GLOBAL ECONOMIC OUTLOOK - JANUARY

2019

Monetary Department
External Economic Relations Division

CNB CZECH NATIONAL BANK

Cut-off date for data
18 January 2019

CF survey date
14 January 2019

GEO publication date
25 January 2019

Notes to charts

ECB and Fed: midpoint of the range of forecasts.
The arrows in the GDP and inflation outlooks indicate the direction of revisions compared to the last GEO. If no arrow is shown, no new forecast is available. Asterisks indicate first published forecasts for given year. Historical data are taken from CF, with exception of MT and LU, for which they come from EIU.
Leading indicators are taken from Bloomberg and Datastream.
Forecasts for EURIBOR and LIBOR rates are based on implied rates from interbank market yield curve (FRA rates are used from 4M to 15M and adjusted IRS rates for longer horizons). Forecasts for German and US government bond yields (10Y Bund and 10Y Treasury) are taken from CF.

Authors

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The world economy will neither positively surprise nor disappoint at the close of this decade. Global economic growth should be broadly consistent with the average over the last ten years. As before, China will be the biggest contributor to global growth (though with a persisting risk of a sharper slowdown), followed by roughly equal contributions from the strongest global economy, namely the USA, and the euro area – see the chart below.

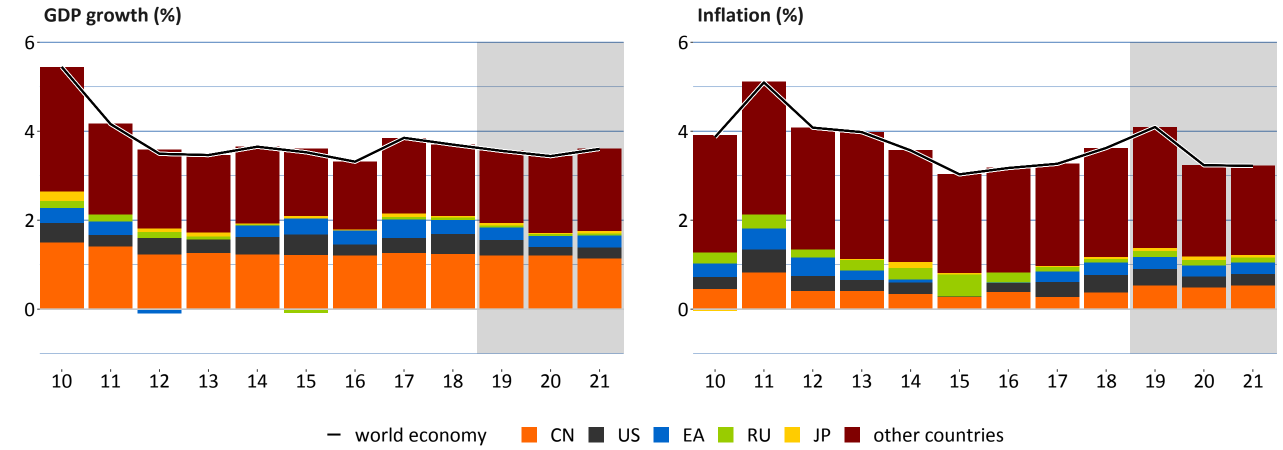
The global growth slowdown that started in 2018 will persist until the end of 2020. There are several reasons for this outlook, two of which can be regarded as dominant. The first reflects the continued process of interest rate normalisation in the global economy, especially in the USA, as the Fed indirectly affects the monetary conditions outside its territory with varying intensity. According to the latest information, however, the rate of increase of interest rates by the Fed may be significantly more cautious over the outlook horizon given the worsening outlook for the US economy. However, this is also not good news for the global economy. That said, a slower process of interest rate normalisation might make things easier for developing and emerging economies, whose debt is denominated in US dollars. The other dominant reason for the slowing global growth is the general persisting uncertainty caused by increased barriers to global trade. This uncertainty was further heightened on 15 January 2019 by the decision of British MPs to reject, by a significant majority, the draft Brexit deal, which increased the likelihood of a hard Brexit. A debate about the condition of the German economy – the economic engine of Europe – is also resonating in Europe. However, Germany's visible slowdown at the end of last year can still be interpreted as temporary.

Besides these factors fostering a slowdown of the global economy, positive factors that should act towards higher global growth can also be identified. They include an increasing level of investment in the global economy, lower outlooks for oil prices and a higher degree of fiscal stimulus. Nevertheless, the last-mentioned factor has a downside in the form of concerns about public finance sustainability in countries where public finances are not in the best of shape. Strong vigilance should be exercised by governments of those countries whose debt-to-GDP ratios exceed not only the recommended (let's say 60%) level, but also the critical, i.e. three-figure, level. Among the developed countries, these include the well-known examples of Greece, Italy, Portugal, but also, for example, pillars of the global economy such as Japan and especially the USA. The new year started with yet another uncertainty in the USA – the government shutdown.

According to the outlook, global inflation will increase this year. A correction cannot be expected until the end of the present decade. Global inflation will again be visibly affected by developments in China and the two strongest economic areas, the USA and the eurozone. Increased growth in global inflation has also been fostered this year by previous appreciation of numerous emerging market currencies against the dollar. A lower oil price may increasingly act in the opposite direction. However, the oil price is set in US dollars, which may dampen the resulting effect on "national" inflation in numerous countries.

The January issue of Global Economic Outlook additionally provides an analysis: Euro area inflation hits the 2% target, but is everyone running at the same speed? It contains a discussion of the factors behind recent inflation developments in the euro area. Euro area inflation exceeded the ECB's target in several months of last year for the first time in six years. However, core inflation in the euro area remains relatively low. This, coupled with the current decline in global oil prices, will cause inflation to fall back below 2%. This is confirmed by the latest observed figures and by the January inflation outlooks for 2019 and 2020.

GDP growth and inflation in the global economy



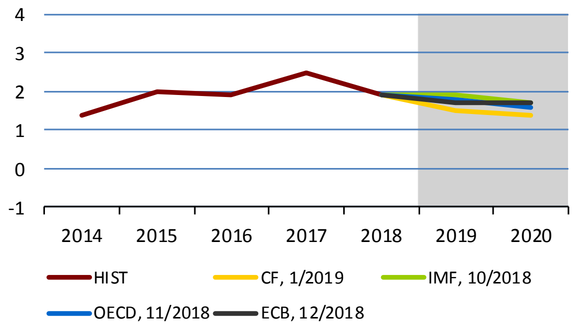
Source: EIU

Note: The weights of the individual countries are calculated on the basis of nominal GDP in USD at purchasing power parity

II.1 Euro area

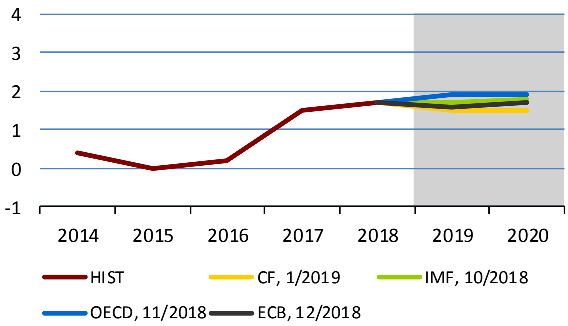
Incoming data suggest only modest economic expansion in the euro area at the end of 2018. The economy was affected by uncertainty related to protectionism, Brexit and the unclear budget situation in Italy. The Italian budget was ultimately approved in December in a form compliant with EU fiscal rules. In addition, German industry was affected by one-off factors relating to the switch to new emission standards in the car industry and also by lower exports to China. In France, growth was negatively affected at the year-end by the yellow vest protests, which may also have a longer-term impact due to slower implementation of reforms of the French economy. All these factors were reflected in, among other things, the industrial production index, which fell by 1.7% month on month (and 3.3% year on year) in the euro area in November. The PMI in manufacturing followed the downward trend observed since the start of 2018 and is only just above the stagnation band. Conversely, despite a fall in sentiment indicators, the consumer sector saw positive developments, with retail sales increasing for the second consecutive month in November (by 0.6% month on month). Unemployment rate edged down further to 7.9%. The euro area economy is expected to grow by 2% in 2018. Over the outlook horizon, it is projected to slow further towards its potential growth rate, to 1.5% in 2019 and 1.4% in 2020. Nonetheless, the uncertainty surrounding the outlook is high and it is unclear to what extent the slowdown in the second half of the year was due to one-off or more fundamental factors.
Headline inflation fell to 1.6% in December due to lower contributions of energy and food prices, but core inflation remained at 1%. Its long-term stagnation is reflected in a lower CF outlook, which expects average inflation of 1.5% in both 2019 and 2020. The subdued inflation is thus increasing the uncertainty about the first increase in the ECB's key interest rates. The ECB confirmed in December that this would not occur before summer 2019, while market outlooks are implying 2020 Q1. Although the programme of net asset purchases by the Eurosystem was ended at the end of the year, the principal payments from maturing securities will be reinvested for an extended period of time after the ECB raises its key interest rates.

GDP growth, %



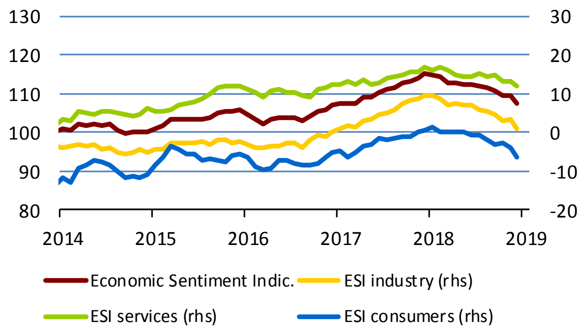
	CF	IMF	OECD	ECB
2019	1.5	1.9	1.8	1.7
2020	1.4	1.7	1.6	1.7

Inflation, %



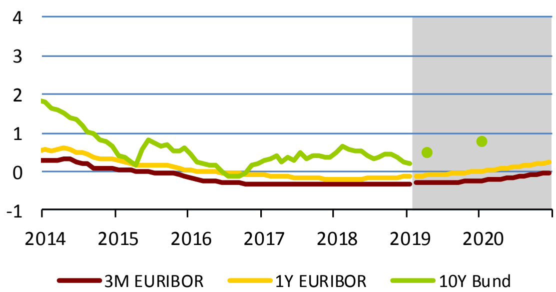
	CF	IMF	OECD	ECB
2019	1.5	1.7	1.9	1.6
2020	1.5	1.8	1.9	1.7

Leading indicators



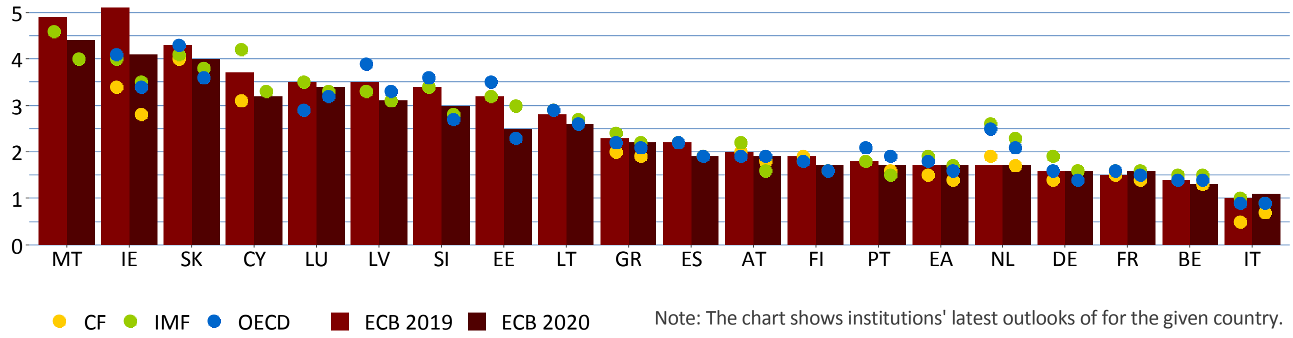
	ESI	industry	services	consumers
10/18	109.7	3.0	13.3	-2.7
11/18	109.5	3.4	13.4	-3.9
12/18	107.3	1.1	12.0	-6.2

