Global Economic Outlook

February 2020

CNB CZECH NATIONAL BANK

Contents

Luboš Komárek	Editor-in-chief, I. Introduction, V. Focus
Petr Polák	Editor, II.3 United Kingdom
Pavla Růžičková	II.1 Euro area
Soňa Benecká	II.2 United States, II.5 China
Oxana Babecká	II.4 Japan, II.6 Russia
Martin Motl	II.7 Developing countries in the spotlight
Jan Hošek	IV.1 Oil and natural gas, IV.2 Other commodities
Jan Babecký	V. Focus

I. Introduction

Lorem The top story this February is without doubt the fight against the coronavirus and its impact on the Chinese and global economy. Although the infection continues to spread and the number of infected individuals has risen sharply after China changed its diagnostic method, the first hopeful news on the development of a vaccine has begun to emerge. By mid-February, over 60,000 people had been infected and 1,400 had died, a far worse toll than in the previous SARS and MERS epidemics. The epidemic is expected not only to have a significant impact on the domestic economy, but also to disrupt supply chains on a global scale. Action taken by the Chinese government and central bank has so far prevented a marked worsening of the picture of the Chinese economy on financial markets to some extent. Another historic event was the US Senate's definitive decision finding President Donald Trump innocent in the impeachment process. Fed Chairman Jerome Powell gave his semi-annual monetary policy report on the state of the US economy before the economic committees of both houses of the Congress. Powell emphasised that the economy appeared resilient, economic growth was stable and unemployment was at a 50-year low. He saw risks in an escalation of the coronavirus outbreak, growth in the deficit, and in subpar productivity lowering business earnings and, in turn, investment.

February GDP growth and inflation outlooks for monitored countries, in %

GDP	EA	DE	US	UK	JP	CN	RU
2020	0.9	0.9	1.9	1.1	0.3	5.6	1.8
2021	1.2	1.1	2.0	1.5	0.8	5.8	1.9

Inflation	EA	DE	US	UK	JP	CN	RU
2020	1.2	1.4	2.0	1.6	0.6	3.2	3.7
2021	1.4	1.5	2.1	1.9	0.6	2.2	3.9

Source: Consensus Forecasts (CF)
Note: The arrows indicate the direction of revisions compared with the last GEO.

GDP growth outlooks indicate that the euro area and German economies will not achieve even 1% growth this year. The UK economy will fare similarly, as the BoE has revised its growth estimate to just 0.8% for this year, which will be dominated by the evidently difficult task of negotiating a UK–EU trade deal. It can also be expected that the Chinese GDP outlooks will continue to be revised downward, according to some estimates below 5%.

Consumer inflation outlooks for the euro area and Germany alone are still appreciably below the 2% ideal. No visible "improvement" is expected next year either. UK inflation will converge to the 2% inflation target considerably faster, while inflation in the USA should remain at an exemplary 2%. Inflation in China is expected to decrease gradually.
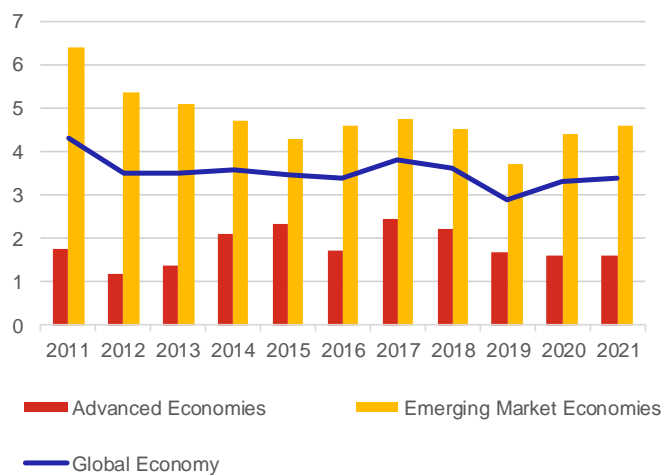
The dollar will weaken slightly against the euro, sterling and the yen at the one-year horizon, but will remain relatively stable against the rouble and will strengthen slightly against the renminbi. The CF outlook for the **Brent crude oil price** at the one-year horizon is slightly lower than in January, at USD 61/bbl (highest estimate USD 70/bbl, lowest estimate USD 48/bbl). The price of oil can be expected to fall more significantly if the effects of the coronavirus continue to strengthen. The outlook for **market rates** is still slightly falling for the 3M USD LIBOR, while the outlook for 3M EURIBOR rates remains negative over the entire outlook horizon.

Annual GDP growth in advanced and emerging economies, in %

Source: IMF World Economic Outlook
Note: Projections for 2020 and 2021.

The chart in the February issue shows how the IMF expects the global economy to perform in the next two years. Economic growth will be visibly higher in emerging market and developing economies than in advanced economies. Nevertheless, the economic strength of the advanced (G20) countries is still higher than the overall output of the remaining countries of the world. The positive news is that the approximately 3% growth of the global economy achieved last year should accelerate, despite all the uncertainty associated with the (albeit fading) impacts of trade wars, Brexit and possibly also the coronavirus.

The current issue also contains an analysis: Regional disparities in selected EU countries. The article focuses on economic performance in the regions of the new member states compared with the traditional EU countries. It points to the widening gap between capital cities and other regions and draws attention to the importance of EU regional.

II.1 Euro area

Economic growth in the euro area slowed unexpectedly in 2019 Q4 due to weak results in December. According to the preliminary Eurostat estimate, annual GDP growth dropped to 0.9%. The economy grew by just 0.1% quarter on quarter. It was mainly the largest economies of the monetary union that did not perform well. German GDP stagnated at the end of last year, while France and Italy even saw quarter-on-quarter declines (of 0.1% and 0.3% respectively). Among the larger economies, only Spain recorded a slight pick-up in economic growth at the year-end. The weaker-than-expected final-quarter results are due to unpleasant surprises in the data published in December for industry and this time also services. Euro area industrial production declined by 2.1% in December (the year-on-year rate of decline deepened to 4.1%). The sharpest drop in production was recorded at the very end of the year by Ireland, followed by France, Italy and Germany. This time around, the poor industrial performance was joined by a decline in consumer demand. Retail sales dropped by a marked 1.6% in December, causing their year-on-year pace of growth to slow to 1.3%.

Available business cycle indicators suggest that the euro area economy will continue to show muted quarterly growth at the start of this year. The composite PMI rose again in January (to 51.3). The improvement in outlooks is this time associated with purchasing managers' opinions on future conditions in industry. The PMI in manufacturing rose sharply in January. However, it remains in the contraction band, so a continued decline in industrial production is expected for the months ahead, though at a rather slower pace than until now. The services index, on the other hand, fell slightly in January, but still indicates slightly positive growth of the sector. Overall, the economy should thus maintain weak positive growth in total output. The European Commission's January survey indicates a similar outlook. The Economic Sentiment Indicator (ESI) in the euro area rose again, but remains only slightly above its long-term average. A more detailed view reveals that sentiment in industry has improved (though it remains negative) and (the positive) sentiment in services has worsened only slightly. Only the ZEW economic sentiment index is expressly positive. It rose significantly in January (to 25.6). This
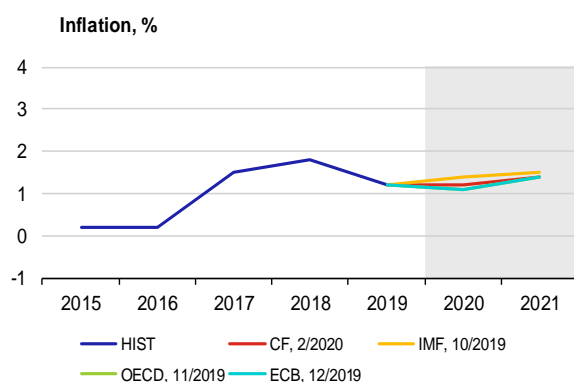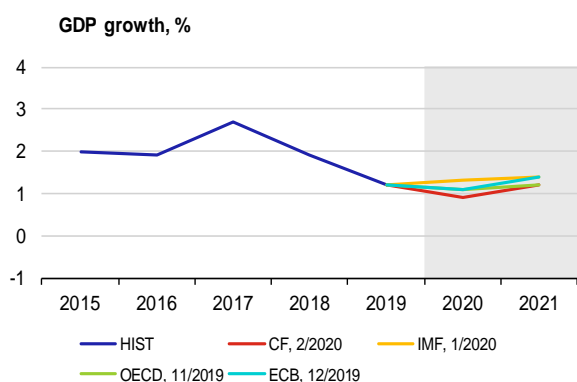
GDP growth, %

	CF		IMF		OECD	ECB
2020	0.9	⬇	1.3	⬇	1.1	1.1
2021	1.2	➡	1.4	➡	1.2	1.4

Inflation, %

	CF		IMF	OECD	ECB
2020	1.2	⬇	1.4	1.1	1.1
2021	1.4	➡	1.5	1.4	1.4

GDP growth in selected euro area countries in 2020 and 2021, %
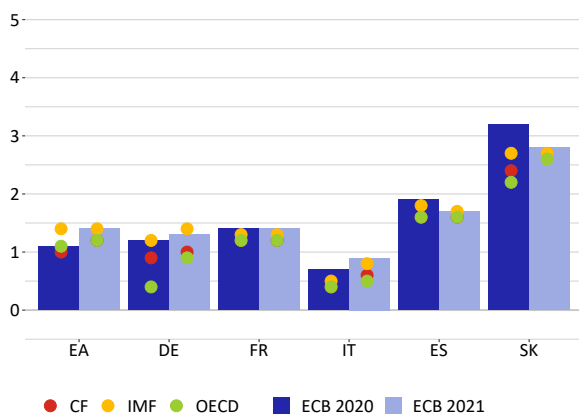
**Inflation in selected euro area countries in 2020 and 2021, %**
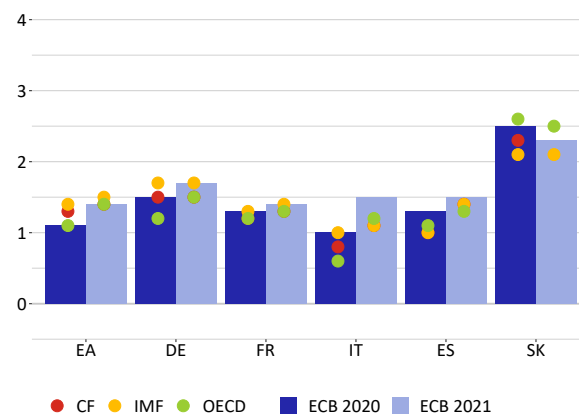
Note: Charts show institutions' latest available outlooks of for the given economy.

represents a very solid excess of expectations of growth over decline among its respondents – the largest excess since the start of 2018.

