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## **Globální ekonomický výhled - únor 2016**

Česká národní banka; Sekce měnová  
2016

Dostupný z <http://www.nusl.cz/ntk/nusl-203046>

Dílo je chráněno podle autorského zákona č. 121/2000 Sb.

Tento dokument byl stažen z Národního úložiště šedé literatury (NUŠL).

Datum stažení: 17.05.2024

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# GLOBAL ECONOMIC OUTLOOK - FEBRUARY

Monetary Department  
External Economic Relations Division

2016



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**Cut-off date for data**

12 February 2016

**CF survey date**

8 February 2016

**GEO publication date**

19 February 2016

**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.

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.

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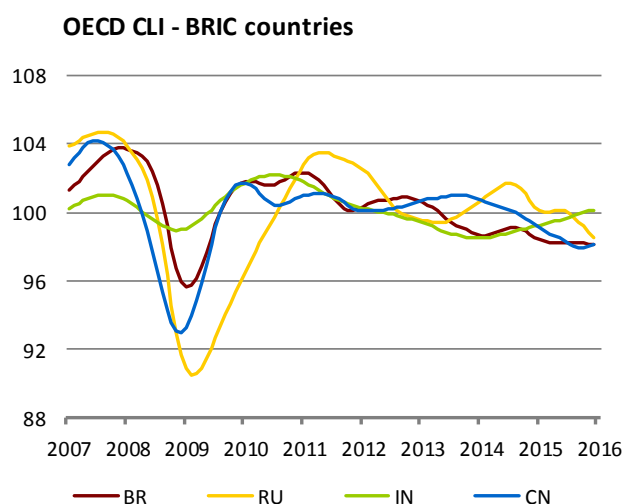
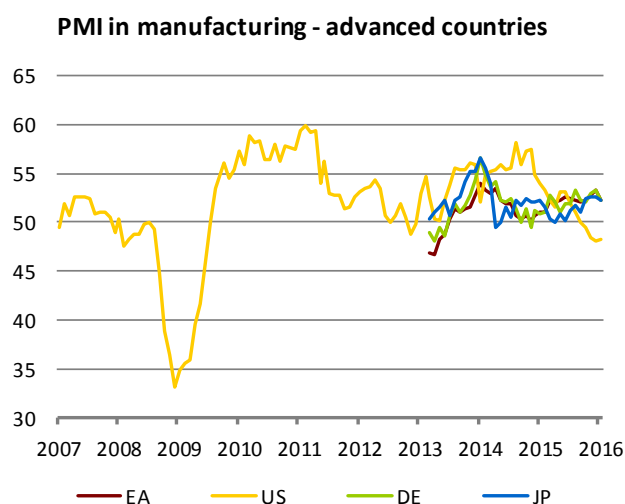
The February issue of Global Economic Outlook presents the regular monthly overview of recent and expected developments in selected territories, focusing on key economic variables: inflation, GDP growth, leading indicators, interest rates, exchange rates and commodity prices. In this issue we also consider how global imbalances in the world economy have changed since the start of the millennium in the context of the abating crisis period. The crisis has been reflected not only in a considerable worsening of the largest economies' external positions (current account balances), but also in a deterioration of their domestic fiscal positions (public finance balances). Thus, an intensification of the twin deficit phenomenon is significantly complicating the process of reducing global imbalances in the world economy.

The economic growth outlooks for the main world economies declined to varying extents in February, especially for this year. Despite these adjustments, the start of monetary policy tightening by the Fed and the effects of the strong dollar, the US economy should maintain a rate of growth slightly exceeding the current outlooks for the euro area economy in 2016. However, perceptions of future developments increasingly reflect the conflict between the more optimistic macroeconomic statistics and the views of the Federal Reserve and the financial markets, with some analysts even speaking about a possible return of the US economy to recession. Germany's contribution to euro area economic growth is coming to a halt, as its expected growth is slightly lower than that of the euro area as a whole. Growth of 1% is predicted for the Japanese economy this year, but the outlooks for 2017 are pessimistic. New data on inflation in the main world economies mostly saw downward revisions compared to January, but consumer price inflation should nonetheless increase gradually this year and the next. With the exception of the USA, however, it will remain below the "magic" level of 2% in advanced countries.

The GDP growth outlooks for emerging BRIC countries were mostly lowered compared to the previous month. While the change is only minor for India, the revision of China's outlooks reflects a continued gradual decline in its economic growth. Nevertheless, these two economies are in a completely different situation to the Brazilian and Russian economies, which will remain in recession this year, with a hope for a return to economic growth next year. The inflation outlooks for India and China were lowered compared to January, and in the case of China the outlook is now below the desired 2% level. An inflation rate exceeding 5% is expected for India. This, however, is fully in line with the dynamics of the Indian economy. By contrast, Brazil and Russia will face significantly higher inflation this year (around 7%), which will cause numerous economic problems given the continued recession.

The outlooks for euro area interest rates remain very low, with almost no sign of them rising before the end of 2017. In the USA, no further interest rate hike can be expected during 2016 Q1 following the first increase in almost ten years in December 2015. According to CF, the US dollar will appreciate slightly against the euro, the Japanese yen and the Chinese renminbi, and to a greater extent against the Brazilian real, at the one-year horizon. By contrast, it is expected to depreciate against the Russian rouble. Stability of the dollar against the Indian rupee is predicted at the one-year horizon. The oil price outlook remains very slightly rising, reaching USD 40 a barrel at the one-year horizon, but its path decreased compared to the previous month. Natural gas prices based on long-term contracts normally follow oil prices with a lag of several months and are therefore expected to drop further in the next few months. The market outlooks for the industrial metals and food commodity indices and the overall commodity basket are only slightly rising.

## Leading indicators for countries monitored in the GEO

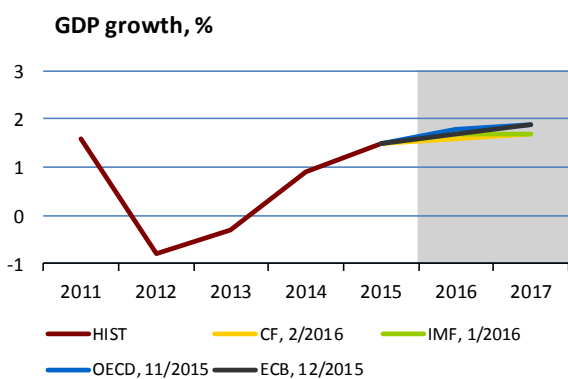


Zdroj: Bloomberg, Datastream

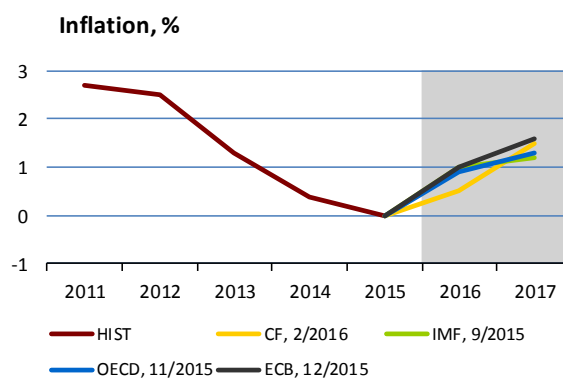
II.1 Euro area

The economic recovery in the euro area remains weak. GDP growth is expected to accelerate only slightly this year and the next. According to Eurostat's flash estimate, euro area GDP rose by 0.3% quarter on quarter in 2015 Q4. GDP growth reached 1.5% in 2015 Q4 in both year-on-year terms and for 2015 as a whole. Household consumption was the biggest contributor to the overall growth in previous quarters and we expect it to have a positive effect in Q4 as well. The euro area current account surplus increased, reaching 3% of GDP in annual cumulative terms in 2015 Q3. Real retail sales growth accelerated only slightly month on month in December. In year-on-year terms, it stood at 1.6%. Industrial production also saw low growth. Despite this, the PMI in manufacturing was still in the expansionary band in January, albeit at a lower level than in December. The unemployment rate edged down further in December.

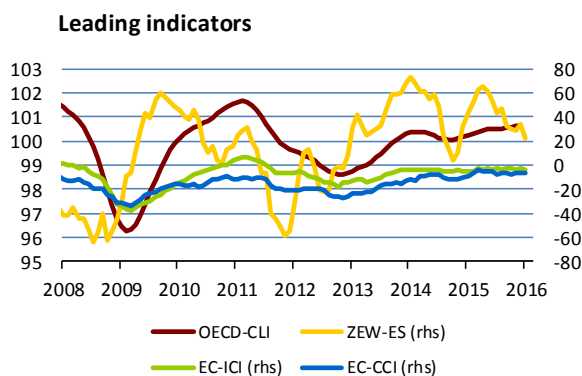
Inflation rose to 0.4% in January. The overall year-on-year growth in prices was due chiefly to rising prices of services, whereas energy prices acted in the opposite direction and with greater intensity. CF revised its inflation outlook for this year downwards quite substantially, while the other monitored institutions are still holding their outlooks around 1%. A stronger recovery in inflation is expected in 2017. The ECB did not ease monetary policy further at its January meeting. Increased attention is thus now focused on its next meeting in March. The 3M Euribor is at slightly negative levels and will stay there at the one-year horizon according to market outlooks. The one-year CF outlook for the ten-year German government bond yield was revised downwards compared to the previous month, to 0.8%.



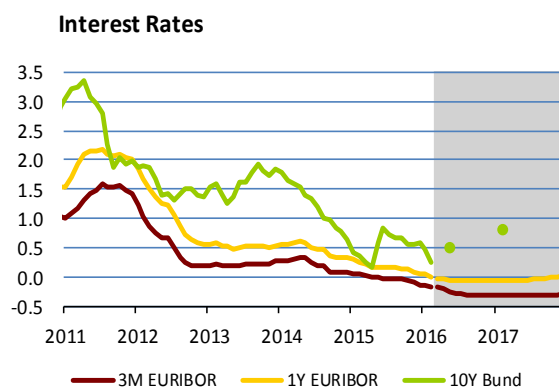
	CF	IMF	OECD	ECB
2016	1.6	1.7	1.8	1.7
2017	1.7	1.7	1.9	1.9



	CF	IMF	OECD	ECB
2016	0.5	1.0	0.9	1.0
2017	1.5	1.2	1.3	1.6



	OECD-CLI	EC-ICI	EC-CCI	ZEW-ES
11/15	100.6	-3.3	-5.9	28.3
12/15	100.7	-2.0	-5.7	33.9
1/16		-3.2	-6.3	22.7

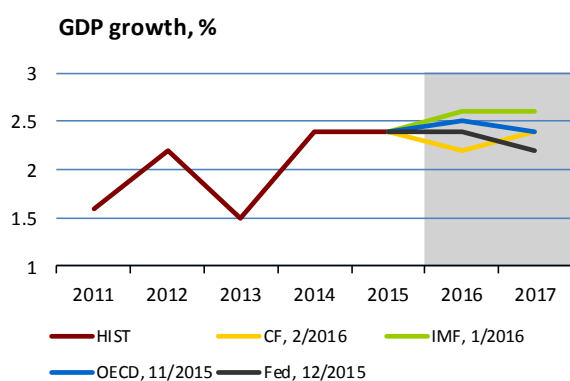


	01/16	02/16	05/16	02/17
3M EURIBOR	-0.15	-0.16	-0.26	-0.31
1Y EURIBOR	0.04	0.00	-0.04	-0.06
10Y Bund	0.47	0.27	0.50	0.80

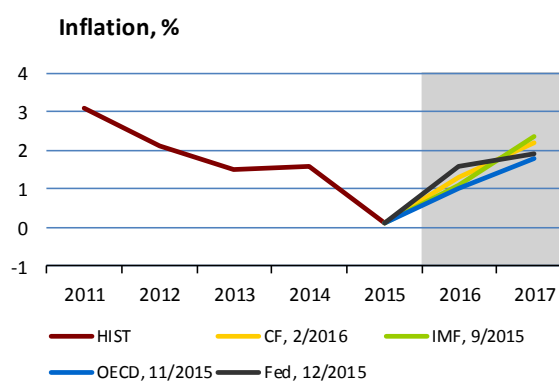
## II.2 United States

The difference between the dynamics of the US labour market and the rest of the economy widened further at the start of the new year. There are growing concerns about the onset of recession, as the drop in commodity prices and the stronger dollar are now beginning to affect a number of sectors. Industrial production fell by almost 1.8% year on year in December, with the mining and energy supply sector particularly affected, and capacity utilisation dropped to 76.5%. However, new information from the labour market is still favourable. US non-farm payrolls rose by 151,000 in January (original estimate: 190,000). This represents a sizeable decrease compared to the December figure (292,000), but the unemployment rate declined to an eight-year low of 4.9% and the participation rate edged up again to 62.7%. Retail sales dropped unexpectedly at the close of the year, but consumer confidence increased. Households' optimism stems from the positive labour market situation.

