

GLOBAL ECONOMIC OUTLOOK - DECEMBER

Monetary Department
External Economic Relations Division

2018

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Cut-off date for data

14 December 2018

CF survey date

10 December 2018

GEO publication date

21 December 2018

Notes to charts

ECB and Fed: midpoint of the range of forecasts.

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

Leading indicators are taken from Bloomberg and Datastream.

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

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This year's final issue of Global Economic Outlook again 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 focus on the contemporary role of gold in central banks' reserves. As the article shows, many central banks still hold a large and probably above-optimal portion of their reserves in gold. However, we also demonstrate that, maybe paradoxically, gold reserves have also grown significantly over the last decade (due to several factors which may seem contradictory at first glance).

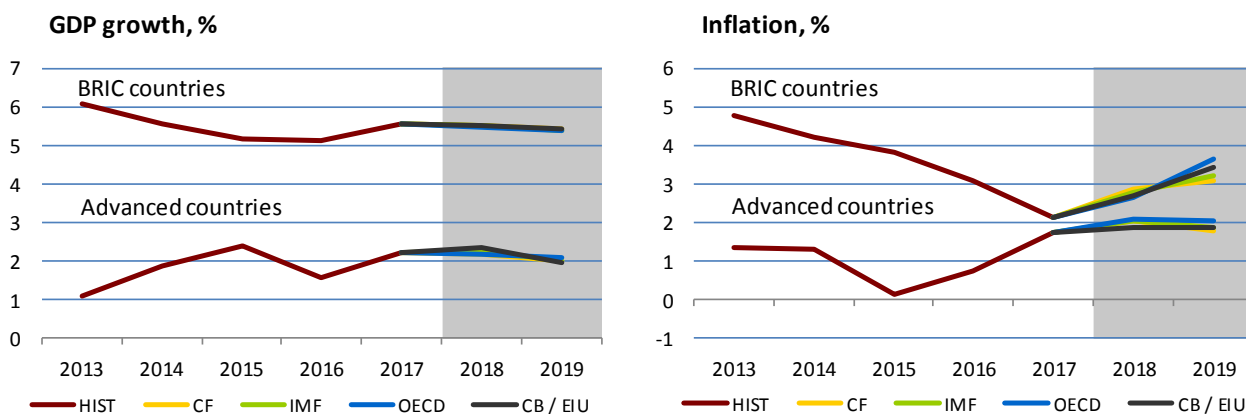
Economic developments in 2018 were influenced by global factors and continued normalisation of Federal Reserve monetary policy, which also traditionally affects the global economy very strongly. The global factors included negative sentiment on financial markets, explained mainly by decreasing growth of the Chinese economy and an escalation of trade disputes between the USA and China, persisting fears of a hard, unmanaged Brexit, concerns about fiscal sustainability in Italy and the recent Argentinian and Turkish crises. In addition, the ECB will end its net purchases under the APP (quantitative easing) programme at the end of the year. However, its monetary policy will remain very accommodative – policy rates will be left at their present levels until at least summer 2019 and principal payments from maturing assets will be reinvested for a much longer period of time.

In terms of economic growth, this year was less successful than 2017 for the advanced countries we monitor. The exception was the USA – the world's strongest economy – despite continued interest rate increases by the Federal Reserve. On the one hand, this year's economic growth figures for the euro area, Germany, the UK and Japan were lower than last year's, but on the other, advanced countries generally succeeded in steering inflation to the notional 2% ideal (Japan from below and the UK from above; inflation rates in the USA, the euro area and Germany were very close to, or at, the 2% level). The outlooks for 2019 currently indicate that the euro area and Germany will slow slightly further (in terms of both GDP growth and inflation), as will the USA and Japan (although Japan deserves praise for moving further away from the threat of deflation). It is still very difficult to predict what impact the final form of Brexit will have on the UK economy, the EU countries and the global economy.

For the BRIC countries, 2018 brought generally positive results. While the gradual and expected future decline in China's economic output continued, the already strong growth in India – the world's second most populous country – accelerated this year. Brazil's economic performance also improved and the Russian economy kept growing at similar levels to last year. Inflation in the BRIC countries is at "justifiable" levels. Inflation in China, and now also in India, is below the level consistent with the continued fast growth of their economies. According to outlooks, the trends observed in the BRIC countries this year will continue into 2019. Developments in China will be of greatest importance for the global economy.

As regards monetary policy, next year will be characterised by continued asynchronicity. While the ECB is expected to comment more specifically on when it is likely to start the interest rate normalisation phase, the Fed will probably slowly end this process. In the case of the USA, the Fed can be expected to raise interest rates further at its upcoming December meeting, whereas the ECB may not do so before summer 2019. According to the current CF outlook, the US dollar will weaken against all the monitored currencies except the renminbi and the rupee one year ahead. The outlook for the average Brent crude oil price in 2019 is around USD 60/bbl. Prices of non-energy commodities are expected to rise slightly over the coming 12 months, due mainly to expected growth in prices of some food commodities; the outlook for industrial metals prices is broadly flat.

GDP growth and inflation development and outlook in monitored countries

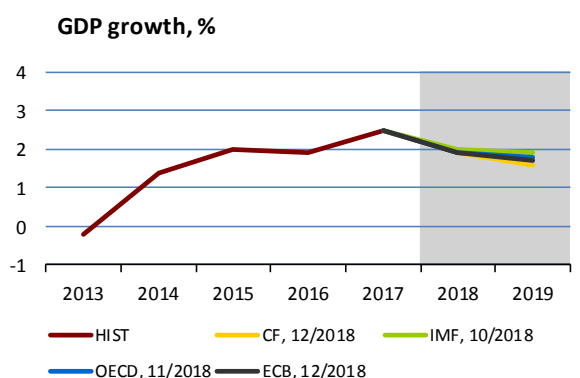


Note: The figures represent the weighted averages of historical series / outlooks in individual countries. The weights are based on nominal GDP measured in USD during 2013–2016 (source: EIU). Advanced countries: euro area, United States, United Kingdom, Japan. BRIC countries: China, India, Russia, Brazil.

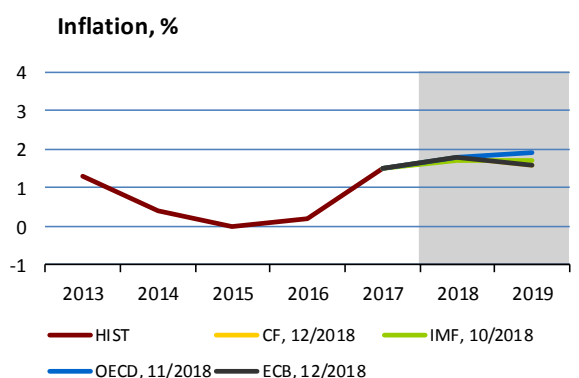
II.1 Euro area

The euro area economy slowed in Q3. In quarter-on-quarter terms, GDP growth moderated from 0.4% in the previous two quarters to 0.2% (in year-on-year terms the economy decelerated from 2.2% to 1.6%). The growth was still driven by domestic demand, while the contribution of net exports was negative, reflecting lower external demand. According to revised GDP estimates, both the German and Italian economies contracted in Q3. The modest growth in the euro area is expected also at the year-end. Most leading indicators decreased again, reflecting the high uncertainty related to trade disputes, the still unresolved public budget situation in Italy, the unclear final form of Brexit and protests in France. The considerable uncertainty and worse-than-expected growth are also reflected in the newly available outlooks. GDP in the euro area is expected to expand by 1.9% overall this year and to slow further in the next two years. For 2020, the new ECB forecast predicts growth of 1.7%, the same figure as in 2019, while the December CF expects a slowdown to 1.4% in 2020.

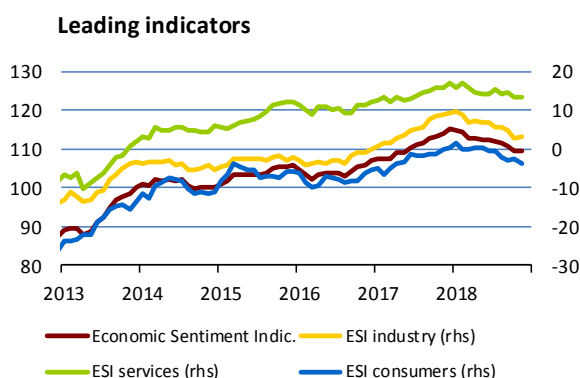
Headline inflation dropped from 2.2% to 2.0% in November due to lower contributions from energy prices and core components; core inflation fell to 1.0%. The newly available outlooks expect average inflation of 1.8% this year. Its level should decrease by around 0.2 pp next year as the high contribution of energy prices fades out. Core inflation will rise to just 1.3% according to CF. Long-term outlooks expect inflation to stay slightly below the ECB's target. The ECB's new forecast expects inflation of 1.7% in 2020 and 1.8% in 2021. CF predicts a slightly lower level in 2020. Despite the significant uncertainty and relatively subdued inflation, the ECB's Governing Council decided to end the Eurosystem's net asset purchases in December. At the same time, it stated that the principal payments from maturing securities will be reinvested for an extended period of time, even after the ECB raises its policy rates. The Council expects the rates to remain at their current levels at least through the summer of 2019.



