Economic Assessment of the Euro Area

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Winter 2014/2015

January 2015

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Summary Table

Table 1: Summary of Key Forecast Indicators for Euro Area

	2014	2015	2016
Output Growth Rate	0.8	1.5	1.9
Inflation Rate (Harmonised)	0.5	-0.2	1.0
Unemployment Rate	11.6	10.9	10.6
Govt, Balance as % of GDP	-2.4	-2.0	-1.7

1. Introduction

Since EUROFRAME published its economic assessment of the Euro Area last year (EUROFRAME 2014), conditions have disimproved somewhat. Our forecast for 2014 last year was a full half a percentage point greater than that actually realized as the tentative recovery from recession evident in 2013 dissipated throughout 2014. It now appears the Euro Area will only grow by 0.8 per cent in 2014. While world GDP in 2014 did not grow quite as strongly as envisaged, it will still increase by 3.3 per cent. Unlike the Euro Area, the anticipated recovery in the US expected last year has all but materialized.[1]

2. Key Developments and Global Outlook

World GDP, having passed the trough in 2013, grew 3.3 per cent in 2014. In 2015 and 2016 GDP growth is expected to accelerate to 3.7 per cent and 3.8 per cent respectively. In 2014 growth was disappointing in all regions with the exceptions of China and the UK. Especially in the Euro Area and Japan growth turned out much lower than expected in our previous forecast. Emerging economies with high exposure to international financial markets (Brazil and South Africa among others) were severely hit by the deterioration of the expectations of less favorable financing conditions, while bad weather conditions in early 2014 weighed on growth in the US. Moderate growth is expected for both emerging and advanced economies for this year and next, the US and the UK being positive exceptions. Currency depreciation against the US dollar for some countries and the low level of the price of crude oil more generally (see box) will help to sustain the global economic recovery. The recovery in the Euro Area is expected to strengthen gradually. GDP is projected to grow by 1.5 and 1.9 per cent in 2015 and 2016 respectively.

During the second half of 2014 prices of crude oil and other commodities showed substantial declines. During the first half of 2014 oil prices moved in a narrow band, but between mid-June 2014 and mid-January 2015 oil prices[2] (in dollars) declined approximately 60 per cent. During the same period, prices of non-energy commodities showed a drop of over 10 per cent. In the Euro Area, the dollar price declines were partly offset by an appreciation of the dollar. Declining local currency prices are beneficial for companies that use imported products as inputs and improve the purchasing power of consumers. For 2015 and 2016 commodity dollar prices are expected to recover slowly.

World trade has been accelerating slightly in the course of 2014, and reached 3.5% per year in November 2014 (last three months on year ago), according to the January CPB world trade monitor figures (see Figure 1). We expect world trade growth to accelerate further in 2015 and 2016, in line with GDP growth prospects.

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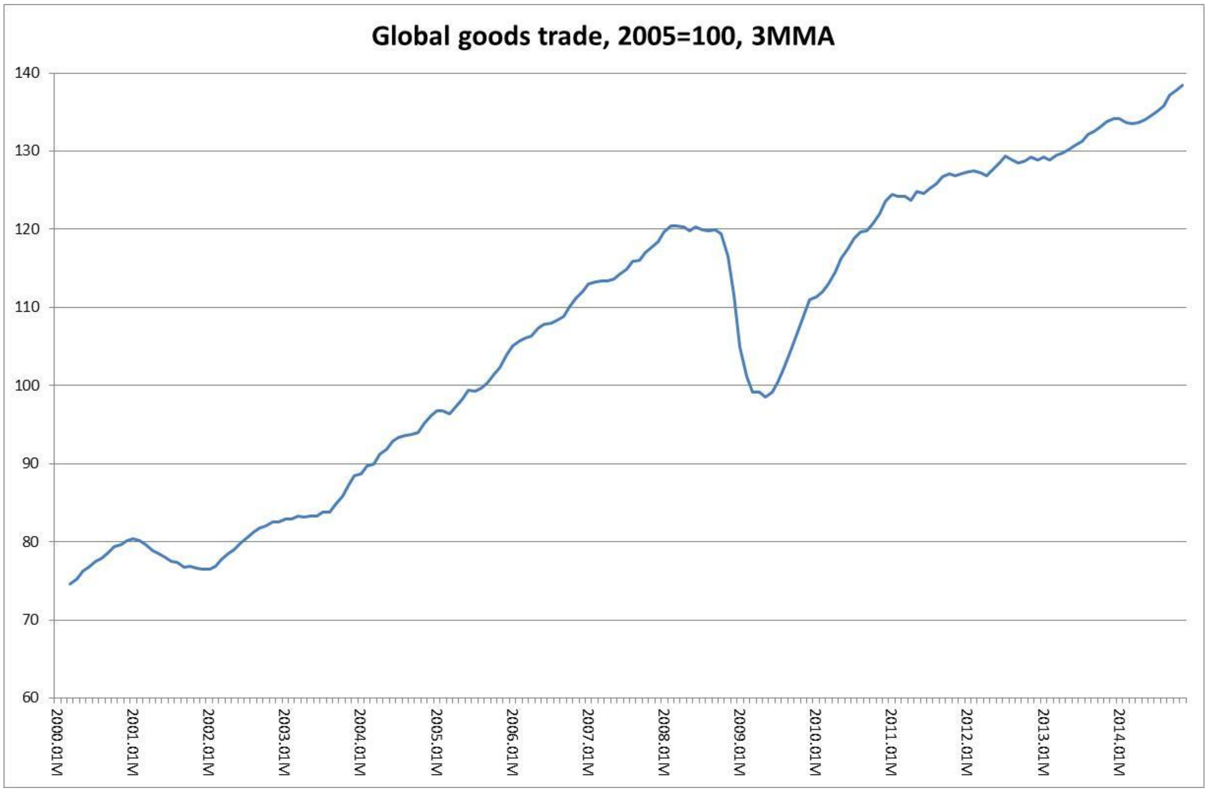
[1] Forecast numbers were finalized on 1 January 2015.

