GLOBAL ECONOMIC OUTLOOK – JULY

2012

Monetary and Statistics Department
External Economic Relations Division

CZECH NATIONAL BANK

CONTENTS

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	Tomáš Adam	IV., V.
	Jan Hošek	VI.
	Luboš Komárek	Summary
	Filip Novotný	Focus
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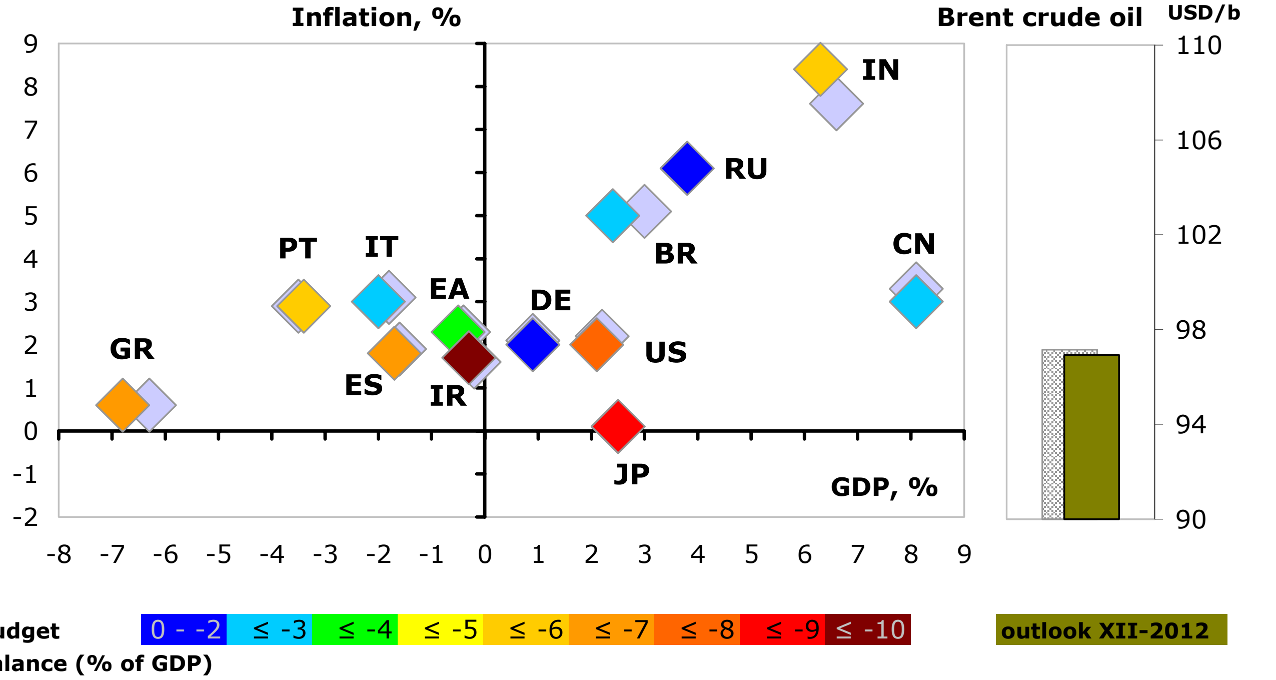
The July issue of *Global Economic Outlook* presents its regular overview of recent and expected developments in selected territories in terms of standard indicators such as GDP, inflation, leading indicators, interest rates, exchange rates and commodity prices. In addition, we focus in this issue on our traditional annual assessment of the forecasts included in the GEO. The analysis reveals that the outlooks for 2011 underestimated consumer price inflation and growth in oil prices, overestimated the upward trend of the US dollar (against most currencies) and did not meet expectations regarding economic growth in the United States and Europe. Non-fulfilled expectations of higher interest rates in the USA and the euro area compared to the actual outcomes are another factor linked with the said reassessment of economic growth in 2011.

The revised economic outlooks for advanced countries still indicate that 2012 will be a year of weaker economic activity; for the euro area, in fact, it will be a year of economic contraction. Germany remains the economic driver of the heterogeneously evolving euro area. However, its expected growth for this year is not likely to exceed 1%, although Germany should, like most other advanced countries, record an improvement in its economic condition in 2013. The US economy might be close to 3% growth at the end of 2012, but the risks of non-fulfilment of this scenario are significant. In particular, there is uncertainty regarding the results of the elections in the United States and the subsequent resolution of the fiscal situation, which, like in many advanced countries, is unsatisfactory (see the figure below).

Emerging economies, especially the BRIC countries (Brazil, Russia, India, China), are still showing robust economic growth at an acceptable inflation rate this year. Consistent with the economic outlooks for advanced economies, the performance of the BRIC countries is expected to improve in 2013.

The global economy might benefit partially from the recent decline in oil prices in the second half of 2012, even though the price outlook is slightly higher than last month. Upward corrections in oil prices were caused by both policy factors (the results of the EU summit) and persisting geopolitical risks. The exchange rate of the US dollar will play a key role in any materialisation of the inflation risks stemming from oil prices (and other commodities). Industrial metal prices should edge up in late 2012, while food commodity prices should see a slight correction. The interest rate outlook indicates a slight increase in rates in both the euro area and the USA at the end of 2013.

The global economic outlook for 2012



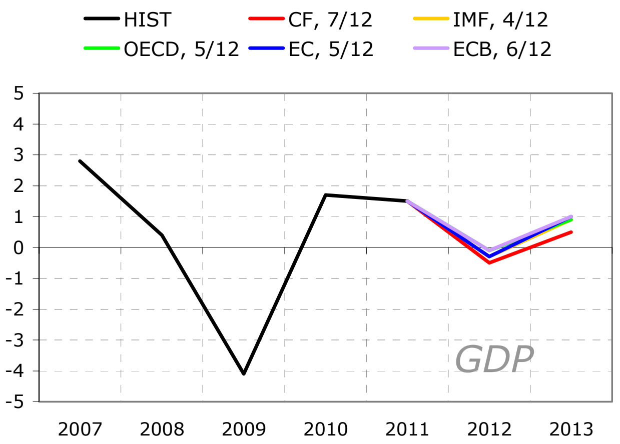
Note: EA – euro area, DE – Germany, US – United States, JP – Japan, CN – China, IN – India, BR – Brazil, RU – Russia, GR – Greece, IE – Ireland, IT – Italy, PT – Portugal, ES – Spain. The points are coloured according to the significance of the budget balance-GDP ratio in 2012 (EIU definition, forecast). The grey colour is the CF forecast (GDP, inflation) or Bloomberg survey (oil price) from the previous month. [Cut-off date for data: 13 July 2012]
Source: CNB calculation using Bloomberg, Consensus Economics and EIU.

II.1 GDP

The July CF expects an economic downturn of 0.5% in the euro area **this year**. GDP growth will not exceed 2.2% in Germany and the USA (CF, Fed) and 8.1% in China (CF). In **2013,** euro area GDP will return to growth. However, economic growth in the advanced economies under review will remain in the range of 0.5%–2.9% according to the new CF and Fed outlooks. Economic growth in China will rise to 8.4%.

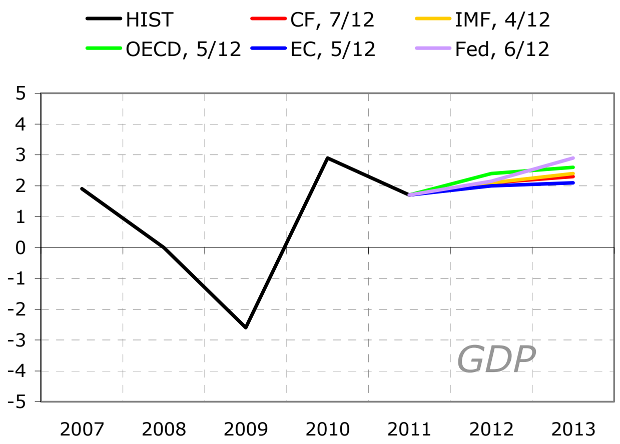
In early July, **the IMF** published economic growth outlooks for Germany and the USA in its annual Article IV Consultation reports. The IMF expects the German economy to grow by 1% this year; growth of just below 1.5% can be expected in 2013. According to the IMF, the main risk to the outlook is an intensification of the euro area debt crisis, which would spill over negatively into Germany through real and financial channels. Other risks include a global slowdown in economic growth and an abrupt rise in oil prices. The IMF continues to expect modest economic growth in the USA (2.0% in 2012 and 2.3% in 2013) as a result of major household deleveraging and uncertainty related to domestic fiscal policy. In its annual report on the Chinese economy, the IMF expects economic growth of 8% this year.

EURO AREA



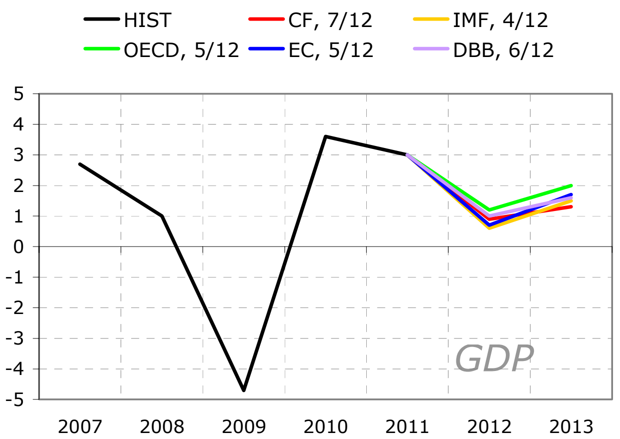
	HIST	CF	IMF	OECD	EC	ECB
2011	1.5					
2012		-0.5	-0.3	-0.1	-0.3	-0.1
2013		0.5	0.9	0.9	1.0	1.0

USA



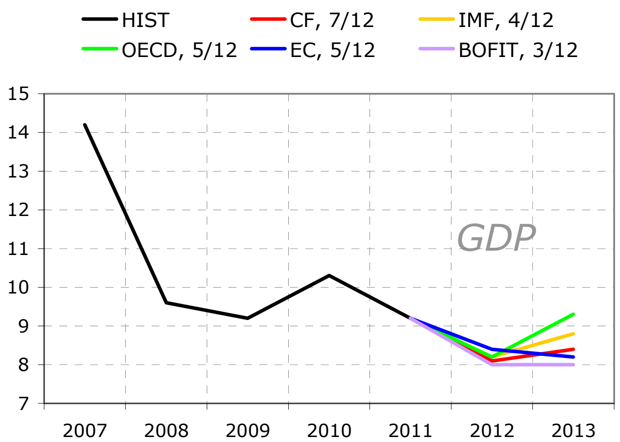
	HIST	CF	IMF	OECD	EC	Fed
2011	1.7					
2012		2.1	2.1	2.4	2.0	2.2
2013		2.3	2.4	2.6	2.1	2.9

GERMANY



	HIST	CF	IMF	OECD	EC	DBB
2011	3.0					
2012		0.9	0.6	1.2	0.7	1.0
2013		1.3	1.5	2.0	1.7	1.6

CHINA



	HIST	CF	IMF	OECD	EC	BOFIT
2011	9.2					
2012		8.1	8.2	8.2	8.4	8.0
2013		8.4	8.8	9.3	8.2	8.0

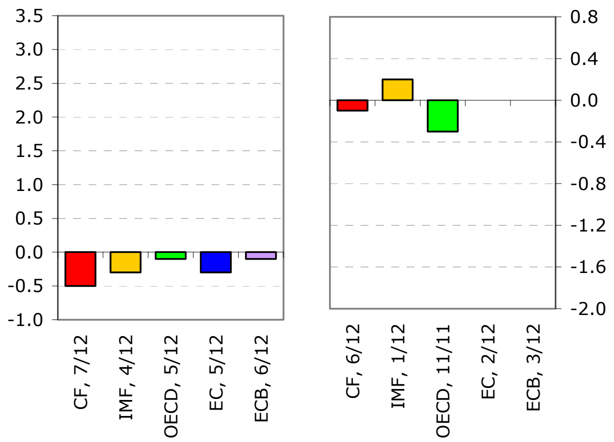
Note: Legend shows latest forecast data in format „Source, month/year of forecast publication". HIST: historical value. ECB and Fed: midpoint of range. [Cut-off date for data: 13 July 2012]
Source: CNB calculation using Eurostat, CF, IMF, OECD, EC, ECB, Fed, DBB and BOFIT databases.