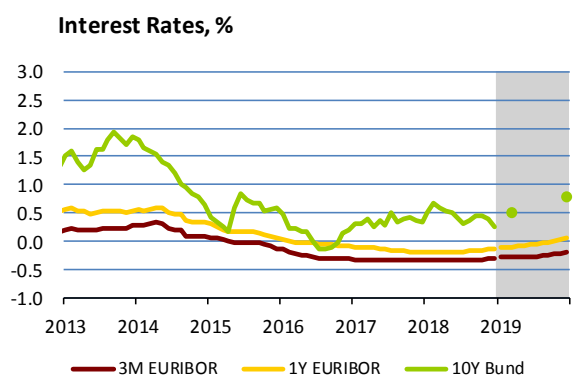
	CF	IMF	OECD	ECB
2018	1.9	2.0	1.9	1.9
2019	1.6	1.9	1.8	1.7



	CF	IMF	OECD	ECB
2018	1.8	1.7	1.8	1.8
2019	1.6	1.7	1.9	1.6



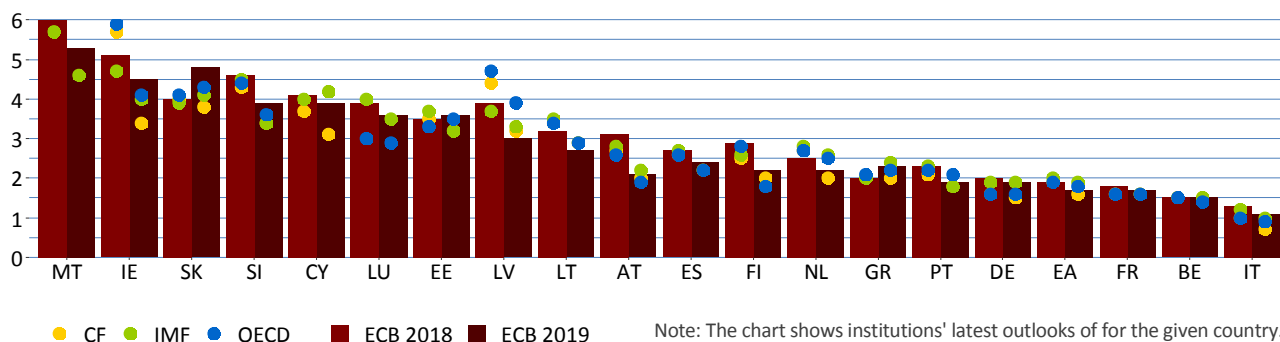
	ESI	industry	services	consumers
9/18	110.9	4.7	14.7	-2.9
10/18	109.7	3.0	13.3	-2.7
11/18	109.5	3.4	13.3	-3.9



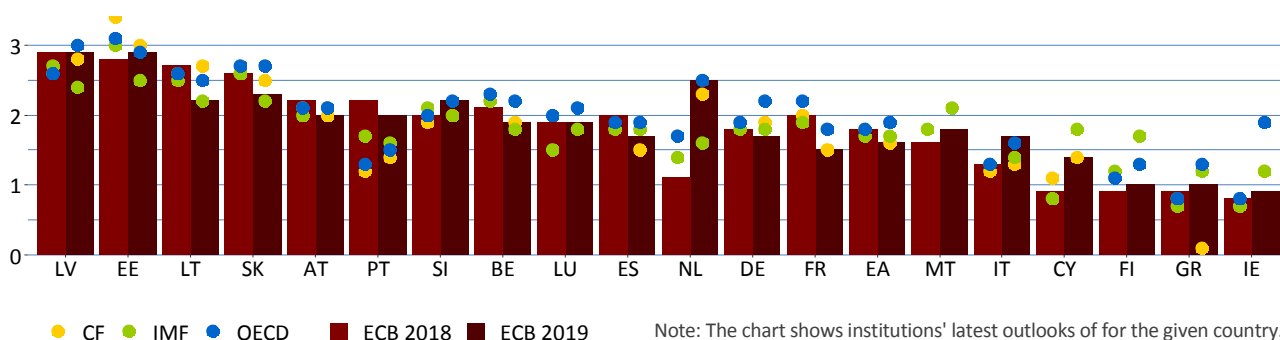
	11/18	12/18	03/19	12/19
3M EURIBOR	-0.32	-0.32	-0.29	-0.19
1Y EURIBOR	-0.15	-0.14	-0.10	0.05
10Y Bund	0.38	0.26	0.50	0.80

II. ECONOMIC OUTLOOK IN ADVANCED ECONOMIES

GDP growth outlooks in the euro area countries in 2018 and 2019, %

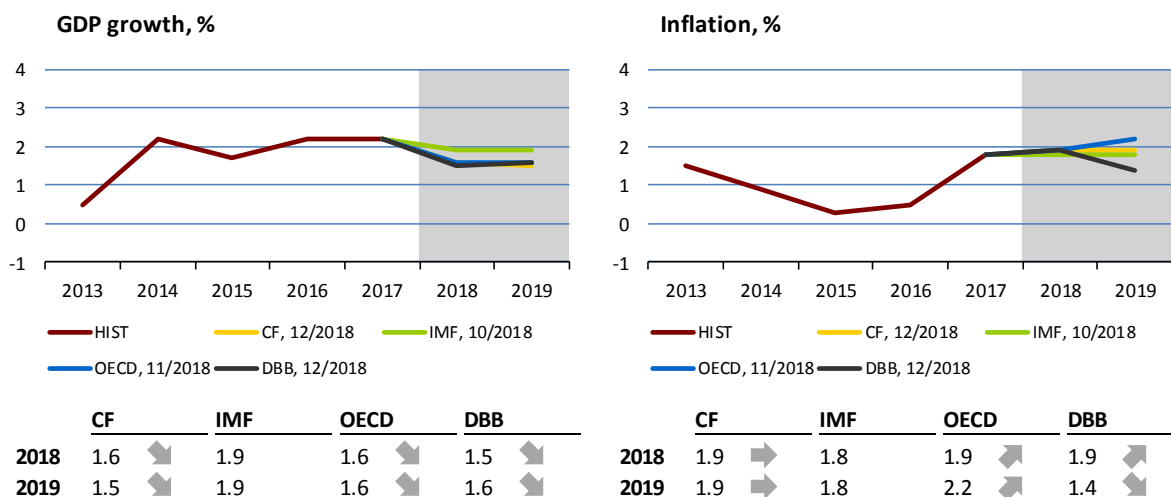


Inflation outlooks in the euro area countries in 2018 and 2019, %



II.2 Germany

The outlook for German economic growth this year and the next shifted lower in December. The quarter-on-quarter drop in German growth in Q3 was due mainly to temporary problems in the automotive industry (new emission tests), which led to a decline in car sales. Growth in German economic activity is expected to be renewed again in Q4 as these one-off factors in the car industry dissipate. However, the rate of recovery remains uncertain, as external demand is meanwhile falling, as reflected in worsening leading indicators in industry. The leading PMI indicator in manufacturing fell slightly further in December, but stayed in the expansion band. The outlook for consumer price inflation for both this year and the next is still being supported by strong domestic demand, reflecting a tighter labour market and higher wage growth. According to CF, it is unchanged, while the OECD expects higher inflation next year and the DBB's new forecast conversely predicts a slowdown.

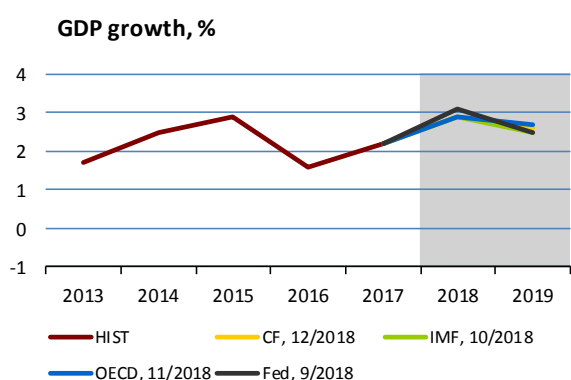


II.3 United States

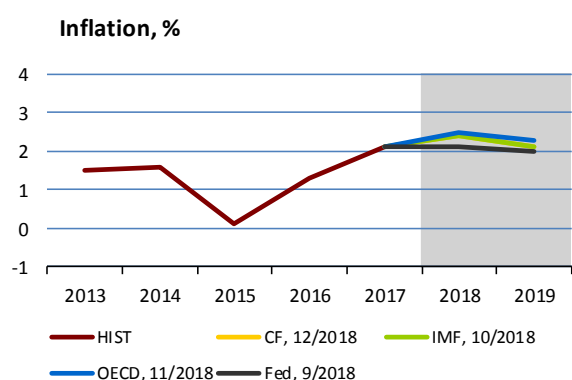
The second GDP growth estimate for Q3 was unchanged. Growth in consumer spending slowed (to 3.6% in quarter-on-quarter annualised terms), as did growth in exports, but the revision was offset by higher additions to inventories and spending by firms on equipment. However, the economy is expected to slow at the end of the year. The Atlanta Fed estimates GDP growth in the last quarter of 2018 at 2.4%. Even so, the Trump administration’s growth goal for this year (3%) may yet be achieved.

Strong domestic demand should continue to drive growth at the year-end. The labour market remains robust. Non-farm payrolls rose by 155,000 in November and the unemployment rate has been flat at 3.7% for three months now. Owing to higher mortgage rates, however, the housing market is beginning to cool and is showing the first signs of a price drop. Households’ expectations in the consumer confidence survey worsened slightly, as did the optimism of small firms. Capacity utilisation is also falling, while the industrial sector is being affected by tariffs imposed on trade with China. A temporary truce has been agreed, but no substantial progress in the negotiations can be expected until 2019. Headline inflation fell in November, while core inflation went up slightly. The year-on-year change in both price indices was 2.2% in November. The current economic situation is in line with the central bank’s expectations, so the target range for the federal funds rate is likely to be raised further at the December meeting. The monetary policy stance will significantly support the dollar against other currencies in the short run.

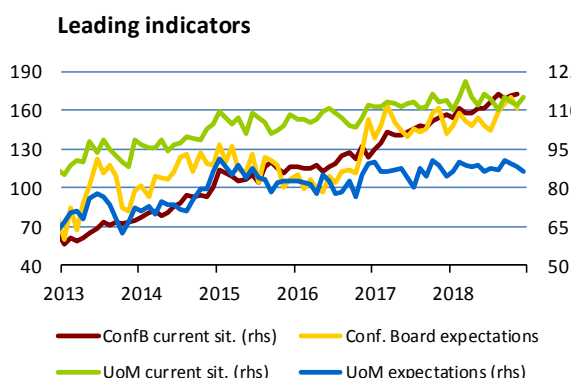
The economy will continue to slow in 2019 as the effect of the tax reform subsidies and the impacts of the stronger dollar and the trade disputes with China are felt fully. The December CF lowered its GDP growth outlook by 0.1 pp and its inflation outlook by 0.2 pp. The worse outlook for the US economy is fuelling speculation that the rate hike cycle will end in June 2019. Some statements by FOMC members indicate this, but the future course of monetary policy will not become clear until after the December meeting.



