Outlook for the German economy – macroeconomic projections for 2018 and 2019 and an outlook for 2020

The economic boom in Germany is likely to persist over the projection horizon. The already high level of capacity utilisation is increasing, although economic expansion is unlikely to be quite as strong as a year earlier. Growth in exports and business investment will be less strong. In addition, the rising shortage of skilled workers is increasingly dampening employment growth. Despite significantly stronger wage dynamics, this is acting to brake the rise in households' disposable incomes, which reduces the underlying momentum of private consumption. By contrast, aggregate demand overall will be supported by expansionary fiscal measures, particularly in the coming year. All in all, the projection paints a picture of an ongoing economic boom, in which increasing supply-side bottlenecks are reflected in strong wage growth and in higher domestic inflation. This higher inflation will, however, initially be reflected mainly in the booming construction industry and will only gradually translate into rising core inflation at the consumer level.

In this scenario, calendar-adjusted real gross domestic product (GDP) could grow by 2.0% this year, 1.9% next year and 1.6% in 2020. Aggregate capacity utilisation, already well above normal levels last year, would therefore rise distinctly more. The rate of inflation as measured by the Harmonised Index of Consumer Prices (HICP) is likely to rise marginally to 1.8% in the current year, and then to remain roughly unchanged in the following years. The fact that energy prices are forecast to lose a lot of their momentum and finally even to sink will mask stronger inflation for other goods and services. Excluding energy and food, the rate of price increase is likely to pick up from 1.4% in the current year to 1.7% in 2019 and to 2.0% in 2020.

Public finances continue to benefit from the economic upturn and from falling interest expenditure. The measures taken by Germany's new government had, for the most part, not been sufficiently well specified when these projections went to press and are therefore taken into account only marginally. In the baseline scenario, the general government surplus thus rises to around 1½% of GDP in 2020.

Compared with the December 2017 projection, distinctly lower economic growth is now expected for 2018, whereas slightly higher growth is anticipated for 2019 and 2020. The inflation forecast for 2018 was raised slightly, while that for 2020 was lowered a little, mainly because of the changed outlook for energy prices. Uncertainties regarding the short and medium-term prospects for the German economy have increased considerably. In terms of economic growth, downside risks relating to the external environment outweigh the upside risks resulting from the probably more expansionary fiscal policy in Germany. As regards the inflation rate, risks are viewed as being balanced overall.

Economic outlook[1]

Previously strong economic growth weakened distinctly in the final quarter of 2017 and first quarter of 2018

In the final quarter of 2017 and first quarter of 2018, economic growth in Germany weakened distinctly from its previously rapid pace. In this period, real GDP rose by a total of 0.9% after seasonal and calendar adjustment. It thus fell well short of the expectations expressed in the December projection.[2] That was partly the result of negative one-off effects in the first quarter of 2018 – such as exceptionally high sickness levels and a marked decline in government consumption. Overall, however, the underlying cyclical trend probably normalised somewhat earlier than had been expected in December and has moved to a pace of growth that is only slightly above potential growth. The stimulus to growth that the manufacturing industry had provided in the previous quarters on the back of very strong exports came to a fairly abrupt halt with the new year. Business investment was nonetheless expanded considerably in the previous two quarters due to the high capacity utilisation, and housing investment also recently picked up again.

In the second and third quarters of 2018, GDP growth will probably slightly exceed potential growth

The no longer quite so high pace of economic growth is likely to continue in the second and third quarters. The short-term prospects are comparatively uncertain, however. Leading economic indicators provide a mixed picture overall, and it is difficult to gauge the influence of the dampening one-off factors in the first quarter and the size of potential rebound effects in the second quarter. In recent months, there has been a broad-based deterioration in business sentiment, but it still remains well above its long-term average. This should be seen, in part, as something of a normalisation following the previous record highs. The less optimistic sentiment, however, probably also reflects growing concern about the potential negative consequences of increasing protectionism, heightened geopolitical tensions and greater political uncertainty in some euro area countries. In addition, industrial new orders have declined distinctly from the high level they reached at the end of 2017. However, the order backlog, which continued to rise until March, points to ongoing robust demand in manufacturing, and short-term export expectations and production plans, too, were markedly above average as this report went to press. On the supply side, there has been a marked increase in enterprises' complaints of labour shortages. Overall, manufacturing should resume its cyclical upward movement following the period of weakness in the first quarter of 2018, albeit with significantly less momentum than a year earlier. This, in combination with the high utilisation of industrial tangible fixed assets, is likely to cause enterprises to further increase their investment. Buoyed by the good labour market developments, strong wage growth and unabated good consumer sentiment among households, private consumption is also likely to improve considerably. The retarding effect of lost purchasing power as a result of significantly higher crude oil prices is unlikely to have much of an impact.

Business situation and expectations

2015 = 100, seasonally and calendar adjusted, log scale

Source: ifo Institute. **1** For the next six months.
Deutsche Bundesbank

Over the course of the projection horizon, cyclical momentum is likely to slow somewhat fur-

1 This projection for Germany was completed on 31 May 2018. It was incorporated into the projection for the euro area published by the ECB on 14 June 2018.
2 See Deutsche Bundesbank, Outlook for the German economy – macroeconomic projections for 2018 and 2019 and an outlook for 2020, Monthly Report, December 2017, pp 15-34.

In the medium-term, underlying cyclical trend likely to slow somewhat further

ther in trend terms, although this will, in 2019, probably be temporarily masked by additional demand as a result of an expansionary fiscal policy. The decisive factor on the supply side is the increasing shortage of labour, which is making it more and more difficult for industry to grow faster than potential output. On the demand side, exports are rising distinctly more slowly than last year. In the short term, the recent decline in export expectations and in foreign industrial orders suggests muted growth. In the medium term, relevant factors are that growth in German exporters' sales markets is likely to gradually ease off throughout the projection horizon and that German enterprises are, moreover, likely to lose market shares abroad. This will mean less lively growth in business investment over time. Overall, domestic demand is likely to gradually lose momentum – interrupted by the fiscal stimulus next year. Households' disposable incomes will rise more slowly as the considerable slowdown in employment growth as a result of labour shortages will be only partially offset even by significantly higher wage growth. This is likely to curb the increase in private consumption. Private housing investment is also likely to rise only moderately over the next few years, as capacities can be expanded only gradually in the construction sector, which is operating at full capacity.

