the remaining capacity, only one of the major transmission system operators held such an auction in 2006, a decline from the year before. Measures to prevent capacity hoarding, such as *use-it-or-lose-it-provisions* that require a release to the secondary market of booked capacity that is not fully used, do not seem to have been applied and capacity trading on the secondary market remains negligible (*Bundesnetzagentur*, 2007). The regulator is working on improvements of capacity allocation and management. The regulator should be vigilant in enforcing existing capacity release and auction requirements to enhance competition in the future.

In addition, making it easier for newcomers to enter the market as well as diversifying supply sources could help alleviate the problem of high concentration. In the gas market, this could be done by speeding up processes to obtain an authorisation to operate Liquefied Natural Gas (LNG) terminals, which currently play no role, for gas imports into Germany, and by ensuring fair access and fast connection to the transmission network, especially if new capacity goes to newcomers. In the electricity market, the government passed a decree in June laying out how to implement the legal requirement for fast and fair network access and grid connection for new power plants with privileged network access.[3] The new decree is a welcome step, as there had previously been reports of newcomers being denied grid connection and existing capacity rights of old power plants seemed to have enjoyed priority *vis-à-vis* the demands of new power plants (grandfathering rights). However, going

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forward the government might consider going a step further by providing privileged network connection solely to newcomers as a way to deal with the problem of strong concentration.

Given that wholesalers trade only negligible quantities of their gas on existing gas exchanges ("hubs"), gas release programmes can be a useful means to increase market liquidity and create additional entry opportunities. The German experience has shown, however, that the design is crucial. The controversial merger of E.ON and Ruhrgas was subject to the requirement that the merged company would release certain quantities of gas in six annual auctions until 2008. The first auctions were not successful, because bidders were unable to secure transport capacity on E.ON-Ruhrgas's network. After an intervention of the regulator, the 2006 auctions were constructed with transport capacity provided and demand was significantly higher than in previous years. The government should consider requiring market dominating companies to release further gas quantities along with provision of the required transport capacity as this would help increase market liquidity. While such interventions would most likely restrict property rights it does not seem to be excluded that they are in line with the German constitution. See Engel (2007) on the issue of restrictions of property rights to complete efficient competition law.

There is a need for stronger separation between network operation and competitive services

Due to the transmission networks' natural monopoly features, allowing them to be owned and operated by companies that are also active in competitive parts of the industry, as in Germany, can lead to market foreclosure. Transmission network operators belonging to a vertically integrated company have ample incentives and opportunities to make network access expensive and difficult for competitors of its affiliate companies, *e.g.* by withholding information or capacity as well as through cross-subsidies. This could be addressed through more forceful regulation, but operation of the network and investments are so complex that even extensive regulatory intervention cannot strip network owners and operators of all their discretionary powers and tying their hands too forcefully may even put electricity system security in jeopardy. Therefore, full ownership unbundling, that is the creation of a separate network owner and operator with no ties to the incumbent, is in principle the most straightforward way to tackle this problem and should not be excluded as an option. It also makes the regulator's task a lot easier by abolishing the network operators' incentive to discriminate against independent companies seeking network access because of negative profit consequences for other suppliers. Experience in countries that have chosen this route, such as the UK and Nordic countries, seems to suggest that full ownership unbundling can be very helpful in establishing effectively competitive markets with low prices and secure supply.[4]

Germany has implemented EU unbundling requirements in its weakest form (legal separation between network access provision and service supply on the network), by choosing the weakest form of separation between network access provision and potentially competitive services to do so and progress is slow. The EU requires the network operator to be unbundled legally, operationally and in terms of the exchange of market-sensitive information (informational unbundling or "Chinese walls"), but it can still belong to the same holding company. While legal and accounting unbundling are largely implemented now, although progress was slow particularly in the gas sector, this is not the case for operational and informational unbundling. A number of unbundled transmission system operators work with very few own staff, while strategic functions and a large part of operative services remain with the holding company. More than 70% of the companies report sharing some staff in this way (*Bundesnetzagentur,* 2007). This raises questions as to whether operational and informational unbundling are effective. While the law does not allow managerial staff of the network operator to hold positions in other parts of the holding company, non-managerial staff can be shared. This gives the holding company ample possibilities to influence the network operator and obtain information that is not available to others. The government should review whether sharing staff should be allowed, while existing unbundling requirements should be enforced swiftly and vigorously. Meanwhile 10% of the network operators with more than 100 000 clients still have not implemented the requirements concerning managerial separation. Overall, there are only a few network operators that are geographically separated from other affiliate companies or aim at developing their own trademark, *e.g.* with a separate internet domain. In addition, two thirds of the legally unbundled companies still share integrated electronic information systems containing information on both the network and distribution (*Bundesnetzagentur*, 2007).

The development in Germany seems to show that enforcing operational and informational unbundling of companies belonging to the same holding is a challenge for the regulator, to say the least, and that the government should consider whether it does not want to go for a stronger form of separation to improve the competitive framework faster and make regulatory oversight easier. Ownership unbundling is certainly the first best option among those, which have been implemented somewhere. Admittedly, this could raise thorny legal issues in Germany, as companies in the energy sector are private and the government argues that requiring them to sell network assets would amount to expropriation.[5] However, from an economic perspective successful unbundling will reduce the value of the network to the price that can be obtained by selling it to an independent company on the market, while it is worth more for a vertically integrated company as long as it can use its power over network assets to discriminate against competitors. In this sense, successful unbundling of whichever kind will lead to some sort of expropriation, namely of existing rents. Regarding the weaker form of unbundling currently pursued in Germany, it is doubtful whether it is possible to enforce Chinese walls between companies that belong to the same holding and thus have close personal ties as well as a shared economic interest to maximise their aggregate profits. While ongoing efforts to optimise weaker forms of unbundling are certainly welcome there is yet a case to be seen where this approach would deliver the same impact as full ownership unbundling. Germany should carefully weigh the practical difficulties of unbundling vertically integrated companies without ownership separation and the associated uncertainty about its final impact on markets against the legal difficulties of full ownership unbundling which however if carried through successfully would deliver considerable economic dividends.

In the gas market, vertical foreclosure preventing a liquid gas market from developing has also been related to long-term contracts which have, however, been recently overruled by the FCO. These contracts have tied downstream companies to single suppliers over long periods, sometimes up to 20 years. The FCO has overruled long-term contracts that exceed 2 years if the consumer is forced to cover 80% or more of its demand from one supplier. Contracts with a duration exceeding 4 years that require the consumer to cover 50% or more of its demand by one supplier have also been overruled. Furthermore, the network access model was concretised by an agreement detailing the cooperation requirements among the operators of gas networks. A decision by the FNA has clarified that parts of the cooperation agreement – those dealing with the so-called "single booking option" – were void. Thus, network access has to be granted on the basis of the so-called "two contract"-model. That model requires only one entry- and one exit contract for gas transports within a market area. This decision has clarified remaining uncertainties regarding access to the network. Network operators were obliged to adjust their contracts accordingly by October 2007. Since the gas year 2007/08 network access according to the one entry exit contract model is the solely admissible way for providing network access.

Market segmentation should become more neutral

Market areas in both the electricity and gas markets tend to be delineated along network property lines.[6] Given that most of the network owners belong to large vertically integrated companies, this involves additional possibilities for them to discriminate against competitors. When providing balancing services required to ensure that supply matches demand in each market area[7], or balancing zone, network operators belonging to vertically integrated companies can favour their affiliates as suppliers. In addition, they can discriminate against independent network users by generating overly high prices. While prices for balancing services are effectively transfer prices for their affiliates with no real impact on the corporation's profits, they are real costs for independent companies. In Germany, prices for balancing energy tend to be significantly higher than in other European countries, and spreads between buy and sell prices are large, indicating that the market is not operating efficiently. In an efficient market, buy and sell prices would converge to the spot price (for details see IEA, 2007).

The problem is particularly pressing in the gas market, as it is fragmented into more than 8 market areas compared to only one in the UK, a gas market of a similar size. Fragmentation is costly and bureaucratic for network users, because the risk of being in imbalance and facing onerous penalty charges[8] collected by the transmission system operator is higher in smaller market areas where portfolios are smaller. In Germany, penalty charges tend to be significantly higher than in other European countries, which may well be related to a lack of independence of the system operators (EC, 2007).

In addition, with the industry-drafted market access model that is now in place – the entry-exit model – traders transporting gas across several market areas need to negotiate, in parallel, with each of the corresponding network owners to reserve capacity at each border point when gas leaves or enters a market area. This is not only cumbersome, but it also requires a functioning capacity allocation mechanism, and there are doubts whether this requirement is fully met in Germany. As discussed above there is a lot of contractual congestion, even if physical capacity is available, and mechanisms to release unused capacity do not seem to work in many cases. Transmission system operators have also been reported to grant grandfathering rights to capacity to their affiliated companies and they often sign contracts with their affiliates in non-transparent ways (EC, 2007). Moreover, traders that would want to transport gas through several market areas will face a host of different network access charges (*Monopolkommission*, 2007b). This makes market entry bureaucratic and expensive and sometimes it is outright impossible under economically meaningful conditions.

Merging market areas would make market entry far easier for independent companies and thus improve framework conditions for competition. The market access model and the number of market areas that have emerged now had been negotiated via voluntary cooperation agreements moderated by the regulator, which turned out to be a lengthy process. Initially, the agreement included a network access model which the regulator later found to be incompatible with legal requirements for free and fair network access. The regulator is currently looking into whether a further integration of market areas would comply with the legal criterion of technical feasibility. If market area integration is found to be desirable it should be possible for the regulator to order this, rather than only relying on voluntary agreements, so as to ensure that consumers can reap the benefits of enhanced competition as quickly.

In both the gas and the electricity sectors integration of market areas across networks of different owners might also contribute to the independence of transmission systems and balancing operations and thereby network clients' confidence in fair market operation. Indeed it could lead to the establishment of independent system operators, as different network owners would need to operate market areas together. This could thus solve many of the problems that hinder the establishment of competitive markets in Germany. However, as long as electricity generation remains as concentrated as it is now, a competitive market for balancing energy is unlikely to develop. Germany may need to consider price controls in the balancing energy market until decisive measures, such as enhanced possibilities for newcomers to enter the market and an extension of cross-border interconnection capacity, have reduced concentration in electricity generation.

Effective competition not only needs third-party access to gas pipelines but it will also be important to ensure free and fair access to storage capacity to ensure functioning competition in gas trading. Gas storage is a vital source of flexibility for shippers given the difficulties in predicting demand in any network. In Germany, control over existing storage capacity is highly concentrated (Box 5.1) and access to it is very difficult for independent companies (*Bundesnetzagentur, 2007*). 80% of the capacity has been booked for more than 5 years, in some cases for 15 years (EC, 2007).[9] The government should consider making it mandatory to auction storage capacity on an annual basis to all market players, rather than allowing companies to book the large majority of capacity through long-term contracts (IEA, 2007).

Transparency needs to be enhanced

Transparency also needs to be enhanced in both the electricity and the gas market. In fully competitive markets, independent network operators have an incentive to advertise their services and provide information about available capacity, conditions and prices of network access and other elements that are crucial for market participants' efficient decision making. In Germany, vertically integrated network operators have incentives to withhold information instead, but some information requirements are imposed on them by law. However, a number of companies still do not comply fully with their legal reporting requirements, including regarding the availability of transport and storage capacity or conditions and charges for network access (*Bundesnetzagentur*, 2007).

While the European Energy Exchange (EEX) in Leipzig has recently started to post data on installed and available capacity in real time, as well as *ex post* net production data, the reporting by generation companies is voluntary and at present the data cannot be considered complete or reliable. In such an environment it would even be possible for generation companies to use selective data publication for manipulation (IEA, 2007).

Compliance with legal publication requirements of data on physical and contracted capacity in the gas market has improved in 2006, but it remains incomplete and often difficult to find (*Bundesnetzagentur*, 2007). In contrast, total capacity and flow data is available on a daily basis on a public website in France and in the United Kingdom nominations and capacity are reported in advance. BEB, the only network in Germany that is not owned by a majority shareholder publishes such flow information, as well. With reliable flow information market participants would be better able to gather their own evidence on whether they have been unfairly denied access to the grid. Germany should ensure that existing minimum transparency standards cover all the necessary information and require verification of the data by an independent third party, while ensuring enforcement (for details see IEA, 2007).

Independent sector regulation will need to be made fully effective

Until the FNA was established in 2005, determination of network access conditions was largely left to negotiated self-regulation. This model has not succeeded in providing for free and fair third-party access to the network. The negotiated network access model that has been in place in the gas market since the first EU gas directive seems to have forestalled market entry until now and network access charges in both the electricity and gas sectors exceed the European average to a considerable degree (OECD, 2006; EC, 2005).