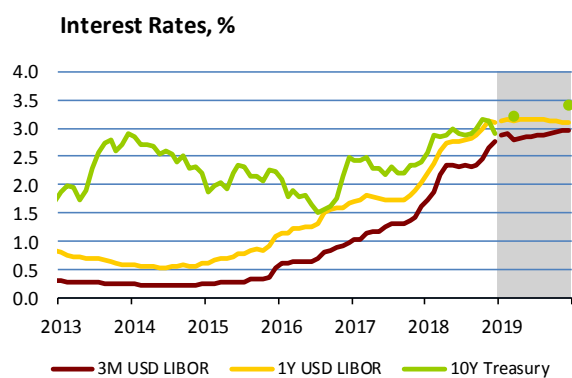
	CF	IMF	OECD	Fed
2018	2.9 →	2.9	2.9 →	3.1
2019	2.6 ↘	2.5	2.7 →	2.5



	CF	IMF	OECD	Fed
2018	2.4 ↘	2.4	2.5 ↘	2.1
2019	2.1 ↘	2.1	2.3 →	2.0



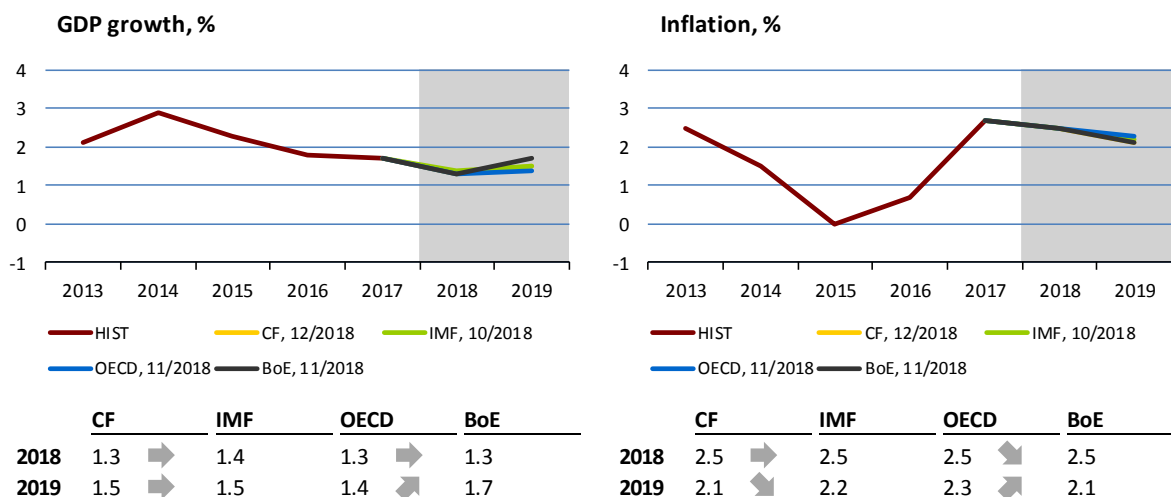
	ConfB curr.	ConfB exp.	UoM curr.	UoM exp.
10/18	171.9	115.1	113.1	89.3
11/18	172.7	111.0	112.3	88.1
12/18			115.2	86.1



	11/18	12/18	03/19	12/19
USD LIBOR 3M	2.65	2.76	2.79	2.96
USD LIBOR 1R	3.12	3.12	3.13	3.09
Treasury 10R	3.12	2.89	3.20	3.40

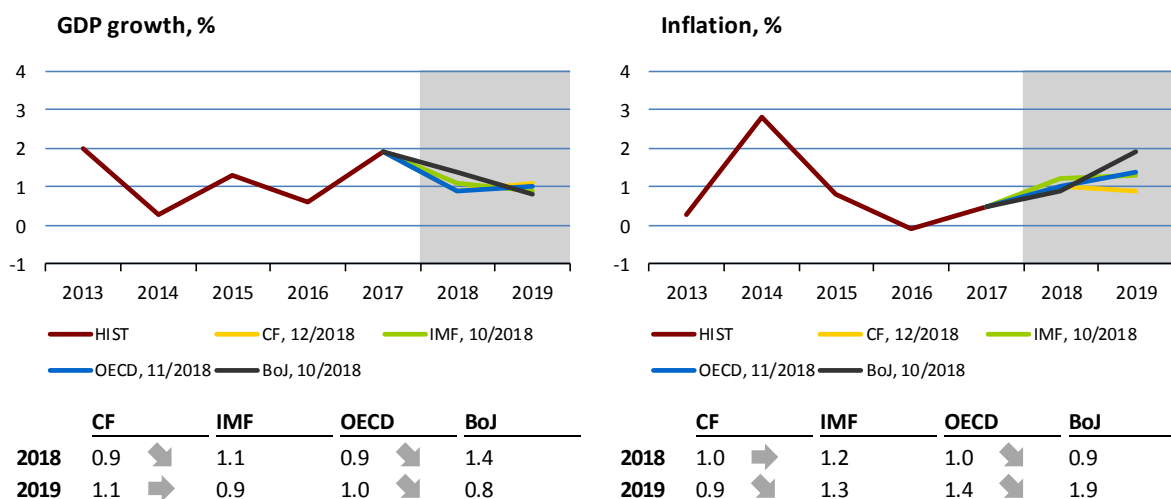
II.4 United Kingdom

Economic growth slowed from the temporarily higher rates seen in the summer. Three-month GDP growth fell from 0.6% in Q3 to 0.4% in October. According to a NIESR estimate, the growth dropped further to 0.3% in November. A figure of 0.4% is expected for Q4, broadly in line with the UK economy's current potential. The growth is being driven by services and construction, while industrial output is not performing very well. It switched to a year-on-year decline (of 0.8%) in October. However, the PMI in manufacturing rose to 53.1 in December on the back of modest growth in output and new orders. Client inventories are going up, probably due to the uncertainty around Brexit. This uncertainty caused the leading indicators for services to worsen. Consumer confidence kept falling in November. Inflation expectations simultaneously rose (to 3.2% one year ahead; for comparison, inflation was 2.4% in October). The weakening pound has an inflationary effect in the past month, while the slump in oil prices is anti-inflationary.



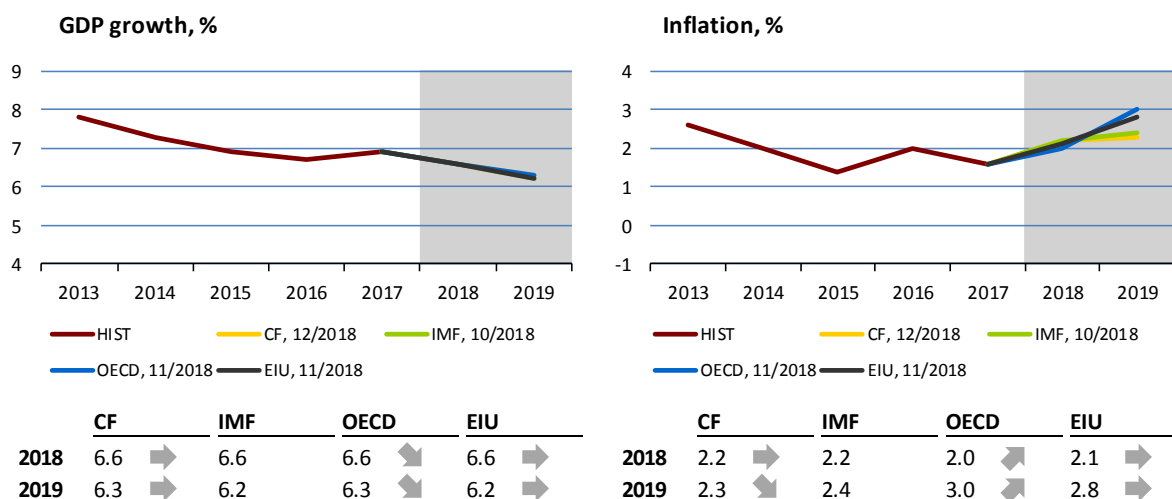
II.5 Japan

The Japanese economy shrank by 2.5% in Q3 in annualised terms (the preliminary estimate had indicated a contraction of just 1.2%). This is the worst result since mid-2014. Capital spending recorded the largest drop (of almost 11%). Private consumption expenditure and external demand also made negative contributions to the overall performance. CF and the OECD revised their GDP growth projections for this year to weaker levels (0.9%). However, short-term developments suggest an improvement (industrial production grew by 4.2% year on year in October after a previous fall, retail sales rose by 1.2% and the November PMIs are indicating clear expansion). The outlook for next year expects growth to accelerate by 0.1–0.2 pp. Economic growth will be boosted by the preparations for the 2020 Summer Olympic Games. On the other hand, natural disasters remain a risk factor for Japan.



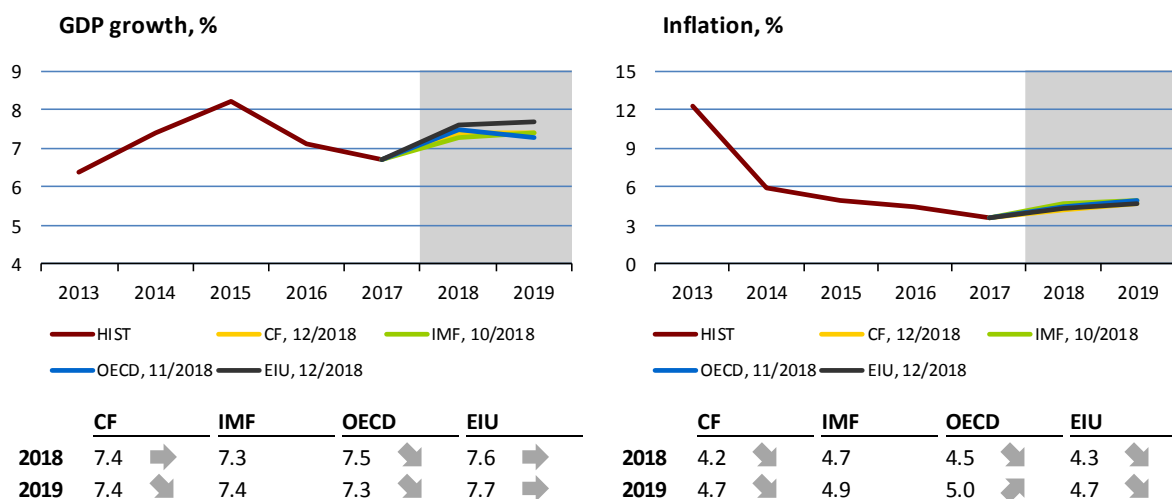
III.1 China

The Chinese authorities expect the growth target for this year (6.5%) to be achieved, despite signs of a slowdown in economic activity at the year-end. Year-on-year growth in industrial production fell to 5.4% in November, the lowest figure since February 2016. The leading PMI indicators suggest a drop in activity, especially outside manufacturing, but are still in the expansion band. Growth in retail sales and foreign trade also slowed sharply in November, mainly because of continued trade disputes with the USA. The two sides agreed on a 90-day truce in early December, but, given other conflicts at the political level, no immediate major turnaround in the talks is expected. The new CF contained no change in the GDP growth outlook either. The outlook for this year has been at 6.6% since October. However, the inflation forecast for 2019 was lowered slightly to 2.3%, whereas OECD raised its outlook for the same period to 3.0%.



