

## Outlook for the German economy – macroeconomic projections for 2016 and 2017 and an outlook for 2018

*The German economy's underlying cyclical trend is fairly robust. Its main driver is buoyant domestic demand, which is being bolstered by the favourable situation in the labour market and by rising household income. This year, domestic demand is being additionally boosted by purchasing power gains resulting from renewed falls in crude oil prices and from an expansionary fiscal policy. Foreign business, by contrast, is receiving only weak stimuli on account of the sluggish growth in world trade. In the coming years, however, it is likely that it will gain more traction and compensate for domestic demand, growth of which is expected to tail off somewhat.*

*Overall, the German economy could grow by 1.7% in 2016, 1.4% in 2017 and 1.6% in 2018. Here, calendar effects mask the rather uniform growth rates in working-day-adjusted terms of 1.6% in both 2016 and 2017 and 1.7% in 2018. The expected growth rates are therefore higher than the estimated increase in potential output, which has been raised slightly as a result of the higher labour-market-oriented migration that is now expected. Aggregate capacity utilisation at the end of the projection horizon is therefore likely to be significantly higher than the long-term average. The attendant increase in labour market bottlenecks and the resulting higher wage growth will continue to be mitigated by high levels of migration, particularly this year and in 2017. In terms of public finances, the previously attained sizeable surplus is likely to be largely depleted in 2016 and only just remain in positive territory for the remainder of the time horizon.*

*Against this background, consumer price inflation is likely to increase considerably. The dampening effect of the renewed fall in the prices of crude oil and other commodities at the start of 2016 should largely vanish as of 2017, which means that the robust growth in domestic wage costs is likely to once again manifest itself more visibly in consumer price inflation. As measured by the Harmonised Index of Consumer Prices (HICP), inflation could rise from 0.2% this year to 1.5% next year and 1.7% in 2018. Excluding energy, HICP inflation is expected to climb from 1.0% in 2016 to 1.8% in 2018.*

*Compared with the projection from December 2015, expectations for economic growth in 2016 and 2017 have been slightly lowered, while inflation projections have been brought down significantly. The revision of expected price developments was attributable in part to lower than expected core inflation, but above all to the unexpected renewed fall in crude oil prices. Fluctuations in these prices continue to present a risk, particularly to the inflation forecast, but on the whole appear balanced, as do the risks to economic growth. However, there is a downside risk for the price projection if wage growth were to falter or if higher labour costs were not passed on to consumers to the extent assumed here.*

## ■ Economic outlook<sup>1</sup>

*Strong growth in the German economy in the fourth quarter of 2015/first quarter of 2016*

The German economy grew strongly in the period spanning the fourth quarter of 2015 and the first quarter of 2016. Real gross domestic product (GDP) rose by 0.9% in seasonally and calendar-adjusted terms, and thus slightly more strongly than expected in the December projection.<sup>2</sup> This was chiefly attributable to the particularly high growth in the first quarter of 2016, which was boosted by special factors. For example, the industrial sector expanded its production unexpectedly strongly following the subdued second half of 2015, while the construction sector was the main beneficiary of the mild weather. A countermovement of sorts may therefore be expected in the second quarter. The current expectation indicators and new orders in the manufacturing industry are indicating a flatter underlying upward trajectory in this area. Lastly, the beneficial effects of the favourable weather conditions in the construction sector will not carry over.

*Brisk domestic demand and renewed stronger stimulus from abroad over the projection horizon*

The current volatility of economic growth in Germany, which is attributable to special factors, masks a rather strong underlying tendency, which, in light of the overall favourable conditions (see the box on pages 6 to 9), is likely to continue through to the end of the projection period. Domestic economic activity looks set to continue to benefit from strong employment growth, which is being driven to a considerable extent by employment-related migration from European Union countries, and from robust income growth. This is expected to have an impact on private consumption and housing construction. In the current year, domestic demand is additionally being supported by the renewed fall in the price of crude oil and the attendant purchasing power gains. Furthermore, fiscal policy will have been particularly expansionary in 2016 thanks in no small part to additional government expenditure in connection with refugee migration. Foreign business, by contrast, is likely to receive only limited stimuli in the current year, as world trade is growing at only a subdued rate. In annual average

terms, an impact is also being felt on account of German exporters having had to surrender some of their considerable previous gains in market share in the second half of 2015, a development likely to continue somewhat in 2016. Over the next two years, exports are expected to again grow more in line with sales markets and thus compensate for a slight drop in the momentum of domestic demand growth.

Growth in calendar-adjusted real GDP could therefore increase to 1.6% in 2016 and 2017, possibly followed by an additional marginal rise in 2018. However, due to variations in the number of working days from one year to the next, the unadjusted annual average growth rates reveal a slightly different picture over the time horizon, with growth rates of 1.7% for 2016, 1.4% for 2017 and 1.6% for 2018 (see the table on page 3). Thus, for 2016, GDP growth is expected to be slightly lower than assumed in the December projection, with the boost from lower oil prices being counteracted by the less favourable prospects for exports. The expectations for 2017 have been revised downwards by 0.3 percentage point, above all because the international environment is now assumed to be somewhat less favourable over the entire projection horizon (for more information on the revisions since the December projection, see the table on page 13).

*Consistent, fairly strong economic growth ...*

According to this projection, the German economy is consistently expanding at a faster rate than production capacity. The utilisation rate, which is already above average this year, is therefore continuing to rise, with the result that capacity utilisation at the end of the projection horizon will be significantly higher than the long-term average. Potential growth – at 1.4% in both 2016 and 2017 and marginally less in 2018 – is once again estimated to be

*... is causing capacity utilisation to increasingly outstrip its long-term average*

<sup>1</sup> This projection for Germany was completed on 18 May 2016. It was incorporated into the projection for the euro area published by the ECB on 2 June 2016.

<sup>2</sup> See Deutsche Bundesbank, Outlook for the German economy – macroeconomic projections for 2016 and 2017, Monthly Report, December 2015, pp 13-32.

somewhat higher than of late. This is because the beneficial effects of the upwardly revised assumptions for labour-market-oriented migration outweigh the countervailing effects of lower refugee migration.<sup>3</sup>

*Exports growth rates rising*

The positive outlook for the German economy hinges in key measure on exports regaining their footing over the projection horizon. Growth during the period spanning the last quarter of 2015 and first quarter of 2016 fell significantly short of the rates projected in December. International trade continued to develop only at a sluggish pace. Furthermore, German exporters have been losing market share in their sales markets since the middle of 2015. Particularly where trade with non-euro-area countries is concerned, this should probably be interpreted mainly as a correction of previous market share gains not explained by price competitiveness. This process could continue further into 2016 according to Ifo and DIHK surveys, in which industrial firms reported subdued export expectations and only a comparatively moderate increase in exports this year. Given the assumed growth in the international sales markets, exports should nonetheless pick up pace again slightly as 2016 progresses. Exports are expected to expand roughly in line with foreign demand in both 2017 and 2018.