II.2 Current GDP forecast and change from the previous forecast

The new CF revised the outlook for **2012** downwards by 0.1 pp towards weaker GDP growth in the United States and a more pronounced fall in euro area GDP. The outlooks for Germany and China were left at the previous month's level. Compared to the April outlook, the Fed lowered the estimate for GDP in the United States by 0.5 pp (midpoint of the range).

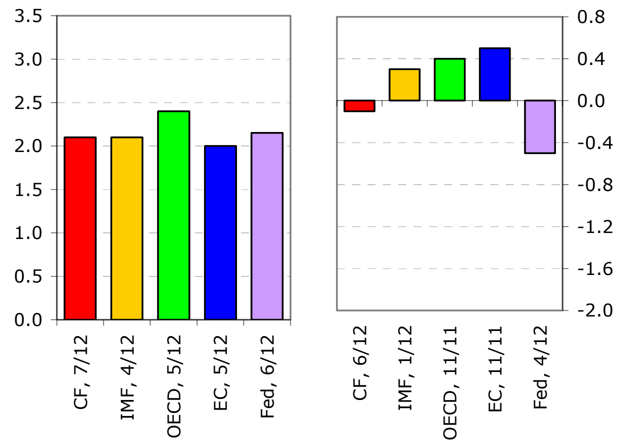
EURO AREA

Forecast for 2012 / Change from previous forecast



USA

Forecast for 2012 / Change from previous forecast

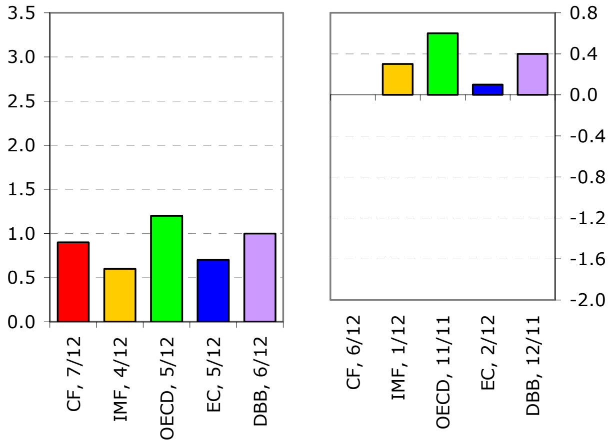


	2011	CF	IMF	OECD	EC	ECB
Forecast	1.5	-0.5	-0.3	-0.1	-0.3	-0.1
Change		-0.1	0.2	-0.3	0.0	0.0

	2011	CF	IMF	OECD	EC	Fed
Forecast	1.7	2.1	2.1	2.4	2.0	2.2
Change		-0.1	0.3	0.4	0.5	-0.5

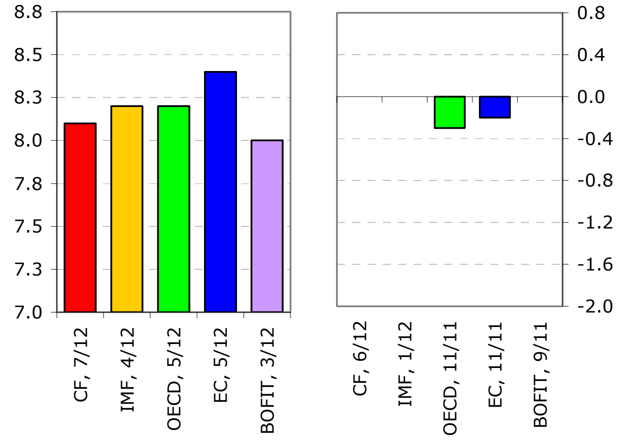
GERMANY

Forecast for 2012 / Change from previous forecast



CHINA

Forecast for 2012 / Change from previous forecast



	2011	CF	IMF	OECD	EC	DBB
Forecast	3.0	0.9	0.6	1.2	0.7	1.0
Change		0.0	0.3	0.6	0.1	0.4

	2011	CF	IMF	OECD	EC	BOFIT
Forecast	9.2	8.1	8.2	8.2	8.4	8.0
Change		0.0	0.0	-0.3	-0.2	0.0

Note: Horizontal axis of left-hand (right-hand) chart shows latest (previous) forecast data in format „Source, month/year of forecast publication". HIST: historical value. ECB and Fed: midpoint of range.
[Cut-off date for data: 13 July 2012]

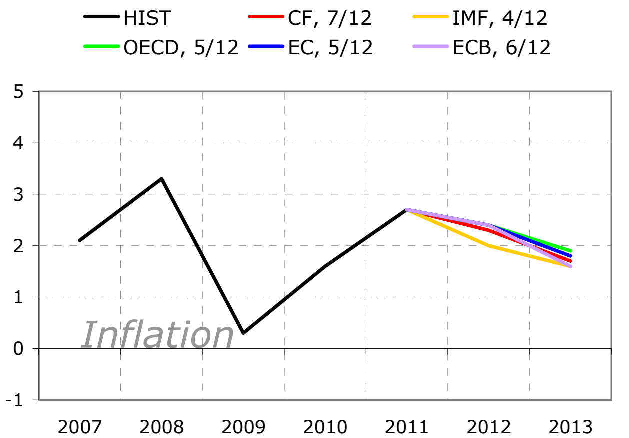
Source: CNB calculation using Eurostat, CF, IMF, OECD, EC, ECB, Fed, DBB and BOFIT databases.

II.3 Inflation

According to the new CF, inflation in the euro area will be 2.3% **this year**; prices in Germany and the USA will rise by 2%. The new Fed outlook expects consumer price inflation at 1.5% (midpoint of the range). Inflation in China will reach 3% (CF). Inflation will slow to 1.7–1.9% in the advanced economies under review **next year**. Prices in China will rise by 3.5%.

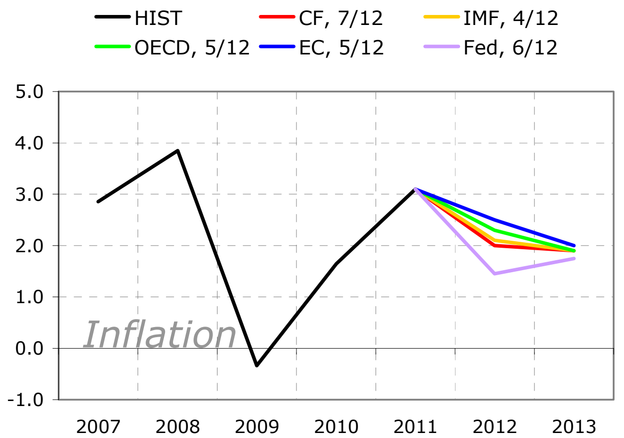
The **IMF** published a new outlook for inflation in Germany and the United States in its annual Article IV Consultation reports. The recent surges in energy prices in these countries should keep inflation at 2.2% in 2012 at the expense of gradual economic growth. Next year the IMF expects inflation to fall to 2.0% in Germany and 1.7% in the United States.

EURO AREA



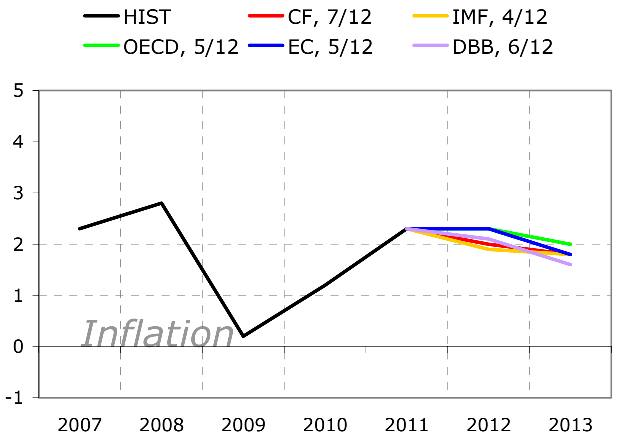
	HIST	CF	IMF	OECD	EC	ECB
2011	2.7					
2012		2.3	2.0	2.4	2.4	2.4
2013		1.7	1.6	1.9	1.8	1.6

USA



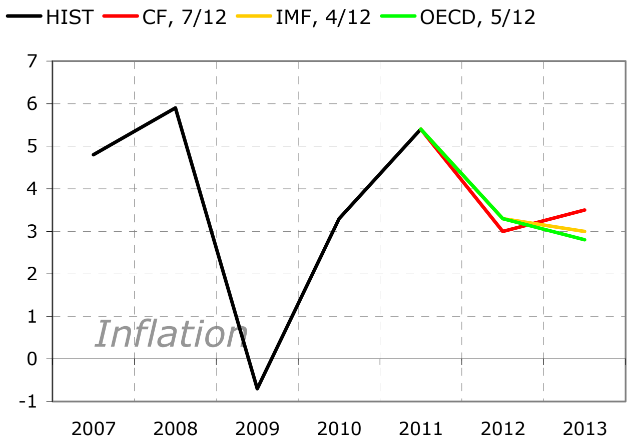
	HIST	CF	IMF	OECD	EC	Fed
2011	3.1					
2012		2.0	2.1	2.3	2.5	1.5
2013		1.9	1.9	1.9	2.0	1.8

GERMANY



	HIST	CF	IMF	OECD	EC	DBB
2011	2.3					
2012		2.0	1.9	2.3	2.3	2.1
2013		1.8	1.8	2.0	1.8	1.6

CHINA



	HIST	CF	IMF	OECD
2011	5.4			
2012		3.0	3.3	3.3
2013		3.5	3.0	2.8

Note: Legend shows latest forecast data in format „Source, month/year of forecast publication". HIST: historical value. ECB and Fed: midpoint of range. [Cut-off date for data: 13 July 2012]

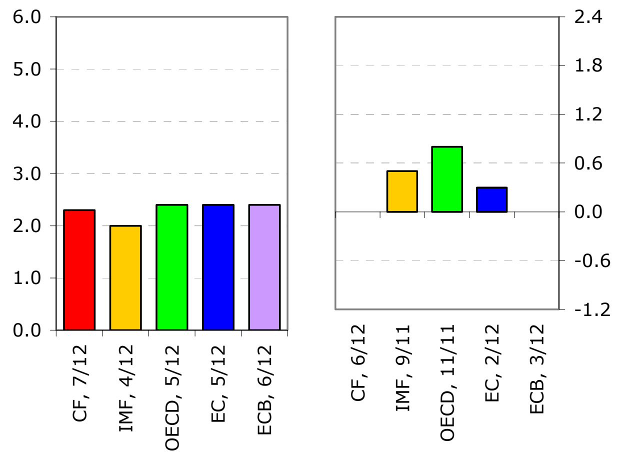
Source: CNB calculation using Eurostat, CF, IMF, OECD, EC, ECB, Fed, DBB and BOFIT databases.