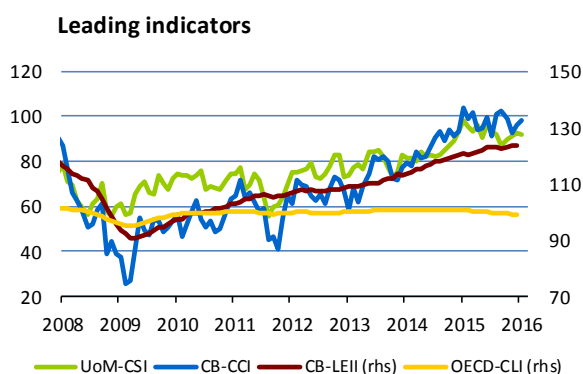
Annual consumer price inflation accelerated further to 0.7% in December and core inflation exceeded 2%. Price growth is rising, but the TIPS-based indicators of inflation expectations fell further. The New York Fed survey also suggests that consumers have observed lower petrol prices and lower costs of health care and education. At its January meeting, the US central bank left its target range for the federal funds rate unchanged. The accompanying statement indicates that the Fed is not planning to increase rates further in the near future. Labour market developments remain very positive, but the signals from the other segments of the economy are less favourable. Moreover, the current decline in oil prices is postponing achievement of the 2% inflation target. According to some Fed representatives, the decrease in inflation expectations is also a source of concern. In the February survey, more than 75% of CF panellists believed that rates would not be increased at the March meeting. Market outlooks also suggest a substantial correction in the longer term, as the expected interest rate path declined significantly. The February CF lowered its GDP and inflation forecasts for both years. The updated IMF outlook for GDP also saw a downward adjustment, although it still expects a stronger expansion than CF.



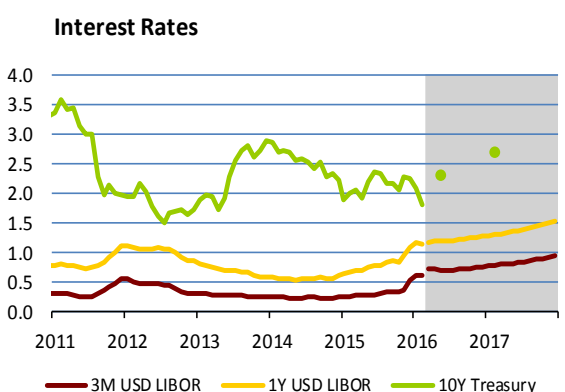
	CF	IMF	OECD	Fed
2016	2.2	2.6	2.5	2.4
2017	2.4	2.6	2.4	2.2



	CF	IMF	OECD	Fed
2016	1.3	1.1	1.0	1.6
2017	2.2	2.4	1.8	1.9



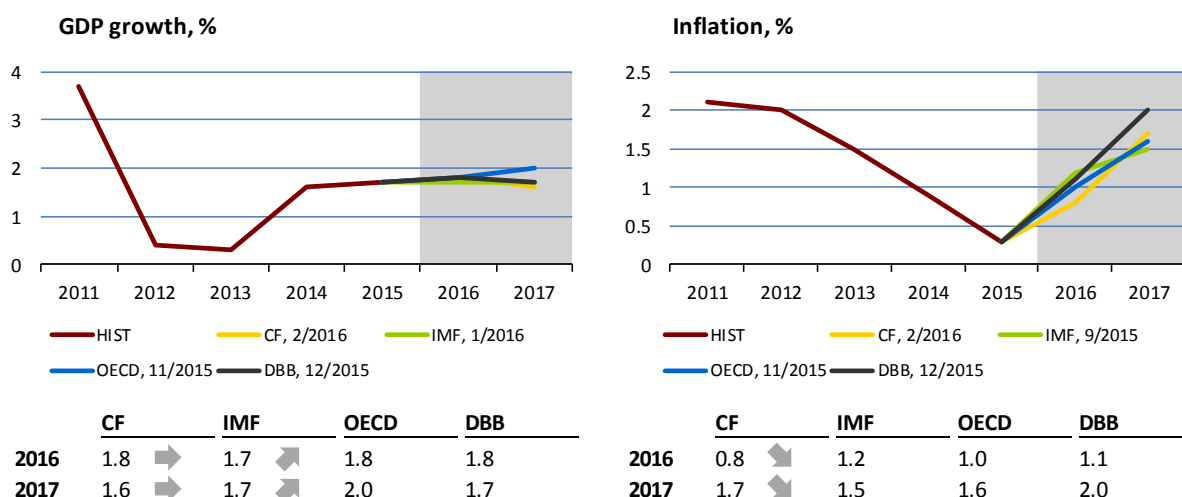
	CB-LEII	OECD-CLI	UoM-CSI	CB-CCI
11/15	123.9	99.2	91.3	92.6
12/15	123.7	99.0	92.6	96.3
1/16			92.0	98.1



	01/16	02/16	05/16	02/17
USD LIBOR 3M	0.62	0.62	0.69	0.79
USD LIBOR 1R	1.15	1.15	1.18	1.29
Treasury 10R	2.08	1.81	2.30	2.70

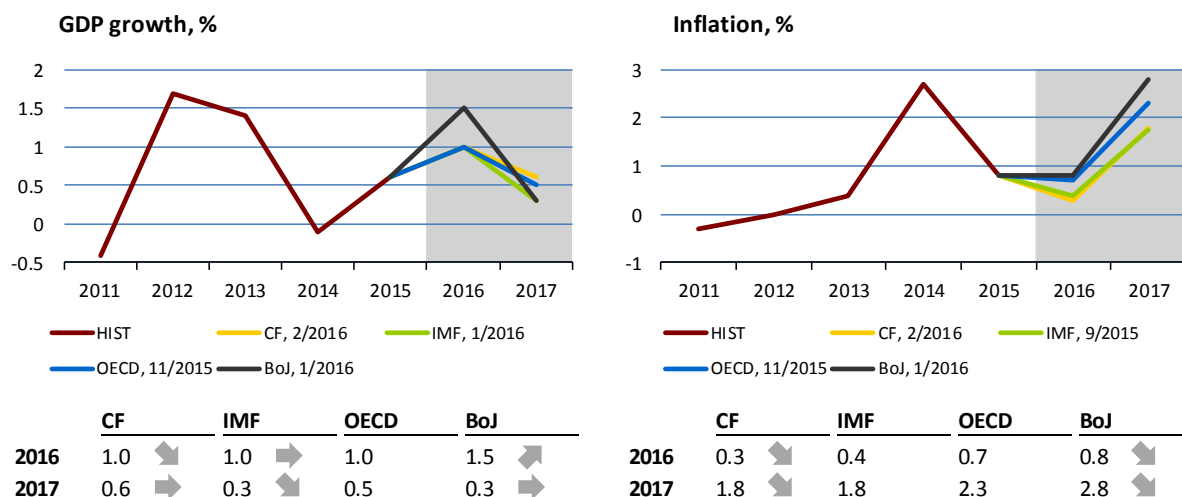
### II.3 Germany

The quarterly GDP growth rate in Germany was unchanged at 0.3% in 2015 Q4. Growth in household and government consumption made up for a decline in net exports. Annual economic growth weakened to 1.3%. Overall, 2015 was a successful year for the German economy: strong GDP growth was accompanied by a considerable rise in employment and a drop in unemployment. The state budget recorded a surplus of EUR 16 billion. However, signs of an economic slowdown appeared at the very end of the year. Industrial production fell year on year in Q4 (especially in December), as did retail sales growth. Foreign trade turnover declined markedly in December. All the leading indicators under review weakened in January. Inflation increased by 0.2 pp to 0.5% in January owing to higher rents and food prices and a slower fall in energy prices. The February CF lowered its inflation estimate for the whole of 2016 to 0.8%.



### II.4 Japan

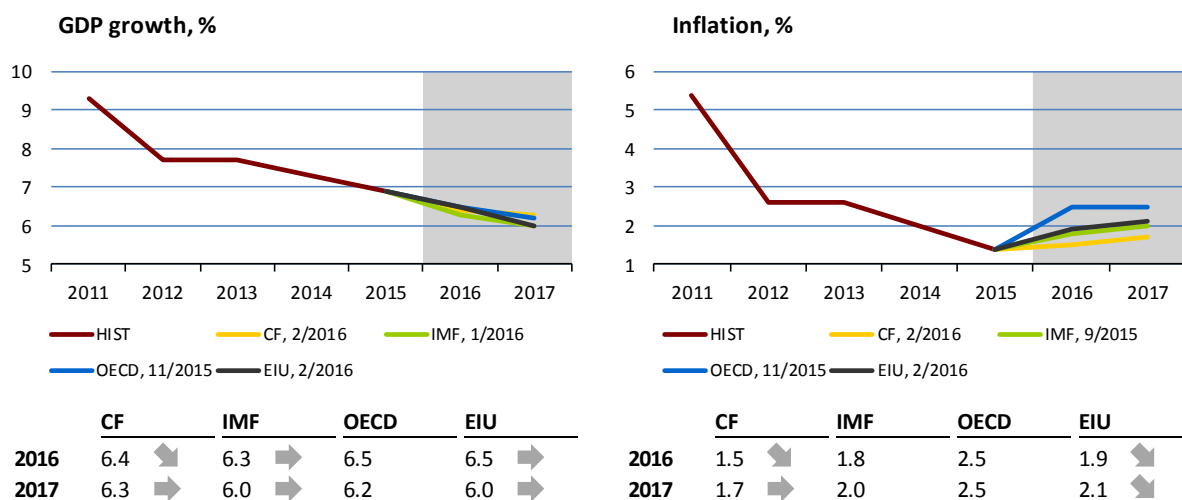
At the end of January, the Bank of Japan unexpectedly joined the ranks of central banks with a negative interest rate by introducing a fee of 0.1% on some commercial bank deposits with the central bank. The negative rate was introduced because of risks that might undermine business confidence and stop consumers adapting to an environment of rising prices. The current decline in oil prices, along with the uncertain outlook for emerging economies (such as China) and global market instability, were identified as risks. If necessary, the BoJ is ready to move the rate further into negative territory. At the same time, the appreciation pressures on the Japanese yen due to a rise in risk aversion on world financial markets became weaker. The February CF revised its growth outlook for this year and its inflation outlook for both years downwards. The Japanese economy is expected to slow in 2017, but inflation pressures should increase. The CF outlook for inflation is less optimistic than the new BoJ forecast, which expects the 2% inflation target to be exceeded next year.