The full-year growth of the euro area will slow further this year due to continued subdued growth, while the outlooks foresee only a slight recovery next year. The February CF lowered the average pace of growth for this year to 0.9% and revised down its outlooks for France and Italy among the large economies. The updated IMF forecast likewise lowered the economic growth outlook for the euro area for 2020 (to 1.3%). Next year, a slight recovery awaits the economy, owing to still very easy monetary policy, slightly expansionary fiscal policy and a very tight labour market. Unemployment in the euro area decreased to 7.4%, just one tenth of a per cent above the historical low it recorded at the turn of 2008. The unusually low unemployment rate will continue to put upward pressure on real wages and thus support domestic demand. According to the February CF, growth in private consumption will maintain its 1.2% pace.
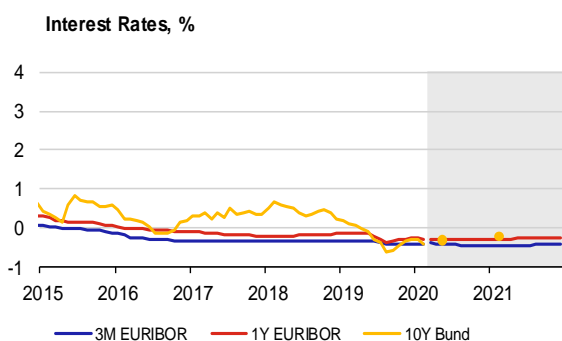
Inflation in the euro area will remain subdued this year and the next. Headline inflation rose to 1.4% in January, according to the preliminary estimate. However, the slight pick-up in inflation is probably due to the only temporary effect of the currently higher year-on-year growth in energy prices. By contrast, core inflation fell to 1.1 %. The February CF revised its average inflation outlook for this year down to 1.2%, referring to the observed decline in the oil price on concerns about the impacts of the coronavirus epidemic in China. It still expects inflation of 1.4% next year, well below the ECB's inflation target. At its January meeting, the ECB confirmed its current monetary policy stance. At the press conference, the ECB President said the Governing Council stood ready to respond flexibly to future developments and to use all available instruments, even during this year's review of monetary policy strategy. Inflation expectations in particular are attracting attention. They began to fall again in February according to five-year inflation swaps. The outlooks for short-term interest rates moved slightly lower than in the previous month, especially at their longer end (2021). According to the February CF survey, the 3M EURIBOR will remain at -0.4% at the one-year horizon. The outlook for the German government ten-year bond yield one year ahead move 0.1 pp higher than in January, while remaining negative.

ESI leading indicators

ESI leading indicators
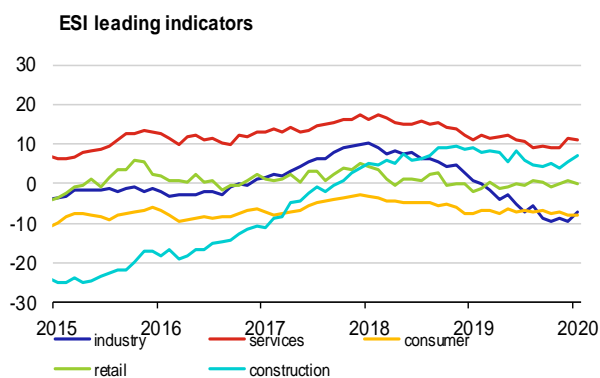
	industry	services	consum.	retail	constr.
11/19	-8.9	9.2	-7.2	-0.2	3.9
12/19	-9.3	11.3	-8.1	0.7	5.7
1/20	-7.3	11.0	-8.1	-0.1	6.9
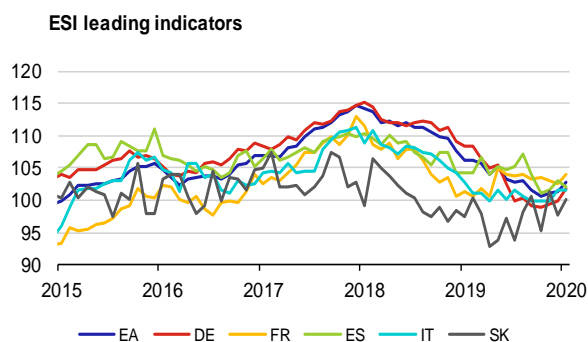
	EA	DE	FR	ES	IT	SK
11/19	101.1	99.3	103.1	101.7	99.9	101.3
12/19	101.3	99.8	102.6	103.0	101.6	97.8
1/20	102.8	101.8	104.1	102.0	101.5	100.2

Interest Rates, %

Inflation expectations in the euro area, %

Note: Inflation expectations based on 5year inflation swap and SPF

	1/20	2/20	5/20	2/21
3M EURIBOR	-0.39	-0.40	-0.42	-0.44
1Y EURIBOR	-0.25	-0.28	-0.28	-0.28
10Y Bund	-0.30	-0.40	-0.30	-0.20

II.2 United States

Preliminary data for 2019 Q4 confirm that though the US economy is slowing, its growth remains solid. GDP growth reached 2.1% (quarter-on-quarter, annualised), the same as in 2019 Q2 and Q3. The full-year result (2.3%) was thus below President Trump's 3% target. The drop in business investment intensified at the year-end, amid slowing growth in private consumption. It dropped to 1.8% (quarter-on-quarter, annualised), from 2.8% in Q3. Contributing to the worse overall results of the US economy at the close of the year were a strike at General Motors and problems at Boeing, which in January even halted aircraft production for the first time in 20 years due to technical problems with the 737 MAX. A decrease in imports, and hence also the trade deficit, mainly due to import duties on goods from China, had the opposite effect.

Current data indicate that the 11-year expansion of the US economy will continue in 2020. According to the Atlanta Fed, the economy will grow at a pace of around 2.7% in 2020 Q1. Overall, according to the current CF outlook, the US economy will grow at a rate of 1.9% this year, 0.4 pp lower than in 2019. The IMF expects growth of around 2%. Despite the falling business investment, the labour market remains robust. Non-farm payrolls reached 225,000 in January, while Reuters analysts had expected only 160,000. The unemployment rate edged up to 3.6%, while the average hourly wage rose by 3.1% year on year. Industrial activity continued to fall year on year at the close of 2019, and capacity utilisation did not rise either. Leading indicators are mixed, but industrial production in the USA could be bolstered in the coming months by the signing of the phase 1 trade agreement with China.

Fed representatives also assess the current state of the economy as good, but are carefully monitoring how the risks develop. While the geopolitical and trade risks have receded, the possible impacts of the coronavirus epidemic in China are currently unclear. According to the Fed, the labour market remains strong. In line with its previous statements, the US central bank therefore did not change its monetary policy stance in January. Financial markets do not expect any shift in the key rate range at the six-month horizon either, but monetary policy could still be eased further before the year-end.

GDP growth, %
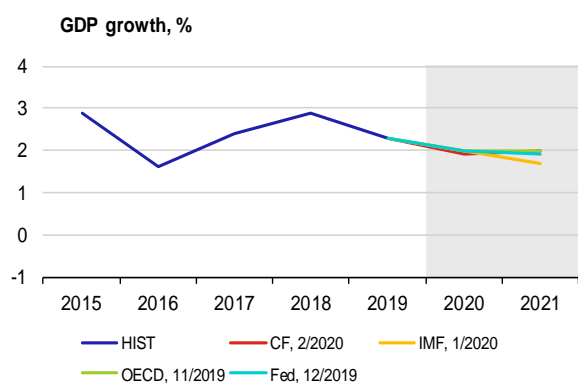
	CF		IMF		OECD	Fed
2020	1.9		2.0		2.0	2.0
2021	2.0		1.7		2.0	1.9

Inflation, %
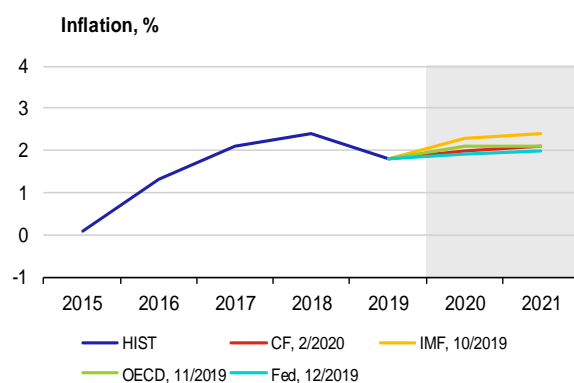
	CF		IMF		OECD	Fed
2020	2.0		2.3		2.1	1.9
2021	2.1		2.4		2.1	2.0

Leading indicators
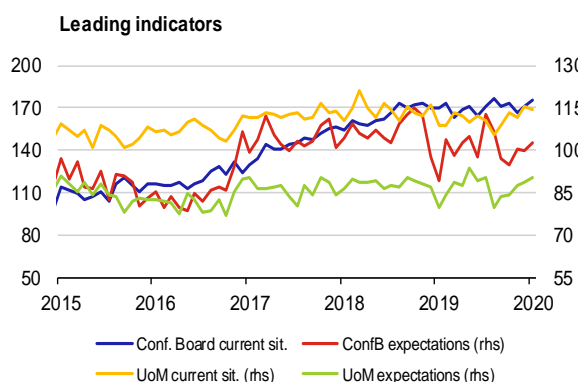
	ConfB curr.	ConfB exp.	UoM curr.	UoM exp.
11/19	166.6	100.3	111.6	87.3
12/19	170.5	100.0	115.5	88.9
1/20	175.3	102.5	114.4	90.5

Interest Rates, %
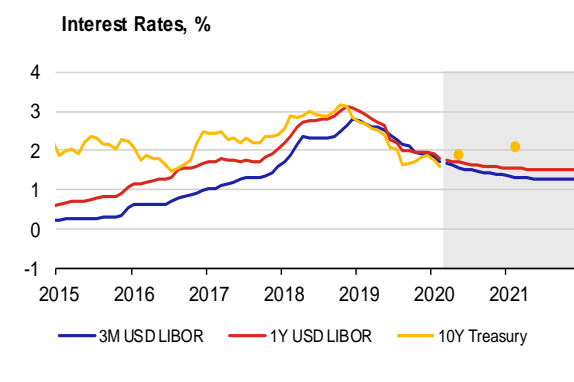
	1/20	2/20	5/20	2/21
USD LIBOR 3M	1.82	1.73	1.57	1.33
USD LIBOR 1R	1.92	1.92	1.70	1.55
Treasury 10R	1.76	1.58	1.90	2.10

II.3 United Kingdom

The UK economy is profiting from post-election growth in consumer and business confidence. According to current data, the NIESR expects 0.2% growth in economic activity in Q1. The British economy grew by 1.4% last year, and stagnated in Q4. The BoE's January outlook is not very optimistic. It lowered its growth estimate for 2020 by 0.5 pp compared with the November forecast, to 0.75%. This is a little at odds with the upward growth revisions for the global and euro area economies, but reflects the government's decision ruling out an extension of the transition period. The forward-looking PMI composite indicator, which as a whole (and especially in services) has risen and is in an expansion phase, also point to a further possible recovery. The inflation outlook for the coming years remains unchanged. CF kept its GDP growth outlook for this year at 1.1% and revised up its outlook for next year to 1.5%. In its January outlook, the IMF estimated economic growth this year at 1.4%.

