

## Outlook for the German economy – macroeconomic projections for 2010 and 2011

There has been a perceptible improvement in the outlook for the German economy in recent months. Following the severe slump in the latter part of 2008 and the early part of 2009, a process of recovery began in the second quarter of 2009. This was bolstered by extensive monetary and fiscal policy measures and is likely to continue, albeit at a somewhat more moderate pace, over the next two years. While the effects of the government stabilisation measures will probably wane gradually, endogenous market forces will gain in importance. In this baseline scenario, real gross domestic product (GDP) will increase by 1.6% in 2010 and by 1.2% in 2011, compared with a 4.9% decline this year. The labour market response to the contraction of economic activity has been extremely subdued up to now. An abrupt fall in employment is not to be expected for the next two years either. Instead, there is more likely to be a protracted phase of adjustment. Under these conditions, the official unemployment figure of 3.4 million in 2009 could go up to 3.8 million in 2010 and to 4.2 million in 2011. The price climate remains favourable; there will probably be no more than a moderate rise in consumer prices over the next two years of 0.9% in 2010 and 1.0% in 2011.

## Current situation

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*Economic  
recovery  
initiated*

The German economy is gradually picking up from the severe slump it experienced in the latter part of 2008 and early part of 2009. Seasonally and calendar-adjusted real GDP rose by 0.7% in the third quarter following an expansion of 0.4% in the second quarter. However, aggregate output remains at a low cyclical level. While it was buoyed in the second quarter mainly by private consumption, with car purchases, in particular, soaring, it was additionally lifted in the third quarter by stimuli from the external sector for the first time in over a year. Real exports of goods and services rose by 3.4% in seasonally and calendar-adjusted terms. This was notably driven by a marked pick-up in exports to EU countries following an earlier rise in demand from Asian countries in the second quarter. Intermediate goods were in particular demand, as were motor vehicles owing to the car scrappage schemes introduced in many countries. Domestic demand was bolstered by the inventory cycle and higher fixed investment, while private consumption remained well down on the quarter. Among the reasons why the spiralling slide in economic activity was replaced by an upturn not only in Germany but also in many other industrial countries were the measures to stabilise the financial markets and also the resolute, rapid and comprehensive action taken by monetary and fiscal policymakers.

*Current  
situation better  
than expected  
in last  
projection*

Overall activity has been picking up more quickly than was expected in the June projection.<sup>1</sup> Real GDP in the third quarter was no less than 1.5% up on the level estimated in

the last forecast. On the demand side, this was due mainly to the more favourable development of exports and fixed investment, while private consumption was largely in line with expectations.

In contrast to the expectation in the June projection, the labour market situation has shown only little deterioration so far. The decline in employment came to a halt in the third quarter of 2009, in fact, and the seasonally adjusted number of persons in work at the end of the period under review was even slightly up on the level at the beginning of 2008. There were quite marked job losses in manufacturing, although these were still moderate in comparison with the scale of the slump in production. This contrasted with clear gains in the case of public and private service providers. Employed persons' average working hours fell somewhat further in seasonally and calendar-adjusted terms in the past two quarters following a marked reduction at the turn of 2008-09.<sup>2</sup> Hourly productivity recovered considerably more quickly than expected in the June projection, above all thanks to more favourable GDP growth. Even so, this productivity measure was still 1.5% down on the first quarter of 2008.

*Labour market  
response still  
very subdued ...*

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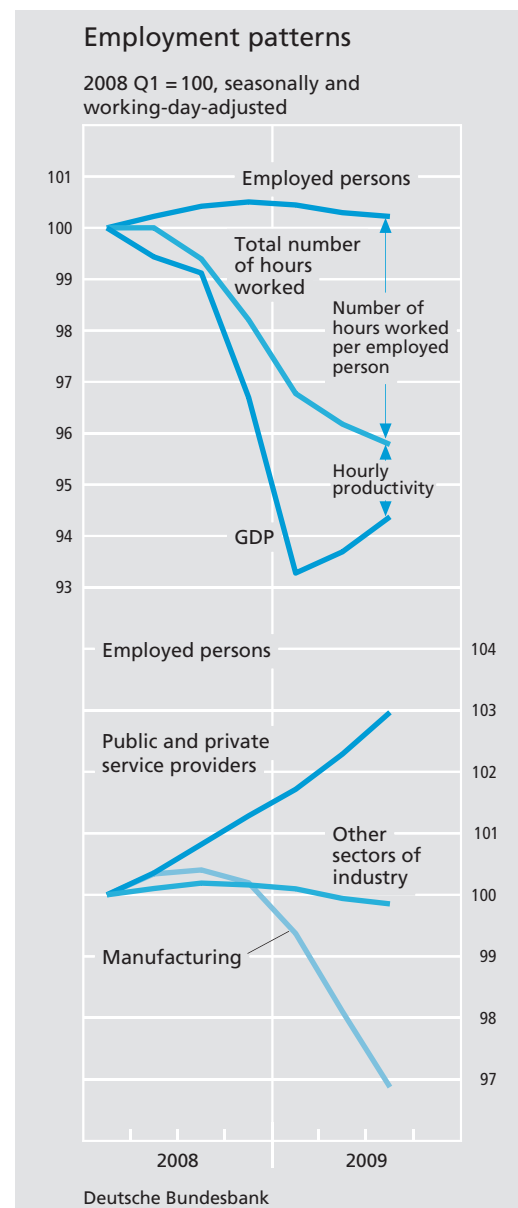
<sup>1</sup> See Deutsche Bundesbank, Outlook for the German economy – macroeconomic projections for 2009 and 2010, Monthly Report, June 2009, pp 15-28.

<sup>2</sup> Calculations from the components (employees and self-employed) would show an increase in the average number of hours worked for the third quarter. In the case of employees, a further slight fall in the second quarter – greater recourse to short-time working more than offset the declining use of working hours accounts – was followed by a slight increase in the third quarter owing to the incipient reduction of short-time working.

The response of the labour market therefore differs significantly from that in earlier periods of recession. Before, there was no comparable sagging of hourly productivity, even taking into consideration its higher trend growth in previous years. While working hours tended to be cut back more strongly than in earlier downturns, the adjustment of employment was unexpectedly moderate given the scale of the downswing. Measured by the number of unemployed – even after correction for the statistical changeovers – this development was more favourable than in the June projection as well as in comparison with past experience. This is all the more remarkable especially in view of the exceptionally sharp contraction of output.

