EUROPEAN CENTRAL BANK
EUROSYSTEM

December 2018
Eurosystem staff macroeconomic projections for the euro area[1]

Real GDP growth weakened unexpectedly in the third quarter of 2018, partly reflecting temporary production bottlenecks experienced by car manufacturers. While recent data have been weaker than expected, car production has recovered in recent months and the fundamental factors supporting euro area expansion remain broadly in place. Growth is therefore projected to recover in the near term. The projected growth outlook reflects the impact of the very accommodative stance of monetary policy, improving labour market conditions, stronger balance sheets and some fiscal loosening. The moderation in real GDP growth, from 1.9% in 2018 to 1.5% in 2021, is mainly explained by increasing labour supply shortages in some countries and somewhat less supportive financial conditions over the projection horizon. HICP inflation is expected to have peaked at 2.1% in the third quarter of 2018 and to bottom out at 1.4% by the end of 2019, before rising gradually to 1.8% in 2021. This pattern reflects a sharp decline in HICP energy inflation from its current high rates during the course of 2019 as the impact of strong past increases in oil prices fades, while HICP inflation excluding energy and food is projected to rise, reflecting the continued economic expansion and a tightening in labour market conditions.

1 Real economy

The economic expansion weakened in the third quarter compared with the first half of 2018. The slowdown in real GDP growth from 0.4% in each quarter in the first half of 2018 to 0.2% in the third quarter is partly related to delays in some car manufacturers passing the new Worldwide Harmonised Light Vehicle Test Procedure, which led them to reduce production sharply. This was notably the case in Germany, where car production dropped substantially, contributing to a large extent to a decline in German real GDP in the third quarter of 2018. Real GDP

[1] These macroeconomic projections produced by Eurosystem 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 21 November 2018 (see Box 1). The cut-off date for including other information in this exercise was 28 November 2018.
The current macroeconomic projection exercise covers the period 2018-21. 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.

growth in some other countries also fell notably in the third quarter, reflecting a slowdown in domestic demand.

Table 1

Macroeconomic projections for the euro area[1)]

(annual percentage changes)

	December 2018				September 2018		
	2018	2019	2020	2021	2018	2019	2020
Real GDP	1.9	1.7	1.7	1.5	2.0	1.8	1.7
	[1.8 - 2.0][2)]	[1.1 - 2.3][2)]	[0.8 - 2.6][2)]	[0.5 - 2.5][2)]	[1.8 - 2.2][2)]	[1.0 - 2.6][2)]	[0.6 - 2.8][2)]
Private consumption	1.4	1.7	1.6	1.4	1.5	1.7	1.6
Government consumption	1.1	1.6	1.4	1.4	1.4	1.4	1.3
Gross fixed capital formation	3.5	3.3	2.6	2.1	4.0	3.2	2.9
Exports[3)]	2.8	3.5	3.8	3.4	3.1	3.8	3.6
Imports[3)]	2.7	4.2	4.2	3.6	3.5	4.5	3.9
Employment	1.4	0.9	0.8	0.6	1.4	0.9	0.8
Unemployment rate (percentage of labour force)	8.2	7.8	7.5	7.1	8.3	7.8	7.4
HICP	1.8	1.6	1.7	1.8	1.7	1.7	1.7
	[1.8 - 1.8][2)]	[1.1 - 2.1][2)]	[0.9 - 2.5][2)]	[0.9 - 2.7][2)]	[1.6 - 1.8][2)]	[1.1 - 2.3][2)]	[0.9 - 2.5][2)]
HICP excluding energy	1.3	1.5	1.7	1.8	1.3	1.6	1.8
HICP excluding energy and food	1.0	1.4	1.6	1.8	1.1	1.5	1.8
HICP excluding energy, food and changes in indirect taxes[4)]	1.0	1.4	1.6	1.8	1.1	1.5	1.8
Unit labour costs	1.7	1.3	1.6	1.8	1.6	1.3	1.7
Compensation per employee	2.2	2.1	2.5	2.7	2.2	2.2	2.7
Labour productivity	0.5	0.8	0.9	0.9	0.6	0.9	1.0
General government budget balance (percentage of GDP)	-0.5	-0.8	-0.7	-0.6	-0.6	-0.8	-0.5
Structural budget balance (percentage of GDP)[5)]	-0.7	-1.0	-1.0	-1.0	-0.8	-1.0	-1.0
General government gross debt (percentage of GDP)	84.9	83.0	80.9	79.0	84.8	82.8	80.6
Current account balance (percentage of GDP)	3.0	2.7	2.6	2.5	3.2	2.8	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.

