

# GLOBAL ECONOMIC OUTLOOK - NOVEMBER

Monetary Department  
External Economic Relations Division

2017



<b>I. Summary</b>	<b>2</b>
<b>II. Economic outlook in advanced countries</b>	<b>3</b>
<b>II.1 Euro area</b>	<b>3</b>
<b>II.2 Germany</b>	<b>4</b>
<b>II.3 United States</b>	<b>5</b>
<b>II.4 United Kingdom</b>	<b>6</b>
<b>II.5 Japan</b>	<b>6</b>
<b>III. Economic outlook in BRIC countries</b>	<b>7</b>
<b>III.1 China</b>	<b>7</b>
<b>III.2 India</b>	<b>7</b>
<b>III.3 Russia</b>	<b>8</b>
<b>III.4 Brazil</b>	<b>8</b>
<b>IV. Leading indicators and outlook of exchange rates</b>	<b>9</b>
<b>IV.1 Advanced economies</b>	<b>9</b>
<b>IV.2 BRIC countries</b>	<b>10</b>
<b>V. Commodity market developments</b>	<b>11</b>
<b>V.1 Oil and natural gas</b>	<b>11</b>
<b>V.2 Other commodities</b>	<b>12</b>
<b>VI. Focus</b>	<b>13</b>
<b>The economic recovery and labour market developments in the USA</b>	<b>13</b>
<b>A. Annexes</b>	<b>18</b>
<b>A1. Change in GDP predictions for 2017</b>	<b>18</b>
<b>A2. Change in inflation predictions for 2017</b>	<b>18</b>
<b>A3. GDP growth in the euro area countries</b>	<b>19</b>
<b>A4. Inflation in the euro area countries</b>	<b>20</b>
<b>A5. List of abbreviations</b>	<b>21</b>

**Cut-off date for data**

10 November 2017

**CF survey date**

6 November 2017

**GEO publication date**

17 November 2017

**Notes to charts**

ECB and Fed: midpoint of the range of forecasts.

The arrows in the GDP and inflation outlooks indicate the direction of revisions compared to the last GEO. If no arrow is shown, no new forecast is available. Asterisks indicate first published forecasts for given year. Historical data are taken from CF, with exception of MT and LU, for which they come from EIU.

Leading indicators are taken from Bloomberg and Datastream.

Forecasts for EURIBOR and LIBOR rates are based on implied rates from interbank market yield curve (FRA rates are used from 4M to 15M and adjusted IRS rates for longer horizons). Forecasts for German and US government bond yields (10Y Bund and 10Y Treasury) are taken from CF.

**Authors**

<b>Luboš Komárek</b>	<b>Pavla Břízová</b>	<b>Tomáš Adam</b>	<b>Filip Novotný</b>	<b>Soňa Benecká</b>
Editor-in-chief I. Summary VI. Focus	Editor II.4 United Kingdom	II.1 Euro area	II.2 Germany	II.3 United States III.1 China VI. Focus
<b>Iveta Polášková</b>	<b>Oxana Babecká</b>	<b>Jan Hošek</b>		
II.5 Japan III.2 India	III.3 Russia III.4 Brazil	V.1 Oil and natural gas V.2 Other commodities		

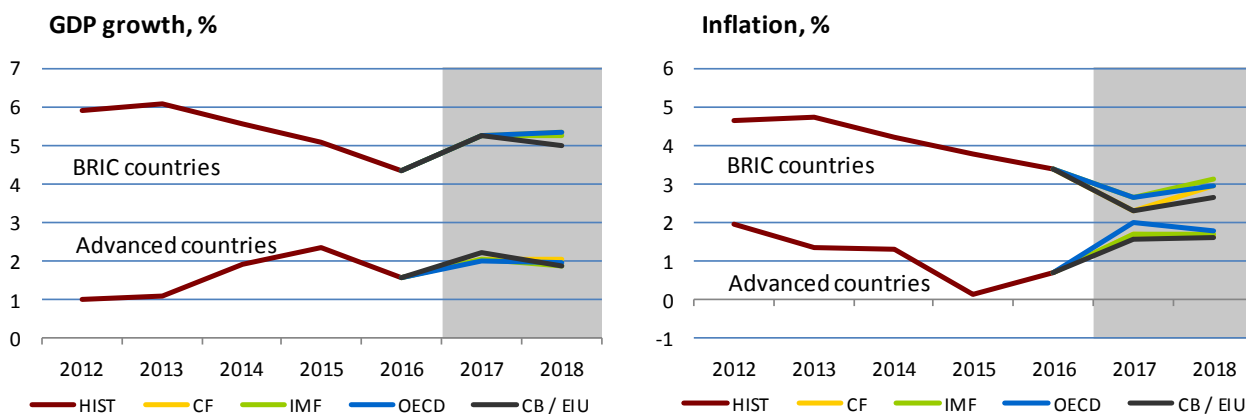
The November issue of Global Economic Outlook presents the regular monthly overview of recent and expected developments in selected territories, focusing on key economic variables: inflation, GDP growth, leading indicators, interest rates, exchange rates and commodity prices. In this issue, we pay increased attention to the economic recovery in the USA, the length of which is approaching record levels, and to the US labour market situation. Compared to the historically longest periods of expansion, we note that the current recovery is characterised by lower growth of GDP and employment and limited nominal wage growth. We conclude that if the low wage growth in the USA mainly reflects structural changes (through increased labour market flexibility), stable growth in GDP, wages and prices could continue over the next two years.

The economic growth prospects for 2017 remain de facto unchanged in the advanced economies we monitor as the year-end nears. Newly available information confirms a trend of rising expected economic growth in the euro area (and its strongest economy – Germany) and in the USA and Japan in 2018. The exception is the UK economy, where GDP growth will remain relatively low at around 1.5% in 2018 amid higher-than-desirable inflation. Returning to the situation in the euro area, there is a question mark over the ability to reach the optimum, i.e. 2%, inflation rate. Unfortunately, this holds true for all the national economies except the Baltic states. The US economy maintains an inflation outlook slightly above the 2% ideal, amid robust economic growth still heading towards 2.5% one year ahead. A “changing of the guard” is likely at the US Federal Reserve next year. However, this should not cause a shift away from the announced gradual increase in interest rates. Conversely, the Japanese economy is expected to slow somewhat next year, with growth staying just below 1.5%. The fact that inflation is still visibly below 1% is also causing Japanese central bankers to be cautious.

The November growth outlooks for the Chinese, Indian and Russian economies were unchanged. Growth exceeding 7% is still expected in India next year. Solid growth, attacking 6.5% from below, is also expected in China, but the generally perceived risks relating to economic developments in China persist. Economic growth in Russia will be close to 2%. Of the BRIC countries, only the Brazilian economy recorded an increase in expected growth (according to analysts’ outlooks). GDP growth in Brazil will rise for the first time in quite a while to close to a solid 2.5% next year. A revision of the outlooks for Brazilian inflation in 2018, which is not expected to exceed 4%, is also positive news. Inflation in India is expected to be higher, although still below 5%. This can be tolerated given the high economic growth there. Prices will rise by around 4% in Russia. The list concludes with a look at the inflation outlooks for China, which are fluctuating around 2%.

The outlooks for short-term euro area interest rates declined slightly, reflecting the announcement of an extension of the asset purchase programme at least until September 2018. The monthly bond purchases will be reduced from EUR 60 billion to EUR 30 billion as from January. This decision caused long-term interest rates to go down and the euro to depreciate against the dollar. An increase in US interest rates can be expected at the Fed’s next meeting in December. According to CF, the dollar will depreciate against the euro and to a lesser extent against the yen, the rouble and the pound at the one-year horizon. By contrast, it will appreciate slightly against the rupee, the real and the renminbi. The outlook for the average Brent oil price in 2018 increased to around USD 62/bbl and is slightly decreasing. Prices of non-energy commodities are expected to rise slightly over the coming 12 months, due mainly to expected growth in prices of some food commodities (wheat, corn, coffee and pork).

## GDP growth and inflation development and outlook in monitored countries

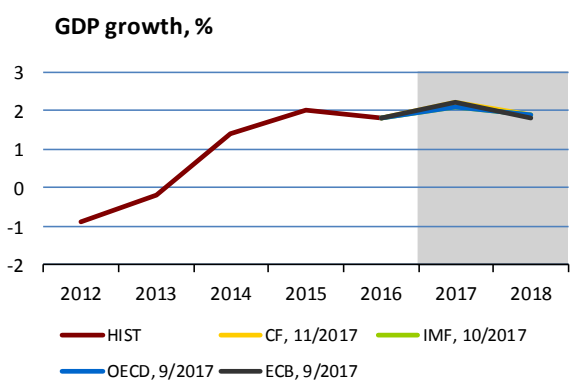


Note: The figures represent the weighted averages of historical series / outlooks in individual countries. The weights are based on nominal GDP measured in USD during 2011–2015 (source: EIU). Advanced countries: euro area, United States, United Kingdom, Japan. BRIC countries: China, India, Russia, Brazil.

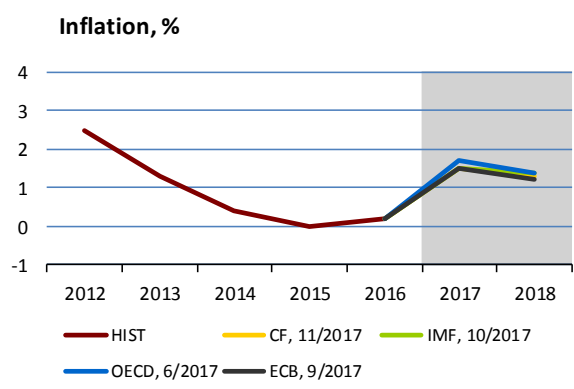
II.1 Euro area

The robust recovery in the euro area continued into the second half of this year. According to Eurostat’s flash estimate, GDP grew by 0.6% quarter on quarter in Q3, i.e. at a similar pace as in the previous three quarters. The recovery is visible in all sectors of the economy. Consumption is being supported by the favourable conditions in the labour market, where the unemployment rate dropped below 9% in September. At the same time, some countries are showing signs of labour shortages. Household consumption is also supported by easy monetary conditions and confidence in the economy, which is at a 10-year high according to the Commission’s indicator. On the production side, the October PMI in manufacturing (58.5) is signalling a similar growth rate as in the previous quarter. Exports are being supported by a recovery in the global economy and world trade. The November CF expects growth of 2.2% in 2017 as a whole, which will slow down to 1.9% in 2018. The Commission’s autumn forecast expects growth 0.1 pp lower.

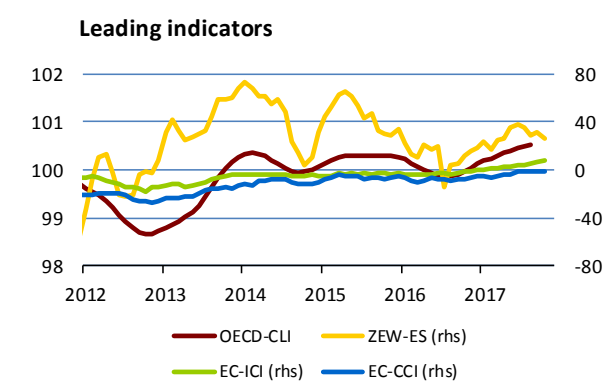
The brisker pace of recovery in the euro area is still not generating pronounced inflation pressures. Headline HICP inflation edged down to 1.4% in October and core inflation fell by 0.2 pp to 0.9% due to lower service price inflation. A further decline in headline inflation can be expected at the year-end due to the unwinding of the energy price base effect, which, however, will be offset by oil prices, which increased quite sharply compared to the start of October. Average inflation is thus expected to be 1.5% this year. The outlooks expect it to decline to around 1.3% in 2018. At its meeting in October, the ECB extended the asset purchase programme at least until September 2018. The monthly bond purchases will be reduced from EUR 60 billion to EUR 30 billion as from January. The Governing Council reiterated its commitment to keep rates at the current level at least for the duration of the asset purchase programme. Long-term bond yields responded to the decision by falling and the euro depreciated to its lowest level since July. The outlook for money market rates shifted downwards slightly. Based on market contracts, 3M EURIBOR rates are expected to remain negative until the start of 2019.