... and the reasons for this

The chief reason for this exceptional development is presumably that employees and employers alike have, so far, perceived advantages in maintaining existing employment relationships, even if this means accepting lower income and profits. While government-subsidised short-time working has undoubtedly been helpful in this respect, it is not playing the predominant role often ascribed to it by popular opinion.<sup>3</sup> More decisive factors are probably that working time arrangements have progressively been made more flexible over the past few years, that firms – given their experience of an increasing shortage of skilled labour in the last upturn – are now keener to hold on to (often expensively trained) staff, and that employee representatives are more willing to compromise following the social and labour market reforms in the first half of the decade. It is, first and foremost, the social partners in the manufactur-



ing sector who have been exploring new avenues over the past few years and have granted additional discretion to local negotiators at plant level. Management and labour representatives at many enterprises have

<sup>3</sup> In the third quarter of 2009, the employment equivalent of this could have amounted to roughly 350,000 persons. Despite the initial cyclical recovery, however, the loss of output compared with the cyclical peak in early 2008 was as much as 5.6%. Given unchanged productivity and working hours, this would have meant a surplus of 2¼ million workers.

been making use of this, as is revealed by the surveys of the Institute for Employment Research (IAB) and the Institute of Economic and Social Research (WSI).

*Wage and price developments consistent with expectations*

Year-on-year inflation as measured by the Harmonised Index of Consumer Prices (HICP) fell from +0.3% in the second quarter to -0.5% in the third quarter of 2009, which was largely consistent with the June projection. While the increase in negotiated pay levels almost perfectly matched that in the projection, the wage drift on a monthly basis was more strongly negative, which meant that actual earnings decreased somewhat more noticeably than expected.

#### Major assumptions<sup>4</sup>

*Global economy*

The global economy has now emerged from its cyclical trough. The process of recovery, which began in the second quarter, strengthened in the third quarter of 2009. The extensive fiscal packages adopted in many countries and the non-standard monetary policy measures taken by central banks continued to generate powerful stimuli. This global recovery is likely to continue during the forecasting period. The Asian emerging markets, in particular, are likely to be centres of growth. In most of the advanced economies, by contrast, the upturn will remain comparatively moderate. This will be the case, not least, because the various support measures are of limited duration and will have a clearly waning impact, at least from 2011. Moreover, the structural adjustments only just initiated in some countries in the aftermath of

the dramatic slump are still ongoing. Following a 1% decline this year, global output could increase by 3% in 2010 and 3½% in 2011.

*World trade and international sales markets*

Compared with the boom years of the past, world trade is likely to expand at quite a moderate pace, too, during the projection period. With growth rates of 4¼% in 2010 and 4¾% in 2011, the trade intensity of global activity will, however, be well below the earlier – admittedly, extremely high – figures. Above all, this is a reflection of a return to normal following previously exceptionally buoyant demand for tradable goods. Owing to the rather subdued pace of growth in the rest of the European Union, which accounts for more than 60% of German exports, German exporters' sales markets will expand less sharply over the projection horizon than the volume of global trade. Following a decline of 12¾% this year, German enterprises' international sales markets are likely to grow by 3¼% in 2010 and by just under 4% in 2011. In comparison with the June projection, this reveals a clear improvement in the business outlook since German exporters' sales market growth for 2010 is now rated a good 3 percentage points more favourably.

The projection is based on the technical assumption of a constant euro exchange rate of US\$1.49 over the forecasting horizon. This implies a US dollar exchange rate that is 11% weaker than in the June projection. The nom-

*Exchange rates ...*

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<sup>4</sup> The assumptions concerning developments in global trade, exchange rates, international commodity prices and interest rates were determined by the Eurosystem's experts. They are based on the information available up to 17 November 2009.

inal effective exchange rate of the euro against the euro area's 21 most important trading partners is likewise assumed to be constant over the projection horizon and is 3% higher than the average figure for 2008. This results in a moderate deterioration in the German economy's hitherto good competitive position.

... and interest rates

The interest rate assumptions derived from market expectations are 1.2% for the three-month EURIBOR in 2010, which is unchanged from this year's level. A short-term interest rate of 2.4% is expected for 2011. According to current market assessments, the yield on long-term German government bonds is likely to rise to 3.6% in 2010 and 4.1% in 2011, compared with 3.3% this year.

Corporate financing costs

As in previous projections, interest rate spreads on loans to enterprises were used to gauge the likely effects of the financial crisis on enterprises' borrowing. These spreads have narrowed further since the June projection, which mirrors the fact that the spreads on minimum investment grade (BBB) corporate bonds have been tending to show a marked fall, even though they remain at an elevated level by historical standards. The finding of the Bank Lending Survey (BLS) that credit standards have recently been tightened again somewhat was likewise factored into the corporate financing projection. For the coming years, it is assumed that the situation in the financial markets will continue to ease and that Germany will not experience a general credit crunch.

### Major assumptions of the projection

Item	2008	2009	2010	2011
<b>Exchange rates of the euro</b>				
US dollar/euro	1.47	1.40	1.49	1.49
Effective <sup>1</sup>	113.0	114.0	116.4	116.4
<b>Interest rates</b>				
Three-month EURIBOR	4.6	1.2	1.2	2.4
Yield on government bonds outstanding <sup>2</sup>	4.0	3.3	3.6	4.1
<b>Commodity prices</b>				
Crude oil <sup>3</sup>	97.7	62.2	81.4	85.9
Other commodities <sup>4, 5</sup>	9.7	-22.3	24.7	4.0
German exporters' sales markets <sup>5, 6</sup>	1.9	-12.7	3.3	3.9

<sup>1</sup> Compared with the 21 most important trading partners of the euro area (EER21 group of currencies); 1999 Q1 = 100. — <sup>2</sup> Yield on government bonds outstanding with a residual maturity of over nine and up to ten years. — <sup>3</sup> US dollars per barrel of Brent crude oil. — <sup>4</sup> In US dollars. — <sup>5</sup> Year-on-year percentage change. — <sup>6</sup> Working-day-adjusted.

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Since the last low of around US\$43 for a barrel of Brent in February 2009, the spot price of crude oil has rebounded sharply to reach almost US\$80 in mid-November. Taking forward quotations as a yardstick, this upward movement is likely to continue over the projection horizon. The baseline scenario therefore assumes a crude oil price of US\$81.4 in 2010 and of US\$85.9 in 2011, compared with an average price of US\$62.2 for a barrel of Brent in 2009. Owing to the marked depreciation of the US dollar against the euro over the past few months and under the given exchange rate assumptions, the relative increase in the euro price of crude oil in 2010 is not expected to be as sharp. For the prices of other commodities (excluding energy), an annual average reduction of more than one-fifth is assumed in 2009. In line with the

Oil prices and other commodity prices

expectations of market players, the projection is based on a further increase in prices in US dollar terms of almost one-quarter in 2010. Other commodities could become roughly 4% more expensive in 2011.

