EUROPEAN CENTRAL BANK
EUROSYSTEM

March 2018 ECB staff macroeconomic projections for the euro area[1]

The economic expansion in the euro area is projected to remain robust, with growth rates staying above potential. Real GDP growth is projected to slow from 2.5% in 2017 to 1.7% in 2020[2] as some tailwinds slowly fade away. HICP inflation is expected to pick up to 1.7% in 2020, supported by a gradual rise in underlying inflation as capacity constraints become more binding.

1 Real economy

Very favourable indicators suggest further robust real GDP growth in the short term. According to the latest Eurostat release, real GDP rose by 0.6% in the fourth quarter of 2017, driven by positive contributions from both domestic demand – notably fixed investment spending – and net trade. Labour market conditions have continued to improve, with the unemployment rate falling to 8.6% in January 2018, its lowest level since late 2008. Real GDP growth is projected to remain robust in the first half of 2018, in line with very elevated levels of business and consumer sentiment.

Over the medium term, the fundamentals remain in place for a continued expansion. A number of favourable factors are expected to continue to support domestic demand. The ECB's very accommodative monetary policy stance continues to be transmitted to the economy. Growth in lending to the private sector continues to increase, spurred by low interest rates and favourable bank lending conditions. Lower deleveraging needs will also contribute to the dynamism of private expenditure. Additionally, private consumption and residential investment growth should benefit from further improvements in labour market conditions and a rise in households' net worth. At the same time, business investment will continue to recover, also reflecting a strengthening of profit mark-ups in the context of rising demand pressures. Euro area exports are expected to stay robust, benefitting from

[1] These macroeconomic projections produced by ECB staff are an input to the Governing Council's assessment of economic developments and the risks to price stability. The projections produced by ECB or Eurosystem staff are neither endorsed by the Governing Council nor do they necessarily reflect the views of the Governing Council on the outlook for the euro area. Information on the procedures and techniques used is given in *A guide to the Eurosystem/ECB staff macroeconomic projection exercises*, ECB, July 2016, which is available on the ECB's website. The cut-off date for technical assumptions, such as for oil prices and exchange rates, was 13 February 2018 (see Box 1). The cut-off date for including other information in this exercise was 19 February 2018.
The current macroeconomic projection exercise covers the period 2018-20. Projections over such a long horizon are subject to very high uncertainty, and this should be borne in mind when interpreting them. See the article entitled "An assessment of Eurosystem staff macroeconomic projections" in the May 2013 issue of the ECB's Monthly Bulletin.
See http://www.ecb.europa.eu/pub/projections/html/index.en.html for an accessible version of the data underlying selected tables and charts.

[2] The figures refer to working day-adjusted data.

the ongoing expansion of global economic activity and corresponding growth in euro area foreign demand.

Table 1
Macroeconomic projections for the euro area[1)]

(annual percentage changes)

	March 2018				December 2017			
	2017	2018	2019	2020	2017	2018	2019	2020
Real GDP	2.5	2.4	1.9	1.7	2.4	2.3	1.9	1.7
		[2.1 - 2.7][2)]	[0.9 - 2.9][2)]	[0.7 - 2.7][2)]	[2.3 - 2.5][2)]	[1.7 - 2.9][2)]	[0.9 - 2.9][2)]	[0.6 - 2.8][2)]
Private consumption	1.9	1.7	1.7	1.5	1.9	1.7	1.6	1.5
Government consumption	1.2	1.2	1.2	1.1	1.2	1.2	1.2	1.2
Gross fixed capital formation	3.7	4.4	3.4	2.8	4.4	4.3	3.4	2.9
Exports[3)]	5.2	5.3	4.1	3.8	5.0	5.1	4.1	3.7
Imports[3)]	4.6	5.1	4.5	4.0	5.1	5.2	4.4	3.9
Employment	1.7	1.4	1.1	0.8	1.7	1.3	1.0	0.8
Unemployment rate (percentage of labour force)	9.1	8.3	7.7	7.2	9.1	8.4	7.8	7.3
HICP	1.5	1.4	1.4	1.7	1.5	1.4	1.5	1.7
		[1.1 - 1.7][2)]	[0.6 - 2.2][2)]	[0.8 - 2.6][2)]	[1.5 - 1.5][2)]	[0.9 - 1.9][2)]	[0.7 - 2.3][2)]	[0.8 - 2.6][2)]
HICP excluding energy	1.2	1.2	1.6	1.9	1.2	1.3	1.6	1.9
HICP excluding energy and food	1.0	1.1	1.5	1.8	1.0	1.1	1.5	1.8
HICP excluding energy, food and changes in indirect taxes[4)]	1.0	1.1	1.5	1.8	1.0	1.1	1.5	1.8
Unit labour costs	0.8	1.1	1.2	1.8	0.9	1.2	1.1	1.8
Compensation per employee	1.6	2.2	2.0	2.7	1.7	2.1	1.9	2.7
Labour productivity	0.8	1.0	0.8	0.9	0.8	1.0	0.9	0.9
General government budget balance (percentage of GDP)	-1.0	-0.7	-0.6	-0.3	-1.1	-0.9	-0.9	-0.5
Structural budget balance (percentage of GDP)[5)]	-1.0	-1.0	-0.9	-0.9	-1.1	-1.1	-1.1	-1.0
General government gross debt (percentage of GDP)	86.7	84.4	82.1	79.7	87.0	85.1	83.1	80.7
Current account balance (percentage of GDP)	3.7	4.2	4.3	4.5	3.1	2.9	2.7	2.8