The projections assume that the weakening in the third quarter of 2018 is largely temporary and that growth will subsequently recover. The composite output Purchasing Managers' Index continued to fall in October and November, and European Commission confidence indicators have also declined over recent months but remain above their long-term averages, pointing to only moderate growth in the fourth quarter. At the same time, the latest data on car production in Germany highlight the temporary nature of the slowdown, and a further recovery of car production towards normal levels is expected over the coming months. Overall, the projections assume that the weakening in the third quarter of this year is largely temporary and that growth will subsequently recover. It should be noted that this profile is broadly consistent with information from leading indicators such as EuroCOIN and the Conference Board Leading Economic Index.

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. Lending to the private sector continues to increase, being broad-based across euro area countries, and is spurred by still low – albeit somewhat higher – interest rates and favourable bank lending conditions for both households and non-financial corporations. Lower deleveraging needs across sectors will also contribute to the dynamism of private expenditure. The impact of a loosening of fiscal policy in the euro area as a whole is expected to be slightly expansionary. Growth in private consumption and residential investment should also benefit from robust labour market conditions and rising real net worth. At the same time, business investment will continue to expand, in the context of higher profits, high capacity utilisation and likely labour-saving investment in connection with increasing labour shortages. Euro area exports are expected to benefit from the ongoing expansion of global economic activity and the corresponding growth in euro area foreign demand.

Nevertheless, real GDP growth is projected to slow slightly over the projection horizon, as some tailwinds gradually fade. Compared with the robust growth in world trade seen in 2017 and early 2018, the support from foreign demand is expected to be weaker and financial conditions are expected to be somewhat less supportive over the projection horizon. Employment growth is expected to slow substantially over the projection horizon, mostly related to increasingly binding labour supply shortages in some countries. Business investment growth is projected to weaken against a backdrop of lower overall demand growth, tightening financing conditions, the expiration of fiscal incentives and structural changes, such as adverse demographic factors. Growth in housing investment will also be adversely affected by demographic factors.

Growth in real disposable income is set to strengthen in 2019 as a result of higher fiscal transfers, before weakening in 2020 and beyond. The contribution of gross wages and salaries to nominal disposable income growth is projected to decline somewhat in 2019 owing to the impact of weaker employment growth. The contribution from gross wages and salaries is projected to remain broadly unchanged beyond 2019 as an expected increase in nominal wage growth compensates for the further slowdown in employment growth. Non-labour income is projected to grow more moderately in 2019, before gaining more momentum over the remainder of the projection horizon, in line with profits. Reflecting a mix of cuts to direct taxation and rising transfers to households, the contribution of net fiscal transfers is expected to turn positive in 2019, for the first time since 2010, across the large euro area countries; it is expected to turn broadly neutral in 2020 and slightly restrictive in 2021, in the context of lower transfers to households and gradually increasing direct taxation. Overall, real disposable income growth is expected to strengthen in 2019 but to weaken in 2020-21, compounded by a projected increase in consumer price inflation. In addition, its composition is expected to become less favourable for household spending, as disposable income will be driven more by wages than employment and since consumption typically reacts somewhat more strongly to changes in employment.

Momentum in private consumption is projected to pick up somewhat in the near term. In the third quarter of 2018 private consumption is estimated to have been dampened by substantial bottlenecks in car production that implied delays in deliveries. Still favourable consumer confidence, further expected improvements in labour market conditions and rising real wages per employee suggest stronger consumption growth over the next few quarters, compounded by a positive effect of fiscal loosening in certain countries.

Private consumption growth should be supported by favourable bank lending conditions, reinforced by the ECB's monetary policy measures, and by progress achieved in deleveraging. Bank lending rates are projected to increase moderately over the projection horizon. However, the impact of rising bank lending rates on gross interest payments is expected to be limited owing to the long maturity of household debt and the relatively low share of variable rate debt on the households' balance sheet. Despite this increase, gross interest payments are expected to remain at low levels and therefore to continue to support private consumption. In addition, real net worth is projected to increase further, albeit at a somewhat slower pace than in previous years. Together with progress achieved in deleveraging, rising real net worth should also support consumption, even though household gross indebtedness remains at levels prevailing before the global financial crisis.