*Public finances*

In the field of public finances, the projection takes account of all measures which have either been adopted or which have already been specified in sufficient detail and are likely to be approved. In the area of taxation, this relates primarily to measures to support the economy (including more generous depreciation allowances for enterprises and the lowering of income tax rates), the higher income tax allowances for contributions to health and long-term care insurance schemes from 2010, and the reintroduction of the original, more generous commuting allowance. Due account was also taken of the new arrangements in connection with the draft Act to Accelerate Growth (*Wachstumsbeschleunigungsgesetz*), which are to enter into force at the beginning of 2010. Additional, as yet unspecified tax cuts for the period from 2011 onwards, which were envisaged in the coalition agreement signed by Germany's governing parties, have not been included. For the social security funds, it was assumed that the statutory health insurance institutions will demand substantial additional contributions in 2011. The projection also includes the increase in the Federal Employment Agency's contribution rate to 3% scheduled for 2011 and assumes a temporarily higher rate for insolvency benefit contributions for 2010. On the expenditure side, the planned increase in child benefit and the various modifications to the statutory pension formula will have the

greatest impact. It was, furthermore, assumed that there will be a temporary sharp expansion in government investment, mainly in 2010, in the context of the fiscal stimulus packages. Finally, it was assumed that government support measures for the financial institutions will not have a significantly greater impact on public finances in future than is already the case.

### Cyclical outlook<sup>5</sup>

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The cyclical upturn in Germany is set to continue. Given easing inventory pressure, the clear increase in orders received by industry in recent months is likely to lead to a further expansion of production soon. This is reflected in business expectations. According to the latest surveys by the Ifo Institute for Economic Research and the German Chambers of Industry and Commerce (DIHK), business expectations have now moved into neutral territory, while respondents still take a more restrained view of the current situation. Enterprises are predominantly basing their optimistic expectations on a further revival of export demand.

Growth is, however, unlikely to continue at its current pace. For one thing, the boosting effects of fiscal stabilisation measures in Germany and abroad on economic growth will gradually recede from the second quarter of 2010 onwards. For another, the recent rebound from the sharp slump in global output and world trade is likely to lose momentum.

*Recovery set to continue ...*

*... albeit at more moderate pace*

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<sup>5</sup> The projection presented here was completed on 20 November 2009.

The pace of macroeconomic growth is therefore likely to be moderate but steady during 2010. Besides exports, public sector measures will nonetheless continue to constitute the mainstay of economic activity on an annual average. Endogenous domestic market forces, which manifest themselves in greater investment activity by enterprises, higher primary income and rising consumption spending by households, will probably make an increasing contribution to growth over the projection horizon. This is one reason why the overall economic recovery should accelerate during 2011, although public sector investment will likely be cut back significantly as spending under the second fiscal stimulus package dries up. However, this rising quarterly pattern is not directly reflected in the annual average. Owing to the statistical carry-over, the increase in average annual growth will be higher in 2010 than in 2011. On a calendar-year basis, aggregate output could expand by 1.6% in 2010 and by 1.2% in 2011, compared with a 4.9% contraction this year. This corresponds to working-day-adjusted rates of change of -4.8% for 2009, 1.4% for 2010 and 1.2% in 2011 and represents an overall upward adjustment by almost 3% of GDP for 2009 and 2010 compared with the June projection.

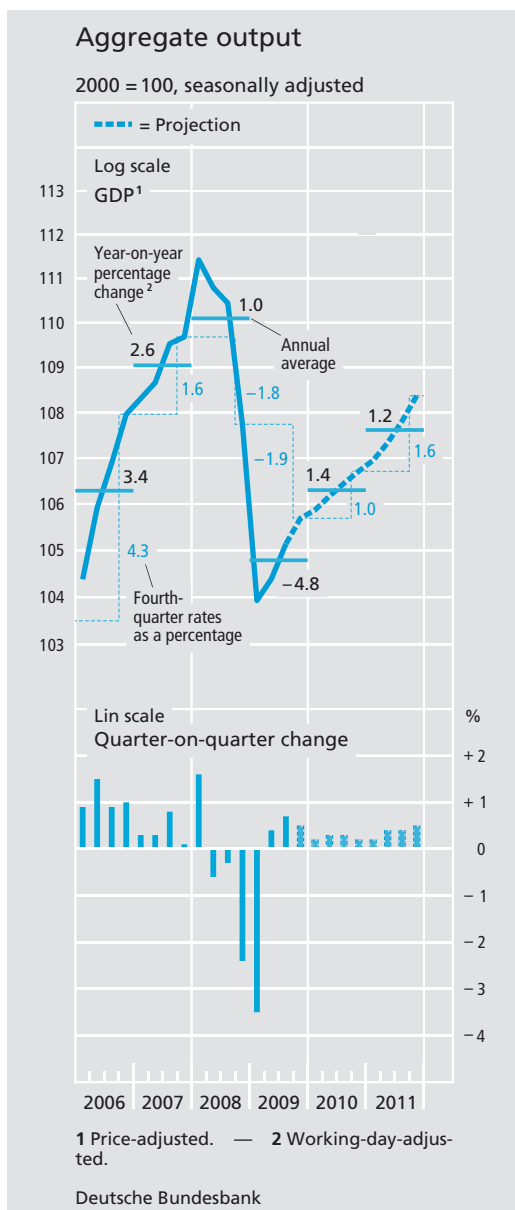
*Marked output  
gap*

Following the collapse in demand that occurred around the turn of 2008-2009, part of the production capacity in many plants was idle. This will also have hurt macroeconomic capacity utilisation at production plants. However, estimates of aggregate potential output capacity and its utilisation are always fraught with considerable uncertainty. This uncer-

tainty has been aggravated by the sharp contraction in overall economic activity. Caution should therefore be applied when interpreting corresponding quantitative estimates. In its macroeconomic analysis, the Bundesbank calculates potential output using a method based on production theory. This makes it possible to calculate potential output growth and to conduct an economic interpretation of the supply-side determinants. It may thus be assumed that the economic crisis has impaired the medium-term growth path through various channels (see box on pages 24-25). Although the scale of these negative effects is subject to very great uncertainty, it does seem plausible at present that potential output may grow by only around  $\frac{3}{4}\%$  in the next two years. With regard to aggregate capacity utilisation, the current underutilisation should ease gradually over the projection horizon: according to this calculation method, underutilisation should fall to just under 3% in 2011, compared with roughly 4% this year. It is also striking that, in 2008, capacity overutilisation of around  $1\frac{1}{2}\%$  was estimated. Alternative methods involving statistical filter techniques, which are also frequently applied in this context, even yield a higher degree of overutilisation for 2008 and a smaller underutilisation for the years 2009 to 2011.