Interest Rates, %

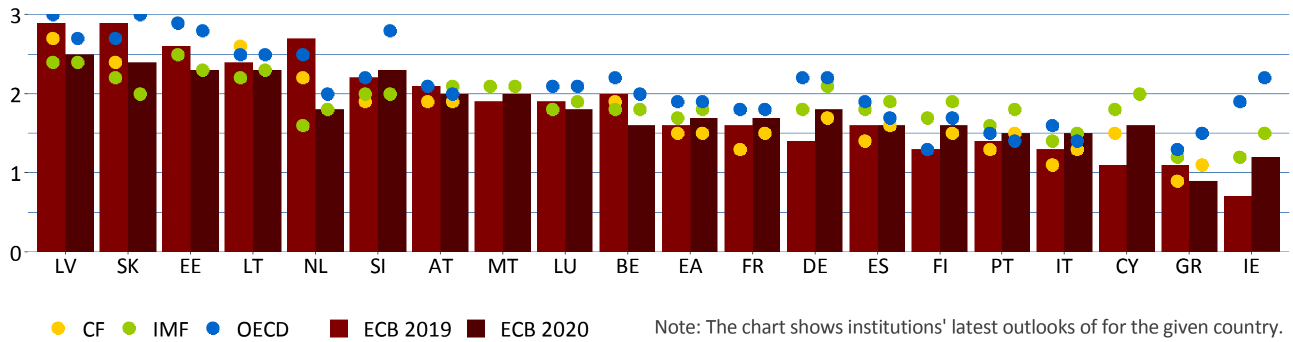


	12/18	01/19	04/19	01/20
3M EURIBOR	-0.31	-0.31	-0.30	-0.23
1Y EURIBOR	-0.13	-0.12	-0.10	0.02
10Y Bund	0.25	0.20	0.50	0.80

GDP growth outlooks in the euro area countries in 2019 and 2020, %



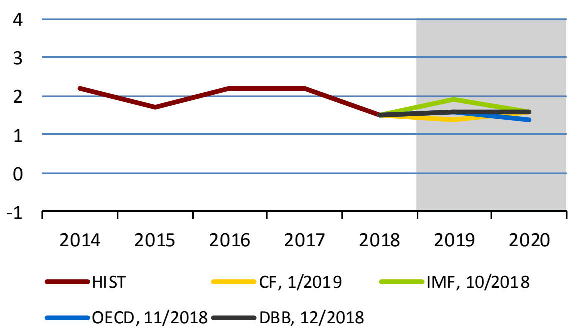
Inflation outlooks in the euro area countries in 2019 and 2020, %



II.2 Germany

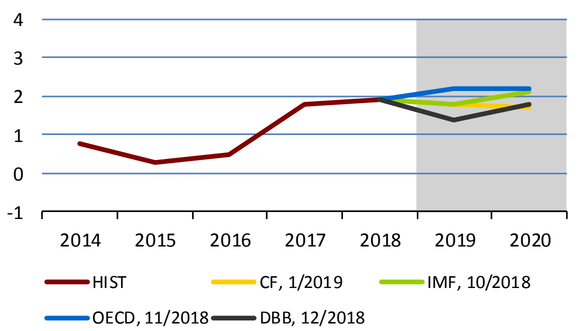
The GDP growth and inflation outlooks for Germany for this year were revised down slightly. At a longer horizon, the new CF forecast for 2020 expects a slight improvement in economic growth but a continued decline in inflation. The preliminary GDP growth figure for 2018 as a whole (1.5%) did not bring much optimism about an economic turnaround after the quarter-on-quarter contraction of 0.2% recorded in Q3. Indicators in industry fell in Q4, suggesting a technical recession at the end of last year. The previous problems in the car industry have been joined by concerns about external demand. Inflation went down in December due to a drop in the oil price, but its core component was flat at 1.5%. Retail sales growth, reflecting the good situation on the labour market, should have a positive effect on consumer prices. CF nevertheless expects nominal wage growth of only 3.1% in the production sector this year.

GDP growth, %



	CF	IMF	OECD	DBB
2019	1.4	1.9	1.6	1.6
2020	1.6	1.6	1.4	1.6

Inflation, %



	CF	IMF	OECD	DBB
2019	1.8	1.8	2.2	1.4
2020	1.7	2.1	2.2	1.8

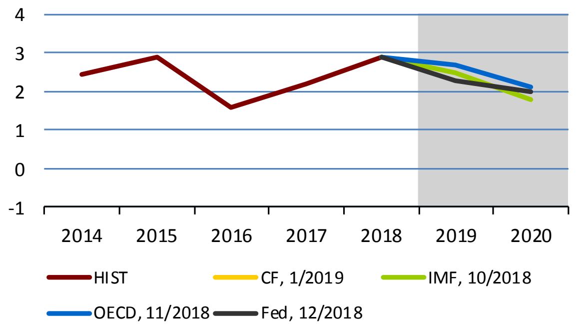
II.3 United States

The final GDP growth estimate for Q3 was lowered only slightly, to 3.4% (in quarter on quarter annualised terms). Consumer expenditure and exports were revised down, while the contribution of invetories increased. The contribution of net exports stayed negative. The US economy is expected to slow further at the year-end, as GDP growth reached 2.9% in 2018 Q4 according to the Atlanta Fed estimate.

Domestic demand remains robust despite worse expectations. At 312,000 in December, non-farm payrolls significantly exceeded expectations. The unemployment rate rose from 3.7% to 3.9%, due mainly to a rise in participation rate (from 62.9% to 63.1%). The average hourly wage increased by 3.2% year on year. Consumers still assess the current situation as positive, but there are growing concerns about the 2019 outlook (mainly as regards job opportunities and business conditions). Business confidence also declined at the year-end. In December 2018, the PMI in manufacturing recorded its largest monthly decrease since October 2008, although it remains in the expansion band (54.1). Industrial production also slowed at the end of the year, rising by 4% year on year. A fall in energy prices fostered a decline in inflation pressures, and inflation dropped to 2% in December. In line with expectations, the Fed increased the range for its policy rates at the December meeting, but a shift away from hawkish rhetoric was apparent in the central bank's statement. The minutes of the December meeting confirmed the Fed's concerns about swings in financial markets and the signs of slowing global growth.

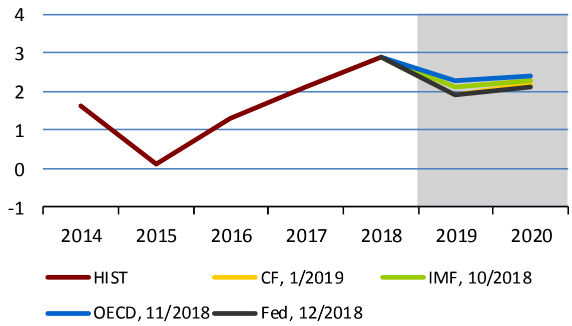
The Fed's new outlook is thus characterised by lower expected GDP growth and inflation in 2019. However, growth should remain above 2% and inflation will stay close to the central bank's target. The January CF also contained a downward revision. The worse outlook for the US economy is leading to speculation about a continued cycle of rate increases. The FOMC members' expectations shifted to two increases in 2019, but the markets do not rule out a single hike if concerns of a recession in the USA rise further.

GDP growth, %



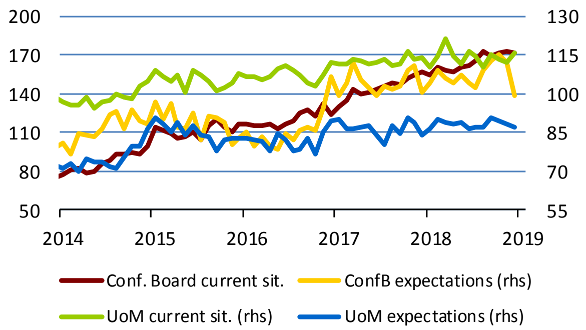
	CF	IMF	OECD	Fed
2019	2.5	2.5	2.7	2.3
2020	1.8	1.8	2.1	2.0

Inflation, %



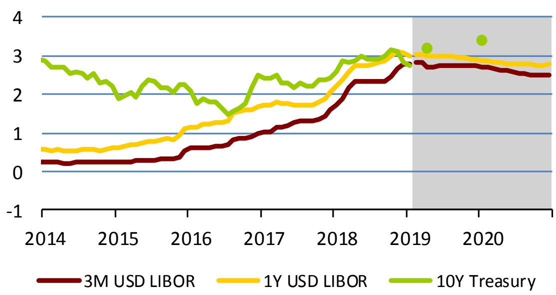
	CF	IMF	OECD	Fed
2019	1.9	2.1	2.3	1.9
2020	2.2	2.3	2.4	2.1

Leading indicators



	ConfB curr.	ConfB exp.	UoM curr.	UoM exp.
10/18	171.9	115.1	113.1	89.3
11/18	172.7	112.3	112.3	88.1
12/18	171.6	99.1	116.1	87.0

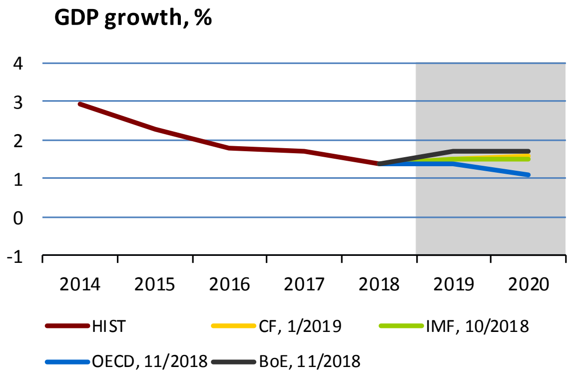
Interest Rates, %



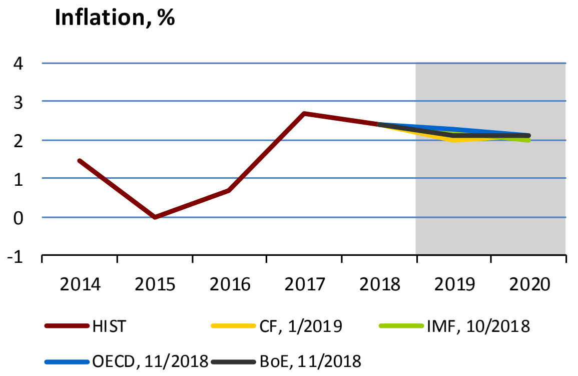
	12/18	01/19	04/19	01/20
USD LIBOR 3M	2.79	2.80	2.72	2.72
USD LIBOR 1R	3.08	3.08	3.00	2.87
Treasury 10R	2.83	2.72	3.20	3.40

II.4 United Kingdom

The UK parliament rejected the Brexit deal. The manner of the UK's exit from the EU thus remains unclear in terms of both its form and increasingly also its date. The long-running uncertainty is reflected in firms' unwillingness to invest. Investment fell for the third consecutive quarter in Q3. Industrial production has been declining month on month since September. Three-month GDP growth slowed to 0.3% in November. The NIESR forecasts the same level for Q4 (i.e. half the Q3 growth rate). The PMI in manufacturing may seem to be indicating an improvement (54.2 in December), but its level is distorted by preparations for a possible "hard" Brexit. Producers are stocking up on inputs in expectation of possible shortages rather than higher demand. Following a renewed slowdown last year, the January CF nonetheless expects the economy to finally recover slowly this year and the next. Headline inflation declined to 2.1% in December, while core inflation stands at 1.9%. The outlook expects it to fluctuate close to the BoE's target.