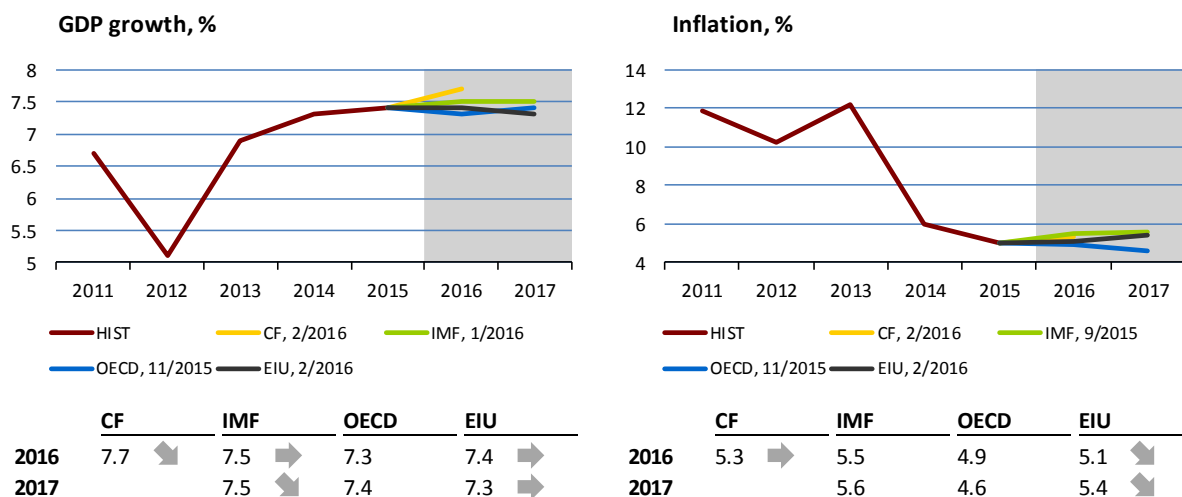
## III.1 China

The performance of the Chinese economy worsened in Q4 in both year-on-year terms (by 0.1 pp to 6.8%) and quarter-on-quarter terms (by 0.2 pp to 1.6%). For last year as a whole, growth slowed by 0.4 pp to 6.9%. However, the same rate of slowdown had been recorded in 2014, when GDP growth fell from 7.7% (in 2013) to 7.3%. Short-term indicators point to a further slowdown. The annual growth rate of industrial production declined to 5.9% in December (from 6.2% in November). The January PMI (49.4 points) worsened only slightly compared to December but fell short of expectations (a Reuters survey had suggested 49.6 points) and stayed in the band foreseeing a deterioration in economic activity for the sixth consecutive month. In addition, this is the weakest level since 2012. According to the new outlooks (CF, IMF, EIU), economic growth will slow to 6.3%–6.5% this year. A further slowdown is forecasted for 2017 (to 6.0%–6.3%). Consumer price inflation will rise slightly this year but remain weak at the two-year horizon.



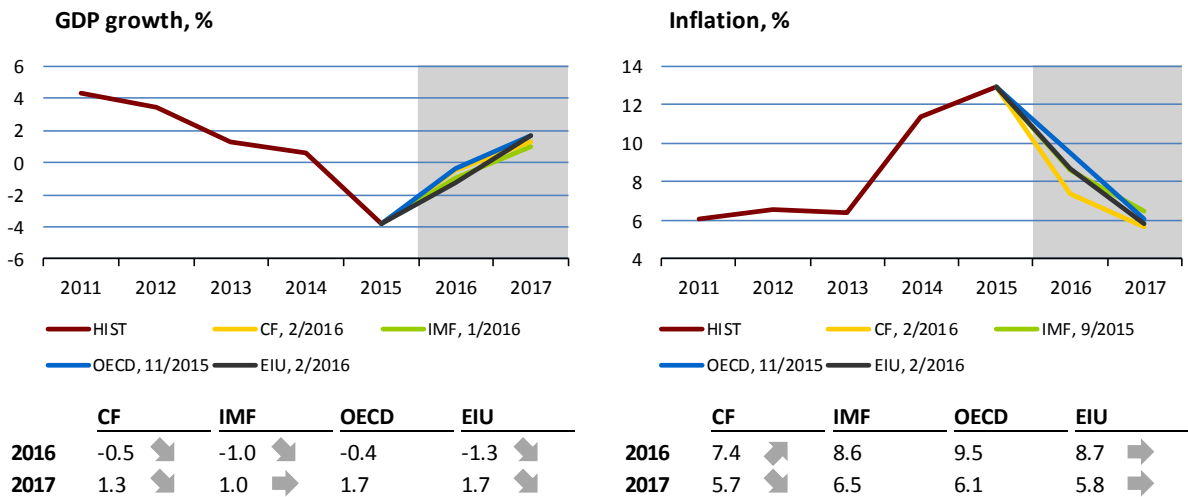
## III.2 India

The Indian economy grew by 7.3% year on year in 2015 Q4. This is 0.4 percentage point lower than the revised figure for the previous quarter. At the same time, the GDP growth data for Q2 were revised to 7.6%, the same as the figure for the whole fiscal year. Industrial production fell by 1.3% year on year in December. The PMI in manufacturing reached 51.1 points in January, thus leaving the contractionary band. Production and new orders both recorded a recovery. The GDP growth forecasts are almost unchanged, with only CF lowering its outlook for this year and the IMF reducing its for next year (both by 0.1 pp). The Indian central bank left its policy rate at 6.75%. The inflation target of 6% was hit in January, with inflation going up by 0.1 pp compared to December and reaching 5.7%. Only the EIU changed its inflation outlooks, reducing them by 0.2 pp and 0.4 pp respectively for the two periods.



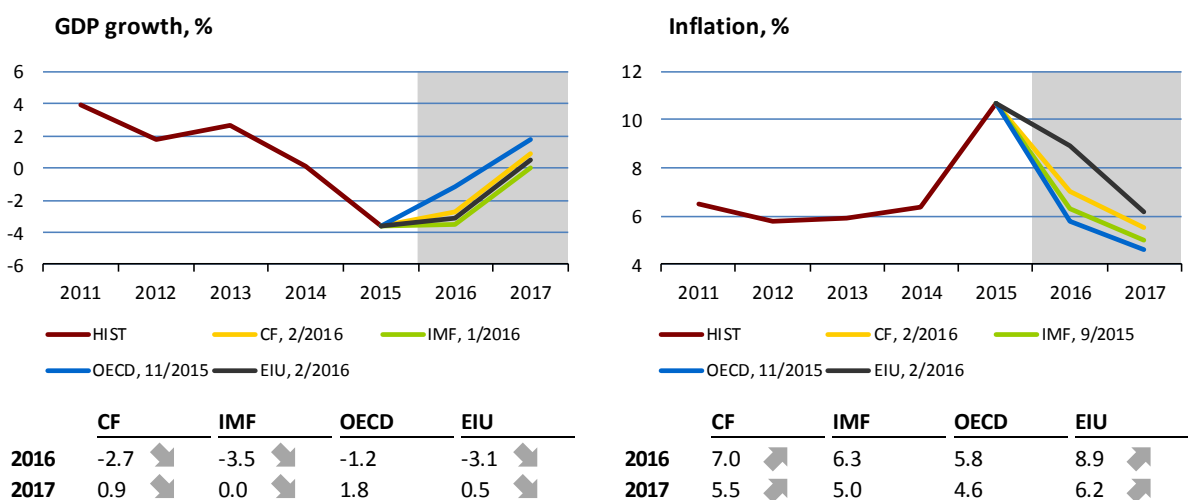
### III.3 Russia

The annual figures on the performance of the Russian economy, released in February, testify to a relatively rapid deterioration. The first GDP estimate for 2015 indicates a contraction of 3.7% compared to 2014 (for comparison, GDP grew by 0.7% in 2014). Imports recorded the largest decrease in 2015, falling by around 25% at constant prices. Investment plunged by almost 20% and household consumption dropped by 10%. Although the monitored institutions (CF, IMF, EIU) all revised their GDP outlooks downwards, the economic situation is expected to improve overall this year. The fall in GDP should thus decrease to 0.5%–1.3%. GDP is not expected to return to growth before 2017, for which growth of 1.0%–1.7% is predicted. The economy should also be stabilised by a decrease in inflation. Although annual consumer price inflation reached 9.8% in January, it will slow to 5.7%–5.8% by December 2017 according to the CF and EIU outlooks.



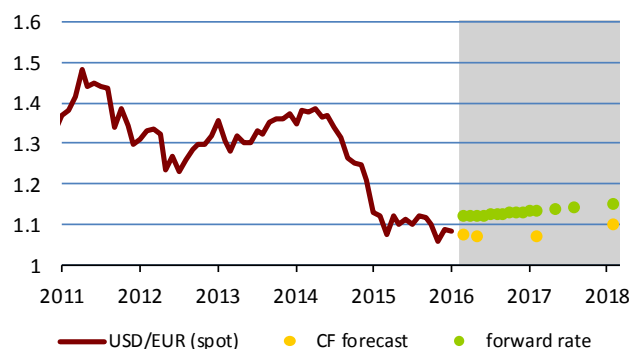
### III.4 Brazil

The Brazilian economy will be strongly affected this year not only by external pressures, but most of all by political uncertainty and decreasing domestic confidence, which are dampening domestic demand. Industrial production declined again in December, but to a smaller extent than in November. Unemployment fell by 0.6 pp to 6.9% in December, but this was mainly due to seasonal factors. The PMI in manufacturing rose again in January (to 47.4 points) but remains in the contractionary band. The GDP growth outlooks were lowered for both years. GDP is expected to decline by around 3% this year. In 2017 the Brazilian economy will return to growth of 0.9% and 0.5% according to CF and the EIU respectively, but only to stagnation according to the IMF. Brazil's central bank left its policy rate at 14.25% for the fourth consecutive meeting. Inflation reached 10.7% in January, rising only marginally from December. Both CF and the EIU increased their inflation forecasts for 2016 (by 0.4 pp and 0.6 pp respectively) and 2017 (by 0.3 pp in both cases).



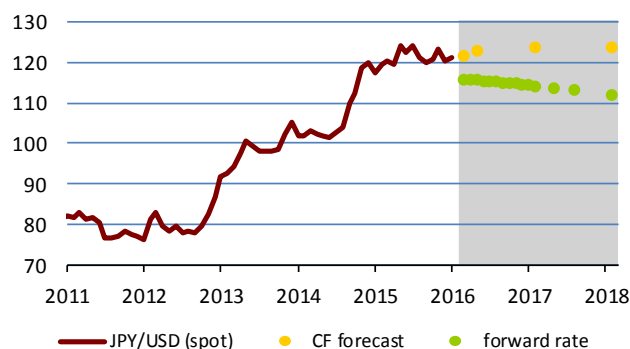
## IV. Outlook of exchange rates

The US dollar (USD/EUR)



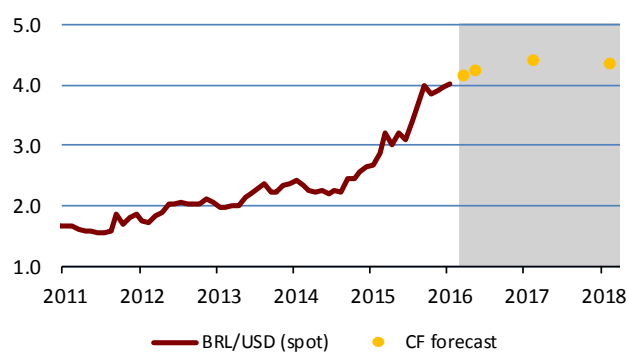
	8/2/16	03/16	05/16	02/17	02/18
spot rate	1.119				
CF forecast		1.077	1.072	1.069	1.102
forward rate		1.120	1.122	1.134	1.152

The Japanese yen (JPY/USD)



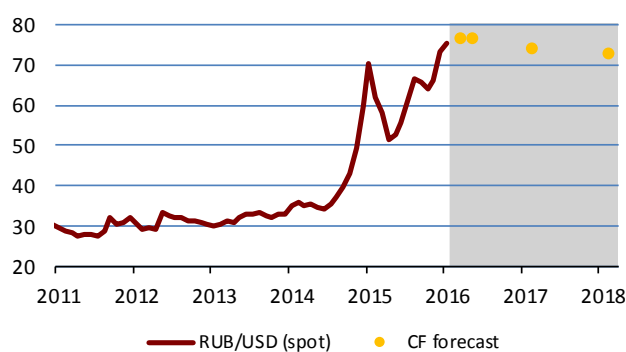
	8/2/16	03/16	05/16	02/17	02/18
spot rate	115.7				
CF forecast		121.4	122.6	123.5	123.8
forward rate		115.8	115.5	114.2	111.9

The Brazilian real (BRL/USD)



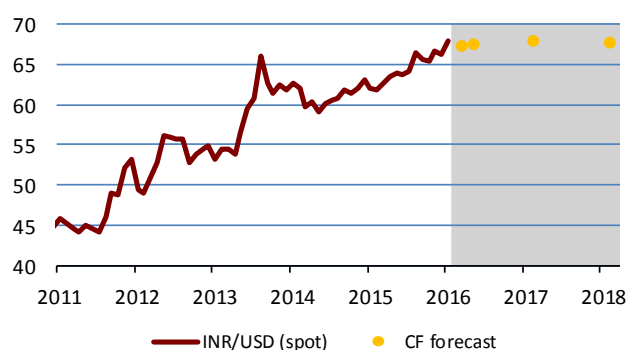
	8/2/16	03/16	05/16	02/17	02/18
spot rate	3.897				
CF forecast		4.160	4.252	4.400	4.343

The Russian rouble (RUB/USD)



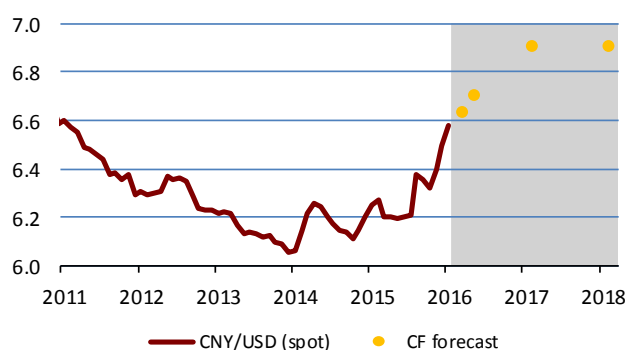
	8/2/16	03/16	05/16	02/17	02/18
spot rate	78.13				
CF forecast		76.55	76.51	73.90	72.96

The Indian rupee (INR/USD)



	8/2/16	03/16	05/16	02/17	02/18
spot rate	67.93				
CF forecast		67.29	67.54	67.88	67.69

The Chinese renminbi (CNY/USD)



	8/2/16	03/16	05/16	02/17	02/18
spot rate	6.570				
CF forecast		6.634	6.704	6.906	6.911

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.