[2] Average of Brent and Dubai.

Figure 1: Global Goods Trade (base 2005=100)



Source: CPB world trade monitor

The slide in oil prices has been the largest contributor to the world wide decrease in inflation. Annual inflation in the Euro Area, as measured by the HICP, declined to -0.2 per cent in December according to Eurostat's flash estimate - the lowest in more than five years. In the US, inflation was 0.8 per cent in December. In Japan, an increase in the VAT rate led inflation to rise initially to almost 4 per cent, but – apart from this VAT effect - inflation is falling again. In the US, but especially in the Euro Area, inflation rates are far below the official inflation targets. Not only actual inflation is falling. Inflation expectations have started to slide as well. In the Euro Area market expectations for inflation rates (specifically: expected inflation over five years starting in five years' time) reached a record low of less than 1.5% in January. In the US, long term inflation expectations have fallen sharply as well.[3] Apparently markets are gradually taking the view that central banks will not be able to halt the deflationary trend.

Central banks around the world are all facing their own particular challenges. In the US, the Federal Reserve decided to end its program of asset buying in October 2014. While inflation in

[3] Measured by break-even inflation 5y/5y forward, expectations dropped from 2,5 per cent mid-June to less than 2 per cent mid-January. Expectations based on 5y/5y forward rates declined from 2.8 to 2.1 per cent.

the US is below target, the situation in the labour market has improved significantly. We assume that the Fed will start increasing policy interest rates starting from the second quarter of 2015, as suggested in the statement and minutes of the January FOMC meeting. In Japan, the authorities set out on a course of full-blown QE with the introduction of *Abenomics*, a combination of fiscal and monetary policy stimulus measures, in early 2013. Until now the impact on the real economy has been insignificant. The Japanese economy grew just 0.1 per cent in 2014, in spite of the Yen having depreciated markedly since the introduction of the program. Inflation has gone up, but the rise appears to have been largely temporary. Dwindling inflation in the Euro Area and generally weak economic conditions led the ECB to go ahead with a bond buying program on January 22nd, following a positive decision of the European Court of Justice regarding the ECB buying government debt one week earlier. The ECB intends to inject about 1.1 trillion euro into financial markets through a program of asset purchases. It will spend 60 billion euro a month buying public and private sector securities until at least end-September 2016, but might continue bond purchases until there are clear signs of 'a sustained adjustment in the path of inflation'. The program will encompass existing purchase schemes of asset-backed securities and covered bonds. It will expand the bank's balance sheet to about 3,000 billion euro.

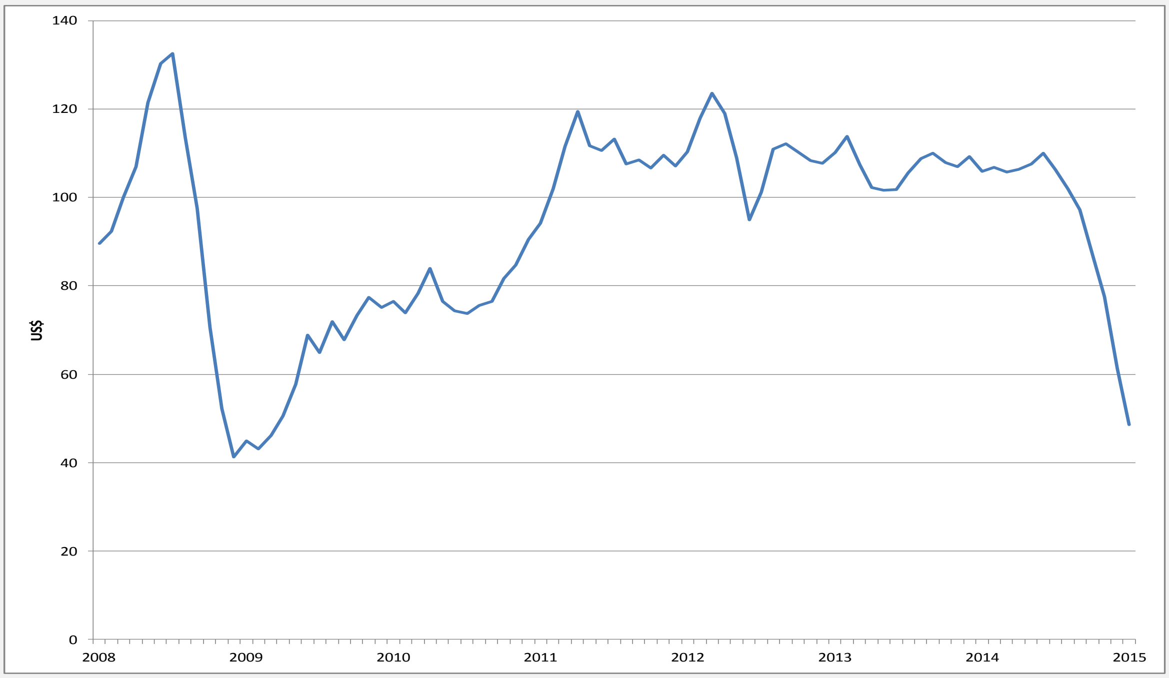
The risks around the projection are mainly downward. The continuing adverse combination of low growth and low inflation in the Euro Area could negatively affect investors' and consumers' confidence and slow-down the recovery. If growth remains persistently low or investors' expectations about expansionary monetary policies do not come true, investor sentiment may tilt, hitting equity and bond markets in advanced economies and possibly emerging economies' currencies. Structural reforms in China may slow down growth in the short term more than expected while the Chinese real estate market continues to remain a source of financial and non-financial uncertainties. A deep recession in Russia may increase uncertainty in Europe and hurt economic growth. There are also upside risks however. If the oil price and the dollar value of the euro remain at their current low levels for a prolonged period of time, this may strengthen confidence and growth in the Euro Area. Finally, the ongoing recovery in the US, Canada, and the United Kingdom may gain greater speed than expected.