1) Real GDP and components refer to working day-adjusted data.
2) The ranges shown around the projections are based on the differences between actual outcomes and previous projections carried out over a number of years. The width of the ranges is twice the average absolute value of these differences. The method used for calculating the ranges, involving a correction for exceptional events, is documented in *New procedure for constructing Eurosystem and ECB staff projection ranges*, ECB, December 2009, available on the ECB's website.
3) Including intra-euro area trade.
4) The sub-index is based on estimates of actual impacts of indirect taxes. This may differ from Eurostat data, which assume a full and immediate pass-through of tax impacts to the HICP.
5) Calculated as the government balance net of transitory effects of the economic cycle and temporary measures taken by governments (for the ESCB approach, see *Working Paper Series*, No 77, ECB, September 2001, and *Working Paper Series*, No 579, ECB, January 2007). The projection of the structural balance is not derived from an aggregate measure of the output gap. Under the ESCB methodology, cyclical components are calculated separately for different revenue and spending items. For more details, see the box entitled "Cyclical adjustment of the government budget balance" in the March 2012 issue of the ECB's Monthly Bulletin and the box entitled "The structural balance as an indicator of the underlying fiscal position" in the September 2014 issue of the ECB's Monthly Bulletin.

Nevertheless, real GDP growth is projected to slow somewhat over the projection horizon, as many tailwinds gradually fade. The impact of past monetary policy measures is expected to decline gradually over the projection horizon. An increase in precautionary savings and a slowdown in employment growth, partly as a result of increasingly binding labour supply shortages in some countries, could dampen consumer spending developments. The strong appreciation of the euro since April 2017 and a deceleration in the growth rate of euro area foreign demand are expected to dampen export growth.

Real disposable income growth will remain solid. The contribution of gross wages and salaries to nominal disposable income growth is expected to remain broadly unchanged over the projection horizon, as stronger nominal wage growth offsets the impact of the slowdown in employment growth. Growth in other personal income is projected to strengthen, reflecting positive profit and property income developments. Real disposable income growth is projected to gain momentum in 2018 and 2019, before weakening in 2020 as consumer price inflation strengthens.

Private consumption growth will remain favourable. Very elevated levels of consumer confidence, expected further improvements in labour market conditions and rising real wages per employee suggest robust consumption growth over the next few quarters. In the medium term, however, private consumption growth is projected to fall somewhat behind real disposable income growth, as households are likely to increasingly divert income into savings.

Private consumption growth should also be supported by favourable bank lending conditions, reinforced by the ECB’s monetary policy measures and progress achieved in deleveraging. While low interest rates have affected both interest earnings and interest payments of households, they tend to redistribute resources from net savers to net borrowers. As the latter typically have a higher marginal propensity to consume, this redistribution should support aggregate private consumption. In addition, rising household net worth, as well as progress achieved in deleveraging, should also support consumption.

The household saving ratio is expected to increase gradually from historically low levels over the projection horizon. The saving ratio has declined in the recent past, mainly reflecting the improvement in the economic and financial situation of households and the impact of very low interest rates on their propensity to save. The saving ratio is projected to increase over the projection horizon, reflecting an expected recovery in precautionary savings in the context of a moderating cyclical expansion, as well as the increased contribution from non-labour income growth. In addition, households are expected to increase their saving ratio in response to direct tax cuts in some countries.