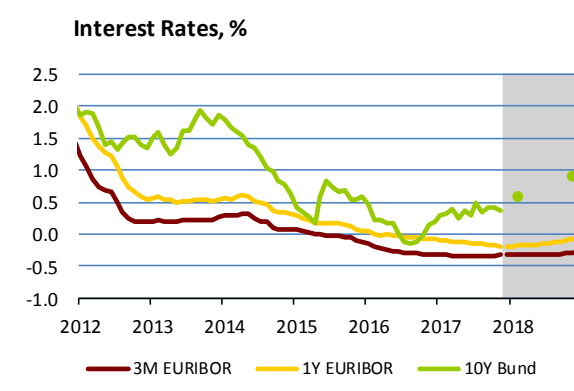
	CF	IMF	OECD	ECB
2017	2.2 →	2.1	2.1	2.2
2018	1.9 ↘	1.9	1.9	1.8



	CF	IMF	OECD	ECB
2017	1.5 →	1.5	1.7	1.5
2018	1.3 ↘	1.4	1.4	1.2



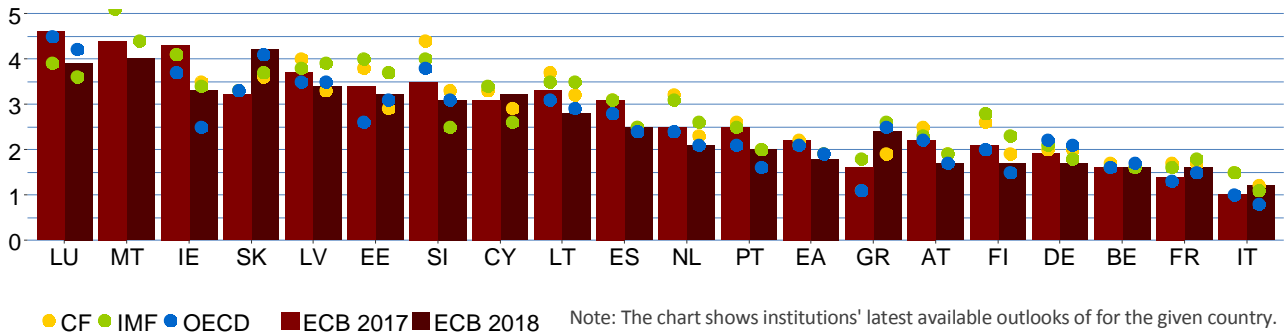
	OECD-CLI	ZEW-ES	EC-ICI	EC-CCI
8/17	100.5	29.3	5.0	-1.5
9/17		31.7	6.7	-1.2
10/17		26.7	7.9	-1.0



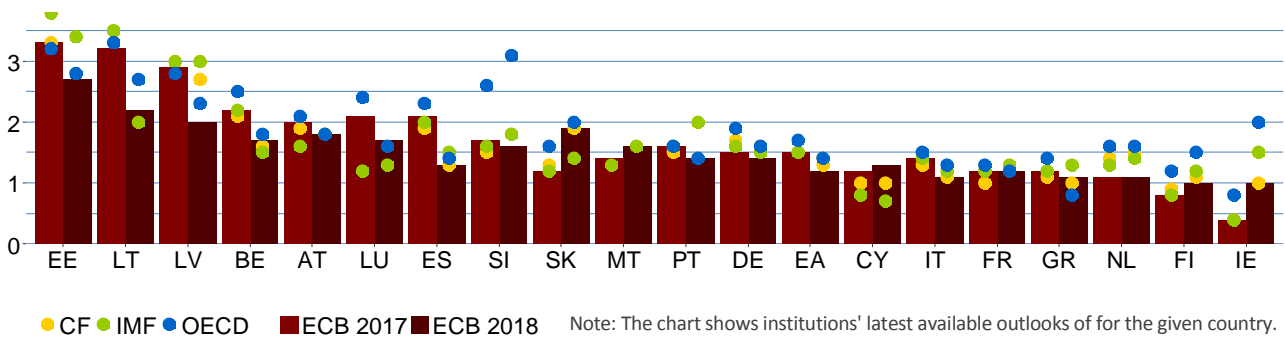
	10/17	11/17	02/18	11/18
3M EURIBOR	-0.33	-0.33	-0.32	-0.28
1Y EURIBOR	-0.18	-0.19	-0.18	-0.08
10Y Bund	0.43	0.37	0.60	0.90

## II. ECONOMIC OUTLOOK IN ADVANCED ECONOMIES

### GDP growth outlooks in the euro area countries in 2017 and 2018, %

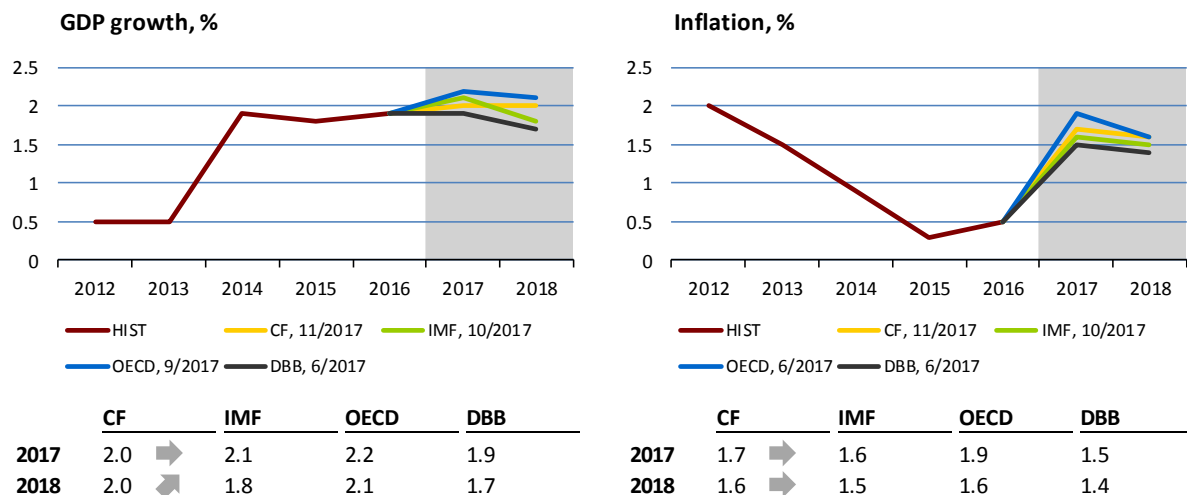


### Inflation outlooks in the euro area countries in 2017 and 2018, %



## II.2 Germany

CF increased its German GDP growth outlook for 2018 in November. The strong economic growth observed in 2017 Q2 is thus seen as an indicator of longer-term growth. Household consumption and investment are playing an important role. The prospect of continued growth is also supported by an upswing in industrial production in Q3. The [PMI](#) in manufacturing remained high in October, indicating continued growth in this sector. The ZEW and IFO leading indicators also rose further in October. This is going on despite a stronger [euro](#) in year-on-year terms, although this is having a smaller impact on the German economy due to the high competitiveness of its products. Only slight inflation pressures and corresponding low inflation expectations continue to be observed. Conversely, industrial producer price inflation went up in September.

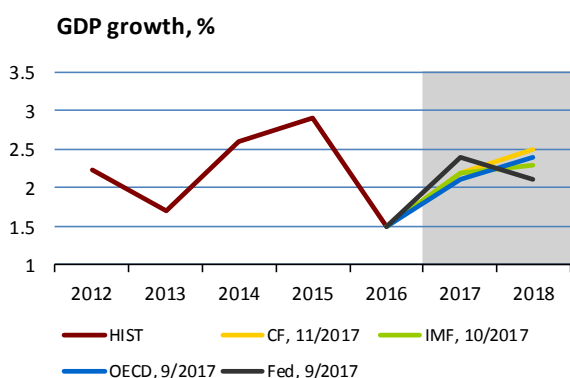


### II.3 United States

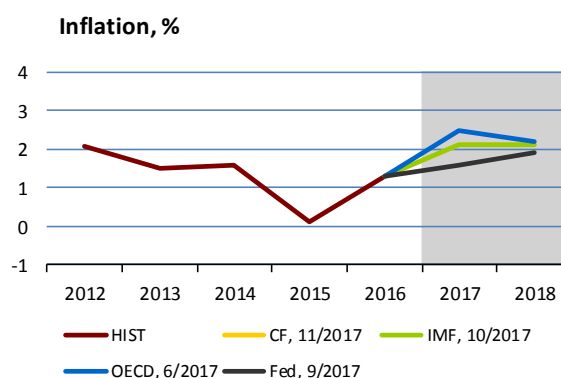
Contrary to expectations, the US economy did not slow in Q3. According to the first estimate, GDP grew by 3.0% (in quarterly annualised terms). The negative effect of hurricanes on consumption and investment was offset mainly by higher inventories and spending by firms on equipment in addition to a lower trade deficit. According to the Atlanta Fed forecast, economic growth should stay above 3% in late 2017.

Numerous leading indicators suggest a continued expansion in industry. In October, the Markit PMI reached its highest level since January 2017, due mainly to stronger production and new orders. The University of Michigan survey also showed a further improvement in consumer sentiment in October in both its components (expectations and current conditions). The assessment of the financial situation of households reached a record high, due mainly to higher income and the wealth effect (growth in real estate and equity prices). Households expect wages to keep rising slowly. This is acceptable to them given the low inflation and unemployment (see Focus for details). Labour market conditions improved further, with unemployment dropping to its lowest level since December 2000 (4.1%). Non-farm payrolls rose by 261,000 in October, the highest figure since July 2016. However, the year-on-year change in the average hourly wage was disappointing (2.4%). Unit labour costs fell year on year in Q3, although growth in total productivity rose.

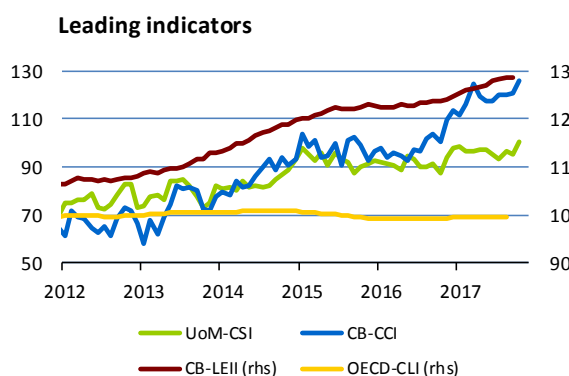
The four-year mandate of the Chair of the Board of Governors Janet Yellen will expire in early February. In November, President Trump nominated Jerome Powell to chair the Fed. The nomination must be confirmed by the Senate. The proposed change in this key position should not alter the monetary policy stance. Like Yellen, Powell supports a gradual increase in interest rates. Compared with the current Chair, however, he prefers easy regulation of banks and financial institutions. The Fed did not change its monetary policy settings at the November meeting, but the accompanying statement hinted at a further rate hike in December. The new CF raised its inflation outlooks for both years and its GDP growth outlook for 2018.



