Outlook for the German economy – macroeconomic projections for 2015 and 2016 and an outlook for 2017

The German economy has recovered more quickly than expected from the cyclical lull in the middle of last year and has returned to a growth path that is underpinned by both domestic and foreign demand. Domestic economic activity is benefitting from the favourable labour market situation and the substantial income increases. Although foreign trade is currently being hampered by dampening global dynamics, it is simultaneously being buoyed by the euro's depreciation and the strengthening cyclical recovery in the euro area. Moreover, the world economy is likely to regain momentum.

In this setting, growth of 1.7% in Germany's real gross domestic product (GDP) this year could be followed by a rise of 1.8% in 2016 and 1.5% in 2017. In calendar-adjusted terms, this would be equivalent to expansion rates of 1.5% in 2015 and 1.7% in both 2016 and 2017. As the expected increases are above the estimated potential growth rate of 1.2% per year, aggregate capacity utilisation should rise markedly and considerably exceed normal levels by the end of the forecast horizon. This means that labour market reserves will be mobilised and wages will rise more strongly in the medium term. Against this backdrop, general government is set to continue posting surpluses of around ½% of GDP. However, the economic upturn and the ongoing decline in interest expenditure are masking the generally expansionary stance of fiscal policy.

Consumer price inflation is likely to accelerate, driven initially by the effect of the euro's depreciation against other major currencies, while the upward pressure on domestic costs should increasingly make itself felt later. As measured by the Harmonised Index of Consumer Prices (HICP), inflation could rise from 0.5% this year to 1.8% next year and 2.2% in 2017. Excluding energy, HICP inflation would climb from 1.2% in 2015 to 2.2% in 2017.

Compared with the December 2014 projection, expectations for economic growth for the current year in particular have been raised significantly, while the projection for inflation has been pared back considerably. Key factors in this were the plummeting crude oil prices and the depreciation of the euro. Crude oil prices are expected to rise only slightly and exchange rates to remain unchanged over the forecast period. If the euro were to appreciate strongly, this would produce downside risks to the economy. Further external risks exist as a result both of the vulnerabilities of several emerging market economies (EMEs) and of geopolitical tensions. The danger that the economic recovery in the euro area might suffer a setback has not yet been banished. On the domestic front, growing labour market shortages represent a supply-side risk to economic growth. This could also be reflected in increased price pressures.

Current situation

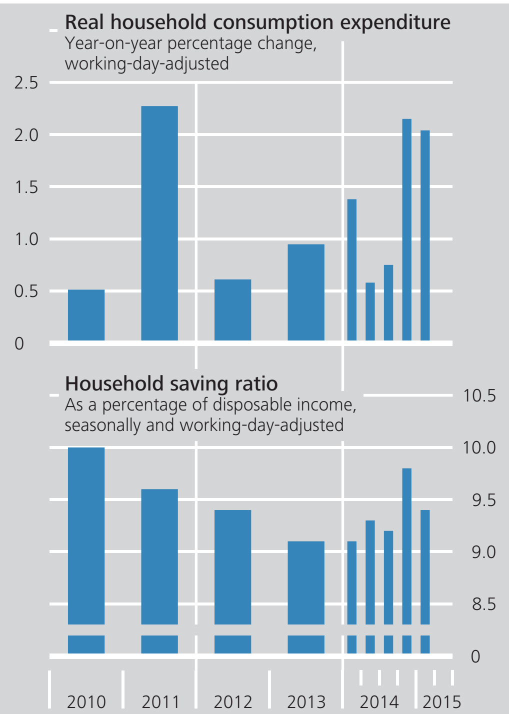
German economy has rebounded quickly

Following the phase of weak economic growth in the second and third quarters of 2014, the German economy has rebounded much more quickly than had been expected in the December projection.[1] At 1.0%, real GDP in the fourth quarter of 2014 and the first quarter of 2015 was more than twice as strong in seasonally and calendar-adjusted terms as had been forecast at that time. This was fuelled by a sharp rise in private consumption and a marked pick-up in exports. Residential investment and business investment also increased.

Surge in private consumption

Economic growth in the fourth quarter of 2014 and the first quarter of 2015 was fuelled by the surprisingly strong expansion of private consumption. This was mainly attributable to a marked rise in real disposable income, triggered notably by additional transfer payments and the dramatic fall in crude oil prices, which was passed through to consumer fuel and heating oil prices without major time lags. Given that the greater real spending scope came as something of a surprise and is probably not considered to be permanent on the whole, households did not fully alter their consumption plans straightaway. Consequently, the household saving ratio went up strongly in the fourth quarter of 2014, although most of this increase was reversed in the first quarter of 2015 on the back of a further rise in private consumption.

Household consumption expenditure and saving ratio



Source: Federal Statistical Office.
Deutsche Bundesbank

Housing market more buoyant again

The German housing market was characterised by an increase in prices and in the number of building permits in the fourth quarter of 2014 and the first quarter of 2015. The temporarily very low level of interest rates is likely to have played a part in this. Construction activity was up distinctly in seasonally adjusted terms in the first quarter of 2015 thanks in part to the mild winter weather in a multi-year comparison.

Business investment up, but as yet no widespread upturn

Business investment, which saw its cyclical recovery grind to a halt last year as industrial activity dipped, likewise posted a surprisingly strong increase at the beginning of 2015. However, this increase was probably overstated by exceptional factors. This is indicated by the unusually high number of new commercial vehicle registrations. What is more, the mild winter also benefited commercial construction activity. The data do not yet point to a broad-based recovery of business investment. This is related to the persistently muted underlying trend in the manufacturing sector. For some time now, industrial output has largely been at a level first reached in 2007, before the onset of the financial crisis. Given the normal capacity utilisation levels at the current end, there are as yet no grounds for markedly expanding production capacities.

Although industrial activity was subdued, exports climbed considerably in the fourth quar-

1 See Deutsche Bundesbank, Outlook for the German economy – macroeconomic projections for 2015 and 2016, Monthly Report, December 2014, pp 17-35.

Sharp rise in imports and exports

ter of 2014 and first quarter of 2015. This was accompanied, with a slight time lag, by a surge in imports. The expansion of foreign trade was regionally broad-based, with the relative weight of non-euro-area countries continuing to rise. Expenditure on imported energy fell substantially as crude oil prices plummeted. This was reflected in a rising current account balance.

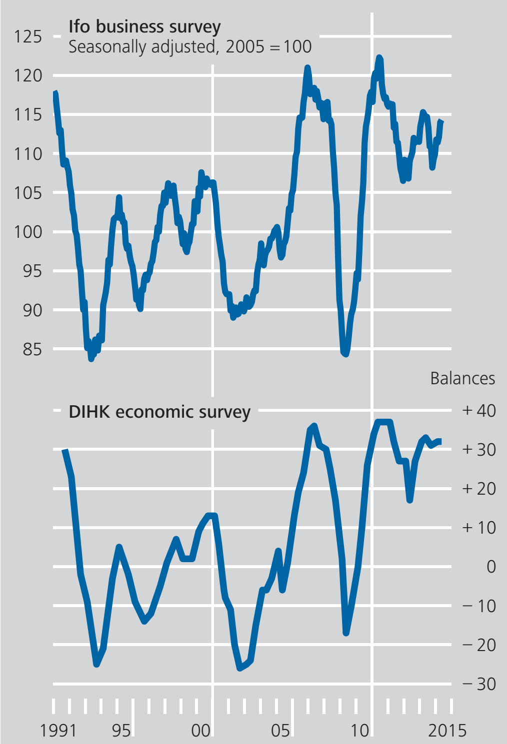
Ongoing improvement in the labour market

Employment rose by 95,000 persons in the last quarter of 2014 and the first quarter of 2015 and thus by around twice the figure assumed in the December projection. The decline in unemployment was only slightly weaker, whereas it looked at the end of last year as if the unemployment figures might stagnate. One major factor behind the up-beat labour market situation was probably the surprisingly robust macroeconomic growth. Moreover, the granting of a full pension at 63 to certain workers and the introduction of a general statutory minimum wage seem to have had less impact on the labour market than projected, at least in the short term. To date the expected drop in employment as a result of the minimum wage has affected only persons in part-time low-paid jobs.