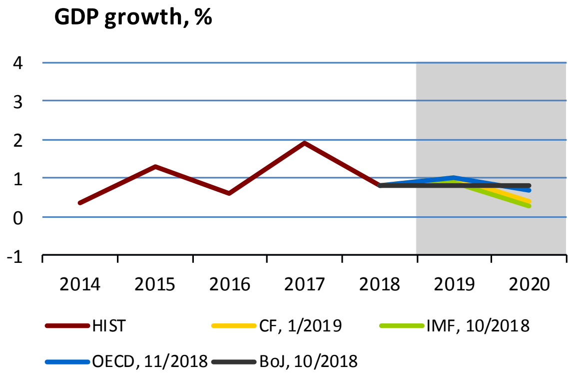
	CF	IMF	OECD	BoE
2019	1.5	1.5	1.4	1.7
2020	1.6	1.5	1.1	1.7



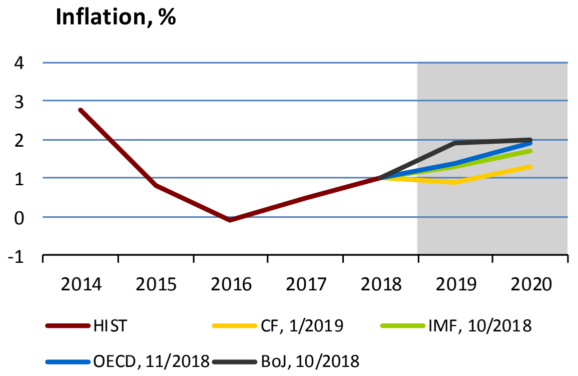
	CF	IMF	OECD	BoE
2019	2.0	2.2	2.3	2.1
2020	2.1	2.0	2.1	2.1

II.5 Japan

According to the latest figures, the positive growth of the Japanese economy remains weak and largely uncertain. Industrial production slowed to 1.5% year on year in November and was negative in month-on-month terms (-1.0%). Retail sales also recorded a month-on-month decrease. However, the PMI still indicates a slight expansion. Except for the BoJ, which expects no change in GDP growth at the two-year horizon, the monitored institutions estimate slightly higher growth this year and a slowdown to 0.3%–0.7% next year. Inflation amounted to just 0.8% in November. The overall growth was slowed by a decline in prices of food, transport and housing costs. This was the lowest growth rate recorded since October 2017. The new CF expects inflation to stand just below 1% this year and rise in 2020.



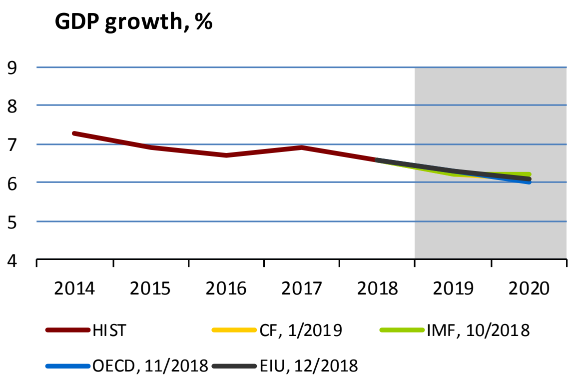
	CF	IMF	OECD	BoJ
2019	1.0	0.9	1.0	0.8
2020	0.4	0.3	0.7	0.8



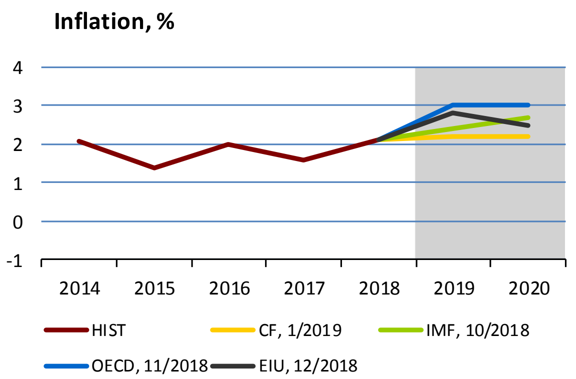
	CF	IMF	OECD	BoJ
2019	0.9	1.3	1.4	1.9
2020	1.3	1.7	1.9	2.0

III.1 China

Chinese exports recorded their biggest slowdown in two years in December 2018. This was due not only to domestic factors, but also to weaker demand from trading partners at the end of 2018. Exports to the USA were the exception, reflecting US importers' efforts to stock up before the introduction of tariffs. Adverse foreign trade developments are expected to foster slower Chinese GDP growth in 2018 Q4, which will amount to 6.4% according to a Reuters survey. Weaker domestic demand is already visible in several segments. Sales of cars and property have been declining for three months in a row in year-on-year terms. Retail sales slowed to an all-time low of 8.1%. Business confidence has also been falling and industrial production slackened to a mere 5.4%, its lowest level since the start of 2016. In line with the new figures, the January CF revised its GDP growth outlook for 2019 downwards.



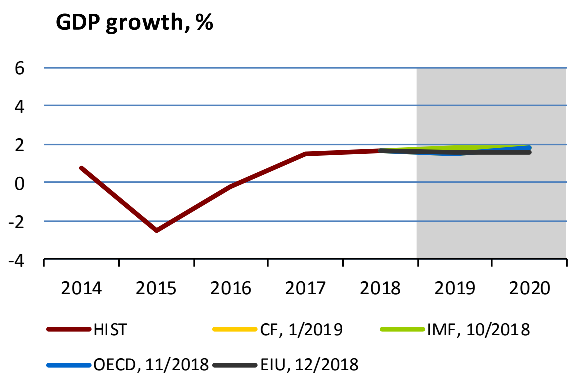
	CF	IMF	OECD	EIU
2019	6.2	6.2	6.3	6.3
2020	6.1	6.2	6.0	6.1



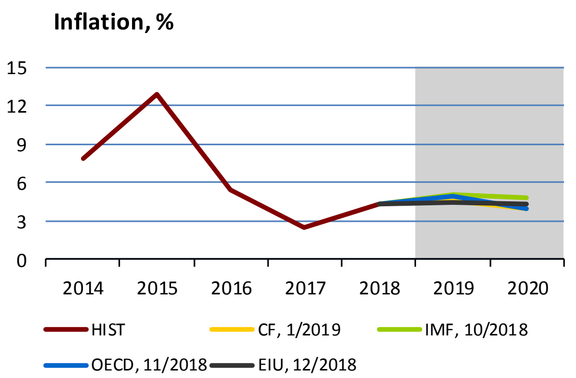
	CF	IMF	OECD	EIU
2019	2.2	2.4	3.0	2.8
2020	2.2	2.7	3.0	2.5

III.2 Russia

The performance of the Russian economy last year remains subdued. According to the new Q3 GDP structure figures, the growth was driven by exports (4.5% year on year). Nominal net exports accounted for almost 10% of the total. Despite a slight year-on-year decline in share, household consumption remains the largest GDP component, having risen by 2.1% year on year. Investment and government consumption made slight negative contributions to the total growth of the economy. Overall, GDP growth amounted to 1.5% in Q3. The available data on industry for the first two months of Q4 do not suggest a recovery (growth of 3.7% and 2.4% year on year); moreover, unemployment went up again in November and the leading indicators of consumer confidence and consumer expectations went down. The December CF lowered its GDP growth outlook for 2019 to 1.5% and expects a slight rise to 1.8% next year.



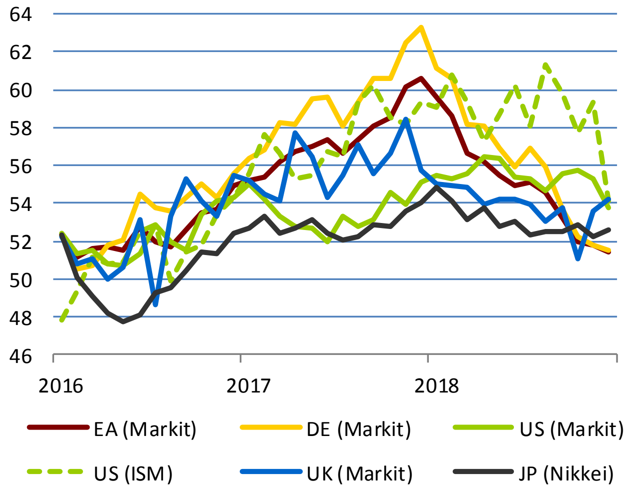
	CF	IMF	OECD	EIU
2019	1.5	1.8	1.5	1.6
2020	1.8	1.8	1.8	1.6



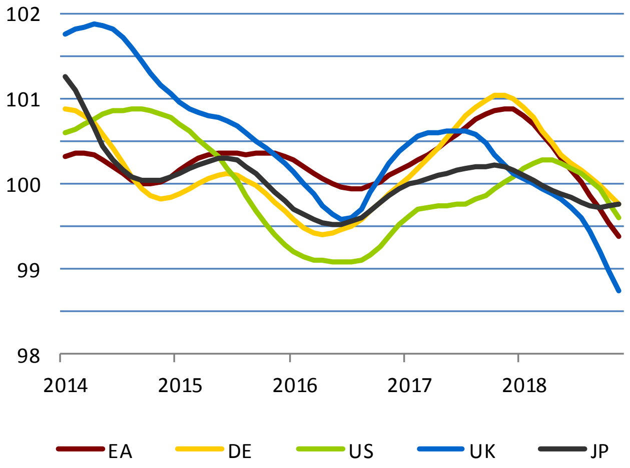
	CF	IMF	OECD	EIU
2019	4.6	5.1	5.0	4.5
2020	4.0	4.8	4.0	4.3

IV.1 Advanced economies

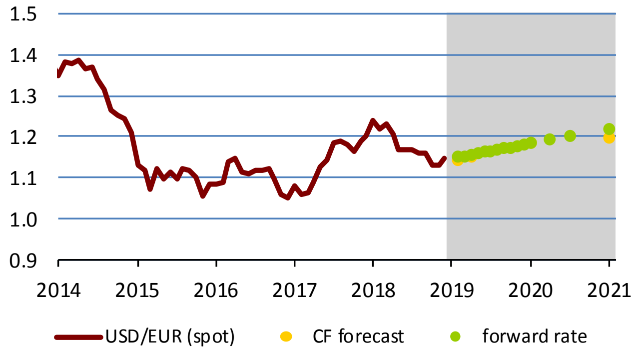
PMI in manufacturing



OECD Composite Leading Indicator

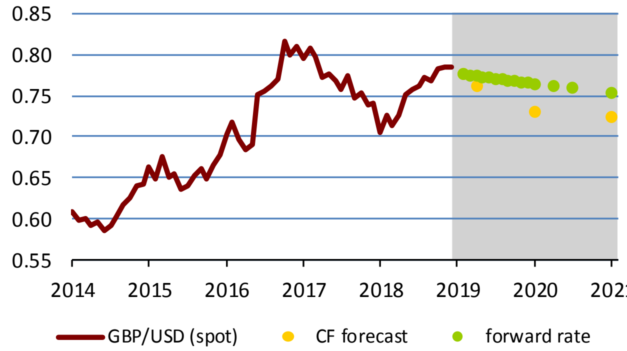


The US dollar (USD/EUR)