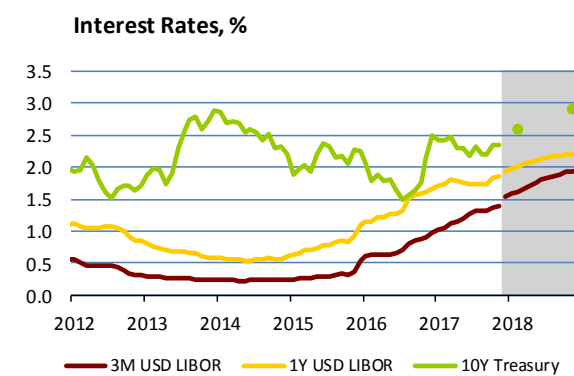
	CF	IMF	OECD	Fed
2017	2.2 →	2.2	2.1	2.4
2018	2.5 ↗	2.3	2.4	2.1



	CF	IMF	OECD	Fed
2017	2.1 ↘	2.1	2.5	1.6
2018	2.1 ↗	2.1	2.2	1.9



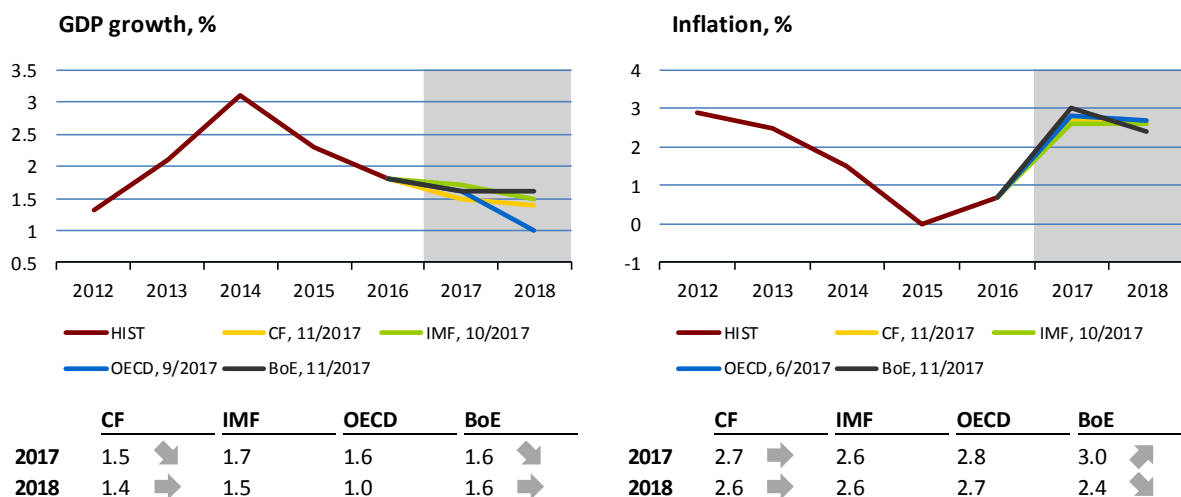
	UoM-CSI	CB-CCI	CB-LEII	OECD-CLI
8/17	96.8	120.4	128.8	99.7
9/17	95.1	120.6	128.6	
10/17	100.7	125.9		



	10/17	11/17	02/18	11/18
USD LIBOR 3M	1.36	1.39	1.62	1.94
USD LIBOR 1R	1.82	1.82	2.01	2.21
Treasury 10R	2.36	2.35	2.60	2.90

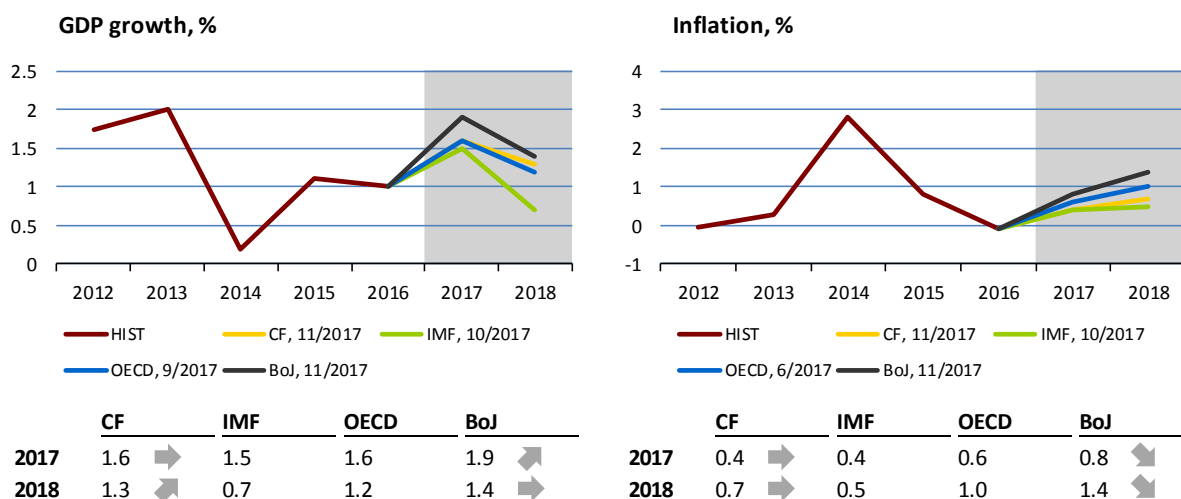
### II.4 United Kingdom

Inflation rose to 3% in September and is thus currently far from the BoE's 2% target. Core inflation stayed at 2.7%, the highest level in five years. According to the flash estimate, economic growth maintained the same annual pace in Q3 as in Q2 (1.5%). In quarterly terms, it rose slightly (to 0.4%). As expected, the BoE raised its policy rate in early November. This was the first increase since 2007. However, given the fragility of the UK economy's current growth, the BoE is not expected to keep tightening monetary policy in the near future. The [PMI](#) indices increased in October (both services and industry around 56 points), offering some hope of a positive outlook for economic activity, but consumer confidence and the business sector optimism index are lower. In its new forecast, the BoE expects the UK economy to grow by a mere 1.6% this year and the next. The CF respondents expect even more subdued growth.



### II.5 Japan

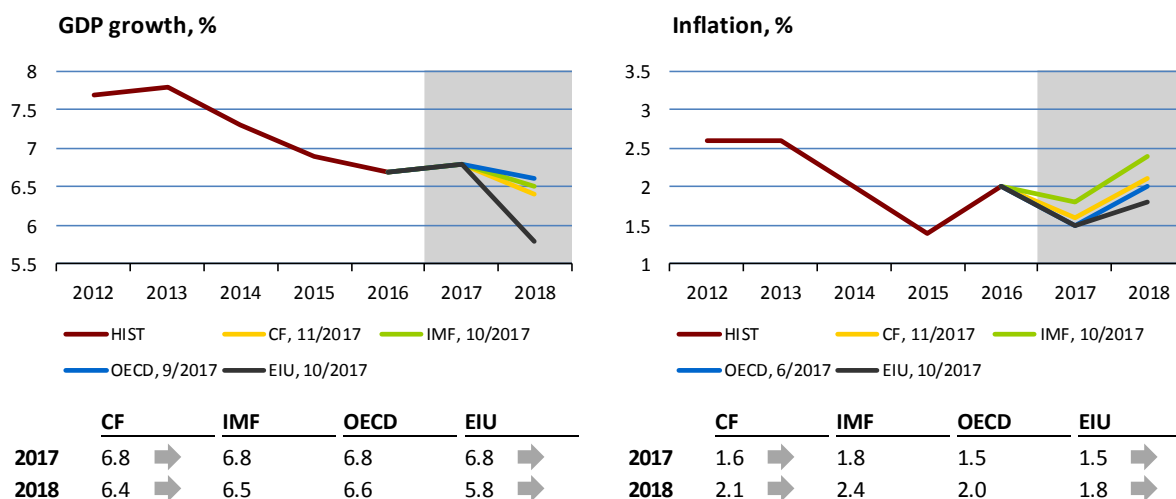
Shinzo Abe was re-elected prime minister after a landslide victory in snap elections in late October. The previous expansionary policy is thus expected to continue. The key Nikkei stock index firmed to a 21-year high in response to the election result and the yen weakened on the view that the government will continue to support the recovery. Industrial output growth slowed in both annual and monthly terms in September. The [PMI](#) in manufacturing slipped to 52.8 points in October, but the sector is still doing very well according to purchasing managers. The BoJ slightly lowered its GDP growth outlook for 2017, while CF increased its forecast for 2018. Annual headline inflation remained at 0.7%, with faster growth in food and energy prices being offset by flat or falling prices of other consumer basket items. It is thus still below the central bank's target, which the BoJ expects to hit in 2019. Given the subdued growth in wages and prices, the BoJ did not change its monetary policy stance in November but did reduce its inflation outlook for both years covered.





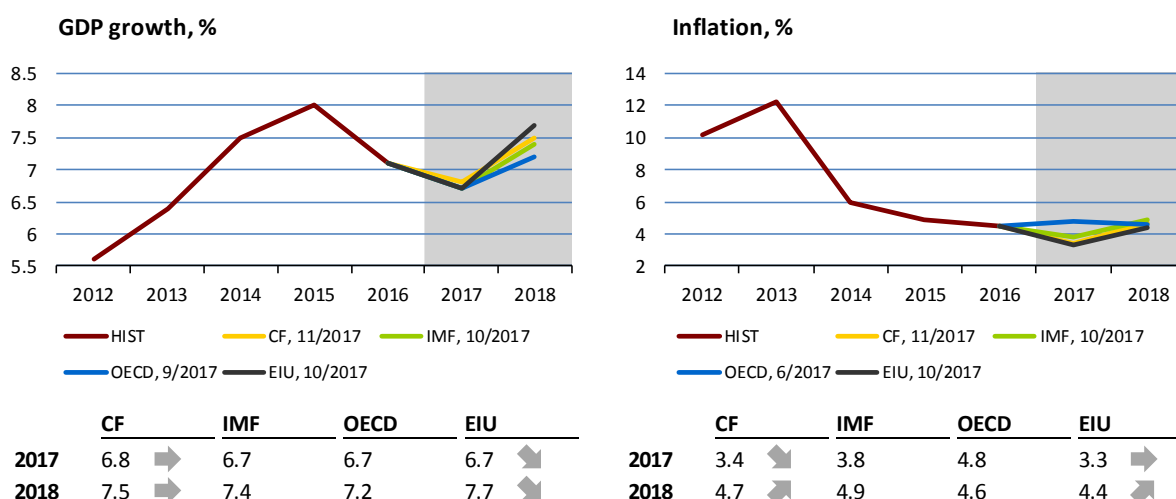
### III.1 China

The Chinese economy slowed slightly in annual terms in Q3. GDP grew by 6.8%. Growth in investment in fixed assets fell to an 18-year low, mainly due to the investment falls in mining of metals (down by more than 20%) and other commodities (down by 13%) in January–September 2017. On the other hand, rising investment was observed in oil and gas extraction (up by 12.4% in the same period). According to the central bank governor, the economy will grow by 7% on average in the second half of the year, thanks mainly to rising household consumption. Conversely, financial analysts expect a slowdown at the year-end (due to higher interest rates, administrative obstacles to property purchases and breaks in industrial production to improve air quality). There has also been a political shift away from growth objectives – no target to double GDP before 2020 was mentioned at the Chinese communist party congress, and attention was paid to the quality and sustainability of expansion. The new CF and EIU predictions saw no changes.



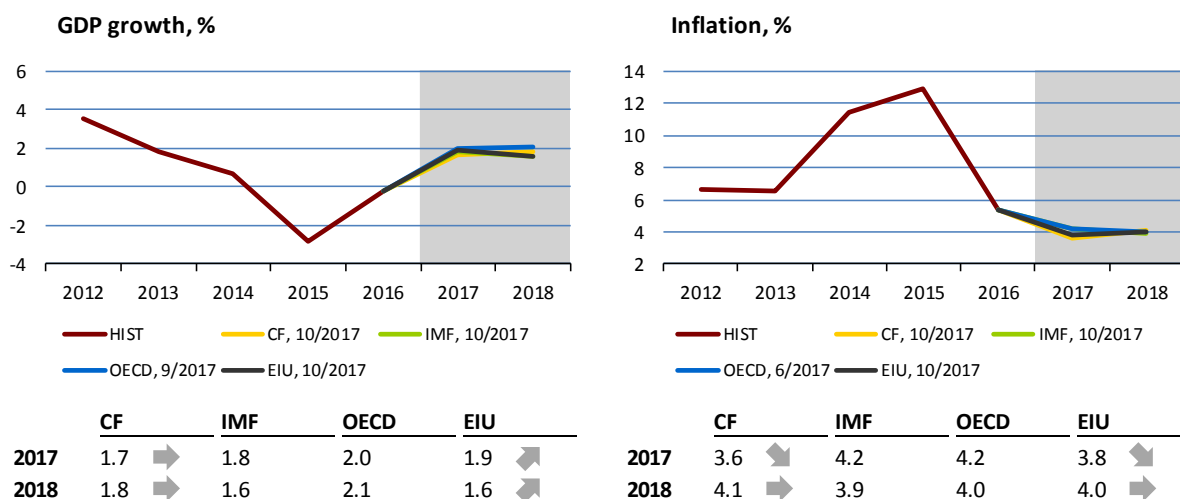
### III.2 India

The Indian [PMI](#) in manufacturing fell unexpectedly to 50.3 points in October but remains in the expansion band. Purchasing managers state that output growth slowed, exports decreased the most since September 2013 and business sentiment was the weakest since February 2017. Moreover, new orders were flat because the temporary negative effects of the introduction of a major tax reform in July 2017 are still being felt. According to purchasing managers, only the labour market is improving. This is reflected in a rise in employment in the sector. The November CF did not change its GDP growth outlooks. By contrast, the EIU revised its predictions down. It significantly reduced its forecast for fiscal year 2017/2018, bringing it into line with those of other institutions. It expects slightly lower growth in fiscal year 2018/2019 than in its previous forecast. CF lowered its inflation outlook for this fiscal year. By contrast, both CF and the EIU slightly increased their predictions for the next fiscal year.