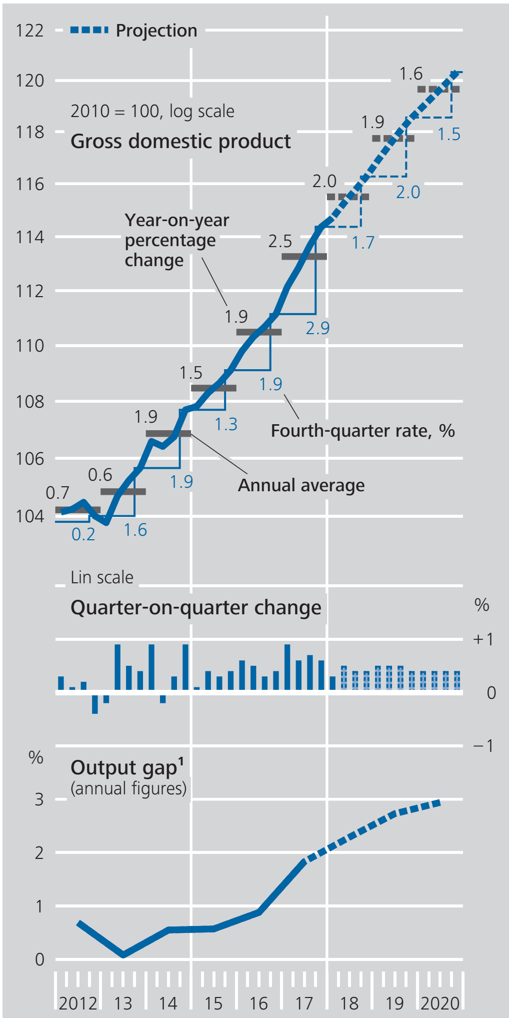
Economy likely to grow perceptibly more slowly in 2018 than anticipated in December 2017, thereafter slightly more strongly

Overall, the scenario is thus of an economy in a persistent and still strengthening economic boom. After an increase of 2.0% this year, calendar-adjusted real GDP is likely to rise at an only slightly weaker pace of 1.9% in 2019. In 2020, the pace of growth could moderate further to 1.6%.[3] Distinctly lower GDP growth is thus anticipated for the current year than had been projected back in December 2017. This reflects the fact that growth in the final quarter of 2017 and first quarter of 2018 was much lower than had been anticipated. However,

3 Without adjusting for calendar effects, the growth rate for 2020 will be considerably higher, at 2.0%, as the year has more working days than 2019. Such calendar effects have no impact in the current and next year, however.

Aggregate output and output gap

Price, seasonally and calendar adjusted



Sources: Federal Statistical Office and Bundesbank calculations. 2018 to 2020 Bundesbank projections. **1** Deviation of GDP from estimated potential output.
Deutsche Bundesbank

Technical components of the GDP growth projection

% or percentage points

Item	2017	2018	2019	2020
Statistical carry-over at the end of the previous year[1]	0.6	1.0	0.7	0.7
Fourth-quarter rate[2]	2.9	1.7	2.0	1.5
Average annual GDP growth rate, calendar adjusted	2.5	2.0	1.9	1.6
Calendar effect[3]	− 0.3	0.0	0.0	0.4
Average annual GDP growth rate[4]	2.2	2.0	1.9	2.0

Sources: Federal Statistical Office; 2018 to 2020 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

Revisions since the December 2017 projection

Year-on-year percentage change

Item	2018	2019	2020
GDP (real, calendar adjusted)			
Projection from June 2018	2.0	1.9	1.6
Projection from December 2017	2.5	1.7	1.5
Difference in percentage points	– 0.5	0.2	0.1
Harmonised Index of Consumer Prices			
Projection from June 2018	1.8	1.7	1.8
Projection from December 2017	1.6	1.7	1.9
Difference in percentage points	0.2	0.0	– 0.1

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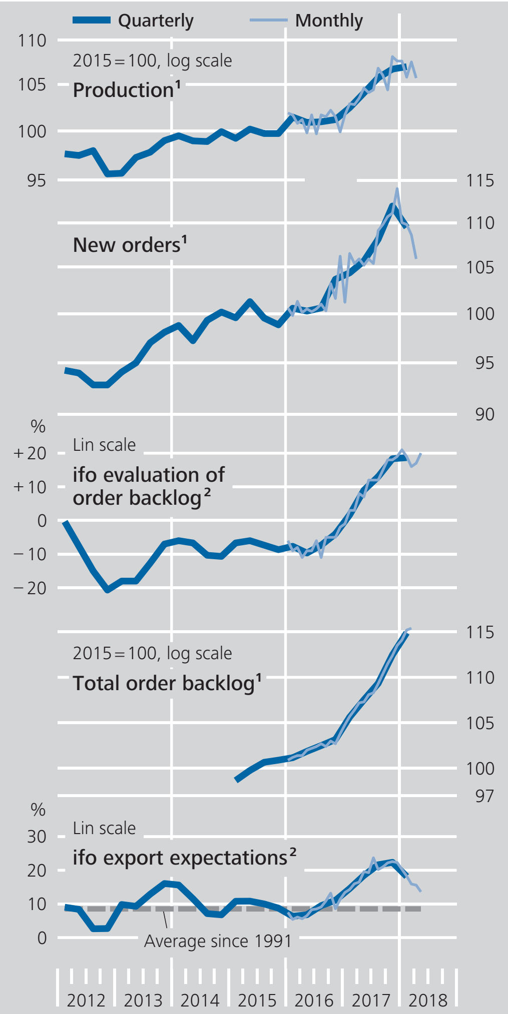
Manufacturing sector

Seasonally and calendar adjusted



1 Source of the unadjusted figures: Federal Statistical Office. **2** Source: ifo Institute, balance of positive and negative business survey responses.

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slightly higher economic growth is being forecast for 2019, in particular, which can be explained, not least, by the expansionary fiscal measures which have now been factored into the projections.

Aggregate capacity utilisation, already well above normal levels, set to rise further

According to this projection, growth of the German economy will be consistently higher than production potential, whose rate of increase is estimated at 1.5% for both the current year and 2019 and forecast to be slightly lower, at 1.4%, in 2020, as demographics mean that the labour supply will not rise much more. Aggregate capacity utilisation, already well above normal levels last year, will therefore continue to rise distinctly over the horizon of the projection. In 2020, the output gap could almost reach the level it achieved at the peak of the last economic cycle in 2007.

Exports less lively than in 2017

The already sharp upward movement in German exports continued at an exceptionally fast pace in the final quarter of 2017. However, it halted abruptly with the new year, and exports even suffered a considerable decline in the first quarter of this year. Exports are likely to expand markedly again over the projection horizon. Growth rates are, however, likely to be more muted than last year and fall short of the growth rates in German exporters' sales markets (see the section on the international environment on page 17). This is at least suggested in the short term by the recently distinctly less optimistic export expectations of manufacturing enterprises and the decline in new industrial orders from abroad. It is also implied by the potential lagged effects of the earlier appreciation of the euro. Going forward, the circumstance that German exports are heavily concentrated on capital goods and therefore likely to suffer from the continued shift in demand from investment to private consumption in China is likely to be a factor, amongst other things. Exports to the euro area countries could be depressed by declining price competitiveness. This is mainly because unit labour costs in Germany are rising faster than in other euro area countries.

Underlying conditions for macroeconomic projections

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 22 May 2018. The assumptions regarding economic activity in the euro area are derived from projections made by the national central banks of the euro area countries.[1] With regard to fiscal policy, the projection incorporates all measures which have been adopted or which have already been sufficiently specified and are likely to be implemented.