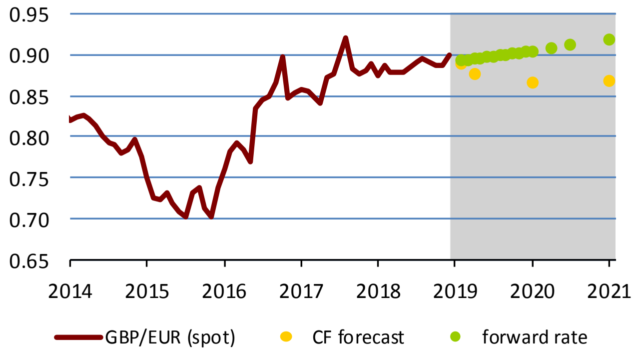
	14/1/19	02/19	04/19	01/20	01/21
spot rate	1.147				
CF forecast		1.145	1.151	1.185	1.198
forward rate		1.150	1.156	1.184	1.219

The British pound (GBP/USD)



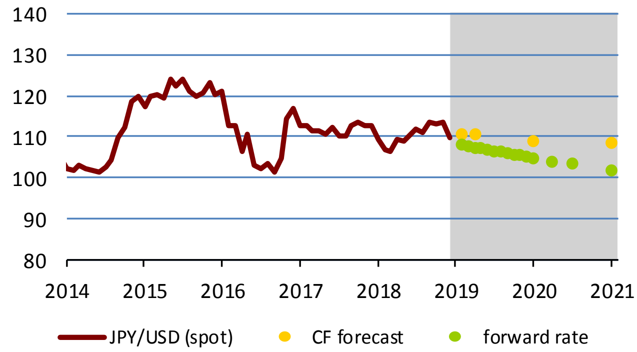
	14/1/19	02/19	04/19	01/20	01/21
spot rate	0.775				
CF forecast		0.776	0.762	0.731	0.724
forward rate		0.776	0.774	0.764	0.754

The British pound (GBP/EUR)



	14/1/19	02/19	04/19	01/20	01/21
spot rate	0.888				
CF forecast		0.889	0.877	0.866	0.867
forward rate		0.893	0.894	0.904	0.919

The Japanese yen (JPY/USD)

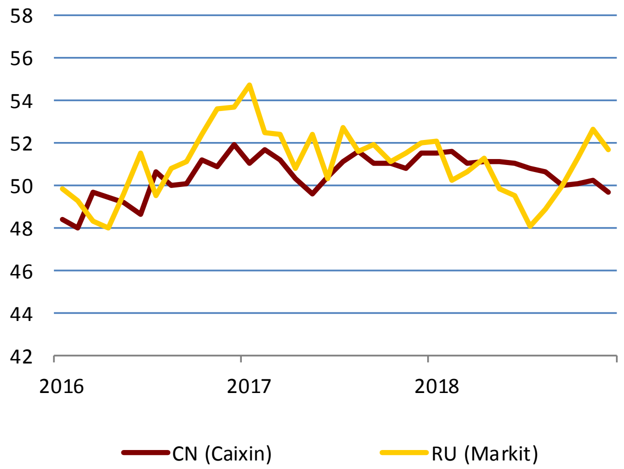


	14/1/19	02/19	04/19	01/20	01/21
spot rate	108.3				
CF forecast		110.6	110.7	108.7	108.6
forward rate		107.9	107.4	104.9	101.7

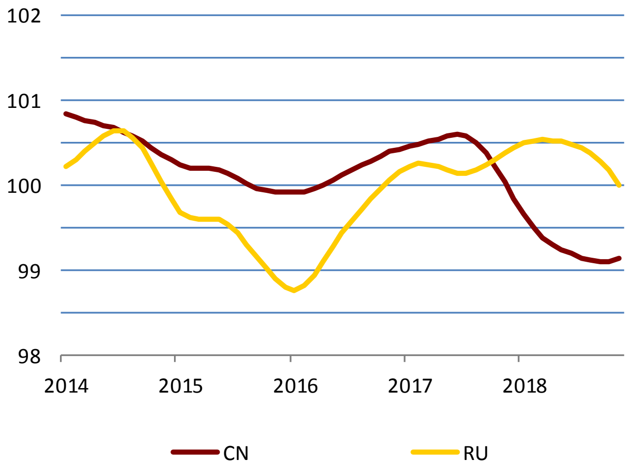
Note: Exchange rates as of last day of month. Forward rate does not represent outlook; it is based on covered interest parity, i.e. currency of country with higher interest rate is depreciating. Forward rate represents current (as of cut-off date) possibility of hedging future exchange rate.

IV.2 Developing countries

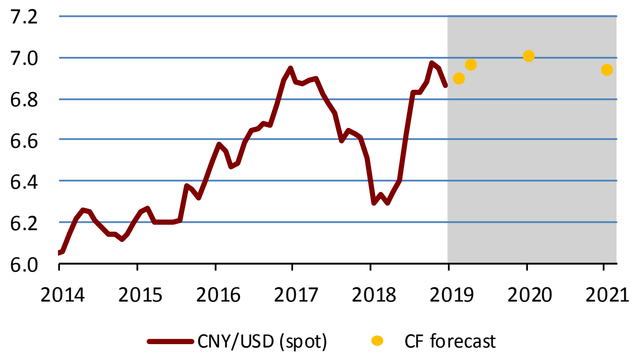
PMI in manufacturing



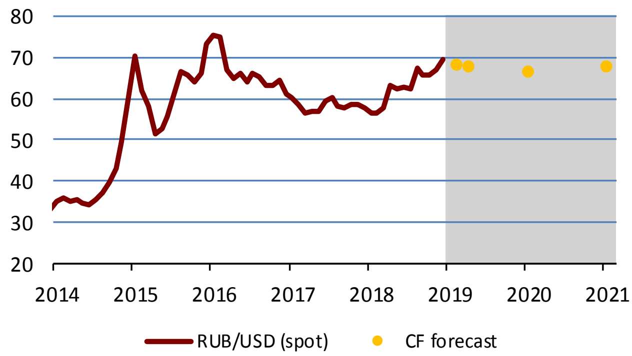
OECD Composite Leading Indicator



The Chinese renminbi (CNY/USD)



The Russian rouble (RUB/USD)



	14/1/19	02/19	04/19	01/20	01/21
spot rate	6.758				
CF forecast		6.900	6.962	7.007	6.935

	14/1/19	02/19	04/19	01/20	01/21
spot rate	66.98				
CF forecast		68.01	67.77	66.43	67.64

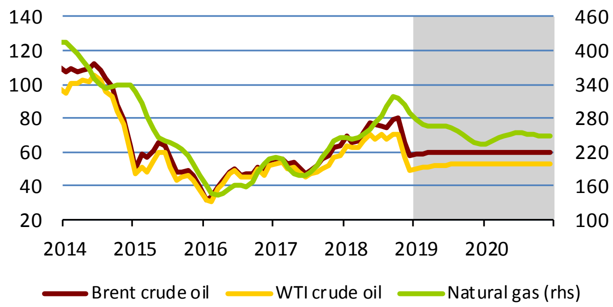
Note: Exchange rates as of last day of month.

V.1 Oil and natural gas

The Brent crude oil price fluctuated only slightly, close to USD 60/bbl, between late November and mid-December. A further sharp fall followed. In the second half of December, concerns prevailed on the market that the agreed cuts in OPEC+ output would not be enough to offset weakening demand and expected production growth in the USA. The EIA estimates that global oil stocks rose by 1 million barrels a day in 2018 Q4 on the back of record extraction in the USA, Saudi Arabia and Russia. The situation was worsened by sell-offs on broader financial markets, a further hike in monetary policy rates in the USA and by speculative funds closing their positions before the year-end. The oil price decline halted on 24 December, when the Brent price hit a 17-month low of USD 50.5/bbl. Oil prices later returned to trend growth, which halted again in mid-January close to USD 60/bbl. Besides a calming of the stock market situation (due to the stance of the Fed, which intends to carefully consider the economic situation before raising rates further), oil prices were supported by a sharp decline in OPEC output in December, a slight depreciation of the dollar and promising progress in trade talks between the USA and China. However, concerns about a slowdown of the global (and especially Chinese) economy continue to act in the opposite direction.

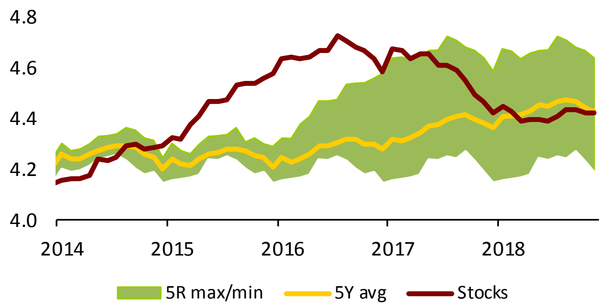
The market futures curve was virtually unchanged compared to mid-December. It remains almost horizontal, signalling an average Brent crude oil price close to USD 60/bbl for 2019 and 2020. The EIA forecasts the price to increase from USD 61/bbl on average this year to USD 65/bbl next year. The January CF contains a similar forecast. For oil prices to increase further, though, investors need real evidence that OPEC+ will sufficiently reduce production and demand will remain strong.

Outlook for prices of oil (USD/barrel) and natural gas (USD / 1000 m³)

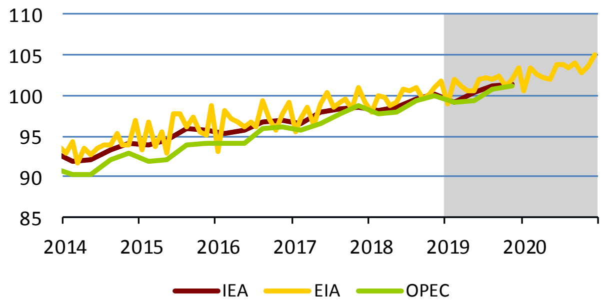


	Brent	WTI	Natural gas
2019	59.61	52.12	257.84
2020	59.77	53.04	247.87

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

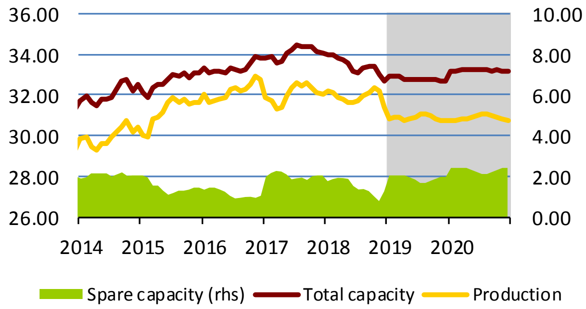


Global consumption of oil and oil products (mil. barrel / day)



	IEA	EIA	OPEC
2019	100.54	101.55	100.07
2020		103.07	

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



	Production	Total capacity	Spare capacity
2019	30.88	32.79	1.92
2020	30.90	33.22	2.32

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.