Growth in wage costs again slightly weaker than expected

In the fourth quarter of 2014 and the first quarter of 2015, growth in wage costs measured by compensation per employee averaged 2.5% on the year. Thus, as in previous forecasts, it fell slightly short of expectations. This was mainly due to an unexpectedly weak rise in negotiated wages, whereas the mean wage drift matched expectations. This also applies to the change from a negative to a positive wage drift between the fourth quarter of 2014 and the first quarter of 2015, suggesting that the very cautious assessment of the impact of the new general minimum wage on actual earnings[2] made in earlier projections is at least consistent with the (provisional) data published thus far. The moderate increase in negotiated rates of pay in the fourth quarter of 2014 and the first quarter of 2015 may be ascribed, in particular, to months with a pay freeze, which had been agreed on in some new wage agreements.

Business situation



Sources: Ifo business survey and DIHK economic survey.
Deutsche Bundesbank

Moreover, the rates of increase in a number of industries also proved to be somewhat lower than expected.

Consumer prices down in winter half-year

Under the impact of the dramatic fall in crude oil prices, seasonally adjusted consumer prices contracted perceptibly in the fourth quarter of 2014 and the first quarter of 2015. As a result, year-on-year HICP inflation was, at -0.1%, far lower in the first quarter of 2015 than expected (+0.9%). However, not only the energy component was overestimated. The non-energy HICP inflation measure was also significantly lower, at 0.9%, than the 1.5% estimated in the December projection. The forecast error was largely accounted for by services, notably package holidays, although the increase in the prices of other goods (excluding energy and food) was also clearly overestimated.

2 The Bundesbank projections published in 2014 assumed that the introduction of a general minimum wage would push aggregate wages up by just over ½%.

Major assumptions

Assumptions-based projection

This projection is based on assumptions made by the Eurosystem's experts concerning the global economy, exchange rates, commodity prices and interest rates; these assumptions are based on information available as at 12 May 2015. The assumptions regarding economic activity in the euro area are derived from projections made by the national central banks of the euro-area countries.

Slight rebound in crude oil prices after sharp decline

Compared with the December 2014 projection, there have been unusually large changes to the major assumptions which affect the projection result substantially.[3] In the short run this applies particularly to crude oil prices. Driven by a continuous supply-side increase paired with only weak growth in demand, the decline in crude oil prices accelerated towards the end of last year.[4] One major contributory factor was that the OPEC countries could not agree to cut oil production quotas. New military conflicts in the Middle East and adjustment processes in unconventional oil production in the United States have caused crude oil prices to rebound somewhat in the meantime. The futures prices from which the assumptions for crude oil prices are derived point slightly upwards. Nevertheless, crude oil prices in this projection are one-quarter (for 2015) and one-fifth (for 2016) lower than in the December projection in US dollar terms. The change is smaller in euro terms, however, owing to the euro's depreciation by around 10% against the US dollar. Other commodities even cheapened markedly into the second quarter. They should go up in price again if, as is expected, the global economy begins to expand at a faster pace.

Major assumptions of the projection

Item	2014	2015	2016	2017
Exchange rates of the euro				
US dollar/euro	1.33	1.12	1.12	1.12
Effective[1]	102.3	92.6	92.4	92.4
Interest rates				
Three-month EURIBOR	0.2	0.0	0.0	0.2
Yield on government bonds outstanding[2]	1.2	0.6	0.9	1.1
Commodity prices				
Crude oil[3]	98.9	63.8	71.0	73.1
Other commodities[4, 5]	– 6.2	– 13.6	2.9	4.9
German exporters' sales markets[5, 6]	3.3	2.9	4.9	5.3

1 Compared with the currencies of the 19 most important trading partners of the euro area (EER-19 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.

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Global growth and international trade regain momentum

In the fourth quarter of 2014 and the first quarter of 2015, global economic growth fell short of the expectations published in the December projection due, among other things, to temporary factors. In the United States, for instance, the harsh winter weather had an adverse effect on economic output. Moreover, the oil industry cut back its investment appreciably in light of sagging prices.[5] Economic output was lower than expected in other industrial countries, too, over the past six months. Overall, however, industrial countries are expected during the course of 2015 to regain the growth rate levels of last summer. By contrast, structural problems as well as financial and macroeconomic imbalances seem to be dampening economic growth in several EMEs to a greater extent than was forecast in the December projection. In addition, a number of EMEs have suffered from the effect of major swings in the foreign exchange markets and the pronounced drop in commodity prices. For this reason, growth expectations have been scaled back for this group of countries. All in all, the world economy (excluding the euro area) is likely to expand by a rate of only 3½% in calendar-adjusted terms in the current year (weighting by purchasing power parities). Global growth should rise to 4% in each of the next two years. A similar picture presents itself for international trade (again, excluding the euro area). The growth rate expected for the current year has

3 For further details, see also the box entitled "Changes in the underlying conditions and forecast revisions since the December projection".
4 See Deutsche Bundesbank, Causes of the fall in oil prices, Monthly Report, February 2015, pp 16-17.
5 See Deutsche Bundesbank, The effect of special factors on real GDP growth in the USA in the first quarter of 2015, Monthly Report, May 2015.

to be revised downwards to only 2% due to the weak fourth quarter of 2014 and first quarter of 2015. The falling imports of several large EMEs, in particular, are having a substantial dampening effect on the growth of world trade. However, growth rates of 4¾% and 5¼% are expected for 2016 and 2017, respectively.

Eurosystem's asset purchase programme dragging on interest and exchange rates

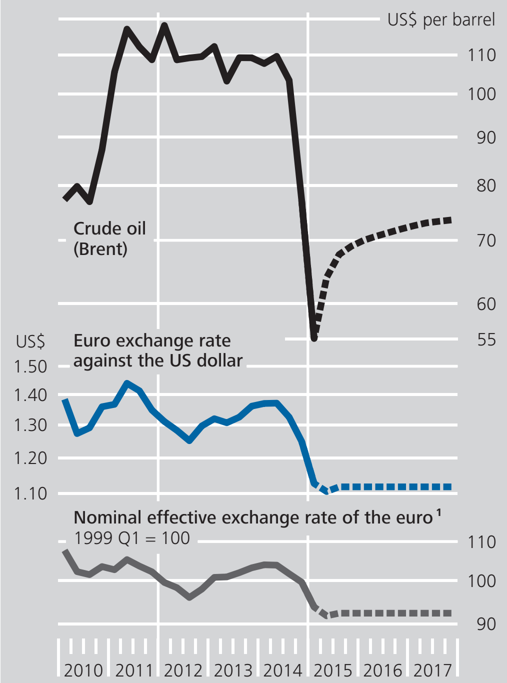
In response to a further weakening of euro-area inflation dynamics and further declining medium-to long term inflation expectations, the ECB Governing Council decided in January 2015 to implement an expanded asset purchase programme. This has been up and running since March 2015. In this context, the Governing Council announced its intention to purchase securities to the tune of €60 billion each month until such time as a sustained adjustment in consumer prices has been reached, with HICP inflation rates below, but close to 2% over the medium term. The anticipatory effect of the expanded asset purchase programme alone sent major ripples through the financial markets. Interest rates fell across the board, and the euro sustained considerable losses against the currencies of a raft of important trading partners.[6] On top of this, the market expectations used for deriving the technical assumptions underlying short-term interest rates and yields on nine to ten-year government bonds came under pressure. While some market movements have subsequently reversed, in the period used for deriving the exchange rate assumptions the euro stood at US$1.12 and was thus just over one-tenth lower than assumed in the December projection. In relation to the 19 most important currencies in terms of foreign trade, on average the euro depreciated by 7% compared with the December outlook.