The regulator has completed its first round network access charge regulation, which has led to sizeable reductions (*Bundesnetzagentur*, 2007). However, the process has been frequently delayed, including as a result of the failure of companies to provide meaningful information in a number of cases. Due to staff limitations the regulator was not able to review all cost parameters, but had to concentrate on some. (*Monopolkommission*, 2007b).

The move towards incentive-regulation in the gas and electricity market envisaged for 2009, whereby the costs of the most efficient company in the sector would serve as a benchmark instead of the actual costs of each company as today, can be expected to lower access charges further, while preserving incentives for operators to reduce their costs. However, it will be important to ensure that the accepted benchmark costs are not too high and that they truly reflect the costs of the most efficient provider (for details, see OECD, 2006). On the other hand, incentive regulation also has to take quality into account, in particular incentives for sufficient investment in networks. For incentive regulation to be introduced as fast as possible, it will be important to swiftly complete the second round review of network access charges based on costs but to do so with care, as this will be the benchmark for the ensuing incentive regulation.

In some cases, escape clauses in the law are delaying effective regulation. In the gas sector, key long-distance pipelines, which are crucial for entry into the German market, are not subject to *ex ante* price regulation, as their owners have invoked an escape clause that would exempt them if they can show that there is functioning competition among network providers. Nevertheless, the regulator has to review this claim and this delays setting up a functioning competitive framework, as unregulated network access charges are likely to be too high and discriminatory. Germany should review escape clauses in the law to ensure that effective competition can emerge faster.

While large network operators (more than 100 000 connected customers to the grid or crossing the borders of two *Länder*) are regulated by the FNA, *Länder* regulators are in charge of smaller operators whose network is within the borders of one Land and this fragmentation of the regulatory framework may have to be reviewed. It has already become apparent that regulation practices differ between the different regulators (for examples see

Monopolkommission, 2007b). While a number of *Länder* have transferred their regulatory powers to the FNA and a committee (*Länderauschuss*) is in charge of harmonising regulation, this may not be enough. Further co-ordination and consultation among regulators should be sought to make sure that the same rules apply to all of them.

Competition has had favourable effects in the railway sector but could be strengthened further

Competition has lowered prices and improved quality where it was allowed to take place

The difficulties in establishing a competitive market in the energy sector with large vertically integrated and privately owned companies dominating the market implies important lessons for the railway sector. Germany is currently envisaging privatising *Deutsche Bahn AG* (DB AG), the state-owned market incumbent, and the decision on whether DB AG should continue to own and operate the tracks thereafter may well be crucial in determining the chances for competition to develop further in this sector. In this respect, it will be important to keep in mind the difficulties of achieving sufficient separation between network access provision and the potentially competitive parts of the industry once a company has been privatised along with its network assets.

While progress has been made, the liberalisation of the railway sector has not reached all of its goals; hence there still remains much to be done to widen the scope for competition. When Germany opened the railway network to competition in 1994 and transformed *Deutsche Bahn* and *Reichsbahn* into a private corporation, DB AG, reform goals included providing relief to public finances and directing more transport to railways. Competition was seen as a vehicle to achieve these goals. Yet, to date DB AG retains its dominant market position. While competitors have been able to increase their market share significantly in freight transport in recent years, it remains well below 10% in passenger transport (see Table 5.1) and in longer distance passenger transport services competition is virtually non-existent.

Table 5.1. **Market shares in freight and railway passenger transport**

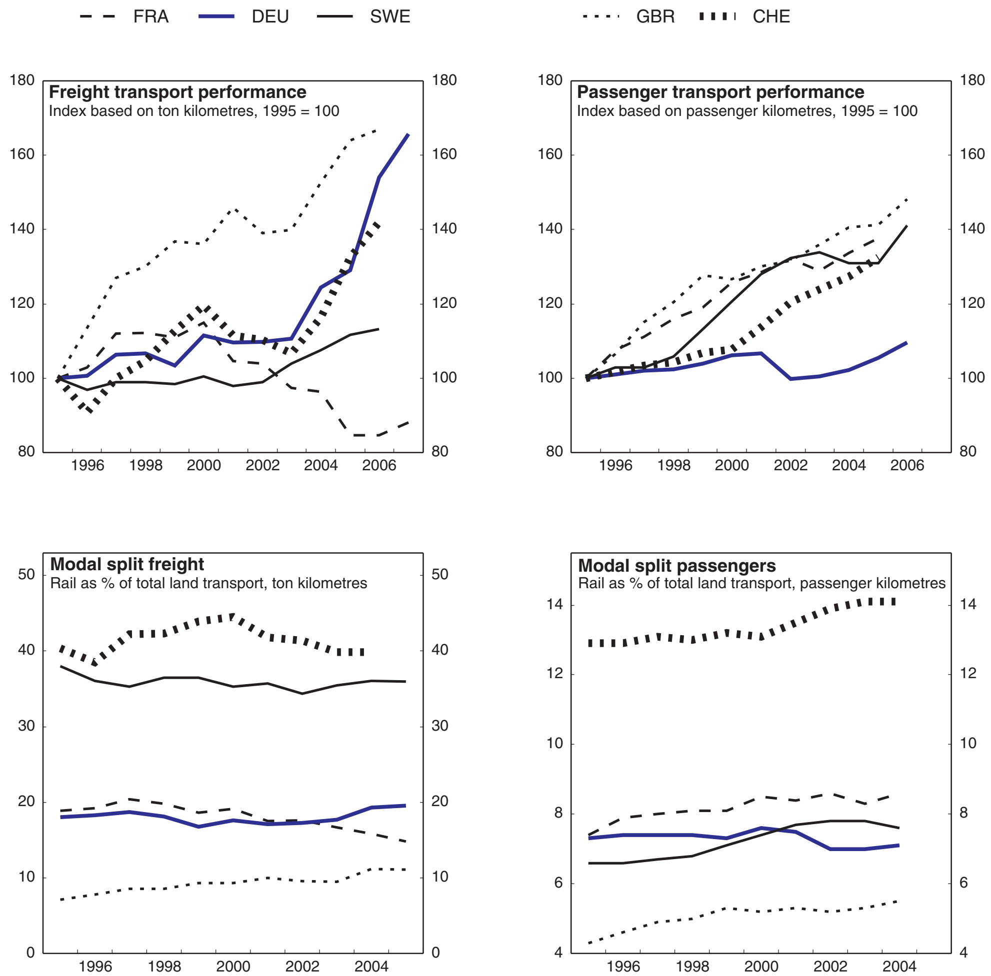
Ton kilometres and person kilometres respectively

	Passenger transport		Freight transport	
	DBAG	Competitors	DBAG	Competitors
2001	96.8	3.2	97.1	2.9
2002	96.1	3.9	95.2	4.8
2003	95.7	4.3	93.1	6.9
2004	94.4	5.6	90.4	9.6
2005	94.3	5.7	85.9	14.1
2006	93.3	6.7	83.6	16.4

Source: DB AG Wettbewerbsbericht, various issues.

The goal to shift more transport to railways has not been achieved in the passenger sector, in particular on long-distance lines, although competition in the freight sector does seem to have had a small, but positive and rising, effect. The volume of rail freight services provided and their market share in overall freight including other means of transport, the modal split, has developed favourably since more competitors have entered the market beginning around the turn of the century (Figure 5.2). In passenger transport, the position

Figure 5.2. **Railway activity in selected countries**



StatLink http://dx.doi.org/10.1787/280737307053

Note: Estimates for 2007. Land transport is rail, road, inland waterways and pipelines for freight and rail; passenger cars, buses and coaches and tram and metro for people.

Source: European Commission, Energy and Transport in Figures 2006 and OECD International Transport Forum, *Short-term Trends Survey*.

of railways in the modal split has been stagnant overall since the rail reform was launched. It should be noted that the development of rail transport service performance has been stronger both absolutely and in terms of market share in Sweden and the United Kingdom, where competition is livelier and the separation of the network operator from transport service enterprises is stronger. It should be noted that passenger transport services in particular have also developed more strongly in some countries with little or no competition in this market segment, such as France and Switzerland. While this suggests that competition is not a necessary prerequisite to boost the railway sector, Germany has in principle chosen competition as a vehicle to achieve its transport policy goals by opening railways to independent transport service providers. New market entrants have helped improve performance of rail transport services in the German freight and short distance passenger sector in recent years and it seems desirable to reap these benefits in the long distance passenger transport sector, as well, with a more consistent approach to fostering competition.

There are other indications that competition has had favourable effects where it was allowed to occur in Germany. Cost reductions for state and local governments as a result of tendering passenger railway services linked to subsidies as opposed to direct contract awards have been reported to range between 20-40% (Holzhey and Tegner, 2004) and they have been much larger in individual cases. After paying € 8.50 per train kilometre on the line Munich-Passau in a contract awarded directly to DB AG, Bavaria has recently tendered this line and this time around DB AG offered a price of € 0.75 per train kilometre to carry the regional passenger traffic, while committing to operating the line with newer railcars.[10] While this offer is unlikely to cover costs and an incumbent resorting to cross-subsidisation in a not fully competitive market dependent on subsidies involves problems of its own, the example testifies nevertheless to the potential of competition to reduce prices and enhance the quality of service provision in this market. More generally, the quality of transport is reported to have improved on tendered lines (Brenck and Peter, 2007) and the number of passengers has increased substantially (Leister, 2004).

Political decisions on vertical separation will be crucial for the development of competition in railways

It seems important that the government ensures that the design of DB AG's privatisation allows competition to thrive thereafter. The latest draft law that had been considered by the government stipulated that the government would remain the legal owner of the tracks, while DB AG's infrastructure subsidiaries would continue to operate the network and stations. A recent decision by one of the governing parties to support privatisation only under the condition that a certain share of the state stakes would be sold as non-voting preference shares (*Volksaktie)* has led the government to reconsider its design.

Germany fulfils all unbundling requirements, but has chosen a rather weak form. Currently the network operator is separate on a legal, accounting and organisational basis within DB AG's holding company. However, operational and managerial separation is limited, as managers of the holding company can and do combine executive board membership at DB AG's network or transport subsidiaries (for details see Stear Davies Gleave, 2006). Moreover, the network subsidiary shares some key staff with other parts of the holding company. A court has recently confirmed a decision by the regulator responsible for unbundling in the railway sector, the Federal Railway Office (*Eisenbahnbundesamt*) that had prohibited DB AG's network subsidiary from buying legal services from its holding company on matters that are crucial for network access provision. The network subsidiary is not allowed to release data on tariffs or on its accounts without approval of the holding company, hence limiting its operational independence.

Conflicts between the incumbent and its competitors regarding conditions and charges for access to the network and other essential facilities arise in various forms. Most recently a court overruled track charges that were 10% higher for DB AG's competitors than for its affiliates. FNA, the regulator responsible for securing fair network access, is currently looking into an incident where DB AG removed gatekeepers from a line where only a competitor provides services. The regulator is also investigating whether DB AG's station charges are discriminatory. Competitors have complained about limited access to facilities, overly high prices of traction power, non-transparent standards for the calculation of track access charges, with inadequate information both about their size and about the conditions of the tracks.[11] It could also be that these conflicts have further deterring effects on plans of potential service providers to enter the network. As long as

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DB AG is still state owned stronger unbundling decisions can be implemented without touching private property rights.

Retaining full state ownership of the tracks would also help the government to disentangle its conflicting roles as a shareholder of DB AG, provider of state subsidies for investments in tracks, regulator and buyer of transport services. If the state retains full ownership of the tracks, including operation and maintenance, this would make it easier to combine security aspects, wide ranging service provision and cost effectiveness, not the least by allowing 100% privatisation of transport services.[12] Yet, as long as the state remains a shareholder of DB AG's transport service subsidiaries with an implied interest in their profits, numerous conflicts arise with the state's sovereign tasks in the railway sector.

Regulatory oversight needs to be made more effective

With the privatisation model recently considered, incentives and opportunities for the network operator to discriminate against DB AG's competitors will persist and in that case the regulator may need to be strengthened considerably in terms of staffing levels and competencies to allow it to perform its tasks effectively.

Irrespective of the privatisation model chosen, there are remaining institutional weaknesses that need to be addressed to make sector regulation more effective. First, it would be desirable to integrate regulation of competition in the railway sector. Currently the Federal Railway Office oversees the implementation of unbundling provisions and line closures and downgrading to low-speed tracks, actions which can be used as a form of non-price discrimination of competitors. FNA then regulates network access provisions. There is a risk that charging different regulators with tasks that ultimately have the same goal, namely ensuring fair network access and a strong framework for competition in transport services, could reduce the effectiveness of regulation. FNA should take responsibility for both.