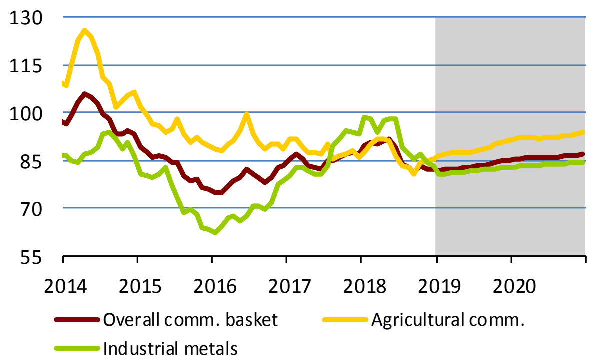
V.2 Other commodities

The non-energy commodity price index fluctuated only slightly with no visible trend in the second half of 2018, and the first half of January brought no major change. Underlying this, however, were opposite trends in the two components of the index. After hitting a low in September, the food commodity price sub-index returned to growth, and its outlook is also rising. On the other hand, the industrial metals price sub-index fell sharply throughout the second half of 2019 except October and continued to decrease in mid-January. Nevertheless, the outlook expects growth in this component.

Base metal prices remain squeezed by the continuing global manufacturing slowdown, despite a temporary truce in the trade disputes between the USA and China. There are particular concerns about the Chinese economy. The J.P.Morgan Global Manufacturing PMI fell to a 27-month low of 51.5 in December, and leading indicators of Chinese manufacturing are now below 50, signalling a decline in manufacturing in the months ahead. The price of aluminium continued to fall sharply, owing among other things to the lifting of sanctions on the Russian producer Rusal, growth in production and exports from China, and also to a rise in stocks on the LME in December. On the other hand, a larger decrease in prices of copper was prevented by low stocks on the LME and estimated undersupply in the market. The price of zinc also dropped. Only tin recorded a rise in price.

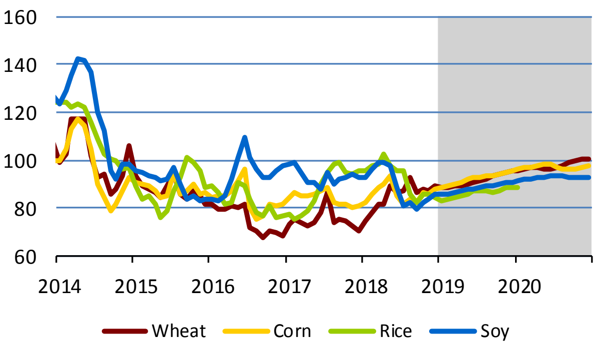
Prices of cocoa and beef were the biggest contributors to the growth in the food commodity price index last month. Other prices were generally subdued. The outlooks for most food commodities are rising slightly. Only pork and coffee are expected to show stronger growth.

Non-energy commodities price indicies



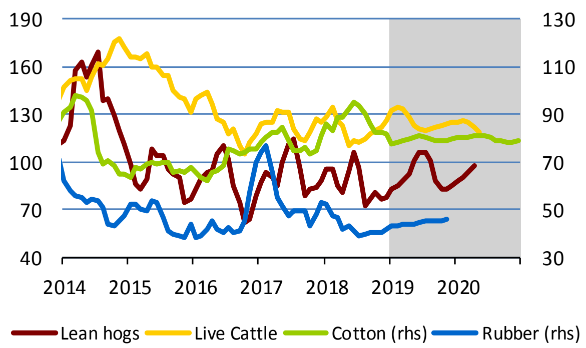
	Overall	Agricultural	Industrial
2019	83.2	88.5	81.7
2020	86.1	92.4	83.7

Food commodities



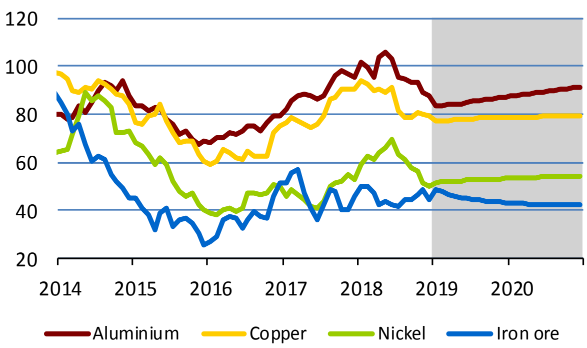
	Wheat	Corn	Rice	Soy
2019	91.5	92.3	86.3	88.3
2020	97.8	97.2	88.6	92.8

Meat, non-food agricultural commodities



	Lean hogs	Live Cattle	Cotton	Rubber
2019	91.8	125.6	79.5	44.6
2020	92.5	123.4	79.8	

Basic metals and iron ore



	Aluminium	Copper	Nickel	Iron ore
2019	85.2	78.1	52.5	45.2
2020	89.4	79.0	53.9	42.4

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.

Euro area inflation hit the inflation target, but is everyone running at same pace?[1]

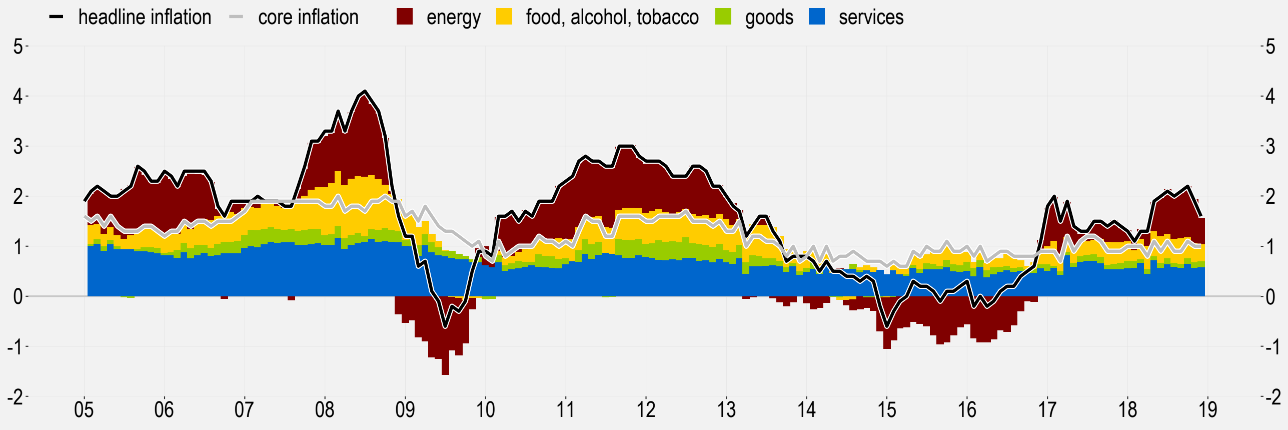
Inflation in the euro area exceeded 2% in several months of last year due to higher growth in energy prices. However, core inflation remains at levels which are relatively muted by historical standards and which do not guarantee that the ECB's inflation target will be achieved after the current contribution of energy prices unwinds. The main reason for the subdued underlying inflation pressures is the prolonged period of low wage growth. The relationship between wage growth and core inflation still appears to hold across the euro area countries, so one can expect stronger inflation pressures to emerge in the euro area only after wage growth accelerates. As core inflation in the euro area is very persistent, it is unlikely that it will increase sharply and abruptly. Convergence of inflation rates close to 2% even after the contribution of energy prices fades out is being supported by the ECB. It ended its net asset purchase programme at the end of 2018, but its monetary policy stance remains highly accommodative.

Inflation in 2018 in the longer-term context

Inflation in the euro area exceeded the ECB's target in several months of last. Headline HICP inflation initially rose sharply from 1.3% to 1.9% in May and stood at 2% or even higher in the following five months, exceeding the ECB's target, defined as annual consumer inflation below, but close to, 2%. The surge in inflation was due mainly to a higher contribution of energy prices (see Chart 1) reflecting a rise in dollar prices of Brent crude oil. This rise amounted to 50% year on year in Q2. The euro price rose even faster due to depreciation of the euro against the dollar. Besides the energy component, the contribution of food prices also increased last year. As a result, average inflation went up to 1.7% in 2018, the highest level since 2012, when it reached 2.5%.

Chart 1 – Contributions of the main components to euro area inflation

(annual percentage changes; contributions in percentage points)



Source: Eurostat

However, core inflation[2] in the monetary union continued to hover around 1% last year. The low underlying inflation pressures were puzzling in an environment of rising energy prices. Although they are not included directly in core inflation, this aggregate reflects, for example, transport prices via the services sub-category. The rising commercial and industrial operating costs associated with the higher energy prices could also be expected to feed through to goods and services prices (the "second-round" effect of energy price growth). From a longer-term perspective, core inflation is relatively low and has risen only slightly since the introduction of unconventional monetary policy. Before the financial crisis, i.e. in the period of 2005–2008, core inflation averaged 1.6%. After the crisis, it fell slightly, averaging 1.3% between 2009 and 2013. It then came down gradually to around 0.6% in early 2015, when the negative contribution of energy prices to headline inflation peaked. Long-term inflation expectations also fell in the same period. The ECB reacted by launching its expanded asset purchase programme (EAPP). From mid-2017 onwards, core inflation ranged between 0.8% and 1.2%.

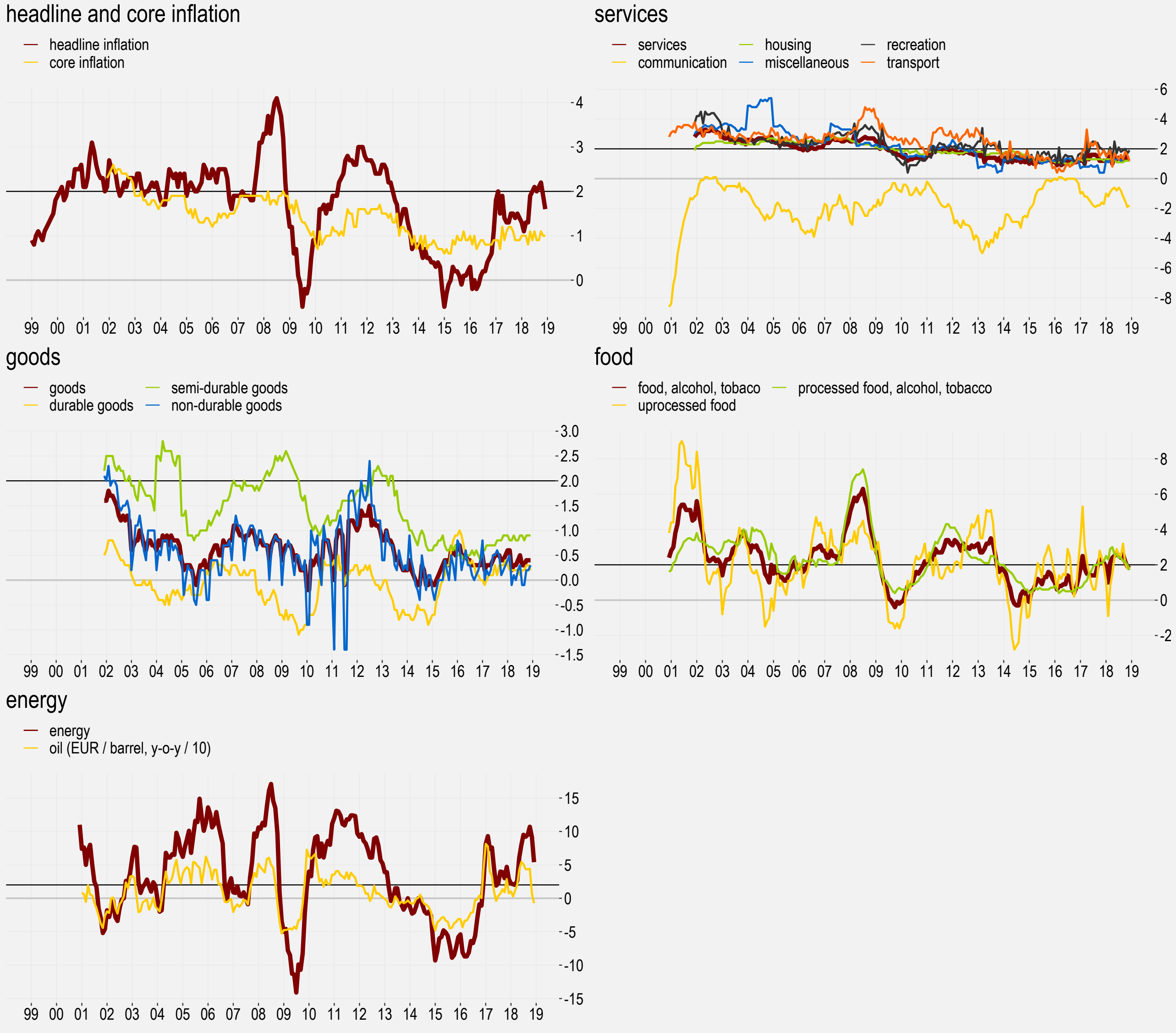
A deeper understanding of inflation dynamics can be obtained from a more detailed structural breakdown of the consumer basket (see Chart 2). The path of headline inflation is determined by the dynamics of the components of inflation and their weights in the consumer basket (see Chart 3).