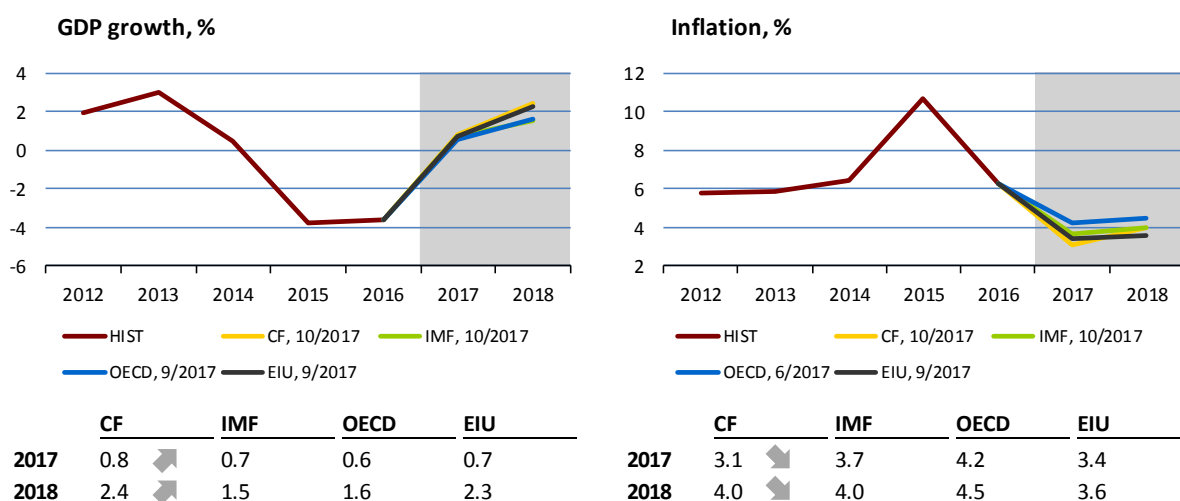
### III.3 Russia

The Russian economy is showing generally favourable developments. Industrial production growth reached 0.9% year on year in September. The October PMI in manufacturing and services stayed in the expansion band. The unemployment rate remains at around 5%. Annual real wage growth rose to 2.6% in September but lagged behind expectations. Consumer price inflation has been falling for several months now and hit a new historical low of 2.7% in October. It is thus well below the central bank's 4% target, leaving room to ease monetary policy further. The central bank lowered its policy rate to 8.25% at the end of October and is expected to cut it further before the end of the year. The new CF and EIU outlooks predict GDP growth of around 1.7% amid inflation close to 4% (year-end level).



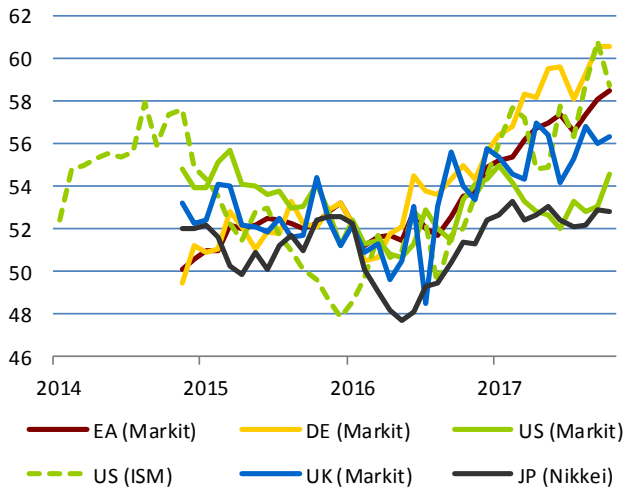
### III.4 Brazil

Industrial production growth in Brazil slowed slightly in September. Its annual growth rate decreased from 3.9% in August to 2.6% in September. The unemployment rate has been declining steadily for six consecutive months – from 13.7% in March to 12.4% in September. Inflation remains close to historically very low levels (2.5% in September). The Brazilian central bank is continuing to ease monetary policy rapidly. After a cut of 100 bp in early September, the policy rate was reduced by further 75 bp in late October to the current 7.5%. The SELIC rate thus came down for the ninth time in a row and is currently comparable with the 2013 level. The new CF outlook increased its GDP growth estimates and reduced its inflation forecast. It expects GDP growth of 2.4% amid inflation at 4% at the end of 2018.

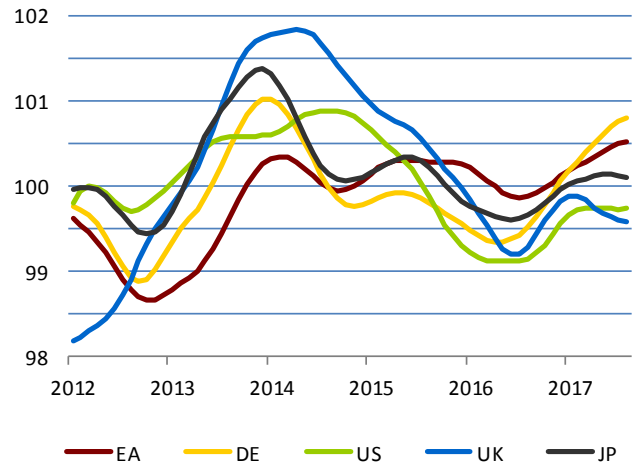


IV.1 Advanced economies

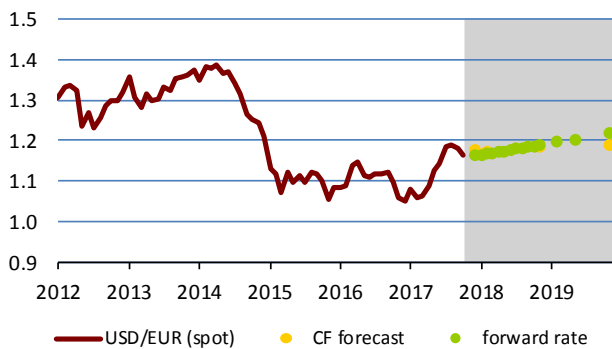
PMI in manufacturing



OECD Composite Leading Indicator

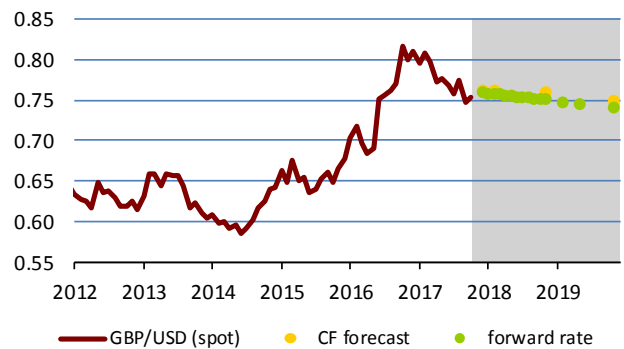


The US dollar (USD/EUR)



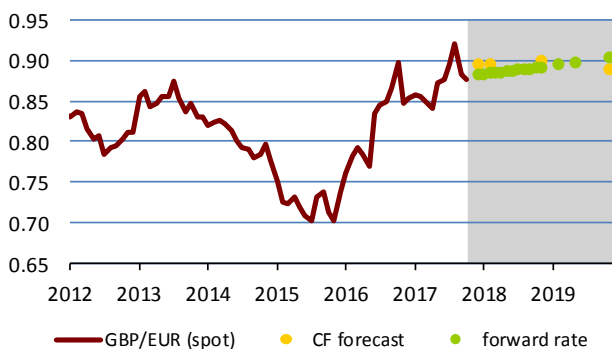
	6/11/17	12/17	02/18	11/18	11/19
spot rate	1.159				
CF forecast		1.175	1.174	1.184	1.187
forward rate		1.163	1.167	1.188	1.219

The British pound (GBP/USD)



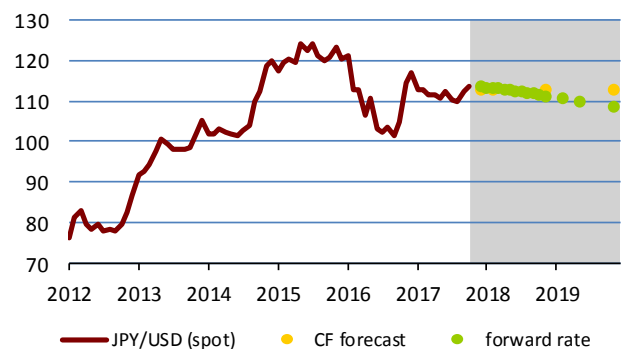
	6/11/17	12/17	02/18	11/18	11/19
spot rate	0.762				
CF forecast		0.762	0.762	0.760	0.749
forward rate		0.759	0.757	0.750	0.741

The British pound (GBP/EUR)



	6/11/17	12/17	02/18	11/18	11/19
spot rate	0.883				
CF forecast		0.895	0.895	0.900	0.889
forward rate		0.882	0.884	0.892	0.903

The Japanese yen (JPY/USD)

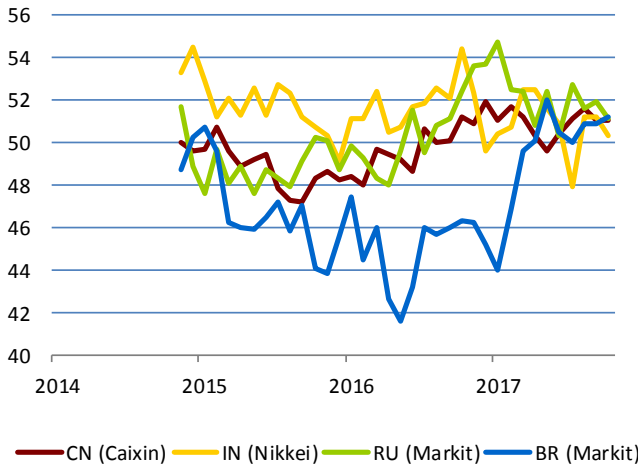


	6/11/17	12/17	02/18	11/18	11/19
spot rate	114.1				
CF forecast		112.9	112.9	112.8	112.9
forward rate		113.6	113.2	111.3	108.4

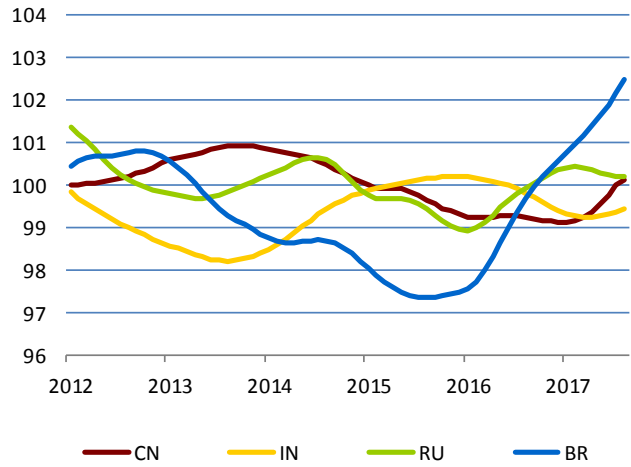
Note: Exchange rates as of last day of month. Forward rate does not represent outlook; it is based on covered interest parity, i.e. currency of country with higher interest rate is depreciating. Forward rate represents current (as of cut-off date) possibility of hedging future exchange rate.