Global economy continues to expand at robust pace, world trade buoyant

The global economy grew broadly in line with the December projection's expectations in the final quarter of 2017 and the first quarter of 2018. Following a slowdown in the pace of expansion at the beginning of this year, probably in part owing to special factors, advanced economies (excluding the euro area) are expected to show slightly higher growth again in the remainder of 2018. Over the course of the projection horizon, growth is likely to slow somewhat, however. Against the backdrop of the tax cuts passed by the US Congress at the end of 2017[2] as well as the spending hikes decided upon in February and adopted for the current and next fiscal year, distinctly higher GDP growth rates are expected in the United States for 2018 and 2019 than had been assumed in the December projection.

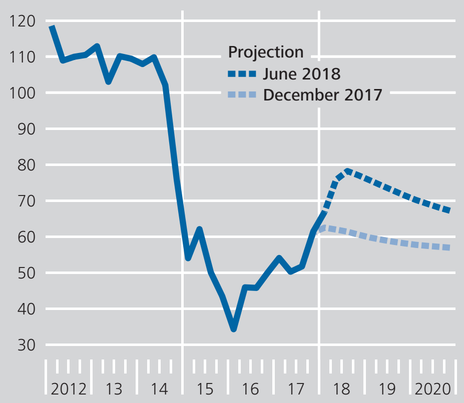
The emerging market economies will probably largely maintain the current pace of growth over the projection horizon. A gradual deceleration in growth in China is being partly offset by developments in other east Asian countries and commodity exporters profiting from higher commodity prices. All in all, the global economy (excluding the euro area and weighted by purchasing power parities) looks set to grow by 4% this year and next. A growth rate of 3¾% is expected in 2020.

In line with global economic activity, world trade is expected to wane slightly over the projection horizon. Following a rise of 5% this year, international trade (excluding the euro area) is expected to increase by 4½% next year and 4% in 2020. German export markets have a comparable growth profile with similar rates. Global trade growth is now consistently deemed to be somewhat stronger than in the December projection, not least in light of the higher than expected pace of growth in the last quarter of 2017. However, the latest available data underlying this projection show that a number of countries and economic areas were still temporarily exempted from the new tariffs the US government imposed on steel and aluminium imports in March. Taken in isolation, the customs obligations which have since been extended, amongst others, to the EU are hardly likely to impact economic activity in Germany. However, alongside the announcement of further protectionist measures, they have raised the risk of additional trade barriers, with negative effects on the growth of world trade and the global economy.[3] As for the United Kingdom's withdrawal from the EU, the current status of negotiations implies that no trade barriers will be introduced before the end of 2020.

1 The projections made by the national central banks of the euro area countries were completed on 31 May 2018.
2 See Deutsche Bundesbank, The potential macroeconomic impact of US tax reform, Monthly Report, February 2018, pp 14-16.
3 See Deutsche Bundesbank, The danger posed to the global economy by protectionist tendencies, Monthly Report, July 2017, pp 77-91.

Oil price

US$ per barrel Brent, quarterly data



Sources: Bloomberg and ECB projections.
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Major assumptions of the projection

Item	2017	2018	2019	2020
Exchange rates of the euro				
US dollar/euro	1.13	1.20	1.18	1.18
Effective[1]	112.0	116.9	116.8	116.8
Interest rates				
Three-month Euribor	− 0.3	− 0.3	− 0.2	0.2
Yield on government bonds outstanding[2]	0.3	0.6	0.8	1.0
Commodity prices				
Crude oil[3]	54.4	74.5	73.5	68.7
Other commodities[4, 5]	7.9	9.3	2.5	4.1
German exporters' sales markets[5, 6]	5.3	4.8	4.4	3.9

1 Compared with 38 currencies of major 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

Technical assumptions of the projection

With robust demand persisting, supply-side factors, in particular, led to a significant rise in crude oil prices compared with last autumn. Against the backdrop of continued OPEC production restrictions, key factors in this respect were the heightened political conflicts in the Middle East, the uncertain political situation and the fall in output in Venezuela, and US sanctions against Iran adopted at the beginning of May. By contrast, it had been expected in the December projection that prices would remain roughly unchanged. Given the level now reached, the forward quotations from which the assumptions for the projection horizon are derived provide an even greater indication of a decline in crude oil prices than the previous projection. In the annual average growth rates, this is particularly clear in 2020. Following their significant rise at the beginning of this year, the prices of other commodities on a US dollar basis are set to increase moderately in line with global economic growth up until 2020.

Given the Eurosystem's ongoing expansionary monetary policy stance, expectations concerning future interest rate movements have barely changed since the conclusion of the December projection.[4] Similar to the technical interest rate assumptions for the Euribor and the yield on long-term German government bonds, which are derived from market expectations, the bank lending rates are also likely to show only a slight upward movement from a very low level. The results of the economic survey conducted by the German Chamber of Industry and Commerce (DIHK) in the early summer of 2018 show that the percentage of enterprises citing financing difficulties as a risk to economic development remains at a historically low level.

The favourable outlook for economic growth in the euro area led to a clear appreciation of the euro against the US dollar up to mid-February. In the following months, the exchange rate only showed minor fluctuation around this higher level before the shift in expectations concerning the future interest rate development in the United States and the surprisingly weak

4 See Deutsche Bundesbank, Monetary policy and banking business, Monthly Report, May 2018, pp 20-36.

economic data for the euro area contributed to a depreciation of the single currency in the first half of May.[5] In the period[6] used for deriving the exchange rate assumptions, the euro traded at US$1.18 on average, which was more or less the same as the level assumed in the December projection. Compared with the currencies of 38 major trading partners of the euro area, there was a minor appreciation of 1¼% on average.

Pace of growth slows down in euro area

Following the rapid expansion last year, economic growth in the euro area slowed down slightly more significantly at the beginning of the year than expected. This probably owed something to special factors, although it is assumed that the economic expansion will now continue at a somewhat slower, but still robust, pace above the growth rate of potential output. Domestic demand benefits from significant wage growth and further employment gains. The labour supply is having an increasingly constraining effect in some countries. Given rising capacity utilisation, investment is likely to continue to increase, albeit at slightly declining rates. Following the slight decline at the start of the year, exports are expected to show significant growth again over the projection horizon. Compared with the December projection, the expectations regarding GDP growth in the euro area (excluding Germany) were lowered slightly by one-tenth in each case to rates of 2.1% this year, 1.9% in the coming year and 1.7% for 2020.

New fiscal plans only taken into account to a minor extent

The fiscal stance in Germany is moderately expansionary in the projection. However, only a small part of the extensive plans set out in the coalition agreement of the new German government are taken into account here, as they have not yet, for the most part, been specified in enough detail (and in some cases are not planned until 2021). It is primarily agreed changes to social contributions at the beginning of next year that are taken into consideration. For statutory health insurance these are the return to equal financing and lower minimum contributions for self-employed persons, and for unemployment insurance a reduction of the contribution rate from 3.0% to 2.7%. On the revenue side, this is accompanied, as anticipated in the projection last autumn, by smaller cuts to income-related taxes and the slight decline in the contribution rate to the statutory pension insurance scheme from 18.7% to 18.6% at the beginning of the current year. According to this projection, the contribution rate to the statutory pension insurance scheme will be reduced by an additional 0.1 percentage point in 2019, so as to prevent the upper limit for the reserves from once again being exceeded significantly at the end of 2019.[7] Furthermore, the health insurance institutions are expected to lower their (respective) supplementary contribution rates on average. By contrast, the financial burdens of the last reform of long-term care necessitate, according to the reserves rule, raising the contribution rate for public long-term care by 0.1 percentage point in 2020. On the expenditure side, it is assumed, as last autumn, that central, state and local governments are taking a moderately expansionary stance.