Box 1
Technical assumptions about interest rates, exchange rates and commodity prices

Compared with the December 2017 projections, the technical assumptions include a stronger exchange rate of the euro, in particular vis-à-vis the US dollar, higher oil prices and

higher interest rates. The technical assumptions about interest rates and commodity prices are based on market expectations, with a cut-off date of 13 February 2018. Short-term rates refer to the three-month EURIBOR, with market expectations derived from futures rates. The methodology gives an average level for these short-term interest rates of -0.3% for 2018, -0.1% for 2019 and 0.4% for 2020. The market expectations for euro area ten-year nominal government bond yields imply an average level of 1.3% in 2018, 1.6% in 2019 and 1.9% in 2020.[3] Compared with the December 2017 projections, market expectations for short-term interest rates have been revised up by 10 and 30 basis points for 2019 and 2020 respectively, while long-term interest rates have been revised up by about 20 basis points over the projection horizon.

As regards commodity prices, on the basis of the path implied by futures markets by taking the average of the two-week period ending on the cut-off date of 13 February 2018, the price of a barrel of Brent crude oil is assumed to increase from USD 54.4 in 2017 to USD 65.0 in 2018, and to decline to USD 61.2 in 2019 and USD 58.3 in 2020. This path implies that, in comparison with the December 2017 projections, oil prices in US dollars are 5.5% higher in 2018, 3.8% higher in 2019 and 1.7% higher in 2020. The prices of non-energy commodities in US dollars are assumed to rise substantially further in 2018 and somewhat more moderately beyond.[4]

Bilateral exchange rates are assumed to remain unchanged over the projection horizon at the average levels prevailing in the two-week period ending on the cut-off date of 13 February 2018. This implies an average exchange rate of USD 1.23 per euro in 2018 and of USD 1.24 per euro over 2019-20, compared with USD 1.17 in the December 2017 projections. The effective exchange rate of the euro (against 38 trading partners) is 1.6% higher than entailed in the December 2017 projections.

Technical assumptions

	March 2018				December 2017			
	2017	2018	2019	2020	2017	2018	2019	2020
Three-month EURIBOR (percentage per annum)	-0.3	-0.3	-0.1	0.4	-0.3	-0.3	-0.1	0.1
Ten-year government bond yields (percentage per annum)	1.0	1.3	1.6	1.9	1.1	1.1	1.4	1.7
Oil price (in USD/barrel)	54.4	65.0	61.2	58.3	54.3	61.6	58.9	57.3
Non-energy commodity prices, in USD (annual percentage change)	7.9	7.4	3.2	4.5	7.9	3.3	3.4	4.3
USD/EUR exchange rate	1.13	1.23	1.24	1.24	1.13	1.17	1.17	1.17
Euro nominal effective exchange rate (EER38) (annual percentage change)	2.2	4.5	0.1	0.0	2.2	2.8	0.0	0.0

The recovery in residential investment is expected to continue. Housing investment has picked up strongly in recent quarters, supported by favourable

[3] The assumption for euro area ten-year nominal government bond yields is based on the weighted average of countries' ten-year benchmark bond yields, weighted by annual GDP figures and extended by the forward path derived from the ECB's euro area all-bonds ten-year par yield, with the initial discrepancy between the two series kept constant over the projection horizon. The spreads between country-specific government bond yields and the corresponding euro area average are assumed to be constant over the projection horizon.

[4] Oil and food commodity price assumptions are based on futures prices up to the end of the projection horizon. The prices of other non-energy hard commodities are assumed to follow futures until the first quarter of 2019 and thereafter to evolve in line with global economic activity.

financing conditions and rising income growth related to ongoing job creation. In addition, downward adjustment processes in the housing markets appear to have come to an end in a number of euro area countries. Surveys indicate that households increasingly plan to buy or build a home or to embark on home improvements within the next two years. The key conditions for a further recovery in residential investment remain in place over the projection horizon. Nonetheless, some loss of momentum is expected, reflecting the mature phase of the housing cycle and the fading impact of fiscal incentives in some countries, as well as adverse demographic trends.