Other areas where the FNA's competencies need to be strengthened are (*Monopolkommission*, 2007c):

- To avoid that DB AG transfers tasks related to infrastructure access to non-infrastructure subsidiaries, which could contest regulatory intervention, the powers for the regulator to intervene against discriminatory behaviour will have to be extended to all parts of companies that are affiliated with infrastructure operators, as opposed to being limited to infrastructure subsidiaries.
- The regulator will need access to all planning parameters including infrastructure data and electronic path planning programmes to resolve path conflicts effectively.
- The regulator will also need stronger powers to apply sanctions in case the network operator does not provide data to the regulator in line with legal requirements.
- The regulators' possibilities to take action against discriminatory provision of transport service providers with traction energy are currently not sufficient and this legal loophole will need to be closed, as traction energy is part of the essential facilities. Energy can reach up to 20% of total costs in railway transport.

Currently only DB AG has access to guaranteed financing of investment in its rolling stock. This is providing an unfair advantage for the incumbent which should be terminated by opening preferential financing arrangements for all suppliers of transport services on the rail track.

Framework conditions for tendering services should be strengthened

The framework for competition in commuting passenger services should be strengthened going forward. Since commuting passenger services are in general not profitable with socially acceptable prices, competition in this market segment rests largely on public tendering of monopoly services linked to subsidies for set volumes and prices. However, the share of services tendered was below 20% in 2004 (Tegner, 2004) and it has increased only gradually since. Given the considerable savings that have been reaped by those *Länder* that have resorted to tendering, more would be desirable.

Against this backdrop, there is a case for making it mandatory to tender transport service contracts that are linked with public subsidies. During the 2002-04 period most *Länder* have awarded large-scale long-term contracts directly to DB AG, sometimes over 10 to 12 years, and these were mainly the more profitable lines, while less lucrative services have been tendered first. Following an infringement procedure launched by the European Commission, which considered the practice of contract awarding by some *Länder* to amount to a violation of the EU treaties, the *Länder* transport ministers have committed in 2006 to choosing non-discriminatory ways of awarding contracts, which need not be in line with EU tender laws according to the agreement.

Direct contract awards to the market incumbent could partly be related to weaknesses in the regulatory framework, but there are ways to address these. First, the *Länder* buy commuting passenger services with so-called "regionalisation funds" that they receive from the federal government. In awarding these funds, no inherent incentives have been built in for the *Länder* to try and save resources. In contrast, they would probably have to fear cuts to their regionalisation funds if they did not use them fully. Recent cuts in regionalisation funds have already gone some way to increasing the need for the *Länder* to tap unexploited savings potential. Adding positive incentives to this, it may be worth considering to allow *Länder* to retain at least some of the surpluses in case of additional savings without cutting back funds on subsequent years.

In long-distance rail passenger services competition is virtually non-existent and barriers to entry are significant. But competition could be built into this market segment if competitive tendering processes were introduced. Subsidies are granted only in a few cases and tendering processes are currently not applied in long-distance passenger travel, based on the assumption that this market segment is not loss-making (*eigenwirtschaftlich*). However, there has been no investigation of whether this is actually the case on all lines and there is not sufficient transparency to judge whether or not DB AG's long-distance subsidiary makes use of cross-subsidies (ECORYS, 2006). The fact that some *Länder*, *e.g.* Brandenburg, open long-distance lines to commuter passenger tariffs for which operators receive subsidies in non-transparent ways suggests that the distinction between unprofitable commuter passenger travel on the one hand and supposedly profitable long distance services on the other is somewhat artificial. It would help if public financing of railway services would be made more transparent to have a clearer view of which lines depend on public subsidies. Public funds are provided by many different levels of government and there is currently no systematic reporting on it. In order to assess the effects of public spending on railways, the federal state and the *Länder* should start publishing a regular review. It would be desirable to identify and tender unprofitable long-distance lines linked to the necessary subsidies to make the process more transparent and reduce public expenditures to the necessary degree.[13]

Box 5.2. **Recommendations to enhance competition in network industries**

Energy

- Be sure to intervene against abuses of market power, but consider carefully whether special provisions for the energy sector, the draft amendment of the *Gesetz gegen Wettbewerbsbeschränkungen*, strike the right balance between quick reductions in prices and a less competitive market structure.
- Strengthen market integration with neighbouring countries, in particular by requiring revenues from auctioned interconnection capacity to be invested in interconnection capacity extension and by continuing to improve capacity management. It may be worth considering giving the regulator the power to order investment in capacity if necessary, especially as long as the market structure remains as concentrated and integrated as it currently is.
- Exploit untapped potential to encourage market entry of newcomers, including by speeding up authorisation processes for new power plants and Liquefied Natural Gas (LNG) terminals. Consider providing for privileged market access for newcomers only.
- Consider requiring market dominant companies to release gas, while requiring them to provide transport capacity along with it.
- Consider a stronger separation of transmission system operation and potentially competitive services, including full ownership unbundling or the establishment of independent transmission system operators. At a minimum, implement existing unbundling requirements swiftly and carefully. In that case, review whether current legal requirements for unbundling need to be strengthened, *e.g.* by prohibiting network operators to share staff with a holding that is affiliated with wholesalers and retailers.
- Merge market areas across networks of different owners to enhance the independence of transmission system operation and to establish a workable market access model in the gas sector. Consider price controls in the electricity balancing market, until the problem of excessive concentration in generation is resolved.
- Make sure that mandatory minimum transparency standards in both the electricity and gas sectors cover all the necessary information and that they are enforced, while requiring verification of the data by an independent third party.
- Carefully review whether current laws as well as staffing levels and powers of the regulator are sufficient to enforce effective unbundling. Reconsider escape clauses and centralise regulation.

Railways

- Retain full state ownership of the tracks for the time being, while fully privatising DB AG's transport service subsidiaries.
- Make tendering of regional rail service contracts compulsory.
- Review overlapping regulation responsibilities of FNA and FRA and centralise regulation where appropriate. Make sure that the regulator has enough responsibilities, resources and powers to perform its task effectively, especially as long as DB AG is not fully unbundled. In particular, the regulator's competencies to oversee fair access to essential facilities will have to be extended to traction energy. The regulator will need access to all planning parameters, including electronic path planning programmes to resolve path planning conflicts and competencies to intervene will have to be extended to all parts of companies that operate network infrastructure. The regulator needs competencies to apply sanctions if the incumbent does not provide the necessary data.

Box 5.2. **Recommendations to enhance competition in network industries** *(cont.)*

- Open access to state guaranteed funding of rolling stock to all suppliers of transport services on rail track.
- If the *Länder* reap surpluses with their regionalisation funds, allow them to retain at least some part of it, without risking to be cut back in subsequent years.
- In order to assess the effects of public spending on railways, the federal state and the *Länder* should start publishing a regular review, including to identify and tender unprofitable long-distance lines linked to the subsidies to make the process more transparent and reduce public expenditures to the necessary degree.
- Restrictions on intercity bus services should be limited to what is needed for passenger safety and any possibility to block market entry by incumbent interests should be eliminated.

There is scope for more intermodal competition from buses

In addition, allowing intermodal competition by opening the intercity bus sector may help reduce X-inefficiencies in the rail sector serving the same routes and may thus be a complementary way to reap some of the benefits of competition in long-distance passenger services. While deregulation of the intercity bus market has led to price declines of up to 40% in the United Kingdom (*Monopokommission*, 2007c; Maertens, 2005), Germany has forgone these potentially beneficial effects as current regulations have effectively prevented intercity bus lines from emerging. Currently, these are limited to services to and from Berlin, which enjoys a special status for historical reasons. A license for intercity bus services can be denied on the grounds of an impingement of "public transport interests", a lack of a significant improvement of public transport or the readiness of market incumbents or the railway transport service providers to offer the same services. Even if a license were to be granted, prices for intercity bus services are subject to regulation. Restrictions on intercity bus services should be limited to what is needed for passenger safety and any possibility to block market entry by incumbent interests should be eliminated.

Notes

1. However, the possibility to choose suppliers hardly existed since barriers to changing suppliers were high, at least initially.
2. Regarding the alternative for the FCO to effectively cap profits by overruling prices that unduly exceed costs, this might turn out to be a very difficult. There is a fine line between prices that exceed costs to a degree that this would amount to an abuse of market power and prices that exceed marginal costs sufficiently so that investment incentives remain in place in peaking generation units. In a way, a competitive price would be equal to the marginal cost of capacity rather than the marginal cost of energy and this may be difficult to identify for the regulator. This is another argument for treating the root causes of weak competition rather than the symptoms.
3. Specifically, this decree comprises a capacity right guarantee for ten years for investors who have filed for connection before the end of 2007.
4. Economies of scope and stronger investment incentives are sometimes brought forward in favour of vertical integration, but there are arguments against this. Experience suggests that liquid and competitive markets allow for responsive and dynamic interaction between market players. These benefits may well weigh out costs related to a reduction in economies of scope and scale as a result of vertical disintegration. As for investment incentives, market mechanisms are available providing efficient signals to the network operator how much investment in the transmission network would be profitable. This includes open season periods, whereby an infrastructure builder

obtains financial commitments by selling capacity to multiple parties in a fair and open process before construction commences.

5. See Engel (2007) on the question whether interventions into property rights motivated by competition concerns are in line with the German constitution.
6. To be sure, it can be desirable to segment the market of a country into different market areas, as this can provide for efficient local market signals. The problem in Germany is that market segmentation is more often than not delineated around network property lines and mainly as a result of this it is not neutral for competition. Instead, it provides additional possibilities for large vertically integrated companies to discriminate against competitors.
7. Balancing supply and demand in a market area is necessary because electricity cannot be stored, while possibilities to store gas are limited and for technical reasons there needs to be a minimum voltage (electricity) or pressure (gas) in the network.
8. Transmission system operators charge clearing prices to network users for their services that consist in balancing aggregate demand-supply imbalances in the system. In the gas market, they also charge penalties for network users that are in imbalance individually to discourage them from taking such positions. As long as these charges are in line with the costs of providing balancing energy, there is no problem with this, but there are strong indications that this is not the case in Germany.
9. More than 80% of technical capacity had been reviewed to arrive at this figure.
10. See *Financial Times Deutschland*, 2 September 2007, “Personenverkehr der Bahn stagniert”.
11. See press release, *mofair*, 20 August 2007, “Beim Schienennetz fehlt weiterhin Transparenz”.
12. If DB AG was to be privatised as a vertically integrated company that operates the tracks, current constitutional law obliges the government to keep a majority of the shares of the integrated company.
13. Standards for transparent reporting on railway undertakings are defined in European Conference of Ministers of Transport (2007).

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Chapter 6

Moving towards more sustainable healthcare financing

The aim of the recent healthcare reform was to increase the sustainability of healthcare finances, by reducing its negative impact on employment and increasing cost-effectiveness via enhanced competition. Higher budget contributions will help decouple healthcare finances from labour income a bit, if and once they materialise. An improved risk adjustment between insurers could reduce incentives for risk selection, raising chances for competition to lead to more cost-effectiveness instead. However, the segmentation of the healthcare system in a private and a social insurance market will continue to pose equity and efficiency problems. Owing to its design, the price signal in the new financing system for social health insurance will be both weak and distorted and this will need to be corrected for competition to produce desired results. More freedom for contractual relations between insurers, healthcare providers and pharmaceutical companies could help to better reap the benefits of competition, but the government will need to watch the results closely and adjust framework conditions if needed.

The efficiency of the German healthcare system

Public spending on healthcare in Germany is higher than in most OECD countries…

The development of healthcare expenditure is a concern in all OECD countries, as its increase has outpaced GDP growth over the last 30 years, putting considerable strain on public budgets. In Germany health spending per capita increased, in real terms, only by 1.3% per year on average between 2000 and 2005. This also reflects the success of recent cost-containment measures (Figure 6.1). Even though, the German healthcare system remains expensive. Only France allocates a larger share of its GDP to public spending on healthcare. The share of public and private healthcare spending in German GDP is the fourth highest among OECD countries.

Notwithstanding Germany's success in containing rising healthcare costs in recent years, the combined effects of ageing and technological progress in the healthcare sector are likely to exert considerable upward pressure on healthcare spending over the years to come. OECD projections suggest that public expenditures on health could rise by more than 1½ percentage points of GDP, even in a cost-containment scenario, while extrapolating spending trends from the 1980-2000 period would give a much higher increase, reaching up to 3½ percentage points of GDP (Oliveira Martins and de la Maisonneuve, 2006; see also Table 1.1).

Rising healthcare costs have also put a strain on employment in Germany, as healthcare is mainly financed via social charges levied on labour income (Box 6.1). This has increased labour costs and reduced work incentives, especially for low income earners. Average contributions to finance social health insurance have increased from 8.2% in 1970 to 13.9% in 2007. Since July 2005 an additional contribution of 0.9% is levied on members of social health insurance funds (SHIFs).