GDP growth, %

Inflation, %

	CF		IMF		OECD	BoE	
2020	1.1	→	1.4	→	1.0	0.8	↘
2021	1.5	↗	1.5	→	1.2	1.5	↘

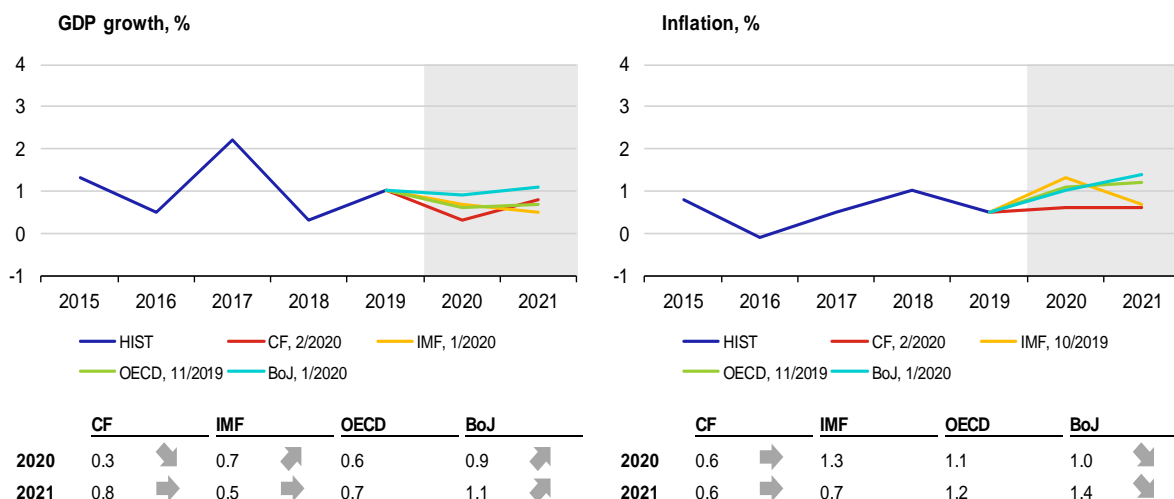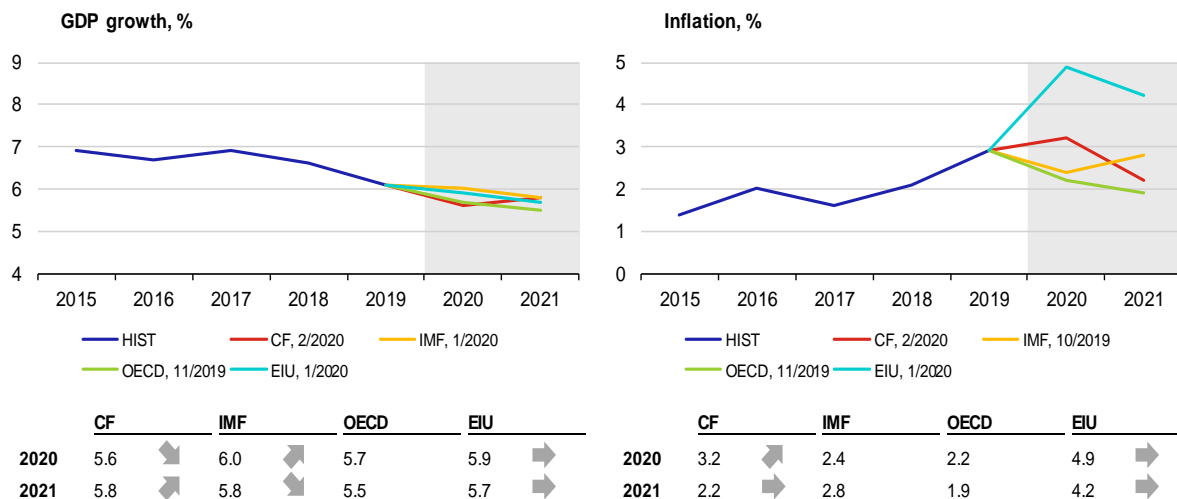|	CF		IMF	OECD	BoE	
2020	1.6	↘	1.9	2.2	1.5	→
2021	1.9	→	2.0	2.1	2.0	→
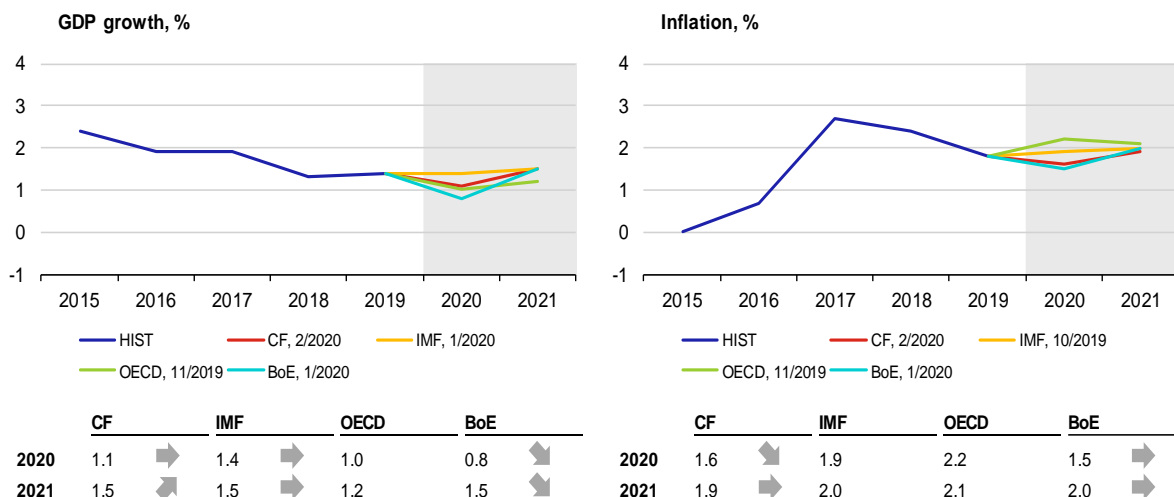
II.4 Japan

At the end of the year, the Japanese economy saw its largest contraction since 2014, and the situation in 2020 Q1 will be affected by the coronavirus epidemic. Japan's GDP fell by 1.6% (6.3% annualised) in quarter-on-quarter terms in 2019 Q4, mainly due to falling consumption and weak external demand. Japan's leading car maker, Toyota, which is also the world's second-largest car manufacturer, was forced to close its factories in China until roughly mid-February and expects lower car sales during the epidemic. Nissan temporarily (until about 17 February) halted production at its Kyushu plant in south-western Japan due to a lack of parts. The epidemic will also affect tourism and, through it, Japanese department stores. China accounted for 30% of all visitors to Japan last year and almost 40% of total spending by foreign tourists.

GDP growth, %

Inflation, %

	CF		IMF		OECD	BoJ	
2020	0.3	↘	0.7	↗	0.6	0.9	↗
2021	0.8	→	0.5	→	0.7	1.1	↘

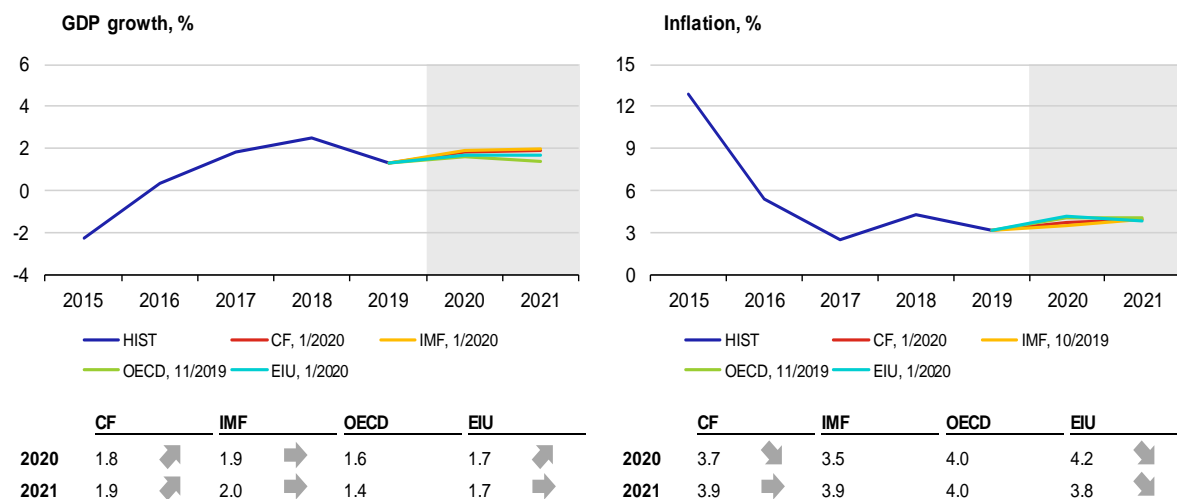|	CF		IMF	OECD	BoJ	
2020	0.6	→	1.3	1.1	1.0	↘
2021	0.6	→	0.7	1.2	1.4	↘

II.5 China

The rapidly spreading coronavirus epidemic, which the Chinese authorities initially underestimated, paralysed the Chinese economy for several weeks. The services sector, which now forms one-half of Chinese GDP, will be hard hit from retail to shipping. However, the Chinese authorities' response is unprecedented in all respects. Besides a shut-down of all activity in the worst-affected areas, medical staff have been mobilised throughout the country and hospitals have been built in two weeks. After the financial markets started up again, the central bank cut the reverse repo rate by 0.1 pp and supplied large amounts of liquidity and targeted support to the hardest-hit provinces. A financial injection will be necessary, as many Chinese firms are already facing financial difficulties. The Chinese New Year celebrations are among the most lucrative times of the year for many sectors. The restoration of production and supplies is also not going as smoothly as necessary. The CF analysts have therefore lowered the GDP growth outlook for this year, while the IMF is more optimistic.