Economic recovery in the euro area firmer

In the euro area, the economic recovery consolidated somewhat in the fourth quarter of 2014 and first quarter of 2015. Even excluding Germany, economic growth was higher than originally projected in December 2014. In some countries, the structural adjustments adopted in the past few years are now bearing fruit.

Oil price and exchange rates

Quarterly, log scale



Sources: Thomson Reuters, ECB and Bundesbank calculations. 2015 to 2017 projection assumptions. **1** Compared with the currencies of the 19 most important trading partners of the euro area (EER-19 group of currencies).

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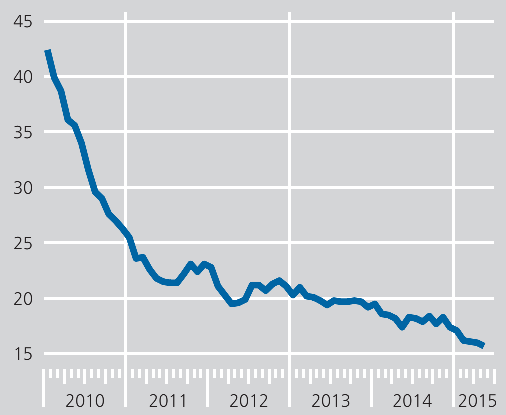
Moreover, being a net importer of energy, the euro area has benefited from the steep fall in crude oil prices. Over the forecast horizon, the more favourable financing terms should enable additional investment, not least in countries with previously tight credit supply conditions. Even in Germany, there has been a further slight improvement in the highly attractive financing terms on offer.[7] Exporters should be able to increase their sales to countries outside the euro area on the back of the euro's depreciation. This should especially aid those euro-area countries which have so far failed to adequately adjust their cost structures due to vari-

6 It should be noted that, aside from the Eurosystem's expanded asset purchase programme, a range of other factors including signals of an imminent tightening of monetary policy in the USA and the release of economic data are also likely to have impacted on exchange rates.
7 In May, the Ifo Credit Constraint Indicator fell to an all-time low, and the results of the economic survey conducted by the German Chamber of Industry and Commerce (DIHK) in the early summer showed that, as before, only a tiny number of firms say they are experiencing funding difficulties.

Credit constraints in trade and industry

%[1]



Source: Ifo business survey. **1** Share of firms indicating that credit access is restrictive.

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ous rigidities. Domestic demand, particularly private consumption, is additionally being buoyed by the improved outlook for the labour market. All these factors should also stimulate trade within the euro area. Euro-area GDP (excluding Germany) is therefore currently expected to grow by just over 1.5% in seasonally and calendar-adjusted terms in 2015. Looking ahead to 2016 and 2017, growth rates of 2.0% and 2.1% respectively are anticipated. This represents a significant upgrade of growth expectations since the December outlook. Nevertheless, even at the end of the forecast horizon, aggregate capacity in the euro area will not be fully utilised, and unemployment will remain high.

Fiscal stance in Germany still expansionary

The projection for the development of public finances in Germany incorporates all measures which have been adopted or adequately specified and are likely to be implemented. The fiscal measures included in the projection appreciably worsen the general government fiscal balance for 2015 and 2016 (by ¾% of GDP for 2016 compared with 2014). Various changes to taxes and social contributions dampen overall revenue growth somewhat. On the whole, social contribution rates have risen slightly in the course of 2015.[8] However, in 2016, a moderate lowering of the contribution rate to the statutory pension insurance fund, which is needed according to this projection to bring reserves back down to their upper limit, and the anticipated rise in the average additional contribution rate to the statutory health insurance scheme will largely balance each other out. Limited tax shortfalls will result, in particular, from the constitutional requirement to increase income tax allowances for 2015 and 2016 and from the announced intention to compensate for bracket creep in 2016. In the current year, expenditure growth will be fuelled by the pension benefits package[9] and expansion of the benefits provided under the public long-term care insurance scheme. The forecast also takes into account the additional funds earmarked for infrastructure, education and research as well as envisaged social expenditure by central, state and local government (*inter alia* on the housing allowance, the transfer component of child benefit and the childcare supplement). The measures specified thus far for 2017 have only a minimal impact on public finances.

Economic outlook[10]

Economic growth driven by internal and external demand

The German economy has recovered from the lull in mid- 2014 more quickly than expected and has returned to a path of growth that is supported by both internal and external demand. The domestic economy is notably reaping the benefits of the favourable labour market situation and substantial income growth. This is having an effect on private consumption

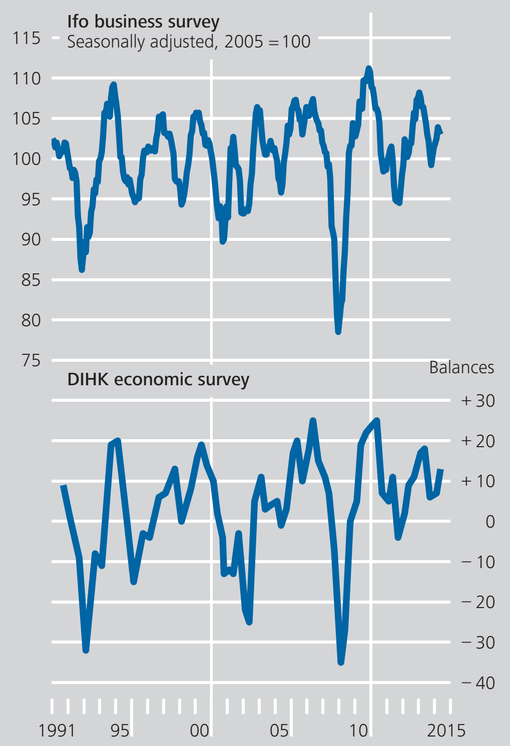
8 The contribution rate to the public long-term care insurance fund was raised by 0.3 percentage point to 2.35% (2.6% for childless contributors). Two-thirds of the additional receipts will be used to finance expanded benefits, and one-third will be allocated to a special reserve. The contribution rate to the statutory pension insurance fund was lowered from 18.9% to 18.7%, while insurees' additional contributions to the statutory health insurance institutions fell slightly by just over 0.8% on average.
9 The benefits package, which came into effect in mid-2014, notably comprises mother's pensions and full pensions at 63 as well as higher pensions for persons with reduced earning capacity. The additional expenditure caused by these measures appears to have been a little less than expected in 2014. However, in view of the brisk take-up of the option to retire on a full pension at 63, the associated costs may prove higher than expected.
10 This projection for Germany was finalised on 20 May 2015 and incorporated into the projection for the euro area published by the ECB on 3 June 2015.

as well as on housing construction. Furthermore, the fiscal policy stance is expansionary. Foreign business is currently burdened by dampening effects emanating from the global economy, but this is balanced out by the depreciation of the euro and the improving economic recovery in the euro area. Moreover, the global economy is likely to pick up steam again in the near future. Given their positive market position, German enterprises should be able to capitalise on the resultant opportunities. An upturn in industrial activity would also boost corporate investment.

