Outlook for the German economy – macroeconomic projections for 2017 and 2018 and an outlook for 2019

The upturn in Germany is likely to persist over the projection horizon. Thanks to the very healthy labour market situation, private consumption, together with general government demand and investment in housing, will ensure an ongoing solid underlying pace. Exports and revived business investment will also prop up growth. These factors will combine to produce the scenario of a broad-based and fairly brisk upward movement. However, supply bottlenecks in the labour market are likely to become increasingly evident, which should not only drive up wage inflation, but will also tend to curtail growth potential.

Under these conditions, calendar-adjusted real gross domestic product (GDP) could grow by 1.9% this year, 1.7% next year and 1.6% in 2019. Economic growth would thus continue to outstrip the increase in potential output. Aggregate capacity utilisation, already above normal levels last year, would see a clear rise.

Consumer price inflation will spike this year owing to resurgent prices for crude oil and food. As measured by the Harmonised Index of Consumer Prices (HICP), the inflation rate could go from 0.4% in 2016 to 1.5% in 2017 and drop slightly to 1.4% in 2018 before rising to 1.8% in 2019. A key element of this profile is that the prices of energy and food will recede again significantly, in 2018 in particular, according to the assumptions. This would obscure the upward-pointing underlying price trend, which will be manifested in the anticipated gradual increase in the inflation rate, excluding energy and food, from 1.3% in 2017 to 1.9% in 2019.

Public finances remain in a favourable position. In the absence of any substantial policy changes, distinct surpluses are expected in the projection period. Spending policy is expansionary, but the sound economy and falling interest expenditure are easing the pressure on the public purse. The debt ratio could fall back below the 60% mark in 2019 – for the first time since 2002.

As against the December 2016 projection, the general expectation is for somewhat higher economic growth. As for the inflation forecast, the temporary increase in the prices of energy and food has resulted in a forecast rate that is 0.1 percentage point higher in 2017, and 0.3 and 0.1 percentage point lower in 2018 and 2019, respectively. By contrast, expectations for core inflation, ie excluding energy and food, were revised upward slightly for 2018 and 2019.

Economic outlook[1]

Stronger economic growth in 2016 Q4 and 2017 Q1

Economic growth in Germany picked up in the fourth quarter of 2016 and first quarter of 2017. Robust export growth, driven by the brisk recovery in world trade, led to significantly livelier industrial activity and to a turnaround in industrial investment, which had previously been on the decline. This provided added impetus to the upturn, which has so far been propelled mainly by consumption and housing investment. Real GDP rose by just over 1% altogether in the final quarter of 2016 and first quarter of 2017, after seasonal and calendar adjustment, and thus almost as strongly as predicted in the December 2016 projection.[2]

Rapid economic growth in the short term

In a departure from the assumption in the preceding projection, the strengthened aggregate pace of growth in the fourth quarter of 2016 and first quarter of 2017 may not have been just temporary. Rather, the current underlying cyclical trend is presumed to be somewhat stronger than previously expected. One factor pointing to this is the recovery in global trade, which in December had not been expected to occur so rapidly and on the scale seen. In keeping with this, the already very bright sentiment improved further, not just among consumers but also among enterprises, especially those in the export-oriented manufacturing sector. According to the surveys conducted by the ifo Institute, this sector's assessments of short-term output and export expectations are in clearly expansionary territory. Expectations for the coming twelve months as ascertained by the Association of German Chambers of Commerce and Industry (DIHK) also brightened distinctly. The assessment of the export outlook returned to a level higher than the long-term average for the first time since 2014.

Sustained upturn

The upswing is expected to be sustained in the medium term, too. Export growth will probably remain brisk, although it should settle somewhat in line with the assumed slightly more moderate expansion in the sales markets. Moreover, domestic activity is keeping the underlying pace stable at a solid level. Private consumption is still a key pillar in this context. On the back of higher inflation rates – compared with the two preceding years – the very healthy labour market situation is a decisive factor here. Housing investment, which is still lively, could lose momentum given the level already reached, but this is likely to be offset to a degree by a further considerable increase in business investment. In the labour market, however, supply constraints are becoming increasingly apparent and are beginning to have a dampening effect on aggregate growth.

Economy set to grow more strongly than expected in December 2016

All of these factors are combining to produce the scenario of a broad-based, fairly robust upswing with slightly waning growth rates. After an increase of 1.9% this year, calendar-adjusted real GDP is likely to rise by 1.7% in 2018. In 2019, the pace of growth could see a further slight drop to 1.6%. Without adjusting for calendar effects, the growth rate for this year will be lower, at 1.6%, on account of the smaller number of working days compared with 2016.[3] The calendar effect will be neutral in 2018, however, whereas in 2019 it will depress the rate slightly to 1.5%. As against the December 2016 projection, the general expectation is for somewhat higher GDP growth, mainly reflecting the fact that the current underlying cyclical trend is now deemed to be somewhat higher. This is due, in particular, to the considerable upward revision for 2017 to the assumptions concerning growth in German exporters' sales markets, which were raised slightly for 2018 as well.

According to this projection, the German economy will consistently expand at a distinctly faster rate than potential output. Potential

1 This projection for Germany was completed on 23 May 2017. It was incorporated into the projection for the euro area published by the ECB on 8 June 2017.
2 See Deutsche Bundesbank, Outlook for the German economy – macroeconomic projections for 2017 and 2018 and an outlook for 2019, Monthly Report, December 2016, pp 15-31.
3 In 2017, this will also be partly down to an ad hoc public holiday in all federal states to mark this year's 500th anniversary of the Reformation.

Aggregate capacity utilisation set to clearly outstrip normal levels

growth is estimated at 1.4% for the current year and 1.3% for 2018, and may see a further decline to 1.2% in 2019 given the interplay between the assumed lower levels of immigration and demographic developments in Germany.[4] Aggregate capacity utilisation, already above normal levels last year, will therefore continue to rise significantly over the entire projection horizon.