… yet available indicators suggest that outcomes are only average

While it is notoriously difficult to evaluate spending efficiency in the healthcare sector overall the evidence seems to suggest that there is room for further improvement in Germany. Most health status indicators, such as life expectancy, are more favourable in peer countries with similar GDP per capita who spend less on healthcare on average (Figure 6.1). On face value this would suggest that healthcare spending is more efficient in these countries. Concerning recent developments in efficiency, however, approximated by these indicators, the picture is a bit different. The number of years of life lost due to death before age 70 (potential years of life lost), that could have been prevented *a priori*, has come down much faster in Germany than in peer countries, while other outcome indicators have developed broadly on par. Together with the observation that Germany has been relatively successful in containing the growth of healthcare spending in recent years, these indicators would suggest that it has improved the spending efficiency of its healthcare system to a greater extent than its peers. However, these results should be treated with

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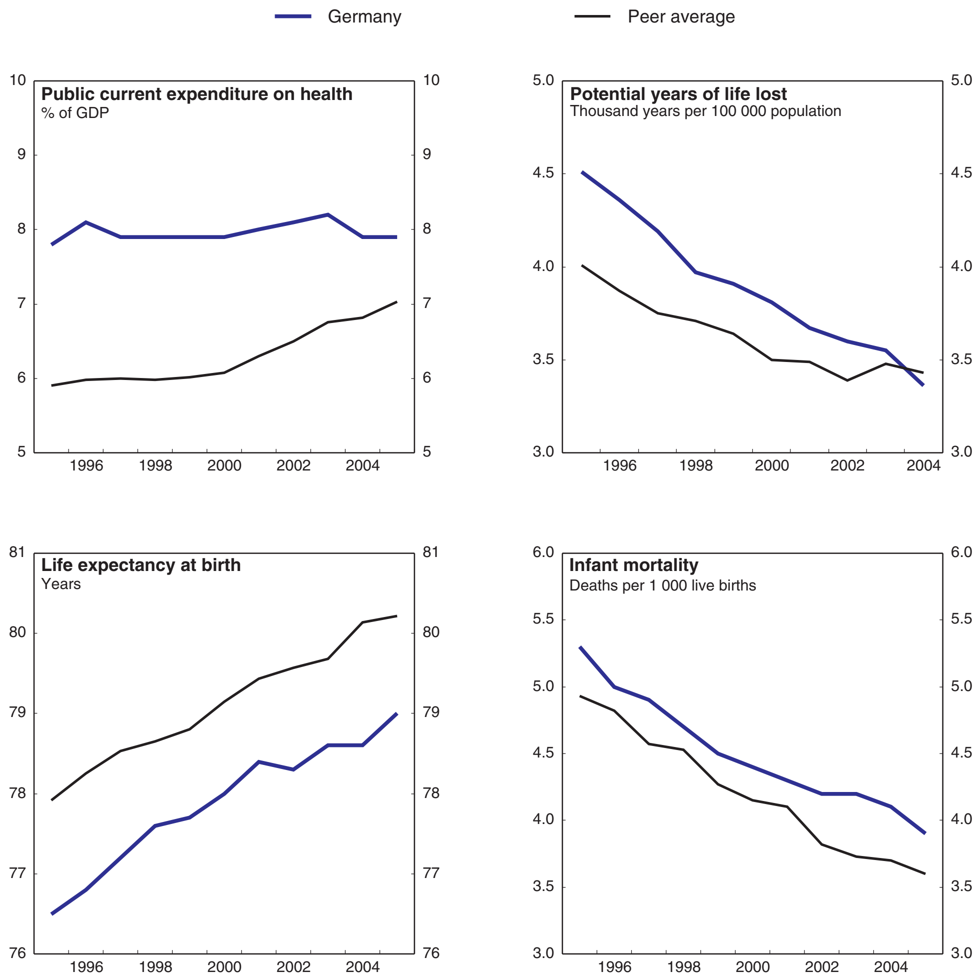
Figure 6.1. **Healthcare spending and outcomes**



StatLink http://dx.doi.org/10.1787/280785143701

Note: Peers are six countries with similar average GDP per capita (purchasing power parity basis) to Germany – Finland, France, Italy, Japan, Sweden and the United Kingdom. Potential years of life lost records years of life lost due to death before age 70 that could potentially have been prevented. Infant mortality refers to deaths of children aged under one year.

Source: OECD (2007), *Health at a Glance*, OECD, Paris.

caution. Health status indicators cannot be directly linked to healthcare spending, as other factors such as lifestyle, income and the environment also play an important role.

Nevertheless, more detailed indicators with a closer link to the quality of treatments also suggest that there is room for better outcomes. Germany in general achieves only average or worse for the available ranking indicators (Table 6.1, see also OECD, 2007). Keeping in mind that international comparability of these indicators is limited, it still seems striking that Germany does not achieve better outcomes given that it invests so much more resources in its healthcare system than other countries.

One reason for Germany's above average spending consists in the high capacity it maintains in the healthcare sector. Germany ranks on top of most other OECD countries in terms of doctors, nurses and hospital beds per inhabitant according to OECD health data.[1] While maintaining high capacity is expensive, it has advantages for patients. Unlike many

Box 6.1. **The German healthcare system**

Social health insurance: Around 90% of the German population are covered by social health insurance, which is financed via proportional social charges levied on labour-income up to a threshold (€ 3 600 per month in 2008) and shared evenly between employers and employees except for a surcharge of 0.9 percentage points which is exclusively financed by the members of SHIFs. There is free co-insurance for spouses without or with limited income and for children.

There are more than 200 SHIFs (*Krankenkassen*) who act as quasi-public non-profit corporations. Most social health insurance members have been free to choose their insurer since 1996. Insurers compete on the basis of their contribution rate, which they set themselves at a level which allows covering costs.

Contractual relations with providers: Nongovernmental corporatist bodies are the main actors in the social health insurance system; in particular insurers or their associations contract services collectively with physicians' and dentists' associations. Services are rewarded by lump sums paid to doctors' associations which they distribute among their members in line with the quantity of services provided. Hospitals are represented by organisations based on private law.

Private health insurance: The self-employed and individuals with gross monthly earnings exceeding a threshold for three years in a row (currently € 4 012.50) can opt out of the social health insurance and take out private health insurance instead. Civil servants get 50% of their healthcare costs reimbursed by their employers if they take out private insurance to cover the rest. Premia are flat and rated by individual risk. People who qualify for private insurance can stay in the social health insurance system and many do, as risk-rated premia that increase with age and the need to pay insurance for all family members can make private insurance financially unattractive. After a switch to private insurance it is difficult to go back to the social insurance system.

Table 6.1. **Health quality indicators, German rankings**

Indicator	Rank	German data
Cervical cancer 5-year survival rates	18 out of 19	66%
Breast cancer 5-year survival rates	18 out of 19	78%
Colorectal cancer 5-year survival rates (males)	9 out of 11	55%
In-hospital mortality rate, stroke		
Hemorrhagic stroke	7 out of 23	21%
Ischemic stroke	12 out of 23	11%
In-hospital mortality rate, myocardical infarction	20 out of 24	12%
Mortality rate asthma	14 out of 25	0.16 per 100 000

Source: OECD (2007), *Health at a Glance*, OECD, Paris.

other countries Germany does not report problems with waiting times for elective surgery (Hurst and Siciliani, 2003). Access to new medicines, to the family doctor and to specialists also compare well in international comparison.[2] At the same time, the substantial capacity of the German healthcare system suggests that there is enough supply to allow for more competition in a number of areas.

Germany faces important challenges to improve spending efficiency

Currently, healthcare coverage is provided through a mix of social health insurance for about 90% of the population and primary private health insurance for eligible individuals that opted out of the system. Labour-income dependent social health contributions are set by insurers. The government has used rationalisation rather than rationing to improve efficiency in recent years and competition between insurers has been one tool, as insurers in the social health system have competed on the basis of their contribution rates since 1996 and most members have been free to switch insurers since then (Box 6.1). Despite efforts to develop this system further over recent years, a number of problems remain, that prevent competition from yielding desired results.

In the current system there are incentives for insurers to direct their efforts at attracting high income members with low morbidity risk (risk selection) rather than to improve the cost-effectiveness of their services. The reason is that while adjustments for differences in the income and risk structure of insurers' members exist, they remain incomplete. Currently, only 92% of income differences between insurers' members are adjusted for, as administrative expenditures are not included in the income adjustment mechanism. There is indirect risk adjustment mainly for differences in income, age and gender. These characteristics have some predictive power for morbidity risk, but remain imperfect. While the introduction of partial outlier risk sharing for cases with large expenditures in 2002 had extended the risk structure adjustment, it currently remains incomplete. The distribution of risks was very uneven when free choice of insurers was introduced in 1996 and switching has led to further risk separation since then. Switching has been largely limited to young and healthy members with relatively high income, many of whom have chosen company-based funds (*Betriebskrankenskassen*) that can set lower contributions, largely thanks to the historically more favourable risk- and income-structure of their membership. The sick and the poor, in turn, have tended to stay with their local health insurance funds (*Allgemeine Ortskrankenkassen*). While this need not be a result of conscious risk selection, but could be because of the well-off and people with lower morbidity risks having better information and lower switching costs than the sick (Nuscheler and Knaus, 2005), risk separation is still undesirable. Indeed, risk separation can drive insurers with an unfavourable risk structure out of the market even if they are more cost-effective than competitors with an economically more favourable membership. It has been a policy goal for some time to reduce the remaining incentives for risk selection, which has also prevented better treatment of the chronically ill (*Sachverständigenrat Gesundheit* 2000/2001).

A second problem for effective competition consists in the system of healthcare provision based on collective contracts between insurers and associations of providers (Boxes 6.1 and 6.2), which along with a benefit basket and fee schedules for physicians and hospitals defined at the national level leaves little room for insurers to distinguish themselves on the basis of their products and compete on quality. Therefore, insurers had little incentive to offer new and improved products and this has hampered innovation. In addition, separate negotiations and quasi-budgets for hospitals and physicians in the outpatient sector have hampered care coordination and thus both healthcare quality and efficiency.

A further problem is the segmentation of the health insurance market hampering equity and efficiency, as around 10% of the population opt out of the social insurance system to take out private insurance instead. Private health insurance members are in

Box 6.2. **Collective contracting in the German healthcare system**

In **ambulatory care**, regional physicians' and dentists' associations negotiate collective contracts with insurers or their associations. The insurers make total payments to the physicians' associations for the remuneration of all of their members, in lieu of paying the physicians directly. The collective payment to the physicians' association is intended to reimburse it for its obligation to ensure access to healthcare for everyone within reasonable distances and time limits. The total payment is usually negotiated as a capitation per member or per insured person. The physicians' associations distribute these payments among their members as fees for services based on a floating point system. All approved medical procedures are listed in the Uniform Value Scale which assigns points to each service. The monetary value of these points depends on the total budget negotiated with the insurer divided by the total number of delivered reimbursable points for all services within the regional physicians' association, At the end of each quarter, every office-based physician invoices the physicians' association for the total number of service points delivered. The floating point-system will be changed to a fee for service system with fixed euro values for each service which will be developed jointly by insurer and physicians' associations. The morbidity risk is thus transferred to insurers in the sense that they have to pay more, if doctors have to treat more cases because morbidity increased.

Hospitals are financed on a dual basis: investments are planned by the governments of the 16 *Länder*, and subsequently co-financed by the *Länder* as well as the federal government, while insurers finance recurrent expenditures and maintenance costs. Since January 2004, the German adaptation of the Australian diagnosis-related group (DRG) system has been the sole payment system for recurrent hospital expenditures, except for psychiatric care where per diem charges still apply. There are quasi-budgets, in the sense that regional associations of insurers and hospitals agree on a level of DRG activity in advance for one year based on historical data. If this agreed level is exceeded, only 35% of the full additional DRG income is payable within the first year. Conversely, if the agreed DRG activity level is not reached, the hospital is required to pay back 60% of the underachievement. In other words, payments for under or over-shoots are adjusted marginally rather than at full cost. This level of performance is then taken into account in negotiating the agreed level of activity for the following year. In addition to smoothing the financial impact of activity changes on hospitals, such an arrangement also protects insurers from sudden increases in activity.

general wealthier than social health insurance members, because they have to surpass an income threshold to qualify (Box 6.1). Equity problems arise, because the social health system involves many re-distributional elements that are deemed socially desirable, for instance the transfer from higher to lower incomes through the income-dependence of contributions and from childless singles to families through the free co-insurance of spouses and children without own income. Exempting people with higher incomes from contributing to this seems questionable. The segmentation also impacts on risk pooling in unfavourable ways and therefore on efficiency, as it tends to remove good risks from the social health insurance system (Colombo and Tapay, 2004). People with private health insurance tend to be not only wealthier, but also healthier than the population insured via social insurance, as income and health are in general highly correlated and people with high-morbidity risk qualifying for private insurance often stay in the social insurance system on account of the high premia they would have to pay as a result of individual risk-rating by private insurers (Box 6.1).