Business investment is expected to continue to recover over the projection horizon, albeit at a declining pace. A number of factors are expected to continue to support business investment: business confidence remains very elevated on the back of very favourable production expectations and order books; capacity utilisation is continuing to increase rapidly and is approaching the level of its pre-crisis peak; financing conditions are expected to remain very supportive over the projection horizon; and profit mark-ups are expected to increase in the context of an already cash-rich non-financial corporation sector. Moreover, the strong recovery in stock prices observed in recent years (despite the modest correction) and moderate debt financing growth have brought the leverage ratio (debt to total assets) in the non-financial corporation sector close to historical lows. However, consolidated gross indebtedness (the ratio of debt to income) has declined far less, standing now at pre-crisis levels. A gradual loss of momentum in business investment over the projection horizon also reflects the overall deceleration in both domestic and foreign demand.

Box 2
The international environment

The pace of expansion of the global economy strengthened in the second half of 2017, with activity and trade growth becoming more broad-based. Data and survey-based indicators point to sustained global growth in the near term, with the global composite output Purchasing Managers' Index (excluding the euro area) close to its long-run average. Global financial conditions remain accommodative despite a tightening in global interest rates since the start of 2018. Long-term interest rates rose in the United States and global equity markets declined sharply in February, while volatility also rose. Looking ahead, growth in global economic activity is expected to remain broadly stable but below pre-crisis rates of potential growth. The outlook among the advanced economies entails a robust expansion, with activity boosted in the near term by the recent tax reform in the United States. Thereafter, output growth is projected to slow slightly, as the recovery matures and output gaps gradually move into positive territory. Among the emerging market economies, the outlook is supported by the recovery in commodity-exporting economies, particularly Brazil and Russia, and by resilient growth in India and China. Global activity (excluding the euro area) is projected to expand by 4.1% in 2018 and then to slow moderately to 3.7% in 2020. Compared with the December 2017 exercise, global GDP growth is revised upwards over 2017-19, mainly reflecting the favourable impact of the US fiscal package.

The international environment

(annual percentage changes)

	March 2018				December 2017			
	2017	2018	2019	2020	2017	2018	2019	2020
World (excluding euro area) real GDP	3.8	4.1	3.9	3.7	3.7	3.9	3.8	3.7
Global (excluding euro area) trade[1)]	5.6	4.9	4.5	3.9	5.6	4.5	4.2	3.7
Euro area foreign demand[2)]	5.5	4.7	4.1	3.6	5.5	4.4	3.8	3.5

1) Calculated as a weighted average of imports.
2) Calculated as a weighted average of imports of euro area trading partners.

After exceptionally strong growth in the first half of 2017, global trade growth is expected to remain robust in the coming quarters, in line with favourable global trade indicators. In the medium term, the trade outlook is expected to be more in line with the outlook for global activity (anchored at an elasticity of trade to global GDP growth of around 1). Euro area foreign demand is expected to expand by 5.5% in 2017, by 4.7% in 2018, by 4.1% in 2019 and by 3.6% in 2020. Compared with the December 2017 projections, euro area foreign demand has been revised upwards, mostly reflecting the positive impact of the US tax reform which is expected to boost import demand in the United States.

Box 3
Factors driving the outlook for global trade

After a prolonged period of sluggish growth, global trade has staged a revival over the past 18 months. Global imports expanded by 5.5% in 2017, well above the 2012-16 average. Global import growth also exceeded the expansion of global activity, implying an increase in the global trade-income elasticity. While the latest strengthening in global trade appears to reflect, in part, some specific one-off factors, in particular a surge in trade in some emerging Asian countries as well as inherent volatility in global trade data, the recovery in world trade over the past year appears to be broad-based across regions. All but five of the 32 largest global economies saw their imports rise in 2017 relative to the previous five-year average.

The cyclical recovery in global activity and particularly in investment has contributed to the trade revival. After the disappointing performance of recent years, global activity has shown signs of a cyclical recovery. More importantly for global trade, investment, which is a relatively import-intensive component of demand, bottomed out at very low levels at the start of 2016 (representing the trough in global trade growth) and in recent quarters has been expanding notably, reaching a level close to its pre-crisis average. The upswing in activity and investment reflects a number of factors: policies in advanced economies have been increasingly supportive, as fiscal restraint has eased and monetary policy has remained highly accommodative. Favourable financing conditions, amid buoyant confidence, have also contributed. In addition, stable or rising commodity prices have supported investment in commodity-exporting economies, which had slumped following the sharp deterioration in their terms of trade after 2014.