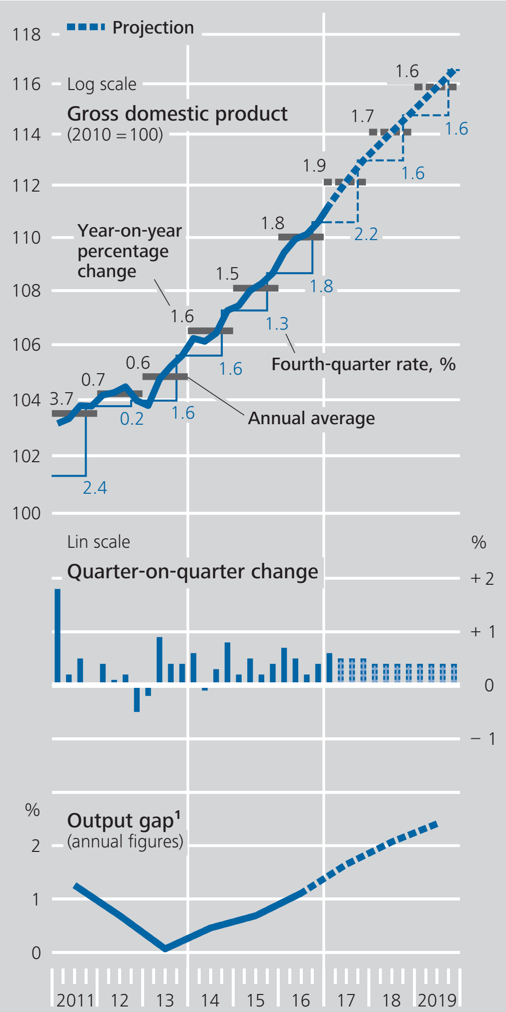
Exports to grow virtually in line with sales markets

Following the major expansion as world trade revived in the fourth quarter of 2016 and first quarter of 2017, German exports are likely to continue their clear upsurge in the second and third quarters of 2017. This is indicated by the sharp increase in foreign orders received by German industry as well as high export expectations. In the medium term, too, exports are likely to expand virtually in line with the sales markets, which will grow at a more measured pace over the remainder of the projection horizon after the recent major acceleration. There could be further losses of market share in trade with euro area partner countries, since the relative price competitiveness of German enterprises is continuing to worsen because labour costs are rising at an above-average pace. Moreover, the shift in Chinese demand towards consumer goods plus the United Kingdom's aim to withdraw from the European Union (EU) in 2019 could erode extra-euro area demand for capital goods made by Germany's industrial sector. This would dampen German exports above and beyond the pure sales market effects, because the German economy exports capital goods on a large scale to both countries. However, this could be counteracted by a probable acceleration in the global investment cycle and the fact that the German economy is also gaining price competitiveness compared with its non-euro area trading partners.

4 For details of the medium-term outlook for potential growth in Germany, see Deutsche Bundesbank, Demographic change, immigration and the potential output of the German economy, Monthly Report, April 2017, pp 35-47.

Aggregate output and output gap

Price, seasonally and calendar-adjusted



Sources: Federal Statistical Office and Bundesbank calculations. 2017 to 2019 Bundesbank projections. **1** Deviation of GDP from estimated potential output.
Deutsche Bundesbank

Technical components of the GDP growth projection

% or percentage points

Item	2016	2017	2018	2019
Statistical carry-over at the end of the previous year[1]	0.5	0.5	0.8	0.6
Fourth-quarter rate[2]	1.8	2.2	1.6	1.6
Average annual GDP growth rate, calendar-adjusted	1.8	1.9	1.7	1.6
Calendar effect[3]	0.1	− 0.3	0.0	0.0
Average annual GDP growth rate[4]	1.9	1.6	1.7	1.5

Sources: Federal Statistical Office; 2017 to 2019 Bundesbank projections. **1** 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. **2** Annual rate of change in the fourth quarter, seasonally and calendar-adjusted. **3** As a percentage of GDP. **4** Discrepancies in the totals are due to rounding.
Deutsche Bundesbank

Manufacturing industry

Seasonally adjusted

Deutsche Bundesbank

DIHK survey

Balances of positive and negative assessments, monthly data, %

Deutsche Bundesbank

Turnaround in business investment

As a result of reinvigorated demand in the industrial sector, enterprises overcame their restrained propensity to invest and once again invested much more heavily in machinery and equipment at the start of the year. Industrial construction investment was also stepped up substantially. Since sales prospects are unabatedly healthy and financing terms have also remained exceptionally favourable, the upturn in business investment should persist in the coming quarters, and beyond. This is consistent with DIHK's survey of enterprises' investment plans, which were recently stepped up markedly. Over the course of the projection horizon, growing demand for industrial export goods and increasing aggregate capacity utilisation are likely to set the stage for more expansions of production capacity alongside replacement and modernisation projects.

Housing construction: high but slightly waning growth

The housing market is still faced with excess demand, despite the considerable expansion in the housing stock over the past few years. The expansionary underlying trend is being fuelled by households' favourable income situation and low financing costs. Added impetus is being provided by labour-market-oriented immigration, which is at an unabated high level, as well as the increasing population density in urban centres observed for some years now. In line with this, housing investment was increased significantly in the fourth quarter of 2016 and first quarter of 2017, while growth in the number of building permits subsided distinctly over the course of last year.[5] Looking at order intake in the main construction sector, which has been on a clear upward trajectory until recently, as well as the high stock of existing orders, housing investment is set to continue rising steeply in this year and the next. The particularly brisk pace of new construction at present will probably taper off gradually, however. Declining population figures in Ger-

5 The number of building permits may also have been inflated by frontloading in order to avoid the tightening of energy standards for new residential buildings from the start of 2016.

many and flagging immigration levels look set to have a dampening effect. What is more, the scarcity of available building land envisaged at this point, especially in urban centres, could become more of a factor in future, dampening the expansion of the housing supply considerably. In terms of housing investment as a whole, the waning momentum in new construction will be counteracted by a probable further increase in investment in the housing stock, perhaps in connection with renovation work to improve energy efficiency or to make accommodation more suitable for the elderly.

Considerable increase in government investment

Growth in government investment is likely to markedly outstrip GDP growth over the projection horizon. For one thing, central government itself is planning to raise expenditure on infrastructure.[6] It has also provided extensive funding for financially weak local governments. While usage of these funds has been sluggish to date, the amount of supported investment is likely to increase substantially as time goes by. Furthermore, the healthy budgetary situation and overall favourable outlook will probably lead to an increase in investment by many state and local governments.

Strong impetus from gross fixed capital formation

Overall, gross fixed capital formation this year and next year looks set to provide significantly stronger impetus for economic growth than it has on average over the past five years. Seen from the present perspective, this will also hold in 2019.

Underlying trend in private consumption on sound upward trajectory

While private consumption continued to grow in the fourth quarter of 2016 and the first quarter of 2017, it fell slightly short of the December projection's expectations. This is probably largely because energy prices rose considerably more sharply than had been assumed. The extraordinary economic upswing in the last

6 Higher defence spending is additionally planned. In contrast to the way they are classified in the federal budget, large military procurements are recorded as state investment in machinery and equipment in the national accounts and are booked at the time of delivery. This sometimes leads to marked deviations from the payment flow and strong fluctuations.