GDP growth, % — Inflation, %

	CF		IMF		OECD	EIU			CF		IMF		OECD	EIU	
2020	5.6		6.0		5.7	5.9		**2020**	3.2		2.4		2.2	4.9	
2021	5.8		5.8		5.5	5.7		**2021**	2.2		2.8		1.9	4.2	

II.6 Russia

According to Rosstat's first estimate, the growth rate of the Russian Federation's economy last year was the weakest since 2016. GDP growth in 2017 and 2018 was revised upwards by 0.2 pp at the same time. As a result, the growth in 2019 slowed to 1.3% from the previous 2.5%, but was somewhat higher than the outlooks regularly monitored in GEO, the most accurate of which was the December CF (1.2%). The biggest contributor to GDP growth was value added growth in mining (2.7%), where production of natural gas and gas condensate increased by 10.6% and mining of ores and non-ferrous metals by 9.2%. In manufacturing (total growth of 1.6%), the biggest increases were recorded for finished metal products (8.7%) and pharmaceuticals (18.6%). The share of net exports dropped from 10% in 2018 to 7.7%.

GDP growth, % — Inflation, %

		CF		IMF		OECD	EIU			CF		IMF		OECD	EIU	
2020	1.8		1.9		1.6	1.7		**2020**	3.7		3.5		4.0	4.2	
2021	1.9		2.0		1.4	1.7		**2021**	3.9		3.9		4.0	3.8	

II.7 Developing countries in the spotlight

The Mexican economy underwent a mild recession last year. This partly reflected uncertainty linked with the international trade situation. The US-Mexico-Canada Trade Agreement (USMCA) recently approved in the US Senate opens the door for these uncertainties to fade and investor confidence to be restored. Economic growth in Mexico is expected to accelerate gradually over the next two years from zero in 2019 to around 1.1% this year and 1.6% in 2021. Economic growth will be underpinned by lower interest rates and higher public spending. By contrast, structural reforms undertaken in recent years are not expected to reach their full potential, mainly due to institutional and political obstacles.

Consumer prices in Mexico rose by 3.2% year on year in January. This reflected rapid growth in core inflation as a result of rising consumer demand amid a gradual recovery in economic activity. These higher demand pressures, reflecting, among other things, higher wage growth, will also stimulate consumer price inflation over the next two years, when consumer prices are expected to rise by around 3.5%. Labour market reforms are strengthening labour law and the role of collective bargaining (USMCA requirements). The Mexican government is trying to tackle historically low wages, which rank among the lowest in Latin America. The minimum wage, which was raised by 16% last year, will thus continue to increase this year. It is expected to go up by another 20% in 2020. The future volatility of the exchange rate of the Mexican peso poses an inflation risk. In the coming months, the rate will be influenced, among other things, by economic relations with the United States before the US elections in November this year. The current Mexican government's debt-increasing economic policy actions, which will continue to focus on increasing social spending this year, will also be a risk to the exchange rate. The Mexican peso has nonetheless strengthened more than any other emerging economy currency in recent months, on expectations of the USMCA being signed. In the coming quarters, the Mexican peso is expected to weaken slightly and continue to fluctuate below its 10-year average against the US dollar, boosting exports through increased price competitiveness.

GDP growth, %

	CF	IMF	OECD	EIU
2020	1.1	1.0	1.2	1.1
2021	1.8	1.6	1.6	1.6

Inflation, %

	CF	IMF	OECD	EIU
2020	3.4	3.1	2.7	3.4
2021	3.5	3.0	2.7	3.1

Currency performance vis-à-vis USD

% change over 1/12/2019 to 10/02/2020 period

Selected indicators

	10Y gov. bond, %	interest rate, %	MXN/USD
12/2019	7.13	7.40	19.10
1/2020	6.96	7.25	18.80
2/2020	6.85	7.20	18.67

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III. Leading indicators and outlook of exchange rates

OECD Composite Leading Indicator

Legend: EA, US, UK, JP, CN, RU

The US dollar (USD/EUR)

Legend: USD/EUR (spot), CF forecast, forward rate
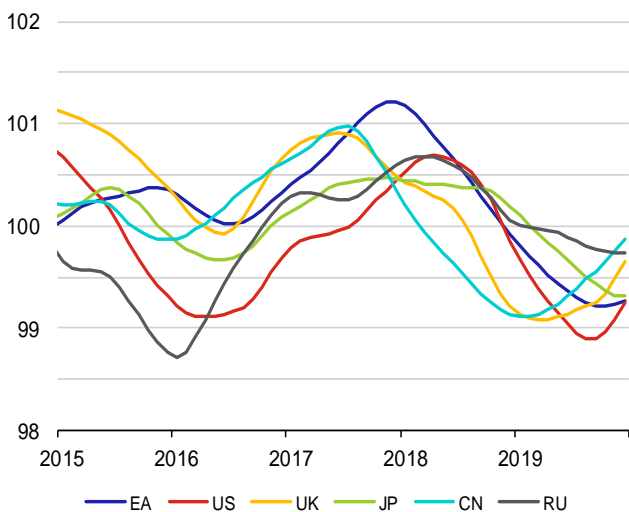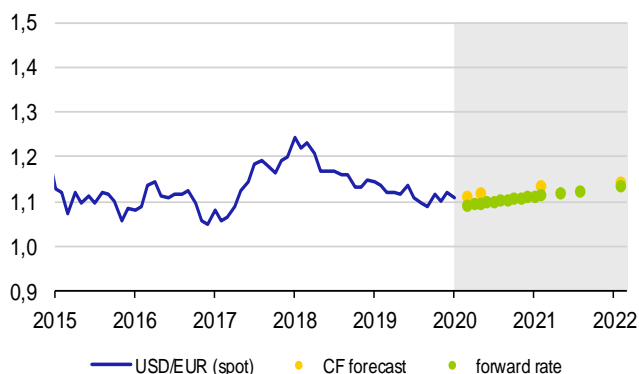
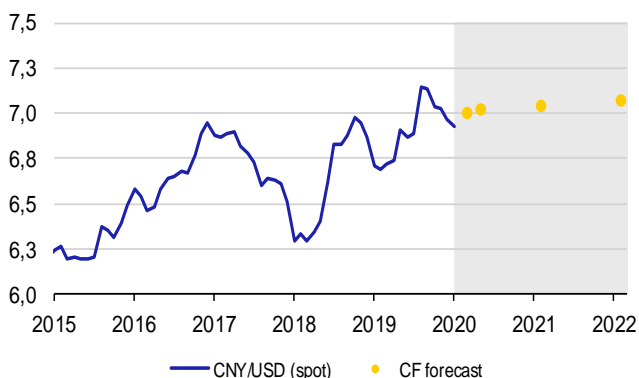|	10/2/20	3/20	5/20	2/21	2/22
spot rate	1.092				
CF forecast		1.111	1.118	1.136	1.144
forward rate		1.093	1.097	1.114	1.135

The British pound (GBP/USD)

Legend: GBP/USD (spot), CF forecast, forward rate
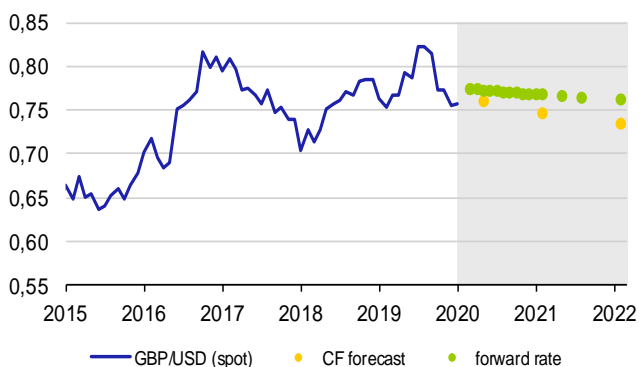
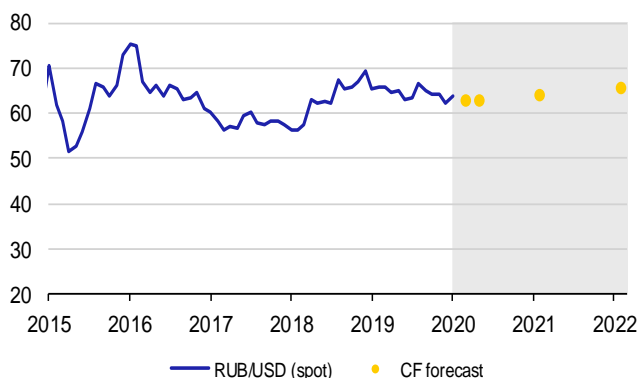|	10/2/20	3/20	5/20	2/21	2/22
spot rate	0.774				
CF forecast		0.774	0.759	0.746	0.735
forward rate		0.774	0.772	0.767	0.762

The Japanese yen (JPY/USD)

Legend: JPY/USD (spot), CF forecast, forward rate
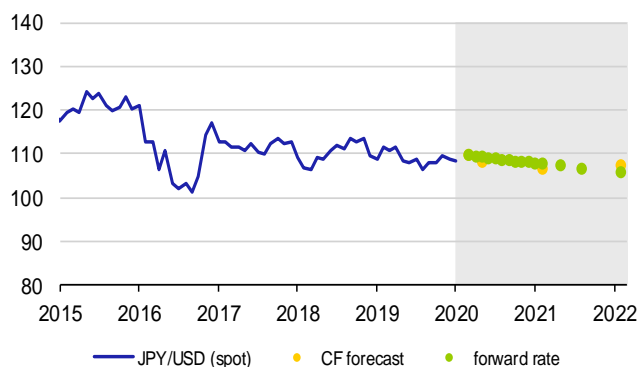
	10/2/20	3/20	5/20	2/21	2/22
spot rate	109.7				
CF forecast		109.7	108.1	106.5	107.4
forward rate		109.6	109.2	107.7	105.8