Strong economic growth expected in the course of 2015

This promising overall scenario is also reflected in the sentiment prevailing in the German economy. Enterprises still consider their situation to be exceptionally good. According to the survey published by the German Chamber of Commerce and Industry (DIHK) in the early summer, nine out of ten firms are at least content with their situation. The findings of ifo and the Centre for European Economic Research paint a similar picture. Firms are also looking to the future with a fair amount of confidence. That said, their sense of optimism is not as pronounced as it was at the beginning of last year. According to the DIHK, sentiment is clouded by fears concerning Germany's economic policy framework, labour costs and the labour supply. What is more, industrial orders in the first quarter of 2015 were noticeably down on the quarter by 1½%. While domestic orders continued to climb on account of one large order, there was a sharp fall in orders from abroad. With respect to orders from within the euro area, this drop was largely connected with the volatile nature of orders in the aircraft and aerospace industry. In particular, the reduced volume of orders from non-euro-area countries is, however, clouding the outlook for industrial activity in the next few months. Nevertheless, export and production expectations point to further expansion. Households' expectations of the economy are distinctly upbeat, as are their income expectations, despite a minor downward revision. Overall, as 2015 progresses, strong economic growth may be expected, with second-quarter figures possibly offsetting the comparatively weak first-quarter results to some extent.[11]

Expectations



Sources: Ifo business survey and DIHK economic survey.
Deutsche Bundesbank

Economic growth outstrips potential output

Starting from such an advantageous position and under the assumed underlying conditions outlined above, growth in real GDP could increase to 1.7% in the current year, rising to 1.8% in 2016, with positive calendar effects playing a role in this. Given broadly unchanged economic momentum, this should lead to a somewhat weaker growth rate of 1.5% in 2017, primarily due to negative working-day effects. In calendar-adjusted terms, this translates into an increase of 1.5% in the current year and further increases of 1.7% in each of the two following years. The German economy would then expand at a faster pace than po-

11 While the 0.7% GDP growth rate for the fourth quarter of 2014 probably overstated the underlying cyclical trend, the 0.3% growth rate for the first quarter of 2015 presumably understated it.

Aggregate output and output gap

Price, seasonally and working-day-adjusted

Sources: Federal Statistical Office and Bundesbank calculations. 2015 to 2017 Bundesbank projections. **1** Deviation of GDP from estimated potential output.
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Technical components of the GDP growth projection

As a percentage or in percentage points

Item	2014	2015	2016	2017
Statistical carry-over at the end of the previous year[1]	0.7	0.5	0.6	0.6
Fourth-quarter rate[2]	1.5	1.6	1.7	1.7
Average annual GDP growth rate, working-day-adjusted	1.6	1.5	1.7	1.7
Calendar effect[3]	0.0	0.2	0.1	– 0.2
Average annual GDP growth rate[4]	1.6	1.7	1.8	1.5

Sources: Federal Statistical Office; 2015 to 2017 Bundesbank projections. **1** Seasonally and working-day-adjusted index level in the fourth quarter of the previous year in relation to the working-day-adjusted quarterly average of the previous year. **2** Annual rate of change in the fourth quarter, seasonally and working-day-adjusted. **3** As a percentage of GDP. **4** Discrepancies in the totals are due to rounding.
Deutsche Bundesbank

tential output at an annual rate of 1.2%[12], and aggregate capacity utilisation would greatly exceed the multi-year average at the end of the forecast horizon. Compared with the December projection, GDP growth expectations for 2015 and 2016 have been raised appreciably by 0.7 and 0.2 percentage point, respectively. As explained elsewhere in the *Monthly Report*, this is primarily a result of the changed underlying conditions, which already positively influenced the fourth quarter of 2014 and the first quarter of 2015.

Exports to rise sharply

The quite optimistic economic growth projection for Germany outlined above rests on the assumption that trade within Europe will strengthen significantly in tandem with the economic recovery in the euro area. It is assumed that, over the forecast period, German firms' sales markets in the euro area will expand even more robustly than in the rest of the world.[13] It should be noted that exports to the euro area are being hampered by faster-growing wages in Germany, whereas the euro's depreciation is useful to firms exporting to countries outside the euro area. Following the modest increase recorded in the first quarter of 2015, exports overall, as well as industrial output, should pick up in the course of the year. The ifo survey results show a moderate reduction in short-term export expectations but they remain distinctly positive. The expectations reported in the DIHK survey, which focus more on the medium term, point to a fairly broad-based improvement in export dynamics. As the remaining months of 2015 unfold, the stimulus provided by the euro's depreciation is likely to assume greater weight, thus helping to fuel the euro-area recovery. This is likely to be accompanied by an increase in intra-euro-area trade. Overall, exports of goods and services are expected to rise by almost 5% in 2015, albeit

12 Compared with the December projection, the estimate for potential output growth has been lifted slightly in view of the unexpectedly buoyant labour market situation.
13 All in all, it is assumed that German enterprises' sales markets will expand by 3% in the current year, by 5% in 2016 and 5¼% in 2017.

largely on the basis of a carryover effect from 2014. Export growth in the following two years could prove similarly robust, subject to significantly strengthened intra-year dynamics.

Business investment gains traction

The pick-up in industrial momentum expected in the course of 2015 should encourage business investment. Against the current backdrop of buoyant domestic activity and an imminent upturn in external demand, increased utilisation of production capacity is likely to facilitate a renewed and stronger focus on capacity expansions, parallel to investment in replacements and modernisation. Firms' positive financial situation, combined with the exceptionally favourable financing terms, will serve to strengthen investment. However, this investment boost is unlikely to be any greater than in past economic cycles, as German enterprises with an international focus are also presented with a wide range of investment options abroad, which are made all the more attractive by the negative demographics in Germany.

Housing investment trending upwards

The underlying trend of housing investment remains on an upward path. The prevailing strong demand for housing stems from the positive labour market situation and marked increases in real income. Moreover, the substantial inflow of immigrants is more than offsetting the negative domestic demographics. In addition, financing terms remain extremely favourable.[14] However, new construction activity has already reached a high level and is unlikely to rise much above this. Factoring in the somewhat more dynamic renovation measures that are expected, aggregate investment in residential construction should still expand by a considerable margin.

Increased government investment

Government investment is expected to increase substantially in the current year and to grow somewhat further in 2016. Government investment in construction had already gone up con-

14 Mortgage rates have picked up distinctly of late, having previously fallen quite significantly. The increased volatility might impede investment plans.