Country-specific import demand models underpin the role of investment as a driver of recent trade developments. Estimates from standard import demand models for 19 countries, representing 75% of global imports, corroborate the finding that the recovery has been supported in

part by rising global investment demand. Another explanation for the recent strength of trade growth, also indicated by the models, is that the trade-income elasticity is highly procyclical: during economic upturns in which activity expands faster than its trend level, the trade-income elasticity also tends to rise. This interpretation is consistent with past experience: as global activity recovered from its weakness in 2015 and 2016, global trade rose even faster – i.e. the trade-income elasticity rebounded.

The favourable factors behind the recent rebound in the trade-income elasticity are expected to fade over the projection horizon. The projections for global investment point to a modest further expansion as the recovery matures, spare capacity diminishes and global activity slows. In addition, the global economic expansion is expected to moderate. The trade-income elasticity is therefore expected to decline, owing to the more modest path of investment growth and also owing to its procyclical nature, as global growth slows. Thus, imports are expected to grow more in line with activity towards the end of the projection horizon. This is consistent with evidence that the longer-term structural factors that had previously driven the fast expansion of global trade at a pace exceeding the expansion of global activity – notably the rapid expansion of global value chains – have waned since the financial crisis.[5]

Extra-euro area export growth is projected to be dampened by the recent appreciation of the euro. Following robust growth in the second half of 2017, extra-euro area exports are expected to grow at a slower pace than euro area foreign demand on account of the recent appreciation of the euro, implying some losses in export market shares. Extra-euro area imports are expected to benefit from the positive domestic demand developments and the stronger euro. Import growth is projected to decelerate to a lesser extent than export growth, resulting in a slightly negative contribution of net trade to economic growth during the course of 2018 and a neutral contribution thereafter.

Employment growth is projected to decelerate. Headcount employment in the euro area increased by 0.4% in the third quarter of 2017 and is estimated to have expanded further in the fourth quarter. The recent strength in employment growth has been broad-based across countries and forward-looking surveys suggest further robust employment growth in the near term. Thereafter, employment growth is projected to lose some momentum, as the impact of some favourable temporary factors (such as fiscal stimuli in some countries) is expected to gradually fade and public sector employment is projected to be reduced in some countries.

Labour force growth is projected to be increasingly dampened by supply shortages. The labour force is expected to continue to expand over the projection horizon, reflecting net immigration of workers, the expected integration of refugees and a further increase in labour market participation rates. Nevertheless, these positive effects are projected to be gradually outweighed over the projection horizon

[5] See also European System of Central Banks, International Relations Committee Task Force, “Understanding the weakness in global trade – What is the new normal?”, *Occasional Paper Series*, No 178, ECB, 2016.

by the impact of increasingly adverse demographics. This also contributes to the slowdown in employment growth in 2019 and 2020.

The unemployment rate is expected to decline to 7.2% in 2020. The unemployment rate declined to 8.6% in January 2018, which is the lowest level observed since late 2008. Looking ahead, the number of unemployed is projected to continue to decline substantially, nearing the level of its pre-crisis trough.

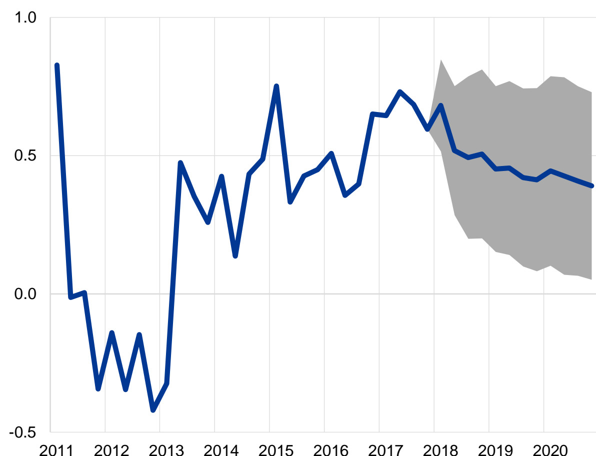
Reflecting its cyclical pattern, labour productivity growth will be higher than in previous years. Labour productivity gained momentum in 2017 as the above-mentioned temporary boost to employment started to fade. Looking ahead, the increasing utilisation of capital in the context of diminishing slack, an increase in the number of hours worked per person employed and some gains in total factor productivity suggest that labour productivity growth will be broadly sustained over the projection horizon. However, in 2019-20 it is expected to be slightly below its pre-crisis average rate of 1.0%.