The household saving ratio is expected to increase gradually towards historically more normal levels over the projection horizon. This normalisation reflects the ongoing cyclical expansion and the changing composition of income growth. In addition, it is expected that private households will increase savings in response to direct tax cuts and to a temporary increase in public transfers.

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

Compared with the September 2018 projections, the technical assumptions include a weaker effective exchange rate of the euro, lower oil prices in US dollars and slightly higher long-term interest rates. The technical assumptions about interest rates and commodity prices are based on market expectations, with a cut-off date of 21 November 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 2019, 0.0% for 2020 and 0.3% for 2021. The market expectations for euro area ten-year nominal government bond yields imply an average level of 1.4% in 2019, 1.7% in 2020 and 1.9% in 2021.[2] Compared with the September 2018 projections, market expectations for short-term interest rates have been revised down by 4 basis points for 2019 and 2020, while long-term interest rates have been revised up by 13 basis points for 2019 and 15 basis points for 2020.

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 21 November 2018, the price of a barrel of Brent crude oil is assumed to decrease from USD 71.8 in 2018 to USD 67.5 in 2019, and to ease further to USD 65.9 in 2021. This path implies that, in comparison with the September 2018 projections, oil prices in US dollars are 0.4% higher in 2018, 5.8% lower in 2019 and 3.2% lower in 2020. The prices of non-energy commodities in US dollars are assumed to be somewhat lower in 2019 than in 2018 and to rebound over the remainder of the projection horizon.[3]

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 21 November 2018. This implies an average exchange rate of USD 1.18 per euro in 2018 and of USD 1.14 per euro over 2019-21, broadly unchanged from the September 2018 projections. The effective exchange rate of the euro (against 38 trading partners) is 0.5% weaker than entailed in the September 2018 projections.

Technical assumptions

	December 2018				September 2018		
	2018	2019	2020	2021	2018	2019	2020
Three-month EURIBOR (percentage per annum)	-0.3	-0.3	0.0	0.3	-0.3	-0.2	0.0
Ten-year government bond yields (percentage per annum)	1.1	1.4	1.7	1.9	1.1	1.3	1.6
Oil price (in USD/barrel)	71.8	67.5	66.8	65.9	71.5	71.7	69.0
Non-energy commodity prices, in USD (annual percentage change)	3.0	-1.4	4.4	4.3	1.9	-2.6	4.2
USD/EUR exchange rate	1.18	1.14	1.14	1.14	1.18	1.14	1.14
Euro nominal effective exchange rate (EER38) (annual percentage change)	5.2	0.0	0.0	0.0	5.1	0.6	0.0

The expansion of residential investment is expected to continue, albeit at a more moderate pace. Growth in housing investment seems to have peaked in early 2018 and to have lost momentum in subsequent quarters. This weakening, compared with the booming housing market in 2016 and 2017, mostly reflects the impact of increasing supply-side constraints – notably labour shortages – in some countries. The key conditions for further increases in residential investment remain in place over the projection horizon, with surveys indicating that increasing numbers of

[2] 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.

[3] 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 fourth quarter of 2019 and thereafter to evolve in line with global economic activity.

households plan to buy or build a home within the next two years or to embark on home improvements. Nonetheless, in line with the expected gradual slowdown in the pace of growth in real disposable income and with financing conditions set to become slightly tighter, the momentum of this expansion is expected to ease. Such moderation may also emerge from increasingly binding capacity constraints in the construction sector and adverse demographic trends in some countries.

Business investment is expected to continue recovering over the projection horizon, albeit at a gradually declining pace from 2019 onwards. Business investment is estimated to have expanded rapidly during the course of 2018, increasing its share in euro area real GDP to pre-crisis peak levels. Looking ahead, in addition to overall favourable demand prospects, a number of factors are expected to continue to support business investment: business confidence, albeit somewhat weaker than in early 2018, remains above average levels, supported by favourable production expectations and order books; capacity utilisation remains well above its long-term average and a large share of manufacturing firms report lack of equipment as a factor limiting production; financing conditions are expected to remain supportive, albeit gradually tightening over the projection horizon; profits are expected to increase in the context of an already cash-rich non-financial corporation (NFC) sector; and companies may increase investment as a means of compensating for labour-related supply-side constraints. Moreover, the NFC leverage ratio has declined over recent years driven by a recovery in stock prices, continued accumulation of assets and moderate debt financing growth, although consolidated gross indebtedness still stands above pre-crisis levels. A gradual loss of momentum in business investment over the projection horizon reflects the overall deceleration in both domestic and foreign demand, as well as increases in NFC lending rates. In addition, the expected end of special fiscal incentives and adverse effects from certain structural changes (such as adverse demographic factors) are expected to weigh on corporate investment in the medium term.