II.4 Inflation forecast and change from the previous forecast

The new CF and Fed outlooks for **this year** expect more moderate inflation in all the economies under review compared to the previous forecast, with the exception of the CF outlook for the euro area, which was unchanged from June. The outlook was revised most by the Fed (down by 0.5 pp); CF lowered its outlook by 0.1–0.3 pp.

EURO AREA

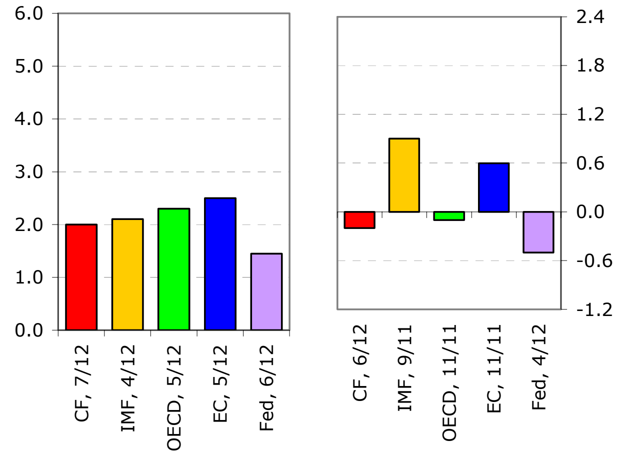
Forecast for 2012 | Change from previous forecast



	2011	CF	IMF	OECD	EC	ECB
Forecast	2.7	2.3	2	2.4	2.4	2.4
Change		0.0	0.5	0.8	0.3	0.0

USA

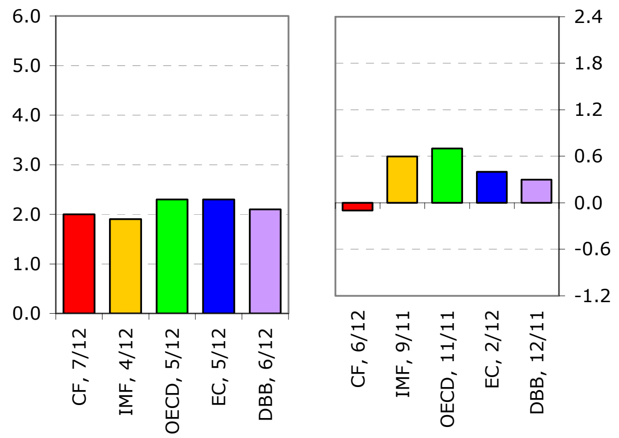
Forecast for 2012 | Change from previous forecast



	2011	CF	IMF	OECD	EC	Fed
Forecast	3.1	2.0	2.1	2.3	2.5	1.5
Change		-0.2	0.9	-0.1	0.6	-0.5

GERMANY

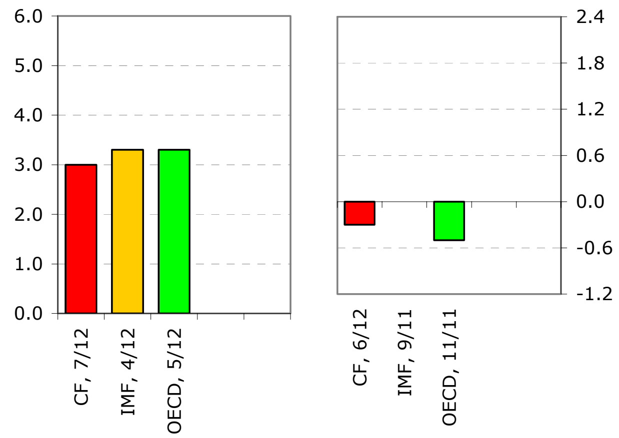
Forecast for 2012 | Change from previous forecast



	2011	CF	IMF	OECD	EC	DBB
Forecast	2.3	2	1.9	2.3	2.3	2.1
Change		-0.1	0.6	0.7	0.4	0.3

CHINA

Forecast for 2012 | Change from previous forecast



	2011	CF	IMF	OECD
Forecast	5.4	3	3.3	3.3
Change		-0.3	0.0	-0.5

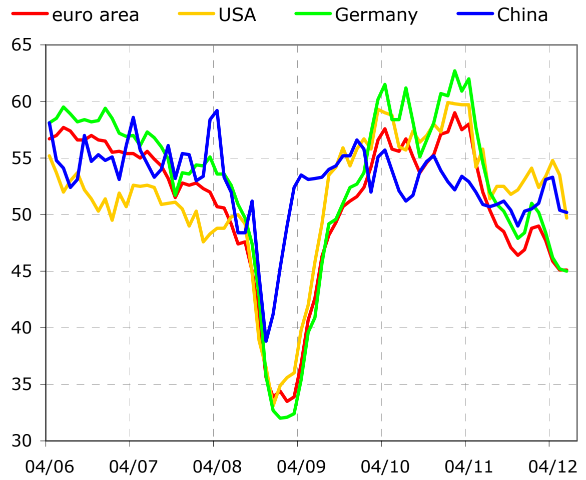
Note: Horizontal axis of left-hand (right-hand) chart shows latest (previous) forecast data in format „Source, month/year of forecast publication". HIST: historical value. ECB and Fed: midpoint of range.

[Cut-off date for data: 13 July 2012]

Source: CNB calculation using Eurostat, CF, IMF, OECD, EC, ECB, Fed, DBB and BOFIT databases.

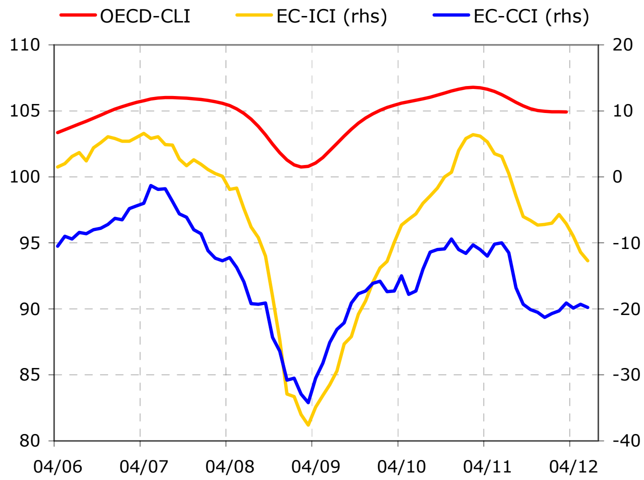
The outlook for the US economy deteriorated significantly in July compared to the previous month. The PMI (Purchasing Managers' Index) in industry dropped substantially due to the deepening crisis in Europe and slower economic growth in China, falling below 50% for the first time in almost three years (49.7%). Consumer confidence also declined due to adverse expectations regarding unemployment. In addition to the PMI staying below 50%, consumer confidence indicators deteriorated in the euro area. German leading indicators decreased, too. The Ifo business climate index and the two monitored consumer confidence indices dropped significantly. The PMI in China edged down further towards 50%.

PMI IN MANUFACTURING



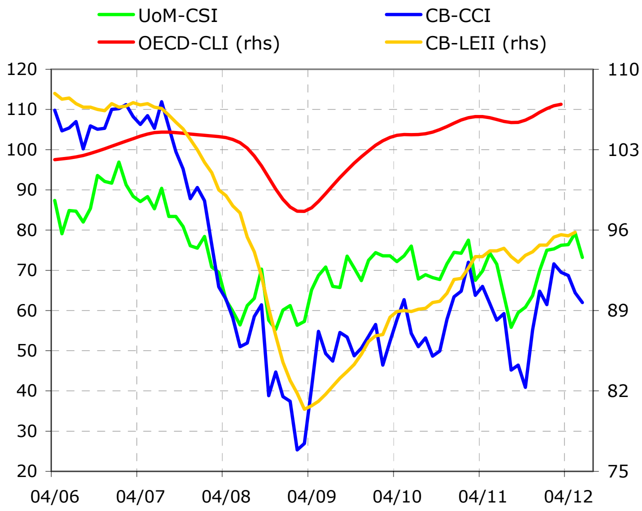
	EA	US	DE	CN
4/12	45.9	54.8	46.2	53.3
5/12	45.1	53.5	45.2	50.4
6/12	45.1	49.7	45.0	50.2

EURO AREA



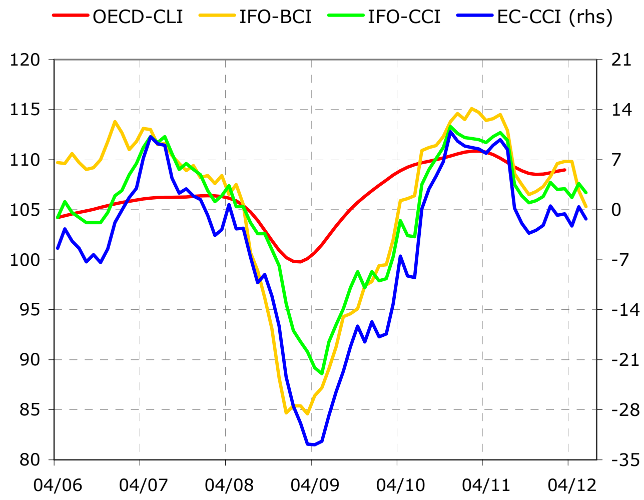
	OECD-CLI	EC-ICI	EC-CCI
4/12		-9.0	-19.9
5/12		-11.4	-19.3
6/12		-12.7	-19.8

USA



	OECD-CLI	CB-LEII	UoM-CSI	CB-CCI
4/12	0.0	95.5	76.4	68.7
5/12		95.8	79.3	64.4
6/12			73.2	62.0

GERMANY



	OECD-CLI	IFO-BCI	IFO-CCI	EC-CCI
4/12		109.8	106.2	-2.3
5/12		106.9	107.6	0.4
6/12		105.3	106.7	-1.3

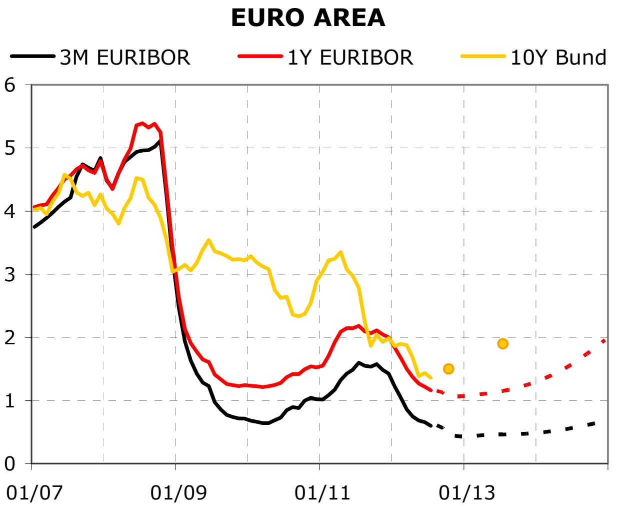
Note: OECD-CLI stands for OECD Composite Leading Indicator, EC-ICI (right-hand scale) for European Commission Industrial Confidence Indicator, EC-CCI (right-hand scale) for EC Consumer Confidence Indicator, CB-LEII for Conference Board Leading Economic Indicator Index, CB-CCI for CB Consumer Confidence Index, UoM-CSI for University of Michigan Consumer Sentiment Index, IFO-BCI for Institute for Economic Research – Business Climate Index, and IFO-CCI for IFO Consumer Confidence Index. [Cut-off date for data: 12 July 2012]

Source: CNB calculation using OECD, EC, IFO and UoM databases.

