EUROPEAN CENTRAL BANK

EUROSYSTEM

DECEMBER 2015 EUROSYSTEM STAFF MACROECONOMIC PROJECTIONS FOR THE EURO AREA[1]

1. EURO AREA OUTLOOK: OVERVIEW AND KEY FEATURES

The economic recovery in the euro area is expected to continue. Real GDP is projected to increase by 1.5% in 2015, 1.7% in 2016 and 1.9% in 2017. The overall outlook is broadly unchanged compared with the previous exercise, but the outlook for domestic demand is stronger, while that for foreign demand is weaker. Inflation is expected to rise over the projection horizon, to 1.6% in 2017. The inflation outlook has been revised down slightly, mainly reflecting lower oil prices.

A number of tailwinds are expected to continue to support the domestic demand-led recovery in 2016 and 2017. The ECB's accommodative monetary policy stance continues to be transmitted to the economy, as evidenced by some further easing of credit supply conditions, the recent turnaround in credit volumes, and the depreciation of the effective exchange rate of the euro. Low oil prices should be supportive of both consumption and investment; in addition, domestic demand will benefit from some fiscal easing, also owing to the recent influx of refugees, since this is expected to lead to additional government consumption and transfers to households. As private sector deleveraging needs are expected to diminish, domestic demand is expected to strengthen in the coming years via the investment accelerator. In addition, continued labour market improvements should support consumption. By contrast, the support for euro area activity from the global recovery is expected to remain more muted, largely reflecting weak growth in emerging market economies.

HICP inflation is projected to rise to 1.0% in 2016 and to 1.6% in 2017. Developments in HICP energy inflation are expected to play a major role in shaping the profile of HICP inflation over the projection horizon. Strong upward base effects at the turn of the year as well as in the second half of 2016, together with the assumed increases in oil prices (in line with futures prices) up to 2017, are projected to lead to a substantial rise in HICP energy inflation from the current negative rates. In addition, HICP inflation excluding energy and food is foreseen to strengthen gradually over the projection horizon. Increases in both wages and profit margins are expected to push up underlying inflation as the economic recovery gains momentum. In addition, the substantial decline in the euro exchange rate should continue to be passed through to HICP inflation.

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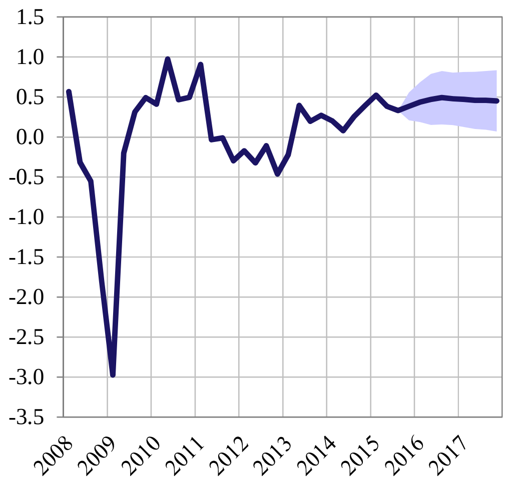
[1] Eurosystem staff macroeconomic projections are an input to the Governing Council's assessment of economic developments and the risks to price stability. Information on the procedures and techniques used is given in *A guide to Eurosystem staff macroeconomic projection exercises*, ECB, June 2001, which is available on the ECB's website. The cut-off date for technical assumptions such as oil prices and exchange rates was 12 November 2015 (see Box 3). The cut-off date for including other information in this exercise was 19 November 2015.
The current macroeconomic projection exercise covers the period 2015-17. Projections for a period 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.

Chart 1 Macroeconomic projections[1)]

(quarterly data)

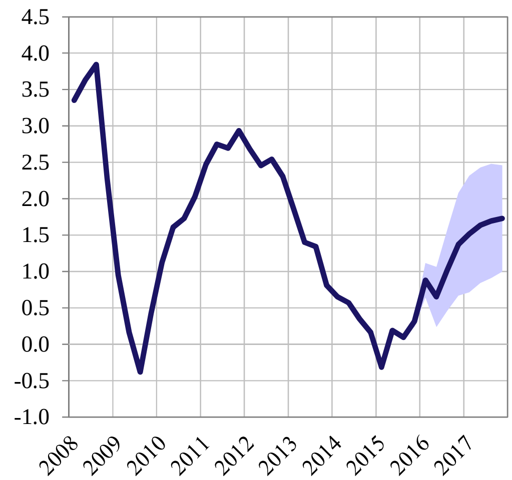
Euro area real GDP[2)]