The recent reforms aim at improving cost-effectiveness and equity

The original aim of the healthcare reform enacted in April 2007, the competition reinforcement act for social health insurance (*Gesetz zur Stärkung des Wettbewerbs in der gesetzlichen Krankenversicherung*), was to put healthcare financing on a more sustainable footing and limit its effect on employment. As the name of the reform law suggests, the government saw enhanced competition as the main tool to achieve higher cost-effectiveness. Reform elements include:

- A financing reform of the social health insurance system to partially decouple healthcare costs from labour income. A central health fund will collect uniform – rather than insurer-specific-labour-income dependent contributions and general tax money, which will then be distributed to insurers as income- and risk-adjusted capitations. Insurers that cannot cover their costs with the money received from the central health fund have to levy surcharges on their members, while insurers with surpluses can grant refunds.
- Greater freedom for insurers in their contractual relations with providers to allow them to compete based on the quality of their products and their efficiency (cost-effectiveness). In particular insurers possibilities to contract a limited set of – at least for the German system – rather novel forms of care directly and selectively with providers will be broadened.
- Greater contractual freedom for insurers to enhance price competition in the pharmaceutical market, in particular through improved possibilities to engage in rebate agreements with pharmaceutical companies.
- In addition, the recent reform addressed the problem that an increasing number of citizens has no health insurance, by making health insurance mandatory and improving affordability of private health insurance.

While the governing coalition partners shared the reform goal to decouple healthcare costs more from labour income, the final result of the reform effort has been a difficult political compromise between their different concepts how to reach this goal. The Christian Democrats preferred a Swiss-style social health system based on community rated[3] flat-rate premia with tax subsidies for low-income earners, while preserving a separate private market segment. Decoupling from labour income would have been achieved by making contributions independent of income. Social Democrats, instead, wanted to preserve income-dependent contributions, while achieving some decoupling through an enlargement of the base. Their proposal was to extend it to income sources other than labour and include private health insurance members in the social system.

Healthcare financing reform should go further

The reform improves the framework conditions for competition between insurers…

The new financing model based on the central health fund will be introduced for the social health insurance system in 2009. While social health insurers currently decide on their labour-income dependent contribution rate independently, the government will then set a uniform rate for all insurers. To make insurers' revenues completely independent from their members' income, the central health fund will distribute flat premia to insurers for each of their members. Moreover, it is planned to introduce morbidity-oriented risk adjustment in 2009, which would provide insurers with financial adjustments for members with costly catastrophic chronic diseases. A scientific advisory board has recommended 80 diseases to be included in the calculation of these adjustments.

The new adjustment for differences in income and risk structure will be an important improvement, as incentives for insurers to compete for high-income members with low morbidity risk are strong as long as the adjustment remains as incomplete as it is now. The introduction of a more complete income and risk structure adjustment will allow insurers to concentrate on providing their members with cost-effective, high quality treatment. The previous incentive, not to offer good treatment, as it could attract costly customers with high morbidity risk, will be removed. This will improve chances for competition to lead to cost-effectiveness rather than risk selection.

... but the price signal will be both weak and distorted

The price signal for competition in the new system will come from a surcharge that those insurers will have to levy that cannot cover the costs with the payments they receive from the central health fund. Insurers with lower costs in turn can grant refunds to attract new members. Patients can switch their insurer anytime, including when they announce surcharges and insurers have to inform their members about this possibility with their surcharge announcement. Insurers can choose whether they want to levy income-dependent or flat surcharges, but to avoid financial hardship, even the flat surcharge cannot exceed 1% of members' income subject to contribution charges. A check as to whether the 1% ceiling applies will be performed once the surcharge is higher than € 8 per month. Thus, for low-income members the surcharge cannot exceed € 8, while for higher income members it cannot exceed € 36 per month, given the current threshold for income that serves as a contribution base. The government will initially set contribution rates so that the central health fund covers 100% of the social health system's expenditures. If the proportion of the system's costs financed by the central health fund falls below 95%, the government will have to increase contribution rates. By implication, the current goal seems to be that surcharges cover not more than 5% of the system's costs.

The price signal will be weak, as only a low share of the system's total cost will be financed by surcharges. In addition, the 1% hardship rule limits surcharges beyond the differences in contribution rates that exist between different insurers today, which can reach up to 4 percentage points. On the other hand contribution rates are shared between employers and employees in the current system, whereas in the new system employees will pay the surcharges alone, which by itself would increase the impact on them. Yet, this effect is very likely to be too weak to outweigh the limitation of the surcharge built in through its relatively low percentage of members' income and of the system's total costs.

The hardship clause will lead to the size of the surcharge partly reflecting members' income rather than only the cost-efficiency of the surcharging fund, which is a distortion. As the surcharge is intended to be a price signal and thus the vehicle to enhance competition for cost effectiveness, it should ideally reflect insurers' efficiency only.

Moreover, redistribution associated with the 1% ceiling or with an insurers' family structure will occur within the membership of surcharging insurers, leading to additional distortions (*Sachverständigenrat*, 2006). As a result of the hardship clause, insurers can only raise limited revenues through surcharges on low-income members and they will have to obtain the rest by increasing surcharges on those who earn more. This will put insurers with many low income members at a competitive disadvantage. In the extreme, the hardship-clause can lead to subsequent waves of members hitting the 1% ceiling, which will oblige insurers to increase the surcharge levied on members above the ceiling even more. As a result of this effect, a simulation study shows that 61% of the members of some insurers with a high percentage of low income members would hit the 1%-ceiling with a relatively low surcharge of € 10 per month (Schawo and Schneider, 2006). If local insurance funds needed a flat surcharge of € 20 per month to fill their financing gap none of them would be able to raise the full amount they need as a result of the 1% rule. Likewise, surcharging insurers with many contribution-free family members have to levy higher surcharges on those of their members who do pay than insurers with the same costs but with fewer contribution-free family members.

The surcharge should be flat and redistribution should be tax-financed

The implicit choice to limit the price signal to finance only 5% of the system's overall costs and to 1% of members' income seems to be an opportunity lost, especially in terms of encouraging more low-income earners to react to it. With a directly collected flat surcharge combined with the possibility to switch insurers any time, including before they levy announced surcharges, the incentive for low income earners to switch might have been enhanced to a considerable degree. The envisaged large share of labour income dependent contributions to the system's overall finances and the possibility to leave insurers announcing surcharges immediately should be sufficient to protect low income earners from financial hardship. Therefore, the government should make the surcharge flat without any limitation in terms of its share in members' income.

To the extent that additional redistribution is needed, it should not be organised within the membership of surcharging insurers, but through tax subsidies to avoid distorting competition and ensure that redistribution is financed by all taxpayers.[4] Otherwise, insurers with an unfavourable income or family structure will be put at a competitive disadvantage and undesirable incentives to attract high-income members without co-insured family members will remain. As reducing incentives for risk selection is one important reform goal, this should be avoided. It should be noted, however, that tax subsidies would not only distort incentives for lower income earners to search for an efficient insurer, but it would also involve subsidising relatively inefficient insurers with public funds.

Higher flat surcharges would help decouple healthcare finances more from labour costs

Increasing the flat surcharge would help decouple healthcare financing from labour costs, which had been an important reform goal, but it also raises the need for higher subsidies for low-income earners, which can create problems of their own. Decoupling would occur even if tax subsidies were needed to avoid financial hardship, because general taxes draw on a larger base than social contributions. In the Netherlands, which had introduced a similar system in 2006, flat-rate contributions make up a much larger part of total contributions. The intention was for it to cover 50% of the costs (Greß *et al.*, 2007). This can make for a more significant price signal with a potential to increase price competition. On the other hand, higher flat-rate premia also raise the need to protect lower income earners from financial hardship, which is done through tax subsidies in the Netherlands. As pointed out above, this reduces the price signal for subsidised insurance members, while at the same time providing tax subsidies to inefficient insurers assuming that competition is undistorted by differing income and risk-structures. Switzerland experiences these problems with its system of flat premia combined with subsidies for low income earners. The Swiss case also shows that it can be difficult to contain increases in tax subsidies, if continued health cost inflation pushes up the premia, requiring authorities to increase the value of subsidies (OECD, 2006). There seems to be no way around an equity-efficiency trade-off when competition is used as a tool to attain more cost-efficiency in healthcare and there is currently no example of a country that has addressed both problems at the same time in an entirely satisfactory way.

When developing the reform further, Germany should aim at striking a careful balance between the need for the surcharge to be high enough to act as a functioning price signal and the need to avoid that necessary tax subsidies for lower income earners create efficiency problems of their own. A moderate surcharge that requires little or no tax subsidies for low income earners may well be the right solution, but there is probably scope to raise the financing contribution of the surcharge to a higher share than the currently envisaged 5% of the system' s total costs.

Higher budget contributions will limit the impact of healthcare financing on labour costs…

To reduce the effect of rising healthcare expenditure on labour costs, contributions from the federal budget to the central health fund will be gradually increased until they reach € 14 billion after 2015. Conceptually, the government intends budget contributions to compensate insurers for benefits for which they receive no or only partial member contributions, such as the free co-insurance for spouses and children without earnings subject to social contributions. Budget contributions extend the financing of these redistributive elements to all taxpayers, thus partly addressing the equity problem that arises as a result of the segmentation of the healthcare system in social and private insurance.

However, there may be some doubt as to whether the reform will actually materialise in view of the see-saw policy changes with respect to general budget contributions to the social healthcare system in the recent past. Table 6.2 shows how envisaged budget contribution paths have been changed by subsequent law. As a result budget contributions have been reduced substantially in 2007 compared to 2006 and, notwithstanding the planned increasing path of budget contributions, they will not exceed their 2006 level before 2010. The government has found no agreement yet on how to finance increasing budget contributions to the central health fund. The government should ensure that it

Table 6.2. **General budget contributions to social health insurance**

In billion euros

	2004 healthcare reform	2006 budget law	2007 healthcare reform
2004	1	1	. .
2005	2.5	2.5	. .
2006	4.2	4.2	. .
2007	4.2	1.5	2.5
2008	4.2	0	2.5
2009	4.2	0	4.0
2010	4.2	0	5.5
2015	4.2	0	13
2016	. .	. .	14

Source: Ministry of Health.

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finds an agreement on how to finance higher budget contributions soon to avoid putting this important reform at risk.

If it materialises, however, the increasing path of budget contributions will eventually help relieve the burden of healthcare financing on non-wage labour costs with potentially favourable employment effects, especially for low-wage earners. This would be the case even if increasing federal budget contributions were to be financed mainly through an increase in income taxes. This is so because income tax is levied not only on labour income, but also on other bases, more people pay income taxes than insurance contributions, including 10% of the population currently covered by private health insurance; and, unlike that for contributions the base for income labour taxes is not capped. A shift from insurance contributions to income taxes would thus spread the financing burden more widely. The pressures of healthcare financing on non-wage labour costs could decrease even more if higher budget contributions were to be financed by increases in other taxes, *e.g.* consumption taxes, or by expenditure reductions in other areas. A recent study suggests, that the positive effects on efficiency, economic growth and fiscal sustainability of shifting the tax burden from labour income to other sources can be substantial (Botman and Danninger, 2007).

… but for now the burden of healthcare financing on non-wage labour costs has increased

For the time being, political decisions have decreased revenues, while increasing costs of insurers. This has led to contribution increases in 2007, thus running counter to the government's goal of reducing non-wage labour costs. In anticipation of lower contributions from the federal budget and higher costs for medicines as a result of the VAT increase by 3 percentage points in early 2007, a majority of insurers increased their contribution rates at the beginning of 2007. As a result, average contribution rates were 0.6 percentage points higher in the first half of 2007 than in the corresponding period in 2006. Thanks to favourable labour market developments, insurers have experienced an unexpected combined surplus of € 307 million in the first half of 2007, which may put some of them in the position to lower contribution rates. Yet, these revenues are probably at least to some extent of a cyclical nature.

Higher budget contributions and the abolition of free co-insurance for spouses would be helpful

The VAT increase in 2007 has contributed to an unfavourable, if unintended, impact on healthcare expenditures and thus on non-wage labour costs, running counter to one of the stated goals of the tax reform, namely the partial shifting of social contributions from labour income to other tax bases. The VAT increase in 2007, together with favourable cyclical effects, has allowed the government to lower unemployment benefit contributions quite significantly from 6.5% to 3.3% in 2008. On the other hand, it has fully impacted on the prices of medicines, as they are subject to full VAT rates in Germany unlike in most other OECD countries. For policy consistency, the government might want to consider whether it should not increase budget contributions to alleviate the effect of the increase in VAT on insurers' finances.[5]

In addition and as an alternative to a part of the budget contributions to the central health fund, the government should also reconsider free co-insurance for spouses as it increases non-wage labour costs for those who do pay, while also contributing to an unintended unemployment or low-employment-trap for second earners. This puts a strain on the contribution base and on economic growth. Engaging all tax payers in the financing of free co-insurance for spouses through budget contributions would be more equitable than the current financing via social charges and it would also reduce the negative effect on non-wage labour costs to some extent. However, the negative incentives for second earners to take up full-time work that result from free co-insurance can only be abolished by requiring every couple to pay for the insurance of both spouses (see also Chapter 2). In addition, this would lower contributions with a potential to unleash further positive employment effects. The government sees free co-insurance of spouses as one element of compliance with the constitutional requirement to protect marriage, but given the negative side-effects, it should consider whether there are other instruments to achieve the same goal. Corresponding social concerns about the availability of healthcare for non working spouses are on one hand already taken care by the current health insurance reform, which introduces mandatory healthcare insurance. Affordability issues on the other hand would have to be dealt with by contributions from the budget and could be financed with savings on payments to compensate SHIFs for non-contributing members.