IV.2 BRIC countries

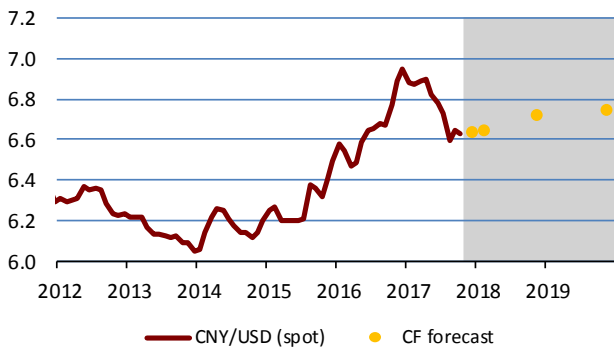
PMI in manufacturing



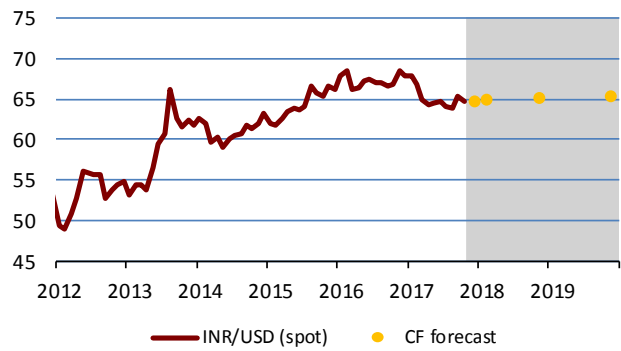
OECD Composite Leading Indicator



The Chinese renminbi (CNY/USD)



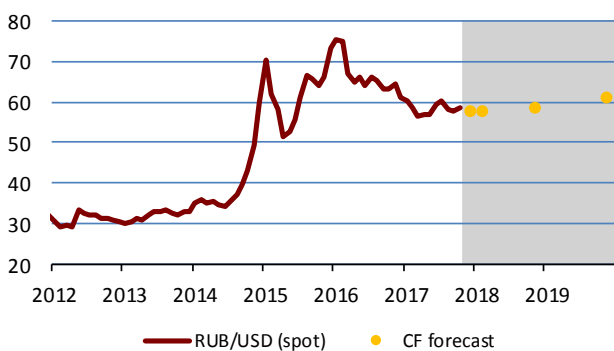
The Indian rupee (INR/USD)



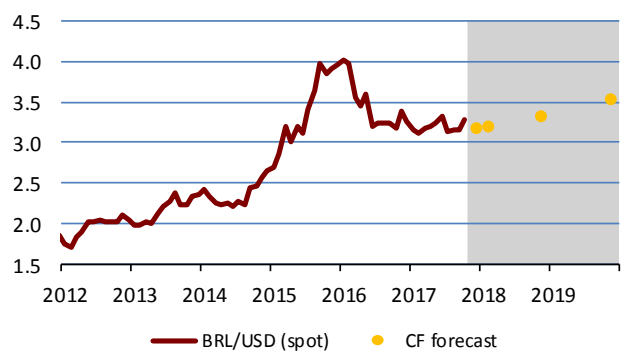
	6/11/17	12/17	02/18	11/18	11/19
spot rate	6.634				
CF forecast		6.636	6.643	6.717	6.746

	6/11/17	12/17	02/18	11/18	11/19
spot rate	64.70				
CF forecast		64.75	64.86	65.03	65.28

The Russian rouble (RUB/USD)



The Brazilian real (BRL/USD)



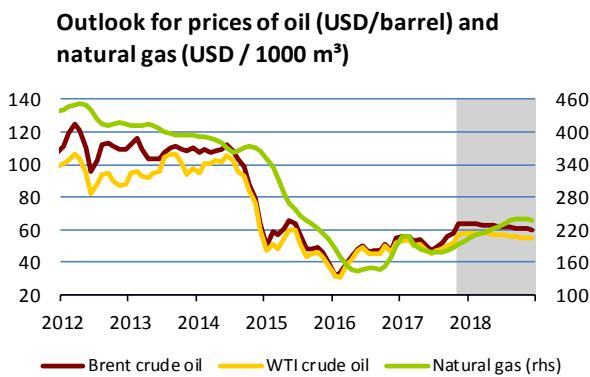
	6/11/17	12/17	02/18	11/18	11/19
spot rate	58.46				
CF forecast		57.89	57.88	58.41	61.03

	6/11/17	12/17	02/18	11/18	11/19
spot rate	3.287				
CF forecast		3.181	3.191	3.313	3.535

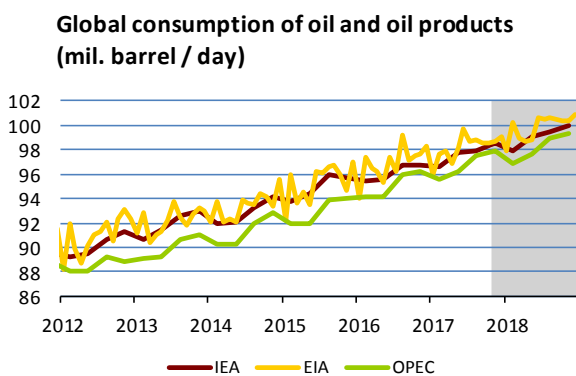
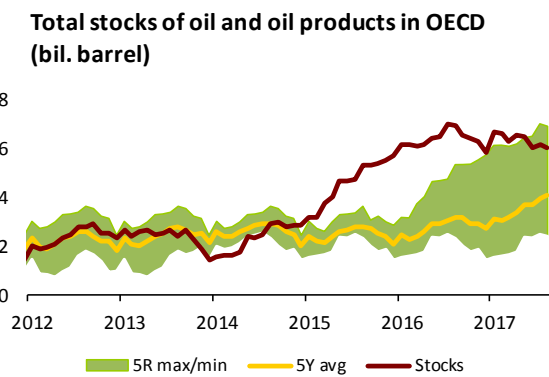
Note: Exchange rates as of last day of month.

### V.1 Oil and natural gas

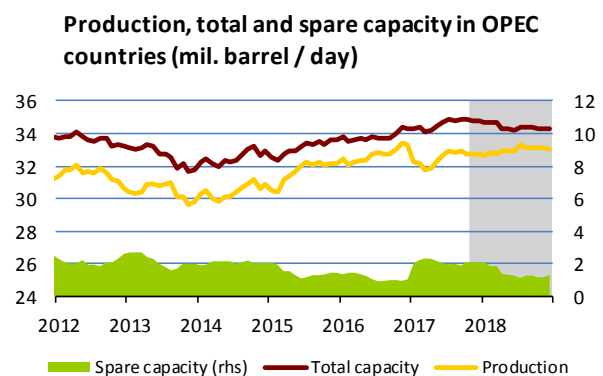
The Brent crude oil price surged in September, ending the month just below USD 60/bbl. A brief correction occurred in late September and early October as hedge funds took profits on their investments, but the price then started to rise again. Brent thus returned above USD 60/bbl at the end of October for the first time since July 2015 and continued to go up in early November. It has risen by almost 38% in four months since its low in early July. Some analysts believe that the current oil price rise is only temporary due to increased geopolitical tensions in the Middle East (military action in the north of Iraq due to the referendum on Kurdish autonomy and a drop of more than half in local production, increased tensions between Saudi Arabia and Iran, which is backing the rebels in Yemen, and last but not least power plays between the elites in Saudi Arabia). However, there are also arguments that the higher oil prices may be of a more permanent nature due to favourable fundamentals on the oil market. The agreement between OPEC and other major oil producers is effectively limiting the supply of oil and is generally expected to be extended until the end of 2018. Growth in global demand remains robust and growth in production in the USA will slow in response to weakening drilling activity. Stocks of oil and products (including strategic petroleum reserves) in the USA have fallen by almost 100 million barrels since the start of the year, partly due to outages caused by hurricanes. OPEC expects oil stocks in the OECD to return to normal in 2018 Q3. The slope of the market futures curve is strongly declining, implying average Brent crude oil prices of USD 61.8 and 58.6/bbl in 2018 and 2019 respectively. The EIA forecast for next year, however, is only USD 56/bbl.



	Brent	WTI	Natural gas
2017	54.89 ↘	50.97 ↘	189.43 ↘
2018	61.81 ↗	56.42 ↗	226.37 ↗



	IEA	EIA	OPEC
2017	97.70 ↘	98.20 ↘	96.80 ↗
2018	99.11 ↗	99.87 ↘	98.18 ↗



	Production	Total capacity	Spare capacity
2017	32.50 ↘	34.60 ↘	2.10 ↘
2018	32.99 ↗	34.41 ↗	1.42 ↗

Source: Bloomberg, IEA, EIA, OPEC, CNB calculation

Note: Oil price at ICE, price of Russian natural gas at German border – IMF data, smoothed by the HP filter. Future oil prices (grey area) are derived from futures and future gas prices are derived from oil prices using model. Total oil stocks (commercial and strategic) in OECD countries – IEA estimate. Production and extraction capacity of OPEC – EIA estimate.

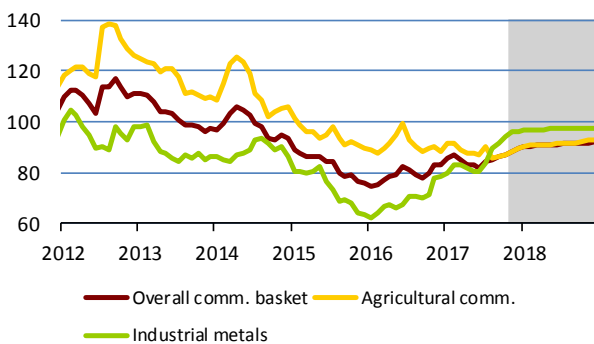
## V.2 Other commodities

The aggregate non-energy commodity price index continued to rise in October and the first half of November, driven up by both the food commodity price sub-index and particularly the industrial metals sub-index, which was at its highest level since February 2013 in mid November, although its outlook remains flat at the current level. By contrast, the food commodity price index has been still close to its lowest level in many years throughout 2017, but its outlook is slightly rising.

Prices of basic metals continue to be supported by favourable prospects for industrial activity. The J.P.Morgan Global Manufacturing PMI rose further to 53.5 (its highest level in six and a half years). Conditions improved in Europe and the USA, were unchanged in China and worsened slightly in Russia and India. Particularly strong levels were recorded for investment goods. Prices of aluminium, copper and other industrial metals except tin continued to rise. On the other hand, the price of iron ore has been falling since September, with supply rising and growth in steel production in China expected to moderate.

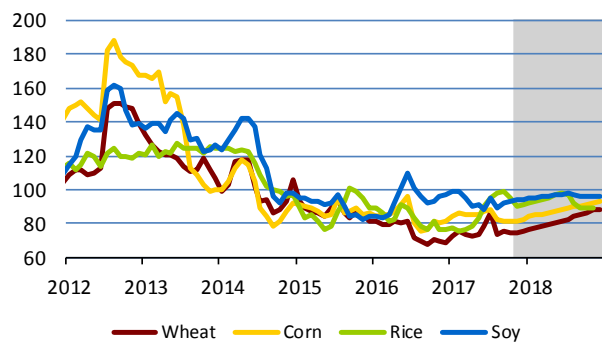
The food commodity price movements were mostly insignificant, since global stocks remain at a comfortable level and the harvest should not be disrupted by bad weather. Prices of wheat and corn were flat last month, but the forecast expects them to rise. The price of rice declined, while the price of soy went up modestly. Prices of cocoa and pork also increased slightly, while the price of beef showed higher growth. As regards non-food agricultural commodities, the price of natural rubber fell back to near a long-term low.

### Non-energy commodities price indices



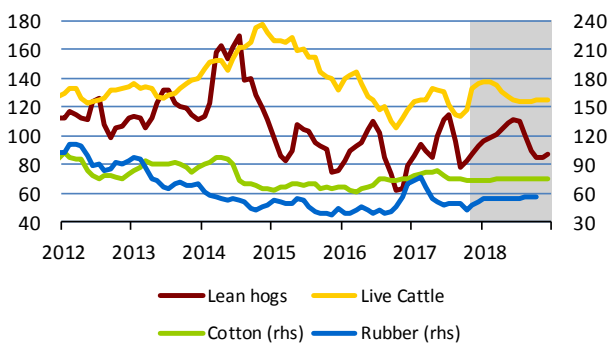
	Overall	Agricultural	Industrial
2017	85.6 ↗	88.4 ↗	86.8 ↗
2018	91.1 ↗	91.6 ↗	97.3 ↗

### Food commodities



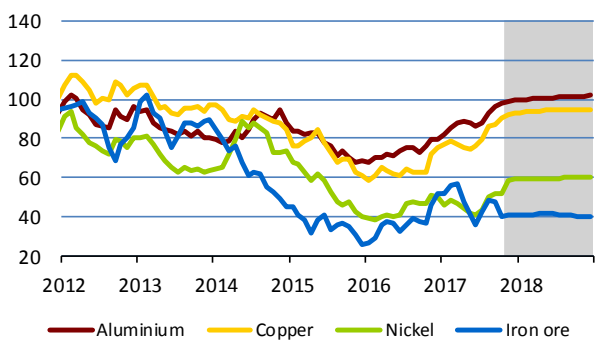
	Wheat	Corn	Rice	Soy
2017	75.6 ↗	84.4 ↗	87.5 ↗	93.4 ↗
2018	82.5 ↗	88.6 ↗	93.5 ↗	96.4 ↗

### Meat, non-food agricultural commodities



	Lean hogs	Live Cattle	Cotton	Rubber
2017	93.1 ↗	125.6 ↗	77.7 ↗	55.2 ↗
2018	98.2 ↗	128.3 ↗	74.8 ↗	55.3 ↗

### Basic metals and iron ore



	Aluminium	Copper	Nickel	Iron ore
2017	90.9 ↗	82.3 ↗	48.6 ↗	45.8 ↗
2018	100.8 ↗	94.2 ↗	59.7 ↗	40.9 ↗

Source: Bloomberg, CNB calculations.