(quarter-on-quarter percentage changes)



Euro area HICP

(year-on-year percentage changes)



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. REAL ECONOMY

The recovery in euro area activity is expected to continue, increasingly supported by domestic demand over the projection horizon. Real GDP increased by 0.3% in the third quarter of 2015. Looking ahead, business and consumer confidence has remained elevated in recent months, pointing to steady growth in the near term. Beyond that, a number of favourable factors are expected to support real GDP growth over the projection horizon, notably the accommodative monetary policy stance, some fiscal easing, low oil prices and a gradually improving global demand outlook coupled with rising export market shares reflecting the comparatively weak effective exchange rate of the euro.

Private consumption expenditure is expected to remain the key driver of the recovery. Nominal disposable income should accelerate over the projection horizon, supported by increasing wage income against a background of robust employment growth and rising nominal compensation per employee growth, as well as by accelerating other personal income. In addition, higher transfers and lower direct taxes will increase household income in 2016. Real disposable income growth is expected to remain resilient in 2016 before losing momentum in 2017 on account of rising consumer prices. Low financing costs and rising household net worth, both reinforced by the asset purchase programme (APP), should support private consumption, although the low interest rate environment also weighs on disposable income, via lower interest receipts. Overall, annual growth in private consumption is projected to average 1.7% over the period 2015-17, following an increase of 0.8% in 2014.

The saving ratio is expected to remain broadly stable in the near term, before declining slightly in 2017. The saving ratio is projected to increase somewhat in 2015, reflecting some inertia in the adjustment of consumption to the oil price-related gains in real disposable income. The saving ratio is expected to remain broadly unchanged in 2016 before declining somewhat in 2017. In certain countries high unemployment and elevated gross debt levels are expected to maintain some upward pressure on savings, while the very low level of interest rates may imply a need for additional savings in some countries. Over time, though, a number of downward pressures on savings are expected to dominate. First, household consumption should gradually catch up with the increase in disposable income stemming from the drop in oil prices. Second, gradually declining unemployment should result in lower precautionary savings, allowing households to undertake major purchases that might have previously been postponed. Finally, very low interest returns tend to discourage savings via an inter-temporal substitution effect.

Residential investment in the euro area is expected to pick up, albeit from a very low level. Revised data suggest somewhat stronger residential investment activity in the first half of 2015. Looking ahead, residential investment should gain momentum over the projection horizon, supported by sustained growth in real disposable income, very low mortgage rates and easier financing conditions, reinforced by the APP. This should result in stronger household loan growth, supporting residential investment. However, high levels of household debt and unfavourable demographic effects in some euro area countries are likely to prevent a stronger increase in residential investment.

Business investment is set to gain momentum gradually, supported by an improvement in financing conditions and by the cyclical recovery. The accommodative monetary policy stance, accelerator effects in the context of the projected strengthening of domestic and external demand, the need to modernise the capital stock after several years of subdued investment, fiscal measures in some countries, and a strengthening of profit mark-ups in the context of an already cash-rich non-financial corporations sector are all projected to support capital spending. Moreover, the overall pressure from corporate deleveraging in the euro area should, over the projection horizon, be less of a constraint for business investment than in the past. Indeed, in most countries debt-to-equity ratios have declined substantially from the peaks reached during the financial crisis and stand at their historical lows. However, the recovery of business investment will still be held back by remaining financial bottlenecks and high indebtedness levels in some countries, as well as by expectations of weaker potential output growth than in the past.

The fiscal stance, as measured by the change in the cyclically adjusted primary balance net of government support to the financial sector, is expected to provide a mildly positive contribution to demand over the projection period. After mildly tightening discretionary fiscal measures in 2015, a discretionary loosening is assumed in 2016, while in 2017 fiscal measures are assumed to be neutral.[2] Growth in real government investment is expected gain some momentum in 2016 and to accelerate further in 2017, while government consumption is assumed to grow at a relatively strong pace. The influx of refugees is expected to contribute to a loosening of the euro area fiscal stance (see Box 2).