Box 2
The international environment

While global activity has remained resilient so far, signs of a slowdown are emerging. The global economy continued to expand at a steady pace in the second quarter of 2018, and outcomes for growth in the third quarter in the United States and the United Kingdom still point to resilient activity, notwithstanding a contraction in output in Japan, which largely reflects temporary factors related to natural disasters. Across the emerging market economies, activity held up in China, while a stabilisation of sentiment and a related appreciation of the lira point to a somewhat less pronounced contraction in Turkey than previously expected.

In the near term, the global cyclical momentum is expected to support global activity. The advanced economies continue to benefit from accommodative monetary policies and the sizeable fiscal stimulus in the United States. The past increase in oil prices has also helped stabilise investment in many oil-exporting economies. Nonetheless, trade tensions between the United States and China have escalated and uncertainty about future trading relations remains elevated, weighing on global activity. The concerns over global trade, the gradual normalisation of monetary policies in advanced economies and policy uncertainties have led to a tightening of financial conditions over the summer months, particularly for some emerging market economies. While the global risks appear to have stabilised recently, financial investors continue to discriminate against emerging market economies with significant imbalances, high external financing needs and policy space constraints.

Looking further ahead, global growth is projected to remain steady. On the one hand, this reflects the projected cyclical slowdown across advanced economies and China's transition to a lower growth path. Negative output gaps are already closed or closing in most advanced economies and policy support will gradually diminish. In addition, while it is assumed that the current trading relationship between the United Kingdom and the EU27 will be maintained until the end of 2020, the assumed transition to a new trading relationship from 2021 will dent UK growth somewhat. On the other hand, the global outlook for activity also reflects the projected recovery of activity in several emerging market economies over the projection horizon, especially those that have been adversely affected by the recent financial market turbulence. Overall, global growth (excluding the euro area) is projected to be 3.8% in 2018 and to decline to 3.6% in 2021.

Compared with the September 2018 projections, global GDP growth has been revised down. These downward revisions reflect the weaker outlook for emerging market economies, while the outlook for activity in advanced economies remains broadly unchanged.

The international environment

(annual percentage changes)

	December 2018				September 2018		
	2018	2019	2020	2021	2018	2019	2020
World (excluding euro area) real GDP	3.8	3.5	3.6	3.6	3.9	3.7	3.7
Global (excluding euro area) trade[1)]	5.1	3.5	3.6	3.6	4.6	3.9	3.8
Euro area foreign demand[2)]	4.3	3.1	3.5	3.4	4.1	3.6	3.6

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

Global trade momentum is projected to slow in 2019 as the global economic cycle matures and new tariffs weigh on trade, especially in the United States and China. Over the medium term, the trade projections are anchored around the view that global imports will grow broadly in line with global activity. Overall, euro area foreign demand is expected to expand by 4.3% in 2018, slowing to 3.4% by 2021. Compared with the September 2018 projections, euro area foreign demand has been revised up for 2018 owing to the stronger momentum observed in the first half of 2018. Downward revisions for 2019 and 2020 reflect partly the mechanical impact of the higher bilateral tariffs in the United States and China and, to a lesser extent, slightly weaker global activity.

Extra-euro area exports are projected to outpace foreign demand in the near term and to grow in line thereafter. Extra-euro area exports are expected to grow somewhat faster than foreign demand during 2019, implying some gains in market share in the near term on account of improving price competitiveness across euro area countries (in the context of export price increases falling behind those of competitors). Over the medium term, extra-euro area exports are expected to grow in line with foreign demand. Extra-euro area imports are expected to benefit from positive demand developments and, in the coming quarters, from the stronger euro.

The contribution of net trade to economic growth is projected to be broadly neutral over the projection horizon, following a small positive contribution in 2018.