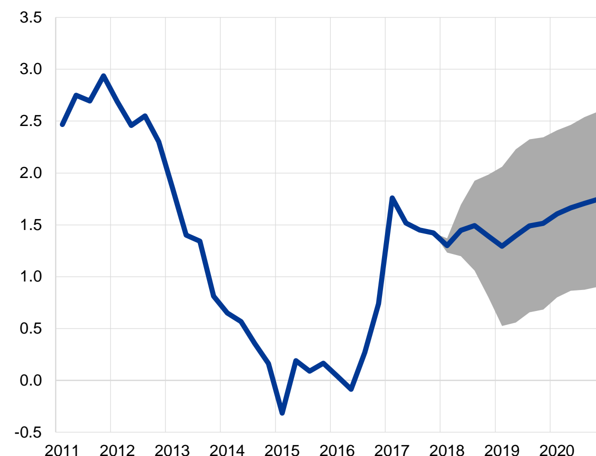
Real GDP growth is expected to remain above potential growth until 2020. Potential output growth is estimated to have gained some momentum in recent years, supported by more favourable contributions from capital, labour and total factor productivity. At the end of the projection horizon, although still lagging actual growth in real GDP, potential growth is expected to broadly return to the rates of growth seen immediately before the crisis. It must be noted, however, that both potential growth and its drivers are unobservable and such estimates are surrounded by considerable uncertainty.

Compared with the December 2017 projections, real GDP growth has been revised up for 2018 and remains unchanged for 2019-20. The upward revision for 2018 relates mostly to better than previously expected business and consumer sentiment, implying stronger growth momentum, together with upward revisions to foreign demand. Thereafter, the positive impact from the stronger growth momentum is expected to be broadly offset by the adverse impact of the recent appreciation of the euro on extra-euro area exports and of higher long-term interest rates.

Chart 1
Macroeconomic projections[1)]

(quarterly data)





1) The ranges shown around the central projections are based on the differences between actual outcomes and previous projections carried out over a number of years. The width of the ranges is twice the average absolute value of these differences. The method used for calculating the ranges, involving a correction for exceptional events, is documented in *New procedure for constructing Eurosystem and ECB staff projection ranges*, ECB, December 2009, available on the ECB's website.
2) Working day-adjusted data.

2 Prices and costs

HICP inflation is expected to rise only towards the end of the projection horizon, as declines in HICP energy inflation in 2018 and 2019 are expected to broadly offset a strengthening in underlying inflation. HICP inflation is envisaged to average 1.4% in 2018 and 2019 and to rise to 1.7% in 2020. Looking at the components, although HICP energy inflation is expected to strengthen in the coming months, reflecting the recent increases in oil prices and some upward base effects, from the end of 2018 it should decrease sharply, falling to rates around zero in mid-2019. The flat path of HICP energy prices from mid-2019 reflects the combination of a downward-sloping pattern of the oil price futures curve and upward effects from energy taxes. HICP food inflation is envisaged to pick up moderately over the projection horizon, supported by assumed increases in international food commodity prices and upward effects from increases in tobacco taxes. Underlying price pressures are projected to rise, as the economy grows at a rate above its potential growth rate and the positive output gap widens. In particular, the increasing labour market tightness, with notable labour supply constraints in some countries, will push up wage growth and these cost increases should be passed on to prices in the current environment of buoyant growth. Temporary upward indirect effects on underlying inflation are expected to stem from recent increases in oil prices and the assumed rises in non-energy commodity prices. Although the recent strengthening of the euro exchange rate is expected to have a downward impact on inflation, this should be counterbalanced to some extent by the current strong growth momentum in the euro area, given the related greater pricing power of companies in the euro

area. Overall, HICP inflation excluding energy and food is projected to rise gradually to 1.8% in 2020.