The Chinese renminbi (CNY/USD)

Legend: CNY/USD (spot), CF forecast

	10/2/20	3/20	5/20	2/21	2/22
spot rate	6.985				
CF forecast		6.998	7.020	7.041	7.075

The Russian rouble (RUB/USD)

Legend: RUB/USD (spot), CF forecast

	10/2/20	3/20	5/20	2/21	2/22
spot rate	64.12				
CF forecast		62.84	63.01	63.96	65.74

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.1 Oil and natural gas

The Brent crude oil price peaked at the start of January, then dropped sharply during the rest of the month. In early February the decline stopped and the price fluctuated around USD 55/bbl. The US-Iran conflict temporarily buoyed the Brent crude oil price above USD 68/bbl at the start of January. After the situation in Iraq calmed, however, oil prices began to drop quickly on fears of expected strong growth in production outside the OPEC+ countries. The oil price was temporarily supported in late January by production shortfalls in Libya (of more than 1 million b/d), but then dropped again sharply in reaction to fears that the coronavirus epidemic in China would severely harm the local economy and global oil demand. Chinese refineries cut fuel production by 15% (around 2 million b/d), and Chinese demand for oil is estimated to have dropped by 20%–25%. Hedge funds sharply reduced their net long oil positions. OPEC's technical committee is proposing to cut output by a further 600,000 b/d until June, but Russia is reluctant to support this proposal and prefers only to extend the existing extraction limits to Q2. Most analysts revised down their global oil demand growth outlooks for this year (with the largest fall expected in Q1). Demand was also dampened by an unusually warm January in the northern hemisphere. The EIA substantially lowered the expected Brent crude oil price, especially for the first two quarters of this year (to USD 58.6/bbl and USD 57.7/bbl respectively). The price of oil should then start rising to USD 65/bbl at the end of this year, thanks to a calming of the situation in China, a slowdown in production and a seasonal increase in demand. The EIA expects a Brent crude oil price of USD 69/bbl at the end of 2021. The futures curve at the start of February has a slightly downward path and implies a Brent crude oil price of USD 55/bbl and USD 54.6/bbl at the end of this year and the next respectively. The February CF is again between the above outlooks, with a price of USD 61/bbl one year ahead.

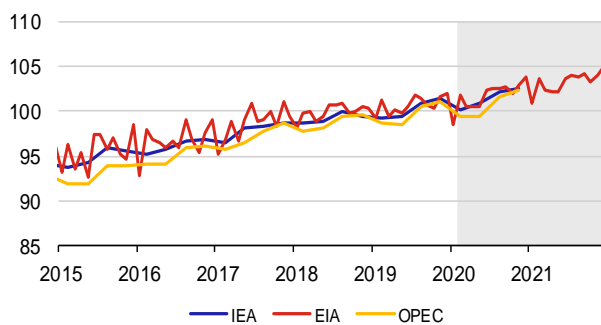**Outlook for prices of oil (USD/barrel) and natural gas (USD / 1000 m³)**
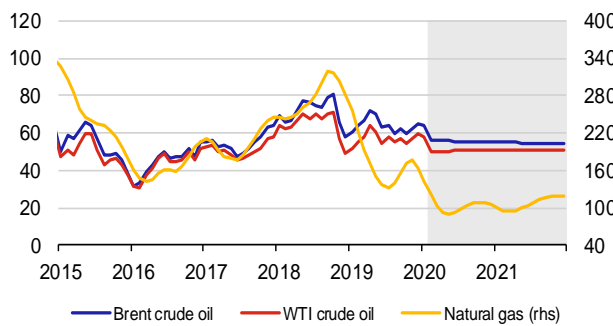
	Brent		WTI		Natural gas	
2020	56.19		51.04		105.91	
2021	54.78		50.79		107.08	

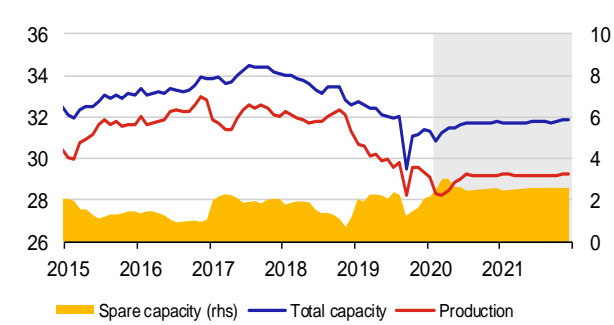**Total stocks of oil and oil products in OECD (bil. barrel)**
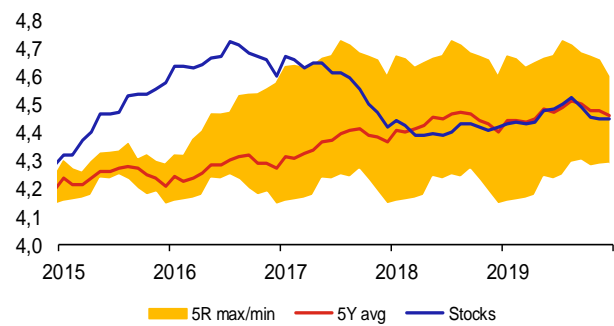
Global consumption of oil and oil products (mil. barrel / day)

	IEA		EIA		OPEC	
2020	101.45		101.74		100.72	
2021			103.27			

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

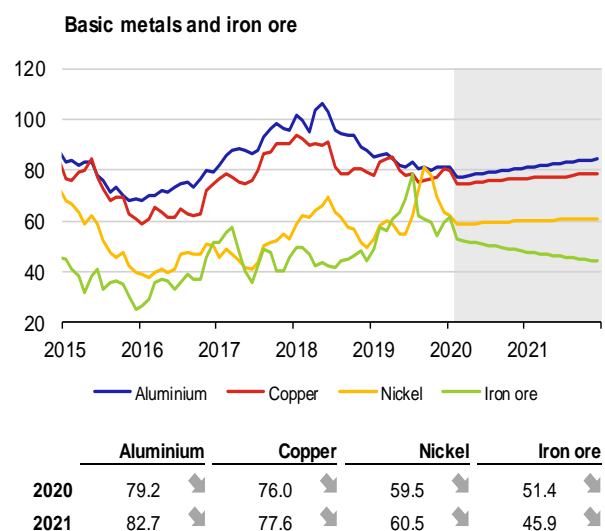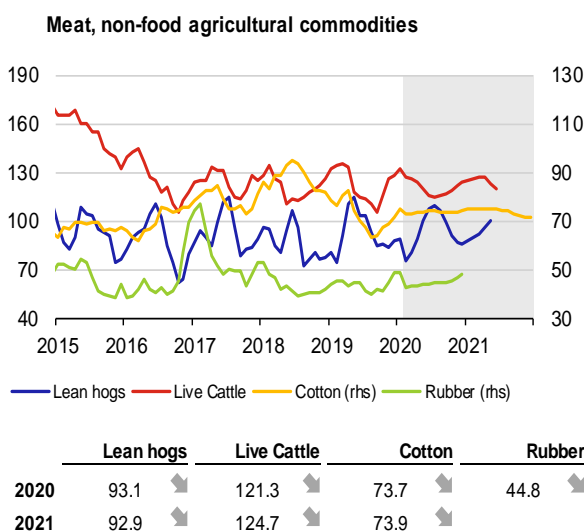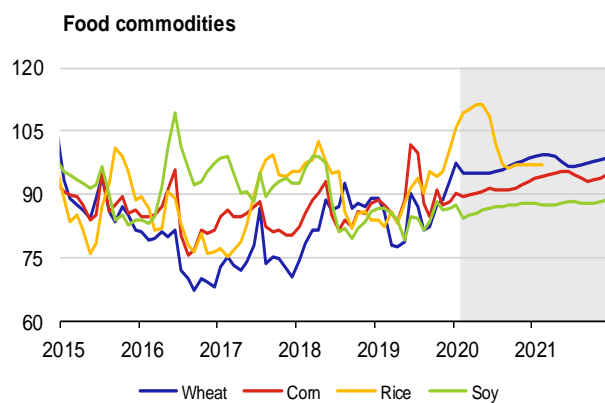|	Production		Total capacity		Spare capacity	
2020	28.93		31.51		2.59	
2021	29.21		31.76		2.55	

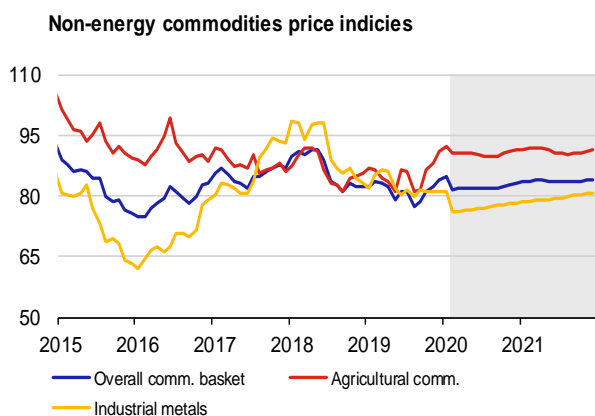Source: Bloomberg, IEA, EIA, OPEC, CNB calculation
Note: Oil price at ICE, average gas price in Europe – World Bank data, smoothed by the HP filter. Future oil prices (grey area) are derived from futures and future gas prices are derived from oil prices using model. Total oil stocks (commercial and strategic)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

IV.2 Other commodities

The aggregate non-energy commodity price index kept rising in January, but fell sharply in the first half of February; both components contributed, the metals price sub-index more so. The latter was still supported in the first half of January by optimism due to the signing of the phase 1 US-China trade deal and signs of a stabilisation of global manufacturing. However, there was a sharp decline in the second half of the month, owing to measures taken to halt the spread of the coronavirus in China, which slowed Chinese industry and construction. The industrial metals price sub-index (specifically the aluminium price outlook) is also the main contributor to the growth outlook for the aggregate index.

Industrial raw material prices declined across the board in late January, but copper, iron ore and rubber prices were hardest hit by the developments in China. In the first half of February, the decline stopped and prices stabilised. The copper price fluctuated near a three-year low, partly due to a rise in stocks at the LME. The J.P.Morgan Global Manufacturing PMI rose to a 9-month high in January (from 50.1 to 50.4), but the improving trend is likely to be disrupted by the epidemic in China.