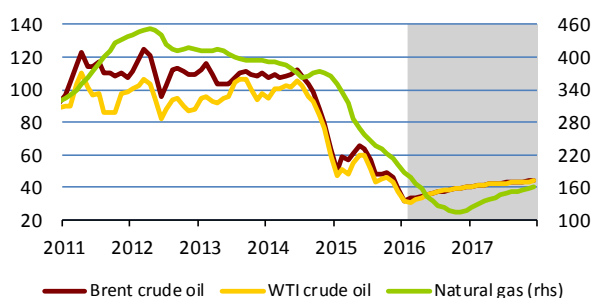
### V.1 Oil and natural gas

Oil prices decreased sharply between the start of the year and 20 January owing to continued buoyant growth in global stocks, the weakening Chinese economy, lower demand on account of a milder winter in the northern hemisphere and concerns about expected growth in Iranian oil exports. The Brent crude oil price thus reached its lowest level since November 2003 on 20 January (USD 27.9/bbl). A sharp correction then occurred. Prices surged by 25% in ten days as speculation about a possible agreement between the largest oil producers to curb production emerged and buying activity of hedge funds intensified. Since then, however, oil prices have fallen back towards USD 30/bbl, with fundamental factors prevailing again.

The market forecast based on the 8 February futures curve is virtually unchanged from the January forecast, still expecting only slight growth in the Brent price to USD 40/bbl and USD 44.5/bbl respectively at the end of this year and next year. The February EIA forecast also expects only a slight increase in oil prices this year, as global stocks should rise further (by 1 million bbl/d on average, and more in the first half of the year). For 2017 the EIA expects faster growth in Brent prices, to USD 56/bbl on average in Q4, as a sufficient drop in extraction and a slight decline in global oil stocks (whose average growth is estimated at 0.3 million bbl/d in 2017 as a whole) could already occur by the end of the year. The EIA now expects the same WTI and Brent prices over the entire forecast horizon. The February CF also revised its forecast significantly downwards and now expects Brent to stand at USD 45.6/bbl at the one-year horizon.

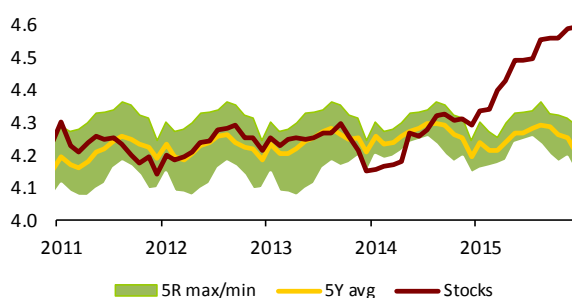
Natural gas prices also came under pressure from the milder winter and therefore lower demand. Nevertheless, the price in the USA rose in January as a result of strong snowstorms. Average prices in Europe fell, partly because of indexation of long-term contracts to lagged oil prices.

**Outlook for prices of oil (USD/barrel) and natural gas (USD / 1000 m<sup>3</sup>)**

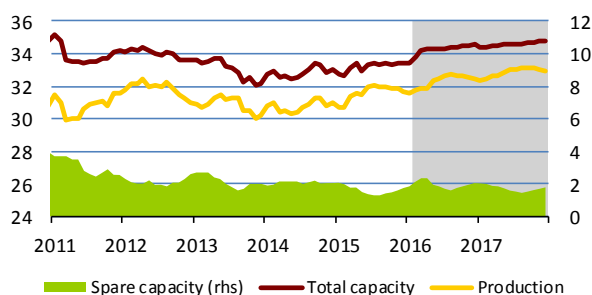


	Brent	WTI	Natural gas
2015	53.64 ↗	48.80 ↗	263.16 ↘
2016	36.41 ↘	36.06 ↘	140.16 ↘

**Total stocks of oil and oil products in OECD (bil. barrel)**

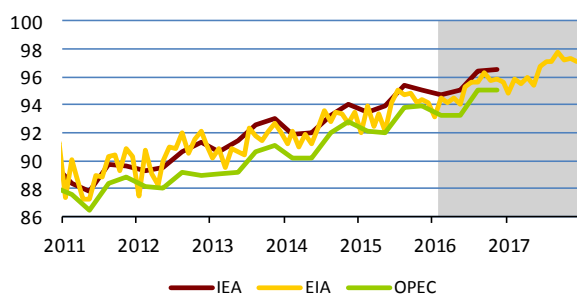


**Production, total and spare capacity in OPEC countries (mil. barrel / day)**



	Production	Total capacity	Spare capacity
2015	31.60 ↘	33.21 ↘	1.61 ↗
2016	32.30 ↗	34.24 ↗	1.95 ↘

**Global consumption of oil and oil products (mil. barrel / day)**



	IEA	EIA	OPEC
2015	94.46 ↘	93.78 ↘	92.95 ↗
2016	95.67 ↘	95.02 ↘	

Note: Oil price in USD/barrel, price of Russian natural gas at German border in USD/1,000 m<sup>3</sup> (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 including average, maximum and minimum in past five years in billions of barrels. Global consumption of oil and oil products in millions of barrels a day. Production and extraction capacity of OPEC in million barrels a day (EIA estimate).  
 Source: Bloomberg, IEA, EIA, OPEC, CNB calculation

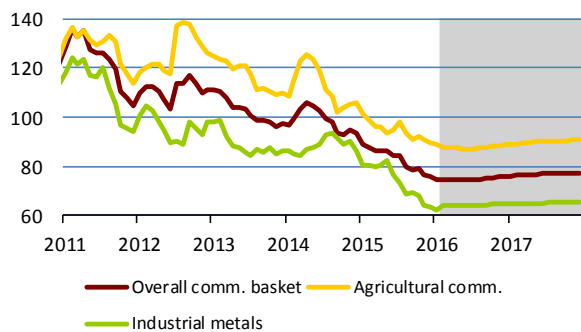
## V.2 Other commodities

The average monthly non-energy commodity price index continued to decline modestly in January, but edged up in the first half of February. The industrial metals price sub-index showed similar developments. By contrast, the food commodity price index continued to trend downwards in early February. The market outlooks for all three indices are only slightly rising.

The lower-than-expected PMI in Chinese industry and further devaluation of the renminbi by the Chinese central bank triggered sell-offs on global stock and commodity markets in the first half of January. Besides oil, this was reflected in prices of basic metals (except aluminium and nickel). However, the situation calmed partly in the second half of the month as the ECB President signalled a further monetary stimulus at the March meeting and the expected pace of interest rate increases by the Fed declined. Prices of most basic metals thus rose in the rest of January and early February. Following a drop at the start of December, iron ore prices stabilised and then rose slightly last month after a Brazilian court halted the operation of the world's largest iron ore producer over an investigation into violations of environmental regulations.

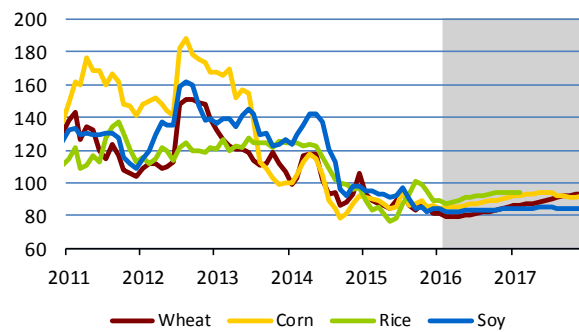
Agricultural commodity prices mostly fell, but the only major decreases were recorded for sugar and cocoa, for which the estimate of this year's harvest improved. Favourable weather in Brazil should also increase its harvest of soy, the price of which has been flat (since September). The USDA is still predicting record-high stocks of wheat and corn, which should reduce the upward pressures on their prices. Lean hog prices went up in line with seasonal patterns, while live cattle prices fluctuated slightly before an expected decline.

### Non-energy commodities price indices



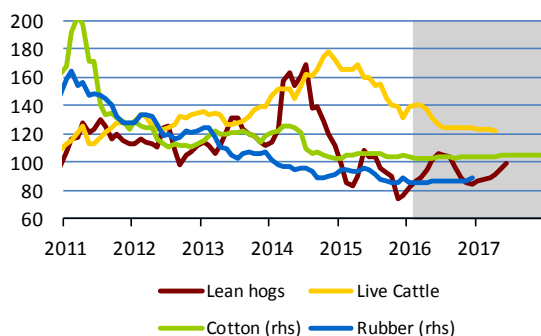
	Overall	Agricultural	Industrial
2015	82.8 →	94.7 →	74.0 →
2016	75.0 ↗	87.9 ↘	64.1 ↗

### Food commodities



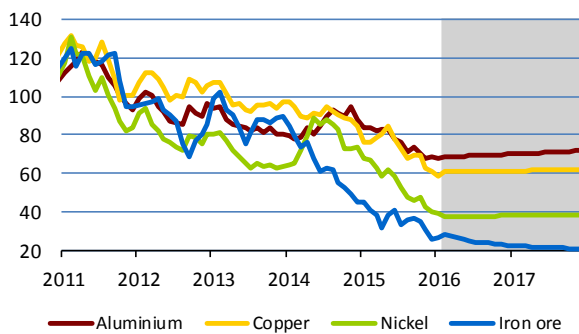
	Wheat	Corn	Rice	Soy
2015	87.4 →	88.1 →	88.3 →	90.2 →
2016	81.7 ↘	87.5 ↗	91.6 ↘	83.4 ↗

### Meat, non-food agricultural commodities



	Lean hogs	Live Cattle	Cotton	Rubber
2015	91.8 →	154.3 →	67.5 →	46.7 →
2016	93.7 ↗	130.1 ↘	64.9 ↘	

### Basic metals and iron ore



	Aluminium	Copper	Nickel	Iron ore
2015	76.6 →	73.0 →	54.4 →	36.0 →
2016	69.2 ↗	61.0 ↗	37.9 ↘	25.2 ↗

Note: Structure of non-energy commodity price indices corresponds to composition of The Economist commodity indices. All prices are given as indices, 2010 = 100 (charts) and percentage changes (tables).

Source: Bloomberg, CNB calculations.

## Changes in global imbalances in the world economy<sup>1</sup>

*This article considers how far the consequences of the recent economic and financial crisis have been resolved or mitigated and how global imbalances have changed in the global economy. The abating crisis period has been reflected not only in a considerable worsening of the largest economies' external positions (current account balances), but also in a deterioration of their domestic fiscal positions (public finance balances). In economic theory, this is described by the phenomenon of twin deficits. Developments both in the most important global economies and in individual global regions since the start of the new millennium have confirmed empirically that the two deficits are interlinked. The article also shows how hard it is getting to reduce global imbalances in the world economy in an environment of growing debt and easy monetary conditions following the escalation of the crisis.*

### 1 The formation of global imbalances at the start of the millennium

The financial and economic crisis, which began in the USA in 2007 and then spread to many other countries, was due in part to a long build-up of imbalances in the global economy. Starting in the 1980s, production and later also services were relocated from high-wage advanced countries to much-lower-wage emerging economies (especially East Asia and Mexico and, in the late 20th century, Central European countries) due to increasing globalisation of the world economy. This caused goods and services balances<sup>2</sup> to worsen steadily in many advanced countries, with negative impacts on economic growth and employment, including negative deindustrialisation.<sup>3</sup> Most of the countries that experienced a worsening external balance therefore tried to boost their slowing economic growth and growing labour market imbalances by means of fiscal expansion, even at the cost of relatively fast growth in public debt.