Foreign demand for German products has picked up again. From their cyclical low in February, export orders had risen by no less than 24% by September in price-adjusted terms. However, this still left them more than one-quarter below their last cyclical high at the end of 2007. Following a decline of almost 15% this year, exports of goods and

*Exports  
pointing  
upwards again*



services are likely to rise by 4½% in 2010 and 4¼% in 2011. In statistical terms, German exporters will therefore benefit disproportionately in both years as their sales markets expand. This is primarily the result of a positive product range effect, as demand for capital and intermediate goods – areas in which German enterprises are particularly strong – is likely to recover robustly following the collapse of 2009.

In the second and third quarters of 2009, business investment moved slightly above the cyclical low it had marked at the beginning of the year. A cautious approach will probably be taken to further investment plans initially, given low plant capacity utilisation. Fixed capital formation by enterprises is unlikely to develop stronger momentum until 2011. The revival of investment activity will therefore lag the general economic recovery slightly more than was the case in past upturns.

*Business investment lagging upturn*

The measures agreed in the two fiscal stimulus packages will boost public sector investment in 2010 as well as 2009. However, as the measures are unwound and government investment budgets return to “normal” in 2011, the level of public investment will drop sharply on the year. As a result, total gross fixed capital formation is likely to be ½% lower in 2011 than in 2010 – when it is forecast to grow by just under 2½% – although business investment will then point upwards, and housing construction could also increase moderately – as in 2010.

*Surge in public sector investment in 2010*

The pronounced ups and downs of overall economic activity have had a particularly strong impact on stockbuilding over the past one-and-a-half years. Having made a positive contribution to economic growth in the second half of 2008 (which, given the sharp drop in demand, can be interpreted as a sign of involuntary stockbuilding), investment in inventories made a distinct negative contribution to growth in the first half of 2009, which indicates that stocks were considered too high and were therefore run down. Stockbuilding then made a large positive contribu-

*Stockbuilding supportive in 2010 and neutral in 2011*

tion to growth in the third quarter of 2009, which implies that the inventory adjustment process has been largely completed. No further strong effects are therefore likely from destocking and restocking in the projection period. On an annual average for 2010, stockbuilding could, given the statistical carry-over, nevertheless lift economic growth by 0.3 percentage point in nominal terms, after making a negative contribution of 0.4 percentage point this year. In 2011 stockbuilding is likely to have a neutral impact on the level of economic activity.

*Private consumption will not pick up again until 2011*

In the year to date, the pattern of private consumption and savings has been highly influenced by the government environmental premium for scrapping old cars. After soaring passenger car sales in the first half of the year, demand waned perceptibly over the summer, although the number of new cars purchased was still significantly greater than "normal". It must be assumed that the impact of the environmental premium on demand will recede further over the next few months and reverse next year. Households presumably used part of their savings to fund their earlier-than-planned purchases of motor vehicles. This has tended to depress the saving ratio in 2009. It is likely to pick up again in 2010. Inflation, too, is slowly rising, which means that real private consumer spending will probably be only slightly higher next year than this year despite households benefiting from further tax relief. As the saving ratio returns to normal, inflation-adjusted private consumption could rise by 1% in 2011.

### Technical components of the GDP growth projection

As a percentage or in percentage points				
Item	2008	2009	2010	2011
Statistical carry-over at the end of the previous year <sup>1</sup>	0.6	- 2.1	0.9	0.4
Fourth-quarter rate <sup>2</sup>	- 1.8	- 1.9	1.0	1.6
Average annual GDP rate, working-day-adjusted	1.0	- 4.8	1.4	1.2
Calendar effect <sup>3</sup>	0.3	- 0.1	0.2	0.0
Average annual GDP growth	1.3	- 4.9	1.6	1.2

Source: Federal Statistical Office; 2009 to 2011 Bundesbank projections. — <sup>1</sup> Seasonally and working-day-adjusted index level in the fourth quarter of the previous year in relation to the working-day-adjusted quarterly average of the previous year. — <sup>2</sup> Annual rate of change in the fourth quarter, working-day-adjusted. — <sup>3</sup> As a percentage of GDP.

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The labour market's unusual response pattern during the recent downturn makes forecasting future developments particularly difficult. Enterprises will not necessarily stick to their initial decision to avoid redundancies where possible despite the massive slump in sales. Much will depend on whether the German economy does actually recover at a moderate but fairly steady pace – as assumed in the baseline scenario of this projection. There would then be a good chance, however, – and this is a central assumption in the present projection – that the social partners in the manufacturing sector, which has been hit particularly hard by the crisis, will find ways and means of preserving as many jobs as possible and largely avoiding mass lay-offs. While the existing scope for reducing overtime and running down working time accounts has

*Labour market projection particularly difficult*

## To what extent has the potential output of the German economy been impaired by the economic and financial crisis? An interim assessment

In the final quarter of 2008 and the first quarter of 2009, the German economy suffered a severe slump in output as a result of the international economic and financial crisis. The nature and magnitude of this shock suggest that it was not merely a cyclical phenomenon, but that the medium-term growth path was also harmed. It is largely accepted that the worldwide recession must also be viewed in the light of the global imbalances which have been subjected to an accelerated correction since the autumn of last year. In this context, the future viability of business models and the economic value of production capacities alike are being reviewed while the markets' search and selection processes are ongoing and new structures are partly recognisable only at a rudimentary stage. Furthermore, temporary exaggerations cannot be ruled out. Any statements regarding potential output growth and the output gap should therefore be interpreted with great caution at present.

Judgment has a bearing not only on the estimated extent of loss but also on the time profile over which the fundamentals underlying the development of output and real income might deteriorate based on a given economic policy *status quo*. It is thus currently very difficult to assess whether the crisis will merely have a one-off level effect on potential output or whether it will affect the potential growth rate, too. It is not implausible that the level loss may be spread over a certain period. Also in view of the uncertainty regarding the longer-term effects of the crisis, the overall impact of which can only be gauged *ex post*, it is the temporary influence on the rates which is being perceived in the current analysis.