5 For more information, see also Deutsche Bundesbank, Financial markets, Monthly Report, May 2018, pp 37-45.
6 The time period covers two weeks up to 22 May 2018.
7 This would become redundant with the planned increase in pension benefits (mothers' pensions, in particular). The associated burdens are not taken into consideration here, however.

Stress indicators for the construction sector

1 Not seasonally adjusted. **2** Percentage of firms reporting that their output is being hampered by a labour shortage. Seasonally adjusted. Source: ifo Institute. **3** Seasonally and calendar adjusted. Source of the unadjusted figures: ifo Institute.

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Upswing in business investment continuing

Given increasing aggregate capacity utilisation, enterprises continued to up investment in the final quarter of 2017 and first three months of 2018. The upswing in business investment should continue over the projection horizon. This is suggested by the increasing capacity overutilisation in the economy as a whole and the fact that financing terms remain favourable despite a slight uptick in interest rates. Nonetheless, the increase in business investment is likely to gradually slow, as foreign demand for German export goods will tend to grow at a slightly slower pace. As compared to earlier boom periods, enterprises' propensity to invest is likely to remain comparatively muted.[4]

Housing investment to continue to rise moderately from a high level

Housing investment rose moderately in the last three months of 2017 and first three months of 2018. Although the weather conditions were fairly favourable overall in a long-term comparison, growth was only marginally higher than anticipated in the December projection. This, in association with the concomitant sharp acceleration in construction prices, suggests that capacity in the construction industry, where utilisation levels are already high, cannot be expanded quite as rapidly as previously expected. The fact that the number of new dwellings completed in 2017 was only slightly higher than in 2016 although the number of building permits issued had previously risen sharply fits into this picture. Activity in new housing construction is likely largely to remain at existing levels over the projection horizon. Although the favourable outlook for the labour market and household incomes suggests that demand for housing will continue to rise, the unfavourable demographic trends within Germany and the assumption that labour market-oriented immigration is likely to be less dynamic are acting to dampen the formation of new households. Mortgage lending rates remain very low. However, they have trended upwards since the beginning of 2017, and this development will continue in the years to come, according to the projection assumptions. The headwinds from rising interest rates should remain manageable, however. Unlike new housing, investment in existing buildings is likely to continue to rise considerably, not least as a result of the requirements in the context of energy-saving measures and to render properties more suitable for elderly residents. In terms of real housing investment overall, moderate growth rates are therefore likely, while prices for construction work should continue to rise very sharply.

Government investment set to continue expanding significantly

Government investment is set to continue expanding significantly over the projection horizon. It is plausible that additional funds will be earmarked, in particular, for transport infrastructure, child day-care and schools, and suffi-

4 This is because there are still production reserves abroad, which are likely to tend to brake investment in capacity expansion in Germany, but structural factors in connection with the unfavourable demographic prospects in Germany also have a role to play. For further information, see also Deutsche Bundesbank, Outlook for the German economy – macroeconomic projections for 2018 and 2019 and an outlook for 2020, Monthly Report, December 2017, p 18, and Deutsche Bundesbank, A reference value for business investment in Germany, Monthly Report, April 2017, pp 44-46.

cient budget funds are available. From this perspective, it is also conceivable that investment could pick up to an even greater extent. With respect to limited administrative and construction capacities, however, the real expansion assumed here already appears fairly high.

Gross fixed capital formation will experience strong but declining growth stimulus

All in all, real gross fixed capital formation will experience strong but – given the slowdown in business investment growth over time – declining growth stimulus in the current and coming year. As things currently stand, this will also hold in 2020.

Private consumption influenced by labour market and reduced social contributions

Following a lull in the second half of 2017, there was a renewed surge in private consumption in early 2018. As the year goes on, it is likely that private consumption, bolstered by the continued excellent conditions on the labour market and the strong wage increases stemming from the latest wage agreements, will maintain its role as a major growth driver. That said, the annual average growth rate will still be curbed by the stagnation felt in the second half of 2017. At the start of next year, the assumed changes in social contributions will give an additional boost to households' disposable income, and thus to consumer spending, despite the likelihood that some of the gains in purchasing power will initially be saved. A return to full joint financing of the statutory health insurance scheme will take pressure off employees. Furthermore, it is assumed here that the contribution rates to the unemployment and statutory pension insurance schemes will be cut at the same time.[5] However, the underlying growth in real disposable income is likely to tail off markedly over the course of the projection horizon, as the supply-driven slowdown in the pace of employment growth will be only partly offset by higher real wage increases. Seen from the present perspective, growth in private consumption could therefore be considerably weaker in 2020.

5 The assumed changes in social contributions will lead to a rise in labour costs in net terms. Given the growing level of labour market tightness, this will probably dampen the wage increase only marginally.

Key figures of the macroeconomic projection

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

Item	2017	2018	2019
GDP (real)	2.5	2.0	1.9
GDP (real, unadjusted)	2.2	2.0	1.9
Components of real GDP			
Private consumption	2.0	1.4	2.1
Memo item Saving ratio	9.9	10.1	10.3
Government consumption	1.5	1.8	1.9
Gross fixed capital formation	4.0	3.5	3.1
Business investment[2]	4.1	4.0	3.6
Private investment in housing construction	3.6	2.5	1.7
Exports	5.3	3.4	4.0
Imports	5.6	3.6	5.1
Memo item Current account balance[3]	8.1	7.9	7.6
Contributions to GDP growth[4]			
Domestic final demand	2.2	1.8	2.1
Changes in inventories	0.1	0.0	0.0
Exports	2.4	1.6	1.9
Imports	– 2.2	– 1.4	– 2.1
Labour market			
Total number of hours worked[5]	1.7	1.2	1.0
Employed persons[5]	1.5	1.3	0.9
Unemployed persons[6]	2.5	2.3	2.1
Unemployment rate[7]	5.7	5.2	4.8
Memo item ILO unemployment rate[8]	3.8	3.3	3.0
Wages and wage costs			
Negotiated pay rates[9]	2.1	2.9	2.9
Gross wages and salaries per employee	2.7	3.1	3.3
Compensation per employee	2.6	2.9	3.4
Real GDP per employed person	1.0	0.7	1.0
Unit labour costs[10]	1.5	2.2	2.3
Memo item GDP deflator	1.5	1.8	2.1
Consumer prices[11]	1.7	1.8	1.7
Excluding energy	1.6	1.5	1.6
Energy component	3.1	4.2	2.0
Excluding energy and food	1.3	1.4	1.7
Food component	2.7	2.1	1.5

Sources: Federal Statistical Office; Federal Employment Agency; Eurostat; 2018 and 2019 Bundesbank projections. **1** If calendar effects present. For unadjusted data see the table on p 28. **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** Internationally standardised per ILO definition, Eurostat differentiation. **9** Monthly basis (pursuant to the Bundesbank's negotiated wage index). **10** Ratio of domestic compensation per employee to real GDP per employed person. **11** Harmonised Index of Consumer Prices (HICP).