The rise in global imbalances gathered pace in the early 21st century, when the external imbalances of the world's two largest economies – the USA and China – started to widen sharply. In 2001, the US current account deficit had been 3.7% of GDP and the Chinese surplus 1.3% of GDP, whereas in 2006 the respective figures were deficit 5.8% and surplus 8.3%, with China's surplus peaking at 10.1% a year later.<sup>4</sup> Similar developments were seen in economically less important countries. Moreover, the imbalances in Europe were altered by the gradual enlargement of the EU and by the establishment and enlargement of the euro area. The single monetary policy was ultimately no easy ride, especially for the Southern European countries, which had been used to higher inflation and corresponding interest rate levels. Relatively frequent depreciations of their currencies in the past had helped maintain their competitiveness vis-à-vis the low-inflation EU core countries. Euro adoption gradually led to a visible increase in living standards in the southern countries, one that was not fully supported by economic fundamentals. These welfare gains came at the cost of a relatively fast loss of competitiveness, a rise in external imbalances and rapid growth in external debt. By contrast, most of the countries that had joined the EU in 2004 with much lower wage levels benefited significantly from the relocation of production and services to their "cheaper" economies. The euro area as a whole maintained a roughly balanced current account at the start of the 21st century.<sup>5</sup> Underlying this, however, were asymmetric trends. Some countries, most notably Germany,<sup>6</sup> enjoyed growing surpluses, but the Southern European countries recorded rising deficits (Spain, for example, saw an increase from 3.8% in 2000 to 9.8% in the pre-crisis year 2007).

However, external deficits were not the direct cause of the economic and financial crisis. Neither the USA as the issuer of the most frequently used global reserve currency, nor the southern EU countries, which no longer use their own (national) currencies, could afford to maintain a high external debt level for long. In countries with a reserve currency, the creation of high deficits is aided by the possibility of relatively easy borrowing in international financial markets, as other nations are willing to hold those countries' bonds (especially those denominated in USD) even when their nominal yields are close to or below zero. This is one reason why the USA has generated high government debt since the start of the new millennium.

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<sup>2</sup> The term "goods and services balance" refers to the sum of the goods balance and the services balance.

<sup>3</sup> Negative deindustrialisation manifests itself in a decline in industrial production, or relocation of production to other countries, and in growth in unemployment. Besides that, there is positive deindustrialisation, where the labour force shrinks, resulting in a rise in labour productivity.

<sup>4</sup> Besides China, Japan and some other smaller Eastern and South-Eastern Asian countries also recorded relatively high current account surpluses.

<sup>5</sup> The only exception was a one-off swing in 2007, when a deficit of around 2.2% of GDP was recorded.

<sup>6</sup> Germany recorded a balanced current account relative to GDP in 2001, but showed a surplus of almost 7% of GDP in 2007 (see the left-hand side of Chart 1). This supports the theory that the export-oriented German industry was boosted by the euro, which is very likely weaker than the Deutsche Mark would have been today.

Another cause of the growth in the external deficits of many countries, including those on the southern periphery of the EU, is internal structural changes in their economies. Their worsening external competitiveness and their efforts to substitute for faltering economic activity in internationally tradable production and services sectors were reflected in other aspects of economic growth. The result was a bubble in the property sector and growth in related financial services. This sharp, though unjustified, growth increased the public sector's investment exposure, leading to a rather artificial rise in employment in the public sector. The result was fast growth in household, corporate and public sector debt (to varying degrees across the crisis-hit countries) and excessive risk-taking by the banking sector, leading, in turn, to growth in substandard loans, exacerbated by inadequate banking supervision.<sup>7</sup> Overall, this caused fiscal deficits to increase even during a growth phase of the business cycle. These past developments demonstrate that a country's external and fiscal positions are interlinked. This link is explained more formally below by the twin deficit phenomenon.

## 2 The twin deficit phenomenon

That the current account and public (government) budgets are interlinked was theoretically proved and repeatedly empirically illustrated by economists decades ago. This relationship, and movements in the two variables, can be derived from the basic macroeconomic identity, which implies  $(S - I) + (T - G) = NX$ , where  $S$  is private savings,  $I$  is investment,  $T$  is tax income,  $G$  is government expenditure and  $NX$  are net exports, i.e. the difference between a country's exports  $Ex$  and imports  $Im$  of goods and services.<sup>8</sup> The above formula implies that if public revenues  $T$  are lower than public expenditure  $G$ , a public (government) sector deficit arises. If this situation occurs and the economy is simultaneously close to its potential output level, private investment  $I$  or net exports  $NX$  must decline given a constant saving rate. This shows in simplified terms the link between the government (public) finance balance – a zero balance expresses one of the forms of the notional internal balance of the economy – and the current account deficit, which conversely takes the role of indicator of the notional external balance of the economy.

To assess the balance of each economy, we need to know the primary use of domestic savings. If domestic savings are invested as purchases of government debt, crowding-out of private investment by government (public) investment becomes more apparent in the economy. Conversely, if government (public) debt is financed from foreign sources (savings), the current account deficit increases in the home country. The relationships in the above equation can also be interpreted as meaning that the current account (or goods and services balance) deteriorates if government expenditure  $G$  exceeds government revenues  $T$ . It is thus clear that we need to know the evolution of the structure of the above macroeconomic variables in order to determine the imbalances of individual economies.

The relationship  $(S - I) + (T - G) = NX$  can be rewritten into the equivalent form  $S + \text{goods and services deficit} = I + \text{budget deficit}$ , where a goods and services deficit arises if  $Ex < Im$  and a budget deficit arises if  $T < G$ . Simple rearrangement gives the relationship  $\text{goods and services deficit} = \text{budget deficit} + I - S$ , which shows the link between the two deficits more directly. An increase (decrease) in the government (budget) deficit will give rise either to an increase (decrease) in the goods and services deficit given constant investment and savings, or to other variants as given by the combinations of the movements of the variables, i.e. the goods and services deficit, investment and savings, on the right-hand side of the equation.<sup>9</sup>

<sup>7</sup> This included tolerance of lending for the full value of property, i.e. tolerance of a loan-to-value (LTV) ratio equal to or greater than 100% (the LTV ratio generally expresses the maximum loan amount that a client may obtain from a commercial bank relative to the declared value of the property). An example from the previous financial crisis was the common situation where the LTV ratio was higher than 100% in the USA, Spain and other countries. This meant that clients could obtain credit without having to provide part financing themselves and was one of the motives of the unhealthy surge in demand for property.

<sup>8</sup> The derivation can be obtained from the national accounts, where the total net income of a country's residents, i.e. gross national product (GNP), is defined as  $GNP = C + I + G + CA$ , or alternatively as  $GNP = C + S + T$ .  $C$  denotes consumption. If the foreign income balance  $GNP - NIncome = C + I + G + CA - NIncome$  is deducted from both sides of the GNP identity, this equation transforms into the basic identity of net income generated in the country irrespective of the nationality of economic agents, i.e. gross domestic product:  $GDP = C + I + G + NX$ . Although from the theoretical standpoint, the goods and services balance  $NX$  is used as a rough approximation of the current account balance, there are big differences between them in large economies and some other countries. In the Czech Republic, for example, the goods and services surplus has recently been largely offset by a foreign income deficit, implying an above-average difference between GDP and GNP (see also Žďárský, 2013). For simplicity, this article treats the goods and services balance and the current account balance as synonyms; the same goes for GNP and GDP.

<sup>9</sup> A current account deficit can be financed by foreign capital. This enables an external imbalance to be maintained under the assumption of high capital mobility. It was verification of the level of capital mobility that laid the foundations for the formulation of the Feldstein-Horioka puzzle, which, in our opinion, is illusory. Feldstein and Horioka (1980) were the first to point to the high correlation between gross savings and

The twin deficit phenomenon can be demonstrated on a sample of major economies by comparing their current account deficits and budget (government) deficits in the pre-crisis year 2007<sup>10</sup> (the left-hand side of Chart 1) and the current period (the right-hand side of Chart 1).

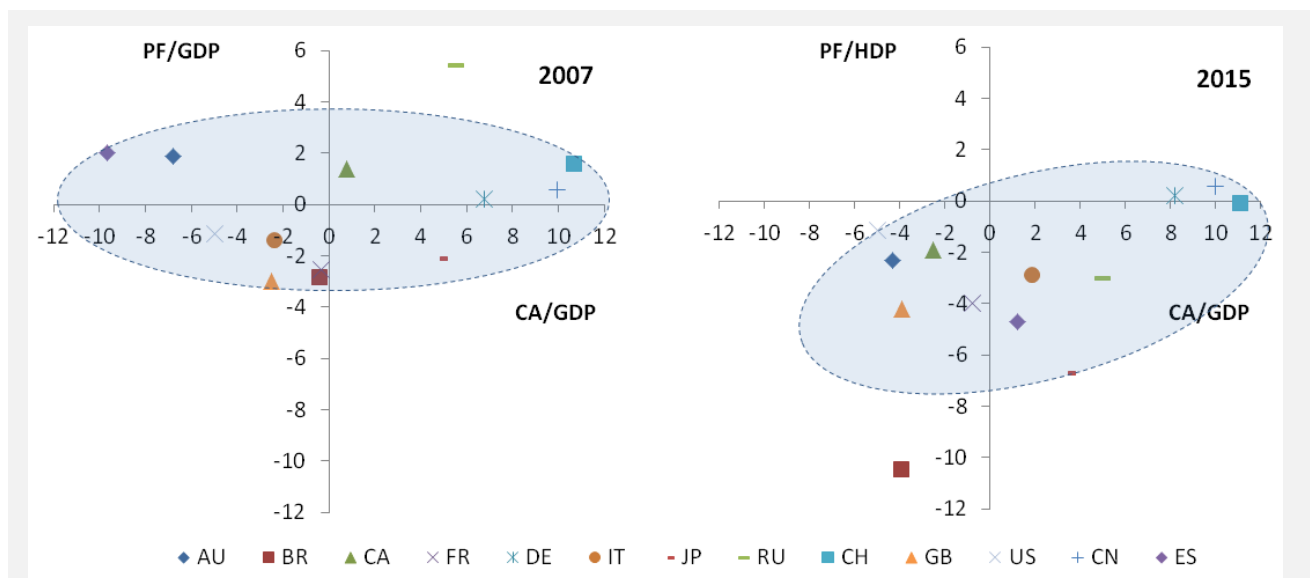


Chart 1 Imbalances in selected economically important countries in 2007 and 2015 (in %)

Note: CA/GDP – ratio of current account balance to GDP. PF/GDP – ratio of public finance balance to GDP. AU – Australia, BR – Brazil, CA – Canada, CN – China, FR – France, DE – Germany, IN – India, IT – Italy, JP – Japan, RU – Russia, ES – Spain, CH – Switzerland, GB – United Kingdom, US – United States. Source: Economist Intelligence Unit (EIU)

	CA/GDP			PF/GDP		
	2015–2000	2015–2007	2015–2009	2015–2000	2015–2007	2015–2009
Australia	-0.59	2.46	0.60	-3.83	-4.16	1.79
Brazil	0.83	-3.49	-1.76	-7.10	-7.66	-7.35
Canada	-5.16	-3.27	0.44	-4.82	-3.26	2.68
China	1.50	-6.77	-1.95	-0.31	-3.37	-0.55
France	-2.23	-0.47	0.02	-2.68	-1.46	3.16
Germany	9.86	1.44	2.40	-0.66	0.01	3.44
India	-0.11	-0.45	0.94	1.59	-1.40	2.60
Italy	2.40	4.24	3.79	-2.07	-1.48	2.30
Japan	0.97	-1.36	0.61	0.81	-4.61	2.14
Russia	-12.53	-0.58	0.87	-4.41	-8.43	2.94
Spain	5.08	10.86	5.44	-3.70	-6.70	6.30
Switzerland	-0.99	0.41	2.88	-2.66	-1.65	-1.91
United Kingdom	-1.69	-1.38	-0.91	-5.36	-1.21	6.57
United States	1.69	2.66	0.36	-4.83	-1.37	7.32

Table 1 Changes in imbalances compared to 2000, 2007 and 2009 (differences in pp relative to 2015)

Note: CA/GDP – ratio of current account balance to GDP. PF/GDP – ratio of public finance balance to GDP. Note: A positive sign and a green background (negative sign and red background) indicate an improvement (deterioration) in 2015 compared to the initial year, i.e. 2000, 2007 or 2009. Source: Economist Intelligence Unit (EIU)

Chart 1 indicates a deterioration in both the external and internal balance for most countries. For example, movements in current account balances and public (government) deficits can be observed between (i) the start of the new millennium, (ii) the situation before the outbreak of the financial crisis (2007) and (iii) the

investment in this context. This is inconsistent with the assumption of perfect capital mobility, which is the above-mentioned condition for financing current accounts (for an application to EU countries see, for example, Aristovnik and Djuric, 2010).