The financial market crisis abruptly ended an extended period of extremely low risk premiums and comparatively easy access to credit worldwide. The slump in global trade and the changes in international financial flows called the international division of business that was established during the boom years into question insofar as it contributed to the misallocation of resources and creation of macroeconomic imbalances. It may well take time for global output and world trade to return to a solid medium-term growth path. Many countries will probably suffer from strong underutilisation of production capacities or restructuring for quite a while. Owing to its high level of openness and highly specialised range of export goods, the German economy needs to adjust to this new global economic scenario, too, although opportunities

<sup>1</sup> See Deutsche Bundesbank, Advances in strengthening the economy's growth potential, Monthly Report, October 2007, pp 35-46. — <sup>2</sup> While

could conceivably arise. This process of reorientation will not, however, face the additional burden of having to correct structural imbalances in the domestic real economy.

The, to date, very moderate labour market downturn and the fact that business insolvencies have not exceeded the usual rate in times of recession support the supposition that, for much of the German economy, it may be possible to spread the adjustment burden over time, especially given the signs of a burgeoning cyclical global economic recovery. This also means, however, that potential output growth could be very low in the coming years. Particularly if direct capital stock losses, which result from the economic obsolescence of existing fixed assets or firms' market exit, turn out to be not too high from a current perspective and, in addition, are likely to be staggered over time, capacity underutilisation is currently expected to remain high during the projection period. Thus, business investment would be driven very little by the motive of capital stock expansions in the foreseeable future.

While the increased user cost of capital due to higher risk premiums will hamper the trend development of both input factors via scale effects, it will also ensure a shift in optimal factor allocation in favour of labour, provided that labour costs and productivity realign in the medium term. The full effect, which dampens equilibrium output, will nonetheless structurally reduce total hours worked in the business sector. Presumably of quantitatively greater importance, however, are the job losses which are associated with sectoral reallocation requirements. Facilitated by a variety of flexible working time models and greater use of short-time working, companies have so far favoured implementing internal adjustment strategies, also in view of high firing and rehiring costs. In some sectors of the economy, there are initial signs of a reduction in collectively agreed or normal weekly working hours which are generally agreed upon for a limited time only but which, at the current juncture, are likely to be of a relatively persistent nature. This would depress potential output just as in the case of direct lay-offs but would curb the rise in structural unemployment.

The potential labour force could contract, as gloomier prospects of finding work discourage job seekers and, thus, lower labour market participation. Given that, in Germany, the manufacturing sector has borne the brunt of the slump in production as well as the lion's share of the

potential output growth fell in 2008 compared with the preceding period, it may have been slightly higher than estimated for the follow-

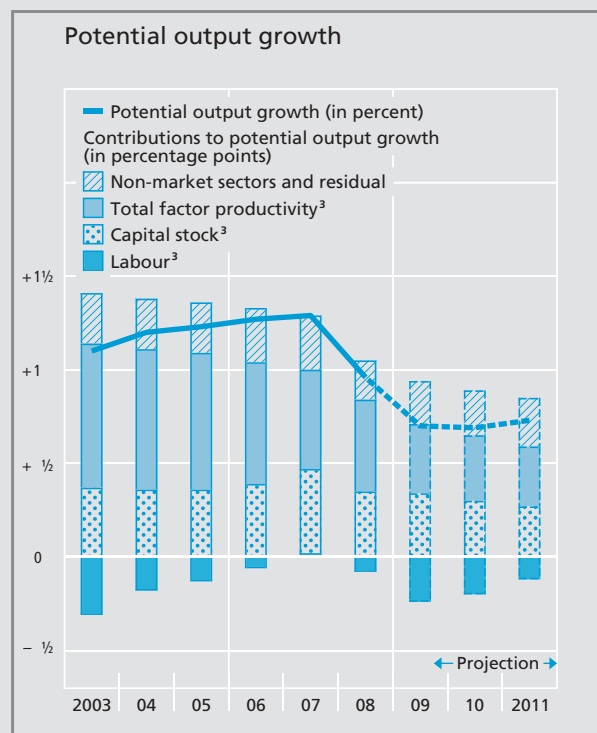
corresponding employment reaction, this effect is more likely to be of a temporary nature and play only a minor role since demand for labour in the services sector, which takes on a disproportionately high number of those entering the labour market, has been increasing continuously. Although the fall in working-age population will continue during the projection period, it will decelerate somewhat for a time.

The economic and financial crisis has triggered market restructuring, which – on a sectoral average – will tend to enhance productivity. However, if domestic resources are transferred to the non-tradable goods sector, total economy productivity may nonetheless decline on balance. Moreover, the innovative strength of the economy could suffer if firms have insufficient funds for research and development projects, which are often risky. To date, however, the willingness of many companies to maintain their mostly well qualified core staff during the current downturn has provided a counterweight to the loss of (company-specific) human capital.

Using the disaggregated estimation method based on production theory<sup>1</sup> and incorporating projection results, potential output of the German economy will increase by only around ¾% per year over the projection horizon (including 2009), assuming that the effects of the crisis work through the described channels and economic policy remains unchanged. This estimate primarily reflects the temporal adjustment process towards a new equilibrium potential output level. However, the risk of permanent rate effects, too, is non-negligible. Owing to persistence effects in the labour market and a sustained decline in expectations as a result, say, of delayed budgetary consolidation, the path of potential output may be flatter in the longer term as well. Rigorous policy reforms are vital for reinvigorating weakened growth fundamentals as they support the structural change brought about by the global economy. The search process must first be allowed to take its course through open and flexible product and factor markets. Any notions of industrial policy intervention should be swiftly abandoned.

Compared with the annual rates of potential output growth in the last economic upswing, which were lifted by the positive trend effects of corporate restructuring measures as well as the enhanced flexibility in collective labour agreements and labour market reforms, these new figures

ing period. Before the full extent of the crisis was felt in the real economy from autumn 2008 onwards, the pace of the economic upswing



indicate a cut of just over ½ percentage point in annual potential output growth.<sup>2</sup> Supply-side growth determinants will suffer sizeable losses across the board. Labour, which is again set to curtail potential output growth distinctly, will initially be affected most, as working hours react quite rapidly. In the early stages, fixed capital formation is likely to be especially affected by obsolescence effects, whereas weak investment will have a delayed effect on the capital stock. This will impair capital-embodied technical progress, which, together with the other influences with an overall dampening effect, will be mirrored, with a certain time lag, in the trend rate of total factor productivity.

Based on these considerations, the German economy could, in the wake of the economic and financial crisis, suffer direct damage to potential output of at least 2% by 2011. This estimate is subject to great uncertainty. From today's perspective, it seems somewhat unlikely that the level correction will be essentially complete by the end of the forecast horizon.

had already lost momentum, causing firms to exercise greater caution when planning capacity expansion. — 3 Business sector.