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Government consumption will increase significantly

Significant increases in government consumption are expected over the projection horizon, with all key sub-segments – tangible good purchases, personnel expenditure, and healthcare and long-term care benefits – playing a role.

Import growth reflects changes in main demand components

Import growth is, on average for 2018, likely to come under significant strain owing to a large drop in the first quarter. The stronger growth anticipated in 2019 reflects the projected changes in the main components of demand. Of particular importance in this regard are not only exports but also investment in machinery and equipment, as they each include an above-average level of imports. Private consumption, too, plays an important role on account of its high weight. All in all, imports will be bolstered by the fact that the German economy will, in the years to come, too, assume a growing role in the international division of labour, meaning that the import shares of all demand components will probably increase. The high demand for imports should, above all, stand exporters from other euro area countries in good stead, as they will become more price competitive than their competitors in non-euro area countries.

High current account surplus will continue to edge downwards

The high current account surplus in Germany is expected to further contract over the projection horizon. The key factor here is the trade balance, as it is assumed that the balance of primary and secondary income will not change appreciably. This year, the decline will be driven by once again considerably less favourable terms of trade in the wake of the oil price hike. By contrast, real foreign trade will initially exert a certain level of upward pressure despite markedly dampened export growth. It is only from next year on that real imports will increase at a distinctly faster pace than real exports, which will play a part in reducing the balance to a certain extent. The current account balance could therefore fall from 8.1% of GDP in 2017 to 7.6% of GDP in 2019.

Labour market

Improvement in already highly favourable labour market conditions in 2017 Q4 and 2018 Q1, …

Labour market conditions continued to improve significantly over the course of the final quarter of 2017 and the first quarter of 2018. Employment rose very sharply over the past six months (factoring out seasonal effects), with just under 330,000 additional workforce members. Growth was therefore slightly higher than anticipated in the December projection, and registered unemployment fell to a greater extent than expected.

… and probably over further course of the year, too

Labour market developments look set to remain highly favourable as the year progresses. Leading indicators suggest that employment will rise considerably in the months to come, although the pace of growth is likely to dip. Even so, the increase in the number of persons in employment on an annual average in 2018 is expected to be only slightly down on the year. Registered unemployment is likely to continue falling in line with the positive underlying cyclical trend.

Increasing level of labour market tightness

In view of the excellent state of the economy, labour demand will continue to rise considerably over the projection horizon. The limiting factor for the labour market is, to an increasing extent, the supply of persons wishing to engage in gainful employment. There have been growing signs of skilled labour shortages in recent years. According to Federal Employment Agency figures, the time it takes for enterprises to fill a vacancy has risen by more than 30 days since early 2014 to an average of around three-and-a-half months. In shortage occupations such as care of the elderly, it can take as long as around six months. As underemployment fell and the number of unfilled vacancies increased, 2.1 unemployed persons in arithmetical terms applied for each vacancy in the first quarter of 2018. Four years ago, this figure stood at 3.6

unemployed persons.[6] The number of persons who stated that they were working part-time involuntarily owing to a lack of full-time positions has also fallen sharply in recent years.

High labour force participation rate in Germany can rise only so far

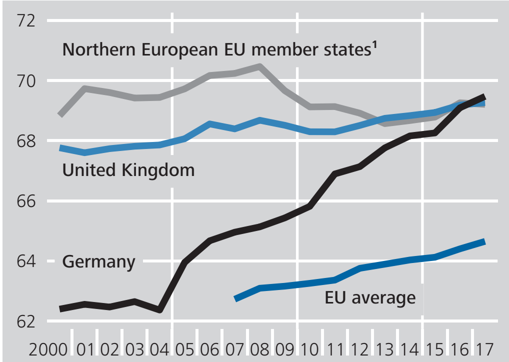
It is assumed that this trend will intensify over the next few years. Offsetting the impact of the decreasing size of the working-age population due to demographic change by bringing additional domestic workers into the labour force or by means of immigration will become increasingly ineffective.[7] The labour force participation rate has risen considerably since 2004 and is now already one of the highest in the EU. It will therefore probably be all but impossible to achieve similarly high growth over the next few years. This is further underscored by the fact that the age structure of the working-age population is shifting towards age groups with low participation rates. The greatest potential still lies with the oldest age groups. As a result, and buoyed by the rising statutory retirement age, the sharpest assumed rise in the projection will be among over-60-year-olds. Added to this is the ongoing integration into the labour market of those persons who have immigrated to Germany in recent years. Female participation in the labour force is already above the EU average. That said, it is still set to edge slightly further upwards. However, the hours worked by women in Germany are rather low compared with the hours worked by women in other EU countries. As part of the projection, it is therefore assumed that, as skilled labour shortages grow, working time autonomy increases and the childcare infrastructure is expanded further, the average working hours per employee will rise slightly.

High level of immigration will dwindle slightly in coming years

Net immigration is likely to play a dwindling role in the years to come. Contrary to the expectations outlined in the December projection, the data available so far show that, in net terms, the number of immigrants in 2017 was barely short of the 2016 figure. While refugee movements diminished even further in importance, the number of migrants from other EU countries, particularly from central and eastern

Labour force participation in Germany compared with other European countries

As a percentage of the population aged 15-74



Source: Eurostat data based on Labour Force Surveys. **1** Unweighted average of the series for Denmark, Finland and Sweden.

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Europe, rose temporarily. Factors such as the United Kingdom's decision to withdraw from the EU, amongst other things, could have played a role here. However, underlying trends such as rising labour income in eastern Europe and greater employment opportunities in southern Europe will further reduce the migration flows expected over the next few years. It is thus assumed in the projection that the net immigration balance of 500,000 persons in 2017 will gradually shrink to 350,000 persons by 2020. Net immigration of 1.2 million persons in cumulative terms is assumed for the period from 2018 to 2020, which is markedly up on the figure in the December 2017 projection.