Key figures of the macroeconomic projection

Year-on-year percentage change

Item	2014	2015	2016
GDP (real)	1.6	1.7	1.8
GDP (real, working-day-adjusted)	1.6	1.5	1.7
Components of real GDP			
Private consumption	1.1	2.1	1.8
Memo item Saving ratio	9.4	9.4	9.2
Government consumption	1.1	1.6	1.3
Gross fixed capital formation	3.3	2.9	3.7
Business investment[1]	4.0	3.1	3.8
Private investment in residential construction	3.8	2.1	2.7
Public investment	− 2.1	4.0	6.0
Exports	3.8	4.8	5.0
Imports	3.5	6.4	6.6
Memo item Current account balance[2]	7.6	7.6	7.1
Contributions to GDP growth[3]			
Domestic final demand	1.5	2.0	2.0
Changes in inventories	− 0.3	0.0	0.1
Exports	1.7	2.2	2.3
Imports	− 1.4	− 2.5	− 2.6
Labour market			
Total number of hours worked[4]	1.5	0.9	0.7
Employed persons[4]	0.8	0.6	0.5
Unemployed persons[5]	2.9	2.8	2.7
Unemployment rate[6]	6.7	6.4	6.3
Wages and wage costs			
Negotiated pay rates[7]	2.9	2.4	2.6
Gross wages and salaries per employee	2.7	2.9	3.0
Compensation per employee	2.6	2.9	2.9
Real GDP per employed person	0.8	1.2	1.3
Unit labour costs[8]	1.8	1.8	1.7
Memo item GDP deflator	1.7	1.9	1.9
Consumer prices[9]	0.8	0.5	1.8
Excluding energy	1.2	1.2	1.8
Energy component	− 2.0	− 4.7	1.5

Sources: Federal Statistical Office; Federal Employment Agency; 2015 and 2016 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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Changes in the underlying conditions and forecast revisions since the December projection

Some of the underlying macroeconomic conditions have changed substantially since the conclusion of the December projection. Crude oil prices have slumped, the euro has depreciated significantly against other major currencies, and the expectation that the low-interest-rate phase in the euro area will continue for some time have become entrenched. This is due *inter alia* to the ECB Governing Council's decision to purchase securities on a large scale.

The new underlying conditions are incorporated into the June projection via the conditioning assumptions.[1] There follows an examination of what contribution the substantial changes in the assumptions have made to the revision of the projection from December 2014 to June 2015. To do this, the December projection is updated with the new assumptions[2] but without taking new data on board and compared with the recent projection.[3]

The chart at the top of page 11 shows developments in real gross domestic product (GDP) and the Harmonised Index of Consumer Prices (HICP) in the last December projection as well as the new June projection. The GDP and HICP results in the final quarter of 2014 and the first quarter of 2015, on which the current projection is based, already differed substantially from the December projection. Economic growth proved to be significantly stronger, and consumer prices did not continue to rise and showed an energy-price-related fall instead. This was due to the slump in crude oil prices immediately after the forecast had been finalised.[4] Later, the euro exchange rates also sagged, and interest rates declined across the entire maturity spectrum and, in some cases, turned negative.

Nevertheless, the surprises of the fourth quarter of 2014 and the first quarter of 2015 cannot be solely ascribed to changes in the external setting. They were also due in part to other kinds of forecasting errors. Growth in households' disposable income was set too low, for example, which contributed to the underestimation of private consumption. Exports were also a positive surprise. In the case of consumer prices, not only energy prices were overestimated, but also the general price trend. The forecasting errors of the December projection for the final quarter of 2014 and the first quarter of 2015 thus explain most of the difference compared with a purely model-based updating of the December projection. In the new projection, the upward revision of GDP and the downward revision of HICP thus go beyond what would have been expected given a mechanical updating based on the new assumptions, but without taking into account new data and additional information.

According to the new macroeconomic projection, real GDP at the end of 2016 will be just over 1% higher than forecast in the

1 These mainly relate to oil prices, interest rates, exchange rates and sales markets. They are set jointly by Eurosystem staff.
2 The basis of this exercise is the Bundesbank's macroeconometric model, which serves as a key instrument for generating the projection baseline. It is a traditional macro model with Keynesian properties in the short term and neoclassical properties in the long term.
3 In contrast to a purely model-based update, for a new projection the residuals of major model equations are extrapolated in an appropriate manner based on new information gained, for example, from short-term forecasting models. For details of the short-term forecasting models used at the Bundesbank, see Deutsche Bundesbank, Forecasting models in the short-term business cycle analysis – a workshop report, Monthly Report, September 2013, pp 69-83.
4 The risk assessment was therefore adjusted accordingly in the projection report. See Deutsche Bundesbank, Outlook for the German economy – macroeconomic projections for 2015 and 2016, Monthly Report, December 2014, pp 34-36.

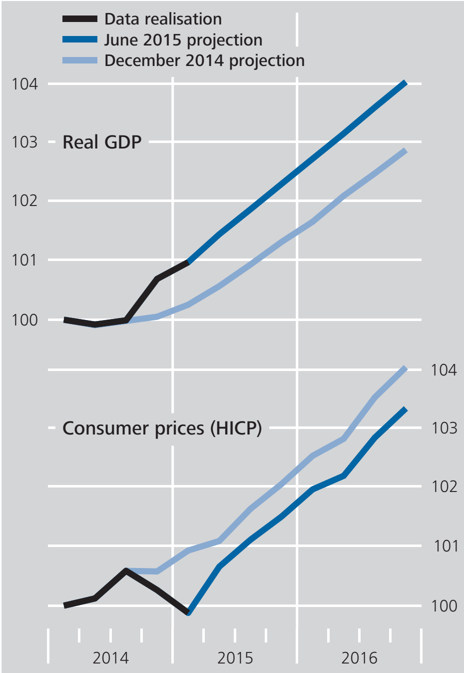
December projection. The lower oil prices could lead to an upward revision of GDP by 0.7%, with the lower exchange rates causing an upward revision of almost 0.4%. In the case of oil prices, the most important effects will be through private consumption and, in the case of exchange rates, through exports. The fall in interest rates from an already low level is unlikely to have any significant expansionary effects on the real economy in Germany, with exceptions in the housing construction sector. The positive impact of the fall in oil prices and the depreciation of the euro are nevertheless set against a weaker growth in foreign demand from non-euro-area countries.

It is harder to interpret the revision profile for consumer prices, as oil prices and exchange rates – the two most important determinants – generate opposing effects with differing time lags. Relative to the price level, the model results show the negative impact of the fall in oil prices outweighing the inflationary effects of the euro's depreciation. It should be noted, however, that the impact of changes in crude oil prices on consumer prices can be determined with greater precision than the impact of exchange rates. For the latter, the underlying reasons may play a pivotal role. Overall, the new projection for the fourth quarter of 2016 contains a downward revision of HICP by 0.7%. The fact that consumer prices in the new projection thus lag behind the purely model-based updating of the December projection is, however, due to the cited forecasting errors and the comparatively moderate rise in wages becoming apparent in Germany, which had still been predicted to be somewhat higher in the December projection.[5]

5 According to the Bundesbank's macroeconometric model, the changes in the underlying conditions would have a positive effect on wage growth, but the latest pay settlements suggest a downward revision of the wage forecast.