IV.1 Outlook for short-term and long-term interest rates: Euro area

Interbank 3M and 1Y EURIBOR rates were flat in June and edged down to 0.65% and 1.21% respectively during the month. The two rates fell by almost 0.1 pp following the ECB's monetary policy meeting on 5 July 2012 (when the bank lowered its key interest rate by 0.25 pp to a historical low of 0.75%). The forecast based on implied rates shifted downwards from the previous month and rates should continue to fall in 2012 H2. Risk premia for both maturities recorded a temporary slight increase in mid-June, but are now at an almost one-year low.

The average yield on the 10Y Bund increased in June as a result of lower risk aversion, but the rise was reversed at the start of July. The July CF forecast was revised downwards compared to the June forecast; the yield on the 10Y Bund is expected to be 1.9% at the one-year horizon.



	06/12	07/12	12/12	06/13	12/13	12/14
3M EURIBOR	0.66	0.60	0.43	0.46	0.48	0.68
1Y EURIBOR	1.22	1.16	1.07	1.14	1.28	1.96
	06/12	07/12	10/12	07/13		
10Y Bund	1.43	1.36	1.50	1.90		

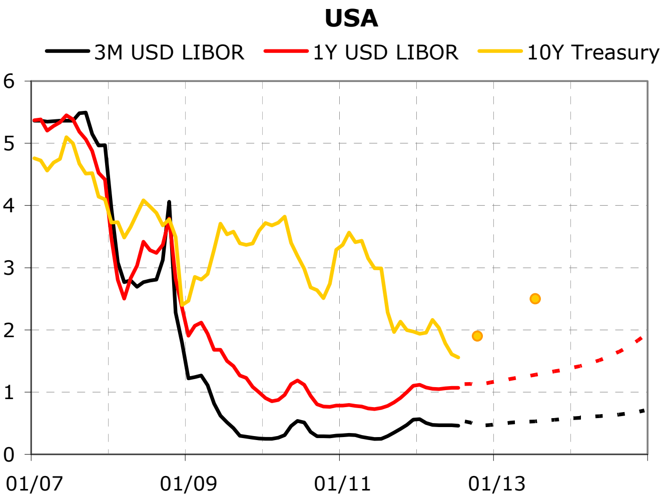
Note: Forecast for EURIBOR rates is based on implied rates from interbank market yield curve (FRA rates are used from 4M to 15M and adjusted IRS rates for longer horizons). Forecast for German government bond yield (10Y Bund) is taken from CF. Dashed lines and points represent outlook. [Cut-off date for data: 12 July 2012]

Sources: Thomson Reuters (Datastream), Bloomberg, CNB calculations.

IV.2 Outlook for short-term and long-term interest rates: USA

The 3M and 1Y USD LIBOR rates recorded no major movements in June and stood below 0.47% and 1.07% respectively. In June, the Fed revised its outlook for economic growth in the USA downwards and extended the Twist operation as expected. The outlook for the 3M rate shifted slightly downwards from the previous month, while the 1Y rate shifted upwards. The outlook is slightly rising for both rates, with the expected growth being more pronounced for one-year rates.

US bond rates continue to reflect risk aversion related to the situation in the euro area. Following a slight rise in June, the yield on the 10Y US government bond fell again below 1.5% in July. The CF outlook was also revised downwards compared to the previous month.



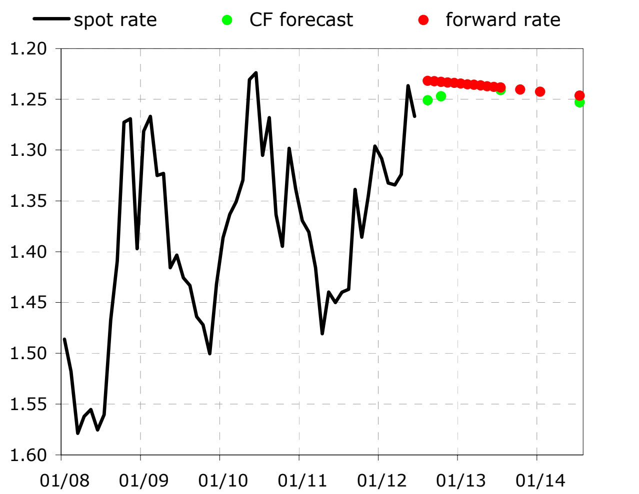
	06/12	07/12	12/12	06/13	12/13	12/14
3M USD LIBOR	0.47	0.46	0.47	0.53	0.57	0.70
1Y USD LIBOR	1.07	1.07	1.15	1.26	1.37	1.90
	06/12	07/12	10/12	07/13		
10Y Treasury	1.61	1.56	1.90	2.50		

Note: Implied LIBOR rates are derived from London interbank market yield curve. Forecast for 10Y Treasury yield is taken from CF. Dashed lines and points represent outlook. [Cut-off date for data: 12 July 2012]

Sources: Thomson Reuters, Bloomberg, CNB calculations.

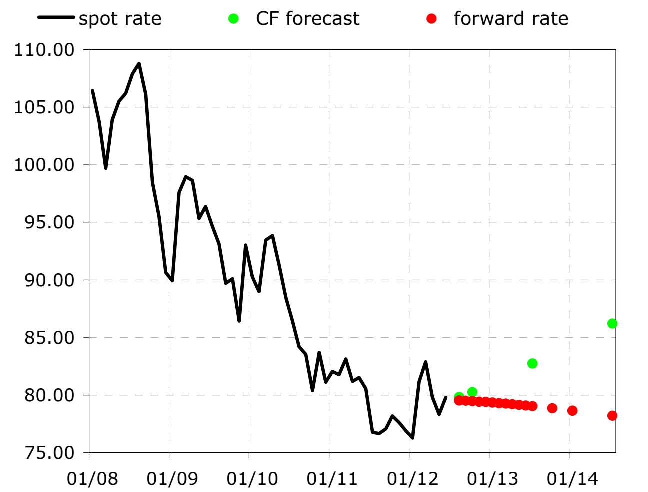
The euro's depreciation trend against the dollar halted temporarily in June. Newly agreed measures – the proposal for a banking union and the possibility of providing financial assistance to banks directly from EMU rescue funds – were welcomed by markets, and even the request of Cyprus for financial assistance had no major negative effect on the euro's exchange rate. In early July, however, the euro started to depreciate again. At present it is 9% lower than in early March. The July CF forecast remains stable at USD 1.25 against the euro at the two-year horizon. The British pound showed similar developments, i.e. a slight appreciation in June followed by a depreciation in July. Its outlook is stable at the one-year horizon despite an extension of the BoE's quantitative easing programme. At the long end of the forecast it is expected to appreciate against the dollar. The appreciation of the yen slowed in June thanks to improved global sentiment. Unlike the market outlooks, its CF outlook remains slightly declining. The rate of the Swiss franc against the euro remains at its upper limit and so is tracking the dollar-euro rate.

US$ per Euro



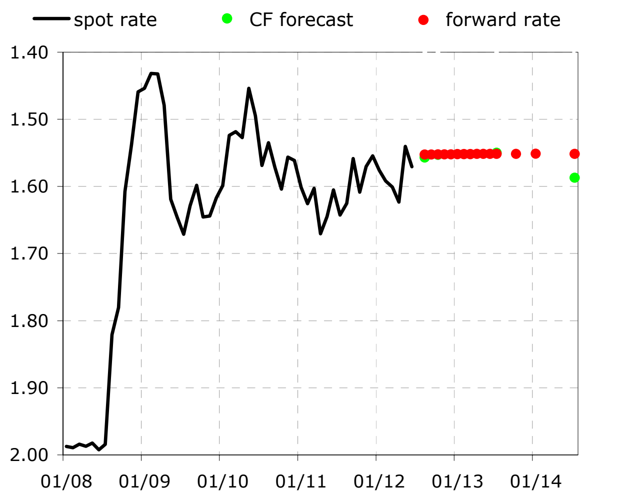
	9/7/12	08/12	10/12	07/13	07/14
spot rate	1.231				
CF forecast		1.251	1.247	1.241	1.253
forward rate		1.232	1.233	1.239	1.246

Yen per US$



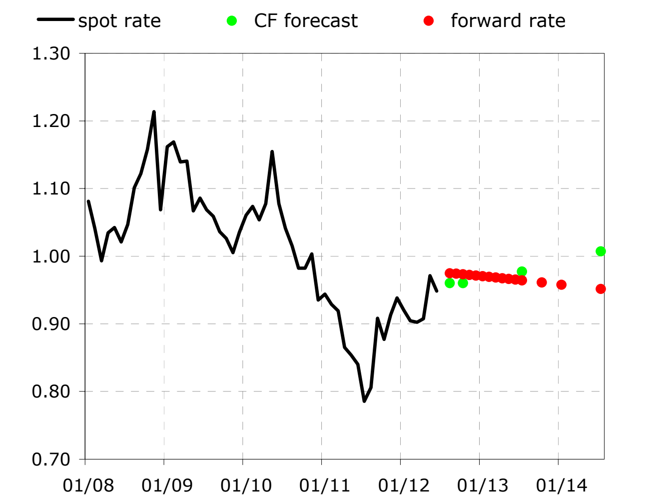
	9/7/12	08/12	10/12	07/13	07/14
spot rate	79.56				
CF forecast		79.81	80.25	82.73	86.20
forward rate		79.53	79.46	79.03	78.20

US$ per UK£



	9/7/12	08/12	10/12	07/13	07/14
spot rate	1.553				
CF forecast		1.557	1.553	1.550	1.587
forward rate		1.553	1.552	1.552	1.552

Swfr per US$



	9/7/12	08/12	10/12	07/13	07/14
spot rate	0.975				
CF forecast		0.960	0.960	0.977	1.007
forward rate		0.975	0.973	0.964	0.952

Note: Increase in currency pair represents appreciation of US dollar; data as of the last day of the 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) possibilities for securing future exchange rate. [Cut-off date for data: 12 July 2012]
Source: CNB calculation using Bloomberg and Consensus Forecasts databases.