Employment growth is projected to decline as activity slows and labour shortages are expected to become increasingly binding in some countries. Headcount employment growth slowed in the third quarter of 2018, following quarterly growth rates of 0.4% in the first half of the year, reflecting the deceleration in activity since the beginning of 2018. Forward-looking surveys suggest continued employment growth in the near term, albeit dampened in 2019 by cuts to public sector employment, the expected introduction of an early retirement scheme and expected layoffs in the wake of rises in minimum wages in some countries. Fundamentally, employment growth is projected to lose some momentum over the projection horizon, mainly in line with the slowdown in activity.

The labour force is projected to expand but at a moderating pace over the projection horizon. This reflects the projected net immigration of workers, the expected integration of refugees and ongoing increases in labour market participation rates. Nevertheless, the impact of these factors is projected to fade over the projection horizon and the adverse impact of the ageing of the population, as older cohorts leave the workforce in higher numbers than younger cohorts enter it, is expected to increase.

The unemployment rate is expected to decline to 7.1% in 2021. The unemployment rate declined to 8.1% in the third quarter of 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.

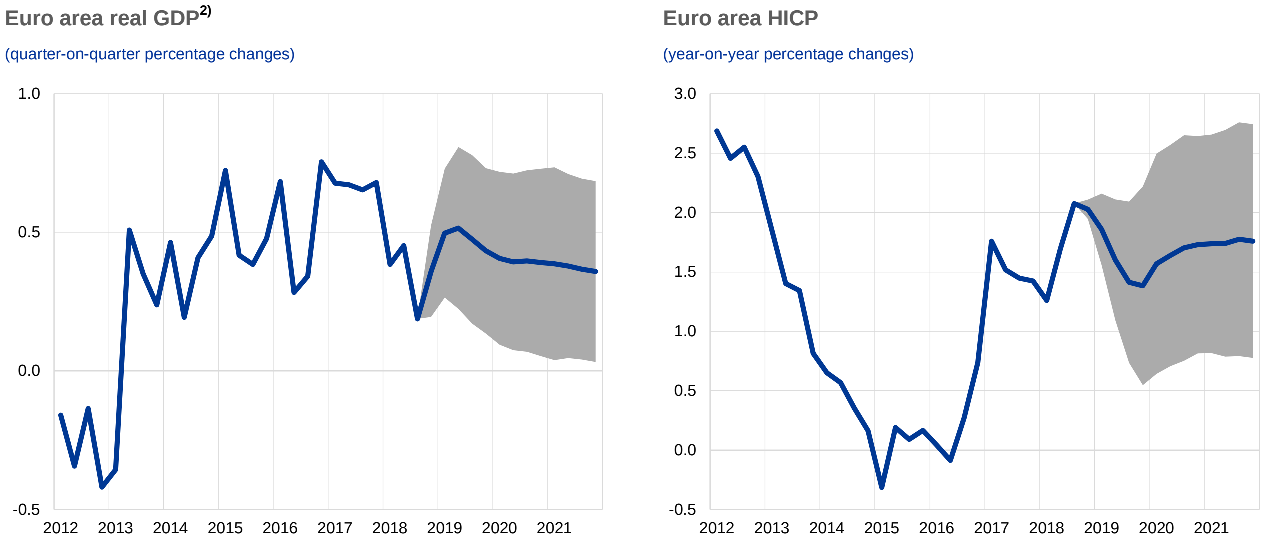
Reflecting its cyclical pattern, labour productivity is projected to recover over the projection horizon. Following its strong momentum in 2017, labour productivity stagnated in quarter-on-quarter terms in the first three quarters of 2018, reflecting the unexpected weakening of activity. Looking ahead, the aforementioned slowdown in employment growth, the increasing utilisation of capital in the context of diminishing slack, an increase in the number of hours worked per person and some gains in total factor productivity suggest that labour productivity growth will increase over the projection horizon, albeit to rate slightly below its pre-crisis average of 1.0%.

Compared with the September 2018 projections, real GDP growth has been revised down slightly for 2018 and 2019. This reflects the weaker data outturn in the third quarter of 2018, and the associated lower carry-over into 2019. At the same time, for both 2019 and 2020, while slightly higher long-term lending rates, lower stock prices and lower foreign demand growth will dampen activity, these effects are expected to be broadly offset by the favourable impact of lower oil prices, the weaker effective exchange rate of the euro and some additional fiscal loosening.