Wage growth is expected to pick up markedly over the projection horizon, as labour markets tighten and measures that have dampened wage growth in some countries over the past few years expire. Growth in compensation per employee is projected to rise from 1.6% in 2017 to 2.7% in 2020. A temporary slowdown expected in 2019 reflects the implementation of a fiscal measure in France, namely the conversion of a tax credit (the CICE) into a permanent cut to employers' social security contributions.[6] Unit labour cost growth is expected to strengthen to a similar extent as growth in compensation per employee (from 0.8% in 2017 to 1.8% in 2020), given the broadly unchanged pace of productivity growth over the projection horizon. The main driver of the pick-up in wage growth is the envisaged further improvement in labour market conditions, with increasing labour market tightness and notable labour supply shortages in some parts of the euro area. Beyond the cyclical momentum, the significant pick-up in headline inflation in 2017 compared with the previous three years can also be expected to contribute to the increase in wage growth in euro area countries where wage formation processes include backward-looking indexation or expectation elements. In addition, factors related to the crisis that dampened wages, such as the need for wage moderation to regain price competitiveness after the crisis in some countries and pent-up wage restraint in view of binding downward rigidities in nominal wages during the crisis, should gradually abate as the economic pick-up continues and broadens across euro area countries. Finally, in some countries, the dampening impact on wages of measures that reduce social security contributions will fade, as these measures will gradually expire over the next few years, and wage freezes in the public sector are expected to end.

Profit margins are envisaged to widen over the first part of the projection horizon at a somewhat faster pace than observed over the past year. Profit margins have recently started to strengthen more vigorously, reflecting less adverse terms of trade developments as well as cyclical improvements in the economy. These improvements are expected to continue in the context of the ongoing economic expansion. However, the projected increases in unit labour cost growth and unit net indirect taxes are expected to constrain the pace of expansion of profit margins, particularly towards the end of the projection horizon.

Import price inflation rebounded in 2017 and is expected to remain positive over the projection horizon, although more moderate than recently observed. The rather robust rise in import prices in 2017 reflects the turnaround in oil prices in particular, as well as developments in non-energy commodity prices. The slowdown in import price growth after 2017 likewise relates to the assumed modest outlook for oil prices, but also to rather moderate developments in other commodity prices. Moreover, the appreciation of the euro will contain the impact of commodity price developments and gradually rising global price pressures on euro area import prices.

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[6] As the decrease in growth in compensation per employee and unit labour costs is largely offset by a corresponding increase in profit margins, the impact on price-setting is expected to be limited.

More generally, underlying global inflationary pressures are expected to strengthen gradually over the projection horizon as global production costs rise in line with diminishing global slack.

Compared with the December 2017 projections, the outlook for HICP inflation has been revised down slightly for 2019. While for 2018 the higher oil price assumptions in US dollar terms counterbalance the dampening effects on inflation from the higher euro exchange rate, for 2019 the effects of the appreciation of the euro dominate and result in a slightly lower outlook for HICP inflation.

3 Fiscal outlook

The euro area fiscal stance is expected to remain on average broadly neutral over the projection horizon. The fiscal policy stance is measured as the change in the cyclically adjusted primary balance net of government support to the financial sector. In 2017 cuts to direct taxes and higher transfers to households were fully offset by indirect tax hikes and more subdued growth in government consumption. For 2018, the fiscal stance is shaped mainly by cuts in direct taxes and social security contributions and the assumption of more dynamic growth in government investment, which are only partly offset by indirect tax hikes and subdued growth in current government spending. The fiscal stance is also projected to be on average neutral over 2019-20, as further cuts in direct taxes and social security contributions are expected to be offset by further restraint in government spending.

Over the projection horizon, both the government deficit and debt ratios are projected to be on a downward path. The fiscal projection entails a gradual decline in the government deficit over the projection horizon, owing mainly to an improvement in the cyclical component and a decline in interest payments. The cyclically adjusted primary balance will remain stable over the projection horizon. The government debt-to-GDP ratio is expected to remain on a declining path over the projection horizon, supported by a favourable interest rate-growth rate differential[7] and the primary surplus. Compared with the December 2017 projections, the fiscal outlook points to slightly lower deficit and debt-to-GDP ratios, supported mainly by more favourable macroeconomic developments.

Box 4
Sensitivity analyses

Projections rely heavily on technical assumptions regarding the evolution of certain key variables. Given that some of these variables can have a large impact on the projections for the euro area, examining the sensitivity of the latter with respect to alternative paths of these underlying assumptions can help in the analysis of risks around the projections. This box discusses the uncertainty around some key underlying assumptions and the sensitivity of the projections with respect to these variables.

[7] The differential is calculated as the difference between the nominal effective interest rate on debt and the nominal GDP growth rate.