Private health insurance reform

Making health insurance mandatory and more affordable will improve universal access to healthcare…

To address the issue of an increasing number of uninsured citizens – around 200 000 people in early 2007 – the reform makes health insurance mandatory and takes measures to improve affordability. While people covered by private health insurance are wealthier on average than those in social health insurance, transferral to the private insurance system can lead to a loss of insurance coverage due to an inability to pay the premia as a result of income or job loss later on or strong increases in premia associated with risk-rating, including premia increasing with age.

To make it easier for people with high morbidity risk and for those who have experienced income losses after qualifying for private health insurance to pay their insurance premia, private health insurers will have to offer a standard insurance policy dubbed "basic tariff" from 2009. There will be no risk adjustments, except once for age and gender when entering the contract, and coverage similar to the social health insurance. Private health insurance companies have to offer this tariff to anybody qualifying for their system who asks for it, although strict time limits apply for switching for those who are already covered by a different private insurance policy.[6] The premium cannot exceed the maximum contribution to social health insurance and additional subsidies apply for people who cannot afford the premium.[7]

… but including private insurers in the social insurance financing reform would be better

However, including private health insurers and their clients in the new financing system based on the central health fund would be preferable as it would address the equity and efficiency problems resulting from the segmentation of the healthcare system in social and private insurance. While the equity problem will be addressed somewhat by channelling more federal budget contributions into the central health fund, this will not compensate for the full amount of redistributive elements in the social health insurance and past experience has shown that budget contributions are vulnerable to change.

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Including private health insurers in the financing system based on the central health fund would be a better targeted and more reliable measure to improve financing equity.

A unified system to finance the social health insurance coverage for all citizens would also improve risk pooling and increase efficiency, as explained above, helping to lower contributions with a potential to boost economic growth and employment. Recent studies suggest that the social health insurance system loses around € 750 million each year, as a result of switching between the private and the social health insurance systems (Albrecht *et al.*, 2007a). Allowing high-income earners with low morbidity risk to withdraw from the system makes risk sharing among the remaining social health insurance members costlier, thus leading to higher contributions. Since contributions are levied on labour income this also acts as a break on employment, thus undermining both economic growth and the basis for social contributions, thereby leading to a vicious circle that negatively affects society as a whole. Including private insurance in the financing system based on the central health fund as practiced in the Netherlands would provide for more efficient risk pooling and improved financing equity. Private health insurers would still be free to offer additional coverage that goes beyond social health insurance.

The reform provides only limited room to enhance competition among private insurers

To stimulate competition between private health insurers, the government has made it easier to transfer accumulated reserves to a new insurer, but this is very limited. Reserves serve to smooth contributions over the life cycle. Without them premia would rise even more sharply with age, as morbidity increases. That means that if reserves are not portable, switching insurance company becomes more and more unattractive over time. However, strict time limits will apply for people already insured in the private insurance system and transferring reserves will be limited to the amount of assets that would have been accumulated on a basic tariff. People on an insurance contract with a broader coverage risk losing a considerable part of their assets and switching will remain unattractive for them. Thus, competition between private insurers will be limited to the basic tariff which will probably be attractive mainly for those confronted with high risk-surcharges on regular private health insurance contracts. Thus, the basic tariff may be subject to negative risk selection. To prevent that insurers will face competitive disadvantages through different morbidity risks within the basic tariff a risk-structure-adjustment will be implemented.

Competition based on healthcare provision is difficult to establish

The system will be further opened to direct and selective contracting…

Freedom for insurers to contract selectively and directly is enhanced further with the new reform, which will enable insurers to influence the quality and cost-effectiveness of services that they provide and distinguish themselves on the basis of their offer. If instead they were to remain bound to buy healthcare solely on the basis of collective contracts (Box 6.2), the only parameter that they could influence would be their own administrative costs.

The government uses selective contracts also to develop a number of – at least for Germany – relatively novel forms of care (see Box 6.3), as it turned out to be difficult to do this within the traditional framework of collective negotiations between corporatist associations of insurers and providers. Separate contracts for the in- and outpatient sectors and limited possibilities to transfer resources across them had provided few

Box 6.3. **Novel forms of care**

Integrated Care Programmes have been designed to better coordinate care between general practitioners (GPs) and specialists, across the inpatient and the outpatient sectors, rehabilitation and in some cases with pharmacies. Since 2 000 insurers have been allowed to negotiate integrated care models, in general involving actors from at least two different sectors or different specialties The hope was to improve both quality and cost-effectiveness of healthcare provision. Yet, take up was slow initially because the law prescribed that sectoral budgets would have to be cut by the amount spent on integrated care programmes to avoid increasing healthcare expenses. Yet, the law did not provide a mechanism to allow people to do this. This turned out to be impractical, as negotiators were reluctant to agree to cut their budget partly to sponsor healthcare providers in other sectors. To improve the legal framework and financial incentives for integrated care programmes, insurers have been allowed to contract directly and selectively since 2004 with providers from different sectors and specialisations on integrated care programmes. As a start-up, financing up to 1% of sectoral budgets has been earmarked for these projects, initially until 2006, but this has been extended with the 2007 reform. That means that insurers are allowed to retain up to 1% of all hospital bills and up to 1% of payments for ambulatory care physicians. If insurers do not invest the money in integrated care projects within 3 years, they have to pay it back to hospitals and ambulatory care physicians.

Disease Management Programmes (DMPs) are supposed to provide improved healthcare for some chronic diseases, by establishing clinical pathways and up-to-date evidence-based guidelines for these programmes. They currently exist for diabetes, breast cancer, coronary heart disease and asthma. They are intended to better involve patients in treatment decisions and to improve care coordination across sectors as well as rehabilitation. The Institute for Quality and Efficiency in the Health Care Sector (IQWiG), founded in 2004, is supposed to provide research and advice. The number of registered DMPs for some chronic diseases has increased significantly since 2002. Since 2004, hospitals have also been allowed to offer inpatient care within DMPs. The main incentive for insurers to provide DMPs has been their financial promotion through the risk structure adjustment, as insurers receive additional funds for the standardised costs of treatment for their members enrolled in DMPs. This will become redundant and will probably be abolished once the new risk structure adjustment mechanism is introduced in 2009: this will provide adjustments for the standardised costs of treatment for 50-80 chronic diseases. DMPs can be offered and financed as integrated care programmes. While they have not been evaluated comprehensively, preliminary research in some regions suggests that at least some of them have helped improve quality (Altenhoffen *et al*., 2002). However, another study suggests instead that the link of DMPs to the risk structure adjustment has led to an excessive enrolment of patients in these programmes without due regard to their therapeutic value (Häussler and Berger, 2007).

General Practitioner (GP) centred models have been promoted since the healthcare reform of 2004 which obliged insurers to offer such programmes to their patients. The idea is that the general physician will direct patients through treatments, avoiding costly multiple treatment or diagnosis and improving the flow of information between different healthcare providers, thus improving cost efficiency.

Special ambulatory care: The 2007 has made it easier for insurers to buy outpatient care for their clients outside collective contracts directly from healthcare providers or groups of them based on selective contracts. Insurers can then offer healthcare plans to their members whereby they bind themselves to use only those ambulatory care services for which the insurer has contracted selectively.

Highly specialised outpatient care in hospitals: The possibility for hospitals to provide highly specialised outpatient care, for example for cancer or AIDS patients, has been introduced in 2004 as part of the integrated care programmes. However, it has hardly been used so far.

incentives for providers to cooperate across sectors and improve care coordination. Selective contracts involving providers from different sectors can address this problem. Moreover, collective contracts in the outpatient sector are essentially based on lump-sum payments from insurers to physician associations, which they then distribute to their members in line with the quantity of services provided. There were no incentives for providers to develop innovative forms of care in this system. Again, this problem can be addressed by allowing insurers to contract directly and selectively with providers and the government has increasingly opened up possibilities to do this over the past few years. However, it should be noted that selective contracting will be limited to the care models described in Box 6.3, while collective contracts will continue to be legally binding for all other healthcare services.

While the care models described in Box 6.3 have existed before, the 2007 reform aims at strengthening them further. It obliges social insurers to offer GP-centred models, as tariffs for those of their members who participate in DMPs, integrated care[8] and special ambulatory care. Members who wish to enrol in these programmes would bind themselves to limit their free choice of physicians for some time in line with the model provided. Insurers can offer financial incentives for members who choose to enrol in one of these models, including lower co-payments and premia. They are obliged to offer incentives to enrol in GP-centred models. To boost the supply of highly specialised outpatient care in hospitals, which had hardly been developed until now, *Länder* can now accredit hospitals in their territory to provide these services. Insurers will have to reimburse highly specialised ambulatory care based on fees prevailing in the outpatient sector.[9]

... but the co-existence of collective and selective contracts involves challenges

However, as collective contracts will continue to be the norm and all insurers will be legally bound by them, their co-existence with selective contracts will involve challenges. To prevent selective contracts from being financed as add-ons, insurers have to be able to cut their payments for collective contracts by the value of services they have contracted selectively (Cassel *et al.*, 2006; Greß *et al.*, 2006). Indeed, the reform law requires such an adjustment. However, the details of the adjustment mechanism have been largely left to collective contracting partners to negotiate. This has not worked well in the past, given that selective contracting benefits only some of the members of collective contracting parties, while hurting others (Jacobs, 2007). Physicians' associations, as an example, would have to agree to a downward adjustment of the payments they receive from insurers based on collective contracts, while only those of their members who engage in selective contracts can be expected to obtain re-compensation.[10] Against, this backdrop, there is a risk that collective contracting partners will not come up with a fair adjustment mechanism that could help generate overall savings.

Primarily as a result of these difficulties, take up of selective contracts has been strong so far only for those models for which extra financial incentives were provided, namely DMPs and integrated care programmes.[11] For other programmes, such as special outpatient care and GP-centred models, take-up has been limited and those that were developed were often financed as add-ons to the collective contracts. In the case of highly specialised ambulatory care in hospitals the incomplete risk structure adjustment has proved to be an additional problem hampering take-up, as insurers offering this kind of care for patients with catastrophic chronic diseases would have risked attracting new members requiring highly costly treatments without receiving financial re-compensation.

There is a risk that selective contracts could be financed as add-ons to collective contracts

Going forward, the government will have to watch very carefully whether insurers are able to engage in selective contracts without financing them as add-ons. If this is not the case, the government will need to find ways to strengthen the position of insurers in negotiations. Otherwise, there is a risk of an inefficient expansion of services and payments for those programmes that insurers are obliged to offer, undermining the potential for new forms of care to help enhance the cost-effectiveness of healthcare provision.

One option to strengthen insurers' position in contract negotiations would consist in allowing them to contract all of their services directly and selectively. They may well wish to continue contracting a part of their services collectively as this may involve lower transaction costs. In addition, collective contracts are associated with a clear responsibility for physicians association to guarantee access to healthcare within reasonable geographic and time limits, which has proved to work well. As insurers engage more in selective contracts, the responsibility to provide access will need to be shifted to them.[12] This will involve costs for them and it may not work as well as the current system at least in the beginning. However, allowing insurers to walk away from collective contracts altogether might strengthen their negotiation power sufficiently to enable them to enforce cuts in their collective contracting payments that would account for the services they contracted collectively.

The government needs to evaluate whether competition produces desired results

It is hard to predict now whether competition based on selective contracts will actually succeed in enhancing cost-effectiveness and quality, not least since the novel healthcare programmes described in Box 6.3 have not been evaluated thoroughly and systematically, so far. The government should monitor outcomes closely and augment quality assurance foreseen by law and implemented by contractual partners through regular independent evaluations.

Regular evaluation and publication of results will also be important, because patients and insurers need sufficient information for competition to lead to better quality. Selective contracts involve binding members to limit their choice of healthcare providers. The insured will only be willing to do this if they are sure that the healthcare plans they are being offered are of high quality. Likewise, they will only switch from insurers offering lower quality to those offering higher quality if they have the necessary information to judge this.