### Key figures of the macroeconomic projection

#### Year-on-year percentage change

Item	2008	2009	2010	2011
GDP (real)	1.3	- 4.9	1.6	1.2
GDP (working-day-adjusted)	1.0	- 4.8	1.4	1.2
Components of real GDP				
Private consumption	0.4	0.5	0.2	1.0
Government consumption	2.1	2.8	1.6	1.3
Gross fixed capital formation	3.1	- 8.5	2.4	-0.6
Exports	2.9	-14.8	4.5	4.3
Imports	4.3	- 8.2	3.9	3.5
Contributions to GDP growth <sup>1</sup>				
Domestic final demand	1.2	- 0.9	0.9	0.7
Changes in inventories	0.4	- 0.4	0.3	0.0
Net exports	-0.3	- 3.6	0.4	0.5
Labour market				
Total number of hours worked <sup>2</sup>	1.3	- 3.2	-0.3	-0.2
Persons employed <sup>2</sup>	1.4	0.0	-1.0	-1.2
Unemployed persons <sup>3</sup>	3.3	3.4	3.8	4.2
Unemployment rate <sup>4</sup>	7.8	8.2	9.1	10.1
Unit labour costs <sup>5</sup>	2.2	5.0	-1.5	-1.0
Compensation per employee	2.1	- 0.1	1.1	1.3
Real GDP per person employed	-0.1	- 4.8	2.6	2.4
Consumer prices <sup>6</sup>	2.8	0.3	0.9	1.0
Excluding energy	1.8	1.1	0.8	0.8
Energy component	9.4	- 5.3	1.8	2.9

Sources: Federal Statistical Office; Federal Employment Agency; 2009 to 2011 Bundesbank projections. — <sup>1</sup> In percentage points. — <sup>2</sup> Domestic concept. — <sup>3</sup> In millions of persons (Federal Employment Agency definition). — <sup>4</sup> As a percentage of the civilian labour force. — <sup>5</sup> Ratio of domestic compensation per employee to real GDP per person employed. — <sup>6</sup> Harmonised Index of Consumer Prices (HICP).

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now largely been exhausted and the use of short-time working has likewise probably already peaked, a temporary shortening of regular weekly working hours is another adjustment mechanism which could increasingly be employed.

Nonetheless, it must be assumed that, above all, hourly productivity, but also working hours, will pick up again and job losses will, on balance, rise. The growing number of insolvencies demonstrates that many enterprises cannot be run profitably in the present conditions despite employees making concessions. Although insolvencies need not necessarily result in a total loss of jobs, some redundancies will often probably be unavoidable. In addition, the increasing government debt burden will probably soon dampen the creation of jobs in partly or largely publicly financed areas and halt it completely in the medium term.

At any rate, massive job cuts are unlikely in the short term, at least according to surveys of works councils by the WSI and of enterprises by the IAB, the DIHK and the Ifo Institute. Moreover, statistics on the number of persons registering as looking for work but not yet unemployed, which the Federal Employment Agency regards as an important leading indicator, also signal no deterioration of the labour market situation over the next few months.<sup>6</sup> However, headcount reductions will probably continue throughout 2010

*Protracted adjustment of employment ...*

<sup>6</sup> Persons whose employment or training relationship is set to terminate must report to the employment agencies three months before their contract ends or within three days of being informed of the date their contract will end.

and beyond. On balance, employment could decline by 1.0% next year and by 1.2% the following year (largely as a result of a negative statistical carry-over), after recording only small losses on an annual average in 2009. Average working hours should rise somewhat in 2011, but are likely to remain below pre-crisis levels. Average hourly productivity will increase perceptibly with the adjusted labour input and could return to pre-crisis levels towards the end of 2010. However, it is likely to remain below the medium-term trend in 2011.

... and  
unemployment

Unemployment is likely to rise largely in line with the falling level of employment over the next two years. According to the projection's baseline scenario, the number of registered unemployed will swell from 3.4 million in 2009 to 3.8 million in 2010 and 4.2 million in 2011. This equates to a rise in the unemployment rate of almost 2 percentage points from 8.2% to 10.1%. Measured against the level of macroeconomic development over the projection horizon, this would still imply a moderate increase, however, given the previous massive slump.

### Labour costs and price outlook

Marked moder-  
ation of wage  
growth

Employees will have to forgo pay rises if a large number of jobs currently at risk are to be preserved. Growth in negotiated wages will slow markedly, from 2¼% in 2009 to slightly more than 1¼% in 2010 and just over 1½% in 2011. A considerable part of the lower wage growth was already factored into the wage agreements of 2009, which

### Potential adjustment of working times: selected collective labour agreements

Sector	Regular weekly working time in hours	Reduction in working time to ... hours
Iron and steel, western Germany	35	28
Automotive trades (Lower Saxony)	36	30
Metalworking (Baden-Württemberg/Saxony)	35/38	30/33
Printing	35	30
Private banking sector	39	31
Local government eastern Germany	40	32-30
Wood and plastics (Westphalia/Saxony)	35/38	32/30
		by ... %
Apparel, western Germany	37	6.75
Textile industry (Westphalia/eastern Germany)	37/40	6.75
Daimler	35	8.75
	Standard working time in hours	Working time corridor in hours
Chemical industry, western Germany	37.5	35-40
Volkswagen direct	.	25-33
indirect	.	26-34

Source: WSI (Institute of Economic and Social Research).  
Deutsche Bundesbank

mostly run for two years and frequently include one-off payments, but only very moderate linear wage increases. In addition, the wage drift on an hourly basis, which was clearly positive in 2009 as working hours were reduced without corresponding cuts to monthly wages, will move into negative territory. On a monthly basis, employees will benefit from the slight increase in average working times, as reduced working hours in response to the crisis had squeezed labour incomes in 2009. Actual earnings per employee could rise by 1% next year and 1½% the following year after falling by ½% this year. Social contributions will have a largely neutral effect on balance. As working hours increase again and hourly productivity recovers, real GDP per employed person will grow by around 2½% in both 2010 and 2011 after

falling sharply by almost 5% in 2009. Unit labour costs will consequently contract by a total of 2½% in 2010 and 2011, after expanding by 5% in 2009 in response to the crisis.

*Muted rise in  
GDP deflator*

While the sharp increase in unit labour costs in 2008-09 squeezed profit margins, their expected reduction should give a corresponding boost to corporate earnings. This will probably be partly countered by slightly rising import prices, which had readjusted sharply downwards in 2009. On balance, the GDP deflator, which measures the rate of price increase of domestic output, is likely to increase only moderately over the projection horizon.