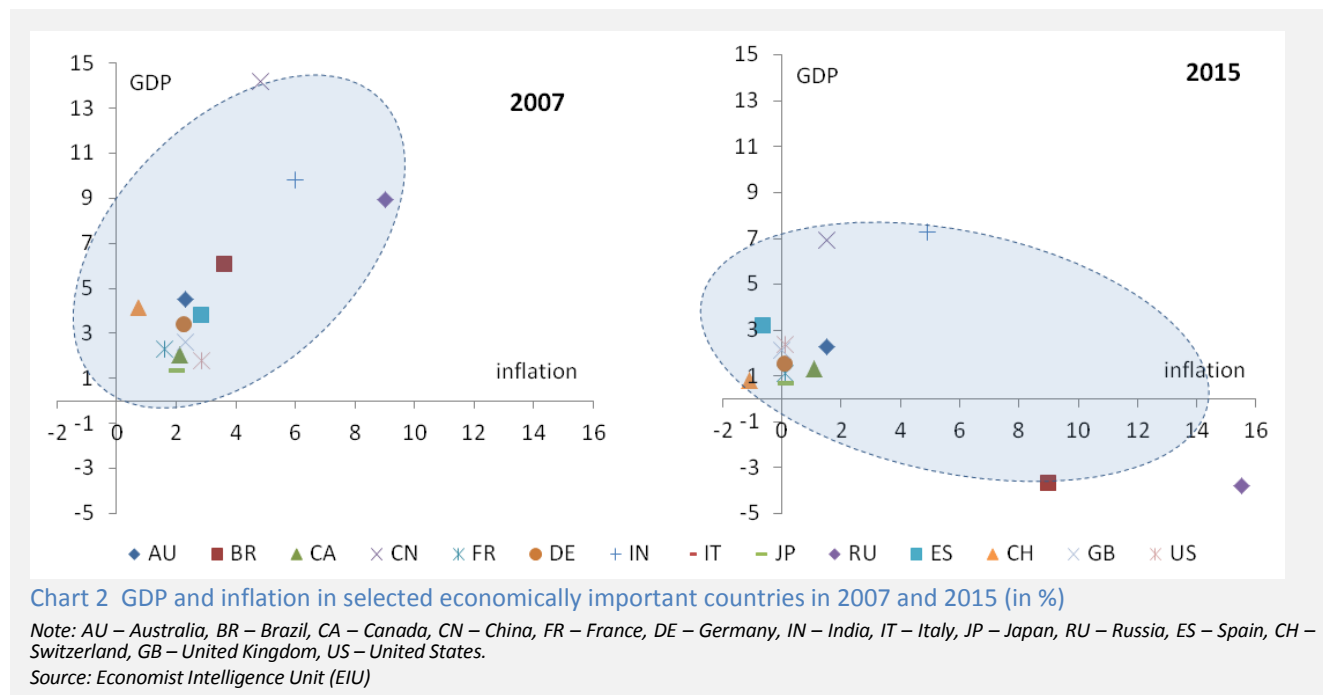
<sup>10</sup> This ended with the outbreak of the crisis in the US banking sector at the start of 2007, which spread to Europe in 2008 via financial derivatives bought in large amounts by European banks. The crisis was exacerbated in Europe by numerous countries' problems with banks' bad investments in Europe, high general government debt levels and loss of external competitiveness. It thus hit some countries much harder than the USA. The economic and financial crisis subsequently turned practically global.



peak of the crisis in 2009 compared to the current situation (2015). These differences relative to the current situation are shown in Table 1. It reveals that almost all countries have seen a positive shift in the ratio of both the current account balance to GDP and the public finance balance to GDP since the notional peak of the crisis in 2009. Nevertheless, there is still a significant deterioration in public finances compared to 2000. This reflects the efforts of numerous countries to get their economies through the crisis by means of fiscal stimuli. Aggregation by regions or selected integrated economic zones (see Table A1 in the Appendix) generates a similar result.

### 3 Economic output and inflation

The course of the financial crisis was also visibly reflected in key macroeconomic variables in individual economies, most notably GDP growth and consumer price inflation.<sup>11</sup> Chart 2 shows a macroeconomic "report card" for selected economically important economies, again for the pre-crisis period (2007) and now (2015). It reveals that the countries concerned are still showing lower economic output amid significantly lower inflation. The only exceptions are, on the one hand, Russia and Brazil, which have succumbed to slumpflation<sup>12</sup> (though for different reasons), and, on the other hand, India, which is enjoying a visible economic boom.



The differences between GDP growth and consumer price inflation for selected economically important economies relative to the current situation (2015) can again be compared (i) at the start of the new millennium, (ii) before the outbreak of the financial crisis (2007) and (iii) at the peak of the crisis in 2009 – see Table 2. It, too, shows the current low-inflation environment in conditions of lower GDP growth than before the outbreak of the crisis.

The financial crisis also sparked a surge in public budget deficits<sup>13</sup> and subsequently the above-described rapid growth in public debt, which major advanced countries except for Germany have still not managed to stop. The effects on the real economy have given rise to an economic contraction (in both nominal and real terms) in the USA, the euro area and Japan in 2009 (and in the USA in 2008 as well) accompanied by a sharp rise in unemployment (see Table 3).

<sup>11</sup> Moreover, GDP and inflation have been visibly affected over the last two years by slumps on commodity markets, the oil market in particular. The fall in the dollar price of oil has had a sizeable favourable effect on GDP growth in countries that are net importers of oil. By contrast, it has had a downward effect on inflation, albeit to a lesser extent than in the case of GDP growth. The impacts of these effects in individual countries may have been amplified or dampened by movements of their national currencies against the dollar, the currency in which oil is traded almost exclusively in international markets.

<sup>12</sup> A situation in the economy where real output goes down (a slump) and the price level simultaneously goes up (inflation).

<sup>13</sup> Between 2007 and 2009, the deficit in the USA grew from 1.1% to 9.8% of GDP and that in the euro area roughly trebled to 6.2% of GDP.

	GDP growth			Inflation		
	2015–2000	2015–2007	2015–2009	2015–2000	2015–2007	2015–2009
Australia	-0.89	-2.19	0.54	-2.96	-0.83	-0.24
Brazil	-8.09	-9.76	-3.57	1.96	5.36	4.11
Canada	-3.88	-0.76	4.25	-1.64	-1.03	0.80
China	-1.50	-7.30	-2.30	1.15	-3.32	2.23
France	-2.94	-1.21	3.96	-1.73	-1.51	0.00
Germany	-1.70	-1.88	7.07	-1.32	-2.19	-0.12
India	3.18	-2.54	-1.01	0.88	-1.09	-4.83
Italy	-3.21	-0.66	6.21	-2.46	-1.91	-0.64
Japan	-1.54	-1.47	6.22	1.29	0.73	2.16
Russia	-13.87	-12.76	3.25	-5.28	6.48	3.87
Spain	-2.10	-0.57	6.78	-4.11	-3.47	-0.39
Switzerland	-3.37	-3.34	2.94	-2.66	-1.83	-0.62
United Kingdom	-1.70	-0.49	6.29	-0.80	-2.33	-2.17
United States	-1.69	0.62	5.18	-3.27	-2.77	0.42

Table 2 Changes in global imbalances compared to 2000, 2007 and 2009 (differences in pp relative to 2015)

Note: A positive sign and a green background (negative sign and red background) indicate an improvement (deterioration) in 2015 compared to the initial year, i.e. 2000, 2007 or 2009.

Source: Economist Intelligence Unit (EIU)

Country	Nominal GDP		Unemployment rate	
	Decline in 2009 (%)	Time taken to return to pre-crisis level (years)	Increase in 2009 compared to 2008 (pp)	Time taken to return to pre-crisis level (years)
USA	2.0 (2008)	1	5.0 (2008)	7
Euro area	2.2	1	3.5	Yet to return
Germany	3.6	1	?	?
France	0.4	1	3.0	Yet to return
Italy	2.5	2	6.1	Yet to return
Spain	2.8	6	17.9	Yet to return
UK	3.4	4	2.7	7
Japan	4.9	1	1.2	7
China	-	-	0.2	2

Table 3 Magnitude of the economic slump and the growth in unemployment in major world economies

Note: 2006 is considered the pre-crisis year in the USA; 2007 is the pre-crisis year for the other countries.

Source: Economist Intelligence Unit (EIU)

Most advanced countries responded to the profound economic and financial crisis by gradually easing monetary policy. This easing reached unprecedented levels in modern central banking history – in some countries very quickly (the USA and the UK) and in others more gradually (the euro area and Japan<sup>14</sup>). In the first phase, policy rates were cut to zero to ease monetary policy and start a capital outflow. The second phase involved the application of various unconventional monetary policy instruments (quantitative, qualitative and credit easing and the use of negative interest rates or monetary interventions to weaken the domestic currency). The intensity of these unconventional instruments is apparent in growth in central banks' balance sheet totals.

With the exception of China and Switzerland, however, the capital movements in the global financial system did not generate major exchange rate movements. Theoretically, the dollar and the pound should have depreciated and the currencies of countries with big current account surpluses should have appreciated. However, few countries were "willing" to let their currencies strengthen in a situation of reduced economic output. Table 4 shows the exchange rate movements of selected national currencies against the dollar (the biggest reserve currency). It reveals that the Swiss franc and the Chinese renminbi appreciated the most and the Russian rouble and the Turkish lira depreciated the most compared to the pre-crisis period.

<sup>14</sup> The Bank of Japan had eased monetary policy in the standard way (i.e. by cutting interest rates to zero) back in the 1990s. After more than 25 years of more or less successful monetary experiments, Japanese monetary policy has become part of one of Prime Minister Abe's three arrows of economic policy. These arrows are aimed at anchoring inflation at the 2% inflation target, boosting Japanese economic growth into positive territory and reducing Japan's extremely high debt level.

Change	Appreciation against dollar	Depreciation against dollar
more than 40%	none	Russia, Turkey
20–40%	Switzerland, China	Indonesia, Hungary, UK, Poland, Norway
less than 20%	none	Sweden, South Korea, euro area, Czech Republic, Mexico
almost no change	Japan, Canada, Australia, New Zealand	

Table 4 Changes in the exchange rates of economically important countries against the dollar compared to the pre-crisis level (in %)

Source: Economist Intelligence Unit (EIU)

#### 4 Eliminating external imbalances – the key role of the USA

External imbalances were therefore reduced or eliminated by reining in domestic demand (especially in the southern EU countries, and for a while in the USA as well). In the case of the USA, a revision of its policy on extraction of energy-producing materials, associated with a huge increase in domestic crude oil and natural gas output, helped reduce considerably its external imbalance (of around one-half). The USA's external deficit level (just above 2% of GDP) can be considered reasonable at the moment given that the dollar is currently playing the role of the most important global reserve currency and will certainly continue to do so for the foreseeable future.<sup>15</sup>

A positive example of the elimination of external imbalances is Spain, which entirely eliminated its extremely high external deficit (of around 9% of GDP) and in 2014 even recorded a slight surplus (0.8% of GDP). Sizeable decreases in deficits were also observed in other "unbalanced" Southern European economies. Globally, marked declines in the surpluses of China (from a pre-crisis level of approximately 10% to around 1.8% of GDP in 2014<sup>16</sup>) and Japan (from almost 5% to 0.5%<sup>17</sup>) can be assessed in similar favourable terms. Conversely, widening imbalances were recorded by the UK, whose external deficit reached 5.5% of GDP in 2014,<sup>18</sup> and South Korea, whose surplus rose sharply from 1.1% before the crisis to more than 6% of GDP. The surplus in Germany also edged up (to 7.5% of GDP); however, Germany does not have its own currency.