Food commodity prices showed very mixed trends. The price of wheat kept rising, but lost some of its gains due to the events in China. Rice and sugar prices continued to show strong growth in February. The price of corn stagnated from mid-December and recorded just a small decline in late January. The soy price fell during January, losing all its December gains. The coffee price has been falling sharply since the start of the year, while the price of cocoa has been moving in the opposite direction. The price of pork reacted to the epidemic in China by slumping, while the price of beef fell only slightly.

Non-energy commodities price indicies

	Overall		Agricultural		Industrial	
2020	82.3		90.6		77.4	
2021	83.6		91.1		79.6	

Food commodities

	Wheat		Corn		Rice		Soy	
2020	96.2		91.0		103.6		86.9	
2021	98.2		94.4		97.0		88.0	

Meat, non-food agricultural commodities

	Lean hogs		Live Cattle		Cotton		Rubber	
2020	93.1		121.3		73.7		44.8	
2021	92.9		124.7		73.9			

Basic metals and iron ore

	Aluminium		Copper		Nickel		Iron ore	
2020	79.2		76.0		59.5		51.4	
2021	82.7		77.6		60.5		45.9	

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

Regional disparities in selected EU countries[1]

An assessment of economic performance at the regional level in selected EU countries shows that while regional disparities in traditional EU member states (Germany, Austria and Portugal) are generally decreasing, those in countries that joined later (the Czech Republic, Hungary, Slovakia and Romania) are widening. This is especially true of the gaps between the capital cities and other regions of these countries. In this article we also draw attention to the importance of EU regional policy, which has undoubtedly suppressed traditional agglomeration effects.

Concentration of activities and EU regional policies

In the EU, as in other parts of the world, there are two traditional processes that affect the concentration of people and wealth. The first leads to agglomeration effects, i.e. the migration of people to narrower geographical areas (typically capital cities and their suburbs), while the second is linked with dispersion effects, i.e. a decline in the concentration of people. In the language of regional (spatial) economics, agglomeration forces work on both the demand side (firms want to be located in places where labour is available) and the supply side (selling in agglomerations where total purchasing power is high and transport costs are minimal). Historically, these forces, resulting mainly from natural economies of scale, have been dominant. Dispersion forces act in the opposite direction, lowering the concentration of people in city centres. Dispersion forces arise due, for example, to efforts to prevent negative concentration effects (air pollution, light pollution, noise, etc.), which lead people to leave large agglomerations.

The balance between agglomeration and dispersion forces and the resulting distribution of wealth among regions can be influenced to a large extent by regional policy. By intentionally supporting less developed regions, regional policy evens out economic conditions and motivates people to stay outside centres. The largest agglomerations in Europe can be identified using night-time satellite images (see Chart 1). The wealthy, densely populated regions lie close to each other and form the engine of the European economy, whereas the poor, sparsely populated regions are geographically remote. This makes it sensible to ignore national borders and think more regionally when considering the distribution of economic activity in Europe.

Chart 1 – Europe at night

Source: ScienceAdvances, http://advances.sciencemag.org/content/2/6/e1600377
Note: White and red areas indicate the greatest amount of artificial light, i.e. city agglomerations. Black areas show areas with natural darkness.

Supporting regional growth and reducing wealth disparities between EU regions is a key area of EU economic policy. Regional policy is the second-largest spending item of the EU budget (behind the common agricultural policy). It is supported mainly from structural funds, the Cohesion Fund, and the European Regional Development Fund. These make up approximately one-third of the EU budget.[2] The wealth indicator used for regions in decisions on the allocation of structural funds is GDP per capita in purchasing power parity at the level of NUTS 2 regions.[3] For regional policy, the reference value is the EU average. NUTS 2 regions that have a per capita GDP of less than 75% of this average are given priority in the allocation of European structural funds. By contrast, the Cohesion Fund is designed to support poorer countries as whole entities, the reference value for support being gross national income per capita that is less than 90% of

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[1] Authors: Jan Babecký and Luboš Komárek. The authors would like to thank Vít Bárta and Petr Polák of the Czech National Bank for stimulating discussions. 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 June 2018, the Commission published a new proposal for allocating funds for regional development and cohesion policy beyond 2020. The proposal's main objectives are to modernise cohesion policy (the goal being to drive up economic and social convergence while helping regions), simplify it and prepare it for new challenges. Even after 2020, regions should remain separated into three categories: (1) less developed, (2) transition and (3) more developed. All the regions of the EU, even the richest ones, are to remain eligible for some form of funding under the plan. According to the Commission, cohesion policy spending in the 2021–2027 period should amount to EUR 373 billion.

[3] NUTS (Nomenclature d'unités territoriales statistiques) indicates the nomenclature of statistical territorial units. The Czech Republic is divided into eight NUTS 2 regions: CZ01 Prague, CZ02 Central Bohemia, CZ03 Southwest, CZ04 Northwest, CZ05 Northeast, CZ06 Southeast, CZ07 Central Moravia and CZ08 Moravian-Silesian.

the EU average.[4] The European Regional Development Fund is also active in the area of regional policy. It aims to strengthen economic and social cohesion in the EU by correcting imbalances between its regions. It focuses its investments on four key priority areas (innovation and research, the digital agenda, support for small and medium enterprises, and the low-carbon economy). This is known as "thematic concentration".[5]

Monitoring the wealth of individual regions allows the standard assessment of individual countries' convergence to be extended to a more detailed regional view. The evolution of GDP per capita in purchasing power parity (PPP) for the NUTS 2 regions of selected EU[6] countries shows that in all the monitored countries except Germany the capital cities are substantially wealthier than the country's nationwide average (see Chart 2). This difference is more than double and persisting in the newer EU member states, and markedly smaller and decreasing in the traditional EU countries monitored (Portugal and Austria). Despite the growing disparities between the capitals and other regions of the Czech Republic, Hungary, Romania and Slovakia, the wealth of most of the regions of these countries and thus of their economies as a whole has been growing faster than the EU-28 average (see Chart 3). The situation is rather different in Italy, where GDP per capita was flat over the period 2000–2017 and therefore decreased compared with the EU-28 average. Chart A1 in the appendix offers a view of real GDP at the regional level for individual countries. In relation to the EU average, the overwhelming majority of the regions of Germany, Austria and Italy have levels above 75%. In the other countries monitored, only some regions – mainly capital cities – are above this reference value.

Chart 2 – Ratio of real GDP per capita in PPP in the capital city to the nationwide average
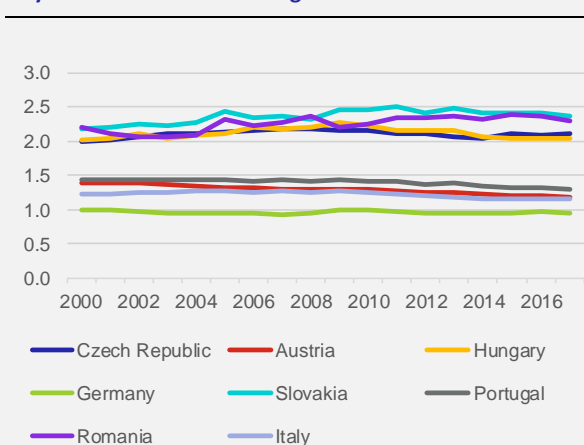
Source: Eurostat, CNB calculation

Chart 3 – Real GDP per capita in PPP, nationwide average

(index, EU-28 = 100)
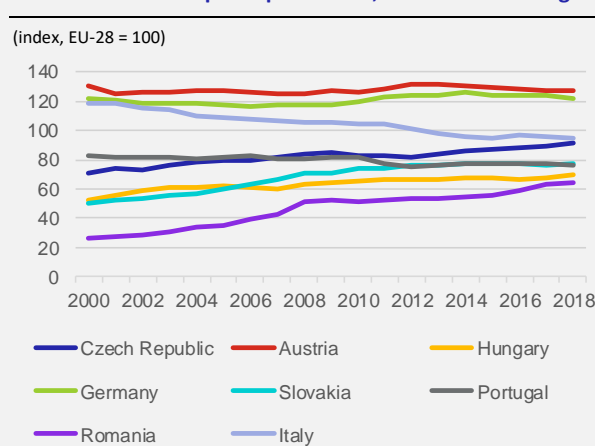
Source: Eurostat, CNB calculation

Using GDP in PPP rather than GDP converted into a reference currency (EUR) at the market exchange rate leads to some distortion of the results. It results in overvaluation of the results for the newer EU member states (which generally have a lower price level than the EU average) and undervaluation of the results for the traditional EU countries. This is due to the PPP calculation mechanism itself, which takes into account, for example, income and expenditure of the population that are de facto not taken into account in the currency's market exchange rate, such as the size of subsidies provided, the breadth of the administered price segment and differences in the rate of taxation and the level of social transfers. Conversely, the exchange rate based on PPP does not reflect current demand for the currency on the foreign exchange market, including, for example, global sentiment. Nevertheless, GDP per capita in PPP remains the reference indicator for EU regional policy, so it is important to track it.

GDP per capita in PPP can be compared with household income per capita in PPP to obtain a rather more realistic picture of the regional disparities within individual countries. When we compare the two indicators, it is clear that the differences between the capital city and other regions of the country are smaller in the case of per capita income (see Chart 4) than when using GDP (see Chart 2). This may be because company headquarters are usually located in the capital (often the largest) cities. This overestimates the reported value of GDP in the capital (largest) city and conversely underestimates that in the surrounding regions. Similarly, it may be that many residents work in the capital city but have

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[4] In the 2014–2020 period, the Cohesion Fund applies to Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovakia and Slovenia.

[5] In more developed regions, at least 80% of funds must focus on at least two of these priorities; in transition regions, this focus is for 60% of the funds, and in less developed regions it is 50%. Furthermore, some ERDF resources must be channelled specifically towards low-carbon economy projects.

[6] Austria, Germany, Italy, Portugal, Czech Republic, Romania, Slovakia and Slovenia.

their place of permanent residence outside its boundaries. One may therefore observe greater equality in household income per capita between the capital and other regions than when using GDP. However, differences in household income per capita between countries persist (see Chart 5). The exception is Italy, where income at the national level is flat. Chart A2 shows household income at the regional level for individual countries. Significant diversity among regions is apparent from this chart.