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.
http://www.ecb.europa.eu/pub/pdf/other/newprocedureforprojections200912en.pdf?917c588c190f66c694c463d2cee934d4
2) Working day-adjusted data.

2 Prices and costs

HICP inflation is expected to have peaked in the third quarter of 2018 and to decrease until the end of 2019, before gradually strengthening over the remainder of the projection horizon. The current high inflation rates of the HICP energy component, related to the strong past increase in oil prices, are expected to recede significantly over the projection horizon given the mildly downward sloping profile of the oil price futures curve. HICP food inflation is envisaged to be relatively flat over the projection horizon, averaging 1.9%. Underlying price pressures are projected to rise gradually on the back of an improved cyclical position of the economy and the related increase in wage growth. In particular, increasing labour supply constraints in some countries are expected to push up wage growth. Some further upward pressure on underlying inflation is expected to come from external price developments, among other factors, as past increases in oil prices indirectly impact HICP inflation excluding energy and food. Overall, HICP inflation excluding energy and food is projected to rise to 1.8% in 2021.

Wage growth is foreseen to pick up noticeably over the projection horizon as labour markets continue to tighten and factors that have dampened wage growth in some countries over the past few years fade. Compensation per employee growth is projected to rise notably, from 2.2% in 2018 to 2.7% in 2021.[4] The main driver behind the pick-up in wage growth is the envisaged further improvement in euro area labour market conditions, with increasing labour market tightness and distinct labour supply shortages in some parts of the euro area. In line with the cyclical position of the economy, the strengthening of growth in compensation per employee is expected to be supported by firmer growth in negotiated wages. Beyond the cyclical momentum, the recent significant pick-up in headline inflation can be expected to contribute to a pick-up in wage growth in euro area countries where wage formation processes include backward-looking elements. In addition, the wage-dampening effects of crisis-related factors, such as the need for wage moderation to regain price competitiveness 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 expansion continues and broadens across euro area countries. Furthermore, some government measures that have curbed wage growth in the past are expected to become less relevant and some countries have introduced increases in minimum wages that might pass through to the wage distribution.

Profit margins are envisaged to develop more favourably over the projection horizon than in 2018. The weaker developments in profit margins in 2018 reflect, in particular, the recent deterioration in the terms of trade but also some loss in cyclical momentum. The more favourable outlook for profit margins beyond 2018 reflects expected positive developments in companies' pricing power.

External price pressures are expected to remain positive but to moderate slightly over the projection horizon. The annual growth rate of the import deflator is envisaged to moderate after 2018. This reflects some dampening effects from the slightly downward sloping path of oil prices implied by the assumptions, while non-oil commodity prices and underlying global price pressures are assumed to rise over the projection horizon.

Compared with the September 2018 projections, the projection for HICP inflation has been revised down for 2019. The path for HICP inflation excluding energy and food is slightly lower in view of a slightly weaker growth and wage outlook. For overall HICP inflation, the revision to HICP inflation excluding energy and food is compounded by downward revisions to the energy component for 2019 but offset by upward revisions to the energy component for 2020. These revisions to the energy component broadly follow the changes in the oil price assumptions, which have been revised down in the short term but have now a more mildly downward sloping path than in the previous exercise.

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[4] A temporary slowdown in compensation per employee growth in 2019 reflects the implementation of a fiscal measure in France, namely the conversion of a tax credit (the Crédit d'impôt pour la compétitivité et l'emploi – CICE) into a permanent cut in employers' social security contributions. 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.

3 Fiscal outlook

The euro area fiscal stance is projected to be broadly neutral in 2018, to loosen somewhat in 2019 and 2020, and to be again neutral in 2021. The fiscal policy stance is measured as the change in the cyclically adjusted primary balance net of government support to the financial sector. In 2019 the main contribution to the loosening of the fiscal stance stems from cuts to direct taxes and social security contributions, as well as higher transfers in some countries. In 2020 further cuts to direct taxes and social security contributions, as well as still rather strong expenditure growth in some countries, contribute to this loosening, although to a lesser extent than in 2019.