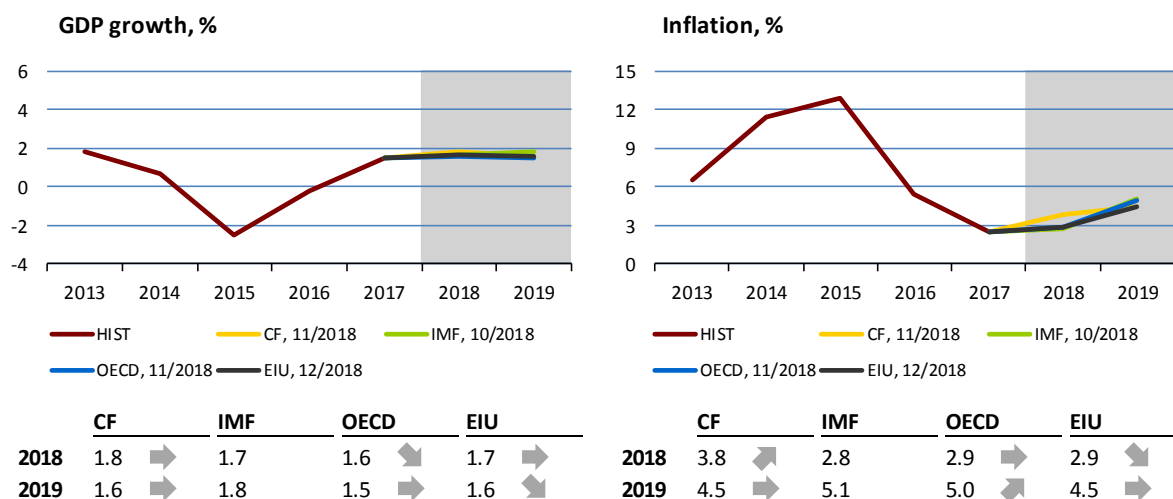
III.2 India

The Indian economy slowed in Q3. GDP rose by 7.1% year on year (as against 8.2% in Q2). This was due mainly to slower growth in private consumption. The message of the data for Q4 so far is mixed. Year-on-year growth in industrial production surged from 4.5% in September to 8.1% in October, and the leading indicators are suggesting further expansion (the PMI in manufacturing rose to 54). By contrast, the impact of the weak monsoon on agricultural output may hinder the economic recovery. Despite slowing inflation, the RBI left its rates unchanged and announced it would maintain the stance of calibrated tightening. Data released subsequently revealed that inflation fell significantly further in November (to 2.3%) and is thus approaching the lower boundary of the tolerance band around the medium-term target (4% ± 2%). The inflation outlooks were reduced. The central bank has been embroiled in a fierce dispute with the minister of finance in recent months, culminating in the resignation of the RBI governor in December.



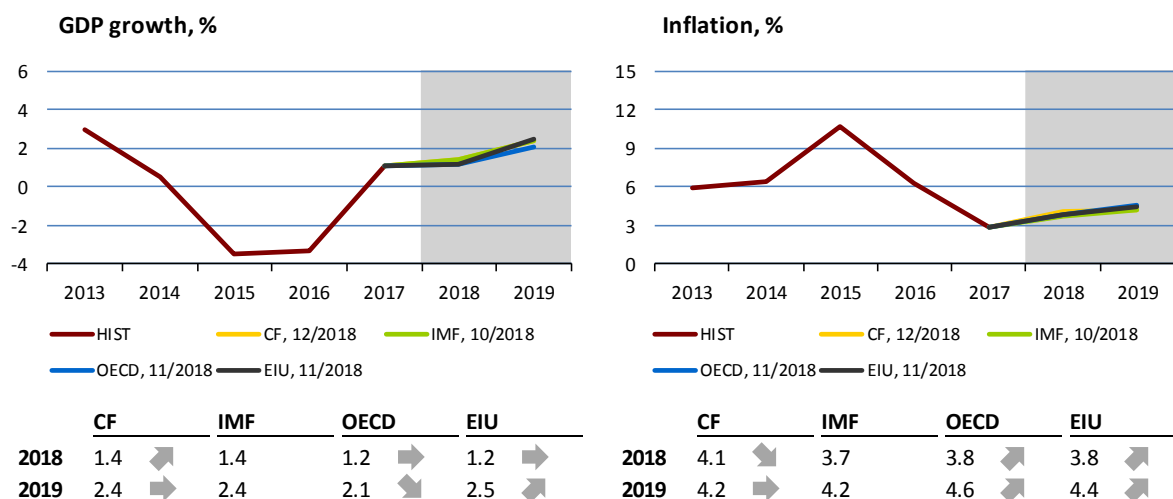
III.3 Russia

Annual GDP growth was 1.5% in Q3. This was higher than the preliminary estimate had indicated (1.3%), but lower than in the previous quarter (1.9%). Particularly strong year-on-year growth was recorded by mining (5.0%), hotel and restaurant services (5.6%) and insurance and financial services (9.7%). According to the November PMI indicators, the outlook for economic activity in manufacturing is rather more favourable than in the previous month, while that for services is slightly worse. However, both indicators remain in the economic expansion band (52.6 and 55.6 respectively). On the other hand, the EU's December extension of sanctions against Russia for another six months due to the escalation of the Russia-Ukraine conflict and Russia's failure to make progress in implementing the Minsk agreement represents a risk to future growth. Inflation increased to 3.8% year on year in November. The Russian central bank raised its monetary policy rate by 0.25 pp to 7.75% in mid-December.



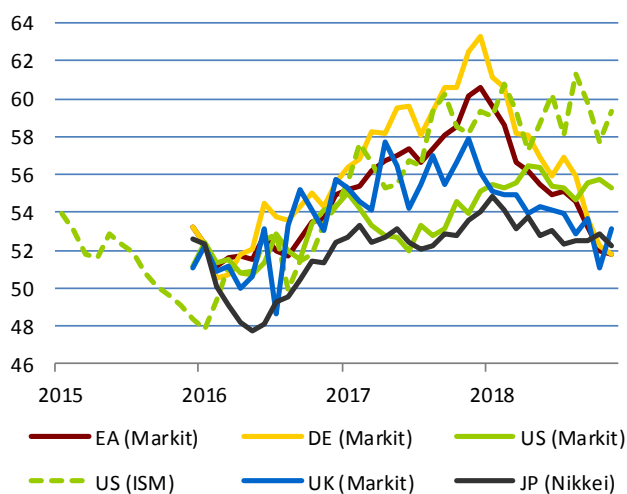
III.4 Brazil

The growth of the Brazilian economy improved to 1.3% in year-on-year terms in Q3 after a previous slowdown to 0.9%. The overall growth was driven by fixed investment, which rose at its highest rate in more than four years (7.8%), and by government consumption. The monitored institutions concur on GDP growth of 1.2%–1.4% this year. Next year, economic growth is expected to accelerate to roughly double that figure (2.1%–2.5%). The exchange rate of the real was volatile and has weakened further since the presidential elections at the end of October this year due to falling commodity prices and weak economic growth. Inflation slowed to 4% in November and was lower than expected. The December CF lowered its inflation outlook. By contrast, the OECD and EIU revised their outlooks towards higher consumer inflation rates. According to the new outlooks, inflation will accelerate slightly to 4.2%–4.6% next year.

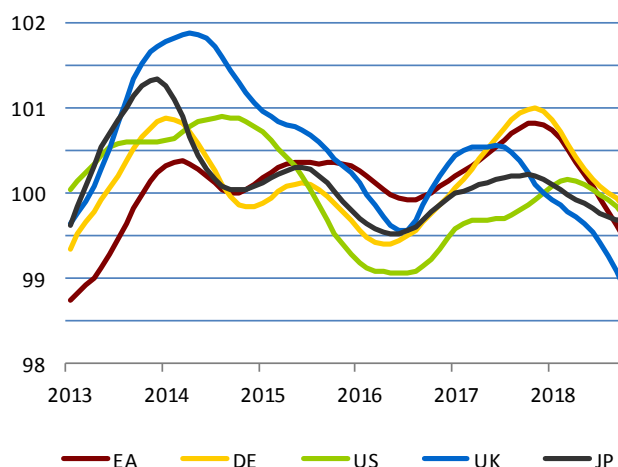


IV.1 Advanced economies

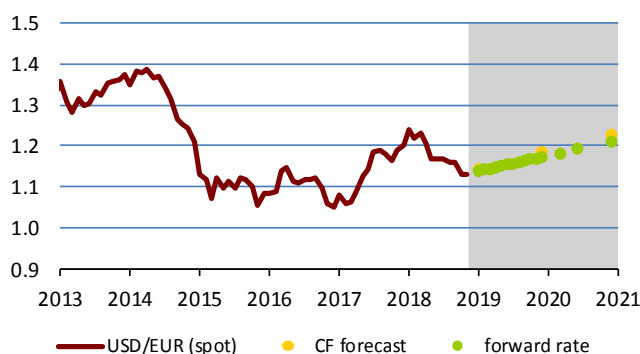
PMI in manufacturing



OECD Composite Leading Indicator

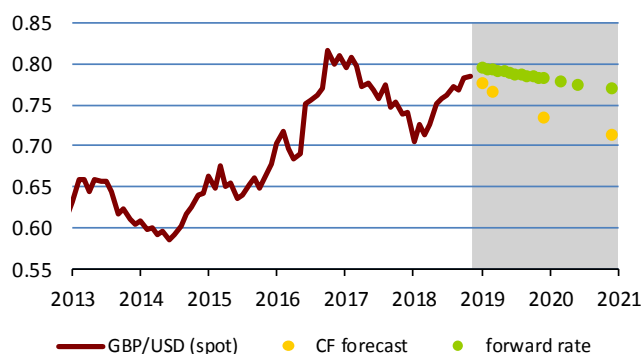


The US dollar (USD/EUR)



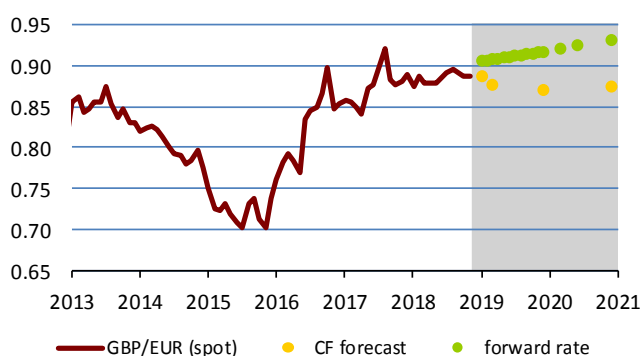
	10/12/18	01/19	03/19	12/19	12/20
spot rate	1.138				
CF forecast		1.143	1.145	1.186	1.225
forward rate		1.140	1.145	1.173	1.210

The British pound (GBP/USD)