*Further increase in industrial investment as capacity utilisation rises*

Along with the surprisingly rapid upturn in manufacturing activity, corporate investment rose more sharply than expected over the period spanning the final quarter of 2015 and first quarter of 2016. While enterprises upped their investment in new buildings, in particular, at the end of 2015, purchases of new machinery and equipment, especially motor vehicles, at the beginning of 2016 likewise played a role. With domestic demand remaining consistently strong, a further pick-up in foreign demand and capacity utilisation set to expand again grad-

<sup>3</sup> For more on the projection's underlying assumptions regarding the influx of refugees and its macroeconomic impact, see the box on pp 6-9.

## Aggregate output and output gap

Price, seasonally and calendar-adjusted



Sources: Federal Statistical Office and Bundesbank calculations. 2016 to 2018 Bundesbank projections. <sup>1</sup> Deviation of GDP from estimated potential output. Deutsche Bundesbank

## Technical components of the GDP growth projection

As a percentage or in percentage points

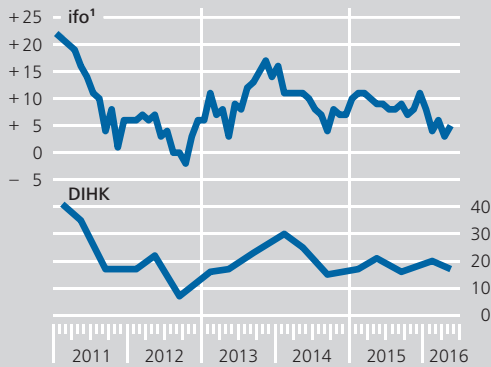
Item	2015	2016	2017	2018
Statistical carry-over at the end of the previous year <sup>1</sup>	0.5	0.4	0.6	0.6
Fourth-quarter rate <sup>2</sup>	1.3	1.7	1.7	1.7
Average annual GDP growth rate, calendar-adjusted	1.4	1.6	1.6	1.7
Calendar effect <sup>3</sup>	0.2	0.1	-0.2	-0.1
Average annual GDP growth rate <sup>4</sup>	1.7	1.7	1.4	1.6

Sources: Federal Statistical Office; 2016 to 2018 Bundesbank projections. <sup>1</sup> Seasonally and calendar-adjusted index level in the fourth quarter of the previous year in relation to the calendar-adjusted quarterly average of the previous year. <sup>2</sup> Annual rate of change in the fourth quarter, seasonally and calendar-adjusted. <sup>3</sup> As a percentage of GDP. <sup>4</sup> Discrepancies in the totals are due to rounding.

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### Export expectations\*

% , balances of responses

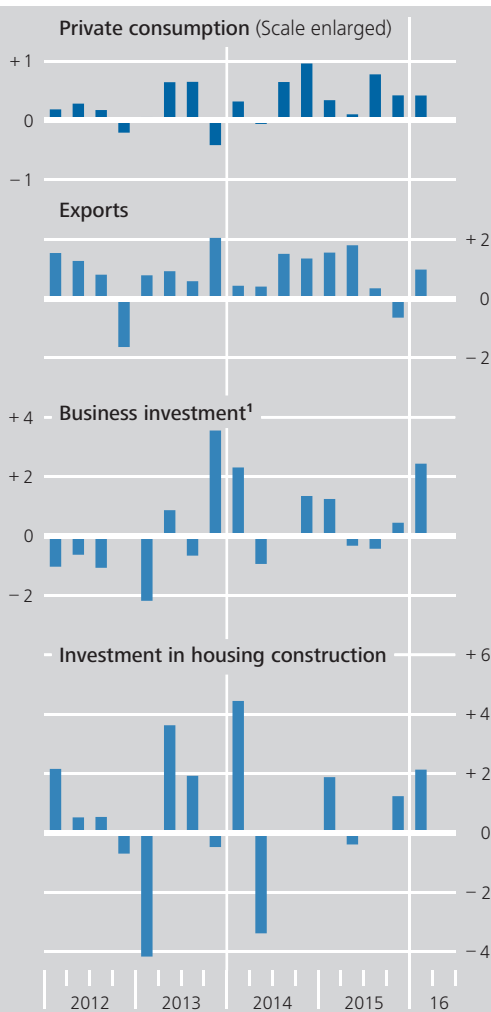


Sources of the original data: Ifo Institute and the Association of German Chambers of Commerce and Industry (DIHK). \* Expectations refer to the next three months (ifo) or the next 12 months (DIHK). 1 Seasonally and calendar-adjusted.

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### Major demand components

Quarter-on-quarter percentage change, price, seasonally and calendar-adjusted



Source: Federal Statistical Office (national accounts). 1 Private non-residential fixed capital formation.

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ually over the projection horizon, enterprises are likely to invest more in expanding production capacity in addition to replacement and modernisation projects. The healthy financial position of enterprises and the fact that financing conditions remain extremely favourable mean that investment looks to increase further. Over the projection horizon, the price-adjusted industrial investment ratio could therefore match its peak in previous economic cycles.

Housing construction investment gained greater momentum in the period spanning the fourth quarter of 2015 and first quarter of 2016 than predicted in the December forecast. This was due to intermittent spells of mild weather as well as to a strong pick-up in housing demand reflected in a sharp increase in orders received and building permits.<sup>4</sup> In addition to the generally upbeat labour market situation and positive outlook for income and job security, high levels of immigration and a reduction in interest rates on mortgage loans are likely to have played a role in this development. Because these favourable conditions are largely set to continue over the projection horizon, housing investment should expand strongly this year and next. However, in 2018, the unfavourable demographic trends that Germany is currently experiencing could intensify as immigration decreases, which will probably be accompanied by a perceptible decline in housing demand and considerably weaker investment activity in the housing market.

*Housing construction investment to expand strongly in 2016 and 2017 before slowing in 2018 due to demographic factors*

It is assumed that, over the projection period, government investment will grow more strongly than of late, mainly in connection with rising construction investment.<sup>5</sup> First, central government is planning to make improvements

*Stronger growth in government investment*

<sup>4</sup> However, anticipatory effects stemming from the tightening of energy standards for new buildings at the start of 2016 are also likely to have played a part in the sharp rise in building permits observed over the last few months.

<sup>5</sup> At times, fluctuations in investment in machinery and equipment perceptibly influence the dynamics of government investment as a whole. These fluctuations are mainly due to military procurements which are recorded in the national accounts at the time of delivery.

in the area of maintaining the public infrastructure. Second, the room for manoeuvre that the relatively good budget situation of many states and local governments<sup>6</sup> may provide over the next few years is also expected to be put towards more investment.