Key figures of the macroeconomic projection

Year-on-year percentage change, calendar-adjusted[1]

Item	2016	2017	2018
GDP (real)	1.8	1.9	1.7
GDP (real, unadjusted)	1.9	1.6	1.7
Components of real GDP			
Private consumption	1.9	1.4	1.5
Memo item Saving ratio	9.7	9.8	9.6
Government consumption	4.0	2.1	2.1
Gross fixed capital formation	2.0	3.1	3.2
Business investment[2]	1.1	2.6	3.3
Private investment in housing construction	3.8	3.0	2.8
Exports	2.5	4.4	3.7
Imports	3.7	4.8	4.8
Memo item Current account balance[3]	8.3	7.9	7.8
Contributions to GDP growth[4]			
Domestic final demand	2.2	1.8	1.9
Changes in inventories	− 0.1	0.0	0.0
Exports	1.2	2.0	1.8
Imports	− 1.4	− 1.8	− 1.9
Labour market			
Total number of hours worked[5]	1.0	1.1	0.8
Employed persons[5]	1.2	1.4	0.7
Unemployed persons[6]	2.7	2.5	2.4
Unemployment rate[7]	6.1	5.7	5.4
Wages and wage costs			
Negotiated pay rates[8]	2.1	2.2	2.7
Gross wages and salaries per employee	2.5	2.4	2.9
Compensation per employee	2.3	2.4	2.8
Real GDP per employed person	0.5	0.5	1.0
Unit labour costs[9]	1.8	1.8	1.8
Memo item GDP deflator	1.4	1.3	1.8
Consumer prices[10]	0.4	1.5	1.4
Excluding energy	1.1	1.4	1.6
Energy component	− 5.4	2.5	− 0.1
Excluding energy and food	1.1	1.3	1.7
Food component	1.3	2.1	1.0

Sources: Federal Statistical Office; Federal Employment Agency; 2017 and 2018 Bundesbank projections. 1 If calendar effects present. For unadjusted data see the table on p 25. 2 Private non-residential fixed capital formation. 3 As a percentage of nominal GDP. 4 In arithmetical terms, in percentage points. Discrepancies in the totals are due to rounding. 5 Domestic concept. 6 In millions of persons (Federal Employment Agency definition). 7 As a percentage of the civilian labour force. 8 Monthly basis (pursuant to the Bundesbank's negotiated wage index). 9 Ratio of domestic compensation per employee to real GDP per employed person. 10 Harmonised Index of Consumer Prices (HICP).

Deutsche Bundesbank

Underlying conditions

This projection is based on assumptions made by Eurosystem experts about the global economy, exchange rates, commodity prices and interest rates. The assumptions are based on information available as at 16 May 2017. 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 regard to fiscal policy, the projection incorporates all measures that have been adopted or that have been adequately specified and are likely to be implemented.

Global economy strengthened, world trade significantly improved

Although global economic growth eased slightly at the start of 2017, the established economic upswing basically looks set to continue, as anticipated in the December projection. In fact, the growth rate for the advanced economies (excluding the euro area) is now actually assumed to be slightly higher. The economic outlook for the United States, in particular, is rated more favourably. While economic growth was curbed by weak private consumption expenditure and a turnaround relating to changes in inventories in the first quarter of 2017, it is expected to pick up again over the remainder of the year. Furthermore, it is assumed that the US economy will benefit, especially in 2018 and 2019, from tax cuts and additional public spending on infrastructure.[1] In the United Kingdom, however, there are growing signs of waning momentum following the robust economic growth observed in the second half of 2016. Given the uncertainty regarding the terms of the country's exit from the European Union (EU), weaker economic growth can be expected over the next two years. That said, as things now stand, the slowdown in macroeconomic activity will probably be less pronounced than forecast in the December projection.

The pace of growth has recently stabilised in the emerging market economies. This was driven, in part, by the recovery of the commodity markets and the easing of pressures caused by adjustments in this sector. The downward trends in Russia and Brazil appear to have come to an end. The current rate of growth observed in the Asian emerging market economies is expected to remain steady. In this context, a gradual slowdown in China could be largely offset by more dynamic growth elsewhere. The growth rate for the emerging market economies is – similarly to what was indicated in the December projection – estimated to edge upwards over the coming years. All in all, the global economy (excluding the euro area and weighted by purchasing power parities) looks set to grow by 3½% this year following an increase of 3¼% in 2016. Growth rates are expected to hit 3¾% in both 2018 and 2019.

World trade expanded far more strongly in the period spanning the fourth quarter of 2016 and first quarter of 2017 than forecast in the previous projection. Although growth is expected to lose some momentum over the next few years, it is likely to be slightly

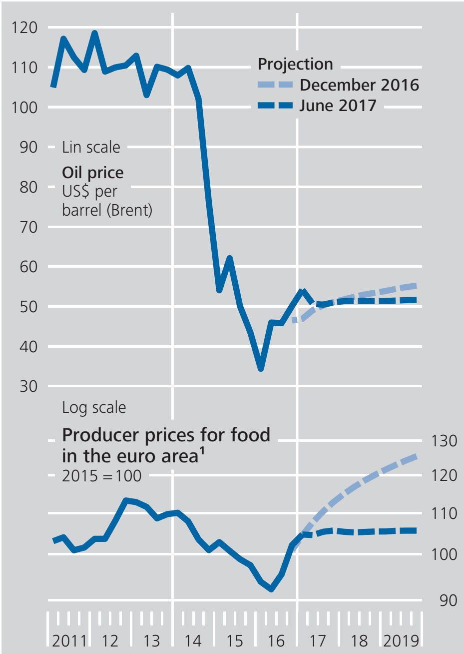
1 The assumed scope of these economic policy measures amounts to approximately 1% of US GDP. The blueprint for a sweeping tax reform, parts of which are vague, that was put forward by the US government at the end of April could signify substantially greater fiscal stimulus. However, budget cut proposals were also published in the latter half of May – and thus after the projection assumptions were made. See also Deutsche Bundesbank, The macroeconomic impact of tax reform plans in the United States, Monthly Report, May 2017, pp 12-13.

higher than indicated in the December projection. Following an increase of 4½% this year, it is assumed that growth rates for international trade (excluding the euro area) will reach 3¾% in 2018 and 4% in 2019.