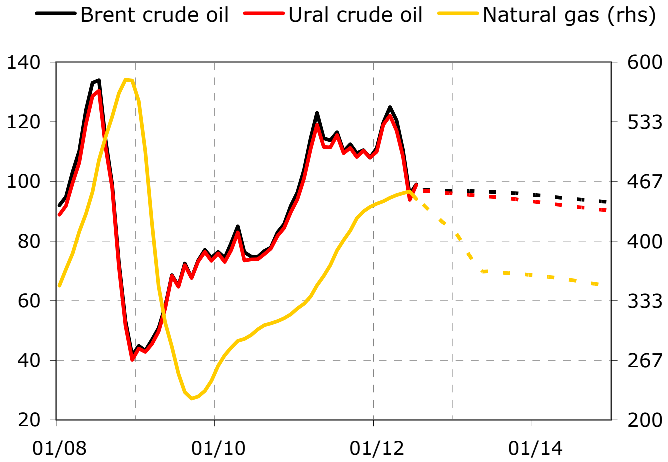
VI.1 Oil and natural gas

The Brent oil price fell sharply below USD 90 a barrel in the second half of June but later rose equally quickly to USD 100 and fluctuated close to this level in the first half of July. The forecast, which is based on current prices, is thus slightly higher than a month ago.

While in May oil prices were pushed down mainly by the appreciating dollar, the fall in June was triggered by the problems of the Spanish banking sector. The Fed's worse outlook for the US economy, which was later confirmed by weaker PMI indices for Europe and China, pushed the price of oil briefly below USD 89 a barrel. However, the markets were satisfied with the outcome of the EU summit and the price of oil subsequently corrected its previous fall, supported among other things by a strike by Norwegian miners and renewed plans by Iran to blockade the Strait of Hormuz.

Prices of long-term natural gas contracts in Europe (derived from oil prices) should start to decrease, whereas prices in the USA are going up despite rising production from shale deposits as a result of unusually hot weather (consumption by air-conditioning units).

OUTLOOK FOR PRICES OF OIL AND NATURAL GAS



	07/12	12/12	06/13	12/13	12/14
Brent crude oil	99.0	96.9	96.5	95.6	93.1
Ural crude oil	98.8	96.0	94.9	93.4	90.3
Natural gas	447.1	415.5	366.2	362.3	349.7

Note: Brent oil price in USD/barrel (ICE quotation). Price of Russian natural gas at German border in USD/1,000 cubic m (IMF database). Future oil prices are derived from oil prices. Dashed line represents outlook.

[Cut-off date for data: 9 July 2012]

Source: Bloomberg, IMF, CNB calculations.

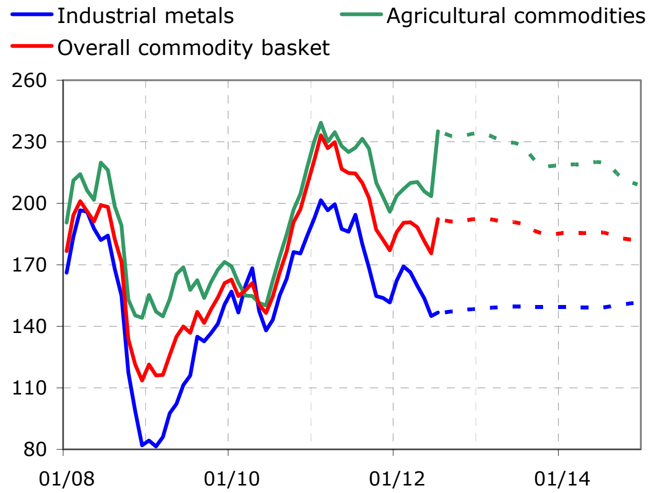
VI.2 Other commodities

The growth in the overall non-energy commodity index in the previous month was due exclusively to food commodity prices. By contrast, prices of metals and rubber were flat (cotton prices even continued falling) and their outlooks suggest no change.

Since May, sharp growth in prices has been recorded by wheat (attacking the high levels observed in February 2011), maize and soy (whose dollar prices exceeded their all-time highs, although the outlook expects a decline). The price growth is explained by dry and hot weather, which is damaging the harvest in many US regions. The price of rice rose more moderately, while the increases in prices of sugar and coffee were corrections of previous decreases. Following a rise, the price of pork is again attacking its high, while the beef price was flat, although the outlook expects it to rise to another historical high.

Prices of electricity and coal recorded a slight increase for the first time in a while. As usual, their price outlook remains increasing.

OUTLOOK FOR OTHER COMMODITY PRICES



	07/12	12/12	06/13	12/13	12/14
Industrial metals	146.7	148.3	149.5	149.4	151.5
Agricultural commodities	235.1	233.8	229.5	218.3	209.2
Overall commodity basket	192.2	192.2	190.8	185.1	182.0

Note: Chart shows price indices, year 2005 = 100. Dashed line represents outlook based on futures.

[Cut-off date for data: 9 July 2012]

Source: Bloomberg, outlooks based on futures.

ANNUAL ASSESSMENT OF THE FORECASTS INCLUDED IN THE GEO[1]

Like the forecasts for 2010, the forecasts for CPI inflation in 2011 were underestimated for the countries under review. For some time now, actual inflation has thus surprisingly been higher than expected. Consistent with this are the outlooks for the oil price, which were also lower than the actual figures. As for the other variables, the dollar was expected to be stronger on average against most of the currencies monitored, but in reality was not stronger in 2011. The same goes for the higher expectations regarding the growth of the US economy. Accordingly, expected interest rates in the USA and also in the euro area (both short-term money market rates and long-term rates on government bonds) were higher than the actual outcomes. The assessment of the accuracy of the GDP growth forecasts also reveals heterogeneous developments in the euro area. The forecasts for the euro area as a whole were almost fulfilled, whereas the forecasts for German economic growth were underestimated.

Introduction

The aim of this article is to assess the accuracy of the forecasts of the variables regularly monitored in the Global Economic Outlook (GEO) and to provide readers with feedback on how the individual monitored institutions, including Consensus Forecasts, and outlooks derived from market contracts reflected the *ex post* known reality.

This assessment is conducted annually[2] for the previous calendar year in the case of the forecasts for GDP growth and CPI inflation (fixed-event forecasts), i.e. we are now assessing the forecasts for 2011. In the case of the three-month outlooks for foreign interest rates, exchange rates against the dollar (USD) and oil prices, the assessment is conducted for the last 21 months for which the figures are known, i.e. from July 2010 to March 2012, and in the case of the one-year outlooks for the above variables, for the last 12 months, i.e. from July 2010 to June 2011 (rolling-event forecasts). The relevant date for the known reality is 30 June 2012.[3]

Owing to the short length of the time series assessed, the analysis uses simple descriptive methods. The forecast error e_t is calculated as the difference between the *ex post* known actual value a_t and the corresponding forecast f_t:

$$e_t = a_t - f_t \,. \tag{1}$$

A positive forecast error therefore means that the forecasted value undershot the subsequent outcome, while a negative error means that it overshot it.

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[1] Author: Filip Novotný (Filip.Novotny@cnb.cz). The views expressed in this article are those of the author and do not necessarily reflect the official position of the Czech National Bank.

[2] The first-ever assessment was published in the July 2011 GEO – see http://www.cnb.cz/miranda2/export/sites/www.cnb.cz/en/monetary_policy/geo/gev_2011_07_en.pdf

[3] A comprehensive assessment of the accuracy of the outlooks for the economic situation abroad, which in the CNB's forecasting framework are taken from Consensus Forecasts, is available for the period from 1994 to 2009 in Novotný and Raková (2010) http://www.cnb.cz/miranda2/export/sites/www.cnb.cz/en/research/research_publications/cnb_wp/download/cnbwp_2010_14.pdf. However, the set of forecasted variables and individual institutions is slightly different from the monitored variables and institutions covered in the monthly GEO.

The mean forecast error (MFE), the mean absolute forecast error (MAFE) and the root mean square error (RMSE) are used as aggregate indicators of the accuracy of the forecast. Where possible, the statistical significance of the forecast error was verified using the following equation:

$$e_t = \alpha + \varepsilon_t, \quad (2)$$

where α is the mean forecast error (MFE), so that equation 2 represents a test of a zero forecast error.

The text is structured as follows. Section 1 assesses the forecasts for GDP growth and CPI inflation for the individual foreign economies monitored. Section 2 goes on to assess the accuracy of the forecasts of foreign interest rates. Section 3 assesses the accuracy of the forecasts for the exchange rate of the dollar against major currencies. Section 4 closes the analysis by assessing the oil price forecast.

1 Assessment of the accuracy of the GDP growth and CPI inflation forecasts for 2011

The GEO regularly monitors GDP growth and CPI inflation in four countries/territories: the euro area, the USA, Germany and China. The forecasts for all the above territories are taken from Consensus Forecasts (CF), the International Monetary Fund (IMF), the Organisation for Economic Cooperation and Development (OECD) and the European Commission (EC). The forecasts of these organisations are complemented with the European Central Bank's (ECB) forecast for the euro area, the Fed's forecast for the USA, the Deutsche Bundesbank's (DBB) forecast for Germany and the Bank of Finland Institute for Economies in Transition's (BOFIT) forecast for China.

These institutions differ in the frequency and date of publication of their forecasts; the forecast updates range from monthly and quarterly through to half-yearly. For presentational reasons, only the half-yearly forecasts (i.e. the spring forecasts and the autumn forecasts) were assessed.[4]

The accuracy of the spring and autumn GDP growth forecasts for 2011 for each country is shown in Figures 1–4.[5] **At first glance one can see that the GDP growth forecast for the USA was overestimated, while that for Germany was underestimated.** The GDP forecasts for the remaining two areas (the euro area and China) were characterised by lower deviations of the forecast errors. This differs from the forecasts for 2010, when the forecast errors were mostly positive. The monitored institutions thus underestimated economic growth.

The largest variability, and hence the greatest uncertainty, was recorded by the GDP growth forecasts for the USA, followed by those for Germany and China, while the forecasts for the euro area showed the greatest stability.

The best results, i.e. a zero MFE, for all countries and forecast horizons on average were achieved by CF and the Commission. The IMF forecast was slightly overestimated and the OECD forecast was more substantially overestimated.