*Gross fixed capital formation set to expand fairly substantially across the board*

This means that gross fixed capital formation will rise fairly substantially overall this year and next. In terms of growth rates, it should be borne in mind that calendar effects in 2017 will be decidedly negative. As things currently stand, fixed capital formation is also expected to rise to a similar extent in 2018 as countervailing trends in corporate and housing investment will practically offset each other.

*Steep upward trajectory in underlying cyclical trend for private consumption, additionally strengthened by one-off factors in 2016*

Private consumption significantly boosted economic growth in the period spanning the final quarter of 2015 and first quarter of 2016. However, despite a marked decline in energy prices, households' real disposable income did not rise quite to the extent expected as recently as December 2015 and the saving rate went up slightly. Nonetheless, the underlying trend in private consumption is still following a clear upward trajectory, on which it is likely to also remain owing to extensive employment growth, low unemployment and noticeable wage growth over the projection horizon. Two one-off factors will lend additional momentum this year – the renewed marked decline in oil prices and rising government transfers, mainly on account of the large numbers of refugees arriving in Germany, will further boost price-adjusted household income. Although the saving rate is likely to increase marginally, private consumption may therefore show slightly stronger growth than in 2015. Real disposable income will probably rise less markedly in the following years as consumer price inflation rebounds. The saving rate, which has gone up slightly since 2014, partially on the back of the fall in oil prices, should recede somewhat over the projection horizon if households gradually convert purchasing power gained from earlier falls in the price of oil, some of which was initially channelled into savings, into higher con-

## Key figures of the macroeconomic projection

Year-on-year percentage change

Item	2015	2016	2017
GDP (real)	1.7	1.7	1.4
GDP (real, calendar-adjusted)	1.4	1.6	1.6
Components of real GDP			
Private consumption	2.0	2.2	1.5
<i>Memo item</i> Saving ratio	9.7	9.8	9.7
Government consumption	2.5	2.8	1.5
Gross fixed capital formation	2.2	3.5	2.6
Business investment <sup>1</sup>	2.3	2.9	2.1
Private investment in housing construction	1.6	3.3	2.5
Exports	5.4	2.1	3.2
Imports	5.8	4.1	4.5
<i>Memo item</i> Current account balance <sup>2</sup>	8.6	8.4	8.1
Contributions to GDP growth <sup>3</sup>			
Domestic final demand	2.0	2.4	1.6
Changes in inventories	-0.5	-0.1	0.0
Exports	2.5	1.0	1.5
Imports	-2.3	-1.6	-1.7
Labour market			
Total number of hours worked <sup>4</sup>	1.2	1.2	0.8
Employed persons <sup>4</sup>	0.8	1.1	0.8
Unemployed persons <sup>5</sup>	2.8	2.8	2.8
Unemployment rate <sup>6</sup>	6.4	6.3	6.4
Wages and wage costs			
Negotiated pay rates <sup>7</sup>	2.3	2.1	2.4
Gross wages and salaries per employee	2.8	2.2	2.5
Compensation per employee	2.6	2.1	2.6
Real GDP per employed person	0.9	0.5	0.6
Unit labour costs <sup>8</sup>	1.7	1.6	2.0
<i>Memo item</i> GDP deflator	2.1	1.7	1.8
Consumer prices <sup>9</sup>	0.1	0.2	1.5
Excluding energy	1.1	1.0	1.5
Energy component	-7.0	-6.5	0.8

Sources: Federal Statistical Office; Federal Employment Agency; 2016 and 2017 Bundesbank projections. **1** Private non-residential fixed capital formation. **2** As a percentage of nominal GDP. **3** In arithmetical terms, in percentage points. Discrepancies in the totals are due to rounding. **4** Domestic concept. **5** In millions of persons (Federal Employment Agency definition). **6** As a percentage of the civilian labour force. **7** Monthly basis (pursuant to the Bundesbank's negotiated wage index). **8** Ratio of domestic compensation per employee to real GDP per employed person. **9** Harmonised Index of Consumer Prices (HICP).

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sumer spending. The anticipated reduction in real consumption growth based on households' income projection will thus be more gradual. Growth rates for 2017 and 2018 are still expected to be significantly above the average increase recorded since German reunification.

Overall, real government consumption is likely to increase slightly more sharply again this year than in 2015, and is then expected to show

*Temporary further acceleration in government consumption*

**6** In addition, central government last year transferred €3.5 billion to a special fund for promoting investment expenditure by financially weak local authorities, whose effects are yet to be felt.

## Major assumptions

This projection is founded on assumptions made by the Eurosystem's experts concerning the global economy, exchange rates, commodity prices and interest rates based on information available as at 10 May 2016. The assumptions regarding economic activity in the euro area are derived from projections made by the national central banks of the euro-area countries. With respect to the fiscal policy framework in Germany, this projection incorporates all measures which have been adopted or adequately specified and are regarded as likely to be implemented. In addition, assumptions needed to be made for the projection horizon concerning the migration of refugees and its fiscal and macroeconomic effects.

Global economic growth flagged in the period spanning the fourth quarter of 2015 and first quarter of 2016 and thus once again fell short of the expectations contained in the previous projection. One factor in the slowdown was to be found in the US economy, despite the fact that the underlying cyclical trend in the United States has probably remained intact. The advanced economies as a group, too, can be expected to quickly overcome the temporary lull. The other factor was that, in the first quarter, the commodity-exporting emerging market economies (EMEs) continued to feel the effects of falling commodity prices in the global markets, and the pace of growth in the Asian EMEs receded again slightly. As a consequence of expectations that commodity prices will continue to gain strength and that the Chinese economy will undergo economic policy stimulus measures, economic activity in these groups of countries may be expected to rebound somewhat in the coming months, however. Nonetheless, the emerging market economies' outlook for growth remains muted overall, and, compared with the December projection, has been downgraded yet again for the coming year as well. The current projection presumes that the global economy as a whole (excluding the euro area)

will grow by 3% in the current year, picking up only slightly to 3¾% in 2017 and 2018 (purchasing power parity-weighted).

In line with global economic growth, world trade also looks set to accelerate again over the course of this year and the next.<sup>1</sup> The import slump in the past half-year spanning the fourth quarter of 2015 and the first quarter of 2016 was regionally broadly based and led to a considerable downward revision for the current year. The EMEs, by contrast, are the sole reason why imports are projected to continue recovering at a more modest pace throughout the rest of the projection horizon than assumed in December. Overall, international trade (excluding the euro area) is assumed to grow by 1¾% this year, followed by growth rates of 3½% and 4%, respectively, in the two following years.