Looking across the countries under review, it is also evident that the poorer the country, the more visible the disparities between the capital and regions. The biggest gaps in both GDP per capita (see Chart 2) and household income (see Chart 4) are in Romania, followed by roughly similar differences in Hungary and Slovakia, then the Czech Republic and Portugal. On the other hand, in Germany, Italy and, to a certain extent, Austria, the disparities between the capital (largest) city and other regions are negligible or often indistinguishable (see also Charts A1 and A2).

Chart 4 – Ratio of household income per capita in PPP in the capital city to the nationwide average

Source: Eurostat, CNB calculation
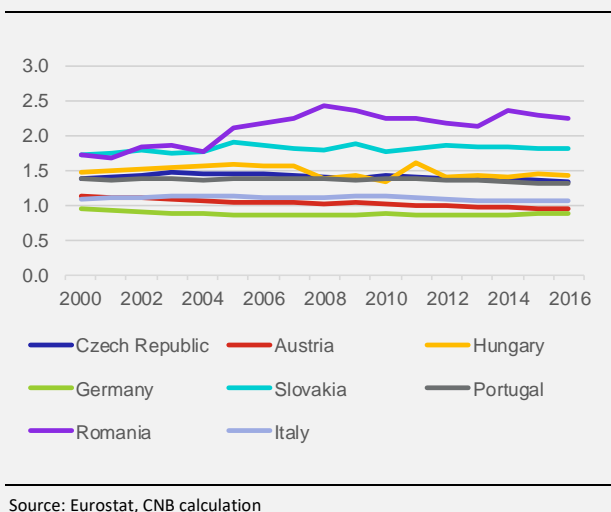
Chart 5 – Household income per capita in PPP, nationwide average

Source: Eurostat, CNB calculation
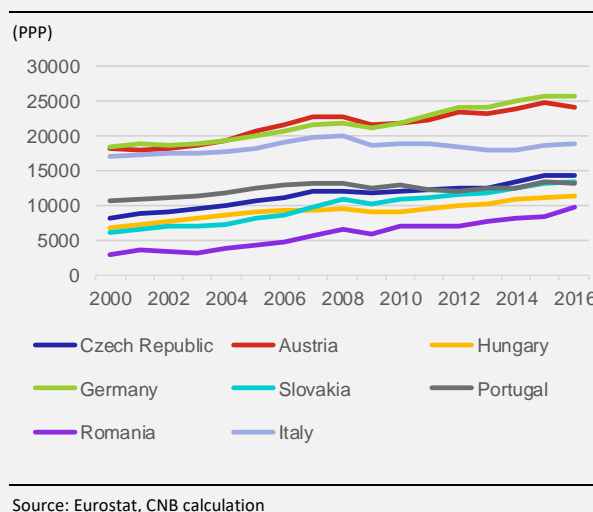
Measuring convergence between regions

Beta- and sigma-convergence are used to assess the evolution and level of real convergence across regions. These concepts are based on neoclassical economic growth theory.[7] Beta-convergence allows us to assess whether poorer regions are catching up with wealthier ones, while sigma-convergence is used to assess the degree of convergence across regions and over time. So, if the standard deviation between regions decreases (increases), the degree of convergence is higher (lower). The time period from 2000 to 2017 makes it possible to assess developments both before and after the outbreak of the global financial and economic crisis and the European debt crisis.

A look at beta-convergence reveals that while the regions of most traditional EU countries converged in the period under review, the disparities between regions in the newer member states increased. Chart A3 shows the relationship between the initial GDP per capita of each region and the cumulative growth of its GDP per capita in the period under review. In Germany, Portugal and Austria, faster growth was observed for regions with lower initial GDP (a negatively sloped trend line). These poorer regions thus converged towards the wealthier ones in this period. The exception is Italy, where economic activity per capita was flat, or fell relative to the EU-28 average, while no convergence was observed at the regional level: the trend line on Chart A3 even has a positive, though insignificant, slope, indicating no relationship between initial and accumulated GDP growth per capita. The Czech Republic, Hungary, Romania and Slovakia (see the left panel of Chart A3), by contrast, saw beta-divergence, despite significant growth in economic activity per capita, with wealthier regions – especially the capitals – growing faster than poorer ones on average.[8] Table 1 depicts the evolution of beta-convergence over time for regions within countries and groups of countries. It shows that in Germany beta-convergence between regions was already going on before the crisis, while in Portugal and Austria such convergence is only apparent after the crisis. The results build on the findings of Alcidi (2019), who identified beta-divergence of the regions in the

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[7] See, for example, Barro and Sala-i-Martin (1992). For an application of beta- and sigma-convergence to regional development, see, for example, Monfort (2008).

[8] For the newer EU member states, the slope of the regression line is strongly influenced by the capital, which is markedly wealthier than the other regions and may have a greater business cycle amplitude. If capital cities were excluded from the regressions, the slope of the line would be negative, especially for the Czech Republic and Hungary, i.e. the poorer regions would be converging to the wealthier ones.

countries of Eastern and Southern European over the period 2000–2015, though with the question of whether it will continue. Regional disparities therefore persist in the countries listed.

The traditional EU countries also fare better in terms of sigma-convergence. Portugal and Austria have the highest sigma-convergence between regions at country level. The degree of convergence of the German regions is only slightly lower, while growing divergence between regions is observed in Italy (see Chart A4; all regions – lower values mean higher convergence). In the second half of the 2009–2017 period, there was some convergence of the regions in Hungary and the Czech Republic, and a hint of convergence is also apparent in Romania and Slovakia. The difference compared with the above traditional EU economies is still significant, by multiple orders of magnitude. If we hypothetically exclude the region of the capital city, the differences inside the newer member states are comparable with those in the traditional EU member states and even smaller than those in Germany and Italy (see the lower panel of Chart A4,).

Table 1 – Beta-convergence of real GDP per capita at the regional level

	2000–2008		2009–2017		2000–2017		Number of regions
CZ	0.20	***	-0.04		0.12	**	8
HU	0.16	**	-0.15		0.05		8.
RO	0.21	***	0.03	**	0.12	***	8
SK	0.12	*	-0.07		0.15	***	4
AT	-0.11		-0.17	*	-0.28		9
DE	-0.09	***	-0.10	***	-0.20	***	38
IT	-0.03		0.06		0.03		21
PT	-0.08		-0.25	***	-0.29	***	7

Note: The table shows the beta coefficients (the slope of the curve) for the given period. Negative, significant values express convergence. The newer member states thus show an absence of beta-convergence in all periods. Germany has the largest number of regions (38), while Slovakia, for example, consists of only four regions. Level of statistical significance: ***(1%), **(5%), *(10%).
Source: Eurostat, CNB calculation

Conclusion

Our analysis of wealth in the individual regions of selected countries shows that in the newer EU member states there are still significant regional disparities, which, moreover, continue to widen. While most of these countries' regions experienced faster growth in wealth than the EU-28 average, the growth of some regions, especially the capital cities, was stronger than that of the rest. Conversely, in traditional EU countries, the differences between NUTS 2 regions are less significant and gradually decreasing. The newer EU countries should therefore make better use of the common European cohesion funds to avoid a further widening of the gap between capitals and other regions. Growing divergence between regions can undermine poorer regions' support for further political and economic integration.

Economic activity in the EU is strongly geographically concentrated both at country level and within countries. Though the deepening economic integration in Europe is gradually erasing the wealth gaps between states, the geographical distribution of economic activity is increasingly concentrated in already existing agglomerations. The inhabitants of these agglomerations enjoy higher incomes and lower unemployment rates, while the opposite is true of the poorer regions. The challenge for EU regional policy is therefore to change these processes and bring the level of wealth in the regions closer to that in the capital (largest) cities.

References:

Alcidi, C. (2019): Economic integration and income convergence in the EU. Intereconomics, 54(1), pp. 5–11.

Barro, R. J., Sala-I-Martin, X. (1992): Convergence. Journal of Political Economy, 100, pp. 223–251.

Monfort, P. (2008): Convergence of EU regions: Measures and evolution. Regional Policy, No. 1/2008: European Commission.
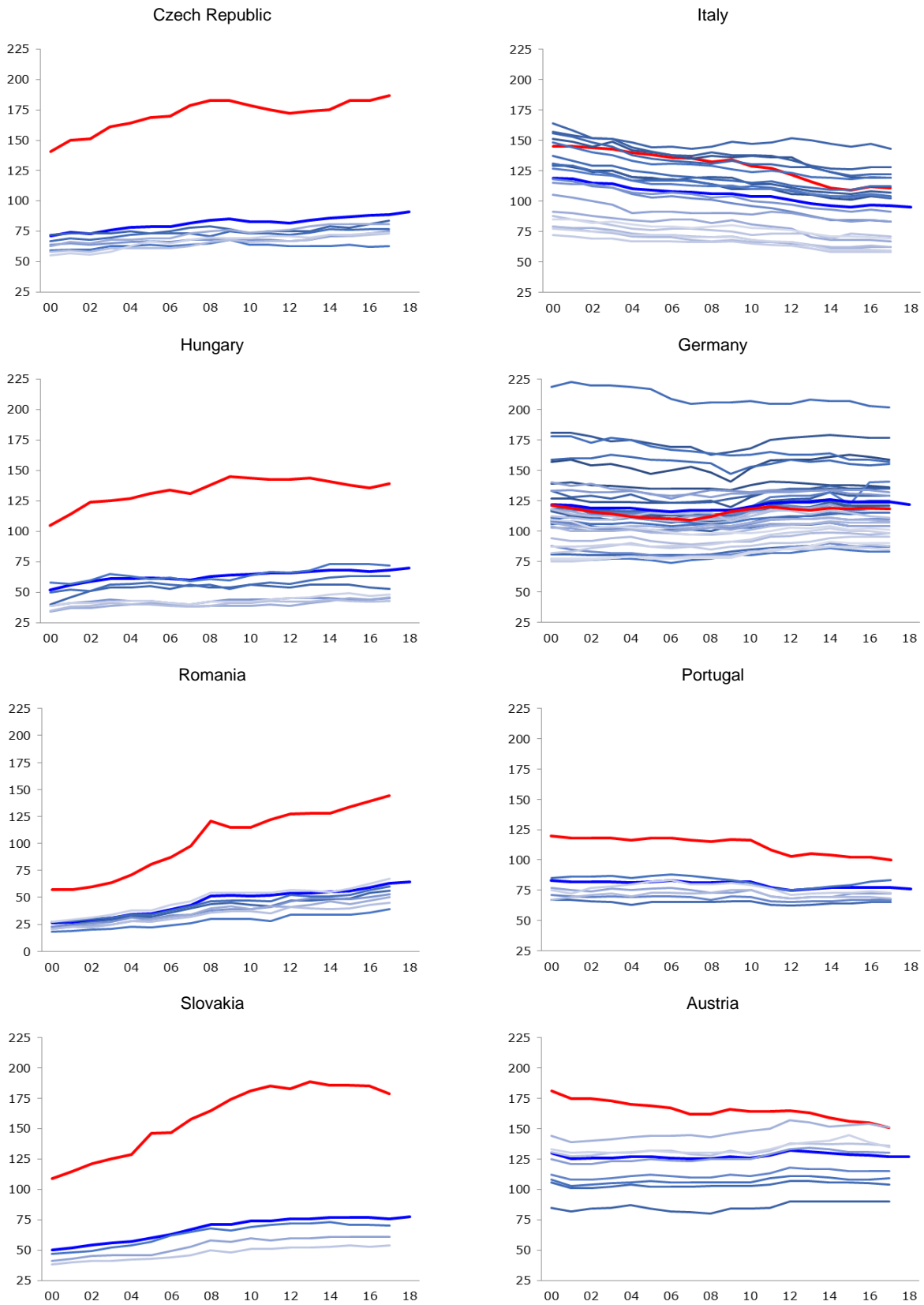
Keywords