Growth paths of real GDP and consumer prices

2014 Q1 = 100, log scale



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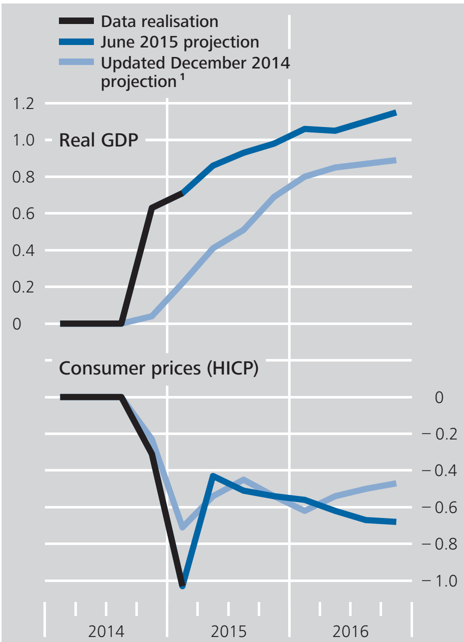
Changes compared with the December 2014 projection

%



1 Simulations with the Bundesbank's macroeconometric model using of the assumptions of the June 2015 projection.
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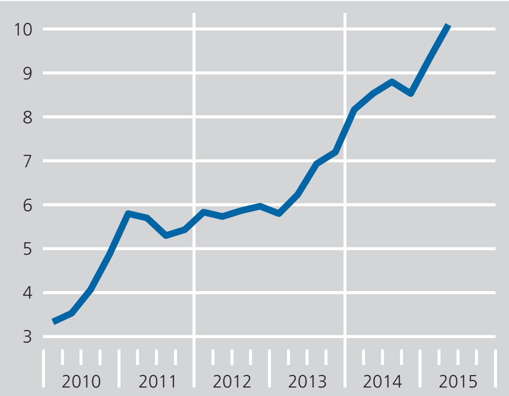
GfK consumer confidence index

Index points[1], quarterly



Source: GfK. **1** The GfK consumer confidence index is based on results of the monthly consumer survey, particularly regarding income expectations and propensity to purchase.
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siderably in 2014, and the Federal government's decisions notably to boost infrastructure investment and to promote investment projects by financially weak local authorities point to rising additional expenditure. Following a slump in 2014, doubtless largely on account of delays in military procurement, government investment in machinery and equipment can be expected to pick up again, although there is a great deal of uncertainty regarding the exact timeframe.[15]

Gross fixed capital formation to make distinct contribution to economic growth

Overall, fixed investment should make a distinct contribution to economic growth in the next few years. The increase in gross fixed capital formation in 2015 could moderate somewhat to just under 3%, but will rebound in 2016 to 3¾%. Once that level has been reached, however, smaller rates of increase are likely thereafter, especially in private investment.

Strong demand impulses from private consumption

Private consumption will continue to generate strong demand impulses, though the elevated pace of growth that began in the middle of last year will not quite be maintained. That was made possible by what is likely to be a nonrecurring sharp rise in households' real disposable income triggered by benefit increases in the statutory pension insurance scheme as well as a sharp fall in energy prices and the introduction of the general minimum wage. Income growth was well above the underlying trend set by the favourable situation on the labour market. The very positive consumer climate does, however, hold out the promise that further gains in real incomes will boost private consumption. There are no signs that the entrenched expectations of low interest rates have brought about a fundamental change in households' consumption and saving behaviour. The potentially consumption-boosting intertemporal substitution effects of low interest rates are being largely offset by negative income effects. In line with this, the saving ratio remains largely unchanged. Under these conditions, private consumption is set to expand by more than 2% in the current year and by 1¾% in 2016. This takes into account income tax relief measures. From the present perspective, a somewhat weaker rise in private consumption is expected for 2017.

Higher growth of government consumption this year

The expansion of real government consumption is basically set to accelerate slightly. Furthermore, benefit increases resulting from the reform of long-term care will somewhat lift the growth rate of government consumption, too, in 2015.

Sharp rises in imports

Imports are likely to rise sharply over the projection horizon. In the short term, this will be due partly to import growth lagging behind the expansion of aggregate demand last year and the fact that there had been a destocking. Moreover, the especially import-intensive components of aggregate demand, namely exports of goods and business investment, are likely to become more important. And, finally, the import content of major expenditure components will probably go on increasing in the wake of the intensifying international division of labour. For 2015 and 2016, imports are therefore expected to record growth rates of 6½% annually. Thanks in part to the euro's depreciation, European manufacturers should benefit from

15 Expenditure is recognised at the date of delivery, which means that there may be major swings in case of large-scale supplies or the absence thereof.

this to much the same extent as suppliers from non-euro-area countries.

Current account surplus to contract slightly

Owing to a price effect resulting from the low crude oil quotations, Germany's trade surplus this year is likely to match last year's heightened level of 6½% of GDP. The positive domestic dynamics should have a greater bearing subsequently. Furthermore, import prices are likely to show a marked rise, which could push the trade surplus below 6%. The current account surplus might narrow in line with this. Given the high primary income balance, which is probably continuing to go up in the wake of increasing external assets, it seems very unlikely that it will fall significantly below 7%.

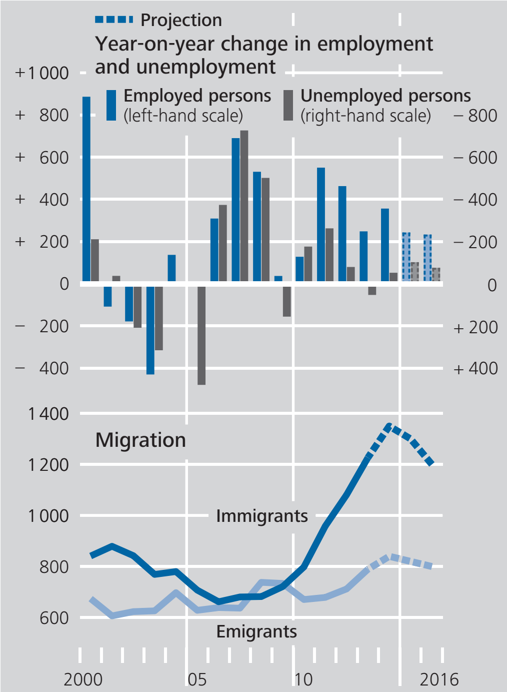
Labour market

Growing shortages on the labour market

The positive developments on the labour market over the past few years are likely to continue generally during the forecast period. Nevertheless, given the high level of employment already achieved and the comparatively low unemployment rate, it is to be expected that the positive trends in employment and unemployment will flatten out. For the next few months, most indicators show an ongoing high demand for labour.[16] According to Ifo, firms' propensity to recruit new staff is persisting at a high level, and the Federal Employment Agency's BA-X jobs index is, in fact, showing a steady rise. The IAB labour market barometer is indicating a sideways movement in unemployment, however. Such a constellation points to increasing difficulties encountered in filling posts. This is consistent with developments in vacancies and unemployment over the past months. While there has been a marked rise in the number of vacancies reported by employers to the Federal Employment Agency, there has been a smaller drop in unemployment. The early summer survey conducted by the Association of German Chambers of Commerce and Industry (DIHK) also shows enterprises complaining of a shortage of skilled labour.