It is nevertheless true to say that the problem of global external imbalances has been reduced significantly and the related risks are currently small. However, the substantial decrease in the external imbalance of the USA and the switch in the euro area from approximate balance to a surplus of around 3.2% of GDP are increasing the pressure on emerging economies, whose economic growth is largely dependent on exports to advanced markets. The sizeable reduction in external imbalances in advanced countries is thus leading, at least in the medium term, to slower growth in emerging economies. This, in turn, is causing those countries economic problems and exacerbating the difficulties they already face.<sup>19</sup>

The crisis-induced sharp rate cuts in advanced countries were aimed at making room, through lower debt service costs, for a reduction in – often excessive – debt, be it at bank, private sector or government level. That room, however, has not been used to the full extent. Debt has been reduced relatively significantly in the private sector (firms and households) in the USA, the UK and Spain, and to a lesser extent also in Germany, which, however, had the lowest need to cut debt. Only the USA and Germany have seen a reduction in banking sector debt. In the public sector, even though most crisis-hit countries have been recovering, almost all of them have recorded growth in debt to a greater or lesser extent.<sup>20</sup> Government debt in the economically hardest-hit euro area countries, i.e. Spain, Portugal, Greece<sup>21</sup> and Ireland, has almost doubled.

On the one hand, there is a clear downward tendency in public finance deficits at least in the euro area and the USA, whose deficits peaked in 2009 and 2010 respectively (at 9.8% of GDP in the USA and 6.2% of GDP in the euro area) and are now below 3% of GDP (2.8% of GDP in the USA and 2.4% of GDP in the euro area). The UK has yet to make much progress in reducing its public budget deficits, which are still fluctuating between 5% and 6% of GDP. Japan is continuing with massive fiscal expansion, which is generating fiscal deficits of 7%–8% of GDP amid an already extreme debt level, although the debt is held primarily by residents. A modest fiscal expansion is also visible in China (2.2% of GDP), though its deficit

<sup>15</sup> See, for example, Janáček and Komárek (2012) and Komárek (2015).

<sup>16</sup> However, this decrease came at the cost of a sharp economic slowdown in China.

<sup>17</sup> The shut-down of nuclear power stations after the Fukushima disaster in 2011 played a significant role in this decline.

<sup>18</sup> The visible appreciation of the pound over the last more than two years is hindering the restoration of balance in the UK economy.

<sup>19</sup> Recent developments have been reflected in depreciation of the currencies of many emerging economies.

<sup>20</sup> Aid to the banking sector has played a major role in some countries.

<sup>21</sup> Greece's government debt was partially reduced due to pressure from international lenders.

did not reach extreme levels in 2009 and 2010 and its total public debt is relatively low. Table 5 gives an overview of the growth in the debt burden between the start of the crisis and 2015.

Unlike external imbalances, the overindebtedness of advanced countries has not been resolved. Among the major advanced countries, total debt rose by more than half in Japan, France, Italy and Spain over the crisis years (until 2010). The total debt level (i.e. the combined debt of central and regional governments, households and firms) is around 190% of GDP in Germany, 210%–260% of GDP in the USA, Canada, Australia, the UK and Italy, and around 300% of GDP in the other major advanced countries. Japan is the “debt record holder”, with total debt of around 400% of GDP. The debt-related risks to future global economic growth have therefore gone up significantly compared to the pre-2007 situation. Overindebtedness has reached levels that have turned it into a barrier to economic growth in some countries. With regard to financial stability, the significantly elevated debt levels of some advanced countries represent a barrier to the return of interest rates to their normal pre-crisis levels.

< 20%	Germany, USA
20%–40%	UK, Canada, Australia
40%–60 %	Italy
60%–80%	Japan, Spain, France
80%–100%	China
> 100%	Euro area countries saved from bankruptcy (Greece, Portugal, Ireland)

**Table 5 Growth in the debt burden of selected countries between the start of the crisis (2007) and the present (2015) (in %)**

*Note: The calculation does not take into account the different initial debt levels. Total debt in Central European countries rose by 30%–40% (except for Slovakia, where it rose by about 50%).*

*Source: Economist Intelligence Unit (EIU)*

## 5 Conclusion

Global external imbalances have decreased substantially since the financial crisis peaked in 2009. The related global risks are currently small. Among the economically important countries, deviations from equilibrium are apparent for Germany (a current account surplus of more than 7% of GDP) and the UK (growth in the deficit above 5% of GDP). The significant improvement in the external balances of advanced countries in recent years (due mainly to improvements of around 3 pp in both in the USA and the euro area)<sup>22</sup> is having a negative impact on economic growth in emerging economies, in particular China. This is being accompanied among other things by a fall in commodity prices in global markets (higher supply of energy commodities and falling demand are causing non-food commodity prices to slump), especially oil prices. This is having a strong negative impact on net exporters, i.e. on emerging economies in particular.

The room to cut debt in advanced countries – created by significant monetary policy easing by all relevant central banks – has not been fully used as yet. Debt has risen significantly in the global economy. However, this growth has been very mixed across countries, territories and economic zones. Only very slight increases have been recorded by Germany and the USA, where debt has been accumulated primarily by governments. A positive trend can be seen for the UK, except in the case of government debt. Otherwise, the fast to very fast growth in debt observed since the start of the crisis has continued. The problem of growing debt is concentrated mainly in governments (with the exception of China), although this is partly related to the assistance provided to national banking sectors. The visible slowdown in debt growth in advanced countries is likely to lead to a downswing in global economic growth.

The surge in government debt was the highest price paid for overcoming the crisis. Looking at GDP growth and unemployment, however, it must be said the crisis is not entirely over. The crisis phenomena have merely been shifted in time, especially in Southern European countries. China’s re-orientation from a strongly export-oriented economy to more balanced one (i.e. towards an increased weight of domestic demand) is also quite a complicated process, with very fast growth in debt (especially among firms and banks) and a sharp slowdown in growth, which has yet to bottom out. China’s total debt has risen by more than a third in just seven years. The impacts of the trend in the extremely overindebted Japanese economy, whose total debt is currently over four times higher than annual GDP and is still growing apace, remain very unclear. The crisis is thus over only in Germany, which was only affected slightly (basically only by problems in its banking sector), and in the USA, which has benefited greatly from relatively easy-to-make savings (curbs on public investment and an easing of restrictions on extraction of energy-producing materials). On the face of it, developments in the UK (especially economic growth and low unemployment) indicate that the crisis is over there too. The question is, however, whether all the problems in the UK banking sector have been resolved and how Britain will cope with the approaching decline in oil extraction, its relatively high and rising external imbalances and its relatively high public finance deficit.

<sup>22</sup> Partly offset by a deterioration in Japan and the UK.

The overall impression given by economic developments in advanced countries in recent years is that the problems that caused the crisis have been partially postponed by the use of fiscal and monetary expansion. The necessary structural reforms have been implemented to only a limited extent. This is especially true of the hardest-hit countries, which required international assistance. However, if the crisis were to return, it could pose a far greater threat to growth in individual economies and regions than last time around, due to the de facto absence of any more room for repeated fiscal and monetary expansion. Except in the case of the US Federal Reserve, the return to conventional monetary policy, i.e. the use of interest rate changes, has yet to start.

### References

- Aristovnik A., Djuric S. (2010): "Twin deficits and the Feldstein-Horioka puzzle: A comparison of the EU member states and candidate countries", MPRA Paper No. 24149.
- Blanchard O., Gaivazzi, F. (2002): "Current account deficits in the euro area. The end of the Feldstein-Horioka puzzle?", Working Paper 03-05, Massachusetts Institute of Technology, Department of Economics, Cambridge.
- Feldstein M., Horioka C. (1980): "Domestic saving and international flows", *Economic Journal* 90(358), pp. 314-329.
- Janáček K., Komárek L. (2012): "Bude americký dolar nadále dominantní světovou rezervní měnou?", *Politická ekonomie* No. 1.
- Komárek L. (2015): "The US dollar's position in the global financial system", Global Economic Outlook, Czech National Bank, March 2015, pp. 11-15.
- Žďárský V. (2013): "The effect of globalisation on deviations between GDP and GNP in selected countries over the last two decades", Global Economic Outlook, Czech National Bank, August 2013, pp. 12-20.

## Appendix 1: Current account and public finance balances

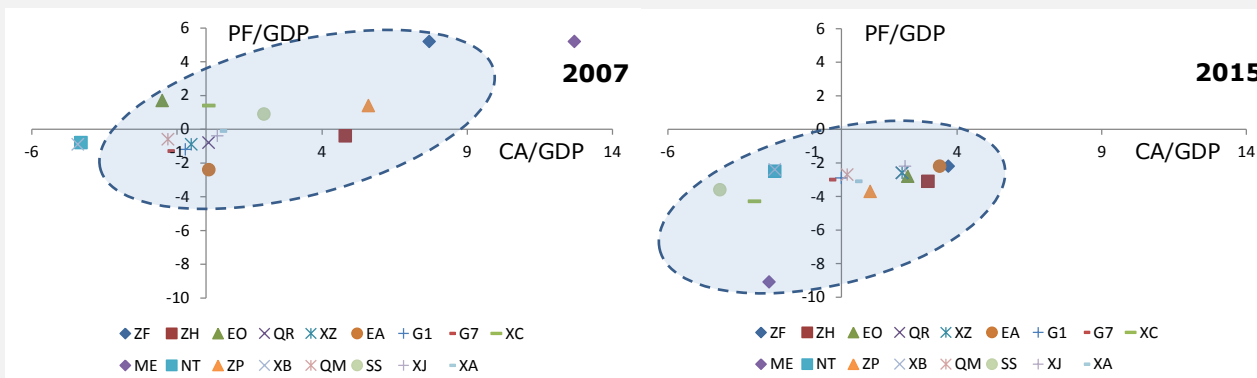


Chart A1 Global imbalances in 2007 and 2015 (in %)

Note: CA/GDP – ratio of current account balance to GDP. PF/GDP – ratio of public finance balance to GDP. ZF – ASEAN, ZH – Asia and Australia, EO – Eastern Europe, QR – EU15, XZ – EU28, EA – euro area, G1 – G10, G7 – G7, XC – Latin America, ME – Middle East and North Africa, NT – NAFTA, ZP – non-OECD countries, XB – North America, QM – OECD, SS – sub-Saharan Africa, XJ – Western Europe, XA – world.

Source: Economist Intelligence Unit (EIU)

	CA/GDP			PF/GDP		
	2015–2000	2015–2007	2015–2009	2015–2000	2015–2007	2015–2009
ASEAN	-1.9	-4	-2.6	-0.2	-1.2	0.8
Asia and Australia	0.9	-1.8	-0.3	1.8	-2.7	1.8
Eastern Europe	-0.8	3.8	1.8	-1.6	-4.5	2
EU15	2.8	2	1.9	-2.9	-1.8	4.1
EU28	3	2.6	2.1	-2.7	-1.7	3.9
Euro area	4	3.3	2.9	-2	-1.6	4
G10	1.2	0.7	0.3	-2.6	-1.7	5
G7	1.1	0.9	0.3	-2.6	-1.7	5.2
Latin America	-0.6	-3.1	-2.1	-4.3	-5.7	-3.3
Middle East and North Africa	-8	-15.2	-5.2	-8.9	-14.3	-5.1
NAFTA	1.2	2	0.3	-4.7	-1.7	6.5
Non-OECD countries	-1.3	-4.6	-1.6	-2.3	-5.1	-0.7
North America	1.2	2.1	0.4	-4.8	-1.5	7
OECD	1.4	1.5	0.7	-2.5	-2.1	4.6
Sub-Saharan Africa	-6.1	-6.2	-3	-1.7	-4.5	0.2
Western Europe	2.3	1.8	1.6	-2.6	-1.8	3.8
WORLD	1	0	0.1	-2.7	-3	3

Table A1 Changes in global imbalances compared to 2000, 2007 and 2009 (differences in pp relative to 2015)

Note: CA/GDP – ratio of current account balance to GDP. PF/GDP – ratio of public finance balance to GDP. Note: A positive sign and a green background (negative sign and red background) indicate an improvement (deterioration) in 2015 compared to the initial year, i.e. 2000, 2007 or 2009.