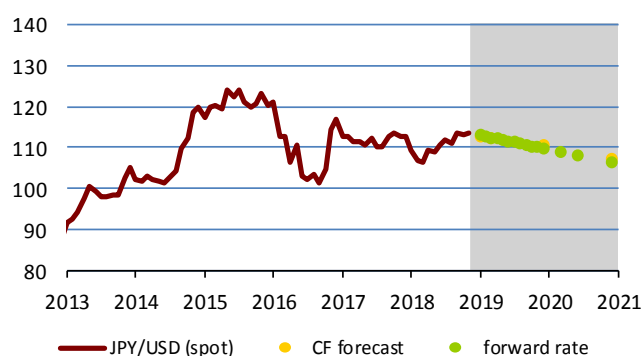
	10/12/18	01/19	03/19	12/19	12/20
spot rate	0.798				
CF forecast		0.776	0.765	0.734	0.714
forward rate		0.794	0.792	0.782	0.769

The British pound (GBP/EUR)



	10/12/18	01/19	03/19	12/19	12/20
spot rate	0.908				
CF forecast		0.887	0.876	0.871	0.874
forward rate		0.905	0.907	0.917	0.931

The Japanese yen (JPY/USD)

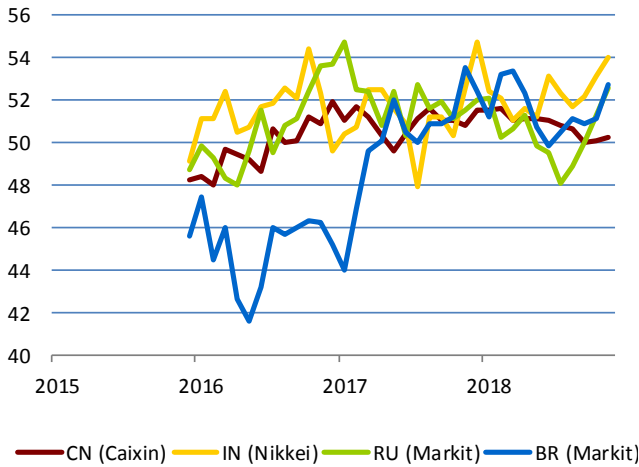


	10/12/18	01/19	03/19	12/19	12/20
spot rate	113.0				
CF forecast		112.5	112.2	110.6	107.2
forward rate		112.9	112.4	109.8	106.2

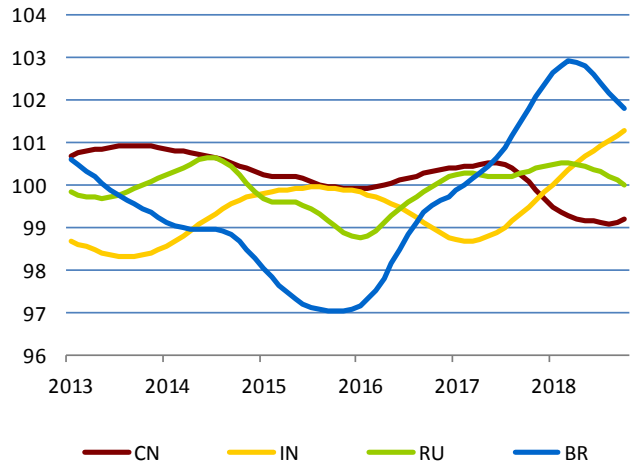
Note: Exchange rates as of last day of month. Forward rate does not represent outlook; it is based on covered interest parity, i.e. currency of country with higher interest rate is depreciating. Forward rate represents current (as of cut-off date) possibility of hedging future exchange rate.

IV.2 BRIC countries

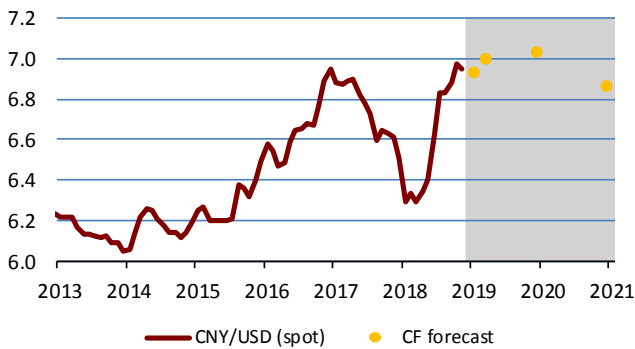
PMI in manufacturing



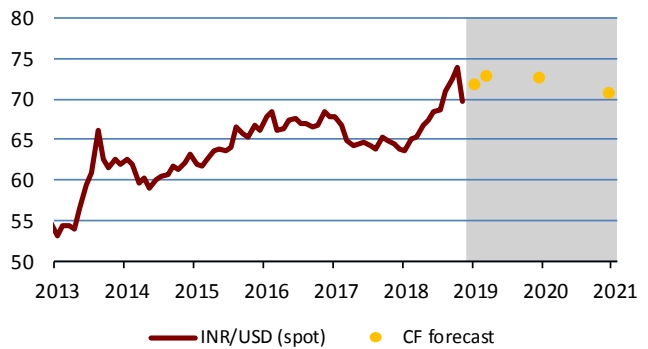
OECD Composite Leading Indicator



The Chinese renminbi (CNY/USD)



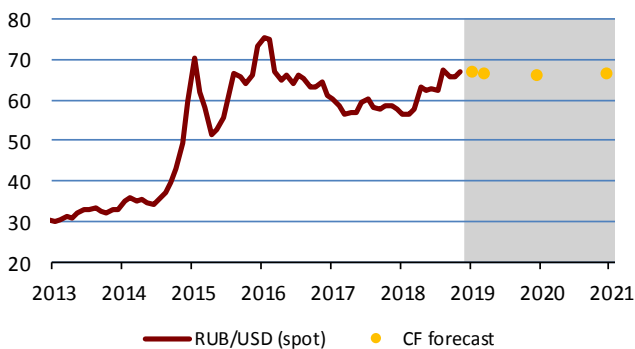
The Indian rupee (INR/USD)



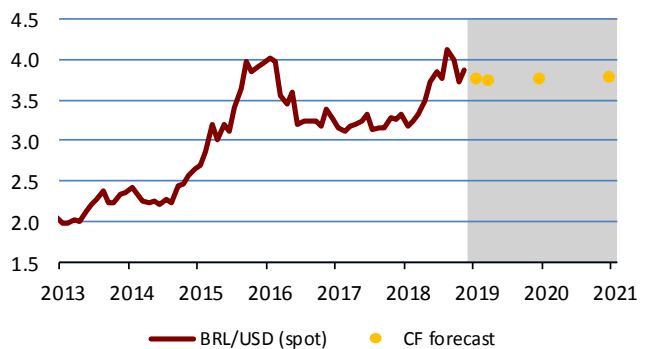
	10/12/18	01/19	03/19	12/19	12/20
spot rate	6.914				
CF forecast		6.927	6.994	7.030	6.867

	10/12/18	01/19	03/19	12/19	12/20
spot rate	71.40				
CF forecast		71.82	72.77	72.70	70.68

The Russian rouble (RUB/USD)



The Brazilian real (BRL/USD)



	10/12/18	01/19	03/19	12/19	12/20
spot rate	66.57				
CF forecast		67.03	66.72	65.94	66.71

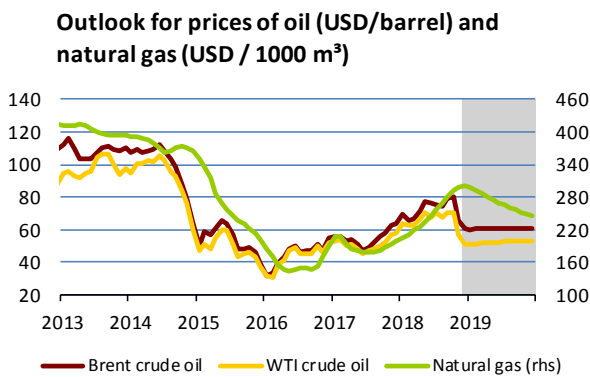
	10/12/18	01/19	03/19	12/19	12/20
spot rate	3.933				
CF forecast		3.757	3.737	3.76	3.791

Note: Exchange rates as of last day of month.

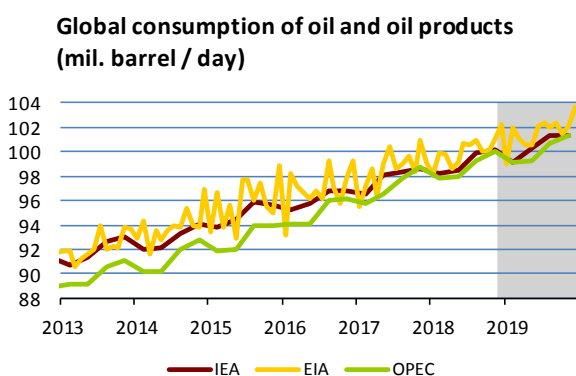
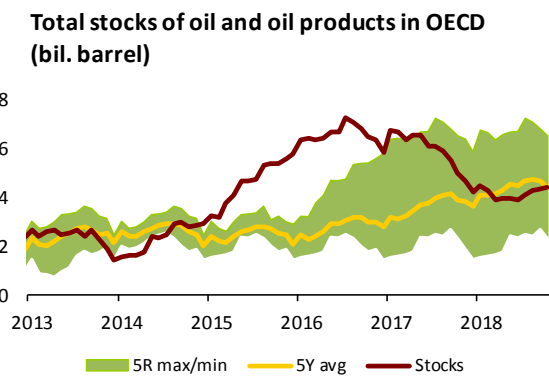
V.1 Oil and natural gas

The sharp drop in the Brent crude oil price from its four-year high of USD 85/bbl in early October halted in late November, when the price broke through USD 60/bbl. Traders then waited to see whether Russia and Saudi Arabia would agree on signalled output limits in talks at the Argentina G20 summit and the Vienna OPEC meeting. President Putin saw no immediate need to limit output and expressed his satisfaction with the current price, while OPEC was under strong pressure from the US president to keep output high. Despite this, the Vienna meeting produced a deal under which OPEC countries (except for Libya, Iran and Venezuela) will voluntarily curb output by 800,000 barrels and non-OPEC ones by 400,000 barrels a day relative to the October level. The cut will take effect in January for a period of six months. The market assessment of the deal was neutral and the Brent price stayed close to USD 60/bbl in mid-December. There are no concerns about oversupply at present, partly because of the decision of the Alberta government in Canada to administratively curb output there due to extremely low prices. Moreover, the IEA expects output in Venezuela and Iran to fall further in 2019 H1, which could lead to a drop in global stocks. By contrast, an OPEC report expresses the concern that the current output cuts by OPEC+ countries will no longer be sufficient at the end of 2019 given the strong growth in production expected in the USA.