Technical projection assumptions

Crude oil prices, which had risen to just under US$56 per barrel by December 2016 and hovered at this level for several months, subsequently dipped again slightly as oil production in the United States continued to pick up. This is counteracting the production cuts agreed by OPEC and several other oil-producing countries. The forward quotations from which these projection assumptions are derived indicate that crude oil prices will remain broadly unchanged over the projection horizon. Consequently, while the quotations on which this projection is based are, in both US dollar and euro terms, higher on average for 2017 than in the December projection, they will be slightly lower in 2018 and 2019. The assumptions about agricultural producer prices in the euro area likewise indicate no significant further increases over the projection horizon following the sharp rise on average this year. Due, above all, to a change in the methodology used in the underlying forecast models, which are now more strongly geared towards the forward quotations for international food commodity prices than previously, these assumptions were revised strongly downwards compared with the December projection, namely by 7%, 14% and 18% in 2017, 2018 and 2019, respectively.[2] Following a significant uptick in winter, the prices of other commodities tailed off recently; however, given the expected growth in the global economy, they should pick up once again over the course of this year and in the next two years.

Commodity prices



Sources: Bloomberg and ECB. 2017 Q2 to 2019 Q4 projection assumptions. **1** ECB calculations of DG AGRI prices based on the European Commission's farm gate and wholesale prices.
Deutsche Bundesbank

Major assumptions of the projection

Item	2016	2017	2018	2019
Exchange rates of the euro				
US dollar/euro	1.11	1.08	1.09	1.09
Effective[1]	110.4	110.0	110.3	110.3
Interest rates				
Three-month Euribor	− 0.3	− 0.3	− 0.2	0.0
Yield on government bonds outstanding[2]	0.1	0.4	0.7	0.9
Commodity prices				
Crude oil[3]	44.0	51.6	51.4	51.5
Other commodities[4, 5]	− 3.9	6.4	2.0	4.5
German exporters' sales markets[5, 6]	2.4	4.3	3.9	3.8

1 Compared with the currencies of the 38 most important trading partners of the euro area (EER-38 group of currencies); 1999 Q1 = 100. **2** Yield on German government bonds outstanding with a residual maturity of over nine and up to ten years. **3** US dollars per barrel of Brent crude oil. **4** In US dollars. **5** Year-on-year percentage change. **6** Working-day adjusted.
Deutsche Bundesbank

2 According to purely mechanical model calculations, the expected HICP rate in Germany will probably fall as a result – by 0.1 percentage point (pp) in 2017, just under 0.3 pp in 2018 and just short of 0.1 pp in 2019.

In line with the decision made by the ECB Governing Council in December 2016, the Eurosystem has, since April 2017, reduced the monthly volume of purchases under the expanded asset purchase programme to €60 billion. The purchases are scheduled to take place until the end of December 2017, or beyond, if necessary, and in any case until the ECB Governing Council sees a sustained adjustment in the path of euro area inflation consistent with its inflation target. Additionally, the ECB Governing Council reaffirmed its intention to keep policy rates at the current, or lower, levels for a prolonged period and far beyond the timeframe of the net purchases. The ongoing accommodative monetary policy stance has helped keep interest rates at a very low level since the December projection was finalised. However, the market expectations concerning future interest rates remain on a slightly upward trajectory, implying a slight trend increase in short-term interest rates and yields on nine to ten-year government bonds going forward. Their level over the projection horizon will remain low, at a rate similar to that assumed in the December projection. The same applies to interest rates on bank loans in Germany. According to the survey conducted by the Association of German Chambers of Commerce and Industry (DIHK) in early summer 2017, the percentage of enterprises that cite financing difficulties as a risk to economic development remains at a historically low level.

The euro exchange rate has been bolstered in recent months by a brighter outlook for the euro area economy as well as by various political events and economic policy decisions on both sides of the Atlantic.[3] As a result, the single currency regained the ground it lost to the US dollar in November and December 2016 and traded at US$1.09 in the period that is relevant for the derivation of exchange rate assumptions, which is the same exchange rate on which the December projection was based. Likewise, the exchange rate of the euro against the currencies of the euro area's 38 most important trading partners, ie the nominal effective rate, will deviate only marginally from the assumptions made at that time.

Brighter economic outlook for the euro area

As expected in the December projection, euro area economic growth picked up the pace in the period spanning the fourth quarter of 2016 and first quarter of 2017. Robust economic growth is set to continue – albeit at a slightly lower rate than at the start of the year – over the projection horizon. Against the backdrop of sustained employment gains, rising wage growth and increasing capacity utilisation, domestic demand will remain an important provider of stimulus. Exports are likely to move along a robust growth path in line with the sales markets.

In the light of the somewhat faster estimated pace of domestic activity expansion and the slight improvement in the external environment, expectations regarding GDP growth in the euro area (excluding Germany) were raised by around two-tenths to 1.9% this year and 1.8% next year in calendar-adjusted terms. Somewhat higher economic growth of around 1.7% is likewise expected in 2019. As a result, aggregate capacity utilisation in the euro area should be back to normal levels in 2019.

3 For more information, see also Deutsche Bundesbank, Financial markets, Monthly Report, May 2017, pp 39-47.

Expansionary fiscal policy measures

The fiscal policy measures taken into account for Germany will have an expansionary effect, particularly in 2017. For example, spending will be significantly stepped up over the projection horizon, not least on child day-care, education, transport infrastructure and the armed forces. The further reform of the public long-term care insurance scheme, which was implemented at the start of the year, will also generate additional expenditure. This will only be partially covered by the 0.2 percentage point increase in the contribution rate, meaning that the associated gap in funding is likely to rise slightly in the years to come. Benefits are also being expanded in the statutory health insurance scheme. Over the next few years, it is assumed that the health insurance institutions will slightly raise their additional contribution rates. Furthermore, it is anticipated that the altogether high reserves in the health system will be depleted somewhat. Turning to taxes, the incorporated legislative changes, particularly the higher tax allowances and shifts in negotiated rates of pay in the case of income tax in 2017 and 2018, will cause shortfalls; in terms of the tax and social contributions ratio, however, these will be broadly offset by additional revenue arising from overall progressive taxation.

two years caused by the plummeting oil prices and the attendant purchasing power gains is now probably over. However, private consumption remains on a sound upward trajectory. The basis for this is once again the very healthy state of the German labour market. While the current strong growth in employment is likely to gradually slow, this will probably be largely offset by the increase in households' disposable income resulting from higher wage increases. In addition, the saving rate could trend back downwards slightly. Overall, households are therefore likely to quite substantially step up their real consumption expenditure this year and next year, even with rising rates of inflation. In 2019, the expansion in private consumption could then weaken somewhat.