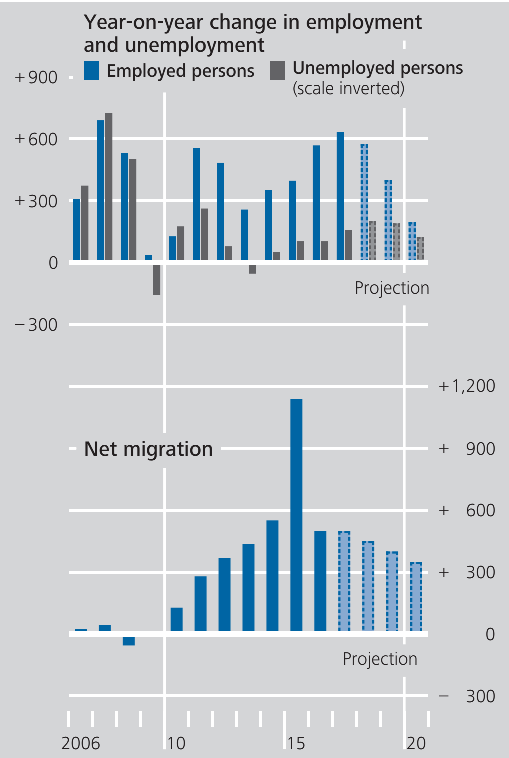
Slower employment growth amid further decline in unemployment

All in all, as the time horizon increases in length, the expansion of the labour force lessens. Annual growth compared with 2017 will have halved by 2019, and it will have plummeted even further by 2020. The persistently high demand for labour will lift many out of unemploy-

6 Measured by the ratio of registered unemployed persons to the number of vacancies as determined by the Institute for Employment Research (IAB) Job Vacancy Survey. Although the indicator provides general information regarding the degree of labour market tension, it can only give an approximate reflection of mismatches between vacancy requirements and unemployed persons' qualifications.
7 See also Deutsche Bundesbank, Demographic change, immigration and the potential output of the German economy, Monthly Report, April 2017, pp 35-47.

Employment and migration

Thousands



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ment. With phases of unemployment that are shorter on average, human capital losses will tend to be avoided, which will increase employment opportunities and reduce structural unemployment. The unemployment rate could also therefore fall markedly below 5% on an annual average in 2019. All the same, owing to supply reasons, fewer new positions will be filled from one year to the next. The scarcer labour supply is likely to significantly inhibit employment growth in 2019, and even more so in 2020.

Labour costs and prices

Negotiated pay rates will rise fairly sharply

Negotiated pay rates will probably increase far more this year than in previous years.[8] In view of the considerable increase in domestic labour market tightness, favourable economic activity and higher short-run inflation expectations than in previous years, the wage agreements that have been concluded by management and labour thus far in 2018 for major sectors such as the metal-working and electrical engineering industries, the central and local government public sector and construction contain markedly higher wage rises than the previous pay round.[9] Staff shortages will continue to grow in 2019 and 2020, with the result that future wage agreements are likely to be even higher. However, the wage agreements that were recently concluded contained high wage increases at the start of the agreements' fairly long terms, with increases at later points in time that are often significantly lower. As a result, negotiated pay rates in 2019 as a whole and probably in 2020 as well are not – given their rise by an average of just under 3% in each year – likely to increase more sharply than in the current year.[10]

Actual earnings will rise even more sharply

Actual earnings are likely to increase even more sharply than negotiated rates of pay over the projection horizon. The anticipated rise in working hours, compensation components that increasingly exceed collectively agreed rates and performance-based bonuses will all contribute to a positive wage drift. However, this is likely to be smaller this year than in 2017 as tight labour market conditions were latterly reflected more strongly in the recently agreed higher negotiated pay rate increases. In the years to come, however, the wage drift could rise again if the negotiated pay rate increase remains the same on an annual average and skilled labour shortages increase. Furthermore,

8 Factors that contributed – some with a lagged effect – to the subdued rise in previous years are lower rates of increase in productivity and consumer price growth and the increase in the labour supply as a result of high net immigration from other EU countries. For more information, see Deutsche Bundesbank, Wage growth in Germany: assessment and determinants of recent developments, Monthly Report, April 2018, pp 13-27.
9 For information on the latest wage agreements, see Deutsche Bundesbank, Economic conditions in Germany, Monthly Report, May 2018, pp 53-57.
10 All past pay agreements included in the Bundesbank's negotiated pay rate statistics (around 500 collective wage agreements and regulations on civil servant pay) are factored into the projections of negotiated wage increases and extrapolated beyond their contractual term, taking into account the overall economic situation and industry-specific features.

the expected increase in the statutory general minimum wage in 2019[11] is expected to exert upward pressure on wages in pay grades that are not captured in the negotiated pay rate statistics and thus increase wage drift.[12]

Stronger wage growth and higher employer contributions will cause consistent, sharp rises in unit labour costs

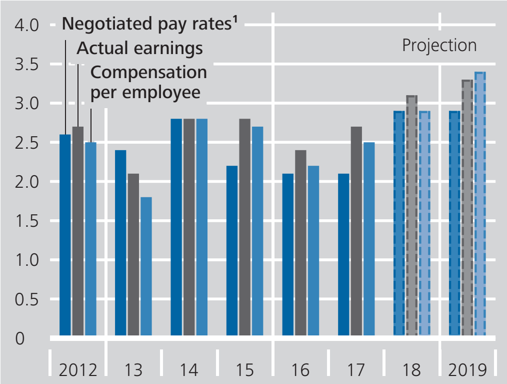
With respect to employee compensation which, in addition to gross wages and salaries, also covers employers' social contributions, the slight cut in the contribution rate to the statutory pension insurance scheme will bring with it relief in the current year. Next year, however, the return to full joint financing of the statutory health insurance scheme will push labour costs markedly upwards, though it may be assumed that this will be mitigated slightly by lower contribution rates to the unemployment and statutory pension insurance schemes. In combination with labour productivity, which, following the slow start to the year, will probably grow to a lesser extent this year than last year before picking up the pace again next year in line with favourable economic conditions, this means that the rise in unit labour costs will be substantial across the entire projection horizon and is likely to be higher than, say, the average of the past five years.

Domestic price pressures as measured by the GDP deflator rise considerably

The rise in unit labour costs and the changes in aggregate profit margins together determine domestic price pressures as measured by the GDP deflator. The margins will initially narrow, as enterprises – apart from the booming construction sector – will unlikely be able to fully pass on their more sharply rising labour costs to their sales prices in a timely manner, especially while import prices are increasing considerably at the same time. In light of the good economic activity, however, it can be assumed that the higher costs will be passed on with a certain time lag, so that profit margins will have a chance to recover by the end of the projection horizon. Growth in the GDP deflator, which stood at 1.5% in the previous year, is likely to increase fairly evenly to 2.1% next year and experience further marked growth at the end of the projection horizon. In this context, the substantial domestic inflation was reflected

Negotiated pay rates, actual earnings and compensation of employees

Year-on-year percentage change, monthly basis



Sources: Federal Statistical Office. 2018 to 2019 Bundesbank projections. **1** According to the Bundesbank's negotiated wage index.
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particularly in the construction sector, which is distinctly ahead of the overall economy in its cyclical position.