Euro area foreign demand is expected to be dampened by weak growth in emerging markets and a low trade intensity of global growth, but is projected to recover gradually over the horizon (see Box 1). While foreign demand is expected to gradually strengthen over the projection horizon, its pace will be slow owing to weak import growth in emerging market economies. It is projected to fall well short of its pre-crisis pace, reflecting both lower global activity and a lower global trade elasticity to growth, especially in emerging market economies.

Extra-euro area export growth should increase over the projection horizon. Extra-euro area export growth is projected to continue to outpace foreign demand growth over the projection horizon, with exports benefiting from the lagged effects of the depreciation of the effective exchange rate of the euro and gains in competitiveness. Extra-euro area import growth is expected to remain relatively contained over the projection horizon, reflecting a composition of total demand dominated by expenditure components with low import content such as public and private consumption. The current account surplus is expected to increase from 2.4% of GDP in 2014 to 3.0% in 2015, before easing to 2.9% in 2016 and 2.7% in 2017.

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[2] The fiscal assumptions reflect the information included in budget laws for 2016 as well as other relevant information that was available on 19 November 2015. They include all policy measures that have already been approved by national parliaments or that have been defined in sufficient detail by governments and are likely to pass the legislative process.

The negative output gap is expected to narrow, against the background of moderate potential output growth. Potential output growth is estimated to be only around 1% over the projection horizon, remaining clearly below its pre-crisis pace. With projected real GDP growth being above potential, the negative output gap is expected to narrow substantially by the end of the projection horizon.

Box 1

THE INTERNATIONAL ENVIRONMENT

The global economy continues along a path of gradual recovery, but the pace of economic expansion remains modest. Global activity indicators and available country data point to continued moderate world growth in the third quarter of 2015. Looking ahead, global activity should remain on a gradual – yet uneven – modest recovery path, driven by resilient growth prospects in most advanced economies, while the outlook in emerging market economies continues to be subdued by historical standards. Low oil prices, favourable financing conditions, improving labour markets and confidence, and the receding headwinds of private sector deleveraging and fiscal consolidation should support the outlook for advanced economies. By contrast, the medium-term outlook for emerging market economies is more mixed. While strengthened demand in advanced economies should support a rebound in economic activity, structural impediments and macroeconomic imbalances in several large emerging market economies continue to hold back growth prospects in these economies. At the same time, some of these economies are adjusting to lower commodity prices and tighter external financing conditions ahead of the normalisation of US monetary policy, while political uncertainty in some of them remains high. Global growth (excluding the euro area) is projected to accelerate gradually from 3.1% in 2015 to 3.6% in 2016 and close to 3.9% in 2017. This implies a downward revision of 0.1 percentage point for 2015 and of 0.2 percentage point for 2016 compared with the projections published in September.

Global trade was extremely weak in the first half of 2015, but it is expected to strengthen gradually. Data on world trade for the first half of 2015 have been revised sharply down, now showing a more marked contraction. While the significant fall in imports in Russia and Brazil over this period can be partly explained by falling domestic demand and exchange rate depreciation, developments in other economies (including the United Kingdom, Japan and China) appear to reflect mostly noise in trade data. Recent trade indicators suggest some stabilisation for the third quarter of 2015, but overall subdued dynamics are likely to prevail in the near term. Looking further ahead, world trade is expected to strengthen gradually – in line with the recovery in global activity – while clearly failing to regain the dynamics observed before the financial crisis. Overall, relative to global GDP, the profile for global imports and euro area foreign demand is projected to be fairly weak over the horizon. Euro area foreign demand growth is expected to increase from -0.1% in 2015 to 2.7% in 2016 and 3.8% in 2017. Compared with the projections published in September, this represents a downward revision of 1.6 percentage point in 2015, 0.7 percentage point in 2016 and 0.3 percentage point in 2017.