Government consumption continuing to be expansionary on balance

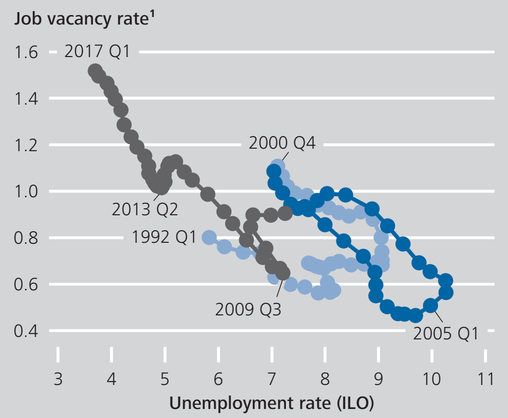
Government consumption rose sharply last year, largely on the back of additional expenditure on refugees in Germany. As the assistance still required in many cases is increasingly shifting to the second tier of unemployment benefit (unemployment benefit II) and related benefit payouts that are not recorded as government consumption, this will now have a slight dampening effect on the latter. However, in light of the good financial situation of central, state and local governments, over the projection horizon it is expected that other tangible goods purchases will rise markedly and personnel expenditure will steadily rise. Added to this is a further relatively sharp rise in expenditure for health and long-term care. Overall, real government consumption is therefore likely to grow faster than real GDP.

Strong rise in imports

Demand in the German economy for foreign products is expected to rise over the projection horizon. This is largely because exports and investment in machinery and equipment, which both require a high direct and indirect share of imported goods, are set to grow faster. Trading partners in euro area countries are likely to benefit disproportionately from the high German demand for foreign products on account

Beveridge curve

%



1 Number of reported, unsubsidised vacancies as a percentage of persons in the labour force.
Deutsche Bundesbank

of their improved price competitiveness. However, import activity from non-euro area countries is also likely to pick up slightly.

Slight fall in current account surplus

The current account surplus is expected to edge downwards over the projection horizon. This year, a fall in the surplus is expected primarily due to the change in relative prices. After four straight years of improving terms of trade on account of falling import prices, the higher crude oil prices, in particular, are portending a reversal in the relative terms of trade. In the years thereafter, by contrast, relative prices are expected to remain largely unchanged, based on assumptions about exchange rates and international commodity prices. Then, however, the real economic component will probably have a dampening effect on the surplus in light of robust domestic demand. As no substantial shifts in primary or secondary income are expected, the current account surplus could fall on balance from 8.3% of GDP in 2016 to just under 8% of GDP this year and decrease even further in the coming years.

Labour market

In seasonally adjusted terms, the labour market saw exceptionally strong employment growth and a distinct fall in unemployment in the fourth quarter of 2016 and the first quarter of 2017. With a seasonally-adjusted increase of 370,000 persons, employment rose significantly faster over the course of these six months than in comparable periods of recent years and thus also surpassed the expectations of the last projection.[7] At the same time, registered unemployment fell even more significantly than originally assumed. Unemployment among German nationals, in particular, fell very sharply. In addition, it appears that migrants from other EU countries were able to integrate themselves well into the labour market, as the number of unemployed persons with a non-German EU nationality remained largely stable. However, refugees are increasingly being recorded as seeking work, although the integration measures of the German Federal Office for Migration and Refugees (*Bundesamt für Migration und Flüchtlinge,* BAMF) and labour market policy measures of the Federal Employment Agency *(Bundesagentur für Arbeit)* are continuing to have a dampening effect on the number of persons officially registered as unemployed.

Very favourable labour market developments in 2016 Q4 and 2017 Q1 …

… and probably also in the remainder of the year

The very favourable labour market developments look set to continue in the coming months according to leading indicators. There is likely to be a strong rise in employment, whilst unemployment is expected to fall. On an annual average for 2017, 600,000 more people could be in employment than in the previous year. In the last 25 years, Germany has only witnessed higher increases in exceptional boom periods, namely before the turn of the millennium and in 2007. Unemployment is likely to continue to fall in the remainder of 2017, though slightly more slowly than in the last six months. On an annual average for 2017, the number of registered unemployed persons could prospectively be around 170,000 less than the previous year, with the unemployment rate falling to 5.7%.

7 It should be noted that the December projection was based on figures for the number of persons in work for the third quarter of 2016 that were under-reported and subsequently revised upwards sharply in March 2017.

Labour market getting tighter …

The demand for labour will remain on a significantly upward trajectory in the coming years. For demographic reasons, the labour supply – as measured in persons – will thus probably not be able to keep pace, despite sustained immigration and rising labour force participation.[8] Even at the moment, enterprises are frequently having difficulty filling positions with properly skilled staff. One reason for this is that the share of unemployed people with multiple placement difficulties is now relatively high. Furthermore, the ongoing integration of refugees into the labour market is a task that will take time.

… despite strong, albeit diminishing, immigration …

To date, the strong immigration from other EU countries, in particular, has contributed to mitigating the tightness in the labour market. Germany will likely remain a destination for labour-market-oriented immigration. At the same time, the reasons for emigration from EU countries in recent years – the introduction of the free movement of workers for eastern European countries, the pay gap between Germany and these countries, and the high unemployment in some southern European countries – are waning. In the years 2017 to 2019, annual net migration should therefore already begin to fall slightly, as already expected in the December projection, and amount to just over 1 million persons.

… and increasing labour force participation

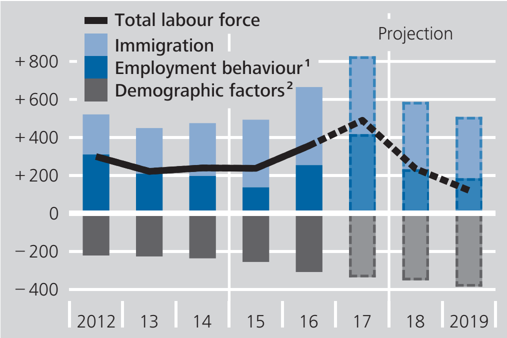
Aggregate labour force participation will continue to rise over the projection horizon. Age groups with lower-than-average employment will grow and age groups with the highest rate of employment will shrink. Nevertheless, labour force participation, above all among older persons, could rise further as a reaction to the tightening in the labour market. Furthermore, employment among refugees is likely to increase as they become more integrated.

Decline in unemployment now only slight

Under these conditions, the number of employed persons is likely to rise by just over 1% this year and probably by about half that amount next year. Due to the steeper rise in demand for labour, there is likely to be a reversal in the number of hours worked per employee, which fell in previous years and will probably fall again this year. This will likely happen, for example, via an extension of working hours among part-time employees, as well as increased overtime or the building up of positive balances on working time accounts. By contrast, the current high employment growth will lose considerable momentum. Unemployment could fall somewhat further, though it will be increasingly difficult. These tendencies are expected to persist in 2019.