Following the finalisation of the December projection, crude oil prices initially remained under considerable pressure. It was only at the end of January that this situation began to unwind. The prospect of a smaller glut may have been a contributory factor. Although the temporary drop in prices had been fully recouped by the time this projection was completed, the forward quotations from which the crude oil price assumptions are derived are showing a significantly flatter upward trajectory over the projection horizon than assumed in the December projection. The crude oil prices underlying this forecast will therefore, in 2017, too, remain well below the assumptions made in

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<sup>1</sup> Over the medium term, the projection presumes a global trade elasticity, ie the ratio of the rates of change of global trade and global economic output, of around one, and thus a considerably lower value than had been assumed prior to the global financial and economic crisis. The decline in global trade elasticity can be explained to a major degree by the sustained growth lead of the EMEs over the advanced economies since the former show a much lower trade elasticity and their weight is on the rise. For more on this, see also Deutsche Bundesbank, On the weakness of global trade, Monthly Report, March 2016, pp 13-35.

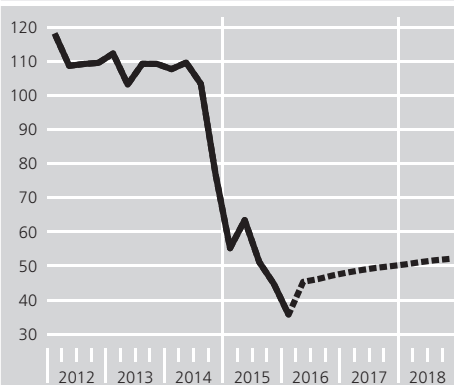
the preceding projection. Owing to the appreciation of the euro against the US dollar, the discrepancy is actually a little greater still if calculated in euro. Quoted prices for other commodities likewise fell away sharply up until the beginning of the year but they, too, have rebounded perceptibly since then. Given the expected moderate growth of the global economy, in 2017 and 2018 prices are likely to rise again even on an annual average.

As already announced in October 2015, the Governing Council of the ECB, at its December meeting, reviewed the accommodativeness of its monetary policy and decided to further loosen its monetary policy stance. In March 2016 the ECB Governing Council adopted a further package of measures.<sup>2</sup> These accommodative monetary policy measures contributed to a further sharp decline in interest rates. Market expectations regarding future interest rate movements and the technical projection assumptions derived therefrom for the trajectories of short-term interest rates and the yields on nine to 10-year government bonds are at a very low level, well below the assumptions contained in the December projection round. The same goes for the forecast of interest on bank loans in Germany. According to an economic survey conducted in early summer by the Association of German Chambers of Industry and Commerce (DIHK) and the Ifo Credit Constraint Indicator, access to credit in Germany is still extremely favourable.

Following the ECB Governing Council's December meeting, the euro appreciated somewhat, as the adopted measures had probably fallen short of market participants' expectations. In addition, poorer economic data from the United States, in conjunction with the expectation that the US Federal Reserve would only gradually raise its policy rates, along with surprisingly upbeat euro-area economic data for the first quarter, caused the single currency to gain further ground against the US dollar. In addition, the euro also rose against the pound sterling on the back of uncertainty about

### Oil price

US\$ per barrel, quarterly



Sources: Thomson Reuters and Bundesbank calculations. 2016 Q2 to 2018 Q4, projection assumptions. Deutsche Bundesbank

### Major assumptions of the projection

Item	2015	2016	2017	2018
Exchange rates of the euro				
US dollar/euro	1.11	1.13	1.14	1.14
Effective <sup>1</sup>	106.5	111.0	111.2	111.2
Interest rates				
Three-month Euribor	0.0	-0.3	-0.3	-0.3
Yield on government bonds outstanding <sup>2</sup>	0.5	0.2	0.3	0.5
Commodity prices				
Crude oil <sup>3</sup>	53.6	43.4	49.1	51.3
Other commodities <sup>4, 5</sup>	-19.9	-3.3	4.3	4.6
German exporters' sales markets <sup>5, 6</sup>	2.4	3.0	3.9	4.3

<sup>1</sup> Compared with the currencies of the 38 most important trading partners of the euro area (EER-38 group of currencies); 1999 Q1 = 100. <sup>2</sup> Yield on German 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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<sup>2</sup> Under the December 2015 package, the deposit facility rate was cut and the asset purchase programme (APP) was extended to March 2017 or, if necessary, even longer. The March 2016 package of measures contained not only a policy rate cut and an increase in the monthly volume of asset purchases but also an expansion of the APP to include a corporate sector purchase programme (CSPP) and four new targeted longer-term refinancing operations (TLTRO II). At the same time, the Governing Council made it clear that its policy rates would remain very low even after the purchase programmes have expired.

whether the United Kingdom will remain in the European Union. In the period used for deriving the exchange rate assumptions, the euro traded at US\$1.14, 4½% higher than assumed in the December projection. In relation to the 38 most important currencies in terms of foreign trade, the euro appreciated by 4¼%.

The euro-area economy grew considerably to kick off the year. Bearing in mind that fluctuations in quarterly rates of change are not unusual and that the mild weather will have probably had a positive impact on the first quarter, developments in the period spanning the fourth quarter of 2015 and first quarter of 2016 are largely consistent with the continuation of the recovery process anticipated in the December projection. Domestic demand is set to continue providing strong growth stimuli over the projection horizon. Export growth rates can be expected to rise gradually in line with developments in foreign sales markets. Exporters are likely to benefit, above all, from mounting demand within the euro area. Some countries might see a positive impact from higher price competitiveness in foreign markets outside the euro area owing to the persistently low inflation rates and the lagged effects of earlier euro depreciations.

Given the tapering-off of external influences from outside the euro area, GDP growth in the euro area (excluding Germany) is expected to be slightly down on the December projection at 1.6% this year and 1.7% next year. This means that aggregate economic capacity utilisation in the euro area as a whole could be back at normal levels by the end of the projection horizon, even if it does not quite get there. The rather strong growth in the euro area excluding Germany, in connection with these countries' high trade elasticity, means that German exporters' sales markets will grow somewhat more strongly than global trade over the projection horizon.

In the area of public finances, the fiscal policy measures considered in this projection will worsen the general government fiscal

balance up to 2017 by ½% of GDP compared with 2015 (primarily in 2016).<sup>3</sup> On the revenue side, the countervailing influences will almost entirely cancel each other out. Whereas, above all, income tax will be reduced over the projection horizon (including higher income tax allowances and a rightward shift in income tax rates in the current year), social contribution rates will increase. The health insurance institutions in particular raised their additional contribution rates by an average of ¼ percentage point at the beginning of the year. In 2017, the contribution rate to the public long-term care insurance scheme – as part of the second reform of long-term care – is to be increased by an additional 0.2 percentage point. On the expenditure side, the benefit increases brought about by the long-term care reforms of 2015 and 2017 will weigh on general government budgets (in some cases with a time lag). Moreover, changes to the law in the areas of healthcare and housing allowances will also make themselves felt in the current year. Elsewhere, expenditure on areas such as infrastructure, child day-care, social housing construction and the military is expected to be upped progressively. The fiscal effects of the measures included will be insignificant in 2018.