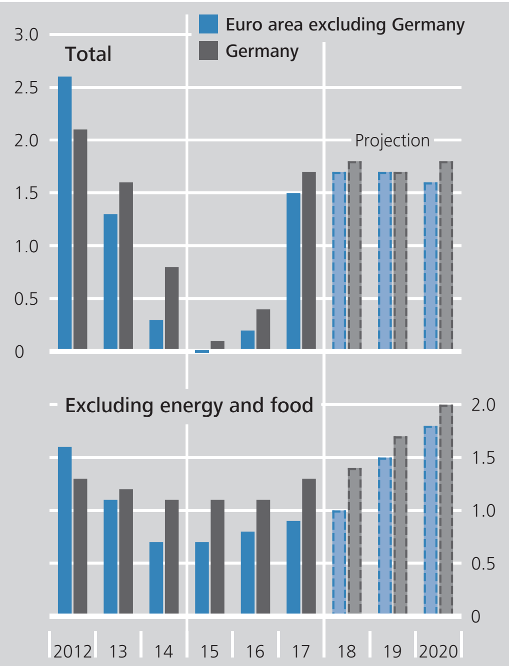
Surprisingly sharp increase in energy prices recently, but rise in core rate weaker than expected

At the consumer level, prices recently rose more sharply than expected in the December projection. Overall, annual inflation in the HICP stood at 2.2% in May, which was considerably higher than had been estimated in December. Contrary to assumptions, energy prices did not fall, but increased markedly in line with the higher prices of crude oil. A role was also played by the fact that food prices rose somewhat more sharply than expected. The rate excluding energy and food (core rate), by contrast, was lower than projected, as the prices for a large proportion of goods and services only saw moderate growth. Lagged effects of the earlier appreciation of the euro are likely to have contributed to this. Furthermore, this could indicate that the pressures on the labour market and in the economy as a whole may be reflected in consumer prices to a slightly lesser extent and/or later than was projected in December.

11 Pursuant to statutory provisions, the independent Minimum Wage Commission will submit a recommendation to the Federal Government by the end of June 2018 for an increase in the general minimum wage as of January 2019.
12 In 2018 and 2020, when the general minimum wage will not be raised, a certain countermovement is expected.

Price projection (HICP)*

Year-on-year percentage change



Sources: Federal Statistical Office, Eurostat and Bundesbank calculations. 2018 to 2020 Bundesbank projections (for Germany) and calculations based on Eurosystem projections (for the euro area excluding Germany). * Based on the Harmonised Index of Consumer Prices.

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Core rate should rise significantly over the forecast period …

In 2018, the core rate is likely to be only marginally higher than in the previous year due to the subdued increase in the prices of services and industrial goods (excluding energy) of late. As of next year, the rising wages and higher import costs should be reflected in the core rate to a greater degree, especially as the price-dampening impact of the euro appreciation will no longer be felt. However, it must be assumed that there will be a time lag in enterprises passing on the surge in wage costs, which are due to higher employers' social contributions, to consumers in the coming year. For this reason, it is likely that the resulting price pressures will develop more strongly only later in the projection horizon. Overall, the rate excluding energy and food could climb from 1.3% in the previous year to 1.4% in the current year, and to 1.7% in 2019. In 2020, the core rate could reach 2% if the cyclical situation remains exceptionally good.[13]

… and the contribution of energy prices should turn negative

The quite substantial rise in food prices of late is likely to experience a distinct slowdown by next year. Lower price dynamics amongst agricultural products in the euro area will initially continue to counteract the higher wage growth. As soon as this peters out during the course of the projection horizon, food prices could rise more sharply again. Energy prices will probably increase again markedly this year due to the steep rise in crude oil prices, and the appreciation of the euro compared with the previous year will only provide a limited counterbalance. Based on assumptions, crude oil prices will indeed fall in the following two years, though it is likely that consumer prices for energy will continue to rise initially despite this. Alongside lagged effects of the earlier increase in the price of crude oil, distinctly higher electricity prices will also be a contributing factor. Consumer prices for energy could potentially experience a slight drop by 2020 at the earliest.

Headline rate remains fairly stable at 1¾%

Overall, the HICP rate could be slightly higher than in the previous year at 1.8% due to the continuing steep increases in energy prices in 2018. Over the course of the projection horizon, two opposing trends are apparent. While the contribution of energy decreases, the core rate rises significantly. In this context, the effects of the falling contribution of energy will be predominant in 2019, resulting in the headline rate experiencing a slight, temporary drop to 1.7%. However, the impact of the increasing core rate will then be felt in 2020, and the headline rate will rise.

Public finances

General government surpluses will continue to grow over the course of this projection. Public

13 It is assumed that the infrastructure levy will be collected from 2020. Despite the relief in motor vehicle tax on residents, which will have a compensatory effect, this will slightly increase the core rate. The HICP is based on the domestic concept, which means that domestic expenditure by non-residents is included in the basket of goods and is taken into account when measuring inflation.

Government budgets have growing surpluses, but more substantial easing likely

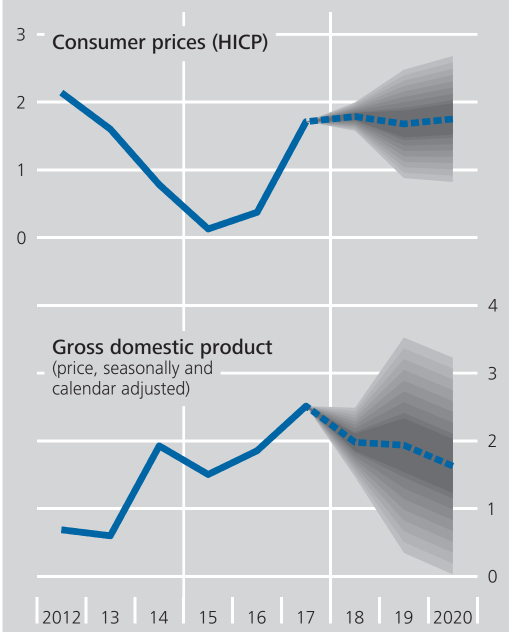
finances are benefitting from favourable economic activity, falling interest expenditure, and the end of temporary expenses.[14] These positive effects stand in contrast to a moderately expansionary fiscal stance, which is reflected by a deterioration of the structural primary balance[15] in the current year and a somewhat greater deterioration in the coming year. Overall, the general government surplus will therefore grow slightly in the current year (2017: +1.2% of GDP). Next year, the surplus will remain more or less unchanged and, in 2020, will again see a slight rise to 1½% of GDP. In this context, however, the new Federal Government's fiscal policy proposals have only been taken into account to a limited extent (see page 19), as many measures had not yet been specified in sufficient detail at the time the projections were finalised. Moreover, given the favourable financial positions at all levels of government, it can be expected that the financial easing will go beyond the measures that have now been covered by the decisions on the federal budget. Not least, the Federal Government has announced its intention to make use of any other financial leeway as long as a balanced budget is achieved. Overall, it is likely that the fiscal policy stance will therefore be considerably more expansionary and the surpluses will be lower. If an additional fiscal easing compared with the baseline of this projection were to reach around 1% of GDP in 2020, the general government surpluses would sink below 1% of GDP and no major surpluses would remain in structural terms.