[1] Authors: Tomáš Adam and Filip Novotný. 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] In this article, core inflation means inflation excluding the volatile prices of energy, food, alcohol and tobacco.

Chart 2 – Annual inflation of the main consumer basket items

(year-on-year growth, %)



Source: Eurostat

Fundamental pressures from the economy are analysed using aggregates that exclude more volatile inflation components such as energy and food prices (see, for example, core inflation above; the ECB's Economic Bulletin (4/2018) discusses alternative measures of fundamental inflation).

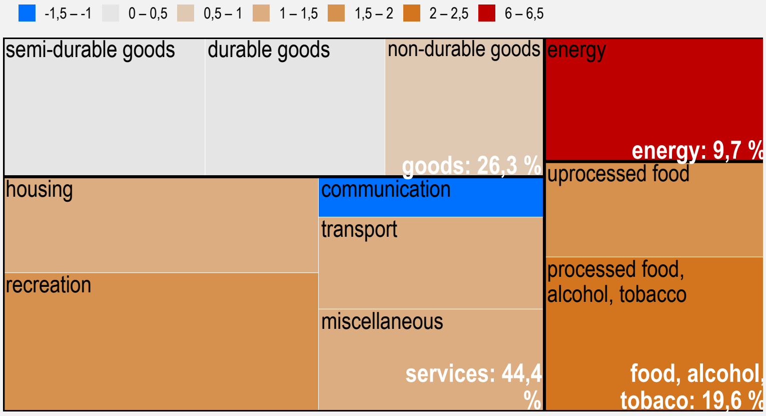
The largest category in the consumer basket, and also the most stable one in terms of prices, is services. For a long time, growth in services prices declining (see Chart 2) and annual services price inflation picked up slightly only in the last two years. It averaged 1.3% last year. This increase was due mainly to faster growth in prices of package holidays and transport. Even so, these two components were below the levels recorded in the pre-crisis years. Growth in prices of housing-related services also declined after the financial crisis and was below 2% last year. However, this consumer basket item excludes imputed rent, and hence indirectly property prices, which have grown sharply in several euro area countries over the past few years (statistical offices treat property as investment rather than consumption). Prices of communication services have long been falling, reflecting the rapid roll-out of new technologies, which have become available to an ever widening range of users, enabling prices to fall. Communication services are characterised by a network effect where the marginal costs of servicing additional clients are low after costly infrastructure has been put in place.

The other major categories of the consumer basket are non-durable, semi-durable and durable goods; however, their prices are more volatile than those of services. These categories recorded the largest slowdown in price growth. Durable goods even displayed several prolonged episodes of falling prices, reflecting consumers' unwillingness to make larger purchases during the financial crisis and in 2013 and 2014. Moreover, goods price inflation was (and still is) dampened by intense international competition, which was further increased by the expansion in online retailing.

The categories of food (including alcohol and tobacco) and energy have relatively low weights in the consumer basket, but are very volatile. Their contributions, which in the case of energy alternate between positive and negative, therefore significantly affect headline consumer price inflation. The movements of these components mainly reflect changes in commodity prices on global markets and also exchange rate movements, which can dampen or amplify the resulting impacts on inflation. Novotný (2011), for example, shows that the impacts of growth in commodity prices quoted in dollars on euro area inflation after the crisis were dampened (amplified) by a weakening (strengthening) dollar against the euro.

Chart 3 – Weights and annual changes of the main components and sub-components of inflation

(tile colour indicates average inflation rate of given component in 2018; tile size and white numbers indicate weights of components and their main category in consumer basket)



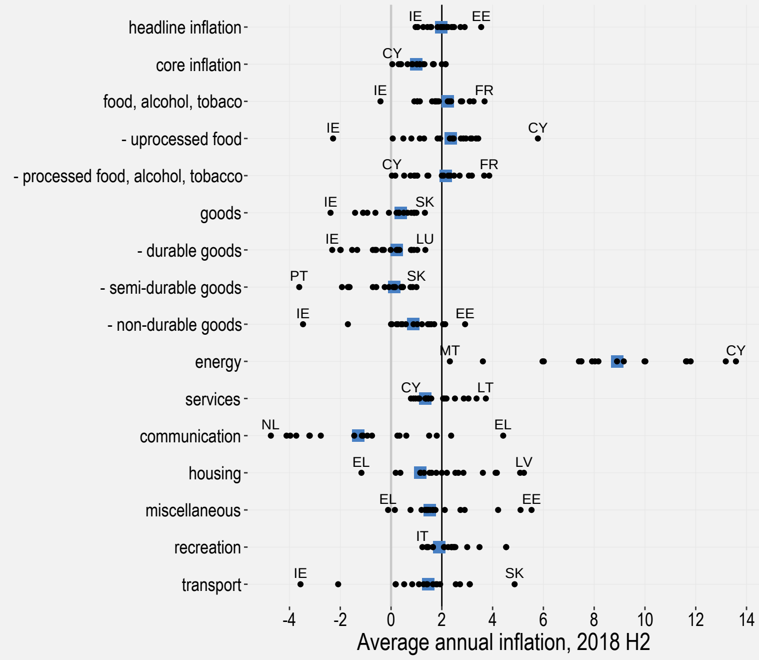
Developments across countries

Although headline inflation in the euro area was 2% in the second half of last year, the trends were very mixed across both components and countries (see Chart 4). The highest headline inflation was recorded by the Baltic states, especially Estonia. By contrast, Greece had the lowest inflation (1.1%) in 2018 H2. As regards the components of inflation, the biggest cross-country differences were observed for growth in energy prices, which was the highest among all the inflation components in 2018 H2. Energy prices grew the most in Cyprus and the least in Malta. The differences observed in the growth of these prices reflect different sensitivity of the energy component of inflation to the oil price, which is determined by the weight of fuels in this category, different excise tax rates, margins in the energy sector and so on. Prices of communication services also ranged greatly across countries. This was the only category to record a fall in prices in the euro area as a whole in 2018 H2, with the Netherlands recording the biggest decline and Greece the largest growth. By contrast, Greece showed the strongest decline in housing-related prices, which are one of the most important components of the services category. However, the country that stands out most often in the chart as the one with the strongest deflation in the euro area is Ireland. It lagged well behind the other euro area members as regards goods, food (especially unprocessed) and transport inflation. Another category characterised by a wide spread across countries was transport prices. They grew the most in Slovakia.

Almost all components of inflation were lower in the period after the financial crisis than before it (see Chart 5). The only exceptions were goods and communication services, whose prices rose/fell in more or less the same way as in the pre-crisis period. Energy price inflation started to exceed the pre-crisis level in 2018 H2. Headline inflation was also closer to the average pre-crisis level, due to energy prices. Individual countries, however, recorded major changes in their inflation rates. Inflation in Slovakia, which has been a euro area member since 2009, was distinctly lower than before the crisis. By contrast, prices in the Baltic states rose faster after the crisis. Of particular interest is Germany, which was the only country to record

Chart 4 – Average inflation of the main consumer basket items in 2018 H2

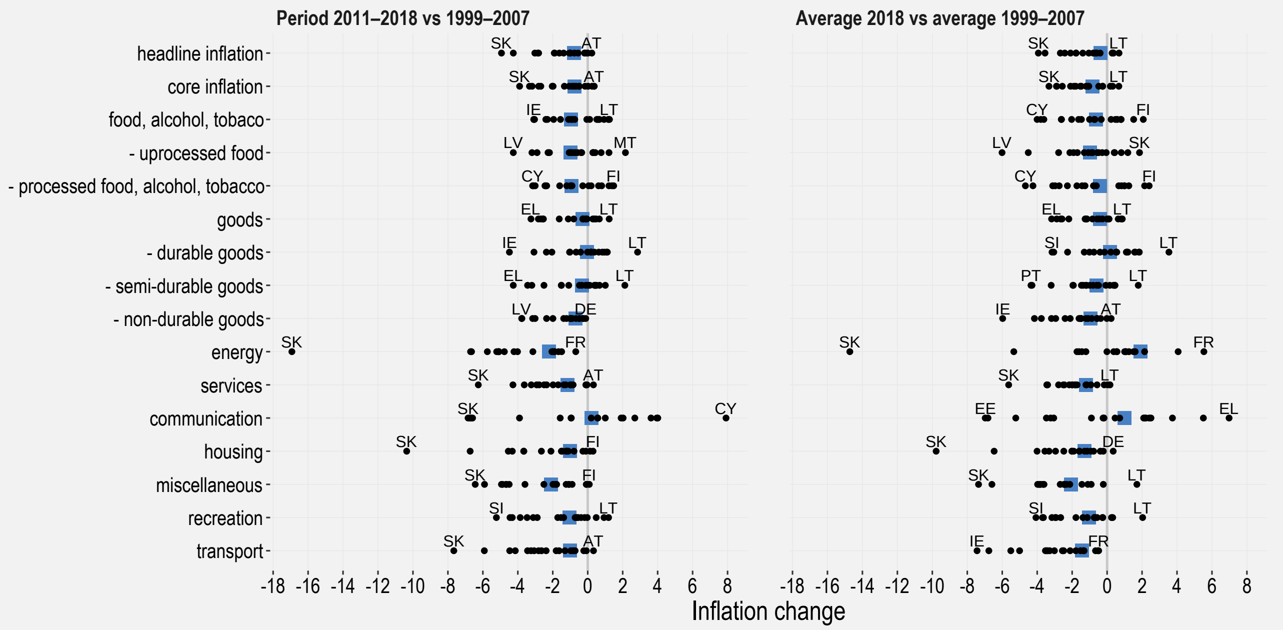
(annual inflation, %)



Source: Eurostat
Note: The blue squares denote observations for the euro area as a whole

Chart 5 – Changes in inflation of the main consumer basket items

(change in annual inflation, pp)



Source: Eurostat, CNB calculations
Note: The blue squares denote observations for the euro area as a whole

a slight increase in housing-related services price inflation in the past six months relative to the pre-crisis period.