In the light of recent developments, the assumptions relating to the extent of refugee migration to Germany for the 2016 to 2018 period have been revised sharply lower compared with the December projection.<sup>4</sup> A gross influx of 1.85 million refugees – amidst a sharply declining tendency – is

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<sup>3</sup> Not included here are the temporary effects of the frequency auction in the third quarter of 2015, which are recorded in the national accounts on an accrual basis and thus, for the most part, in 2017.

<sup>4</sup> This contrasts with the assumptions made regarding other immigration, which have been raised noticeably. See the remarks on p 11 for further details.



### Projected influx of refugees and its impact on the labour market between 2015 and 2018\*

(Thousands)

Item	2015	2016	2017	2018	2015 to 2018
Influx of asylum seekers (gross)	800	500	300	250	1,850
Net immigration due to asylum	660	280	70	50	1,060
Year-on-year change					
Recognised refugees	+ 130	+ 500	+ 310	+ 120	+ 1,060
... of working age	+ 100	+ 370	+ 240	+ 110	+ 820
Labour force (including employed asylum seekers)	+ 80	+ 200	+ 110	+ 60	+ 450
Employed persons (including asylum seekers)	+ 50	+ 90	+ 60	+ 60	+ 260
Unemployed persons	+ 30	+ 110	+ 50	0	+ 190

\* The influx of asylum seekers prior to 2015 is also factored into the net immigration figures and labour market impact.

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expected over the 2015 to 2018 period.<sup>5</sup> Since only part of this number – albeit a considerable part – will be granted asylum in Germany and some refugees will voluntarily leave again, it is possible that a total of nearly 1.1 million recognised refugees could stay in Germany, just over 800,000 of whom of working age.

However, owing to language and skills obstacles, refugees will probably often enter the labour market only after something of a delay. For these reasons, a comparatively large share of recognised refugees will be either unemployed or not in gainful employment for other reasons over the projection horizon, even despite the high demand for labour, including for simple tasks.<sup>6</sup> The cumulative increase in the labour force will probably therefore be modest, at around 1% over the 2015 to 2018 period. Around three-fifths of these members of the workforce could be employed by 2018, with the rest unemployed.

The influx of refugees will not only impact on the labour market but also exert a positive influence on domestic demand, through an increase in additional – unfunded – government spending. Expenditure on social transfers in kind (especially for healthcare), other tangible goods purchases (such as to cover basic needs and for accommodation) and personnel will drive up government consumption. As more and more applications for asylum are approved, an ever-

growing share of support will be provided as means-tested monetary social welfare benefits (especially unemployment benefit II), thus propping up private consumption. This projection assumes that the increased expenditure in connection with refugee migration was rather restrained last year compared with 2014<sup>7</sup> (the year prior to the rapid acceleration), will this year rise considerably to around ½% of GDP, and will subsequently stabilise at that level until 2018.

<sup>5</sup> According to data provided by the Federal Office for Migration and Refugees, in the year ended 440,000 new applications for asylum were received; these are joined by an additional 300,000 to 400,000 refugees whose applications were not registered by the end of 2015. For that reason, a gross influx of 800,000 refugees is assumed for 2015. Once asylum seekers whose applications have been rejected (but also some recognised refugees) have exited the country, a net influx of 660,000 refugees is likely to be left over.

<sup>6</sup> See Deutsche Bundesbank, The current influx of refugees – projected impact on the labour market and public finances, Monthly Report, December 2015, pp 24-28.

<sup>7</sup> One reason why expenditure over 2015 as a whole was low relative to the numbers of incoming refugees was that the influx only picked up considerably in the second half of the year, which meant that the new arrivals, for the most part, needed support for only a few months.

similar annual growth to real GDP. The temporary pick-up in pace primarily reflects additional spending in connection with refugee migration. Benefit increases brought about by the care reforms of 2015 and 2017 – some of which will only become evident after a time lag – as well as additional healthcare spending and higher personnel expenditure in the areas of childcare, education, police and the military will also boost growth.

*Considerable rise in imports*

Over the projection horizon, imports are likely to reflect developments in final demand, in particular. Moreover, based on the continuing international division of labour, the import share in key expenditure components is expected to continue its moderate increase. With an assumed import share of over 40%, exports and investment in machinery and equipment, in particular, will play a key role here. The acceleration in the growth rates for these components expected over the projection horizon is set to more than offset the dwindling growth in private and government consumption in the next few years. Imports will therefore probably expand more sharply in 2017 and 2018 than in 2016. Owing to a rebound in price competitiveness, exporters from other euro-area countries should benefit more than suppliers from outside the euro area.

*Slight fall in current account surplus*

Germany's trade surplus rose again perceptibly in 2015, mainly due to the price effect caused by lower crude oil prices and the depreciation of the euro.<sup>7</sup> Lower crude oil prices will lead to a strong improvement in the terms of trade this year, too. However, import prices should rise over the rest of the projection horizon if crude oil and commodity prices stabilise as assumed. The positive domestic dynamics and strong import growth are therefore likely to assume an increasingly prominent role, meaning that the trade surplus could narrow somewhat. The current account surplus, too, should therefore fall, albeit slightly. This is due, among other things, to the fact that the surplus for primary income may continue to rise due to the steady increase in external assets.

## ■ Labour market

The labour market performed surprisingly well in the period spanning the fourth quarter of 2015 and first quarter of 2016. Employment rose by 310,000 persons during this time, which was substantially higher than the figure forecast in the December projection, while seasonally adjusted unemployment, defying expectations, fell markedly. Another contributing factor was the fact that, as far as the German labour market is concerned, the composition of migrant inflows was more favourable than assumed in the previous projection. The number of migrants from other EU countries, who integrate comparatively quickly into the labour market, remained very high. By contrast, the level of refugee migration was lower than expected.

In principle, the labour market is likely to remain buoyant in the coming months. Nonetheless, available leading indicators are pointing to a possible slowdown in employment growth. According to the IAB labour market barometer, unemployment could edge upwards over the next few months. This is partly attributable to the number of asylum applications being successfully processed rising and some refugees subsequently registering as job seekers.

Employment is likely to rise further later over the remaining projection horizon, while unemployment will probably remain broadly unchanged at the low level that it has reached. In this context, growing labour market bottlenecks will be mitigated by employment-related migration. This influx of workers, particularly from EU member states, is forecast to slowly fall in net terms from an estimated 440,000 in 2015 to 300,000 in 2018. This is based on the expectation that employment-related migration from eastern EU member states will decel-

*Favourable labour market developments in 2015 Q4 and 2016 Q1 period ...*

*... likely to continue in months to come, albeit at a slightly weakened pace*

*Employment-related migration will mitigate labour market bottlenecks over projection horizon*

<sup>7</sup> See also Deutsche Bundesbank, The impact of the steep fall in oil prices and the euro depreciation on the expansion of Germany's current account surplus in 2014 and 2015, Monthly Report, March 2016, pp 39-41.

erate only gradually.<sup>8</sup> On top of this is refugee migration, which, according to estimates, will expand the labour force by a total of 450,000 persons in the period between 2015 and 2018.