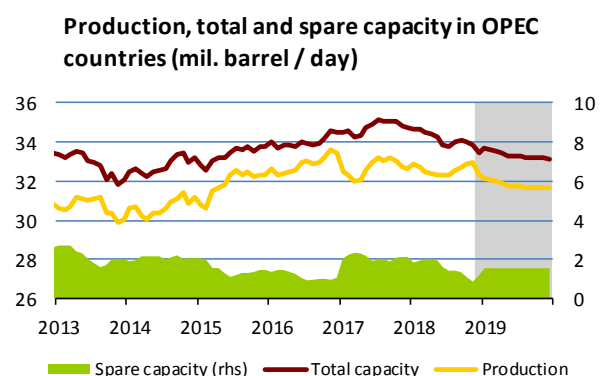
The market futures curve shifted down further. It was virtually horizontal in mid-December, signalling a Brent price close to USD 60/bbl for 2019 and 2020, similarly to the EIA forecast. A sharp slowdown of the global economy is the only downward risk. However, analysts mostly expect a gradual rise in oil prices, as lower oil prices should boost demand.



	Brent	WTI	Natural gas
2018	71.75 ↘	64.96 ↘	253.22 ↘
2019	60.43 ↘	52.22 ↘	269.03 ↘



	IEA	EIA	OPEC
2018	99.17 ↗	100.08 ↗	98.78 ↗
2019	100.56 ↗	101.61 ↗	100.07 ↗



	Production	Total capacity	Spare capacity
2018	32.57 ↗	34.11 ↗	1.54 ↘
2019	31.79 ↘	33.33 ↘	1.54 ↗

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

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

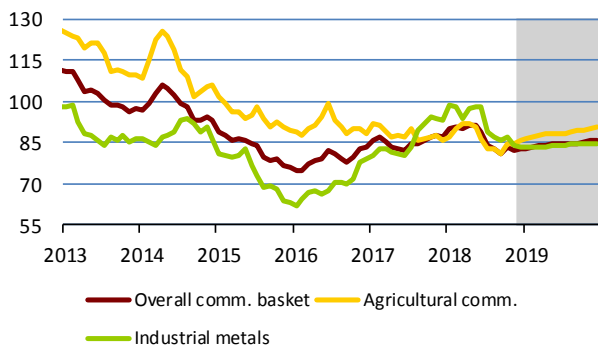
V.2 Other commodities

The aggregate non-energy commodity price index picked up slightly in October after a four-month decline and has broadly stabilised since then. The food commodity price sub-index followed a similar pattern. Its rising outlook is the biggest contributor to the expected growth in the aggregate index in the future. By contrast, the industrial commodity price sub-index continued to decline in November and the first half of December after a short hiatus in October, and was 15% below its May high.

The global slowdown in manufacturing activity is keeping basic metals prices low. The J.P.Morgan Global Manufacturing PMI fell again to another two-year low of 52.0 in November and its new exports component fell further into the contraction territory (49.8). However, the drop in metals prices in the last two months was due mainly to nickel, while prices of other metals were mostly flat, with talks between China and the USA at the Argentinian G20 summit generating modest optimism regarding their trade relations. The outlook for metals prices could also be supported by copper inventories. They are highly volatile on the LME and, according to estimates of the International Copper Study Group, the copper market showed a deficit of around 260,000 tones in the first eight months of this year. The iron ore price fell sharply in early December.

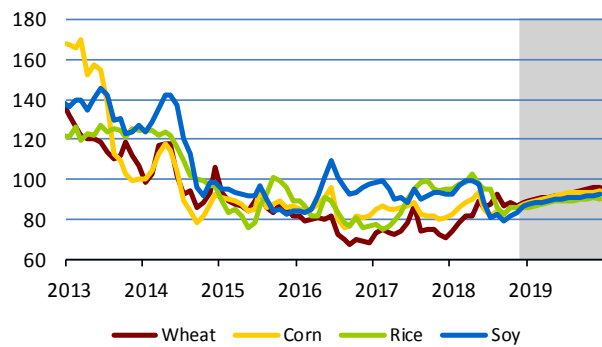
Grain prices have been mostly flat over the past month, with only the soy price recording a slight rise. The sugar price corrected slightly after strong growth in October, and coffee and cocoa prices showed a similar pattern. The price of pork was flat and the price of beef kept going up. Expected growth in grain and coffee prices is the main component of the rising outlook for the overall food commodity price index.

Non-energy commodities price indices



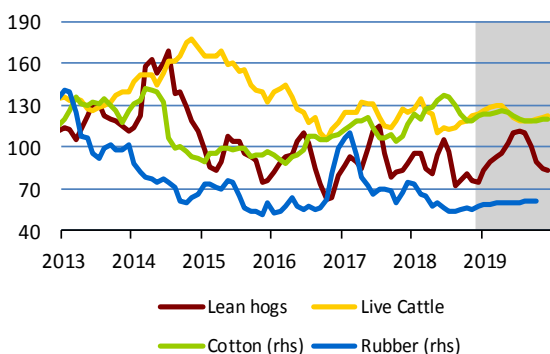
	Overall	Agricultural	Industrial
2018	86.5 ↗	86.7 ↘	91.7 ↗
2019	84.5 ↘	88.7 ↗	84.1 ↘

Food commodities



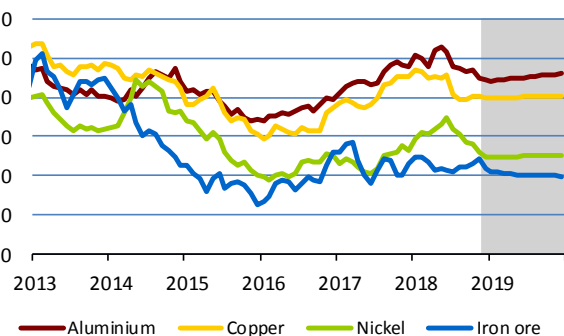
	Wheat	Corn	Rice	Soy
2018	85.2 ↘	86.1 ↘	92.3 ↗	89.1 ↗
2019	92.6 ↘	92.0 ↘	88.9 ↗	90.2 ↗

Meat, non-food agricultural commodities



	Lean hogs	Live Cattle	Cotton	Rubber
2018	86.1 ↘	120.6 ↗	87.8 ↗	42.9 ↗
2019	96.1 ↗	123.3 ↗	84.7 ↗	43.4 ↘

Basic metals and iron ore



	Aluminium	Copper	Nickel	Iron ore
2018	97.0 ↘	85.5 ↗	60.1 ↘	45.3 ↘
2019	90.2 ↘	80.2 ↗	49.9 ↘	40.6 ↘

Source: Bloomberg, CNB calculations.

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

The contemporary role of gold in central banks' reserves¹

Until the early 1970s, gold was the foundation of the international monetary system and hence played a central role in central banks' reserves. Its monetary policy importance diminished significantly after the fixed convertibility of the dollar into gold was ended. Central banks of developed economies have gradually reduced their gold holdings in subsequent decades, but many of them still hold a large and probably above-optimal portion of their reserves in gold. Paradoxically, gold reserves have been growing over the last decade, due mainly to reserve diversification. During the financial crisis, gold was bought by central banks not only of emerging and developing countries, but also of developed nations.

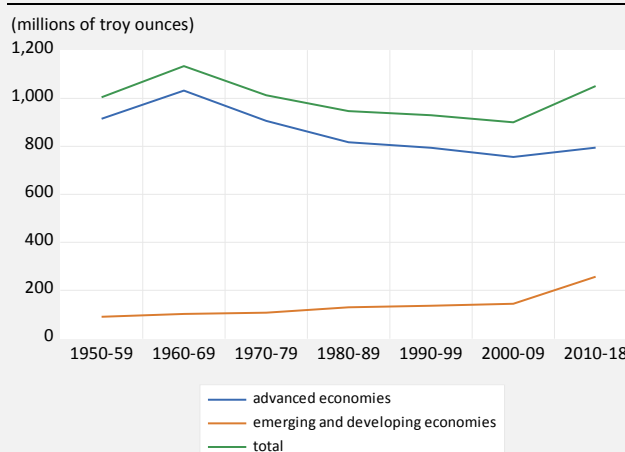
Gold in central banks' reserves

Gold has been part of central banks' reserves since the first such institutions were established back in the 17th century. Gold was initially used in a system of bimetallic standards, usually based on two precious metals – silver and gold – at a fixed ratio, and later mainly in purely monometallic – gold – standards, which were used until World War I. The latter were restored in slightly modified form² after the war. However, the gold standard was abandoned between the wars due to the Great Depression of the late 1920s and early 1930s, and central banks reduced their gold holdings (Bott, 2013; Bryan, 2010).

After World War II, the Bretton Woods agreements restored the role of gold in the international monetary system to some extent, but the US dollar (USD) played the leading role in the system until 1971. The post-war monetary arrangement was enacted in the Articles of Agreement of the International Monetary Fund (IMF), which summarised the main principles of the system. The IMF, which was formed of countries' deposits (in gold and foreign exchange), was put in charge of the entire system. The system was based on a fixed exchange rate of gold against the dollar (at USD 35 per troy ounce). Only the dollar was pegged directly to gold; other currencies were pegged to the dollar and through it indirectly to gold.³ This led to renewed growth in the gold reserves of central banks, especially of those of IMF member countries. The prominent position of the USA meant that the system was rather asymmetrical, but it functioned well during the post-war reconstruction years. However, as the global economy started to flourish and international trade surged, powers remained asymmetrically distributed only in the monetary arrangement. As time went on, other problems began to arise,⁴ problems which ultimately led to the abolition of the dollar's convertibility into gold in August 1971 (IMF, 2018; Bott, 2013; Butler, 2012; Nathan, 2011).

Gold retained an important position in the structure of most central banks' reserves even after its fixed convertibility into the dollar was abolished, although banks reduced their gold holdings. After this milestone, the central banks of developed countries – especially those with reserve currencies – started gradually to sell off their reserves. The rate of decrease was higher in the 1970s and then tapered off until the start of the financial crisis (see Chart 1). However, the decreases in gold reserves differed across countries. The Federal Reserve, for example, has reduced its gold holdings by only around 10% between the start of the 1970s and the present. This is not a particularly large decrease relative to other central banks in developed countries. The Swiss central bank now has less than half as much gold in its reserves than it did in the early 1970s. Central banks of emerging and developing economies, by contrast, have gradually raised the share of gold in their reserves since the abolition of the

Chart 1 – Gold holdings in central banks of developed economies and emerging and developing economies



Source: Thomson Datastream.