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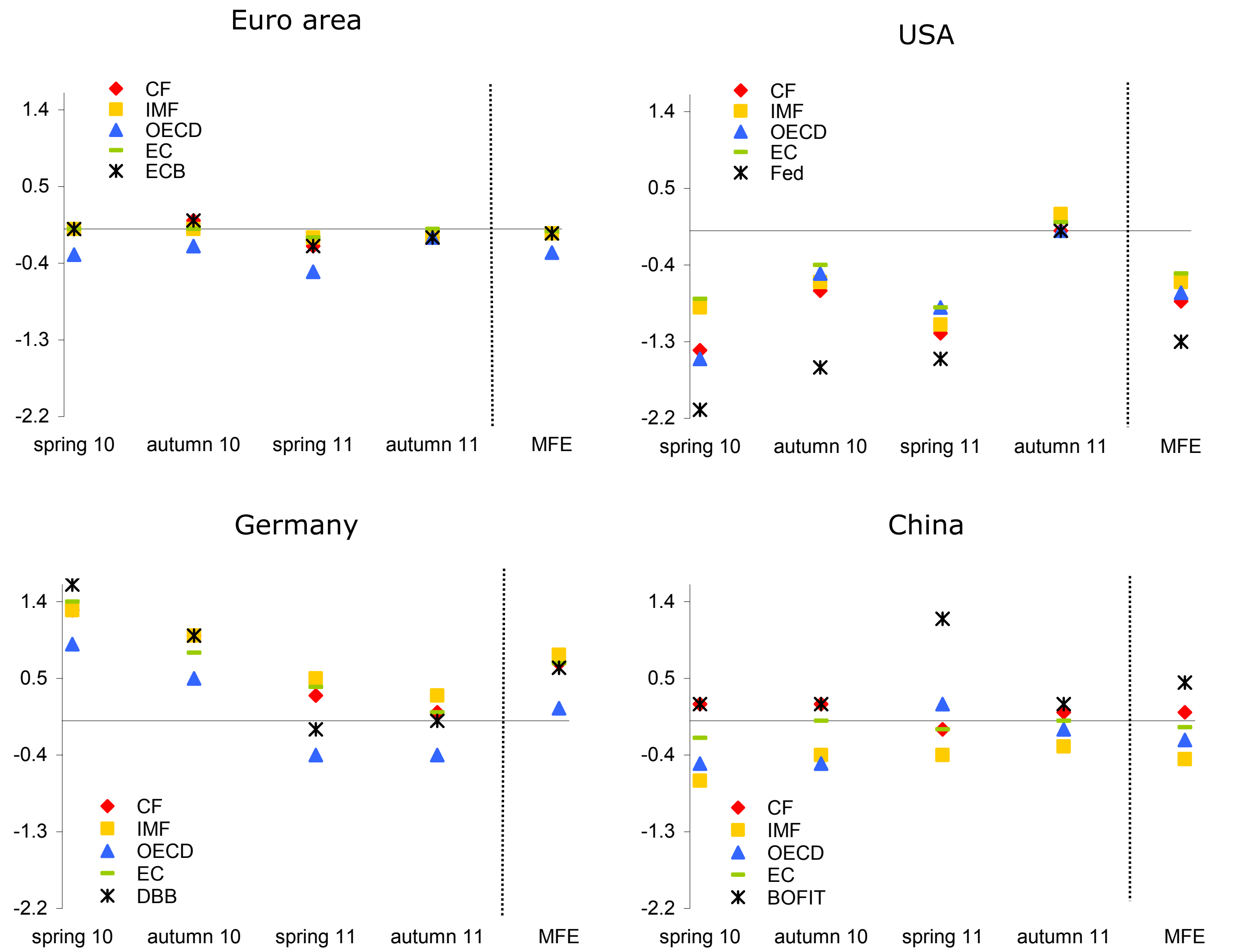
[4] CF, the IMF and the Fed publish their forecasts in April and October, the OECD and the Commission in May and November, the ECB and the BOFIT in March and September, and the DBB in June and December.
[5] The first assessed forecast for 2011 was published in spring 2010 and the last one in autumn 2011. The MFE for all four forecasts in the given year is shown after the vertical dotted line in the chart.

The Commission showed the best knowledge of both the euro area and the US economy, although the differences in the mean errors between the institutions were very small. Economic growth in Germany was forecasted the best by the OECD, and growth in China was forecasted the best by CF and again by the Commission. The US GDP growth forecast was most overestimated by the Fed.

Figures 1–4 Forecast errors for GDP growth for 2011



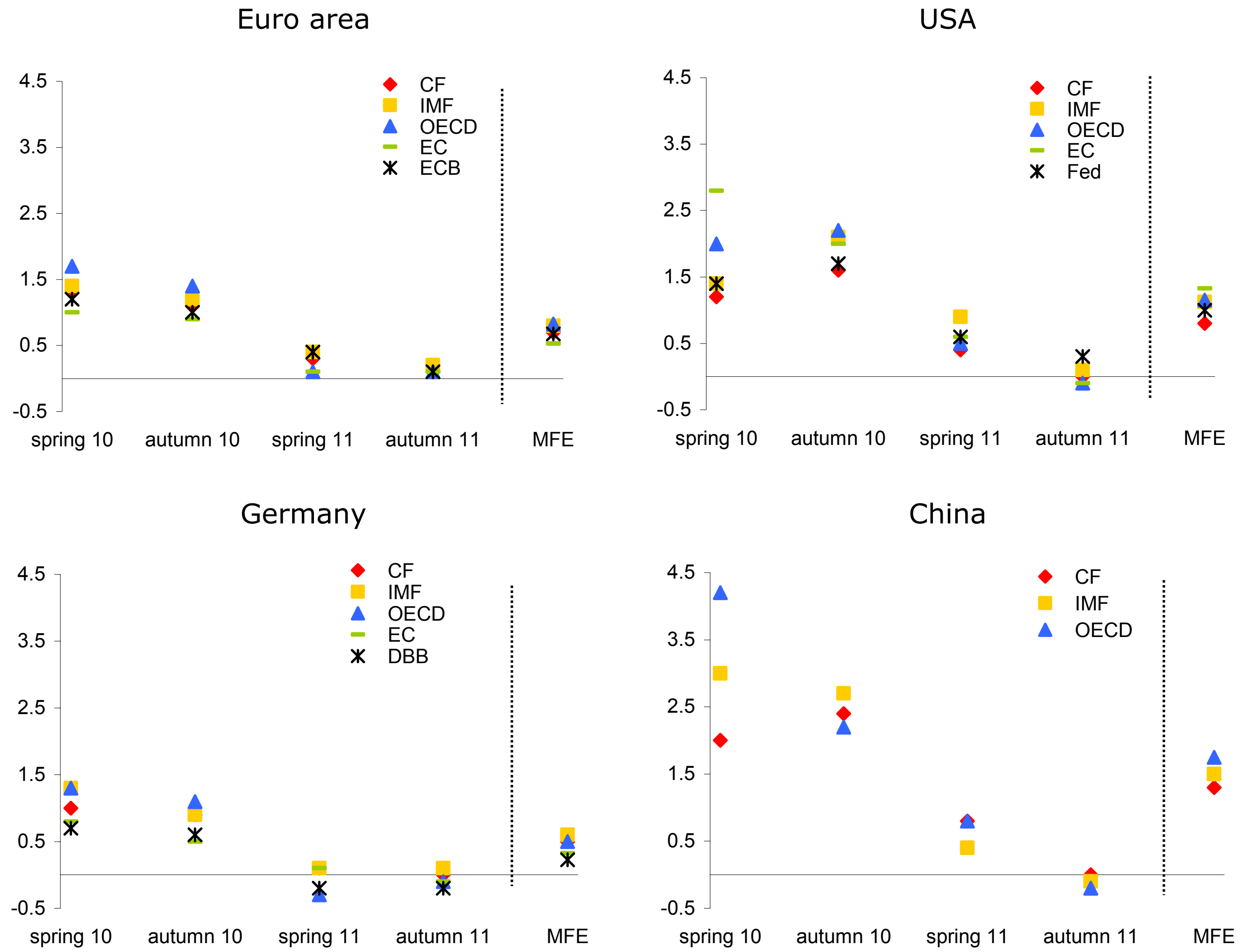
Note: CF – Consensus Forecasts, IMF – International Monetary Fund, OECD – Organisation for Economic Cooperation and Development, EC – European Commission, ECB – European Central Bank, Fed – Federal Reserve System of the USA, DBB – Deutsche Bundesbank, BOFIT – Bank of Finland Institute for Economies in Transition. The source of the historical figures for 2011 is CF. MFE is the mean forecast error for the given year.

Turning to the CPI inflation outlooks for 2011, the institutions under review were surprised by higher-than-expected actual inflation in all countries (see Figures 5–8). The best performer on average for all countries and forecast horizons was again the Commission, followed closely by CF and then by the IMF and the OECD.

The inflation forecasts for China and the USA showed the greatest variability and therefore uncertainty. The forecasts for the euro area and Germany were characterised by lower variability. The inflation forecast for Germany was the most accurate of all countries.

As regards individual countries, the most accurate forecasts for the euro area were compiled by the Commission. The best inflation forecasts for the USA and China[6] were made by CF, and the DBB was the best at predicting German inflation.

Figures 5–8 Forecast errors for consumer price inflation for 2011

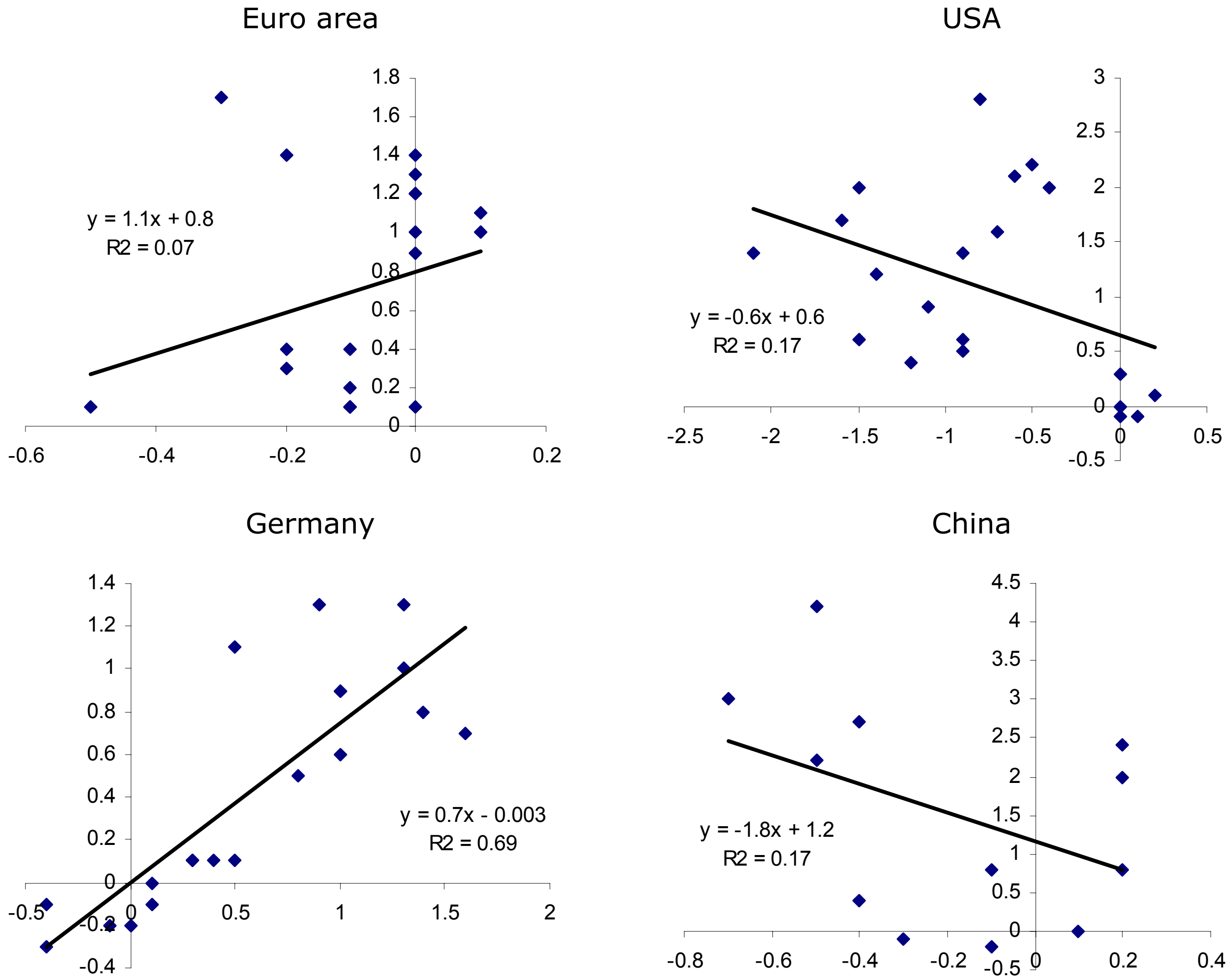


Note: CF – Consensus Forecasts, IMF – International Monetary Fund, OECD – Organisation for Economic Cooperation and Development, EC – European Commission, ECB – European Central Bank, Fed – Federal Reserve System of the USA, DBB – Deutsche Bundesbank, BOFIT – Bank of Finland Institute for Economies in Transition. The source of the historical figures for 2011 is CF. MFE is the mean forecast error for the given year.