*Demographic trend also counteracted by activating domestic reserves*

In the light of demographic changes, the share of the native-born population that is of working age will contract sharply over the next few years. In addition to recruiting foreign workers, shortages resulting from enterprises' expected persistently high demand for labour can, as a general rule, be counteracted by activating domestic reserves. However, the rise in the participation rate of the native-born population has been stunted in recent years, especially following the introduction of the option to retire on a full pension without actuarial deductions at the age of 63. That said, these braking effects are likely to have largely dissipated in the meantime, with the trend of increasing labour force participation – bolstered by the rise in the statutory retirement age – set to undergo a resurgence.<sup>9</sup>

*Employment growth still strong in 2016 and 2017*

Overall, the labour force is likely to expand by almost 1% in 2016 and again in 2017 due to the expected high level of migration and rising labour force participation. With unemployment falling once again relative to the average in 2015, employment looks set to pick up slightly more strongly still in 2016. However, the further decline in the unemployment rate actually envisaged for next year could be masked by higher unemployment among refugees. Therefore, despite the favourable economic situation, it is possible that employment will rise at a slightly lower rate than the potential labour supply. At the end of the projection period, increasing labour shortages and a perceptible fall-off in employment growth are expected in the face of diminishing migration figures. This is likely to be offset by the fact that increasing capacity utilisation should also raise working hours per employed person.<sup>10</sup> Furthermore, the negative impact of labour market tightness on macroeconomic activity could be curbed by a potentially sharper rise in productivity over the

## Employment indicators for Germany

seasonally adjusted



Sources: Ifo business survey, Institute for Employment Research (IAB). <sup>1</sup> Index values on a scale from 90 (very poor outlook) to 110 (very good outlook).  
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projection horizon thanks to the persistently positive economic backdrop.

## ■ Labour costs and prices

Despite the highly upbeat labour market situation, the pay settlements agreed by management and labour in this year's pay round for central and local government employees as well as in the metal-working and electrical

*Negotiated rates of pay up only moderately in 2016, but rises increasingly sharp in years thereafter*

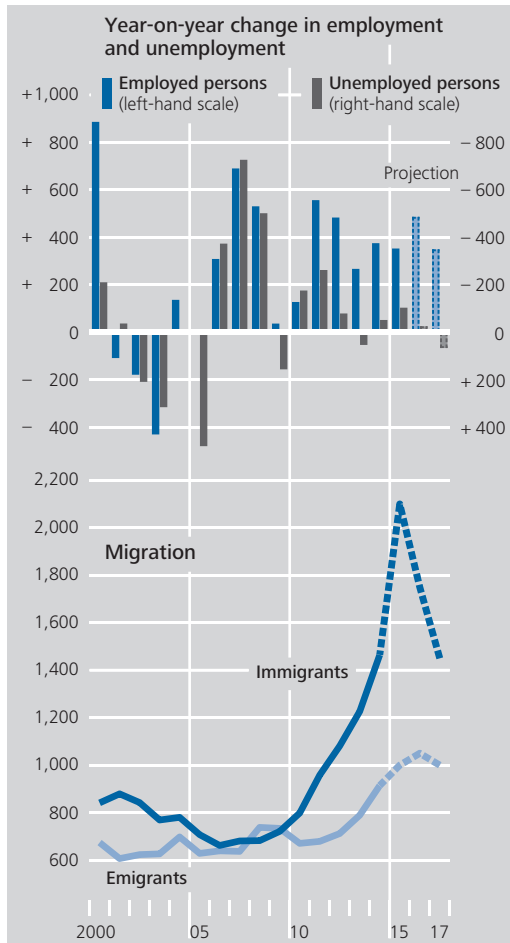
<sup>8</sup> Estimates regarding the inflow of migrants excluding asylum seekers are higher than in the December projection as, contrary to expectations, there does not appear to have been a fall in the number of eastern European migrants in 2015. At the same time, the influx of refugees has plummeted since the start of 2016. In the light of lower refugee migration estimates, it is therefore likely that the partial crowding-out effect on other migration, which had still been assumed in the December projection, will be minimal.

<sup>9</sup> Having initially been held down by the high proportion of inactive refugees, the participation rate for migrants is expected to go back up as recognised refugees are gradually integrated into the labour market as of 2017.

<sup>10</sup> In particular, the average working hours of women in employment are low by international standards, meaning that there is scope here to raise working hours.

## Employment, unemployment and migration

Thousands



Sources: Federal Statistical Office and Federal Employment Agency. Migration in 2015 projected by the Bundesbank based on the flash estimate of migration statistics for foreigners by the Federal Statistical Office. 2016 and 2017 Bundesbank projections.

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engineering industries and the main construction sector were moderate and fell short of the rises expected in the December projection. Several collective wage agreements from previous years envisage lower rises in their second stage, which takes effect in 2016, than in their first stage. Zero months without pay increases and negative base effects due to high one-off payments in 2015 will further curb the pick-up in negotiated rates of pay in 2016. Consequently, the rises adopted in this year's pay round (as well as projected increases in the case of pending agreements) will only be fully observable in the average growth rates for 2017.<sup>11</sup> On balance, negotiated rates of pay are set to climb

by 2.1% in 2016 and 2.4% in 2017. In 2018, growing labour market shortages and rising capacity utilisation could lead to a markedly higher increase. From a monetary policy perspective, it is important in this context that the current temporarily subdued level of inflation does not become entrenched via second-round effects.

This year's rise in actual earnings is expected to be only marginally greater than negotiated rates of pay. While there was a distinctly positive wage drift last year, chiefly driven by the introduction of the statutory minimum wage, a comparable stimulating effect is lacking this year. Consistent with above-potential growth in the overall economy and increasing workforce shortages in the labour market, the wage drift is likely to be slightly positive in 2017 as well; in 2018, overtime pay and higher bonuses to employees could then contribute to markedly higher growth in actual earnings. Labour costs as measured by compensation per employee follow a similar pattern. However, the resulting higher cost burden is likely to be largely offset by a simultaneous increase in productivity gains. Following a slight slowdown this year, unit labour costs could therefore continue to rise by around 2% *per annum*, as has been the case since 2013.