Note: Averages for individual decades from 1950 until 2018.

¹ Authors: Iveta Polášková and Luboš Komárek. The views expressed in this article are those of the authors and do not necessarily reflect the official position of the Czech National Bank.

² Three modified gold standards were established – a gold bullion standard, a gold exchange standard and a gold reserve standard.

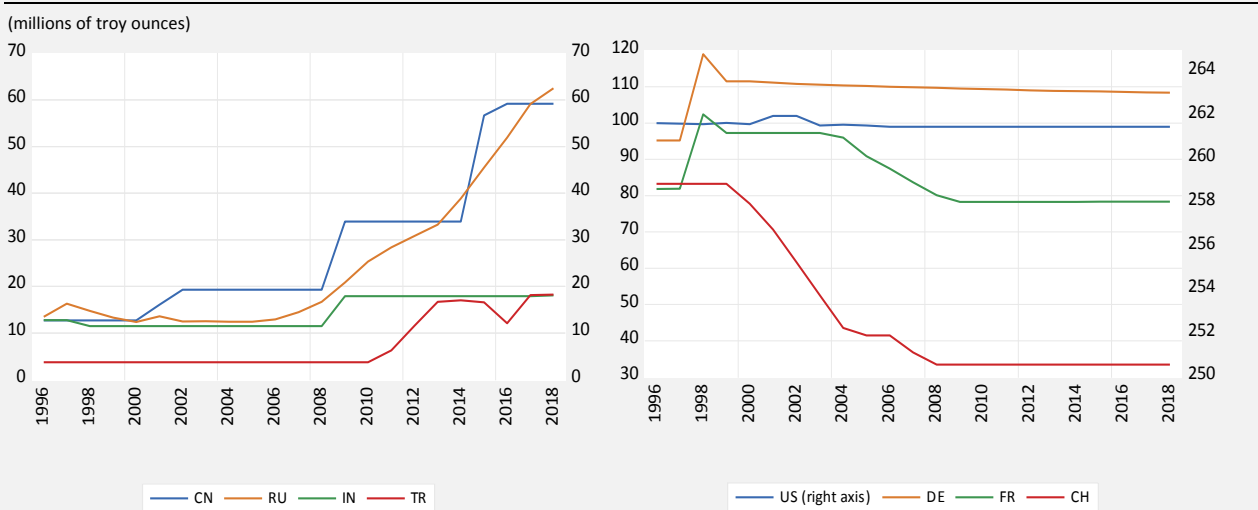
³ Moreover, countries were obliged to maintain the set exchange rates with central bank interventions. If an exchange rate deviated from the long-term parity for an extended period, it was officially revalued or devalued subject to IMF approval.

⁴ In the 1960s, the USA started to have problems complying with the rules (due to misconfigured monetary and fiscal policies). In addition, some countries wanted to repatriate their gold reserves and also exchange their dollars holdings for gold. The problems can be summed up as follows: liquidity shortages, a gradual loss of confidence, ineffective balance sheet adjustment, growing dollar reserves in other countries and depreciation pressure on the dollar.

fixed convertibility of gold into the dollar. This rate of growth has increased significantly in the post-Lehman period. Until 2009, central banks were net sellers of gold. The situation then reversed, mainly because of an increase in gold purchases by emerging and developing countries. However, even the central banks of developed countries have increased the amount of gold in their reserves over the last decade (see Chart 1; World Gold Council, 2018d).

The stabilisation of gold price has been supported by the Central Bank Gold Agreement (CBGA). In the late 1990s, several major central banks made “uncoordinated” sell-offs of gold from their reserves, which affected the gold price and its volatility. To minimise these phenomena, the CBGA was initiated and then signed in 1999. It caps the amount of gold that signatory central banks⁵ can sell and is revised every five years. Its main benefits are enhanced stability of the gold market and greater transparency of gold sales, which prevents sharp price swings. Among other things, it also expresses a consensus that gold is an important part of the reserves (World Gold Council, 2018a).

Chart 2 – Gold holdings in selected central banks



Source: Thomson DataStream.

Note: US – USA (right-hand scale); DE – Germany; FR – France; CH – Switzerland; CN – China; RU – Russia; IN – India; TR – Turkey; period 1996–2018.

Since the start of the new millennium, however, the tendencies in gold holdings have been mixed. Many central banks have continued to sell gold (in accordance with the CBGA), evidently believing that their gold positions are above the optimal level. Examples include the central banks of Switzerland, the Netherlands and Portugal. The German central bank also regularly sells gold. The Canadian central bank, for example, has held no gold whatsoever since 2016.⁶ The case is similar with the Norwegian and Armenian central banks (World Gold Council, 2018d). However, gold sell-offs can also reflect serious economic problems. One example is Venezuela, where the central bank has sold off gold to safeguard the basic needs of the Venezuelan population.⁷ By contrast, the central banks of emerging and developing countries, especially China, Russia,⁸ Turkey⁹ and Kazakhstan, have increased their gold reserves the most over the past decade. Central banks in the Central European region – specifically those of Hungary and Poland – have also now started to buy gold into their reserves¹⁰ (World Gold Council, 2018b).

The current quantities of gold in central banks’ reserves are primarily a result of historical factors. Not surprisingly, then, the US central bank has the largest gold reserve (see Chart 2). This is due to the USA’s position in the global economy and in particular is a vestige of the post-war monetary system. The current – probably still above optimal – amounts of gold in the reserves of other central banks in

⁵ These central banks hold around 45% of gold in their reserves. They are mostly central banks of European countries.

⁶ However, the Canadian central bank has started to invest in other forms of gold, specifically gold ETFs.

⁷ However, the share of gold in Venezuela’s reserves is high despite the reduction in gold reserves. The Venezuelan government wants to use gold in addition to oil to cover the national digital currency due to the sizeable reserves of this metal it has on its territory (World Gold Council, 2018d; Reuters, 2017).

⁸ Russia and China currently have the sixth and seventh largest gold reserves respectively (World Gold Council, 2018d).

⁹ The gold reserves of the Turkish central bank have been increased regularly over the past two decades. The exception was 2016, when a military coup was attempted and the amount of gold in the Turkish central bank’s reserves decreased. However, the gold reserves were increased again soon after.

¹⁰ These central banks started to increase their gold reserves in the second half of 2018, when Poland bought 13.7 tonnes and Hungary 28.4 tonnes of gold (World Gold Council, 2018b).

developed countries (such as Germany, France, Italy and Japan) is likewise also a legacy of the gold standard and fixed dollar-gold convertibility.

The IMF, whose reserves were formed under the Bretton Woods monetary system, is also a major holder of reserve gold. Gold was incorporated into the IMF's reserves in 1948 and its amount in the reserves has steadily increased, due, for example, to the fact that member countries have to pay part of their quotas in gold and may use gold to repay credit from the IMF. Since 1978, however, gold has played no official role in the international monetary system or the IMF (IMF, 2018). Although the IMF has sold part of its gold reserves,¹¹ it still holds the third-largest quantity of reserve gold by comparison with central banks (Stoeflerle and Valek, 2018; World Gold Council, 2018a; World Gold Council, 2018b; World Gold Council, 2018d; IMF, 2018; Mitchell, 2013; Speck, 2013).

The increasing amount of gold in central banks' reserves probably reflects efforts to diversify risks, but it may also indicate new processes in the international monetary system. Calls for a reform of the international monetary system have begun to be made since the global financial crisis.¹² The main players in this respect are developing countries, in particular China and Russia, which would like to tie the system to gold again. These efforts remain at an early stage, but the steps taken by the central banks of these countries to increase their gold reserves are sending clear signals in this regard. The gold reserves of the Chinese central bank have more than trebled and those of the Russian central bank have quadrupled over the past ten years. Both central banks, which are continuing to buy gold, are trying to back their currencies with gold and thereby disrupt the position of the US dollar in the global economy and change the international monetary system. The first country to attempt to put these aspirations into practice was Russia, which in 2013 introduced a global dollar convertible into gold at a fixed rate (of one global dollar per one kilogramme of gold). It did this when the Russian central bank's reserves had reached a sufficient level to make the new currency credible enough. Although this step was a failure, it spearheaded further efforts. China followed up in 2015 by establishing the Shanghai Cooperation Organisation, which was later expanded to include a gold investment fund for central banks. This fund supports trade in gold and facilitates access to gold for the central banks of the countries involved in the project (Stoeflerle and Valek, 2018; World Gold Council, 2018c; Farhi and Maggiori, 2016; Stoeflerle and Valek, 2015; Mitchell, 2013; World Gold Council, 2013; Butler, 2012).

By contrast, the share of gold in international reserves, which depends on the size of the total reserves and the price of gold on world markets, is relatively stable in most countries. However, this does not apply universally. On the contrary, this ratio is quite variable in some countries, reflecting economic instability (see, for example, the case of Venezuela above) and related unconventional monetary policy actions taken by central banks. Gold reserves account for more than 60% of total international reserves (based on the gold price at the end of June 2018) in the central banks of the USA, Germany, the Netherlands, Italy, Venezuela, Greece, France, Portugal and Cyprus (World Gold Council, 2018d).

Conclusion

Gold has not formed the basis of the international monetary system for several decades now, but it is still an important part of central banks' reserves. Gold was the foundation of the international monetary system for centuries. However, this changed in the 1970s, when it was stripped of this role. It remained part of the reserves, but only had a reserve diversification function. After 2009, reform of the international monetary system began to be debated and gold started to be talked about again in this context. Some emerging economies – such as Russia and China – see gold as an opportunity to break the dominance of the US dollar. It is therefore possible (although highly unlikely in our view, given the previous unsuccessful initiatives in this area) that the future international monetary system will again be firmly tied to gold. The advocates of this idea are proposing the establishment of a multi-currency system in which several reserve currencies, including one backed by gold in some way, would play the leading role. Another aspect of gold's minor "renaissance" is the emergence gold-backed cryptoassets (such as Aurus, Darico, GoldCrypto and Xgold). These cryptocurrencies are trying to offer potential investors gold coverage and convertibility into gold (or some other precious commodity), as is familiar from the history of the gold standard.¹³ Finally, and interestingly, some central banks of developed countries (such as Germany, Austria and the Netherlands) have recently repatriated their gold reserves.

¹¹ Part of the gold was sold immediately after the gold window closed in the early 1970s. In 2009, the IMF was allowed to sell one-eighth of its gold holdings under international gold agreements. Gold was sold not only to central banks (India, Mauritius, Bangladesh and Sri Lanka), but also on the market (IMF, 2018; World Gold Council, 2018a).