Source: Economist Intelligence Unit (EIU)

## Appendix 2: GDP and consumer price inflation

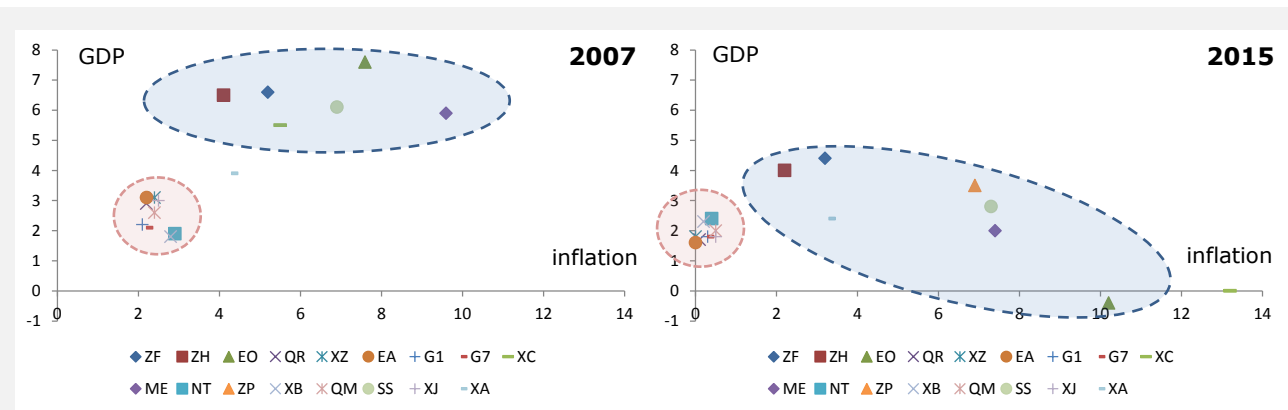


Chart A2 Global imbalances in 2007 and 2015 (in %)

Note: ZF – ASEAN, ZH – Asia and Australia, EO – Eastern Europe, QR – EU15, XZ – EU28, EA – euro area, G1 – G10, G7 – G7, XC – Latin America, ME – Middle East and North Africa, NT – NAFTA, ZP – non-OECD countries, XB – North America, QM – OECD, SS – sub-Saharan Africa, XJ – Western Europe, XA – world.

Source: Economist Intelligence Unit (EIU)

	GDP growth			inflation		
	2015–2000	2015–2007	2015–2009	2015–2000	2015–2007	2015–2009
ASEAN	-1.7	-2.2	2.8	0.7	-2	0.4
Asia and Australia	-0.2	-2.5	2.8	0.7	-1.9	0.2
Eastern Europe	-6.8	-8	5.1	-7.5	2.6	2
EU15	-2.3	-1.2	6.1	-1.9	-2.1	-0.5
EU28	-2.2	-1.3	6.2	-2.9	-2.4	-0.9
Euro area	-2.4	-1.5	6.1	-2.3	-2.2	-0.3
G10	-1.8	-0.4	5.6	-1.9	-1.8	0.4
G7	-1.8	-0.3	5.6	-1.9	-1.9	0.4
Latin America	-3.6	-5.5	1.5	4.9	7.7	6.2
Middle East and North Africa	-3.5	-3.9	0	3.7	-2.2	1
NAFTA	-1.8	0.5	5.3	-3.4	-2.5	0.2
Non-OECD countries	-2	-5.3	0.7	1.3	0.3	1.3
North America	-1.9	0.5	5.1	-3.1	-2.6	0.5
OECD	-1.9	-0.6	5.5	-3.1	-1.9	0
Sub-Saharan Africa	-1	-3.3	0.4	-4.8	0.4	-7.4
Western Europe	-2.2	-1.2	6.1	-3.8	-2	-0.4
WORLD	-1.8	-1.5	4.4	-1.1	-1	0.6

Table A2 Changes in global imbalances compared to 2000, 2007 and 2009 (differences in pp relative to 2015)

Note: A positive sign and a green background (negative sign and red background) indicate an improvement (deterioration) in 2015 compared to the initial year, i.e. 2000, 2007 or 2009.

Source: Economist Intelligence Unit (EIU)

## A1. Change in GDP predictions for 2016

	CF		IMF		OECD		CB / EIU	
EA	<b>-0.1</b>	2016/2	<b>+0.1</b>	2016/1	<b>-0.1</b>	2015/11	<b>0</b>	2015/12
		2016/1		2015/9		2015/9		2015/9
US	<b>-0.2</b>	2016/2	<b>-0.2</b>	2016/1	<b>-0.1</b>	2015/11	<b>+0.1</b>	2015/12
		2016/1		2015/9		2015/9		2015/9
DE	<b>0</b>	2016/2	<b>+0.1</b>	2016/1	<b>-0.2</b>	2015/11	<b>0</b>	2015/12
		2016/1		2015/9		2015/9		2015/6
JP	<b>-0.2</b>	2016/2	<b>0</b>	2016/1	<b>-0.2</b>	2015/11	<b>+0.1</b>	2016/1
		2016/1		2015/9		2015/9		2015/10
BR	<b>-0.5</b>	2016/2	<b>-2.5</b>	2016/1	<b>-0.5</b>	2015/11	<b>-0.4</b>	2016/2
		2016/1		2015/9		2015/9		2016/1
RU	<b>-0.3</b>	2016/2	<b>-0.4</b>	2016/1	<b>-1.2</b>	2015/11	<b>-1.0</b>	2016/2
		2016/1		2015/9		2015/6		2016/1
IN	<b>-0.1</b>	2016/2	<b>0</b>	2016/1	<b>0</b>	2015/11	<b>0</b>	2016/2
		2016/1		2015/9		2015/9		2016/1
CN	<b>-0.1</b>	2016/2	<b>0</b>	2016/1	<b>0</b>	2015/11	<b>0</b>	2016/2
		2016/1		2015/9		2015/9		2016/1

## A2. Change in inflation predictions for 2016

	CF		IMF		OECD		CB / EIU	
EA	<b>-0.3</b>	2016/2	<b>-0.0</b>	2015/9	<b>-0.1</b>	2015/11	<b>-0.1</b>	2015/12
		2016/1		2015/4		2015/6		2015/9
US	<b>-0.2</b>	2016/2	<b>-0.4</b>	2015/9	<b>-0.8</b>	2015/11	<b>-0.1</b>	2015/12
		2016/1		2015/4		2015/6		2015/9
DE	<b>-0.3</b>	2016/2	<b>-0.1</b>	2015/9	<b>-0.7</b>	2015/11	<b>-0.7</b>	2015/12
		2016/1		2015/4		2015/6		2015/6
JP	<b>-0.3</b>	2016/2	<b>-0.5</b>	2015/9	<b>-0.9</b>	2015/11	<b>-0.6</b>	2016/1
		2016/1		2015/4		2015/6		2015/10
BR	<b>+0.4</b>	2016/2	<b>+0.4</b>	2015/9	<b>+0.6</b>	2015/11	<b>+0.6</b>	2016/2
		2016/1		2015/4		2015/6		2016/1
RU	<b>+0.1</b>	2016/2	<b>-1.2</b>	2015/9	<b>+2.5</b>	2015/11	<b>0</b>	2016/2
		2016/1		2015/4		2015/6		2016/1
IN	<b>0</b>	2016/2	<b>-0.2</b>	2015/9	<b>-0.4</b>	2015/11	<b>-0.2</b>	2016/2
		2016/1		2015/4		2015/6		2016/1
CN	<b>-0.1</b>	2016/2	<b>+0.3</b>	2015/9	<b>+0.5</b>	2015/11	<b>-0.2</b>	2016/2
		2016/1		2015/4		2015/6		2016/1



### A3. List of abbreviations

<b>ABS</b>	asset-backed securities	<b>FY</b>	fiscal year
<b>bbl</b>	barrel	<b>GBP</b>	pound sterling
<b>BoJ</b>	Bank of Japan	<b>GDP</b>	gross domestic product
<b>BR</b>	Brazil	<b>HICP</b>	harmonised index of consumer prices
<b>BRIC</b>	countries of Brazil, Russia, India and China	<b>CHF</b>	Swiss franc
<b>BRL</b>	Brazilian real	<b>ICE</b>	Intercontinental Exchange
<b>CB</b>	central bank	<b>IFO</b>	Institute for Economic Research
<b>CB-CCI</b>	Conference Board Consumer Confidence Index	<b>IFO-BE</b>	IFO Business Expectations
<b>CB-LEII</b>	Conference Board Leading Economic Indicator Index	<b>IMF</b>	International Monetary Fund
<b>CBOT</b>	Chicago Board of Trade	<b>IN</b>	India
<b>CBR</b>	Central Bank of Russia	<b>INR</b>	Indian rupee
<b>CF</b>	Consensus Forecasts	<b>IRS</b>	Interest Rate swap
<b>CN</b>	China	<b>JP</b>	Japan
<b>CNB</b>	Czech National Bank	<b>JPY</b>	Japanese yen
<b>CNY</b>	Chinese renminbi	<b>LI</b>	leading indicators
<b>DBB</b>	Deutsche Bundesbank	<b>LIBOR</b>	London Interbank Offered Rate
<b>DE</b>	Germany	<b>MER</b>	Ministry of Economic Development (of Russia)
<b>EA</b>	euro area	<b>MMBtu</b>	million of British Thermal Units
<b>EBRD</b>	European Bank for Reconstruction and Development	<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>EC</b>	European Commission	<b>OECD-CLI</b>	OECD Composite Leading Indicator
<b>ECB</b>	European Central Bank	<b>PMI</b>	Purchasing Managers' Index
<b>EC-CCI</b>	European Commission Consumer Confidence Indicator	<b>PPI</b>	producer price index
<b>EC-ICI</b>	European Commission Industrial Confidence Indicator	<b>RU</b>	Russia
<b>EIA</b>	Energy Information Administration	<b>RUB</b>	Russian rouble
<b>EIU</b>	Economist Intelligence Unit	<b>TLTRO</b>	targeted longer-term refinancing operations
<b>EU</b>	European Union	<b>UoM</b>	University of Michigan
<b>EUR</b>	euro	<b>UoM-CSI</b>	University of Michigan Consumer Sentiment Index
<b>EURIBOR</b>	Euro Interbank Offered Rate	<b>US</b>	United States
<b>Fed</b>	Federal Reserve System (the US central bank)	<b>USD</b>	US dollar
<b>FOMC</b>	Federal Open Market Committee	<b>USDA</b>	United States Department of Agriculture
<b>FRA</b>	forward rate agreement	<b>WEO</b>	World Economic Outlook

## A4. List of thematic articles published in the GEO

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The FDI life cycle on the example of the Czech Republic (Filip Novotný)	2016-1

### 2015

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Central banks' gold reserves (Iveta Polášková)	2015-11
Shadow policy rates – alternative quantification of unconventional monetary policy (Soňa Benecká, Luboš Komárek and Filip Novotný)	2015-10
The economic reforms of Indian Prime Minister Narendra Modi (Pavla Břízová)	2015-9
The Chinese renminbi in the SDR basket: A realistic prospect? (Soňa Benecká)	2015-8
Annual assessment of the forecasts included in GEO (Filip Novotný)	2015-7
Seasonal price movements in the commodity markets (Martin Motl)	2015-6
Assessment of the effects of quantitative easing in the USA (Filip Novotný)	2015-5
How consensus has evolved in Consensus Forecasts (Tomáš Adam and Jan Hošek)	2015-4
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The crisis and post-crisis experience with Swiss franc loans outside Switzerland (Alexis Derviz)	2015-2
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Changes in FDI inflows and FDI returns in the Czech Republic and Central European countries (Vladimír Žďárský)	2014-10
Competitiveness and export growth in selected Central European countries (Oxana Babecká Kucharčuková)	2014-9
Developments and the structure of part-time employment by European comparison (Eva Hromádková)	2014-8
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Annual assessment of the forecasts included in GEO (Filip Novotný)	2014-6
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Heterogeneity of financial conditions in euro area countries (Tomáš Adam)	2014-4
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## 2013

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