Box: Oil price falls and its impacts on the global economy

Following a period of relative price stability that had lasted since the spring of 2011, crude oil prices declined sharply in the second half of 2014. From mid-June to December, the arithmetic mean of Brent and Dubai crude spot prices declined by approximately 40 per cent, to a monthly average of around 65 USD/bbl (see Figure 1). As Figure 1 shows the sharp drop in oil prices has been concentrated in the period October to December, where month-on-month falls in excess of 10 per cent were recorded. Since December oil prices have dropped further, to around 50 USD, on average in the first half of January.

Both demand and supply factors appear to have contributed to recent price developments. A moderation of demand due to weakening economic outlook in the emerging markets, particularly in China, Japan and the Euro Area coinciding with unexpectedly strong rise in crude supply, initiated the downward drift in the price. Key factors raising crude oil production have been the North American shale energy boom, which has lifted the US oil supply to the highest level since the early 1970s and a rise in OPEC production, particularly in politically vulnerable countries of Iraq and Libya. Other OPEC countries', particularly Saudi Arabia's, reaction to these developments has been to change the aim of their production policy from supporting crude prices to defending their market shares. The "not-to-cut" decision in the latest (November 27, 2014) meeting accelerated the price decline that had started already in June 2014.

Figure 1: Monthly average of Brent and Dubai spot oil prices



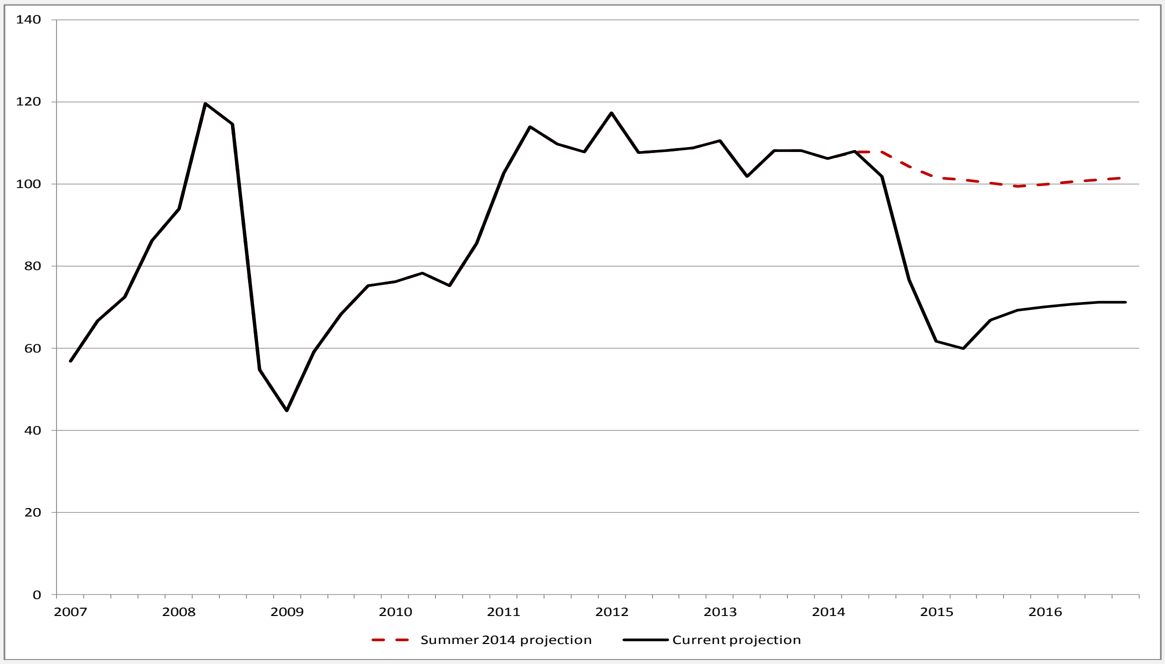
Source: IMF, Datastream.
Note: January 2015 figure is the average of the first 14 days of the month.