The international environment

(annual percentage changes)

	December 2015				September 2015			Revisions since September 2015		
	2014	2015	2016	2017	2015	2016	2017	2015	2016	2017
World (excluding euro area) real GDP	3.7	3.1	3.6	3.9	3.2	3.8	4.0	-0.1	-0.2	0.0
Global (excluding euro area) trade[1]	3.2	0.5	2.9	3.8	1.4	3.3	4.1	-0.9	-0.5	-0.3
Euro area foreign demand[2]	3.3	-0.1	2.7	3.8	1.5	3.3	4.1	-1.6	-0.7	-0.3

Note: Revisions are calculated from unrounded figures.
1) Calculated as a weighted average of imports.
2) Calculated as a weighted average of imports of euro area trade partners.

The improvement in euro area labour market conditions is expected to continue over the projection horizon. Headcount employment is expected to maintain its strong momentum in the second half of 2015. It is projected to continue increasing in 2016 and 2017, mainly driven by the economic recovery, fiscal incentives in some countries, wage moderation, past labour market reforms and the gradual integration of refugees into the labour market. The number of hours worked per person employed is projected to increase somewhat over the projection horizon, but to remain far below pre-crisis levels. These developments in employment imply a pick-up in labour productivity growth from 0.3% in 2014 to 0.9% in 2017, in line with its traditional pro-cyclical pattern. The labour force is expected to expand more strongly than previously envisaged, by 0.5% in both 2016 and 2017 following annual growth rates of 0.2% in 2014 and 2015, reflecting the continued influx of refugees (see Box 2) and the fading of discouragement effects. The unemployment rate is expected to decline to 10.1% in 2017, still remaining far above its pre-crisis level (7.5% in 2007).

Compared with the projections published in September, the prospects for real GDP growth are broadly unchanged. A small upward revision in 2015 mostly reflects the stronger outcome for the second quarter of 2015. The broadly unrevised outlook for 2016 and 2017 reflects two offsetting factors: on the one hand, a more resilient outlook for private consumption and higher government consumption owing to, among other things, fiscal measures taken in response to the refugee influx, and, on the other hand, a weaker outlook for exports on account of weaker foreign demand.

Box 2

THE IMPACT OF THE INFLUX OF REFUGEES ON THE EURO AREA ECONOMY

The euro area is currently experiencing an unprecedented influx of refugees. About 850,000 refugees had crossed the Mediterranean by the end of November 2015, according to the United Nations High Commissioner for Refugees, implying flows well in excess of those observed during the Balkan crisis in the early 1990s. In the current projections, it has been assumed that an additional 2.4 million refugees (less than 1% of the euro area population) are likely to arrive in the euro area by 2017, as compared with the projections published in June 2015.

The assessment of the impact of the influx of refugees on the real economy and public finances is associated with very high uncertainty. The number of refugees and their skill characteristics are still very unclear, while the number of subsequent family member arrivals is largely unforeseeable. Their distribution across the euro area countries is also not yet clear. In addition, national asylum policies, with macroeconomic and fiscal implications, are in the process of being adjusted.

The macroeconomic impact on the supply side would crucially depend on the labour market participation and speed of labour market entry. It is generally a lengthy process for refugees to enter the formal labour market of the host country. They first need to obtain asylum and at times work permits, acquire language skills and receive professional skill recognition. While, owing to legal and practical constraints, it takes a minimum of six months on average in the euro area before refugees can enter the job market, there are large country differences and, in practice, it could take several years for many refugees to find a stable job. For the euro area baseline it is assumed that the arriving refugees are predominantly young and compete with resident workers at the lower end of the skill and wage distribution. Furthermore, only about a quarter of all refugees are assumed to have entered the labour force by the end of the projection horizon.

The short to medium-term macroeconomic impact of the influx of refugees operates through both demand and supply channels. Initially a positive demand shock via higher private and government consumption would increase prices and output, supported by relatively low savings and a high propensity to consume among refugees. The magnitude of this shock may also depend on the size of the refugees' remittances to their home countries. At the same time, in some countries the economy may be adversely affected by deteriorating confidence among consumers and businesses. This could reflect concerns that refugees will integrate to the detriment of residents' labour market prospects – to the extent that refugees do not take up unfilled job vacancies – and that the tourism sector in southern European countries receiving large numbers of refugees may be adversely affected. As some refugees enter the labour market, compensation per employee and productivity may be dampened owing to the increasing number of lower-skilled and lower-paid workers. However, in the near term, inflation may actually rise by comparison with a baseline that does not include the impact of the additional refugees owing to higher domestic demand, lower productivity and increasing housing rental prices. Thereafter, rising trend labour supply and employment could spur further growth, via stronger private consumption and housing investment. Moreover, in the longer term, potential output growth may benefit.