Finally, Figures 9–12 show the relationship between the forecast errors for GDP growth and CPI inflation. A relatively strong positive relationship between the forecast errors for the two variables exists for Germany. The forecasts for GDP growth and CPI inflation in Germany can thus be interpreted as relatively mutually consistent, as higher expected GDP growth is associated with higher expected consumer price growth. A weaker positive relationship between the two variables also exists in the euro area. By contrast, the USA and China are characterised by a weaker negative relationship, i.e. a higher degree of inconsistency between the two variables.

[6] CPI for China is forecasted by only three of the institutions monitored – CF, IMF and OECD.

Figures 9–12 Relationship between the forecast errors for GDP growth and CPI inflation



2 Assessment of the accuracy of the forecasts for foreign interest rates

The GEO also regularly monitors the outlooks for short-term interest rates, which are derived from futures, and the outlooks for long-term (ten-year) government bond yields, which are taken from CF. The interest rate outlooks are monitored for the euro area and the USA only.

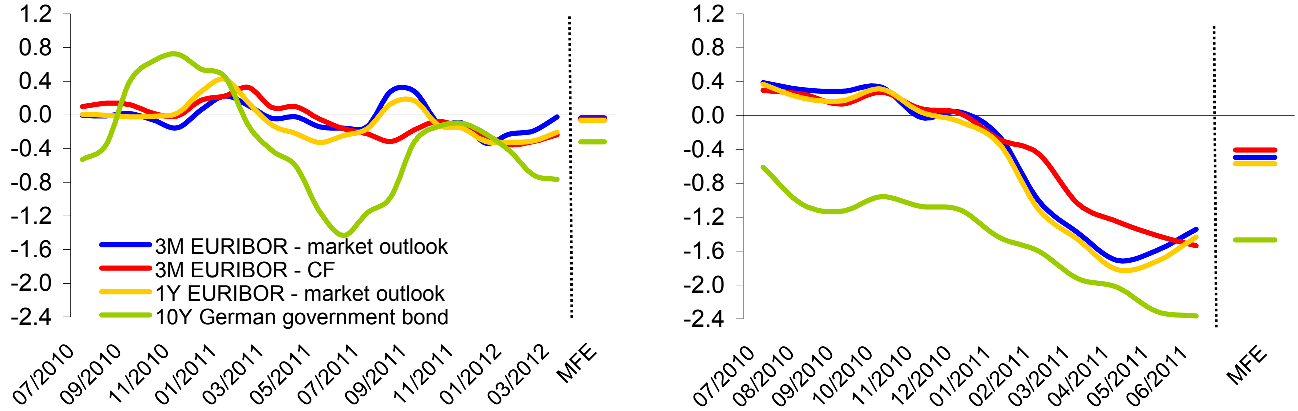
The three-month interest rate outlooks were assessed for the period from July 2010 to March 2012 and the one-year interest rate outlooks for the period from July 2010 to June 2011 (see Figures 13–14).

The errors of the three-month interest rate outlooks showed statistically significant deviations from zero (see equation 2) only in the case of the ten-year German government bond yield. The expected yield on the German government bond was systematically higher than the actual outcomes. The mean errors of the short-term forecast for other rates, i.e. the 3M and 1Y EURIBOR, were very close to zero, with the market outlooks being slightly better than the CF outlooks.

The one-year interest rate outlooks were overshot, especially from the February 2011 forecast. However, the CF forecasts were better than the market outlooks in the case of the one-year outlooks for the 3M EURIBOR. Nonetheless, the one-year outlooks for these interest rates were systematically skewed towards higher expected rates compared to actual outcomes at a significance level of 10% or higher.

Figures 13–14 Forecast errors for interest rates for the euro area

Three-month outlooks One-year outlooks

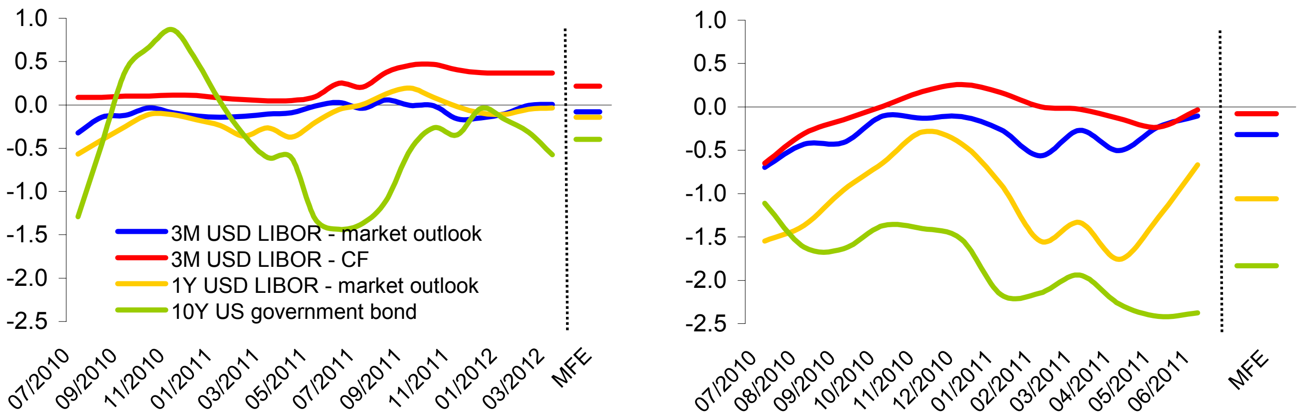


Note: The source of the actual data is Datastream. MFE is the mean forecast error for the given period.

Turning to the assessment of the interest rate outlooks for the USA, the deviations from zero of the three-month and one-year outlooks were statistically significant, except for the one-year CF outlook for three-month rates. In the case of the three-month outlooks, the market outlook recorded better results for short-term rates, but, as in the case of the 3M EURIBOR, CF was better at the one-year horizon. Similarly to euro rates, higher US dollar rates compared to the outcomes were expected.

Figures 15–16 Forecast errors for interest rates for the USA

Three-month outlooks One-year outlooks



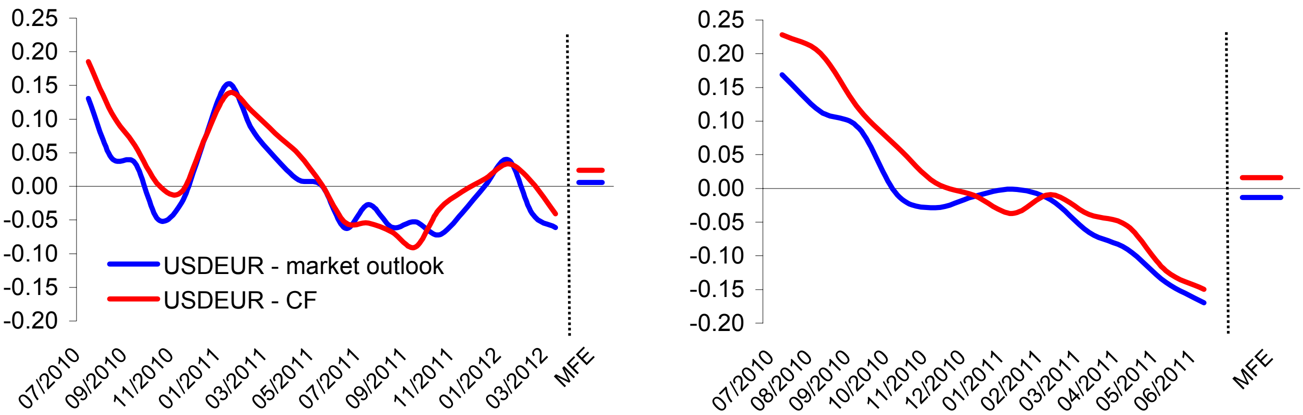
3 Assessment of the accuracy of the forecasts for the dollar exchange rate

The GEO provides regular outlooks for the exchange rate of the dollar against four currencies: the euro (EUR), the yen (JPY), the British pound (GBP) and the Swiss franc (CHF) – based on CF forecasts as well as outlooks derived from futures.

The market outlooks showed smaller forecast errors than the CF outlooks for all currency pairs and both monitored forecast horizons. Moreover, the three-month CF outlook errors for USDGBP, JPYUSD and CHFUSD showed statistically significant deviations from zero. A stronger dollar was mostly expected compared to the outcomes.

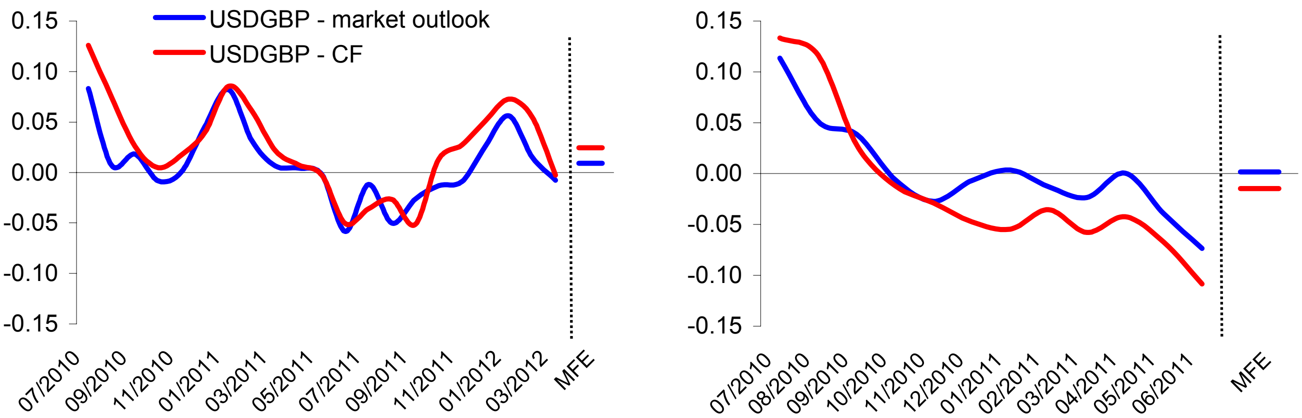
Figures 17–18 Forecast errors for the USD/EUR exchange rate