Crude oil prices are expected to stabilize over the winter. The short-term forecasts from the Energy Information Administration (EIA) of the US Department for Energy[4] show crude prices rising after the winter. This is probably due to a declining supply of high-cost producers especially in the US shale oil fields. While low crude prices are very damaging to many OPEC countries and Russia, because of fiscal programs based on high oil price, they will also diminish the profitability of shale oil producers. "The break-evens of American (shale oil) projects is clustered around 65-70 USD/barrel" (Economist 2014). In fact, one of the key reasons behind the OPEC decision was the strong rise of high-cost shale oil production since 2005 (Motevalli *et al.* 2014), which has both eroded the market share of OPEC and made the supply curve of oil flatter.

[4] Published 9 December 2014

As a result, the sensitivity of oil prices to production changes has diminished making production cuts costly to the OPEC countries.

Figure 2: The outlook for oil prices



Source: EIA.
Note: Brent spot prices.

The economic impact of a decline in the oil price

A decline in the oil price affects the developments of global economy positively through a number of channels. It improves the terms of trade of oil importing countries vis-à-vis exporters, increases household's disposable income, reduces corporate costs as well as lowers long-term rates. In most advanced economies, the effect of oil price changes on domestic prices has decreased markedly by a significant tightening of energy taxation and a decline of energy intensity of output through time. Typically the excise and value added taxes covered 60 per cent of gasoline prices in industrialised countries in the autumn of 2014, with the exception of the US, where the tax share (only excise taxes collected) was below 20 per cent. The impact on the oil price change on domestic prices is also affected by the exchange rates changes. For example, the appreciation of the dollar vis-à-vis a currency would increase the domestic price of oil.

Illustrations of potential effects

To illustrate the potential effects on the global economy from the recent drop in crude prices on global and European economies we use the National Institute of Economic and Social Research's NiGEM baseline from summer 2014. This has as its baseline a path for oil prices based on expectations formed prior to the drop in oil prices. The oil price shock we introduce is based on spot price outturns up until the latter half of December 2014, combined with oil price projections from the EIA. We report two scenarios that illustrate the potential effects of recent crude oil price developments. The first assumes a permanent fall in the price of oil, while the second is a scenario where the negative deviation from the baseline last only two years. For 2015 and 2016 the path for oil prices is the same in each shock (see Figure 2). Compared to the summer 2014 baseline the magnitude of the reduction in oil prices is an average of around 35 USD/bbl in 2015 and 30 USD in 2016.

We assume financial markets are forward looking and wage and inflation expectations are rational and remain anchored. We use a default simplifying assumption that monetary policy authorities follow a reaction function that by default feeds back on the rate of inflation and a nominal aggregate. A fiscal solvency rule is allowed to operate endogenously, targeting government budget deficits, to ensure that government debt stocks are not explosive.

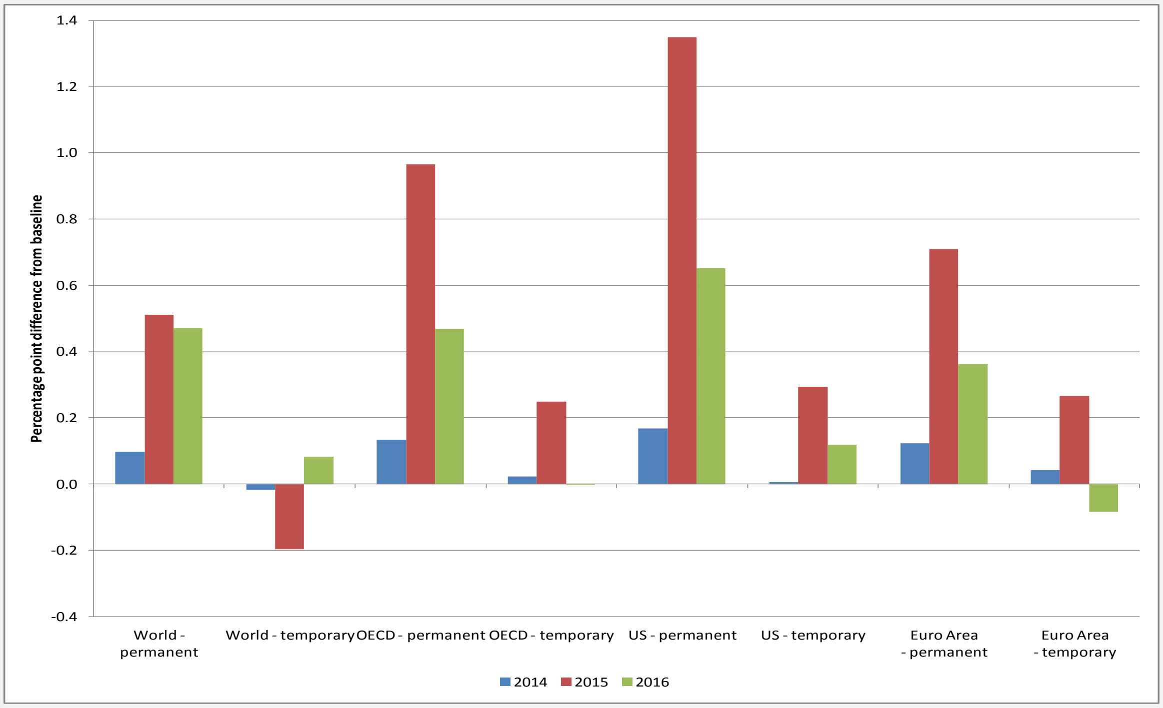
Exchange rates can therefore 'jump' in-line with changes in expectations about the future monetary policy developments. In the face of a permanent drop in the oil price monetary policy reaction functions would typically suggest monetary easing in the face of a deviation of macroeconomic variables from target. At the current juncture oil consuming economies have little scope to cut interest rates further, in response to deflationary fears from the drop in oil prices. Consequently, 'jumps' in exchange rates are constrained inhibiting one of the natural mechanisms which offsets some of the impact of oil price changes on the price level.