The impact on employment, output and prices is differentiated across countries and is overall likely to be modest in the euro area baseline. However, the budgetary effects will be notable. The budgetary impact of the influx of refugees is expected to reflect government expenditure for food and accommodation, cash transfers to refugees and, to a lesser extent, increased government consumption related to, among other things, spending on education, health and integration more generally. The expected short-term budgetary effects reflect the fact that, despite some indications of additional housing needs, there is no evidence of sizeable additional government investment. The refugee influx is expected to contribute to a looser euro area fiscal stance than in the previous projections. The budgetary impact on public finances is expected to last over the entire projection horizon in countries which are most affected. With the exception of a few countries where the additional (limited) costs arising from hosting refugees are expected to be covered through a re-prioritisation of spending or by drawing on reserves, such expenditure is expected to increase government deficits, not least given that the Stability and Growth Pact provides some flexibility in this regard. Over the longer run, the fiscal impact may become more favourable, depending crucially on the timing and extent of refugees' entry into the labour market.

Box 3

TECHNICAL ASSUMPTIONS ABOUT INTEREST RATES, EXCHANGE RATES AND COMMODITY PRICES

Compared with the September projections, the changes in the technical assumptions include lower US dollar-denominated oil and non-energy commodity prices, a small appreciation of the effective exchange rate of the euro and lower interest rates in the euro area.

The technical assumptions about interest rates and commodity prices are based on market expectations, with a cut-off date of 12 November 2015. 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 0.0% for 2015, -0.2% in 2016 and -0.1% for 2017. The market expectations for euro area ten-year nominal government bond yields imply an average level of 1.2% in 2015, 1.4% in 2016 and 1.7% in 2017.[1] Reflecting the path of forward market interest rates and the gradual pass-through of changes in market rates to lending rates, composite bank lending rates on loans to the euro area non-financial private sector are expected to remain broadly stable in 2016 before rising modestly in 2017. As regards commodity prices, on the basis of the path implied by futures markets in the two-week period ending on the cut-off date of 12 November, the price of a barrel of Brent crude oil is assumed to rise from the then prevailing level of USD 45 to USD 52.2 in 2016 and USD 57.5 in 2017. The prices of non-energy commodities in US dollars are assumed to follow an upward path.[2] 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 12 November. This implies an exchange rate of USD 1.09 per euro over the projection horizon.

Technical assumptions

	December 2015				September 2015			Revisions since September 2015[1)]		
	2014	2015	2016	2017	2015	2016	2017	2015	2016	2017
Three-month EURIBOR (percentage per annum)	0.2	0.0	-0.2	-0.1	0.0	0.0	0.1	0.0	-0.2	-0.2
Ten-year government bond yields (percentage per annum)	2.0	1.2	1.4	1.7	1.3	1.6	1.8	-0.1	-0.2	-0.1
Oil price (in USD/barrel)	98.9	53.8	52.2	57.5	55.3	56.1	60.9	-2.7	-6.9	-5.6
Non-energy commodity prices, in USD (annual percentage change)	-8.6	-18.7	-5.2	4.1	-19.7	-4.6	4.4	1.0	-0.7	-0.4
USD/EUR exchange rate	1.33	1.11	1.09	1.09	1.11	1.10	1.10	0.3	-1.0	-1.0
Euro nominal effective exchange rate (EER38) (annual percentage change)	2.4	-7.1	0.1	0.0	-7.8	0.3	0.0	0.7	-0.2	0.0

1) Revisions are calculated from unrounded figures and expressed as percentages for levels, differences for growth rates and percentage points for interest rates and bond yields.

1 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.

2 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 2016 and thereafter to evolve in line with global economic activity.

3. PRICES AND COSTS

HICP inflation has stayed close to zero over the past few months. The low level of headline inflation reflects intensified downward pressures from energy prices related to the latest drop in oil prices. At the same time, HICP inflation excluding energy has edged up slightly over recent months. This reflects increases in the inflation rates of food and non-energy industrial goods prices. The inflation rate of the latter has been pushed up by the strong depreciation of the euro. By contrast, notwithstanding some volatility, services price inflation has been virtually flat over the last few months, reflecting moderate domestic cost pressures.