Significant growth in revenue, but structural primary expenditure also rises dynamically

In the baseline, revenues are developing largely in parallel to nominal GDP, and therefore dynamically, in the current year. In the coming year, they will be dampened slightly by a reduction in the contribution rate to unemployment insurance in particular. In this period, expenditure will be curbed by the continuing fall in interest expenditure, and the temporary expenses will come to an end. These factors obscure the fairly considerable increase in structural primary expenditure.[16] Even without the additional burdens in social expenditure that have been proposed but not yet taken into account, significant rises in pensions and healthcare expenditure in particular can thus be expected. In addition, in light of the large surpluses, stronger growth in expenditure in areas such as childcare, education, transport infrastructure, domestic security, and defence at the central, state and local government levels has already been factored into the baseline. The slight improvement in the fiscal balance in 2020 reflects, above all, the continuing positive cyclical effects on revenues combined with a renewed, marginal fall in interest burdens.

Baseline and uncertainty margins of the projection*

Annual data, year-on-year percentage change



Sources: Federal Statistical Office and Bundesbank calculations. 2018 to 2020 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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14 The repayment of nuclear fuel tax was a one-off burden on public finances in 2017. Furthermore, guarantee payments for HSH Nordbank were reflected in the budget in the past two years as well as in the current year.
15 Fiscal balance plus interest expenditure (primary balance) less the temporary effects mentioned above, and cyclical effects.
16 Expenditure excluding interest payments, the temporary effects mentioned above, and cyclical effects.

Key figures of the macroeconomic projection – non-calendar adjusted

Year-on-year percentage change

Item	2017	2018	2019
GDP (real)	2.2	2.0	1.9
GDP (real, calendar adjusted)	2.5	2.0	1.9
Components of real GDP			
Private consumption	1.8	1.4	2.0
Memo item Saving ratio	9.9	10.2	10.4
Government consumption	1.5	1.8	1.9
Gross fixed capital formation	3.3	3.5	3.1
Business investment[1]	3.4	3.9	3.6
Private investment in housing construction	2.8	2.5	1.6
Exports	4.6	3.3	4.0
Imports	5.2	3.5	5.1
Memo item Current account balance[2]	8.0	7.9	7.5
Contributions to GDP growth[3]			
Domestic final demand	1.9	1.8	2.1
Changes in inventories	0.2	0.0	0.0
Exports	2.1	1.5	1.9
Imports	− 2.0	− 1.4	− 2.1
Labour market			
Total number of hours worked[4]	1.3	1.1	1.0
Employed persons[4]	1.5	1.3	0.9
Unemployed persons[5]	2.5	2.3	2.1
Unemployment rate[6]	5.7	5.2	4.8
Memo item ILO unemployment rate[7]	3.8	3.3	3.0
Wages and wage costs			
Negotiated pay rates[8]	2.1	2.9	2.9
Gross wages and salaries per employee	2.7	3.1	3.3
Compensation per employee	2.6	2.9	3.4
Real GDP per employed person	0.8	0.7	1.0
Unit labour costs[9]	1.8	2.2	2.4
Memo item GDP deflator	1.5	1.8	2.1
Consumer prices[10]	1.7	1.8	1.7
Excluding energy	1.6	1.5	1.6
Energy component	3.1	4.2	2.0
Excluding energy and food	1.3	1.4	1.7
Food component	2.7	2.1	1.5

Sources: Federal Statistical Office; Federal Employment Agency; Eurostat; 2018 and 2019 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** Internationally standardised per ILO definition, Eurostat differentiation. **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).

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Debt ratio remains on downward path

The debt ratio is likely to continue at a brisk pace on its downward path (end-2017: 64.1%) and should fall below the 60% threshold in 2019 at the latest, even in the event of significant fiscal easing. The considerable nominal GDP growth in the ratio's denominator is a key contributor to this. Furthermore, it is likely that the portfolios of government-owned "bad banks" will continue to be dismantled, though this may be eclipsed by one-off effects at times.

Risk assessment

External downward risks for economic growth prevail …

The projection presented here describes the most probable scenario for economic growth and the inflation rate as seen from the present perspective under the assumptions given. However, a multitude of factors may cause actual economic developments to turn out differently than described here. Since December 2017, the uncertainties regarding the outlook for the German economy have grown substantially. With regard to economic growth, the short-term prospects are already relatively difficult to estimate at the current juncture due to inconsistent signals from various economic indicators. In particular, GDP could also see weaker growth than anticipated in the second and third quarters. On the whole, external downward risks to economic activity are now predominant over the medium term, too. In this vein, the most recent discussion on trade started by the United States has again led to an increased risk of growing protectionism worldwide. An escalating global trade dispute or widespread rises in import tariffs would have a marked negative impact on Germany's export-oriented economy. This would also be the case, albeit to a lesser extent, if the United Kingdom were to withdraw from the European Union without a transitional phase or a free trade agreement, as this would indeed be accompanied by the direct introduction of customs barriers and non-tariff trade restrictions. Other downward risks to the world economy are a sudden tightening of global financing terms, which would hit vulnerable emerging market economies particularly hard, as well as heightening geopolitical tensions in the Middle East. Furthermore, political factors could rekindle the sovereign debt crisis in some euro area countries, leading to turbulence on the financial markets and negative, real economic consequences also in Germany.

… over domestic upside opportunities, arising from expansionary fiscal policy in particular

With regard to the domestic economy, by contrast, opportunities for greater economic growth prevail at this point. In this context, the labour supply in the projection horizon could react more elastically than expected to the persistently high demand for labour, for example if an even greater number of specialised workers than assumed migrate to Germany from abroad as a result of the tight labour market. It is highly likely that fiscal policy will act as an additional stimulus to demand. The intentions of the new Federal Government had mostly not been specified in sufficient detail when the projections were finalised to be able to factor them into the baseline. Moreover, in light of the highly favourable position of German government budgets at present, further expansionary measures would be plausible. The scope, timeframe and characteristics of these, however, are difficult to estimate. If the additional fiscal stimulus were to reach a funding volume of around 1% of GDP in 2020, the expected level of real GDP in Germany – based on standardised calculations with the Bundesbank's macroeconometric model – could stand approximately ¾% higher in comparison to the baseline at the end of the projection horizon. In the projected scenario with a high utilisation rate and supply-side shortages, however, the real economic impact could be less severe and the otherwise – at least at first – more limited price impact could be greater.

Risks regarding oil prices …

As regards future crude oil prices, which have a major impact on the consumer price projection in particular, neither the existing upside nor downside risks seem to have gained the upper hand at present. A prolonged rise in oil prices – due to political tensions in major oil-producing countries, for example – is likely to be opposed to a possible increase in the production of shale oil in the United States.

… and inflation rate somewhat balanced

In the overall picture, too, risks for the price projection seem to be in balance. Admittedly, consumer prices could rise more sluggishly than described here if global demand for goods drops or if a more elastic labour supply in Germany stifles wage growth. However, new trade barriers could, at least temporarily, raise the rate of inflation. A more expansionary fiscal policy would also exert a certain amount of additional upward pressure on prices. One uncertainty for measured inflation that cannot be dismissed is the transition to a new underlying weighting scheme for the HICP in 2019. This is all the more important, as it is accompanied by methodological changes in the measurement of prices for major components of the consumer price index, such as rents and package holidays.