With endogenous monetary policy, interest rates are marginally lowered. For example, in the US this results in an interest rates reduction of the additional 25 basis points to zero. However, it appears more likely that monetary policy makers will delay yet further the first interest rate rise. This is indeed how financial market expectations for the future path of policy rates have evolved over the past few months. This would have a minimal impact on the results presented here.

Across oil-importing advanced economies, the impact on GDP growth from a permanent fall in oil prices is significant (Figure 3). World GDP growth could be as much as 1/2 percentage point greater in 2015 and 2016. What we fundamentally see is the redistribution of income from oil producers to oil consumers. The impact on the OECD highlights this point, where growth could be increased by close to 1 percentage point this year and 1/2 percentage point in 2016. In this illustration, the positive impact on GDP growth is greater in the US than the Euro Area, due fundamentally, to the US having more oil intensive output than the Euro Area. The negative impact on US high-cost shale energy production from the significant oil price decline should have only a modest downward effect on aggregate demand. Such effects are dwarfed by the overall positive effect on aggregate demand from a permanent fall in the price of oil.

Figure 3 also highlights the effect on GDP growth if the oil price falls prove to be only temporary. While still positive, the magnitude of the effect is greatly diminished. The stimulus to economic growth is focused in 2015, and is expected to be a little over a 0.2 percentage point difference from the baseline growth rate[5] in the case of the Euro Area.

Figure3: Impact on GDP growth from permanent and temporary falls in the oil price



Source: NiGEM simulations.

Oil price falls are commonly seen as providing a positive boost to growth. The current situation is no different. However, what is crucially different is how close nominal interest rates currently are to the zero lower bound across many oil-importing advanced economies, while inflation rates are only a little above zero. In this situation, and especially across the Euro Area, there is little scope for conventional monetary policy to offset quite significant drops in the level of consumer prices this year. Indeed, our simulations would suggest greater falls in consumer prices than have been factored into the forecast presented in this report. The anchoring of inflation expectations and the fear of deflation in the Euro Area has been a theme of increasing discussion over the past year. The recent fall in oil prices will exacerbate concerns about further downward shifts in these expectations.

[5] At the time of writing oil prices have dropped even further, to below $50. We have run an additional scenario where the permanent fall in oil prices drop is to an average $45 over the period 2015-2016 before rising in-line with our core permanent scenario reported above. The results from this would suggest that Euro Area GDP growth would be a further 0.4 percentage point higher than the baseline case. Given the current poor state of a number of Euro Area economies, it is probably appropriate to veiw such estimates from these simulations as an upper bound of the effect from recent oil price developments.

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Motevalli G., DiPaola A.and Mahdi W. (2014), "Oil Enters New Era as OPEC Faces Off Against Shale; Who Blinks as Price Slides Toward $70?". [Online] Boomberg, Nov 28 2014. Available from: http://www.bloomberg.com/news/2014-11-27/oil-in-new-era-as-opec-refuses-to-yield-to-u-s-shale.html

3. Forecasts for the Euro Area

Growth in the euro area remained sluggish in 2014. The tentative recovery from recession that had started in 2013 again lost momentum in the course of last year. Economic sentiment deteriorated during much of 2014, and GDP growth slowed to a crawl. The recovery was impeded by uncertainty associated with the Ukrainian crisis and low confidence in the business sector with respect to the underlying strength of the recovery, which weighed on investment activity. Growth was especially sluggish in the large Euro Area economies with Germany and France close to stagnation and Italy mired in recession. At the same time recovery of output continued in some of the distressed countries, including Spain and Ireland, albeit from a low base. The situation in the labour market improved only slightly; employment stagnated and the unemployment rate decreased marginally to 11.5 per cent (October 2014).