HICP inflation is envisaged to average 0.1% in 2015 before increasing to 1.0% in 2016 and to 1.6% in 2017. HICP energy inflation is expected to have a strong bearing on the HICP inflation profile over the projection horizon. Significant upward base effects and the assumed increases in oil prices (according to futures markets) are envisaged to lead to a substantial rise in HICP energy inflation up to 2017. HICP inflation excluding energy is foreseen to strengthen gradually in line with increases in domestic cost pressures as the negative output gap narrows. Upward effects on HICP inflation excluding energy are also expected from the significant depreciation of the euro and from the indirect effects of the assumed rise in commodity prices over the projection horizon. At the same time, the impact of administered prices and changes in indirect taxes on inflation is expected to remain limited.

The depreciation of the euro, upward oil price-related base effects, and the assumed increases in commodity prices are expected to be among the main drivers of the pick-up in inflation over the projection horizon. Following years of downward price pressures from the external side, import prices are expected to rise and add to the increase in HICP inflation over the projection horizon. The annual growth of the import deflator is projected to increase from -2.0% in 2015 to 0.4% in 2016 and 1.8% in 2017. One key factor behind these increases is the substantial weakening of the euro exchange rate, whose pass-through to domestic prices, via import prices, is typically protracted and is expected to affect domestic prices also in 2016 and 2017. In addition, energy and non-energy commodity prices will drive euro area import and consumer price inflation upwards over the horizon.

Rising domestic price pressures are also envisaged to contribute to the increase in HICP inflation in particular towards the end of the projection horizon. The expected ongoing economic recovery and strengthening in demand should be reflected in further improvements in labour market conditions and corporations' pricing power. In this environment, both wages and profit margins are expected to pick up and add to domestic price pressures.

The fading labour market slack is projected to entail a strengthening in the growth of nominal compensation per employee. However, wage growth is expected to remain relatively moderate. Factors holding back compensation per employee growth during the current economic recovery include the remaining degree of labour market slack and the current low inflation environment. A dampening impact on wage growth is also expected from ongoing adjustment processes aimed at increasing price competitiveness in some euro area countries. In addition, structural labour market reforms implemented during the crisis and potentially also pent-up wage restraint related to binding downward rigidities in nominal wages during the crisis are factors that may hold back a pick-up in wage growth in the current recovery. Unit labour cost growth is envisaged to continue to hover around the recent low levels until early 2017, as the projected cyclical acceleration in productivity offsets the gradually increasing path of wage growth. Thereafter, a stabilisation in productivity growth coupled with a further pick-up in wage growth implies a strengthening in unit labour cost growth during 2017.

Profit margins are expected to strengthen as the economic recovery progresses. Further improvements in demand and declines in economic slack are expected to support corporations' pricing power and a continuation of the recently observed recovery in profit margins over the projection horizon. Windfall gains related to the past strong drops in oil and commodity prices and the depreciation of the euro on account of pricing-to-market strategies by exporters have contributed to the recent recovery in profits. A dampening impact on profit margins is, by contrast, expected from structural product market reforms implemented during and after the crisis, as these are expected to have increased the degree of competition in some markets. Overall, following protracted weak developments over the past few years, profit margins are envisaged to recover over the projection horizon and to grow by around 0.5% each year on average between 2015 and 2017.

Compared with the projections published in September, the outlook for HICP inflation has been revised down slightly. Weaker external price pressures, related to lower than assumed oil prices, mostly account for the downward revision.

4. FISCAL OUTLOOK

The government balance is projected to improve. The gradual improvement in the government balance-to-GDP ratio is partly due to the cyclical improvement and partly to declining interest expenditure, while the structural primary balance is projected to deteriorate somewhat in 2016 and remain stable in 2017. Following increases until 2014, the government debt-to-GDP ratio is projected to start declining from 2015 onwards.