While the government has worked on improving information on healthcare quality, including by establishing the Institute for Quality and Efficiency in Healthcare (IQWiG), more remains to be done. The IQWiG provides independent evidence-based information including for consumers through a webpage, but the programmes described in Box 6.2 have not been evaluated systematically for patients, so far. It could be a task for the government to define a standard set of indicators and other high-quality information that providers will be required to publish regularly. Independent product testing and certification organisations, such as *Stiftung Warentest*, may also have a role to play to test the quality and cost-effectiveness of offered health plans. While this is a challenging task, it is necessary to strive for providing the required information for competition for quality to work. Working on improving the reliability of information about healthcare quality needs to be a continuous process in a system that relies on competition to provide better value for money for consumers.

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Whether patients will actually demand the new services is not clear and insurers may have to offer substantial financial incentives for them to agree to limit their choice of physicians, while they are enrolled. Experience in the Netherlands has shown that patients can be very reluctant to do this. In this context, there is some doubt whether insurers should have been required to offer their clients voluntary GP centred models with financial incentives for take up. Over 90% of German patients report having a family doctor and only just over a quarter say that they have no GP directing them through treatments (Schoen *et al.*, 2007). Moreover, there is no clear evidence that GP centred models do help reduce overall healthcare spending (Greß *et al.*, 2004). A recent study suggests that the cost of diagnosis and treatment duplication as a result of free and direct access to specialists in Germany is overestimated (Albrecht *et al.*, 2007b). Thus GP centred health models may not generate the necessary savings for insurers to recover the associated financial incentives they are required to offer to their members. Leaving it up to insurers to decide whether they think they can reap savings with GP centred models and how they want to design them might have been a better option. Alternatively, Germany could have introduced a mandatory gatekeeper model, as this, at least, would not involve extra costs for insurers.

New health plans expand consumer choice but may be misused for risk selection

The reform obliges insurers to offer healthcare plans with deductibles or partial repayment of premia in return for limited use of healthcare services. Furthermore, they will have to offer a choice between benefits-in-kind, which is the norm now, and reimbursement plans. Before this deductibles were available only for people who were voluntarily insured in the social healthcare system, but could have taken out private health insurance.

While increasing the range of tariffs available to all social health insurance members will certainly increase consumer choice, it is not so clear whether deductibles or tariffs with repayments will generate savings for the social insurance system as a whole, as desired. For this to happen, savings would have to be higher than the financial incentives that would have to be granted to those who choose this option. There is no direct link between the quantity of healthcare services used and insurers' payments to physicians associations as these are based on capitations and past expenditure. However, morbidity structures of insured in selective contracts are taken into account to adjust the amounts negotiated in collective contracts. A reduction in doctors' visits could only reduce insurers' payments to physicians' association in the longer run, if the decrease in healthcare services use were to become noticeable so that it could become a basis for renegotiating capitation payments to physician's associations. Although the law states explicitly that if an SHI fund provides such new tariffs the costs have to be financed by savings and efficiency gains within these new tariffs *ex ante*, it will have to be closely monitored if this is also the case *ex post* It is therefore important that the regular reports about the effects of the new tariffs contain specific information about how the requested savings are realised.

At the same time, tariffs with deductibles or repayments can have undesirable side effects. First, patients should not reduce necessary physicians' visits to enjoy cost savings through deductibles, not least because this could increase treatment costs later. Yet, surveys suggest that lower income earners do skip doctors' visits when sick to avoid out-of-pocket payments. The proportion of people reporting that they have done so in the last year is actually relatively high in Germany compared to other countries (Schoen *et al.*, 2007). There is also a risk that deductibles are used for risk selection. As they are mainly interesting for higher income earners with low morbidity risk who would visit doctors infrequently in any case, they could be used to attract this group of individuals. The improved risk structure adjustment to be introduced in 2009 will reduce this risk, depending on how complete it is. However, since the way the surcharge in the new financing system is currently designed entails some incentives for insurers to try and attract higher income members, as discussed before, the danger that deductibles might be used for risk selection is real. It will be necessary for the government to monitor very closely the effects of the new tariffs on insurers' finances and competition between them, including on whether it leads to risk selection.

The pharmaceutical market is a challenge for cost-effectiveness

Administrative measures have helped curb spending for pharmaceuticals

In some respects, price and market access regulation in the German pharmaceutical market is relatively light compared to other OECD countries, but efforts to contain costs with a host of small-scale, overlapping and often temporary instruments has made the regulatory environment rather complex (Box 6.3, see also Häussler *et al.,* 2006). There is no direct producer price regulation, unlike in most other OECD countries (Docteur and Oxley, 2003), and accredited medicines are immediately reimbursable unless they are on a negative list. Thus, unlike in many other countries, there is no need for medicines to be admitted to a positive list to be reimbursable, providing for fast access to new medication. However, there is indirect price regulation for medicines for which substitutes are available in that they are grouped and assigned a reference price, which is the maximum that insurers will reimburse.

Not all of the instruments used to control costs have proved to be sustainable. They have included incentives for pharmacists and physicians to join in cost containment measures, but also purely fiscal and often temporary measures, such as price moratoria and an increase in global rebates that pharmaceutical companies or pharmacists have to grant to insurers. New instruments have sometimes led to strategic reactions by market participants, in turn inducing the government to introduce new reforms to counteract the unintended side effects (see Box 6.4 on the *aut-idem* rule as an example). In addition, temporary price regulations have led at least once to significant spending increases after they have expired, as happened with the increase of the rebate that pharmaceutical companies had to grant to insurers from 6% to 16% in 2004 only, which led to an expenditure increase of 16.8% for medications in 2005 (Schwabe and Pfaffrath, 2006).

While cost-containment measures have probably prevented even higher expenditure increases in recent years, there are some indications that there is still room for savings without loss of quality through more effective price competition and more efficient prescription behaviour. Reference prices have been successful as a ceiling for prices of medicines to which they apply, but there is also evidence that they act as a floor at the same time discouraging price competition below this (Danzon and Ketcham, 2003). Indeed, some reports claim that prices of generics are a lot cheaper in other countries, such as Sweden or the UK (Schwabe and Paffrath, 2006; Häussler *et al.*, 2006; Marty, 2006). In any case, many policy measures to contain costs in recent years affected the generics industry, based on the assumption that price competition in that sector could work better than it does in Germany elsewhere in the pharmaceutical market and that prescription behaviour could be made more cost-effective.[13]

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Box 6.4. Cost-containment instruments in the German pharmaceutical market

The reference price is the maximum price that insurers will reimburse for a medicine belonging to a group with the same or pharmacologically similar active ingredients or with different active ingredients, but equivalent therapeutic value. This been quite successful in containing prices for medications to which they apply. However, their market share decreased substantially in the late 1990s, especially after the possibility to assign new patented medicines with little or no therapeutic value added (analogous compounds or me-too innovations) to reference-priced groups was abolished in 1996. This had led to sharp increases in costs for pharmaceuticals. In 2004 the possibility to assign patented analogous compounds to reference-priced groups has been re-instituted, helping to counteract the trend of a declining market of pharmaceuticals to which a price ceiling applies.

Regional target agreements between insurers and physicians' associations, which are mapped to the individual physician through **practice-specific indication-specific targets** set limits on expenditures on pharmaceutical prescriptions. The practice-specific targets are supposed to be enforced by control committees, a joint body formed by insurers and physicians' associations. They perform preliminary efficiency controls, when a physician overshoots the target by more than 15%, to establish whether the overshoot can be justified by specific practice circumstances. If the overshoot is larger than 25% and cannot be justified, the physician has to reimburse it to insurers. The insurers can also pay bonuses to doctors' associations if their members have prescribed less than foreseen in the target agreements. The recourse procedure usually took years but was limited through the 2007 reform to a maximum period of two years and sanctions are applied only rarely. It cannot be excluded, though, that the threat alone helps induce physicians to aim for more efficiency, although it may also lead to a reduction of necessary prescriptions.

A *bonus-malus* rule is intended to control prescription overshoots based on defined daily doses for groups of medicines which are significant for overall expenditures. If a physician prescribes more, he or she has to reimburse 20 to 50% depending on the extent of the overshoot. If expenses prescribed by physicians of a doctors' association are below the target, a bonus will be paid to their association which will be supposed to forward these payments to its most efficient members. Doctors' associations can replace the rules with other arrangements that can reach the same goal. Medications that are subject to a *bonus-malus* rule are not subject to practice-specific targets or efficiency controls. The *bonus-malus* rule is not applied to medicines for which there are rebate agreements and the recent spread of these agreements has made the rule redundant.

The ***aut-idem* rule** introduced in 2002 requires pharmacists to substitute prescribed medications with a cheaper alternative with the same active ingredient, unless the prescription precludes this. Yet, the rules had to be adjusted several times, because market actors reacted strategically and there were weak and distorted incentives for pharmacists to comply. The government reacted by obliging the pharmacist to substitute prescribed medications with one of the three cheapest drugs in the reference group and set reference prices in the lower third of the price range which is now calculated excluding expensive medications with a low market share. Another problem was that pharmacists used to receive degressive percentage margins on medications they sold, which still increased with the prices of the drug, however, creating strong incentives to sell expensive medicines. To address this problem, the government introduced a lump-sum fixed margin along with a smaller percentage margin instead. A third problem hampering the functioning of the *aut-idem* rule consisted in big generics producers granting large rebates to pharmacists, including benefits in kinds, which pharmacists did not forward to insurers.

Box 6.4. **Cost-containment instruments in the German pharmaceutical market** *(cont.)*

Imported medicines: Pharmacies are required to give patients (re-)imported medicines, if they are 15% below the prescribed medicine or € 15 cheaper.

Rebates: Pharmacies have to give a rebate of € 2.30 to insurers for all prescription drugs. Pharmaceutical companies have to grant a 6% rebate to insurers. Insurers can negotiate further rebates with pharmaceutical companies for medicines that they have to reimburse.

Cost sharing: Patients pay 10% of the price for pharmaceuticals out of pocket, with a minimum of € 5 and a maximum of € 10. Cost-sharing is limited to a maximum of 2% of gross earnings per annum and to 1% for patients with chronic diseases.

Recent reforms have been successful in containing pharmaceutical spending through further administrative measures. Prior efforts to encourage price competition in the generics market through the *aut idem* rule (see Box 6.4), which obliges pharmacists to replace medicines with cheaper generics, had partly been undermined by large generics companies competing through benefit-in-kind rebates to pharmacists, rather than through lower prices that would benefit insurers and their members. Rebates of 15-20% were not rare, making it very difficult for smaller companies to compete, even if they offered significantly lower prices (*Sachverständigenrat Gesundheit*, 2005; *Deutscher Generikaverband*, 2004), mainly because they were not able to produce large quantities to the same degree as larger competitors. In response, a reform law in 2006 has made these benefits-in-kind illegal and forced pharmaceutical companies to offer pharmaceuticals for which generics are available at a 10% rebate. Together with a lowering of reference prices and an effective price moratorium for reimbursable medications for 2 years, this has contributed to containing spending on pharmaceuticals in 2006 and 2007.

But the government has also been successful with setting marked-based incentives recently

Recently, market-based incentives for patients to join in savings efforts seem to have revived price competition in the generics market and have thereby contributed to substantial savings. The reform allowed insurers to abolish co-payments for patients who chose medications with a price that is 30% below the reference price, leading many producers to lower their prices. Overall the increase in expenditure on pharmaceuticals has been very modest in 2006 with an increase of 1.8% and average prices of medicines in the social health insurance market have decreased by 2.3% (Schwabe and Pfaffrath, 2007; BKK, 2007).

There may be a lesson to be learned from the success with exempting cheap medicines from co-payments, thus using them more as an allocative instrument. The containment of public expenditure on health in recent years has been achieved partly through higher co-payments for medicines and doctor visits, but in most cases these have been used as a purely fiscal measure. There may be a case for trying to make better use of the potentially allocative function of co-payments in other areas, as well. However, it should not be overlooked that it is difficult to shape the design of co-payments so that they help reap cost savings without leading individuals to renounce cost-effective treatments that they need (Goldman *et al.*, 2007).

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Enhanced possibilities for rebate agreements could reshape the market

Opportunities for insurers to involve pharmacies, physicians and patients in their rebate arrangements with pharmaceutical companies and incentives for them to comply have been improved with the recent reform. Insurers were allowed to engage in rebate agreements before, but because of their obligation to contract and reimburse any medicine, they had no possibilities to guarantee quantities and not many rebate agreements emerged. Since the 2007 reform, pharmacists now have to privilege medicines with a rebate when substituting medications with a generic, unless the prescribing physician has precluded this. Insurers can abolish or reduce co-payments for medicines with rebates and they can engage physicians in target agreements to encourage them to privilege medications with rebates. Information about existing rebate agreements has to be included in practice and pharmacy software.