Most recent indicators suggest that the economy is improving again, although slowly. The risk that the euro area would slip into its third recession in five years, which had appeared real in autumn, has diminished. The latest estimates of the EUROFRAME-Indicator suggest that GDP could grow by 0.3 per cent in the last quarter of 2014 and in the first quarter of 2015.

HICP inflation slowed further to 0.3 per cent per annum in November and then a fall of 0.2 per cent in December 2014. These are in comparison to an already low reading of 0.8 per cent at the beginning of the year. Part of the disinflation can be explained by lower energy and food prices, but against the background of persistently large economic slack, underlying inflation (as measured by HICP excluding energy and unprocessed food) declined also, from 1 per cent to 0.7 per cent. With the oil price having dropped substantially further in recent weeks, headline inflation is likely to remain in negative territory in the coming months. On our assumption of oil prices averaging 65 and 70 dollars per barrel (North Sea Brent) this year and next, respectively, we expect an annual average inflation rate of -0.2 per cent in 2015 and 1.0 per cent in 2016.

Deflation triggered by gains in terms of trades from lower oil prices does not weigh on demand. On the contrary, it directly supports purchasing power and thus consumption. The European Central Bank (ECB) is nevertheless concerned about the trend in consumer prices. HICP inflation has been below the ECB's medium-term target of close to 2 per cent since the beginning of 2013 and 5-year inflationary expectations seem to have started to slip. In response the ECB lowered its main refinancing rate twice over the past year to 0.05 percent, introduced a negative interest rate on excess reserves and further measures to improve refinancing conditions targeted at supporting credit growth. This forecast is based on the assumption that the interest rate will remain close to zero until the end of 2016 and that the ECB will start outright purchases of government bonds soon in order to keep long-term interest rates low, especially in distressed countries. The prospect of persistently low interest rates in the euro area coupled with the expectation of a gradual increase of short-term rates in the US has weakened the euro substantially in the second half of 2014. This forecast assumes the dollar/euro exchange rate to be close to 1.25 over the next two years.

Fiscal policy has been less restrictive in 2014 than in the previous two years and is expected to be close to neutral in 2015 and 2016. While public consumption is expected to remain tightly controlled, in a number of countries measures to strengthen private demand will be implemented, including reduction of taxes and social contributions in a number of countries, such as France and Italy, but also additional spending on government investment and transfer programmes, for example in Germany. The EU package to stimulate investment will probably help financing public investment although its capacity to actually stimulate additional investment activity seems limited, and stimulus to overall European growth will unfortunately disappoint.

Based on the assumptions of continued strong monetary stimulus, a competitive exchange rate, the absence of significant fiscal restraint and an improving external environment, including a persistently lower oil price, we expect the recovery in the Euro Area to gradually strengthen and broaden this year and next. Real GDP is forecast to rise by 1.5 and 1.9 per cent in 2015 and 2016, respectively (Appendix Table 1). External trade is projected to contribute significantly to economic growth as exports are projected to accelerate markedly helped by a substantially lower euro exchange rate and the strengthening of growth in the rest of the world. Domestic demand is expected to pick up with private consumption being the main driver in 2015 supported by rising real incomes partly due to the effect of lower energy prices (Appendix Table 2). Investment growth should accelerate gradually and start gaining momentum in 2016 on the back of improving sentiment and low interest rates. Unemployment should gradually decline, but stay above 10 per cent over the forecast horizon and remain unacceptably high in many countries.

There are a number of risks that could change the outlook for the euro area significantly. Uncertainty with respect to Greek economic developments, in the context of the, at the time of writing the report, upcoming Greek election and its impact on the handling of the crisis could negatively affect financial markets and impair investment recovery. The Ukrainian crisis is still far from being settled. The forecast assumes a gradual diminishing of tensions; any renewed escalation of the crisis could depress the recovery in economic sentiment in the euro area still further and for a more prolonged period of time. On the other hand, oil prices and the dollar/euro exchange rate are currently substantially lower than assumed in the forecast. If the current levels would prevail or prices would even drop further, output and demand in the euro area could accelerate by even more than expected.

4. Central and Eastern Europe (CEE) outside the Euro Area

The economic recovery which began in the beginning of 2013, continued (albeit sluggishly) in 2014 at a rate of round 1.6 per cent for the region. This was mainly due to fragile growth in the Euro Area and tensions in the East between Russia and Ukraine. In regards to specific countries, the Czech Republic came out of its recession, joining the other leaders of the region such as Poland, Hungary and Romania. Stable growth has also been observed in Lithuania for the fourth consecutive year. Croatia, the newest EU member country, remained a country facing recession. Similarly, the main participants of the conflict in the East slowed down significantly, with Russia showing negligible growth and Ukraine severely contracting.