The fundamental factors behind the falling inflation

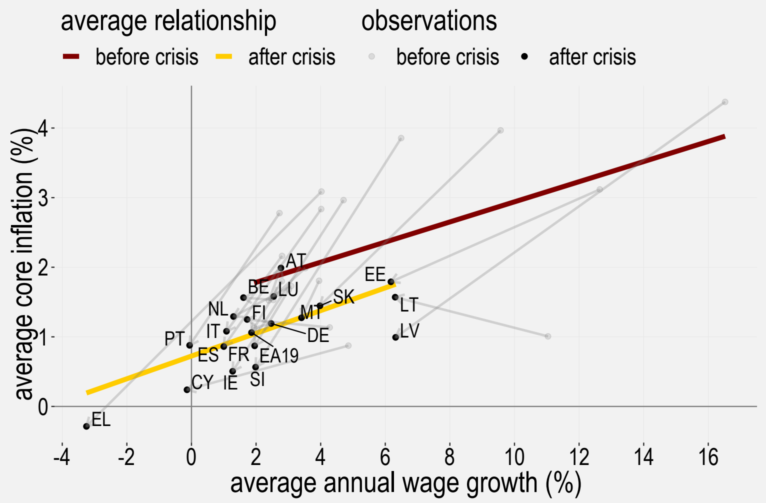
The drop in inflation pressures observed in the post-crisis period is related mainly to low wage growth. The validity of the positive relationship between core inflation and wage growth has often been questioned in light of the subdued headline inflation in the euro area in recent years. However, Chart 6 illustrates in simplified terms that this relationship has been preserved across the euro area countries on average. Average wage growth has declined, as has average core inflation (so a shift in the south-west direction can be observed for most countries in Chart 6), but the relationship between these two variables (the slope of the regression lines) has remained broadly the same.

Stronger growth in underlying inflation pressures can thus be expected only after wage growth accelerates. The factor that can deliver stable inflation in the long run is neither food or energy prices, but demand-side pressures in the economy, which have long been very subdued in the euro area due to low real wage growth. Wage growth is expected to accelerate gradually owing to the extended period of economic growth, which is manifesting itself in increasing labour market tightness in several euro area countries (see Adam and Novotný, 2018).

A gradual return of fundamental inflation pressures to higher levels is also being supported by the ECB's accommodative monetary policy. However, the ECB is at a disadvantage compared to, say, the Fed, as inflation is much more persistent in the euro area than in the USA. According to the authors'

Chart 6 – Relationship between wage growth and core inflation

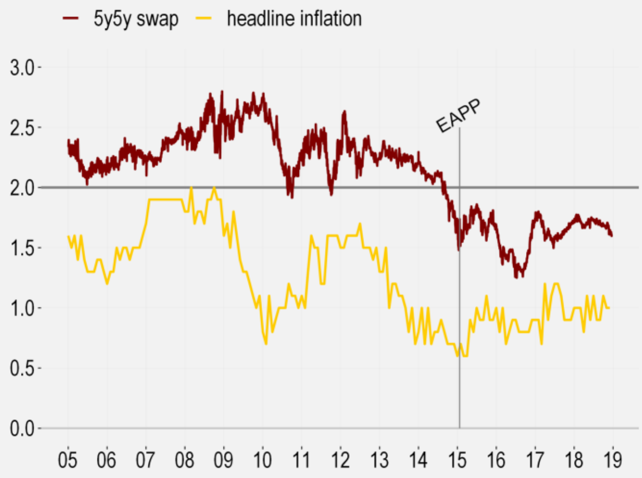
(x-axis: average annual wage growth, %, y-axis: average core inflation, %)



Source: Eurostat
Note: The pre-crisis period is a period from 2002 until 2007; the post-crisis period is a period from 2011 until 2018 H1; the coloured thick lines are regression lines estimated across countries for the given period.

Chart 7 – Inflation expectations based on 5Y inflation swaps

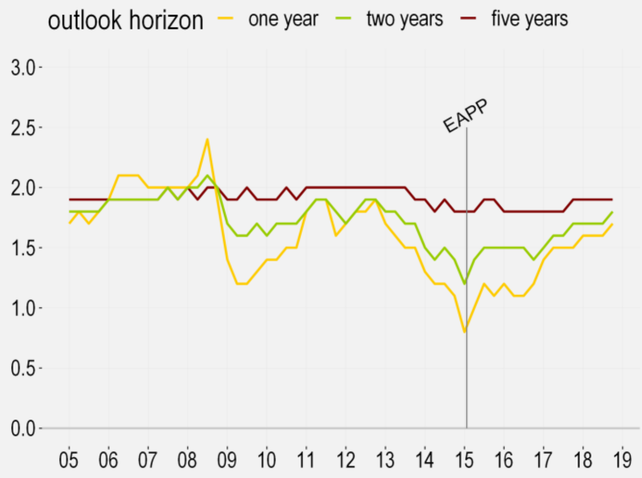
(%, 5Y swap – daily data, core inflation – monthly data)



Source: Bloomberg, Eurostat
Note: The 5Y swap line shows expectations of average five-year inflation implied by the inflation swap price. The EAPP point shows the date when the ECB's expanded asset purchases were announced.

Chart 8 – Inflation outlooks according to the SPF

(%, quarterly data)



Source: ECB
Note: SPF (Survey of Professional Forecasters) inflation outlooks, quarterly surveys. The EAPP point shows the date when the ECB's expanded asset purchases were announced.

calculations, the coefficient of persistence of core inflation in the euro area is 0.89, while in the USA it is just 0.28 (these results are in line with Abdih et al., 2018, for example). For this reason, a longer period of easy monetary policy is necessary for euro area inflation to return to the target. The latest steps taken by the ECB, which ended its net asset purchases under the EAPP at the end of last year but whose monetary policy stance will remain very accommodative, need to be viewed in this light (rates will be left at the current level until at least summer 2019 and yields on maturing securities will be reinvested for an extended period of time). Stronger growth in inflation pressures is meanwhile unlikely to occur suddenly.

Inflation expectations and inflation outlooks, which are only gradually approaching the ECB's inflation target, are consistent with steady growth in fundamental inflation pressures. Since approximately 2013, there has been a gradual but significant decline in the inflation outlook (see Chart 8) and inflation expectations based on five-year inflation swaps (see Chart 7) in the euro area. The ECB reacted to this fall first with conventional tools and then by introducing the APP and EAPP programmes. Inflation expectations and outlooks recorded an upward shift when the EAPP was launched. Five-year swap-based inflation expectations were around 1.7% last year and did not increase even after the oil price rose significantly (on the contrary, expectations fell sharply together with the subsequent fall in the oil price at the year-end). In addition, the Survey of Professional Forecasters (SPF) outlooks for one and two years ahead rose slightly in Q4, but the long-term inflation outlook remains stable at 1.9%. So, neither the SPF forecasters nor the financial markets expect any major growth in inflation in the near future.

Conclusion

This article summarised the latest inflation trends in the euro area. Headline inflation rose to the ECB's target last year due to a higher contribution of energy prices. However, no signs of a growth trend can be observed for core inflation, which has long been fluctuating around 1%. Inflation rates in most of the main price categories are below pre-crisis levels and displaying fairly significant differences across euro area countries. Growth in fundamental inflation pressures is conditional on faster wage growth, which could gradually emerge due to labour market tightness in some countries. Inflation in the euro area is meanwhile very persistent, so a sudden sharp increase in the core components of inflation is unlikely. The monitored outlooks and financial market outlooks do not expect inflation to rise above the ECB's target either.

References

Abdih, Y., Lin, L., and Paret, A.-C. (2018). "Euro Area Inflation: Why Low For So Long?" IMF Blog, 28 August 2018, https://blogs.imf.org/2018/08/28/euro-area-inflation-why-low-for-so-long/

Adam, T., and Novotný, F. (2018). "Rostou, ale ne jako po dešti: vývoj mezd v eurozóně ve srovnání s ČR." čnBlog, 28 June 2018, https://www.cnb.cz/cs/o_cnb/blog_cnb/prispevky/adam_novotny_20180629.html

ECB (2018). "Measures of Underlying Inflation for the Euro Area." ECB Economic Bulletin, 4/2018.

Novotný, F. (2011). "The Link Between the Brent Crude Oil Price and the US Dollar Exchange Rate." Global Economic Outlook 2/2011, CNB.

A1. Change in predictions for 2019

GDP growth, %

	CF		IMF		OECD		CB / EIU	
EA	-0.1	2019/1 2018/12	0	2018/10 2018/7	-0.1	2018/11 2018/9	-0.1	2018/12 2018/9
DE	-0.1	2019/1 2018/12	-0.2	2018/10 2018/7	-0.2	2018/11 2018/9	-0.3	2018/12 2018/6
US	-0.1	2019/1 2018/12	-0.2	2018/10 2018/7	0	2018/11 2018/9	-0.2	2018/12 2018/9
UK	0	2019/1 2018/12	0	2018/10 2018/7	+0.2	2018/11 2018/9	-0.1	2018/11 2018/8
JP	-0.1	2019/1 2018/12	0	2018/10 2018/7	-0.2	2018/11 2018/9	0	2018/10 2018/7
CN	-0.1	2019/1 2018/12	-0.2	2018/10 2018/7	-0.1	2018/11 2018/9	+0.1	2018/12 2018/11
RU	-0.1	2018/12 2018/11	+0.3	2018/10 2018/7	0	2018/11 2018/9	-0.2	2018/12 2018/10

Inflation, %

	CF		IMF		OECD		CB / EIU	
EA	-0.1	2019/1 2018/12	+0.1	2018/10 2018/4	+0.1	2018/11 2018/5	-0.1	2018/12 2018/9
DE	-0.1	2019/1 2018/12	+0.1	2018/10 2018/4	+0.2	2018/11 2018/5	-0.3	2018/12 2018/6
US	-0.2	2019/1 2018/12	-0.3	2018/10 2018/4	0	2018/11 2018/5	-0.1	2018/12 2018/9
UK	-0.1	2019/1 2018/12	0	2018/10 2018/4	+0.1	2018/11 2018/5	-0.1	2018/11 2018/8
JP	0	2019/1 2018/12	+0.2	2018/10 2018/4	-0.1	2018/11 2018/5	-0.1	2018/10 2018/7
CN	-0.1	2019/1 2018/12	-0.2	2018/10 2018/4	+1.0	2018/11 2018/5	0	2018/12 2018/11
RU	+0.1	2018/12 2018/11	+1.3	2018/10 2018/4	+1.0	2018/11 2018/5	0	2018/12 2018/10