*Accelerated rise in wage costs offset by increasing productivity gains*

While it had been expected back in the December projection that consumer price inflation would slowly start to rise as early as at the start of 2016, it fell in the period spanning the fourth quarter of 2015 and first quarter of 2016. As measured by the growth rate of the HICP, average inflation in the first quarter of 2016 recorded a year-on-year rise of +0.1%, deviating from the figure estimated in the projection (+0.9%). This was due primarily to a renewed fall in oil prices. However, even excluding

*Unexpected downturn in crude oil prices in 2015 Q4 and 2016 Q1 period will lower inflation outlook for 2016 ...*

<sup>11</sup> Once they have come to an end, all of the approximately 550 regional, sectoral and company-related pay contracts as well as civil servants' pay rate adjustments and regulations recorded in the Bundesbank's negotiated pay rate statistics are carried forward, taking into account the macroeconomic environment and, in some cases, industry-specific determinants.

energy, actual inflation still fell markedly short of projection expectations. Declining prices of imported industrial goods excluding energy provided noticeable relief and were probably attributable, in part, to the appreciation of the euro. In addition to weaker wage growth, another factor affecting services prices was the fact that the measured rise in rents remained flat. Given the current sharp hikes in housing prices, this is noteworthy and is possibly connected to methodological changes in the sub-index for rents. *Inter alia*, the sample used for this has been gradually adjusted since the start of 2015. At the current juncture, the impact of this changeover on the sub-index for rents is difficult to assess. However it could cause rents as recorded by the Federal Statistical Office to increase at a lower rate than would be expected in view of the situation in the housing market.

*... and might set back expected substantial rise in consumer prices to 2017 and 2018*

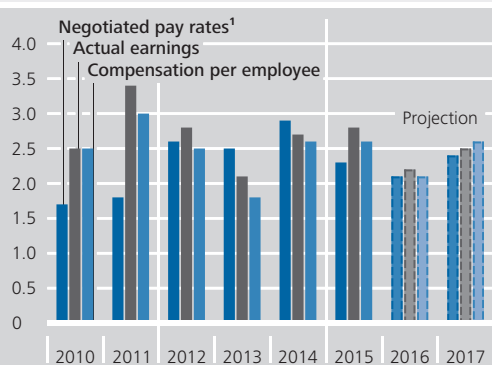
It is anticipated that consumer price inflation will increase markedly through to the end of the projection period. In addition to the dampening effect of the drop in crude oil prices being likely to have largely dissipated by the end of 2016, other commodity prices are set to pick up again, meaning that domestic price pressures arising from robust wage growth and rising capacity utilisation will probably make themselves increasingly felt. Overall, consumer price inflation (as measured by the annual HICP rate) could rise from 0.2% in the current year to 1.5% in 2017 and 1.7% in 2018.

*Energy prices to rise only minimally up to 2018 due to weakly increasing crude oil prices*

This year's projection for energy prices is shaped by the heavily reduced prices of fuel and heating oil at the start of the year. Although crude oil prices have now undergone a marked resurgence and consumer prices for fuel and heating oil are set for a further slight increase as the year progresses, the energy component of the HICP should be significantly lower on average in 2016 than in 2015. Energy prices are likely to go back up over the rest of the projection horizon, but this increase will probably be fairly weak. The prices of mineral oil products, for instance, will probably see just a moderate

### Negotiated pay rates, actual earnings and compensation of employees

Year-on-year percentage change, monthly basis



Sources: Federal Statistical Office. 2016 and 2017 Bundesbank projections. <sup>1</sup> Pursuant to the Bundesbank's negotiated wage index.

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rise owing to the assumed low increase in crude oil prices. Gas and electricity prices could even abate somewhat up to the end of the projection horizon. In the past few years, they have been geared less towards the crude oil prices of the recent past, and more towards their own forward prices at the wholesale level. The latter pointed to falling prices as this projection was finalised. Expected increases in other cost components, such as grid charges, should thus be more than offset.

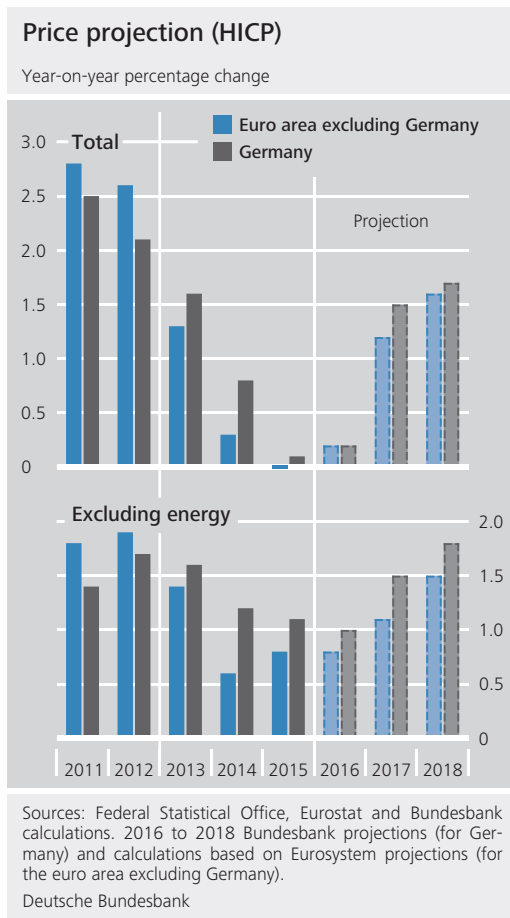
The price rises for other goods and for services in 2016 are likely to be marginally lower than in

### Revisions since the December 2015 projection

Year-on-year percentage change

Item	2015	2016	2017
<b>GDP (real)</b>			
Projection from June 2016	1.7	1.7	1.4
Projection from December 2015	1.7	1.8	1.7
Difference in percentage points	0.0	-0.1	-0.3
<b>Harmonised Index of Consumer Prices</b>			
Projection from June 2016	0.1	0.2	1.5
Projection from December 2015	0.2	1.1	2.0
Difference in percentage points	-0.1	-0.9	-0.5

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*From 2017, domestic price pressure will be manifest in increased non-energy inflation*

the previous year, reflecting the fact that wage costs will rise somewhat more weakly in 2016, probably temporarily. Diminishing import prices as well as steeply reduced prices for some agricultural products owing to global oversupply are also providing relief. From 2017, the dampening effects relating to import prices should cease; according to the assumptions, renewed price rises are also expected for food raw materials from this point. Since the externally induced relief will tail off, non-energy consumer price inflation is likely to approach the inflation rate for domestic value added throughout the projection horizon. For the GDP deflator, an increase of approximately 2% per year, consistent with the growth in unit labour costs, is expected in the projection period, as already in the period from 2013 to 2015; this is because profit margins will probably remain stable for the most part, given an unchanged level of competitive intensity. In the past, easing effects stemming from declining import prices are also likely to have played a role in these stable mar-

gins. Thanks to their improving cyclical position, however, enterprises should be able to largely pass on higher labour costs to the consumer, even if import prices rise again. Annual HICP inflation excluding energy should increase from 1.0% in the current year to 1.8% in 2018. This particular form of inflation would thus be slightly higher in Germany over the entire projection period than in the rest of the euro area, in a likely reflection of the varying cyclical position.