Note: Structure of non-energy commodity price indices corresponds to composition of The Economist commodity indices. Prices of individual commodities are expressed as indices 2010 = 100.

## The economic recovery and labour market developments in the USA<sup>1</sup>

The current recovery of the US economy stands a chance of being the longest in the USA's history. Of the post-war business cycles, though, this one is characterised by the lowest growth in employment and GDP. Given a fall in the unemployment rate to historical lows and limited nominal wage growth, the question is to what extent the current developments reflect structural changes on the US labour market. The low wage growth in the euro area reflects insufficient capacity utilisation on the labour market. If the low nominal wage growth in the US mainly reflects structural changes (primarily greater labour market flexibility), a scenario of stable growth in GDP, wages and prices over the next two years could be realistic. On the other hand, the impact of the global financial crisis might still be persisting and wage pressures may emerge over the next few months. A historical comparison reveals that financial crises have a strong impact on the economy and the labour market and are followed by slower recoveries (Reinhart and Rogoff, 2014).

### 1 The US business cycle in historical comparison

The current recovery of the US economy, which, according to the calculations of the National Bureau of Economic Research (NBER), started in July 2009, stands a chance of becoming the longest in the USA's history. Since the end of World War II, the US economy has experienced 11 recessions and the average post-war recovery has lasted 59 months. According to the NBER, recoveries lasted 27 months before 1919 and 35 months between the wars. As Chart 1 shows, the current recovery has been going on for 99 months now and is the third-longest in US history. According to Table 1, it is also displaying the lowest average GDP, employment and population growth in historical comparison.

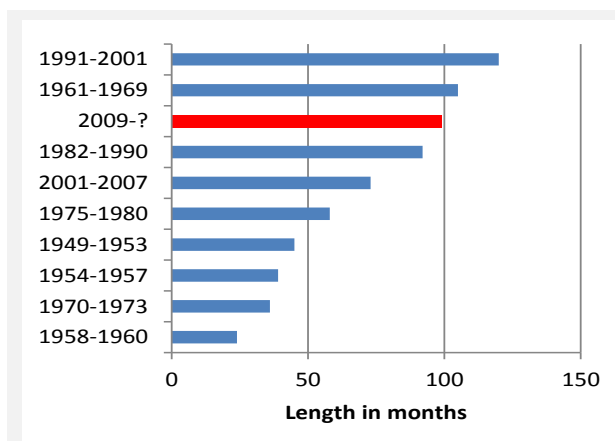


Chart 1 Length of economic recoveries (in months)

Source: NBER, CNB

	Length (in months)	Employment growth	GDP growth	Population growth
1949-1953	45	18%	7.8%	1.8%
1954-1957	39	9%	3.8%	1.8%
1958-1960	24	8%	5.1%	1.7%
1961-1969	106	33%	5.1%	1.3%
1970-1973	36	12%	5.1%	1.1%
1975-1980	58	20%	4.3%	1.0%
1982-1990	92	24%	8.1%	0.9%
1991-2001	120	23%	3.8%	1.2%
2001-2007	73	6%	2.8%	0.9%
2009-?	99+	4%	2.5%	0.7%

Table 1 Post-war expansions in numbers

Source: Datastream, CNB

Note: Average GDP and population growth rates. Annualised quarterly GDP growth; percentage change in employment from one recession to the next

For the current recovery to become the longest in US history, the economy would need to expand for another 21 months. This would match the record of 1991–2001. According to a whole range of institutions that produce outlooks for the US economy, the expansion is set to continue over the next few years. The October Consensus Forecasts (CF) expects growth to increase from 2.2% this year to 2.4% in 2018, while its long-range prediction for 2019 is 2.1%. The IMF and OECD also expect growth to pick up in 2018. The further increase in US GDP growth could therefore be accompanied by an improvement on the labour market. However, the CF analysts do not expect any further marked decrease in unemployment from its current historical low, so the unemployment rate is expected to average 4.1% in 2018.

Only the Fed's September 2017 median projection expects a slowdown – from 2.4% in 2017 to 2.1% in 2018 and 2.0% in 2019. The central bank meanwhile expects the unemployment rate to be 4.1%–4.2% over the next two years. It estimates long-term US growth at 1.8% and the long-term unemployment rate at 4.6%. The economy is thus expected to expand at a faster pace than the long-term average amid a lower unemployment rate. Inflation pressures, which are not currently significant, are expected to manifest themselves in full. The labour market conditions are expected to tighten further, leading to a rise in wages and hence also in inflation.

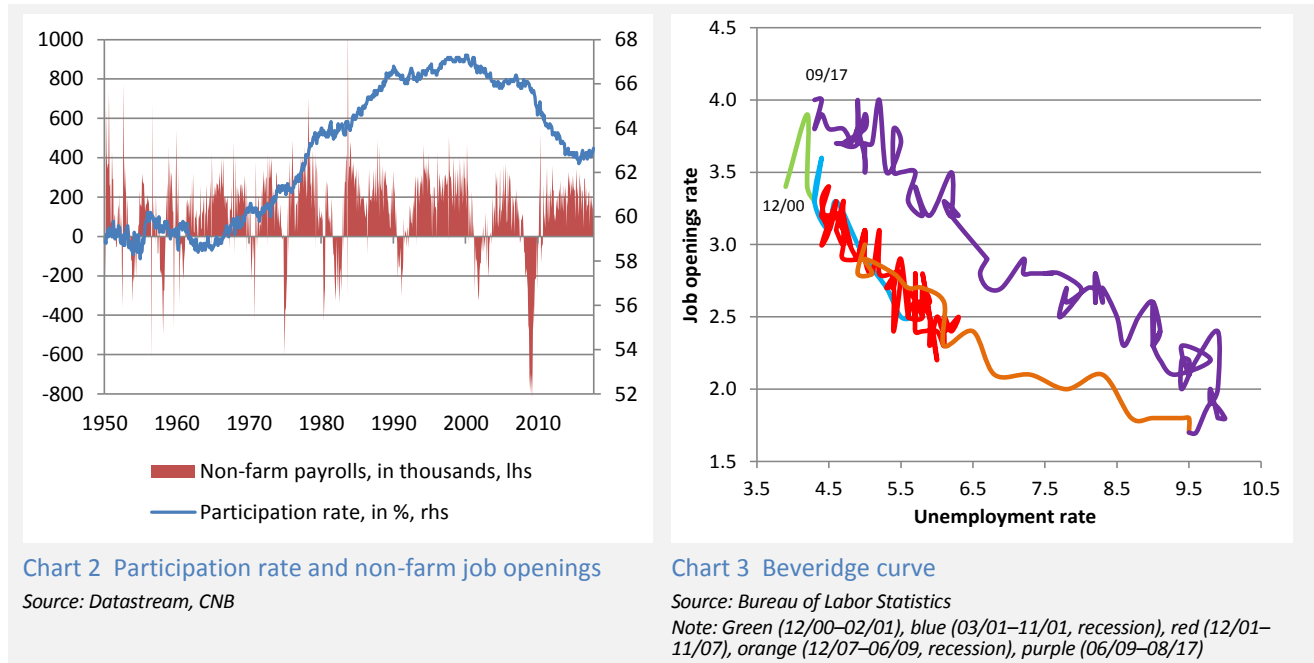
On the other hand, a whole range of structural changes have given rise to questions about the interaction between labour market conditions and macroeconomic developments. The unemployment rate is getting

<sup>1</sup> Author: Soňa Benecká. The views expressed in the article are those of the author and do not necessarily reflect the official position of the Czech National Bank.

close to the natural levels (NAIRU) at which inflation pressures could emerge. Core inflation has been flat at 1.7% since May.

## 2 The labour market and structural changes

The question of how tight the US labour market conditions are and whether the unemployment rate could fall further is a topic of much debate. A wide range of indicators are suggesting that labour supply growth is relatively stable, although a modest slowdown is now evident. Non-farm payrolls are still strong (except for a drop in September due to hurricanes). October saw 261,000 new jobs created. Nevertheless, as Chart 2 shows, a slight decline in the payrolls has been apparent since 2014.



Since 2000, the labour force participation rate (persons working and actively seeking work as a share of the labour force) has declined markedly to around 63%, a level last seen in the late 1970s. However, it stopped falling at the start of 2017 (see Chart 2). In August 2017, the ratio of unemployed persons to job openings decreased to 1.2, i.e. below the pre-crisis level. The continuing fall in the unemployment rate and simultaneous rise in the job openings rate is illustrated by the Beveridge curve<sup>2</sup> (see Chart 3), according to which the current labour market situation seems comparable with the expansion recorded in 2000.

Numerous factors have contributed to the decline in the participation rate and other changes in labour market structure in the US over the last two decades. First and foremost is demographics, as the population is ageing markedly (although the problem is not as severe as in Japan). According to a Public Reference Bureau study, the share of the population aged 65 and over will rise further from the current 15% to 24% in 2060. Ageing (together with robotisation, for example) is being reflected in a rising labour skill mismatch, something which is hard to capture with statistics. Firms are demanding different skills to those being offered on the market, even though the level of education is high.<sup>3</sup>

Socio-cultural changes have also negatively affected the participation rate. Growth in dependency (especially on prescription drugs)<sup>4</sup> has taken its toll and there is also speculation about changes in the new generation's preferences. A much higher proportion of young people are continuing to live with their parents, as this allows them to live more comfortably or to study. The postponement of independence to a higher age is leading to less willingness or motivation to enter the labour market. Interstate mobility (in particular the willingness to move in search of work) has decreased as well. The proportion of US citizens moving from one state to another declined from 3.8% in 1990 to 2.0% in 2016.

On the other hand, there are trends towards a more flexible labour market. Technological progress, enabling people to work remotely or on call, and other changes (including the declining influence of trade

<sup>2</sup> [https://www.bls.gov/web/jolts/jlt\\_labstatgraphs.pdf](https://www.bls.gov/web/jolts/jlt_labstatgraphs.pdf)

<sup>3</sup> On the other hand, the ratio of wages of highly skilled personnel to those of low-skilled workers has been stable since 2000. Possible explanations offered in the literature include (i) exhaustion of the demand for IT experts after the IT boom, (ii) complementarity between skills and new technologies and (iii) greater competition among skilled workers for high-income employment.

<sup>4</sup> <https://www.brookings.edu/bpea-articles/where-have-all-the-workers-gone-an-inquiry-into-the-decline-of-the-u-s-labor-force-participation-rate/>



unions) have changed the basic relationship between employment, wages and investment. A rise in the significance of alternative employment arrangements, such as temporary use of agency staff, contractual workers, independent contractors and freelancers, is apparent (the gig economy). The share of flexible labour is growing steadily and may currently account for up to 27% of the US labour force (McKinsey Global Institute survey). Flexible labour reduces the natural rate of unemployment, because even a minimally productive worker can get work occasionally. However, flexibility enables employers to expand production without having to make risky long-term investments that would otherwise lead to faster productivity growth. The impact on wage growth is also significant. Greater competition, especially in a situation of stable inflation expectations, reduces the upward pressure on wages in the economy.

Structural changes in the economy are reflected in wage growth. Recessions usually give firms an opportunity to cut employment, which they subsequently do not have to increase in the same way after the crisis. Owing to technological innovations or greater labour market flexibility, firms are not forced to raise wages in the subsequent recovery phase, especially if inflation expectations are firmly anchored. The next section will therefore be devoted to a comparison of the labour market across cycles since the 1980s.

### 3 Comparison across business cycles

One possible approach to analysing the effects of the last crisis is to compare the labour market across cycles. As Chart 4 shows, job losses reached record highs after the global financial crisis. Non-farm payrolls were still falling two years after the recession ended. This compares with just one year and significantly smaller losses during pre-2000 crises. The 2001 recession may not have brought an immediate turnaround on the labour market, but it had one-third of the impact of the financial crisis. Currently, however, employment is 6% higher than in December 2007 (+8.2 million jobs). The average rise in jobs was 167,000 over the last 12 months and 162,000 over the last three months. In spite of the evident effect of the hurricanes, these figures are consistent with the supply of potential labour force due to population growth.