Although exports dynamics remained positive, the region as a whole saw a deficit in its current account balance, similar to previous year, with a trend towards greater deficits in the future. In some countries, the dynamics of foreign trade has deteriorated, particularly in those strongly tied with Russia, like Poland, Croatia and Baltic countries. Part of this current account trend is due to domestic demand recovering faster than in 2013, particularly in Poland and Lithuania, gradually enhancing GDP and offsetting the slowdown in exports; for example, net exports have been negative in Poland since the second half of 2014. Increases in consumption have been driven by increasing purchasing power due to low inflation in the whole CEE region, with deflation occurring in Bulgaria and Croatia. Declining food and energy prices and spillovers from low inflation in the euro area are driving the overall moderation in prices in the CEE countries, even though the majority of central banks in the region continued to pursue expansionary monetary policies. Indeed, interest rates hit record lows, as in the Czech Republic, Poland or Hungary, in order to impede the deflationary pressures. The overall economic revival in the region is further confirmed by an increase in investment throughout the CEE countries, led by vibrant increase in Poland. The labour market remained stable with a slight decreasing trend of unemployment in all CEE countries apart from Croatia.

In accordance with the improvement in the global economy, the region will continue to improve in the coming years. The potential engines of growth will be Poland and the Baltic States (providing that Russian-EU sanctions and counter-sanctions will not harm them significantly). We foresee steady growth of 1.8 per cent in 2015, picking up to 2.1 per cent in 2016. The main anchors will be continued growth of domestic demand, particularly private consumption and investment. It is likely that even laggard Croatia will return to positive growth path in 2016 at the latest. These forecasts are predicated on a resolution to the Ukrainian crisis, as the turmoil in the East weakens the region. Since CEE exports to Russia have doubled during the last decade, they are much more vulnerable to the effects of Ukraine crisis than Western economies. In particular, the Baltic countries, with Lithuania in the lead, are most exposed to fluctuations on Russian demand. Low diversification of supplies of gas and oil also mean that the Baltics are highly dependent upon Russian energy. Forecasts for 2015 and 2016 are thus highly contingent on an improvement, rather than a worsening, in the Ukrainian crisis.

Appendix: Forecast Tables

Annex Table 1: Summary of Key Forecast Indicators for Euro Area

	2010	2011	2012	2013	2014	2015	2016
Output Growth Rate	2.0	1.7	-0.7	-0.4	0.8	1.5	1.9
Inflation Rate (Harmonised)	1.6	2.7	2.5	1.3	0.5	-0.2	1.0
Unemployment Rate	10.1	10.1	11.3	12.0	11.6	10.9	10.6
Govt, Balance as % of GDP	-6.2	-4.1	-3.7	-3.0	-2.4	-2.0	-1.7

Annex Table 2: Euro Area Forecast Details

	annual percentage change						
	2010	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Consumption	0.8	0.2	-1.3	-0.6	0.9	2.0	1.2
Private investment	5.2	2.7	-2.7	-2.6	1.5	2.4	2.8
Government expenditure	0.2	-0.9	-0.8	0.3	0.6	0.3	0.6
Stockbuilding	0.7	0.2	-0.5	0.0	0.5	0.0	0.0
Total domestic demand	2.1	0.5	-2.0	-0.8	1.4	1.7	1.3
Export volumes	10.8	6.7	2.6	2.1	3.6	7.2	6.2
Import volumes	9.6	4.4	-1.0	1.2	3.8	7.8	5.5
GDP	2.0	1.7	-0.7	-0.4	0.8	1.5	1.9
Average earnings	1.2	1.6	2.1	1.5	1.2	0.7	1.7
Harmonised consumer prices	1.6	2.7	2.5	1.3	0.5	-0.2	1.0
Private consumption deflator	1.6	2.3	1.9	1.1	0.5	-0.3	1.0
Real personal disposable income	-0.1	-0.8	-1.5	-0.7	1.3	2.0	1.1
Standardised unemployment rate, %	10.1	10.1	11.3	12.0	11.6	10.9	10.6
Govt. balance as % of GDP	-6.2	-4.1	-3.7	-3.0	-2.4	-2.0	-1.7
Govt. debt as % of GDP	85.6	87.5	90.8	92.7	94.2	94.4	92.7
Current account balance as % of GDP	-0.1	-0.2	1.4	2.0	3.2	4.0	3.6

Annex Table 3: Real GDP in Major Economies

	annual percentage change										
	World	OECD	China	EU-27	Euro Area	USA	Japan	Germany	France	Italy	UK
2010	5.2	3.0	10.4	2.0	2.0	2.5	4.7	3.9	1.9	1.7	1.9
2011	3.9	2.0	9.4	1.8	1.7	1.6	-0.4	3.7	2.1	0.7	1.6
2012	3.2	1.3	7.7	-0.4	-0.7	2.3	1.5	0.6	0.4	-2.3	0.7
2013	3.1	1.4	7.7	0.1	-0.4	2.2	1.5	0.2	0.4	-1.9	1.7
2014	3.3	1.9	7.4	1.3	0.8	2.4	0.3	1.4	0.4	-0.4	2.6
2015	3.7	2.6	7.1	1.8	1.5	3.2	1.4	1.8	1.6	0.3	2.8
2016	3.8	2.7	7.1	2.2	1.9	3.0	1.8	1.8	1.6	1.1	2.5