*Consumer price  
inflation still  
moderate*

Consumer prices overall will probably rise moderately throughout the projection horizon, with the downward corrections to energy and food prices now having run their course. By contrast, other durable and non-durable consumer goods prices should ease gradually in line with producer price developments and under the impact of global overcapacity, while services and rents are likely to reflect the flatter wage and income patterns. Excluding energy, inflation is therefore likely to drop from 1.1% in 2009 to 0.8% in both 2010 and 2011. As energy prices will post stronger growth, the headline rate of inflation could total 0.9% in 2010 and 1.0% in 2011.

## Public finances

*Dramatic  
deterioration in  
public finances  
in 2009*

The general government fiscal balance will deteriorate significantly in 2009.<sup>7</sup> While a balanced budget was achieved in 2008, this

year's deficit is now expected to exceed the 3% ceiling slightly. Roughly half of this deterioration can be attributed to the direct negative influence of the economic downturn,<sup>8</sup> although this is mitigated by the fact that the current macroeconomic profile is favourable for public budgets. For instance, gross wages and salaries, which are particularly important for government revenues, are developing much less negatively than GDP as a whole. On the other hand, receipts from profit-related taxes are likely to drop much more than could be inferred from the pattern of economic development and legislative changes. At approximately 1¼% of GDP, other factors, especially the fiscal stimulus packages, are also having a major impact. Government debt will probably rise to some 72% of GDP, not least owing to the measures taken in support of financial institutions. This compares with around 66% in 2008.

According to the current projection, public finances will deteriorate substantially in 2010, and the deficit could jump to around 5% of GDP. Despite the economic recovery, cyclical factors will probably have a slight upward impact on the deficit as the growth structure

*Deficit set  
to rise  
substantially  
in 2010 ...*

<sup>7</sup> The financial development of general government is described here as defined in the national accounts; this definition is also used largely as the basis for the fiscal reference values of the EC Treaty. For a more detailed analysis of public finances in general and specific developments at central, state and local government levels and in the social security funds, see Deutsche Bundesbank, Monthly Report, November 2009.

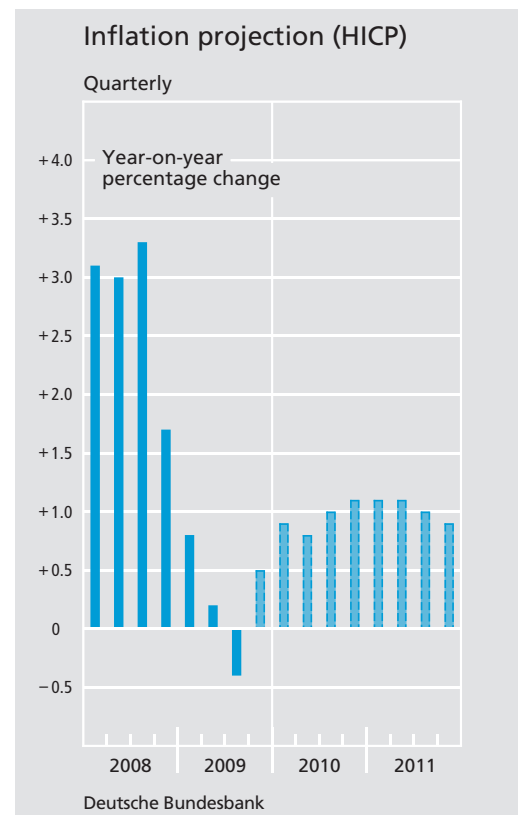
<sup>8</sup> The ESCB's cyclical adjustment method is used to determine the impact of cyclical factors on public finances. See also Deutsche Bundesbank, A disaggregated framework for analysing public finances, Monthly Report, March 2006, pp 61-76, and C Bouthevillain, P Cour-Thimann, G van den Dool, P Hernandez de Cos, G Langenus, M Mohr, S Momigliano and M Tujula, Cyclically adjusted budget balances: an alternative approach, ECB Working Paper Series No 77/2001.

will be less favourable for public finances than it has been this year. However, structural factors will be the main determinant fuelling the deficit. For instance, the volume of discretionary debt-financed measures will be considerably larger than in 2009, partly as a result of the new arrangements in the coalition agreement which the German government plans to implement in 2010.

*... amid sharp drop in revenue ratio and slight rise in expenditure ratio*

Whereas the revenue ratio will increase this year thanks to the comparatively favourable development of the tax assessment basis, it is likely to decline perceptibly in 2010 owing to the probable ongoing exceptional negative development of profit-related taxes, the unfavourable growth profile and, above all, the large-scale cuts in tax and social contributions. Prominent among these are greater tax deductibility of contributions to the health and long-term care insurance schemes, the renewed lowering of income tax rates as part of the January 2009 fiscal stimulus package and rising tax shortfalls as a result of changed depreciation rules. By contrast, the expenditure ratio could increase slightly further following its explosive growth in 2009. This expansion will be driven primarily by the newly planned additional increase in child benefit, higher spending on healthcare and pensions as well as public sector investment. The expected rise in the expenditure ratio will be cushioned chiefly by the unwinding of temporary stimulus measures such as the premium for scrapping old cars and the one-off child bonus.

The deficit ratio could fall slightly in 2011, chiefly on account of unwinding fiscal stimu-



lus measures, provided no further measures are implemented. This projection takes no account of the additional tax cuts announced in the coalition agreement. From the current perspective, cyclical factors will have virtually no impact on the development of the fiscal balance in 2011. General government debt is likely to balloon rapidly towards a level of 80% of GDP.

*Only slight fall in deficit ratio and further rapid growth in debt expected for 2011*

### Risk assessment

Even though the baseline scenario presented here is the most likely development given the assumptions made, it is, naturally enough, fraught with risks and uncertainties which might cause actual developments to deviate from the expectations. Uncertainty is no long-

*Reduced uncertainty*

er as high as it was just a few months ago. It cannot be ruled out that there will be further unwelcome surprises in the banking sector or in the financial markets which put a brake on the recovery process in the real economy and destroy the optimism that has now grown. Conversely, given favourable circumstances, it is quite possible that there will be a more rapid and stronger pick-up in the world economy and in global trade.