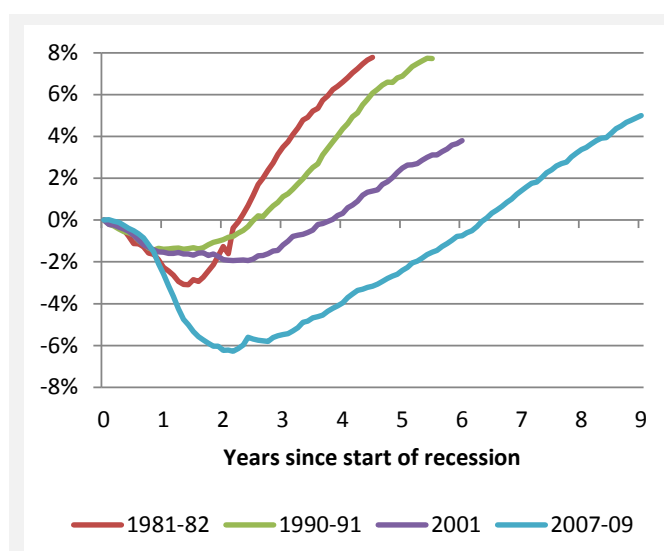


Chart 4 Percentage change in employment since the start of the recession

Source: Datastream, CNB

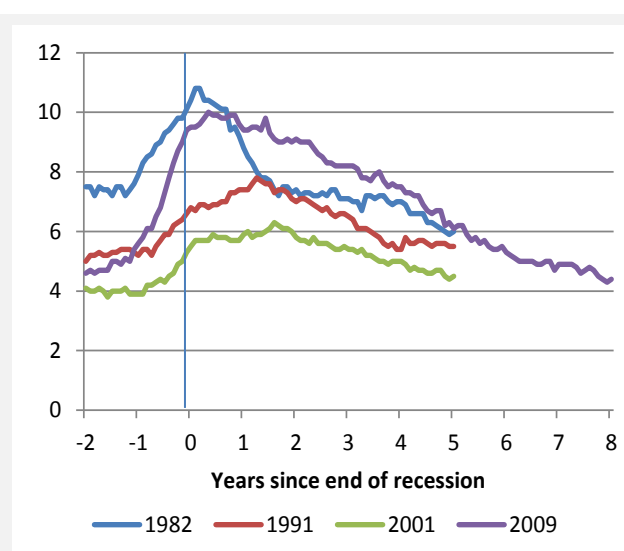


Chart 5 Unemployment rate during recessions and recoveries

Source: Datastream, CNB

The rise in the unemployment rate after the global financial crisis was similarly unusual. Unemployment stayed high for relatively long after the recession ended (see Chart 5). At the end of the recession in June 2009, the unemployment rate was close to 10%. Over the past more than 35 years, it was higher only at the end of the 1981–1982 recession. However, the current post-crisis expansion has been much more moderate and the labour market slack has diminished more slowly. The unemployment rate thus did not drop below 5% until the end of 2015, i.e. six and a half years after the end of the recession.

The comparison of business cycles since the 1980s also reveals that the current recovery is characterised by record-low nominal wage growth (see Chart 6).<sup>5</sup> Conversely, real wage growth in this business cycle does not differ significantly from that in previous cycles.

However, real wage growth since the end of the recession (see Chart 7) has been concentrated in lower- and higher-wage occupations. In the mid-wage category, wage growth has been relatively limited. This category saw the largest employment losses during the recession.<sup>6</sup> This may have fostered a rise in wage

<sup>5</sup> <https://www.frbatlanta.org/chcs/wage-growth-tracker.aspx?panel=1>

<sup>6</sup> <http://www.nelp.org/content/uploads/2015/03/LowWageRecovery2012.pdf>

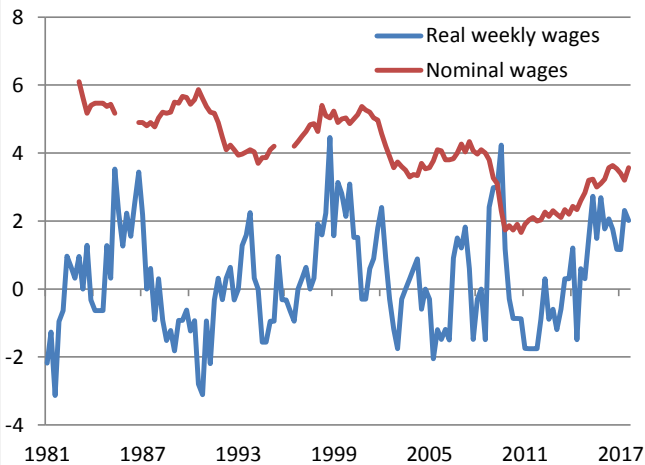


Chart 6 Nominal and real wage growth

Source: Federal Reserve

Note: The nominal wage as tracked in the Atlanta Fed's Wage Growth Tracker

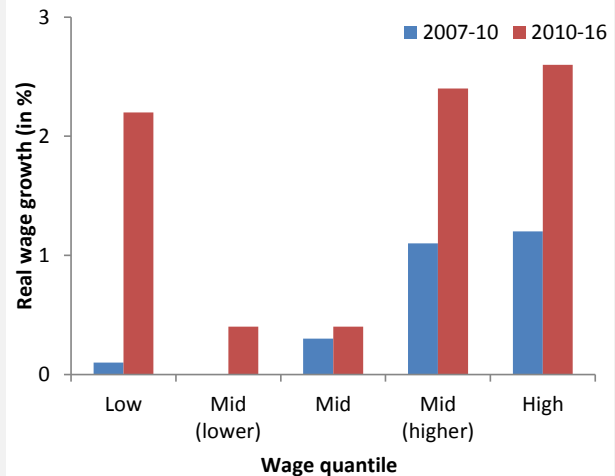


Chart 7 Real wage growth by income quantile

Source: The Hamilton Project

inequality, as is also evident from a falling labour income ratio in the US economy. This is resulting in growing calls for an increase in the minimal wage, flexibility constraints and tax relief. Such measures, however, may in turn contribute to growth in long-term unemployment.

#### 4 International comparison

Deep recessions are usually followed by strong recoveries. However, financial crises may result in substantially longer periods of low economic growth. Reinhart and Rogoff (2014) show that systemic banking crises result in slower recoveries. They find that on average it takes about eight years to return to the pre-crisis level of income. Half of the episodes recorded double dips.

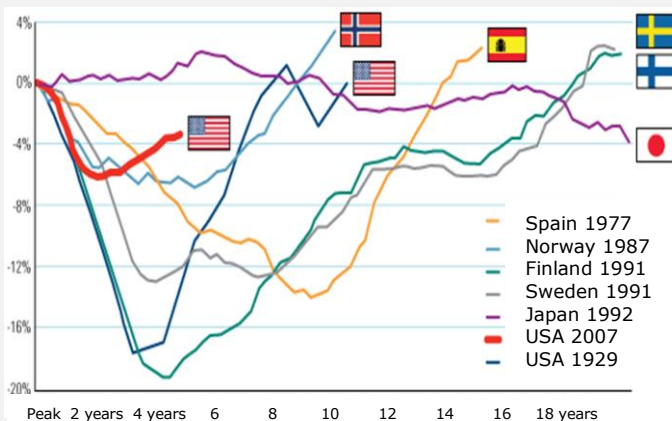


Chart 8 Percentage falls in employment after financial crises

Source: Reinhart and Rogoff (2014), Oregon Office of Economic Research

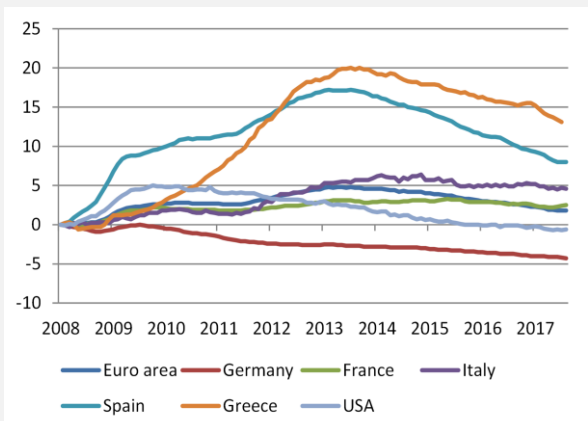


Chart 9 Unemployment growth since the start of the crisis

Source: Eurostat

Their impact on the labour market is also substantial, as Chart 8 illustrates. In Finland, for example, employment fell almost by 20% in late 1980s and early 1990s. This is roughly the same effect as the Great Depression had in USA in the 1930s. Compared to this, the impact of the recent financial crisis in terms of employment losses in the US was relatively small.

In the first two years after the outbreak of the global financial crisis, growth in unemployment in the US was almost double that the euro area (see Chart 9). A turnaround took place in the US in 2009, whereas accumulated job losses in the euro area started to rise further in 2011 owing to the debt crisis. The labour markets in Greece, Portugal and Spain were hit particularly hard. On the other hand, unemployment in Germany has been falling steadily since the height of the crisis and in September reached its lowest level in 37 years (3.6%). German real wage growth has been fluctuating around 1% since the beginning of this year, while in some countries hit by the debt crisis real wages fell in year-on-year terms during the crisis.

In terms of structure, the drop in employment in the euro area in the post-crisis period has manifested in a similar way as in the US, i.e. primarily in the construction sector and to a lesser extent in industry. There

is, however, one big difference: the skill mismatch index in the euro area, in contrast to that in the US, has increased sharply in the same period, especially in the countries hit by the debt crisis.<sup>7</sup> By contrast, the index for Germany has fallen over the last ten years.

The post-crisis trends have differed across the euro area countries, but labour capacity utilisation remains low overall (except in Germany). In contrast to the USA, therefore, the labour market conditions cannot be assessed as tight. This is being reflected in wage growth.

## 5 Conclusion

As the literature indicates, financial crises give rise to stronger recessions, larger labour market losses and slower recoveries than is usually the case during other business cycles. The most recent of them – the global financial crisis – was also characterised by a gradually improving situation in the economy. As unemployment declined, wage pressures were expected to increase and spill over to inflation. However, a whole range of structural changes have given rise to questions about the relationship between labour market conditions and macroeconomic developments. There are therefore two possible future scenarios.

In the coming years, the US economy may continue to see high employment and labour market flexibility, stable real wage growth and low labour productivity growth. Economic growth and inflation pressures will remain contained. On the other hand, it is possible that the current developments primarily reflect the global financial crisis and that cyclical factors will manifest themselves in full in the coming months. The tight labour market situation would then lead to an increase in wage growth. This would be reflected in the price level and necessitate a response from the central bank in the form of monetary policy tightening.

## References

Carmen M. Reinhart & Kenneth S. Rogoff, 2014. "Recovery from Financial Crises: Evidence from 100 Episodes," American Economic Review, American Economic Association, No. 104(5), pp. 50–55, May.

[http://www.hamiltonproject.org/papers/thirteen\\_facts\\_about\\_wage\\_growth](http://www.hamiltonproject.org/papers/thirteen_facts_about_wage_growth)

---

<sup>7</sup> <https://www.ecb.europa.eu/press/key/date/2014/html/sp140822.en.html>