1) An alternative oil price path

Alternative oil price models point to a risk of oil prices being higher over the projection horizon than suggested by oil price futures. The technical assumptions for oil price developments underlying the baseline projections, based on oil futures markets, predict a declining profile for oil prices, with the price of a barrel of Brent crude oil standing at about USD 58 by the end of 2020. This path entailed in oil price futures is consistent with robust growth in world oil demand, a scenario associated with the global economy gaining traction. As regards supply factors, geopolitical factors and the agreement between OPEC and some non-OPEC producers to cut production are expected to be partly offset by the expansion in the production of shale oil in the United States. A combination of alternative models used by ECB staff[8] to predict oil prices over the projection horizon points towards higher oil prices than assumed in the technical assumptions. The materialisation of an alternative oil price path, in which oil prices are 13.5% higher than in the baseline assumption by 2020, would marginally dampen real GDP growth, while entailing a faster increase in HICP inflation (up by 0.2 percentage point in 2019 and by 0.3 percentage point in 2020).

2) An alternative exchange rate path

This sensitivity analysis investigates the effects of a further strengthening of the exchange rate of the euro, driven by continuously improving investor sentiment in favour of the euro. This scenario is based on the 75th percentile of the distribution provided by the option-implied risk-neutral densities for the USD/EUR exchange rate on 13 February 2018. The path implies a gradual appreciation of the euro vis-à-vis the US dollar to an exchange rate of USD 1.42 per euro in 2020, which is 14.6% above the baseline assumption for that year. The corresponding assumption for the nominal effective exchange rate of the euro reflects historical regularities, whereby changes in the USD/EUR exchange rate correspond to changes in the effective exchange rate with an elasticity of just above one half. In this scenario of an exogenous exchange rate shock, the average of the results from a number of staff macroeconomic models points to real GDP growth being 0.1 percentage point lower in 2018, 0.5 percentage point lower in 2019 and 0.2 percentage point lower in 2020. HICP inflation would be 0.1, 0.5 and 0.4 percentage point lower in 2018, 2019 and 2020 respectively. It should be noted that these estimated impacts on growth and inflation only apply in the event of a purely exogenous exchange rate shock.

Box 5
Forecasts by other institutions

A number of forecasts for the euro area are available from both international organisations and private sector institutions. However, these forecasts are not strictly comparable with one another or with the ECB staff macroeconomic projections, as they were finalised at different points in time. Additionally, they use different (partly unspecified) methods to derive assumptions for fiscal, financial and external variables, including oil and other commodity prices. Finally, there are differences in working day adjustment methods across different forecasts (see the table).

[8] See the four-model combination presented in the article entitled “Forecasting the price of oil”, *Economic Bulletin*, Issue 4, ECB, 2015.

As indicated in the table, other institutions' currently available projections for real GDP growth and HICP inflation are within the ranges surrounding the ECB staff projections (shown in brackets in the table).

Comparison of forecasts for euro area real GDP growth and HICP inflation

(annual percentage changes)

		GDP growth			HICP inflation		
	Date of release	2018	2019	2020	2018	2019	2020
ECB staff projections	March 2018	2.4	1.9	1.7	1.4	1.4	1.7
		[2.1 - 2.7]	[0.9 - 2.9]	[0.7 - 2.7]	[1.1 - 1.7]	[0.6 - 2.2]	[0.8 - 2.6]
European Commission	February 2018	2.3	2.0	-	1.5	1.6	-
OECD	November 2017	2.1	1.9	-	1.5	1.7	-
Euro Zone Barometer	February 2018	2.3	1.9	1.6	1.6	1.6	1.7
Consensus Economics Forecasts	February 2018	2.3	1.9	1.3	1.5	1.5	1.7
Survey of Professional Forecasters	January 2018	2.3	1.9	1.7	1.5	1.7	1.8
IMF	October 2017/ January 2018	2.2	2.0	-	1.4	1.7	1.8

Sources: European Commission's Interim European Economic Forecast, Winter 2018; IMF World Economic Outlook, January 2018 update (real GDP); IMF World Economic Outlook, October 2017 (HICP); OECD Economic Outlook, November 2017; Consensus Economics Forecasts, February 2018; the 2020 figure for Consensus Economics is taken from the October 2017 long-term forecast survey; MJEconomics for the Euro Zone Barometer, February 2018; and the ECB's Survey of Professional Forecasters, January 2018.
Notes: The Eurosystem and ECB staff macroeconomic projections and the OECD forecasts both report working day-adjusted annual growth rates, whereas the European Commission and the IMF report annual growth rates that are not adjusted for the number of working days per annum. Other forecasts do not specify whether they report working day-adjusted or non-working day-adjusted data.

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