Compared with the projections published in September, the fiscal outlook is broadly unchanged. The government budget balance has been revised slightly up for 2015 and slightly down for 2017, reflecting changes in the amount of fiscal consolidation. The debt trajectory is more favourable over the projection horizon, reflecting a more favourable growth-interest rate differential and a positive effect from the deficit-debt adjustment.

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

(annual percentage changes)

	December 2015				September 2015			Revisions since September 2015[2)]		
	2014	2015	2016	2017	2015	2016	2017	2015	2016	2017
Real GDP[3)]	0.9	1.5	1.7	1.9	1.4	1.7	1.8	0.1	0.0	0.0
		[1.4 - 1.6] [4)]	[1.1 - 2.3] [4)]	[0.9 - 2.9] [4)]	[1.3 - 1.5] [4)]	[0.8 - 2.6] [4)]	[0.6 - 3.0] [4)]			
Private consumption	0.8	1.6	1.9	1.7	1.7	1.7	1.7	-0.1	0.2	0.0
Government consumption	0.8	1.4	1.2	1.0	0.7	0.8	0.7	0.7	0.4	0.3
Gross fixed capital formation	1.3	2.3	2.8	3.8	2.1	3.4	3.9	0.2	-0.7	-0.1
Exports[5)]	4.1	4.8	4.0	4.8	4.5	4.9	5.2	0.4	-0.8	-0.4
Imports[5)]	4.5	5.3	4.8	5.3	4.7	5.4	5.7	0.6	-0.7	-0.4
Employment	0.6	1.0	1.0	1.0	0.7	0.8	0.8	0.2	0.3	0.1
Unemployment rate (percentage of labour force)	11.6	11.0	10.5	10.1	11.0	10.6	10.1	-0.1	-0.1	0.0
HICP	0.4	0.1	1.0	1.6	0.1	1.1	1.7	0.0	-0.2	0.0
		[0.1 - 0.1] [4)]	[0.5 - 1.5] [4)]	[0.9 - 2.3] [4)]	[0.0 - 0.2] [4)]	[0.5 - 1.7] [4)]	[0.9 - 2.5] [4)]			
HICP excluding energy	0.7	0.9	1.3	1.5	0.9	1.3	1.6	0.0	-0.1	-0.1
HICP excluding energy and food	0.8	0.9	1.3	1.6	0.9	1.4	1.6	-0.1	-0.1	0.0
HICP excluding energy, food and changes in indirect taxes[6)]	0.7	0.8	1.3	1.6	0.9	1.4	1.6	0.0	-0.1	0.0
Unit labour costs	1.1	0.9	0.9	1.2	1.0	0.6	1.1	-0.1	0.2	0.1
Compensation per employee	1.4	1.4	1.5	2.1	1.6	1.6	2.1	-0.2	0.0	0.0
Labour productivity	0.3	0.5	0.7	0.9	0.7	1.0	1.0	-0.1	-0.3	-0.1
General government budget balance (percentage of GDP)	-2.6	-2.0	-2.0	-1.8	-2.1	-2.0	-1.7	0.1	0.0	-0.1
Structural budget balance (percentage of GDP)[7)]	-1.8	-1.7	-1.9	-1.9	-1.8	-1.8	-1.7	0.1	0.0	-0.2
General government gross debt (percentage of GDP)	92.1	91.1	90.1	88.9	91.6	90.7	89.4	-0.5	-0.7	-0.5
Current account balance (percentage of GDP)	2.4	3.0	2.9	2.7	3.0	2.9	2.7	0.0	0.0	0.0

1) The data refer to the euro area including Lithuania, except for the HICP data for 2014. The average annual percentage change in the HICP for 2015 is based on a euro area composition in 2014 that already includes Lithuania.
2) Revisions are calculated from unrounded figures.
3) Working day-adjusted data.
4) 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.
5) Including intra-euro area trade.
6) 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.
7) 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.

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 oil prices and exchange rates, as well as the sensitivity of the projections with respect to these variables.