*Low demand so far reason for weak credit growth ...*

The baseline scenario starts from the hypothesis that the situation in the financial markets will gradually improve and that – not least owing to the precautions taken so far – there will be no general credit crunch in Germany. Although loans to the domestic private sector declined in the third quarter of 2009, there are no indications that supply-side restrictions are the main reason for the subdued credit growth. Various indicators continue to point to weak growth in borrowing being due mainly to the fall in demand associated with the economic downturn.<sup>9</sup> This is also confirmed by past experience, which indicates that credit demand lags developments in the real economy to a certain extent at the beginning of a macroeconomic recovery. Starting from a very low level of capacity utilisation, enterprises can expand their production relatively sharply at first without immediately having to make new investment in fixed assets or obtain external financing. Added to this is the fact that firms' internal financing sources typically also improve in such an early phase of economic recovery.

Nevertheless, it cannot be ruled out that bank-imposed constraints may have a strong-

er impact on lending going forward. The deleveraging in the German banking sector since the fourth quarter of 2008 – a process which is also continuing at the current end, albeit in weaker form – has focused so far on scaling back foreign assets, interbank exposures, equities as well as other variable-rate securities and less on lending to the domestic private sector. The longer the pressure to adjust balance sheets continues and the more banks' capital base is eroded by additional write-downs, the greater will be the risk that the downsizing of asset portfolios might spread to loans to domestic non-financial corporations. In a cyclical recovery phase when credit demand will eventually rise again, the accompanying supply-side restrictions could have a stifling impact and impede the upswing.

*... but scenario of credit shortage is a risk*

The projections for global growth and world trade start from the hypothesis that the trade intensity of the global recovery will be comparatively small in the next two years. It is also possible, however, that, following the disproportionately severe slump in global trade this year, the subsequent cyclical rally in international trade will likewise be relatively strong. German industry would benefit from this especially, and there would then be good prospects that the output losses sustained in 2009 might be regained faster than assumed in the baseline scenario.

*Global trade*

According to the governing parties' coalition agreement, the new German government is

*Fiscal policy*

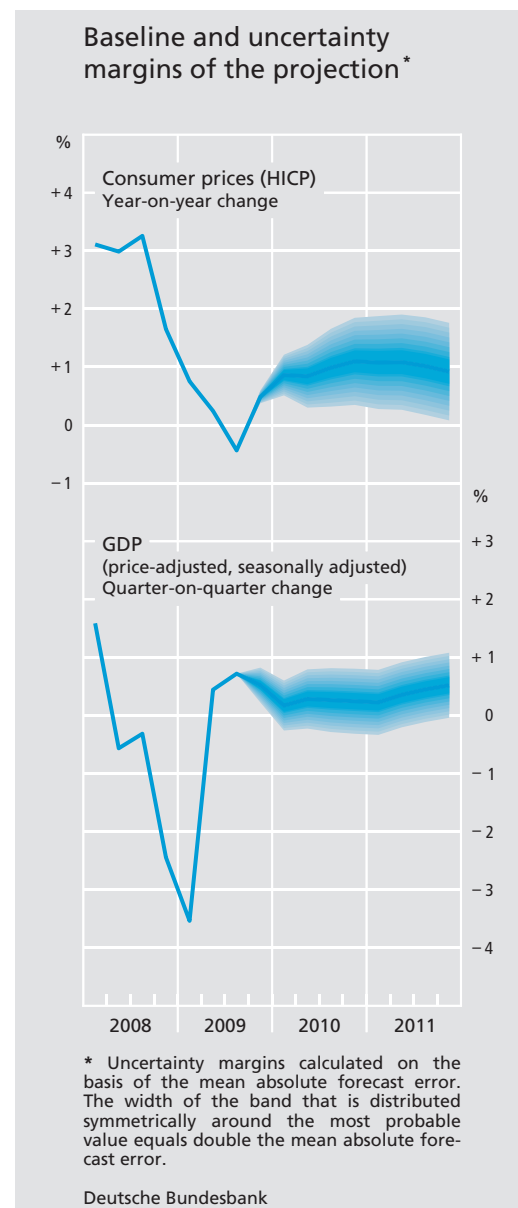
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<sup>9</sup> See Deutsche Bundesbank, Developments in lending to the German private sector during the global financial crisis, Monthly Report, September 2009, pp 15-32.

planning a tax reform with further relief measures totalling around €20 billion. The new income tax rates are scheduled to be introduced on 1 January 2011, although the details are still to be settled. If the tax reform is implemented as scheduled, households would have more disposable income, but general government would have an even higher borrowing requirement.

*Labour market*

The labour market projection presented here is based essentially on three assumptions which are fraught with uncertainty. First, it is expected that the German economy will recover slowly and that it will not match the pre-crisis level of output within the projection horizon. For this reason, it will not be possible entirely to maintain the current level of employment. Second, it is assumed that the rebound in output will be steady and without major disruptions and that expectations of a largely complete recovery over the medium term will remain intact. This should sustain enterprises' interest in holding on to labour which is currently not working at full capacity. Third, it is assumed that the social partners in the manufacturing sector will continue the course embarked on over the past few years of introducing innovative models for working hours and remuneration. Many jobs would be safeguarded by employees forgoing pay rises in order to take on part of the holding costs. Given a more rapid brightening of the outlook for the German economy, employment losses might then even be smaller than is assumed here. On the other hand, a further economic setback accompanied by a deterioration in expectations would probably generate perceptible pressure to cut jobs.



On balance, the chances of a favourable development in the real economy in Germany outweigh the downside risks. A more rapid pick-up in global trade, in particular, could generate stronger positive stimuli for the domestic economy. It is also conceivable that business investment has already bottomed out and that the upturn in the course of next year will be more buoyant than forecast in the baseline projection.

*Risk profile for economic growth ...*

*... and price  
developments*

By contrast, price risks stem in large part from the vagaries of the international commodity and foreign exchange markets. Given that global economic activity is gaining momentum but has not yet firmed, crude oil prices and the corresponding forward quotations have already reached quite a high level that is likely to be based largely on expectations that demand will continue to rise rapidly. In view of the current idle production capacities and large inventories, the energy price risks in the projection's baseline scenario are therefore more likely to be neutral or slightly on the downside. An unexpectedly strong revival in the world economy could, however, drive up the prices of crude oil and other commodities

– especially agricultural commodities – more quickly. According to the projection, lower prices on the world markets and the appreciation of the euro will increasingly make themselves felt as a positive factor in the case of other goods; a marked deterioration in consumer spending in Germany could further restrict the scope for raising prices. Conversely, a faster improvement in the economic climate could counteract the expected slower rate of price increase for goods (excluding energy and food). Much the same applies to services. Overall, the risks for consumer prices are to be assessed as largely neutral from the current perspective.