Employment, unemployment and migration

Thousands



Sources: Federal Statistical Office and Federal Employment Agency. 2015 and 2016 Bundesbank projections.
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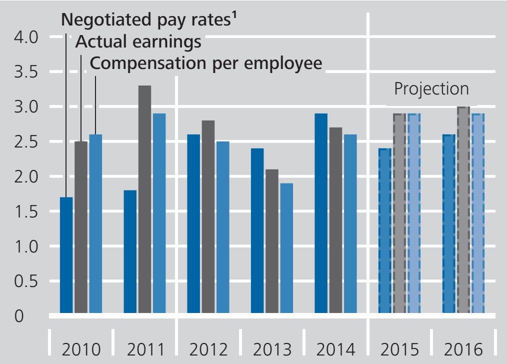
Reasons for the smaller supply of labour

One factor contributing to the shortage tendencies on the labour market is that the working-age population (15 to 64 years) has barely increased recently, despite substantial immigration, and will probably shrink from 2016 onwards. Unemployment has already been largely reduced to a frictional and – under the given economic and sociopolitical conditions – structural core. The labour force participation rate, given the level already achieved, cannot be expected to show further strong increases in the aggregate. While net immigration this year could again amount to almost 500,000 persons, the total includes very many civil war refugees and asylum seekers who will not be immediately available to the labour market. The net inflow over the next two years

16 Only the survey conducted by the Institute for Employment Research (IAB) showed a marked downgrade in the first quarter of 2015 compared with the final quarter of last year. The number of vacancies in the last three months of 2014, was, however very high.

Negotiated pay rates, actual earnings and compensation of employees

Year-on-year percentage change, monthly basis



Sources: Federal Statistical Office. 2015 and 2016 Bundesbank projections. **1** Pursuant to the Bundesbank's negotiated wage index.

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could then fall to 400,000 and 300,000 respectively.

Slowing employment growth, slight fall in unemployment

Despite the expected positive economic situation, employment growth will therefore gradually slow down. This also applies to the total number of hours worked, although average hours worked by employed persons are likely to increase. At the same time, it is assumed that productivity growth, which has been below average in recent years, will return to a normal level. Some enterprises appear to have recruited labour beyond their immediate needs in anticipation of forthcoming shortages. This should now pay dividends. Employment growth is likely to remain focused on regular jobs that are subject to social security contributions. The introduction of the minimum wage has made low-paid part-time employment less attractive for employers. The expected strong economic growth could lower unemployment somewhat further.

Labour costs and prices

Pay agreements characterised by constraint of late

To forecast the increase in negotiated wages, all the pay agreements concluded in previous years are factored in and extrapolated beyond their current term, taking into account the macroeconomic framework and sector-specific features. The 2015 pay settlements have been marked by constraint so far. This has been reflected in months with a pay freeze and lump-sum payments as well as comparatively low negotiated rates of increase. Given a bargaining success rate of slightly more than 50%, the trade unions' demands for the wage negotiations still to come this year suggest agreements with an annual volume of somewhat more than 2½%. Trade unions are continuing to avoid demanding excessive wage increases so as not to jeopardise well-paid jobs at firms facing international competition. As defined in the Bundesbank's negotiated pay rate statistics, the increase in negotiated pay rates calculated from the wage settlements concluded to date and the extrapolated past wage settlements amounts to just under 2½% in the current year and just over 2½% in the coming year. Compared with the December projection, this corresponds to a slight downward revision of the expected rise in negotiated pay. Owing to the strong expansion of the economy as a whole and the growing shortages on the labour market, a markedly faster rise in negotiated rates of pay is then expected for 2017.

Positive wage drift over the projection horizon

The wage drift, which was negative last year in view of initially still quite generous pay settlements and sometimes sluggish economic growth, is likely to turn clearly positive this year. One crucial reason for this is the introduction of a general statutory minimum wage of €8.50 per hour from the beginning of the year.[17] Moreover, there are signs that bonus payments this year are likely to be somewhat higher than in 2014. Given a further improvement in the macroeconomic situation, this should continue over the projection horizon. Overall, a rise in gross wages and salaries per employee of 3% is therefore expected in both 2015 and 2016.

17 The general statutory minimum wage will have a direct impact on the Bundesbank's negotiated pay rate statistics only in exceptional cases. This is because the Bundesbank's statistics are largely based on a benchmark basic pay rate which presupposes completed vocational training and several years of professional experience, whereas the minimum wage predominantly affects segments with lower qualifications and skills requirements.

Growth could then accelerate perceptibly in 2017. Labour costs (measured in terms of compensation per employee), will expand at a similar rate. Unit labour costs would thus initially go up further by not quite 2%, but then increase by more than 1¾%.

Rising domestic inflation

Domestically generated inflation as measured by the GDP deflator is likely to increase slightly to just under 2% at first and then rise somewhat more sharply. Owing to lower commodity prices and the depreciation of the euro, profit margins could expand somewhat initially. This would later be offset by accelerating wages.

Marked rise in consumer prices

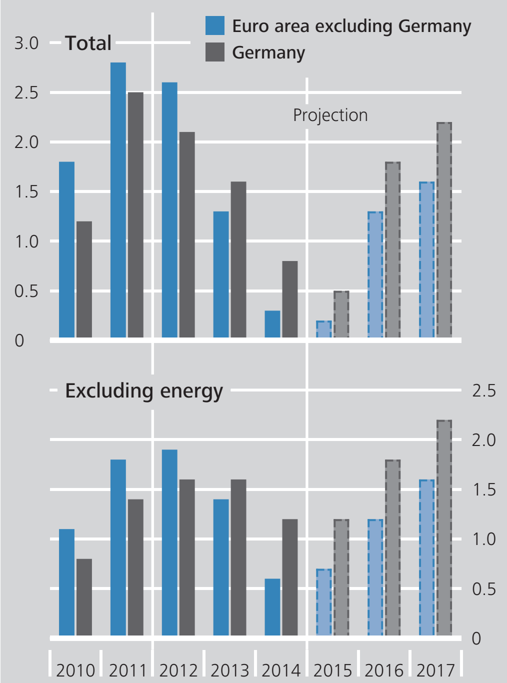
Consumer price inflation is set to increase considerably over the forecast horizon. The dampening effects caused by the fall in oil prices are gradually wearing off and upward price pressures from the domestic economy are becoming more relevant. Added to this are the inflationary effects of the euro's depreciation, which are already clearly evident on the level of upstream imports. Overall, consumer price inflation (as measured by the HICP annual rate) could rise from 0.5% in the current year to 1.8% in 2016 and 2.2% in 2017. This implies that Germany's inflation spread over other euro area countries would increase markedly.

Energy prices once again on the rise

The sharp increase foreseen in the HICP headline rate in 2016 is primarily attributable to a reversal in the energy price trend. Consumer prices for refined petroleum products tend to closely track crude oil prices (as measured in euro). As crude oil prices are anticipated to slowly rise over the forecast horizon, the year-on-year rate of change for petrol and heating oil prices will once again move into positive territory as from December 2015. This should also largely determine the development of the HICP's entire energy component, although it is expected that gas and heating prices will be affected by the fall in crude oil prices only with a certain time lag. However, against the backdrop of structural changes in the respective markets, these effects should not be as pronounced as in the past. Electricity prices are likely to edge up slightly next year before increasing more substantially in 2017 as a result of higher levies on renewable energies. After contracting by nearly 5% this year, energy prices could rise by 1½% overall next year. This increase will presumably continue to accelerate somewhat in 2017.