1) An alternative oil price path

Alternative oil price models show somewhat higher oil prices in 2016 and 2017 than those indicated by futures. The technical assumptions for oil price developments underlying the baseline projections, based on futures markets, foresee an increase in oil prices over the projection horizon (see Box 3). This path is consistent with some recovery of world oil demand associated with the global economy gaining traction and some reduction in the growth of oil supply. Alternative models used by ECB staff[1)] to project oil prices over the projection horizon currently suggest a slightly higher oil price over the projection horizon than assumed in the technical assumptions. This would be consistent with an even stronger recovery of world oil demand in the medium term and/or a stronger dampening of oil supply growth owing to lower investment in the oil sector and thus a reduction in oil exploitation capacity in some countries, in response to the recent fall in oil prices. The impact of this alternative path, in which oil prices would increase at a slightly stronger pace and be 5.8% higher than in the baseline by 2017, would slightly dampen real GDP growth (down by 0.1 percentage point in 2017), while entailing a somewhat faster increase in HICP inflation in 2016 and 2017 (up by about 0.1 percentage point in both 2016 and 2017).

2) An alternative exchange rate path

There are both upside and downside risks to the path of the effective exchange rate of the euro. Downside risks mainly stem from a growing divergence in the monetary policy stance on either side of the Atlantic. In particular, further monetary policy accommodation in the euro area and a rise in the federal funds rate in the United States could put further downward pressure on the euro. By contrast, upside risks to the euro exchange rate could stem from rising concerns about growth in emerging market economies and China in particular. The resulting increase in market volatility may lead to an appreciation of the euro owing to the unwinding of large carry trade positions.

In order to illustrate the related risks to the projections, this sensitivity analysis includes two alternative paths of the exchange rate of the euro. The first is based on the 25th percentile of the distribution provided by the option-implied risk-neutral densities for the USD/EUR exchange rate on 12 November 2015. The path implies a gradual depreciation of the euro vis-à-vis the US dollar to an exchange rate of 0.99 USD/EUR in 2017, which is 8.1% below the baseline assumption for that year. The second path is based on the 75th percentile of the same distribution and implies a gradual appreciation of the euro vis-à-vis the US dollar to an exchange rate of 1.18 USD/EUR in 2017, which is 8.9% above the baseline assumption for that year. The corresponding assumptions for the nominal effective exchange rate (NEER-38) reflect historical regularities, whereby changes in the USD/EUR exchange rate correspond to changes in the effective exchange rate with an elasticity of around 52%. In the case of the depreciation, this results in a gradual downward divergence of the NEER-38 from the baseline, to a level which is 4.3% below the baseline in 2017. In the case of the appreciation, the implied upward divergence of the NEER-38 brings it to a level 4.5% above the baseline in 2017.

In both scenarios, the results from a number of staff macroeconomic models point to relatively strong impacts on real GDP growth and HICP inflation in 2016 and 2017. The results for the depreciation of the euro point to higher HICP inflation (up by between 0.1 and 0.3 percentage point in 2016 and by between 0.3 and 0.5 percentage point in 2017) and higher real GDP growth (up by between 0.1 and 0.2 percentage point in 2016 and by between 0.2 and 0.3 percentage point in 2017). With the opposite sign, the results for the appreciation of the euro are similar.

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

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 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, most of the currently available forecasts from other institutions do not differ greatly from the point forecasts of the December Eurosystem staff projections and are well within the ranges surrounding these 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		
		2015	2016	2017	2015	2016	2017
Eurosystem staff projections	December 2015	1.5	1.7	1.9	0.1	1.0	1.6
		[1.4-1.6]	[1.1-2.3]	[0.9-2.9]	[0.1-0.1]	[0.5-1.5]	[0.9-2.3]
European Commission	November 2015	1.6	1.8	1.9	0.1	1.0	1.6
OECD	November 2015	1.5	1.8	1.9	0.1	0.9	1.3
Euro Zone Barometer	November 2015	1.5	1.7	1.8	0.1	1.0	1.5
Consensus Economics Forecasts	November 2015	1.5	1.8	1.6	0.1	1.1	1.5
Survey of Professional Forecasters	November 2015	1.5	1.7	1.8	0.1	1.0	1.5
IMF	October 2015	1.5	1.6	1.7	0.2	1.0	1.3

Sources: European Commission's European Economic Forecast, Autumn 2015; IMF World Economic Outlook, October 2015; OECD Economic Outlook, November 2015; Consensus Economics Forecasts; MJEconomics; and the ECB's Survey of Professional Forecasters.
Notes: The Eurosystem and ECB staff macroeconomic projections 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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