Labour force

Year-on-year change, in thousands of persons



Sources: Federal Statistical Office and Bundesbank calculations. 2017 to 2019 Bundesbank projections. **1** Of domestic workers. **2** Contains the demographic effect on labour force participation of changes in the domestic labour force as well as changes resulting from shifts in the age structure of the domestic population.

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Labour costs and prices

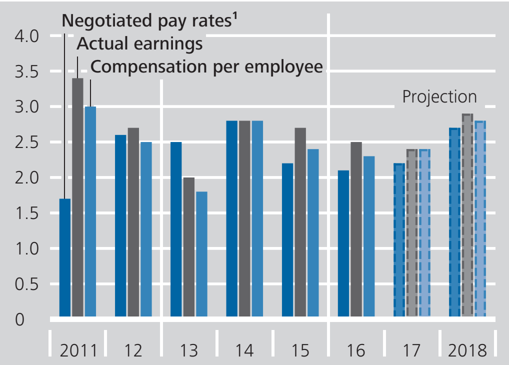
Negotiated pay rates up only moderately to begin with, but growth increasingly steeper from 2018

The rise in negotiated pay rates will be fairly moderate this year, as they were in 2016. A key reason for this is that, in light of the low inflation rate and the lacklustre global industrial activity at the time, quite a number of collective labour agreements in 2016 provided for low phased increases not only for 2016, but for 2017 as well. This year, the only currently outstanding negotiations are for some services sectors that in the past have had rather below-

8 See also Deutsche Bundesbank, Demographic change, immigration and the potential output of the German economy, Monthly Report, April 2017, pp 35-47.

Negotiated pay rates, actual earnings and compensation of employees

Year-on-year percentage change, monthly basis



Sources: Federal Statistical Office. 2017 to 2018 Bundesbank projections. **1** According to the Bundesbank's negotiated wage index.
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average wage dynamics.[9] Next year, by contrast, there will be a "major" pay round for numerous industry and services sectors. Against the backdrop of the sustained economic upswing, further tightening in the labour market and – in comparison to 2015 and 2016 – significantly higher inflation rates, the wage bargainers are likely to negotiate significantly higher rates. Pay rises in the public sector will probably also be higher, not least due to the favourable fiscal situation and growing payroll employment.

Wage drift remains positive

The increase in actual earnings is likely to exceed the rise in negotiated pay rates over the projection horizon, as was already the case in the previous two years. This positive wage drift reflects the favourable economic setting and the exceptionally good labour market situation and will manifest itself in higher bonus payments as well as compensation that increasingly exceeds collectively agreed rates. Added to this is the expected reversal in the number of hours worked per person in employment. The rise in the general minimum wage at the beginning of 2017 also had a positive impact, albeit only slight, on wage drift.[10]

Unit labour costs still showing rather strong growth

Average compensation per employee, a measure which additionally includes employers' social contributions, is forecast to pick up distinctly over the projection horizon, as are actual earnings. Since this will more or less coincide with the recovery in productivity gains (measured per employed person) to begin with, this year and next are likely to see unit labour costs surge at a similarly strong pace as in previous years. This growth might quicken a little more in 2019.

GDP deflator set to bounce back from lull, pointing to return of strong domestic inflation

Domestic price pressures, as measured by the GDP deflator, are expected to lag behind the increase in unit labour costs this year, just as they did in 2016. The resulting narrowing of profit margins in the aggregate economy can be put down to the exceedingly strong turnaround in imported goods prices. Judging by appearances, enterprises are not feeding the higher purchase prices in their entirety into their sales prices. Given the healthy state of the economy, however, there is a good chance that margins will stabilise again over the medium term. This would suggest that the increase in the GDP deflator is only being dampened temporarily and that it will bounce back more clearly as early as next year. As things stand today, domestic price pressures, as measured by the GDP deflator, look set to intensify further in 2019.

Energy main reason why consumer price inflation was stronger than projected in 2016 Q4/ 2017 Q1

Consumer price inflation confounded expectations by rising at a far stronger pace than expected in the fourth quarter of 2016 and the first quarter of 2017. The Bundesbank's December forecast had predicted annual HICP (Harmonised Index of Consumer Prices) inflation of 1.4% for the first quarter of 2017 and of 1.6% for April; the outturn was 1.9% and 2.0%, respectively. This outcome can mainly be put down to the surprisingly steep rise in crude oil prices, which turned out to be a little stronger still in euro terms due to the dip in the value

9 All past pay agreements included in the Bundesbank's negotiated pay rate statistics are taken into consideration in the projections of negotiated wage increases and extrapolated beyond their contractual term, taking into account the overall economic situation and industry-specific features.
10 The next rise in the general minimum wage will not probably be until 2019.

of the single currency. Another factor was food prices, which rose unexpectedly strongly on account of the unfavourable weather conditions in some parts of Europe. And then there was mid-February's increase in the minimum tax rate for tobacco products, a move which had been announced in January. Prices of industrial goods excluding energy likewise rose slightly faster than projected, most likely because the euro exchange rate was lower than expected in the first three months of the year. Similarly, rents climbed by slightly more than had been projected in December. Prices for other services, on the other hand, fell short of expectations, reflecting the unexpectedly distinct reduction in co-payments by insured persons introduced by January's reform of the long-term care scheme.