A2. Change in predictions for 2020

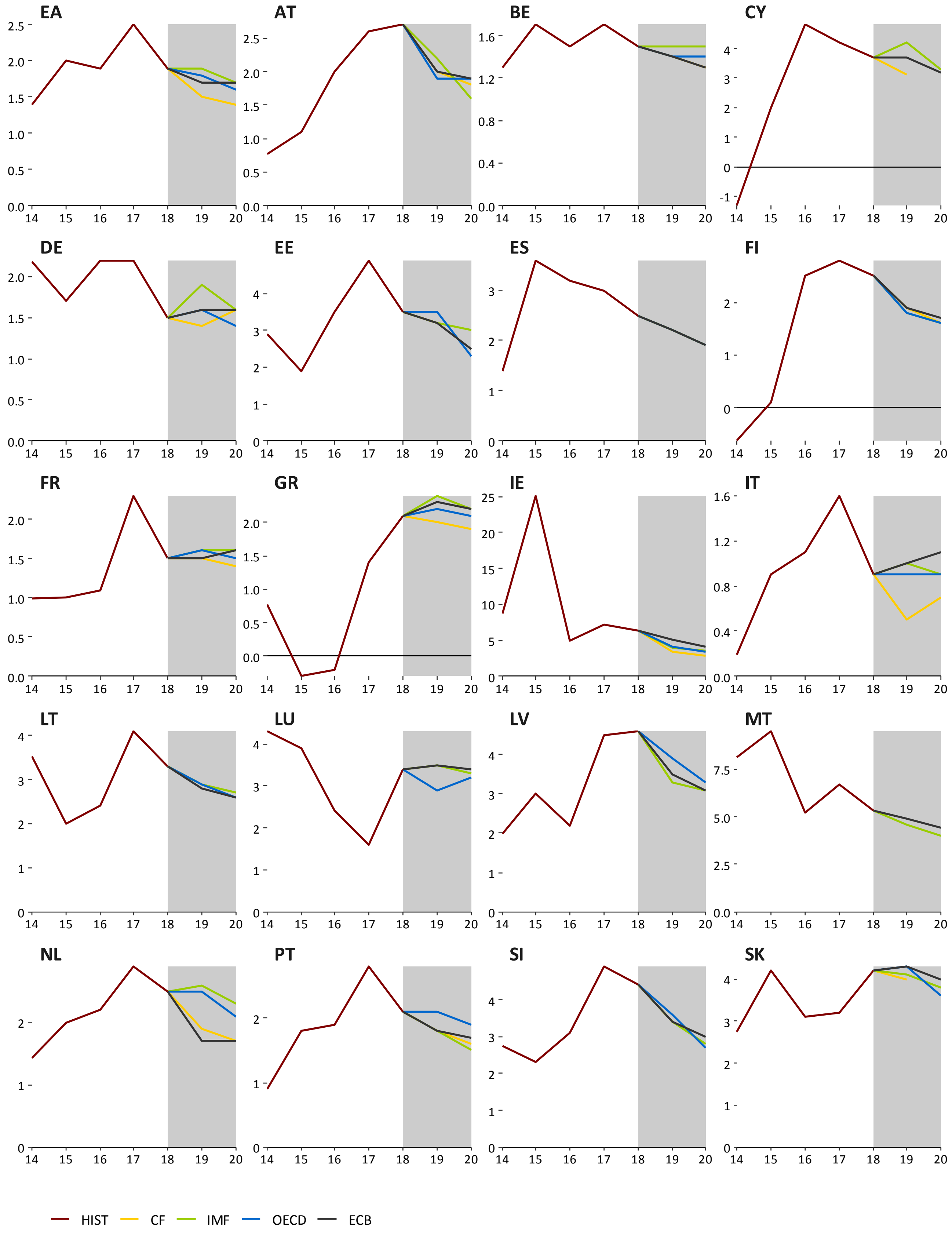
GDP growth, %

	CF		IMF		OECD		CB / EIU	
EA	---	2019/1 ---	0	2018/10 2018/4	---	2018/11 ---	0	2018/12 2018/9
DE	---	2019/1 ---	+0.1	2018/10 2018/4	---	2018/11 ---	0	2018/12 2018/6
US	---	2019/1 ---	-0.1	2018/10 2018/4	---	2018/11 ---	0	2018/12 2018/9
UK	---	2019/1 ---	0	2018/10 2018/4	---	2018/11 ---	0	2018/11 2018/8
JP	---	2019/1 ---	0	2018/10 2018/4	---	2018/11 ---	0	2018/10 2018/7
CN	---	2019/1 ---	-0.1	2018/10 2018/4	---	2018/11 ---	0	2018/12 2018/11
RU	---	2019/1 ---	+0.3	2018/10 2018/4	---	2018/11 ---	0	2018/12 2018/10

Inflation, %

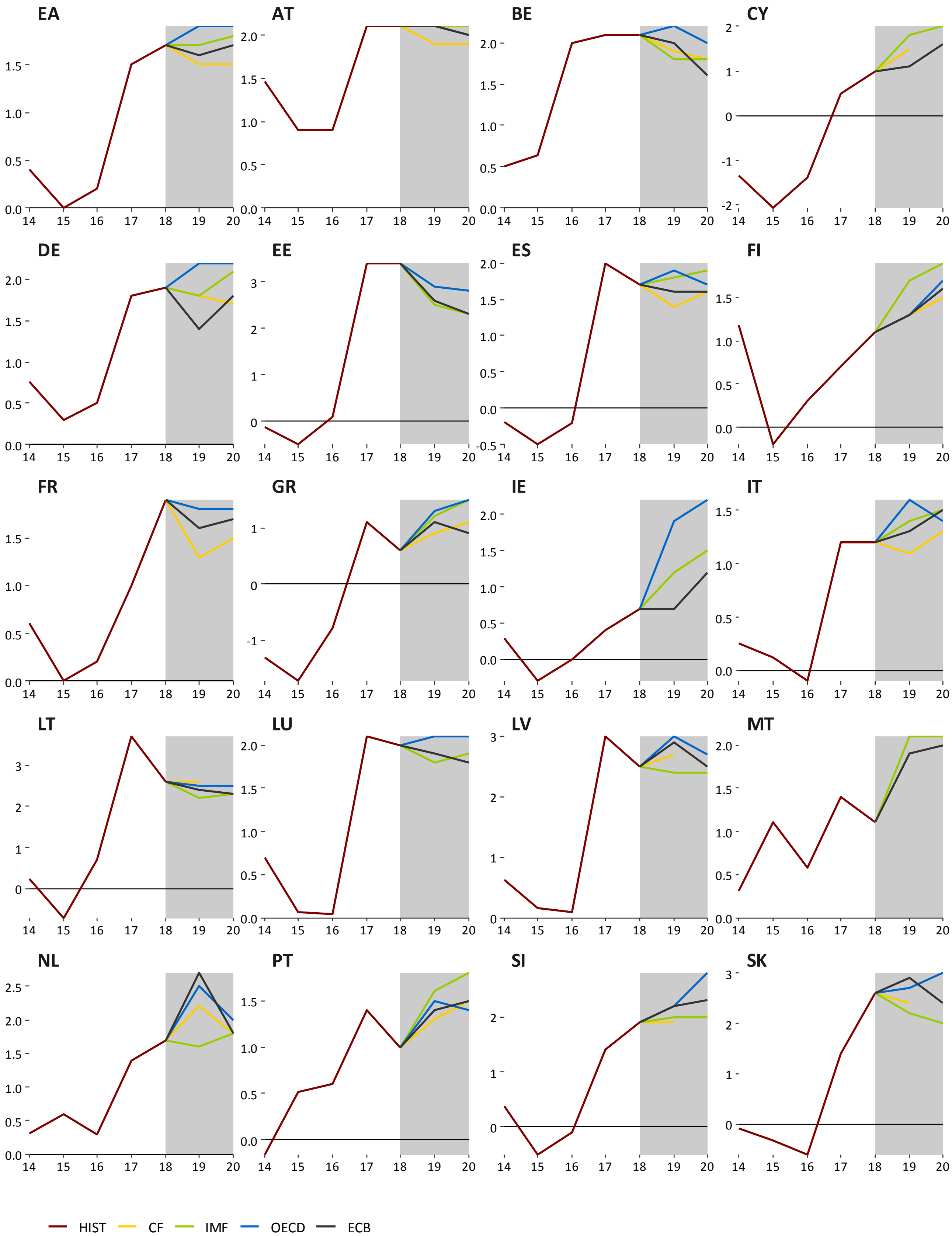
	CF		IMF		OECD		CB / EIU	
EA	---	2019/1 ---	0	2018/10 2018/4	---	2018/11 ---	0	2018/12 2018/9
DE	---	2019/1 ---	0	2018/10 2018/4	---	2018/11 ---	0	2018/12 2018/6
US	---	2019/1 ---	+0.2	2018/10 2018/4	---	2018/11 ---	0	2018/12 2018/9
UK	---	2019/1 ---	0	2018/10 2018/4	---	2018/11 ---	+0.1	2018/11 2018/8
JP	---	2019/1 ---	0	2018/10 2018/4	---	2018/11 ---	-0.1	2018/10 2018/7
CN	---	2019/1 ---	0	2018/10 2018/4	---	2018/11 ---	0	2018/12 2018/11
RU	---	2019/1 ---	+0.8	2018/10 2018/4	---	2018/11 ---	0	2018/12 2018/10

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
bbl	barrel
BE	Belgium
BoE	Bank of England (the UK central bank)
BoJ	Bank of Japan (the central bank of Japan)
bp	basis point (one hundredth of a percentage point)
CB	central bank
CBR	Central Bank of Russia
CF	Consensus Forecasts
CN	China
CNB	Czech National Bank
CNY	Chinese renminbi
ConfB	Conference Board Consumer Confidence Index
CXN	Caixin
CY	Cyprus
DBB	Deutsche Bundesbank (the central bank of Germany)
DE	Germany
EA	euro area
ECB	European Central Bank
EE	Estonia
EIA	Energy Information Administration
EIU	Economist Intelligence Unit
ES	Spain
ESI	Economic Sentiment Indicator of the European Commission
EU	European Union
EUR	euro
EURIBOR	Euro Interbank Offered Rate
Fed	Federal Reserve System (the US central bank)
FI	Finland
FOMC	Federal Open Market Committee
FR	France
FRA	forward rate agreement
FY	fiscal year
GBP	pound sterling
GDP	gross domestic product
GR	Greece
ICE	Intercontinental Exchange
IE	Ireland
IEA	International Energy Agency
IFO	Leibniz Institute for Economic Research at the University of Munich
IMF	International Monetary Fund
IRS	Interest Rate swap
ISM	Institute for Supply Management
IT	Italy
JP	Japan
JPY	Japanese yen
LIBOR	London Interbank Offered Rate
LME	London Metal Exchange
LT	Lithuania
LU	Luxembourg
LV	Latvia
MKT	Markit
MT	Malta
NIESR	National Institute of Economic and Social Research (UK)
NKI	Nikkei
NL	Netherlands
OECD	Organisation for Economic Co-operation and Development
OECD-CLI	OECD Composite Leading Indicator
PMI	Purchasing Managers' Index
OPEC+	member countries of OPEC oil cartel and 10 other oil-exporting countries (the most important of which are Russia, Mexico and Kazakhstan)
pp	percentage point
PT	Portugal
QE	quantitative easing
RU	Russia
RUB	Russian rouble
SI	Slovenia
SK	Slovakia
UK	United Kingdom
UoM	University of Michigan Consumer Sentiment Index - present situation
US	United States
USD	US dollar
USDA	United States Department of Agriculture
WEO	World Economic Outlook
WTI	West Texas Intermediate (crude oil used as a benchmark in oil pricing)
ZEW	Centre for European Economic Research