After an improvement in 2018, the euro area budget balance is projected to deteriorate somewhat over 2019-21, while the debt ratio remains on a downward path. The widening in the government deficit is due to a deterioration in the cyclically adjusted primary balance. This is partly offset by a slight decline in interest expenditures, resulting from the replacement of high-cost old debt with new debt issued at lower interest rates, while the cyclical component remains broadly unchanged. The declining path of the government debt-to-GDP ratio is supported by positive primary balances and a favourable interest-growth rate differential. Compared with the September 2018 projections, the deficit outlook has deteriorated due to a less favourable primary balance, while the debt-to-GDP ratio has been revised slightly upwards owing to lower primary balances and an upward revision of historical data.

Box 3
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.

1) Alternative oil price paths

This sensitivity analysis aims to assess the implications of alternative oil price paths. The technical assumptions for oil price developments underlying the baseline projections, based on oil futures markets, predict a mildly declining profile for oil prices, with the price of a barrel of Brent crude oil standing at about USD 66 at the end of 2021. Two alternative oil price paths are analysed. The first is based on the lower 25th percentile of the distribution provided by the option-implied densities for the oil price on 21 November 2018. This path implies a gradual decline in the oil price to USD 48.8 per barrel in 2021, which is 25.9% below the baseline assumption for that year. Using the average of the results from a number of staff macroeconomic models, this path would have some upward impact on real GDP growth, while HICP inflation would be 0.5 percentage point lower in 2019, 0.4 percentage point lower in 2020 and 0.2 percentage point lower in 2021. The second path is based on the upper 25th percentile of the same distribution and implies an increase in the oil price to around USD 83 per barrel in 2021, which is 25.9% above the baseline assumption for this year. This path would entail a faster increase in HICP inflation, which would be 0.5 percentage point higher in 2019, 0.4 percentage point higher in 2020 and 0.2 percentage point higher in 2021, while real GDP growth would be somewhat lower in 2019-21.

2) An alternative exchange rate path

This sensitivity analysis investigates the effects of a strengthening of the exchange rate of the euro. This scenario is consistent with the distribution of the option-implied risk-neutral densities for the USD/EUR exchange rate on 21 November 2018, which is heavily skewed towards an appreciation of the euro. The 75th percentile of that distribution implies an appreciation of the euro vis-à-vis the US dollar to an exchange rate of USD 1.34 per euro in 2021, which is 18.5% 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, the average of the results from a number of staff macroeconomic models points to real GDP growth being 0.3 percentage point lower in 2019, 0.6 percentage point lower in 2020 and 0.2 percentage point lower in 2021. HICP inflation would be 0.3 percentage point lower in 2019 and 0.6-0.7 percentage point lower in 2020 and 2021.

Box 4
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 Eurosystem 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).

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

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

(annual percentage changes)

	Date of release	GDP growth				HICP inflation			
		2018	2019	2020	2021	2018	2019	2020	2021
Eurosystem projections	December 2018	1.9	1.7	1.7	1.5	1.8	1.6	1.7	1.8
		[1.8 - 2.0]	[1.1 - 2.3]	[0.8 - 2.6]	[0.5 - 2.5]	[1.8 - 1.8]	[1.1 - 2.1]	[0.9 - 2.5]	[0.9 - 2.7]
European Commission	November 2018	2.1	1.9	1.7	-	1.8	1.8	1.6	-
OECD	November 2018	1.9	1.8	1.6	-	1.8	1.9	1.9	-
Euro Zone Barometer	November 2018	2.0	1.7	1.6	1.4	1.8	1.7	1.7	1.7
Consensus Economics Forecasts	November 2018	2.0	1.7	1.4	1.4	1.8	1.7	1.7	1.8
Survey of Professional Forecasters	October 2018	2.0	1.8	1.6	-	1.7	1.7	1.7	-
IMF	October 2018	2.0	1.9	1.7	1.6	1.7	1.7	1.8	1.9

Sources: European Commission Economic Forecast, Autumn 2018; IMF World Economic Outlook, October 2018; OECD Economic Outlook, November 2018; Consensus Economics Forecasts, November 2018; the 2020 and 2021 figures for Consensus Economics are taken from the October 2018 long-term forecast survey; MJEconomics for the Euro Zone Barometer, November 2018; the 2020 and 2021 figures for the Euro Zone Barometer are taken from the October 2018 long-term forecast survey; and the ECB's Survey of Professional Forecasters, October 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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