Growth in "core" inflation gradually gaining pace, …

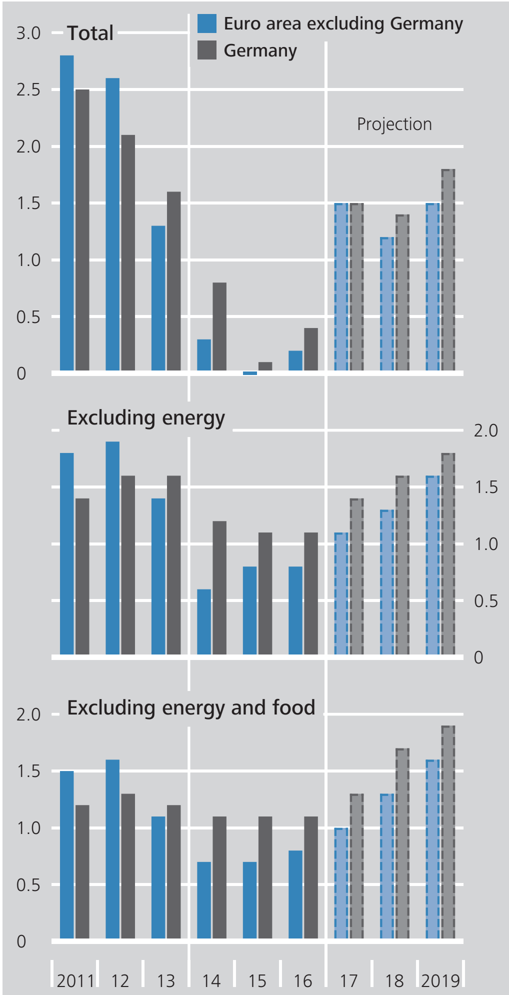
Given the upbeat state of the economy, the inflation rate excluding energy and food is expected to pick up gradually, rising from last year's 1.1% to 1.3% this year, and on to 1.7% and 1.9% in 2018 and 2019, respectively. This forecast is based on a number of assumptions, one of which is that labour costs will generate robust domestic price pressures which will mainly make themselves felt in services prices. Another is that, with import prices picking up again, particularly for a number of industrial goods, enterprises will hardly want to continue raising their prices at a moderate rate – a move which would, after all, be tantamount to accepting a further erosion of their margins. Furthermore, rents are expected to maintain the slightly higher rate of growth observed of late amid the ongoing boom in the housing market. Lastly, travel to other European countries – an item which, at just over 2%, makes up quite a substantial share of the HICP basket of goods – could make another clearly positive contribution to the services inflation rate on the back of brisker demand and the ongoing economic recovery in the countries visited.

… but masked by dwindling energy and food price inflation

While core inflation is expected to chart an upward trajectory, energy and food price inflation will probably taper off considerably next year.

Price projection (HVPI)

Year-on-year percentage change



Sources: Federal Statistical Office, Eurostat and Bundesbank calculations. 2017 to 2019 Bundesbank projections (for Germany) and calculations based on Eurosystem projections (for the euro area excluding Germany).
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The contribution of the energy component to headline inflation, which was very negative in the past three years, should be positive this year, and perceptibly so. Moreover, supply shortages, which were mainly evident in the first three months of the year, should result in food price inflation being somewhat stronger than it was in 2016. The contribution of the energy component will probably be slightly negative next year since the crude oil price could well be down on its level at the beginning of 2017. This will be offset to a degree by further hikes in electricity prices against a backdrop of substantially rising grid charges. Since the projection assumes that commodity prices

Revisions since the December 2016 projection

Year-on-year percentage change

Item	2017	2018	2019
GDP (real, calendar-adjusted)			
Projection from June 2017	1.9	1.7	1.6
Projection from December 2016	1.8	1.6	1.5
Difference in percentage points	0.1	0.1	0.1
Harmonised Index of Consumer Prices			
Projection from June 2017	1.5	1.4	1.8
Projection from December 2016	1.4	1.7	1.9
Difference in percentage points	0.1	− 0.3	− 0.1

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will stop adding to the cost pressure on food prices – a view which departs from the assumption made most recently in the December forecast[11] – it is likely that food price inflation will likewise be considerably lower next year. Headline HICP inflation is likely to be depressed somewhat by the "volatile" components in 2019 as well. All told, consumer prices might well rise by 1.5% this year, followed by rates of 1.4% in 2018 and 1.8% in 2019.

Public finances

Public finances still recording a surplus

As things stand today, general government will record another surplus, one which could roughly come to ¾% of GDP annually over the entire projection horizon (2016: +0.8% of GDP). Public finances are continuing to reap the benefits of the vibrant economy and dwindling interest expenditure. Disregarding these factors, however, a downturn (in the cyclically adjusted primary balance) is to be expected this year in particular, but also in 2018. This ultimately originates from an expansionary spending stance.[12] However, there is particular uncertainty surrounding the period following Germany's general elections in autumn, with talk in the air of new measures that will eat into the fiscal position and thus make the fiscal stance more expansionary still.[13] After this forecast was finalised, Germany's Federal Constitutional Court ruled that the nuclear fuel tax was unconstitutional. The resulting one-off impact on government finances during the current year is expected to come to roughly 0.2% of GDP and could not be incorporated into this forecast.[14]

Firm growth in revenue, but primary expenditure up stronger still

A closer look at this year and 2018 reveals no great changes in the revenue ratio. The tax and social contributions ratio might increase a little, given the prospect of continued dynamic growth in revenue from profit-related taxes in 2017, if the very buoyant start to the year is anything to go by. The progression effects[15] of the income tax scheme will be partly compensated for by the modest cuts in income tax rates, but the contribution rate to the long-term care insurance scheme was raised yet again at the beginning of the year. On the other hand, other revenue is climbing at a relatively slow pace, not least given the Bundesbank's lower-than-expected profit in the current year. Primary expenditure (spending net of interest costs) is projected to increase at a relatively strong pace, mainly on the back of the expansion of benefits under the long-term care and health insurance schemes and another relatively strong upturn in pension spending this year. Plus, there are plans to boost the out-

11 Owing to a change in the methodology used in the models to derive the technical assumptions jointly defined in the Eurosystem for food commodity prices, the expectation now is for inflation to follow an almost entirely flat path rather than a sharply inclined one; see box, pp 16-19.
12 See p 19 for additional information on the measures included.
13 In addition, there is a risk to public finances in connection with the remaining state government guarantees issued for HSH Nordbank (roughly €8 billion). The global setting is another source of uncertainty.
14 The Court decision published on 7 June 2017 declared the legislation null and void with retroactive effect on the grounds that the Federal Government lacked the legislative competence to enact it. The revenue accrued by the Federal Government budget from the nuclear fuel tax, which expired at the end of 2016, came to almost €6½ billion, which must now be reimbursed to the enterprises with interest, though taxes on income will then be accrued. In the national accounts, refunds made on account of court decisions are recorded as capital transfers (ie as an expense) at the time of the ruling.
15 Defined here as the estimated rise in the income tax ratio caused by progression effects brought about by average income growth (including real growth).

lay on child day-care, education, transport infrastructure and the armed forces.

Expansionary stance predominant at all levels of government; social security funds benefiting from favourable labour market

All in all, all levels of government might run slightly lower budget surpluses, if anything, this year and next. This is not least a reflection of the significant surges in spending mentioned earlier, which carry more weight than the savings on interest costs. As regards the social security funds, the already rather high surpluses might even edge a little higher overall. The Federal Employment Agency, in particular, is benefiting from the favourable wage and labour market developments brought about in part by the vibrant economy. The other areas of the social security system are likewise seeing relatively strong growth in spending and a clear upturn in contribution receipts, the latter effect even being amplified in some cases by the higher rates.