## Public finances

After recording a distinct surplus last year (+0.6% of GDP), the government budget is likely to manage just a slight positive balance this year. As things stand, then, no further major change is anticipated before 2018. On the one hand, the general conditions for public finances, characterised by low interest rates as well as a sound labour market situation and healthy economic growth, should remain favourable. On the other hand, government spending relating to refugee migration is likely to rise, especially in the current year, added to which the budgetary stance will be expansionary over the entire projection horizon.<sup>12</sup>

*Favourable conditions for public finances, but additional expenditure on refugees and expansionary stance*

Specifically,<sup>13</sup> slight budget relief is to be expected this year from both the favourable economic setting and the further decline in interest expenditure. The structural primary balance (that is, the structural balance less interest expenditure) is likely to deteriorate significantly, however, because it is affected by growing expenditure on refugees as well as fiscal policy measures that have a detrimental impact on

*Only a slight surplus in 2016; ...*

<sup>12</sup> This projection was finalised prior to the publication of the May revision to the national accounts figures for 2015; the new information has practically no bearing on the projection, however. Particular uncertainty continues to surround refugee migration. Additional expenditure could also be incurred in connection with the sale and transfer of certain assets belonging to HSH Nordbank, or in the course of phasing out nuclear energy, for instance.

<sup>13</sup> Additional information on the measures included and the additional expenditure related to refugee migration can be found on pp 6-9.

balance. In addition, growth in pension expenditure will remain high, chiefly because of the sharp pension increase around the middle of the year.

*... hardly any changes in 2017 and 2018*

Although in the coming year economic activity will be roughly neutral from a budget perspective, the bulk of the one-off proceeds from the 2015 frequency auction will be recorded then.<sup>14</sup> The decline in interest expenditure is also likely to continue. However, the factors providing relief will be offset by a renewed, albeit more minimal deterioration in the structural primary balance. Given little change in spending relating to refugee migration, the indications here are of a continued slightly expansionary budgetary stance as well as similarly high increases in pension expenditure as in the current year. In 2018, the proceeds from the frequency auction will largely drop off, while the economy will provide somewhat stronger relief for the government budgets. The structural balance, too, would thus hardly change.

*Debt ratio remains on downward path*

Although the debt ratio would drop relatively rapidly under these conditions, it would not yet fall below the 60% limit in 2018 either (end of 2015: 71.2%). Given the prospect of only slight surpluses from 2016, the decline will be chiefly due to nominal GDP growth in the ratio's denominator. Furthermore, the liabilities of government-owned bad banks are likely to be reduced further.

## ■ Risk assessment

*Balanced risks to economic growth, in terms of both the external setting ...*

The risks to economic growth appear to be broadly balanced. Looking at the external setting, the upswing in a number of commodity-exporting EMEs could prove weaker than assumed in this projection, for one thing. There is also a certain risk of growth in China undergoing a stronger slowdown. The underlying pace of economic activity in a number of key advanced economies could also be slightly overstated in the baseline underpinning this projection; in particular, there is a perceived risk

that the referendum on 23 June 2016 could result in the UK voting to leave the EU. Finally, simmering geopolitical tensions could be re-ignited, dampening the global economy. On the other hand, a cautious assessment was made of the outlook for German exports compared with assumed growth in the sales markets, especially in the current year, with the result that the assumed revival in global economic output could also lead to stronger export growth and thus to greater business investment.

With respect to domestic demand, the risks are similarly more or less balanced. In the event that the assumed decrease in the saving ratio does not materialise, on account of heightened geopolitical tensions for example, private consumption could see somewhat weaker growth. By contrast, an even stronger increase in housing construction investment is conceivable. At present, any assessments of the effect on the housing supply of the unusual combination of extremely favourable financing terms and a population that is expanding, chiefly due to high levels of migration, can only be made under conditions of great uncertainty. Moreover, the influx of refugees and the attendant economic implications are subject to major uncertainty, as before.

*... and the domestic economy*

The downward slide in crude oil prices came to a halt at the start of the current year, and prices have risen again somewhat in the intervening period. The risks in relation to the assumed future path of crude oil prices are considerable, but more or less balanced.<sup>15</sup> If price developments were to deviate significantly from the assumptions, this would entail major repercus-

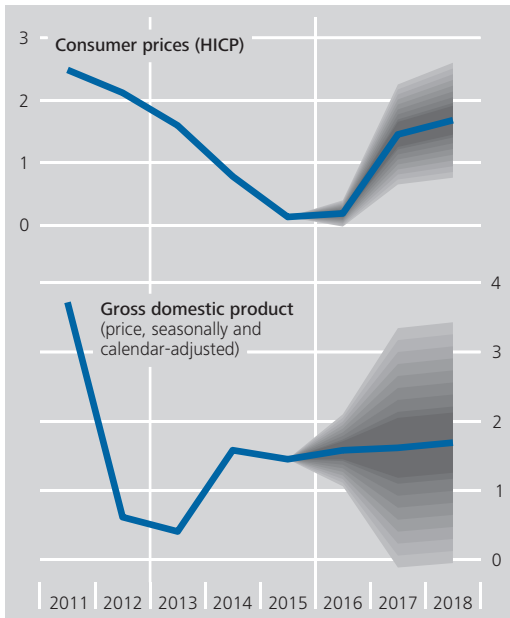
*Price risks in connection with the assumed crude oil price path are considerable but balanced*

<sup>14</sup> These are recorded in the national accounts on an accrual basis (ie as soon as the acquired frequency bands are available) and as negative spending. This will improve the 2017 balance by €3.8 billion.

<sup>15</sup> The price of crude oil would fall if, for example, Iran were to expand its oil supply even more. On the other hand, unexpectedly severe cutbacks in production owing to lower investment in the crude oil industry would result in higher crude oil prices.

### Baseline and uncertainty margins of the projection\*

Annual data, Year-on-year percentage change



Sources: Federal Statistical Office and Bundesbank calculations. 2016 to 2018 Bundesbank projections. \* Uncertainty margins calculated on the basis of the mean absolute forecast error. The width of the band that is distributed symmetrically around the most probable value equals double the mean absolute forecast error.

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sions for economic growth and for the inflation rate in particular, as in the past.

The risks to overall price developments are pointing downwards, by contrast. There is a certain upside risk in the event that the euro were to depreciate on account of growing differences in the monetary policy stance compared with other currency areas. On the other hand, though, the impact of adverse demographic trends in Germany on the labour supply and on the associated wage pressure is uncertain. Higher labour mobility within Europe than previously assumed could counteract the expected supply-related wage pressure in Germany more significantly than predicted. What is more, fiercer competition facing domestic producers, possibly partly as a result of the structural reforms carried out in a number of euro-area countries, could induce German enterprises to pass on a smaller amount of the higher labour costs to consumers and thus to squeeze their profit margins. Finally, another downside risk to the price projection could result from the aforementioned methodological changes in the sub-index for rents, which accounts for a sizeable share of just over 10% in the HICP basket of goods. This could imply a weaker increase in rents than assumed in the current projection baseline.

*Overall price projection risks pointing downwards*