¹² A shift away from a dollar system, where the US dollar plays the central role, to a multi-currency system is apparent (Stoeflerle and Valek, 2018; World Gold Council, 2018c; Farhi and Maggiori, 2016).

¹³ The traditional gold standard was based on official guarantees of convertibility provided by a sovereign state and derived its credibility from that country's reputation. The same principle is applied by the creators of gold-backed cryptoassets (for example renowned companies with significant positions on the gold market such as the Royal Mint and the Perth Mint), whose risk of failure to honour convertibility obligations is negligible (see Derviz, 2018).

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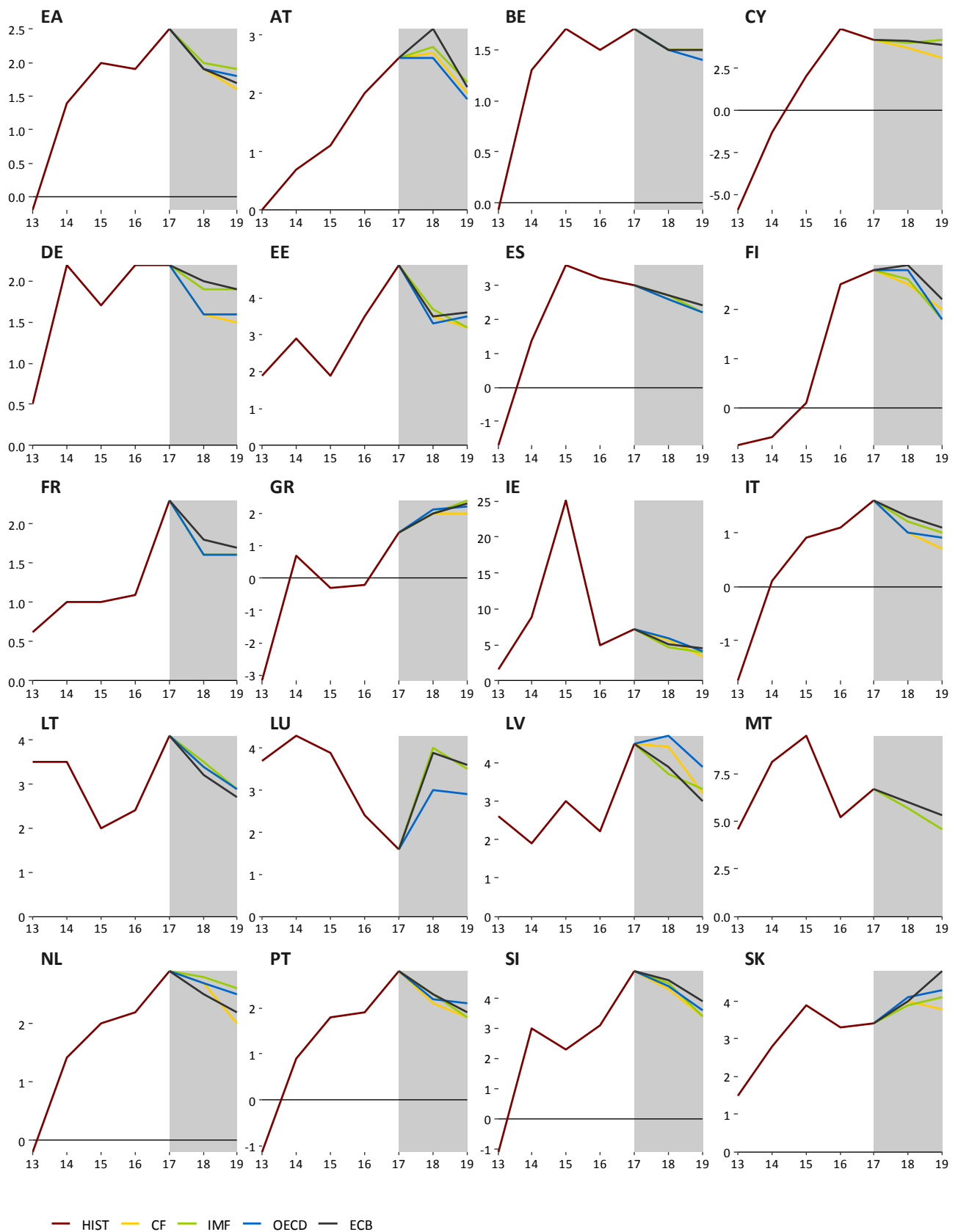
A1. Change in GDP predictions for 2018

	CF		IMF		OECD		CB / EIU	
EA	-0.1	2018/12	-0.2	2018/10	-0.1	2018/11	-0.1	2018/12
		2018/11				2018/7		
DE	-0.2	2018/12	-0.3	2018/10	-0.3	2018/11	-0.5	2018/12
		2018/11				2018/7		
US	0	2018/12	0	2018/10	0	2018/11	+0.3	2018/9
		2018/11				2018/7		
UK	0	2018/12	0	2018/10	0	2018/11	-0.1	2018/11
		2018/11				2018/7		
JP	-0.1	2018/12	+0.1	2018/10	-0.3	2018/11	-0.1	2018/10
		2018/11				2018/7		
CN	0	2018/12	0	2018/10	-0.1	2018/11	0	2018/11
		2018/11				2018/7		
IN	0	2018/12	0	2018/10	-0.1	2018/11	0	2018/12
		2018/11				2018/7		
RU	0	2018/11	0	2018/10	-0.2	2018/11	0	2018/12
		2018/10				2018/7		
BR	+0.1	2018/12	-0.4	2018/10	0	2018/11	0	2018/11
		2018/11				2018/7		

A2. Change in inflation predictions for 2018

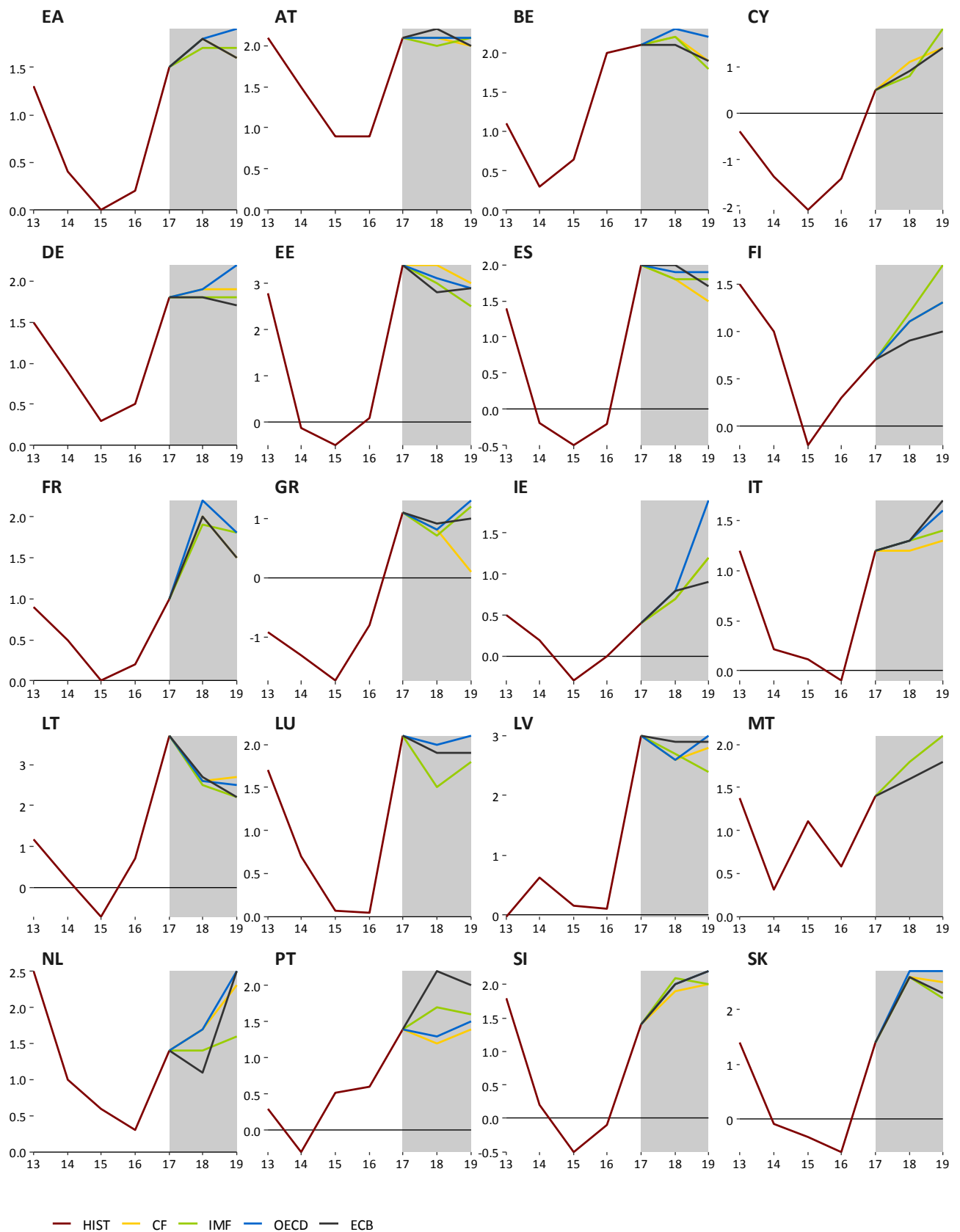
	CF		IMF		OECD		CB / EIU	
EA	0	2018/12	+0.2	2018/10	+0.2	2018/11	+0.1	2018/12
		2018/11				2018/4		
DE	0	2018/12	+0.2	2018/10	+0.2	2018/11	+0.1	2018/12
		2018/11				2018/4		
US	-0.1	2018/12	-0.1	2018/10	-0.2	2018/11	0	2018/9
		2018/11				2018/4		
UK	0	2018/12	-0.2	2018/10	-0.1	2018/11	+0.2	2018/11
		2018/11				2018/4		
JP	0	2018/12	+0.1	2018/10	-0.2	2018/11	-0.2	2018/10
		2018/11				2018/4		
CN	0	2018/12	-0.3	2018/10	+0.1	2018/11	0	2018/11
		2018/11				2018/4		
IN	-0.3	2018/12	-0.3	2018/10	-0.2	2018/11	-0.2	2018/12
		2018/11				2018/4		
RU	+0.1	2018/11	0	2018/10	0	2018/11	-0.2	2018/12
		2018/10				2018/4		
BR	-0.2	2018/12	+0.2	2018/10	+0.4	2018/11	+0.1	2018/11
		2018/11				2018/4		

A3. GDP growth in the euro area countries



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

A4. Inflation in the euro area countries



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

A5. List of abbreviations

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