Price projection (HICP)

Year-on-year percentage change



Sources: Federal Statistical Office, Eurostat and Bundesbank calculations. 2015 to 2017 Bundesbank projections (for Germany) and calculations based on Eurosystem projections (for the euro area excluding Germany).
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Non-energy inflation also set to rise

A comparatively steady rise in prices is anticipated for the other categories of goods, too. The price trend for food has returned to normal following recent falls, while prices of industrial goods (excluding energy) are likely to feel the impact of the euro's depreciation very shortly. The inflation rate for services is expected to accelerate, primarily as a result of wage developments.[18] The price reductions for package

18 The mooted infrastructure levy would raise the HICP by approximately 0.1% despite the compensatory reduction in motor vehicle tax for residents. This is because 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.

holidays owing to adjustment-related price cuts in a number of European holiday destinations are likely to taper off. Rents are expected to go up at a faster pace and align more closely with the upward trend in rents for new lettings. Overall, price inflation (excluding energy) could climb from 1.2% in the current year to 1.8% in 2016. A further jump to 2.2% is conceivable for 2017.

Public finances

Government budget surplus to continue and …

Under this projection, the general conditions for German public finances will continue to improve. The favourable economic situation and lower interest expenditure are set to increasingly relieve budgets. Therefore, the general government surplus will see only marginal changes in spite of the expansionary fiscal policy stance (2014: 0.6% of GDP).

… debt ratio to fall further

In the baseline scenario, the debt ratio will contract at a rapid pace, but at 65% even in 2017 it will still significantly exceed the 60% ceiling (2014: 74.7%). Under this projection, the key driver behind the fall in the debt ratio is growth in nominal GDP in the ratio's denominator. Other factors are the budget surpluses and ongoing portfolio reductions at government-owned bad banks.[19]

Tax and social contribution ratio broadly stable

In the projection up to 2016, both the revenue ratio and the expenditure ratio are set to fall somewhat. On the revenue side, limited cuts in taxes and social contributions will be more than offset by slightly higher receipts resulting from fiscal drag[20]. However, other revenue will be subdued, owing, amongst other things, to the lower Bundesbank profit in the current year and slightly decreasing interest income. The expenditure ratio will be pushed down by cyclically induced faster GDP growth (in the denominator). The interest expenditure ratio will fall on the back of low interest rates and the falling debt ratio. Moreover, labour market-related spending will decrease further, primarily owing to receding unemployment. These cost-cutting factors mask relatively high increases in expenditure in other areas. Some of these increases are accounted for by the aforementioned rise in discretionary spending. In addition, the general pension increases are likely to be significantly higher than in the past, while experience suggests that healthcare costs will rise faster than compulsory contributions in the absence of concrete cost-cutting measures.

Upturn and falling interest costs mask laxer spending stance

Sustained surpluses for central, state and local government

Central, state and local government achieved a notable surplus in 2014 (+0.5% of GDP). As things now stand, it is likely that this will remain at more or less the same level, as the expansionary spending stance will be offset by interest cost savings and cyclical relief. The social security funds could find themselves gradually slipping into deficit after posting (declining) surpluses in the previous years. The sharp growth in expenditure by the statutory pension and health insurance schemes will lead to marked deficits, which will progressively deplete the current high level of reserves. On the other hand, the public long-term care insurance scheme is set to record surpluses in the next 20 years in order to build up reserves with a view to stabilising future contribution rates. The Federal Employment Agency is expected to post marked surpluses thanks to the anticipated favourable developments with regard to the labour market and wages. It makes sense for the Agency to use the projected favourable conditions in order to build up a rainy-day reserve, as its budget is particularly sensitive to cyclical swings (as both the revenue and expenditure side react to the cycle).

Social security funds gradually slide into deficit

19 Additional loans to Greece from the current EFSF (European Financial Stability Facility) assistance programme would inflate Germany's debt level. By contrast, any additional loans under its successor, the ESM (European Stability Mechanism), would not lead to an increase in the debt levels of the member states backing the ESM because statistically the ESM is regarded as an independent European institution. By contrast, injections of new capital into the ESM would be recorded in the figures for Germany's general government sector.

20 In this context, the term "fiscal drag" denotes the overall positive revenue effect of bracket creep in income taxation and the negative impact of the fact that specific excise duties are largely independent of prices.

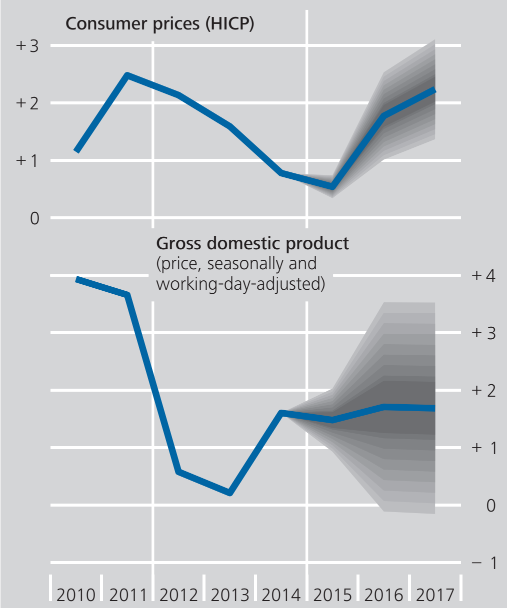
Risk assessment

Risks from changes in exchange rates and crude oil prices

Since the December 2014 projection significant changes have occurred in important underlying conditions, particularly with regard to crude oil prices and exchange rates. As a result, expectations for economic growth have been raised markedly, while inflation expectations have been downgraded significantly (at least in the short-term). These revisions were guided by past experience. However, given such major changes in the key assumptions, the projection is subject to particularly high uncertainty. Much depends on the reasons behind such changes and how long they are likely to persist. Moreover, it is unclear to what extent past experience can be applied to the future. It is assumed that crude oil prices will rise only slightly over the forecast period and that exchange rates will remain constant. If the euro were to appreciate markedly, this would lead to downside risks to economic activity vis-à-vis the current projection. A rise in crude oil prices would also have a fairly direct effect on consumer prices.

Baseline and uncertainty margins of the projection*

Year-on-year percentage change



Sources: Federal Statistical Office and Bundesbank calculations. 2015 to 2017 Bundesbank projections. * Uncertainty margins calculated on the basis of the mean absolute forecast error. The width of the band that is distributed symmetrically around the most probable value equals double the mean absolute forecast error.

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External risks to the economy

External risks to economic growth lie above all in the structural problems of emerging market economies and their vulnerability to disruptions via the financial markets. Similarly, various geopolitical crises could potentially impair global economic growth if they were to escalate. While the economic recovery in the euro area seems to have a significantly firmer footing than before, the risks of a setback have not yet been banished. A certain reform fatigue is spreading in some countries, and the sovereign debt crisis could flare up again. It also remains to be seen how strong the positive macroeconomic effects of the Eurosystem's extensive asset purchase programme will actually be. This is of significance for the current projection because the downgrading of export market growth in non-euro-area countries has been partially counterbalanced by anticipated better sales opportunities within the euro area. Lower export growth than in the baseline scenario would also adversely affect business investment in Germany.

Domestic risks to the economy

Domestic risks to economic growth lie primarily in supply-side shortages on the labour market. The projection assumes that employment and productivity reserves can still be mobilised, albeit amid higher wage inflation. Should these supply-side reserves be smaller than expected under the given circumstances, weaker economic growth could result. This would not necessarily entail higher upward pressure on domestic wages and prices if companies step up their use of production facilities abroad. On the other hand, the domestic labour supply could prove to be more elastic than this projection assumes, particularly with regard to working times. If so, the anticipated shortages may not fully materialise.