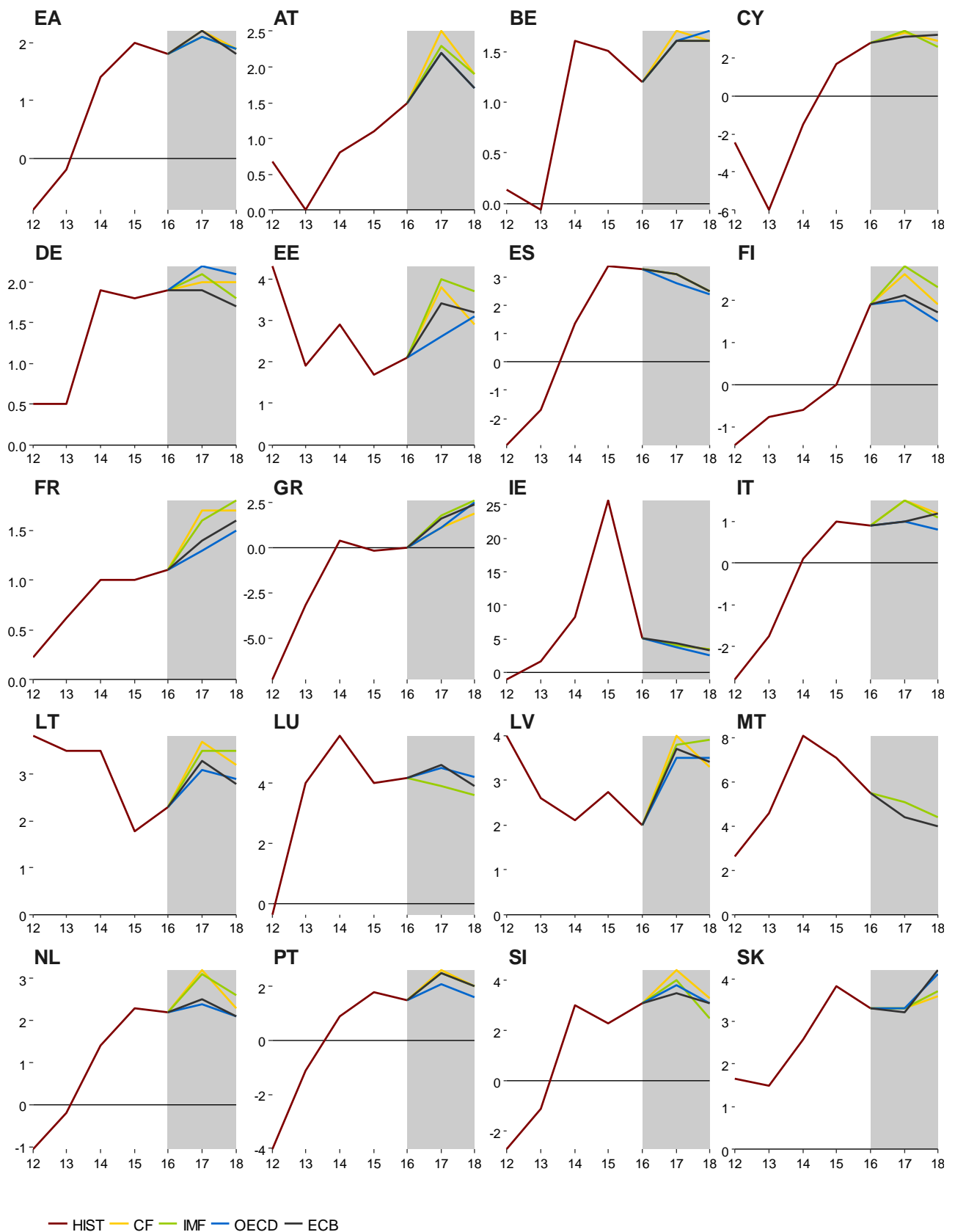
## A1. Change in GDP predictions for 2017

	CF		IMF		OECD		CB / EIU	
EA	0	2017/11	+0.2	2017/10	+0.3	2017/9	+0.3	2017/9
		2017/10		2017/7		2017/6		2017/6
DE	0	2017/11	+0.3	2017/10	+0.2	2017/9	+0.1	2017/6
		2017/10		2017/7		2017/6		2016/12
US	0	2017/11	+0.1	2017/10	0	2017/9	+0.2	2017/9
		2017/10		2017/7		2017/6		2017/6
UK	-0.1	2017/11	0	2017/10	0	2017/9	-0.1	2017/11
		2017/10		2017/7		2017/6		2017/8
JP	0	2017/11	+0.2	2017/10	+0.2	2017/9	+0.1	2017/11
		2017/10		2017/7		2017/6		2017/7
CN	0	2017/11	+0.1	2017/10	+0.2	2017/9	0	2017/10
		2017/10		2017/7		2017/6		2017/9
IN	0	2017/11	-0.5	2017/10	-0.6	2017/9	-0.4	2017/10
		2017/10		2017/7		2017/6		2017/8
RU	0	2017/10	+0.4	2017/10	+0.6	2017/9	+0.3	2017/10
		2017/9		2017/7		2017/6		2017/9
BR	+0.1	2017/10	+0.4	2017/10	-0.1	2017/9	+0.5	2017/9
		2017/9		2017/7		2017/6		2017/8

## A2. Change in inflation predictions for 2017

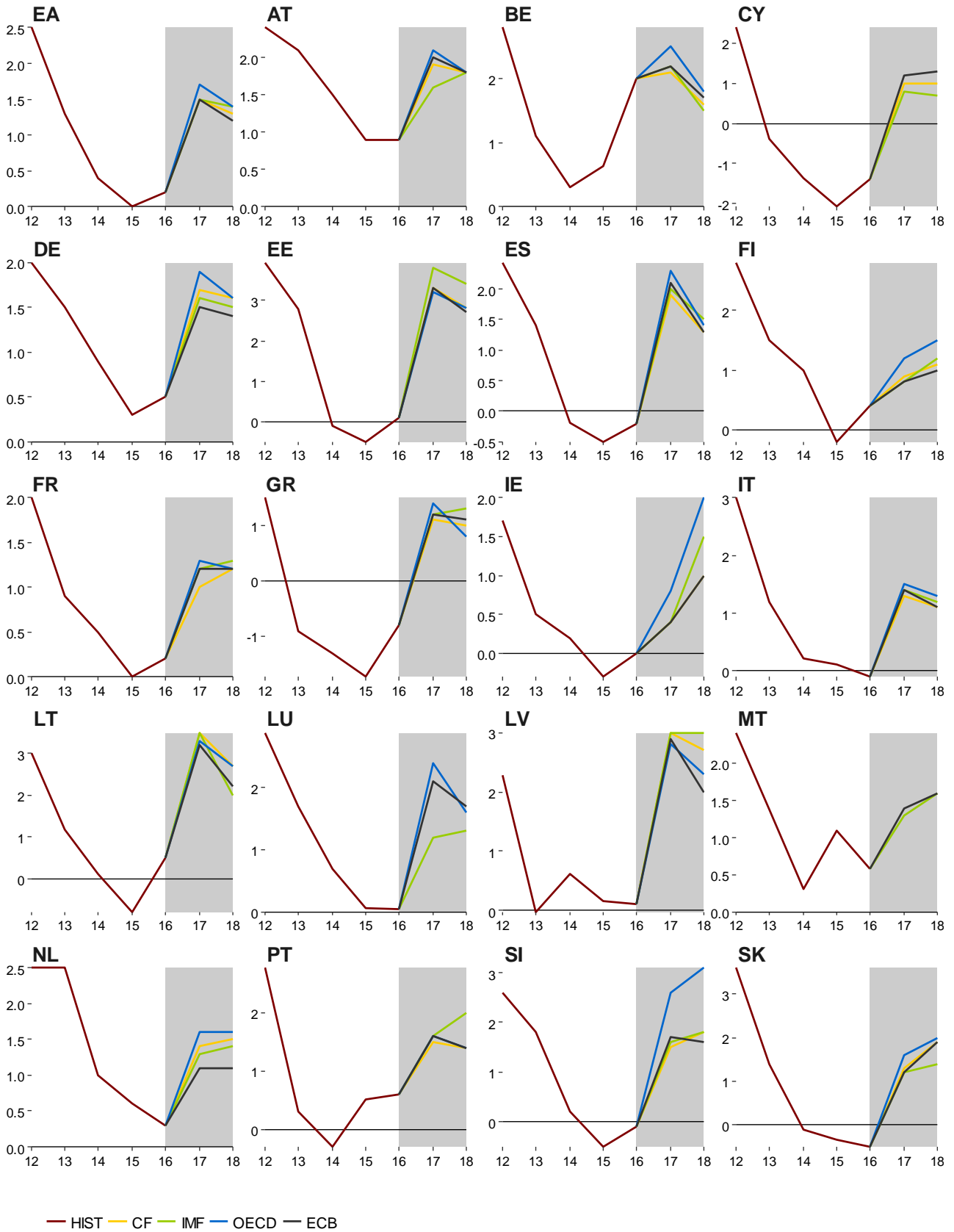
	CF		IMF		OECD		CB / EIU	
EA	0	2017/11	-0.2	2017/10	+0.5	2017/6	0	2017/9
		2017/10		2017/4		2016/11		2017/6
DE	0	2017/11	-0.4	2017/10	+0.5	2017/6	+0.1	2017/6
		2017/10		2017/4		2016/11		2016/12
US	+0.1	2017/11	-0.6	2017/10	+0.6	2017/6	0	2017/9
		2017/10		2017/4		2016/11		2017/6
UK	0	2017/11	+0.1	2017/10	+0.4	2017/6	+0.2	2017/11
		2017/10		2017/4		2016/11		2017/8
JP	0	2017/11	-0.6	2017/10	+0.3	2017/6	-0.3	2017/11
		2017/10		2017/4		2016/11		2017/7
CN	0	2017/11	-0.6	2017/10	-0.7	2017/6	0	2017/10
		2017/10		2017/4		2016/11		2017/9
IN	-0.1	2017/11	-1.0	2017/10	-0.4	2017/6	0	2017/10
		2017/10		2017/4		2016/11		2017/8
RU	-0.2	2017/10	-0.3	2017/10	-1.7	2017/6	-0.3	2017/10
		2017/9		2017/4		2016/11		2017/9
BR	-0.1	2017/10	-0.7	2017/10	-1.8	2017/6	-0.2	2017/9
		2017/9		2017/4		2016/11		2017/8

### A3. GDP growth in the euro area countries



Note: The chart shows institutions' latest available outlooks of for the given country (in %).

### A4. Inflation in the euro area countries



Note: The chart shows institutions' latest available outlooks of for the given country (in %).

## A5. List of abbreviations

<b>AT</b>	Austria	<b>GDP</b>	gross domestic product
<b>bbl</b>	barrel	<b>GR</b>	Greece
<b>BE</b>	Belgium	<b>ICE</b>	Intercontinental Exchange
<b>BoE</b>	Bank of England	<b>IE</b>	Ireland
<b>BoJ</b>	Bank of Japan	<b>IEA</b>	International Energy Agency
<b>bp</b>	basis point (one hundredth of a percentage point)	<b>IMF</b>	International Monetary Fund
<b>BR</b>	Brazil	<b>IN</b>	India
<b>BRIC</b>	countries of Brazil, Russia, India and China	<b>INR</b>	Indian rupee
<b>BRL</b>	Brazilian real	<b>IRS</b>	Interest Rate swap
<b>CB</b>	central bank	<b>ISM</b>	Institute for Supply Management
<b>CB-CCI</b>	Conference Board Consumer Confidence Index	<b>IT</b>	Italy
<b>CB-LEII</b>	Conference Board Leading Economic Indicator Index	<b>JP</b>	Japan
<b>CBR</b>	Central Bank of Russia	<b>JPY</b>	Japanese yen
<b>CF</b>	Consensus Forecasts	<b>LIBOR</b>	London Interbank Offered Rate
<b>CN</b>	China	<b>LME</b>	London Metal Exchange
<b>CNB</b>	Czech National Bank	<b>LT</b>	Lithuania
<b>CNY</b>	Chinese renminbi	<b>LU</b>	Luxembourg
<b>CY</b>	Cyprus	<b>LV</b>	Latvia
<b>DBB</b>	Deutsche Bundesbank	<b>MT</b>	Malta
<b>DE</b>	Germany	<b>NL</b>	Netherlands
<b>EA</b>	euro area	<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>ECB</b>	European Central Bank	<b>OECD-CLI</b>	OECD Composite Leading Indicator
<b>EC-CCI</b>	European Commission Consumer Confidence Indicator	<b>PMI</b>	Purchasing Managers' Index
<b>EC-ICI</b>	European Commission Industrial Confidence Indicator	<b>PP</b>	percentage point
<b>EE</b>	Estonia	<b>PT</b>	Portugal
<b>EIA</b>	Energy Information Administration	<b>QE</b>	quantitative easing
<b>EIU</b>	Economist Intelligence Unit	<b>RU</b>	Russia
<b>ES</b>	Spain	<b>RUB</b>	Russian rouble
<b>EU</b>	European Union	<b>SI</b>	Slovenia
<b>EUR</b>	euro	<b>SK</b>	Slovakia
<b>EURIBOR</b>	Euro Interbank Offered Rate	<b>TLTRO</b>	targeted longer-term refinancing operations
<b>Fed</b>	Federal Reserve System (the US central bank)	<b>UK</b>	United Kingdom
<b>FI</b>	Finland	<b>UoM-CSI</b>	University of Michigan Consumer Sentiment Index
<b>FOMC</b>	Federal Open Market Committee	<b>US</b>	United States
<b>FR</b>	France	<b>USD</b>	US dollar
<b>FRA</b>	forward rate agreement	<b>USDA</b>	United States Department of Agriculture
<b>FY</b>	fiscal year	<b>WEO</b>	World Economic Outlook
<b>GBP</b>	pound sterling	<b>WTI</b>	West Texas Intermediate (crude oil used as a benchmark in oil pricing)
		<b>ZEW-ES</b>	ZEW Economic Sentiment