Annex Table 4: Private Consumption Deflator in Major Economies

	annual percentage change								
	OECD	EU-15	Euro Area	USA	Japan	Germany	France	Italy	UK
2010	1.9	2.1	1.6	1.7	-1.7	2.0	1.2	1.4	4.4
2011	2.4	2.5	2.3	2.5	-0.8	1.9	1.8	2.9	3.4
2012	2.0	1.9	1.9	1.8	-0.8	1.5	1.4	2.8	2.1
2013	1.5	1.3	1.1	1.2	-0.2	1.3	0.6	1.2	1.9
2014	1.7	0.7	0.5	1.4	1.9	1.1	0.4	0.2	1.6
2015	1.1	0.0	-0.3	0.9	0.9	0.5	-0.2	-0.3	1.1
2016	1.8	1.1	1.0	1.4	1.2	1.5	1.0	0.9	1.3

Annex Table 5: World Trade Volume and Prices

	annual percentage change		
	World trade volume	World export prices ($)	Oil price ($ per barrel)
2010	12.6	10.7	78.8
2011	6.0	1.4	108.5
2012	2.8	6.0	110.4
2013	2.8	-1.1	107.1
2014	3.4	-1.1	98.2
2015	7.1	1.0	64.5
2016	6.2	5.9	70.7

Annex Table 6: Interest Rates

	Per cent per annum							
	Central bank intervention rates				Long-term interest rates			
	USA	Japan	Euro Area	UK	USA	Japan	Euro Area	UK
2010	0.3	0.1	1.0	0.5	3.2	1.2	3.3	3.6
2011	0.3	0.1	1.2	0.5	2.8	1.1	3.9	3.1
2012	0.3	0.1	0.9	0.5	1.8	0.8	3.2	1.8
2013	0.3	0.1	0.6	0.5	2.3	0.7	22.7	2.4
2014	0.3	0.1	0.2	0.5	2.5	0.6	1.9	2.5
2015	0.6	0.1	0.1	0.6	2.5	0.6	1.3	2.4
2016	1.8	0.1	0.1	1.0	3.1	0.9	1.7	2.8
2013Q1	0.3	0.1	0.8	0.5	1.9	0.7	2.7	2.0
2013Q2	0.3	0.1	0.6	0.5	2.0	0.7	2.5	1.9
2013Q3	0.3	0.1	0.5	0.5	2.7	0.8	2.8	2.7
2013Q4	0.3	0.1	0.4	0.5	2.7	0.6	2.7	2.8
2014Q1	0.3	0.1	0.3	0.5	2.8	0.6	2.5	2.8
2014Q2	0.3	0.1	0.2	0.5	2.6	0.6	2.1	2.7
2014Q3	0.3	0.1	0.1	0.5	2.5	0.5	1.7	2.6
2014Q4	0.3	0.1	0.1	0.5	2.3	0.4	1.3	2.1
2015Q1	0.3	0.1	0.1	0.5	2.1	0.5	1.1	2.2
2015Q2	0.5	0.1	0.1	0.5	2.4	0.6	1.2	2.3
2015Q3	0.8	0.1	0.1	0.5	2.6	0.7	1.4	2.5
2015Q4	1.0	0.1	0.1	0.8	2.7	0.7	1.5	2.6
2016Q1	1.3	0.1	0.1	0.9	2.9	0.8	1.6	2.7
2016Q2	1.6	0.1	0.1	0.9	3.1	0.9	1.7	2.8
2016Q3	2.0	0.1	0.1	1.0	3.2	0.9	1.7	2.9
2016Q4	2.4	0.2	0.2	1.1	3.3	1.0	1.8	3.0

Annex Table 7: Nominal Exchange Rates

	annual percentage change						
	USA	Japan	Euro Area	Germany	France	Italy	UK
2010	-3.1	4.0	-3.3	-3.8	-3.1	-3.5	-0.5
2011	-3.0	6.8	0.9	0.5	2.0	1.3	0.2
2012	3.4	2.2	-1.9	-2.0	-2.0	-1.6	4.2
2013	2.9	-16.7	2.9	2.9	3.1	3.8	-1.2
2014	4.1	-5.1	1.9	1.8	1.9	3.3	7.9
2015	6.3	-8.4	0.1	0.0	-0.5	0.4	1.5
2016	0.1	-0.1	0.6	0.5	0.6	0.8	0.1

Annex Table 8: Bilateral Exchange Rates

	Bilateral rate against US$		
	Yen	Euro	Sterling
2010	87.8	0.755	0.647
2011	79.8	0.719	0.624
2012	79.8	0.778	0.631
2013	97.6	0.753	0.640
2014	105.8	0.754	0.607
2015	119.7	0.811	0.640
2016	119.9	0.806	0.638
2013Q1	92.3	0.757	0.645
2013Q2	98.8	0.765	0.651
2013Q3	98.9	0.755	0.645
2013Q4	100.4	0.735	0.618
2014Q1	102.7	0.730	0.604
2014Q2	102.1	0.729	0.594
2014Q3	104.0	0.755	0.599
2014Q4	114.5	0.800	0.631
2015Q1	119.5	0.818	0.640
2015Q2	119.5	0.818	0.640
2015Q3	119.7	0.804	0.640
2015Q4	119.9	0.804	0.639
2016Q1	120.0	0.803	0.639
2016Q2	120.0	0.804	0.638
2016Q3	119.9	0.804	0.637
2016Q4	119.7	0.804	0.636