Rebate contracts have spread rapidly since April and this seems to have lead to noticeable changes in market shares (IMS Health, 2007), although it is too early to say whether this will lead to substantial savings. There also seem to have been some initial difficulties: Some smaller generics producers that had made rebate agreements with large insurers experienced supply difficulties in the beginning and some of the rebate contracts are under investigation by the Federal Cartel Office (FCO) and courts, as they have been challenged by producers. On the other hand, some of the larger insurers claim that they could reap substantial savings through rebate agreements. Yet, there is still some legal uncertainty, because the reform law stipulates that competition law should apply to rebate agreements, but there is now a debate whether the FCO and corresponding courts would be responsible for review and enforcement or social courts which are responsible for social insurers in general. Another problem is that some insurers are regulated by state regulators, whereas others are regulated by a federal regulator (*Bundesversicherungsamt*). The government should make clear which authorities are responsible for reviewing and enforcing competition law applying to rebate agreements, while centralising regulation of insurers to ensure that the same rules apply to all. The outcomes of rebate agreements should be monitored closely.

If successful, the instrument could be developed further

If rebate agreements turn out to be a successful tool to enhance price competition, the government should consider developing this instrument further. A possibility, which has been put forward repeatedly in the recent discussion (Glaeske *et al.*, 2006; Häussler *et al.*, 2006; Klauber and Schleert, 2006; *Sachverständigenrat Gesundheit*, 2005) would consist in relaxing insurers' obligation to contract, by allowing them to reimburse only one or two medicines out of each group with the same active ingredient or, going a step further, of equivalent therapeutic value. Effectively, this would amount to insurers writing positive lists of medications that they reimburse. Physicians and pharmacists would need software containing up-to-date positive lists and physicians would deviate from this only exceptionally if there are good medical reasons for this.

If such a system could revive price competition below reference prices, it may also be possible to abandon some of the more cumbersome instruments with no allocative function in order to curb expenditure on pharmaceuticals that is not cost-effective. This could make pharmaceutical regulation lighter and more transparent than it is today.

Following other countries, Germany is introducing cost-benefit analysis for patented medicines

To avoid that patented medicines with limited therapeutic value added are sold at prices that are not cost-effective, the government has extended the remit of the IQWiG from performing benefit analysis for new medicines to cost-benefit analysis, following similar arrangements in many other OECD countries (see Coca *et al.*, 2006, for a selection). This is intended to help determine the maximum reimbursement prices for new medicines. However, the method is still being developed and this will take time, given that it is not a trivial task to determine the therapeutic value of a medicine in monetary terms. The regulation will remain lighter than in other OECD countries, as the cost-benefit analysis and subsequent determination of a maximum reimbursement price will not be a prerequisite for reimbursement. Therefore, the price ceiling will apply only with a lag. A second opinion will be required for the prescription of a new and highly costly medication.

More competition in pharmaceutical distribution would be helpful

Competition in distribution should be enhanced to exploit untapped potential to lower prices. Margins in the pharmaceutical sector are high by international standards (Häussler *et al.*, 2006; Glaeske *et al.*, 2006; *Österreichisches Bundesinstitut für Gesundheitswesen*, 2001) and regulation has prevented more efficient forms of distribution from emerging. Pharmaceutical companies can choose their prices freely, but they then have to be sold at the same price to all wholesalers. Pharmacies receive a fixed margin of € 8.10 per prescribed medication for privately insured and € 5.80 for SHI-insured (SHIF rebate) and a 3% margin on the wholesale price. Wholesalers, as well, receive a percentage margin fixed by the law. By implication, prices of prescribed pharmaceuticals are the same in every pharmacy and price competition in distribution is limited to over the counter pharmaceuticals. Pharmacists have only recently been allowed to own up to four pharmacies, but this remains quite restrictive. They have to be in geographical proximity and the pharmacist has to work in one of them. Direct distribution through the internet has only been allowed recently. The density of pharmacies remains high by international standards (Nink and Schneider, 2006).

Moving from fixed to maximum reimbursable prices and margins could do much to stimulate competition in distribution and help reduce expenditures on pharmaceuticals. Pharmacies could then undercut maximum prices in an effort to attract more clients through lower co-payments. In the original outline of the reform the government planned to move from fixed to maximum prices in pharmaceutical distribution, but this was scrapped in the lawmaking process. In addition, separate margins for wholesalers could be abolished. Instead, pharmacists could make arrangements with wholesalers on how to share their margins. This is likely to lead to new and cheaper forms of distribution, provided that effective competition oversight prevents dominant market positions from arising (Glaeske *et al.*, 2003; Cassel and Wille, 2006; and Häussler *et al.*, 2006).

To allow more efficient forms of distribution to emerge, including chains, the ban on owning more than four pharmacies should be lifted. Similar arrangements in other countries are currently under revision at the European Court of Justice and the result could well be that Germany will have to allow pharmacy chains, too. There will need to be effective competition policy, however, to avoid vertical and horizontal integration leading to dominant market positions. This has become a problem in Iceland and Norway after liberalisation (Anell, 2005) which has not led to lower prices, although it did improve availability of pharmacies.

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Box 6.5. Recommendations how to make healthcare financing more sustainable

Healthcare financing

- Make sure that surcharges are flat and not income-dependent to avoid distorting competition.
- To the extent that additional subsidies for low income earners are needed, make sure that they are tax-financed as opposed to being financed exclusively by higher income earners in the same insurance.
- Consider whether the contribution of flat surcharges to the health system's revenues can be increased to strengthen the price signal and decouple healthcare financing from labour income a bit more. For consistency with the policy goal of shifting some of the burden of healthcare financing from labour to other bases, consider higher budget contributions to partly compensate social insurers partly for the VAT to be paid on medications.
- Strive to find a financing solution for higher budget contributions to social health insurance.
- Reconsider free co-insurance of spouses to avoid low- income traps for second earners. Address eventual affordability issues with direct payments from the budget which could be financed from savings on payments which compensate SHIFs for non-contributing members.
- Include private insurers in the new financing system based on the central health fund.

Enhancing competition based on healthcare provision

- Monitor closely whether new forms of care based on selective contracts are financed as add-ons to collective contract payments. If they are, strengthen the position of insurers in collective negotiations, possibly by lifting the legal requirement to negotiate collectively.
- Make sure that the quality of new forms of care is evaluated systematically and independently. Work on a set of reliable and comparable quality indicators that providers will eventually have to publish.
- Monitor closely whether new tariffs, including deductibles and repayments for limited use of healthcare, actually generate the desired savings or else whether they are used primarily to attract high-income earners with low-morbidity risk.

Enhancing competition in the pharmaceutical sector

- Closely monitor outcomes of enhanced possibilities for insurers to engage in rebate agreements and make clear which authorities are responsible for reviewing and enforcing competition law applying to rebate agreements, while centralising regulation of insurers to ensure that the same rules apply to all. If successful, consider extending the measure by relaxing the obligation for insurers to reimburse any medicine and limiting it to one or two medicines out of each group with the same active ingredient or equivalent therapeutic value.
- Replace fixed with maximum prices and margins in pharmaceutical distribution.
- Relax 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 or she is allowed to own.

Notes

1. These measures are not fully comparable in the OECD health data collection and the German measure may well be biased upward in comparison to other countries, but this would probably not change the qualitative result.
2. See the *Euro Health Consumer Index 2007* of the Swedish thinktank *Health Consumer Powerhouse*.
3. That means that unlike in the German private health insurance system premia would not be subject to individual risk rating, that is they would not depend on the individual age and risk of the insured, but on the average age and morbidity risk in the insured community.
4. Tax subsidies could be administered through the central health fund or they could be paid directly to recipients (see *Sachverständigenrat*, 2006). As long as labour income contributions finance 100% of the system's costs, the central health fund can finance subsidies for surcharges of individuals with low income without requiring further tax contributions.
5. Reducing the VAT rate on pharmaceuticals, instead, is not a good option, as it decreases the transparency of the tax system further and runs counter to efforts of increasing tax collection efficiency (Chapter 2).
6. People who are already in the private health insurance can switch to the basic tariff of a company of their choice, but only during the first 6 months of 2009. Those who are older than 55, pensioners and people who can prove that they are unable to pay the premia can switch beyond that time limit. Those who move into the private health insurance system after 2008 have the choice to switch to the basic tariff of any insurance company without any time limits.
7. Private insurers will be obliged to halve the premia for the basic tariff for people belonging to the private health insurance system who are eligible for means-tested unemployment benefit or would become eligible as a result of the premia. These individuals can receive additional subsidies from the municipalities or the Federal Labour Agency if they are still unable to pay their contributions to private health insurance.
8. Integrated care plans will be expanded by the recent reform, as they can now involve non-medical healthcare providers (such as speech therapists) and long-term care providers. The 1% start-up financing provision for integrated care (see Box 6.3), which was due to expire in 2006, is extended until 2008.
9. Highly specialised ambulatory care can now also be provided as an integrated care programme, even without the involvement of actors from other sectors, which is generally required for a programme to qualify as integrated care. This gives insurers and hospitals that develop such a highly specialised outpatient care programme, access to the start-up financing provided for integrated care.
10. In addition, the 2007 reform would probably complicate negotiations on the insurers' side, by stipulating that regional umbrella associations now have to negotiate uniform contracts for all insurers in the region, while they negotiated individually or by type of insurer before. Insurer roof associations would face the same problem as physicians' associations when negotiating an adjustment mechanism, as their members will probably engage in selective contracting to different degrees, and those who do so less may not want their competitors to be able to reduce their collective payments to a large extent.
11. For integrated care the 1% start up financing rule has ensured take-up, but this due to expire. There is a strong incentive for insurers to enrol chronically ill patients in DMPs, as this allows them to receive extra money through the current risk structure adjustment. However, the more comprehensive risk structure adjustment to be introduced in 2009 will make this provision superfluous, as it should provide adjustments for diseases covered by DMPs. The new risk structure adjustment should avoid disincentives to offer high-quality treatment to the chronically ill, while removing the extra payments that insurers can receive for patients enrolled now in DMPs. In principle, this may even be beneficial, as it could make that sure that insurers develop only cost-effective services. However, the problem of how to adjust collective payments for services provided and paid for through DMPs will become more pressing by then.
12. This is also what the reform law stipulates.
13. According to one report (Schwabe and Paffrath, 2007) the potential to save through more cost-effective prescription behaviour without loss of therapeutic value amounted to € 3.2 billion in 2006: € 1.3 billion could have been saved by substituting prescribed medicines through cheaper generics, that is medications with the same active ingredient, another € 1.3 billion by substituting medicines with others that have a different active ingredient, but an equivalent therapeutic value,

e.g. analogous compounds. Another € 600 million could have been saved by avoiding the prescription of medicines of disputed effectiveness (Schwabe and Pfaffrath, 2006). However, the corresponding savings potential is measured to be significantly lower with a different methodology in a similar publication evaluating the pharmaceutical market in Germany (IGES, 2006).

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Glossary

CPI	Consumer Price Index
DB AG	Deutsche Bahn AG
DMP	Disease management programme
DRG	Diagnosis related group
EATR	Effective average tax rate
EBITDA	Earnings before interest, taxes, depreciation and amortisation
ECEC	Early childhood education and care
EEX	European Energy Exchange
EGW	Electricity, Gas and Water
EMTR	Effective marginal tax rate
EPL	Employment protection legislation
ESCS	Economic, social and cultural status
EEX	European Energy Exchange
FCO	Federal Cartel office
FDI	Foreign direct investment
FNA	Federal network agency
GDP	Gross domestic product
GP	General practitioner
ICT	Information and communication technologies
ILO	International Labour Organisation
IGWiG	Institute for Quality and Efficiency in Healthcare
ISCED	International standard classification of education
LFS	Labour Force Survey
LNG	Liquified Natural Gas
MFP	Multifactor Productivity
PISA	Programme for International Student Assessment
R&D	Research and development
SMEs	Small and medium sized enterprises
TIMMS	Third International Mathematics and Science Study
UA	Unemployment assistance
UB	Unemployment benefit
VAT	Value-added tax

German States

BWU	Baden-Württemberg
BAY	Bavaria
BER	Berlin
BRA	Brandenburg
BRE	Bremen
HAM	Hamburg
HES	Hesse
MVO	Mecklenburg-W. Pomerania
NIE	Lower Saxony
NRW	North Rhine-Westphalia
RPF	Rheinland-Palatinate
SAA	Saarland
SAC	Saxony
SAN	Saxony-Anhalt
SHO	Schleswig-Holstein
THU	Thuringia

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BEL-Fl	BEL-Flemish community
BEL-Fr	BEL-French community
CAN-Al	CAN-Alberta
CAN-BC	CAN-British Columbia
CAN-Ma	CAN-Manitoba
CAN-NB	CAN-New Brunswick
CAN-On	CAN-Ontario
CAN-Qu	CAN-Quebec
CAN-Sa	CAN-Saskatchewan
USA-Fed	USA-Federal
USA-Oh	USA-Ohio
USA-Tex	USA-Texas

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