Three-month outlooks One-year outlooks



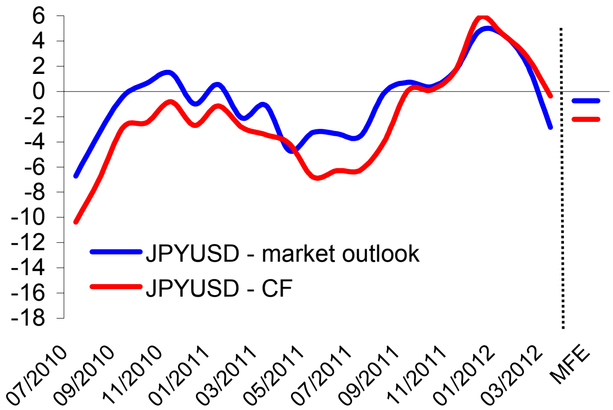
Figures 19–20 Forecast errors for the USD/GBP exchange rate

Three-month outlooks One-year outlooks

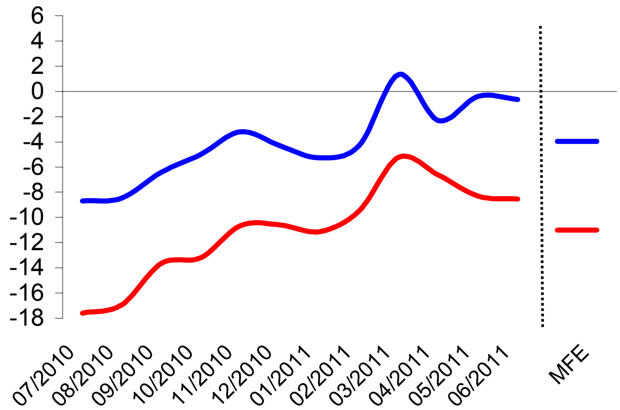


Figures 21–22 Forecast errors for the JPY/USD exchange rate

Three-month outlooks

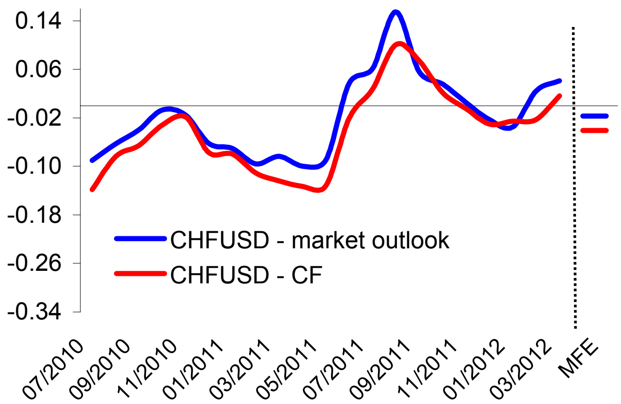


One-year outlooks

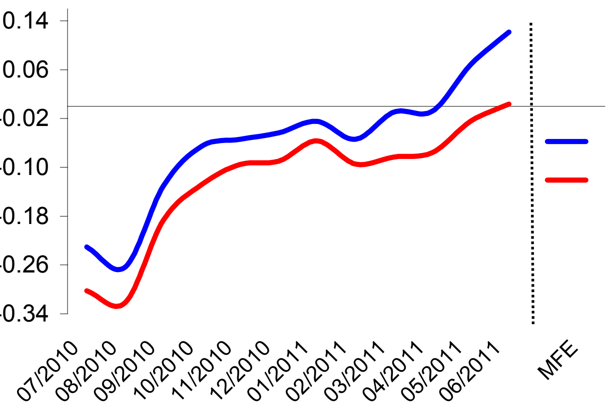


Figures 23–24 Forecast errors for the CHF/USD exchange rate

Three-month outlooks



One-year outlooks

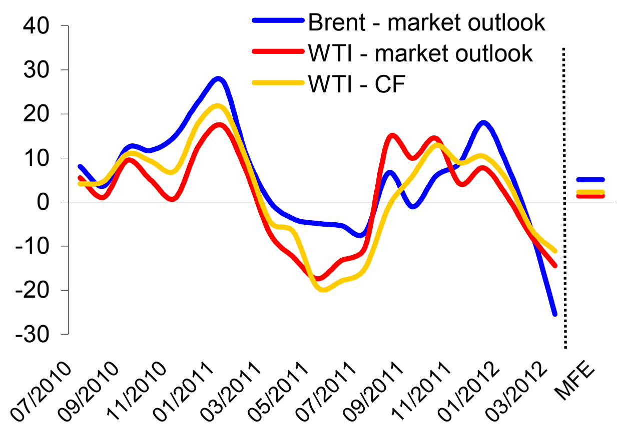


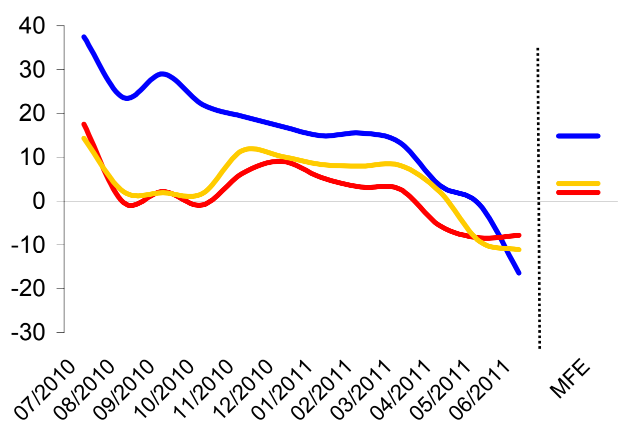
4 Assessment of the accuracy of the Brent crude oil price forecasts

On average, both the three-month and one-year outlooks for the oil price underestimated the actual outcomes. Moreover, this error was statistically significant for the market outlooks for the Brent oil price.

In the case of the WTI oil price, the accuracy of market-based forecasts and CF forecasts can also be compared. The forecasts derived from market contracts fare slightly better in this comparison.

Figures 25–26 Forecast errors for the oil price (USD a barrel)





Conclusion

The analysis reveals that the GDP growth forecast for the USA was overestimated, while one for Germany was underestimated. The GDP forecasts for the remaining two areas (China and the euro area) were characterised by lower deviations of the forecast errors. This differs from the forecasts for 2010, when the forecast errors were mostly positive. The monitored institutions thus underestimated economic growth.

The largest variability, and hence the greatest uncertainty, was recorded by the GDP growth forecasts for the USA, followed by those for Germany and China, while the forecasts for the euro area showed the greatest stability.

The best GDP forecast results, i.e. a zero MFE, for all countries and forecast horizons on average were achieved by CF and the Commission.

Turning to the CPI inflation outlooks for 2011, the institutions under review were surprised by higher-than-expected actual inflation in all countries. The best performer on average for all countries and forecast horizons was again the Commission, followed closely by CF.

A relatively strong positive relationship between the forecast errors for GDP growth and CPI inflation exists for Germany. This relationship is weaker for other territories, and negative for the USA and China.

The one-year interest rate outlooks were overshot, especially from the February 2011 forecast. Generally, the CF forecasts were more accurate at the one-year horizon, while the market-based outlooks fared better at the three-month horizon for both euro and US rates.

The market outlooks showed smaller forecast errors than the CF outlooks for all currency pairs and both monitored forecast horizons. Moreover, the three-month CF outlook errors for USDGBP, JPYUSD and CHFUSD showed statistically significant deviations from zero. A stronger dollar was expected compared to the outcomes.

The oil price was the last variable under review. In this case, the forecasts expected a lower price compared to the actual outcomes. For WTI oil prices, the market outlooks recorded smaller errors than the CF outlooks.

BOFIT	Bank of Finland Institute for Economies in Transition
BR	Brazil
BRIC	Brazil, Russia, India and China
CB-CCI	Conference Board Consumer Confidence Index
CB-LEII	Conference Board Leading Economic Indicator Index
CBOT	Chicago Board of Trade
CF	Consensus Forecasts
CN	China
CNB	Czech National Bank
DBB	Deutsche Bundesbank
DE	Germany
EA	euro area
EC	European Commission
ECB	European Central Bank
EC-CCI	European Commission Consumer Confidence Indicator
EC-ICI	European Commission Industrial Confidence Indicator
EIU	The Economist Intelligence Unit database
ES	Spain
EU	European Union
EUR	euro
EURIBOR	Euro Interbank Offered Rate
Fed	Federal Reserve System (the US central bank)
FRA	forward rate agreement
GBP	pound sterling
GDP	gross domestic product
GR	Greece
CHF	Swiss franc
ICE	Intercontinental Exchange
IE	Ireland
IFO	Institute for Economic Research
IFO-BCI	IFO – Business Climate Index
IFO-CCI	IFO – Consumer Confidence Index
IMF	International Monetary Fund
IN	India
IRS	Interest rate swap
IT	Italy
JP	Japan
JPY	Japanese yen
LIBOR	London Interbank Offered Rate
N/A	not available
OECD	Organisation for Economic Co-operation and Development
OECD-CLI	OECD Composite Leading Indicator
PT	Portugal
RU	Russia
UoM	University of Michigan
UoM-CSI	University of Michigan Consumer Sentiment Index
US	United States
USD	US dollar

2012

	Issue
Liquidity risk in the euro area money market and ECB operations (Soňa Benecká)	2012-1
The euro area bond market during the debt crisis (Tomáš Adam and Soňa Benecká)	2012-2
A macrofinancial view of asset price misalignment (Luboš Komárek)	2012-3
Property price misalignment around the world (Michal Hlaváček and Luboš Komárek)	2012-4
An overview of the world's most frequently used commodity indices (Jan Hošek)	2012-5
A look back at the IIF spring membership meeting (Filip Novotný)	2012-6
Annual assessment of the forecasts included in the GEO (Filip Novotný)	2012-7

2011

	Issue
International integration of the Chinese stock market (Jan Babecký, Luboš Komárek and Zlatuše Komárková)	2011-1
The link between the Brent crude oil price and the US dollar exchange rate (Filip Novotný)	2011-2
A look back at the IIF spring membership meeting (Jan Hošek)	2011-3
Monetary policy of the People's Bank of China (Soňa Benecká)	2011-4
Winners and losers of the economic crisis in the eyes of European investors (Alexis Derviz)	2011-5
How have global imbalances changed during the crisis? (Vladimír Žďárský)	2011-6
Assessment of the forecasts monitored in the GEO (Filip Novotný)	2011-7
Eurodollar markets (Narcisa Kadlčáková)	2011-8
Increased uncertainty in euro area financial markets (Tomáš Adam and Soňa Benecká)	2011-8
Monetary policy of the central bank of the Russian Federation (Oxana Babecká)	2011-9
Where to look for a safe haven currency (Soňa Benecká)	2011-9
A look back at the IIF annual membership meeting (Luboš Komárek)	2011-10
The widening spread between prices of North Sea Brent crude oil and US WTI crude oil (Jan Hošek and Filip Novotný)	2011-11
An empirical analysis of monetary policy transmission in the Russian Federation (Oxana Babecká)	2011-12