Debt ratio remains on downward path

As things currently stand, the debt ratio will remain on its downward trend (end-2016: 68.3%) and might even fall back below the 60% mark in 2019, something that was last observed in 2002. The growth in nominal GDP in the numerator is the main reason for the decline in this ratio. In addition, all levels of government are running fiscal surpluses. What is more, the ongoing resolution of the government-owned bad banks is accelerating this decline, though developments here have been rather volatile in the past.

Risk assessment

Baseline scenario risks

This projection sets out the most likely scenario from today's perspective for economic growth and the inflation rate under the given assumptions. Yet there are a multitude of risks and uncertainties which could cause developments to turn out differently than described here. All in all, the risks to economic growth and price developments alike appear to be broadly balanced.

Key figures of the macroeconomic projection – non-calendar adjusted

Year-on-year percentage change

Item	2016	2017	2018
GDP (real)	1.9	1.6	1.7
GDP (real, calendar-adjusted)	1.8	1.9	1.7
Components of real GDP			
Private consumption	2.1	1.2	1.5
Memo item Saving ratio	9.7	9.8	9.7
Government consumption	4.0	2.1	2.1
Gross fixed capital formation	2.2	2.4	3.1
Business investment[1]	1.3	1.9	3.2
Private investment in housing construction	4.1	2.2	2.7
Exports	2.7	3.7	3.6
Imports	3.8	4.4	4.7
Memo item Current account balance[2]	8.5	7.9	7.8
Contributions to GDP growth[3]			
Domestic final demand	2.4	1.5	1.9
Changes in inventories	− 0.2	0.1	0.1
Exports	1.2	1.7	1.7
Imports	− 1.5	− 1.7	− 1.9
Labour market			
Total number of hours worked[4]	0.9	0.7	0.8
Employed persons[4]	1.2	1.4	0.7
Unemployed persons[5]	2.7	2.5	2.4
Unemployment rate[6]	6.1	5.7	5.4
Wages and wage costs			
Negotiated pay rates[7]	2.1	2.2	2.7
Gross wages and salaries per employee	2.5	2.4	2.9
Compensation per employee	2.3	2.4	2.8
Real GDP per employed person	0.6	0.2	1.0
Unit labour costs[8]	1.7	2.1	1.8
Memo item GDP deflator	1.4	1.3	1.8
Consumer prices[9]	0.4	1.5	1.4
Excluding energy	1.1	1.4	1.6
Energy component	− 5.4	2.5	− 0.1
Excluding energy and food	1.1	1.3	1.7
Food component	1.3	2.1	1.0

Sources: Federal Statistical Office; Federal Employment Agency; 2017 and 2018 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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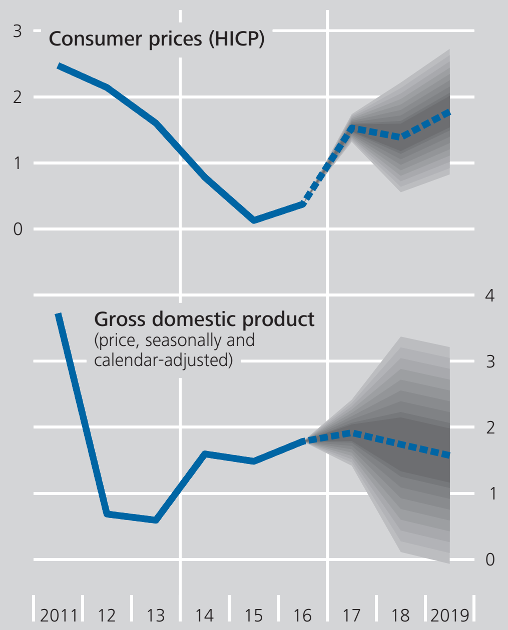
Baseline and uncertainty margins of the projection*

Annual data, year-on-year percentage change



Sources: Federal Statistical Office and Bundesbank calculations. 2017 to 2019 Bundesbank projections. * Uncertainty margins calculated on the basis of the empirical forecast errors. The width of the band distributed symmetrically around the most probable value equals double the mean absolute forecast error.

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No clear path for oil price risk

Future developments in commodity prices will be a crucial factor, not least for the projected path of consumer prices. As regards crude oil prices, neither upside nor downside risk seems to have clearly gained the upper hand at present. On the one hand, there would appear to be sufficient discipline within the OPEC cartel to prevent the oil price from going into free fall. On the another, the untapped production capacities in the US shale gas industry will probably keep a steady increase in oil prices in check.

Externalities for economic growth tilted to the downside

For economic growth in particular, the baseline underpinning this projection very much depends on the recent upturn in global trade being a lasting phenomenon which persists – even at a moderate pace – across the entire projection horizon. That assumption could well be counteracted by an increase in protectionist tendencies, which would hurt the global sales prospects of German exporters and probably crimp domestic investment activity as well. Downside risk would also materialise if the process of normalising monetary policy in the United States led to a disorderly tightening of funding conditions in vulnerable emerging market economies and thus had negative repercussions for the world economy.

Upside opportunities predominate domestically

Turning to the domestic economy, the opportunities would appear to outweigh the risks from today's perspective. The exceptionally upbeat sentiment at the current juncture – notably in manufacturing – could cause growth to shift up yet another gear in the short run. For instance, it would be conceivable for the imminent uptick in business investment to gain additional traction if, say, industrial exporters, emboldened by the firming global industrial activity, now decide to reactivate a larger number of the investment projects they had put on ice in the past due to uncertain sales prospects. That would add a stronger self-sustaining element to the upswing. However, lessons from the recent past suggest that it is wise to exercise a degree of caution. Residential construction might also expand at a stronger pace, and fiscal policy could provide additional impetus as well. The favourable prospects for public finances are one notable reason why there is talk of cuts in taxes and social security contributions, and of spending being increased at a faster pace, after the German general elections in autumn.

Price projection likewise coloured by downside risk from international setting and upside risk from domestic factors

As for the price projection, other than the implications of the risks associated with commodity prices and economic activity, there are a number of other uncertainties to consider. For one thing, import prices might turn out to be lower than assumed, and international competitive pressure could depress domestic margins and wage growth. On the other hand, there is also the possibility that, with shortages mounting in the labour market, wages could increase more strongly than assumed here. Moreover, the baseline scenario of economic expansion in Germany towards the end of the projection horizon would have been intact for an unusually long period of time. In a situation like this – one characterised by a lengthy spell of heavy overutilisation – it is certainly conceivable that enterprises will not just stabilise their profit margins but widen them significantly and that prices will rise more strongly than assumed here.