Regional policy, regional disparities, agglomerations, EU funds

JEL Classification

R11, R12, O47

Chart A1: Real GDP per capita in PPP
(EU-28 = 100%)

Czech Republic

Italy

Hungary

Germany

Romania

Portugal

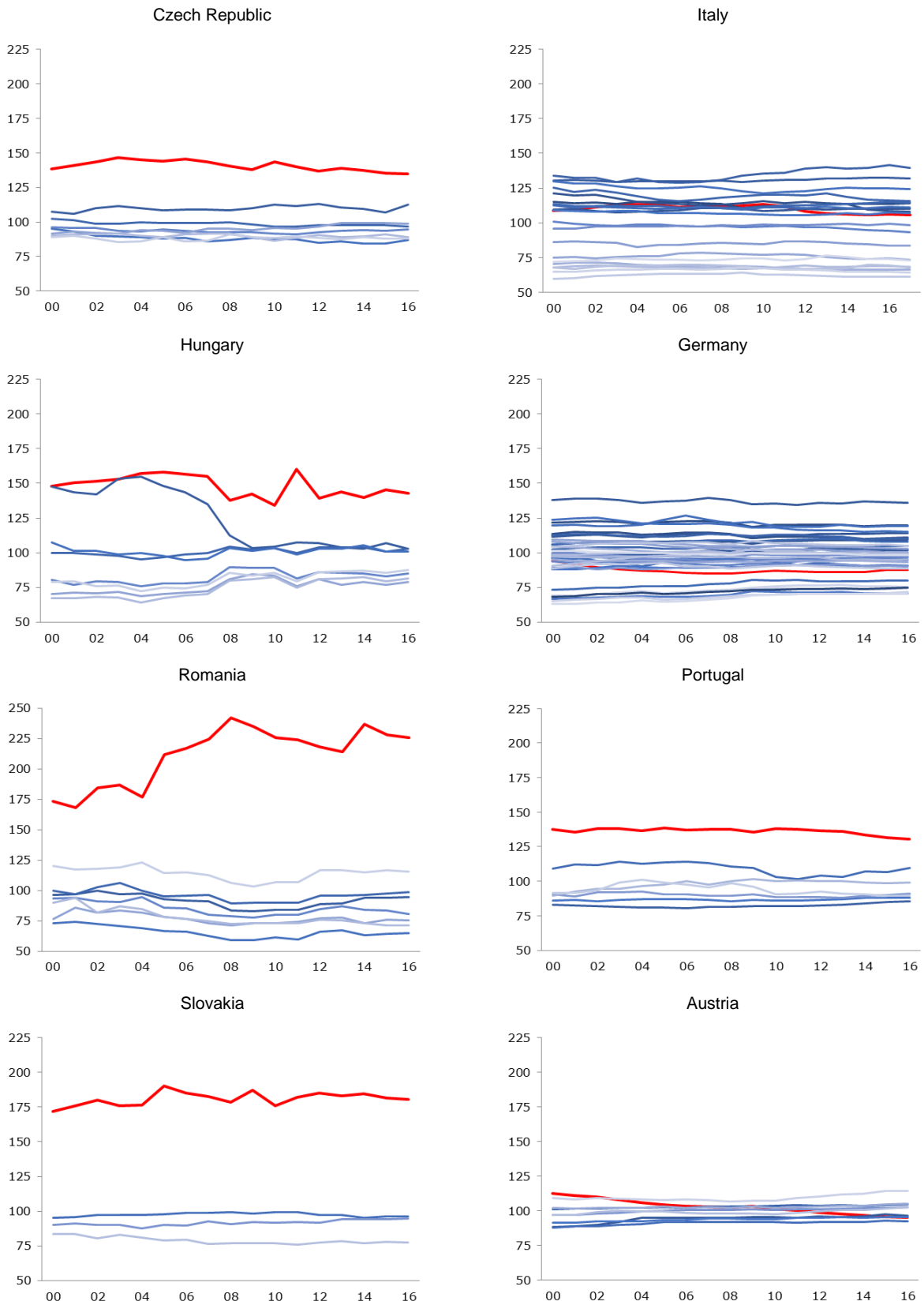### Slovakia

Austria

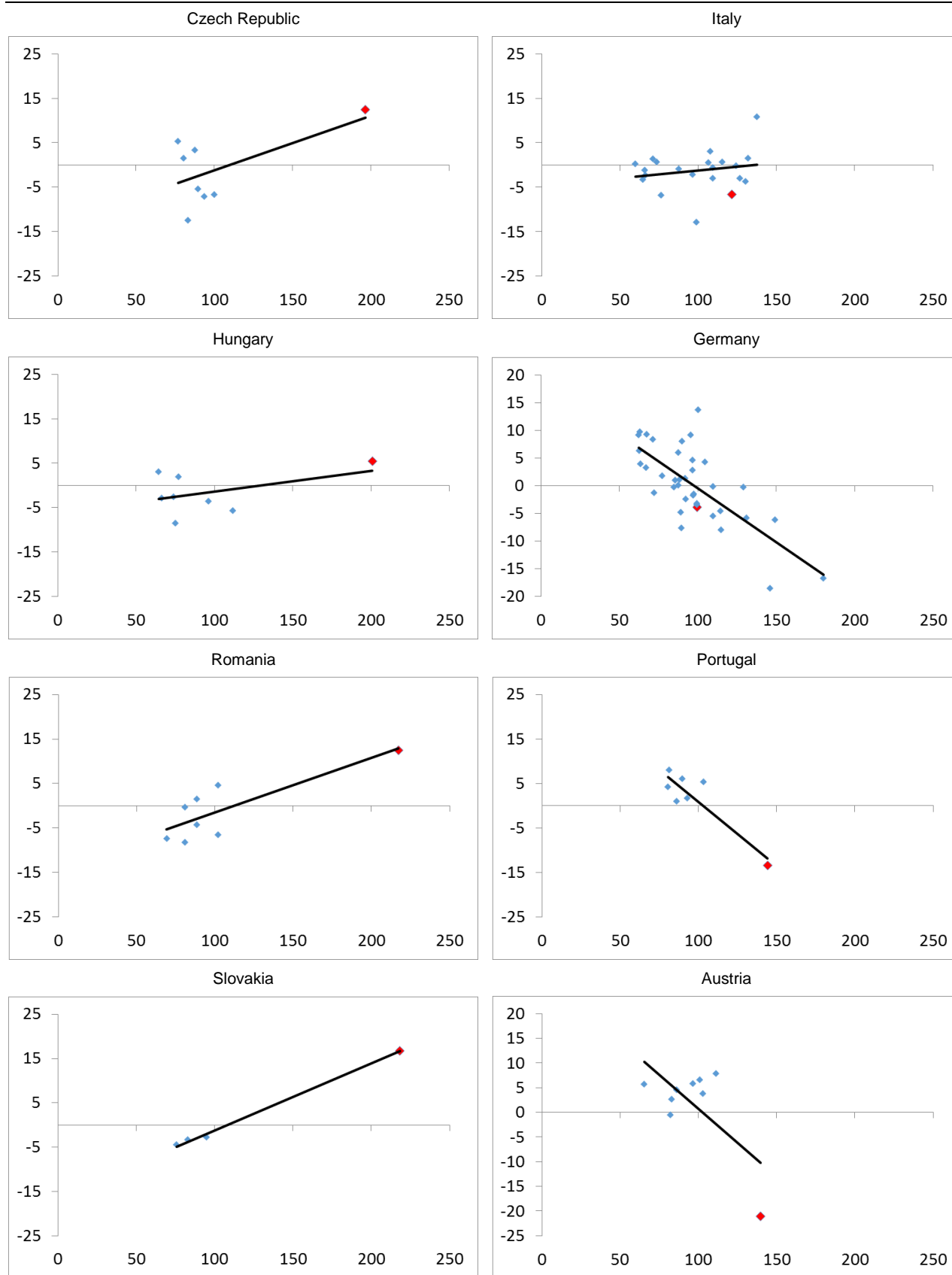Source: Eurostat
Note: The chart shows GDP per capita in selected countries of the EU at the NUTS 2 regions level. The red line shows the **"capital city"** region, while the blue line shows the **national level** (for comparison). Regional data are available up to 2017 and data at the national level up to 2018.

Chart A2: Household income per capita in PPP
(national level = 100%)

Czech Republic

Italy

Hungary

Germany

Romania

Portugal

Slovakia

Austria

Source: Eurostat
Note: The chart shows disposable income per capita in selected countries of the EU at the level of NUTS 2 regions. The red line shows the **"capital city"** region.

Chart A3: Beta-convergence of real GDP per capita at the regional level
(2000–2017)

Chart A4: Sigma-convergence of real GDP per capita at the regional level
(2000–2017)

Czech Republic, Hungary, Romania, Slovakia	Austria, Germany, Portugal, Italy

All regions

— CZ — HU — RO — SK

— AT — DE — PT — IT

Excluding "capital city" region

— CZ — HU — RO — SK

— AT — DE — PT — IT
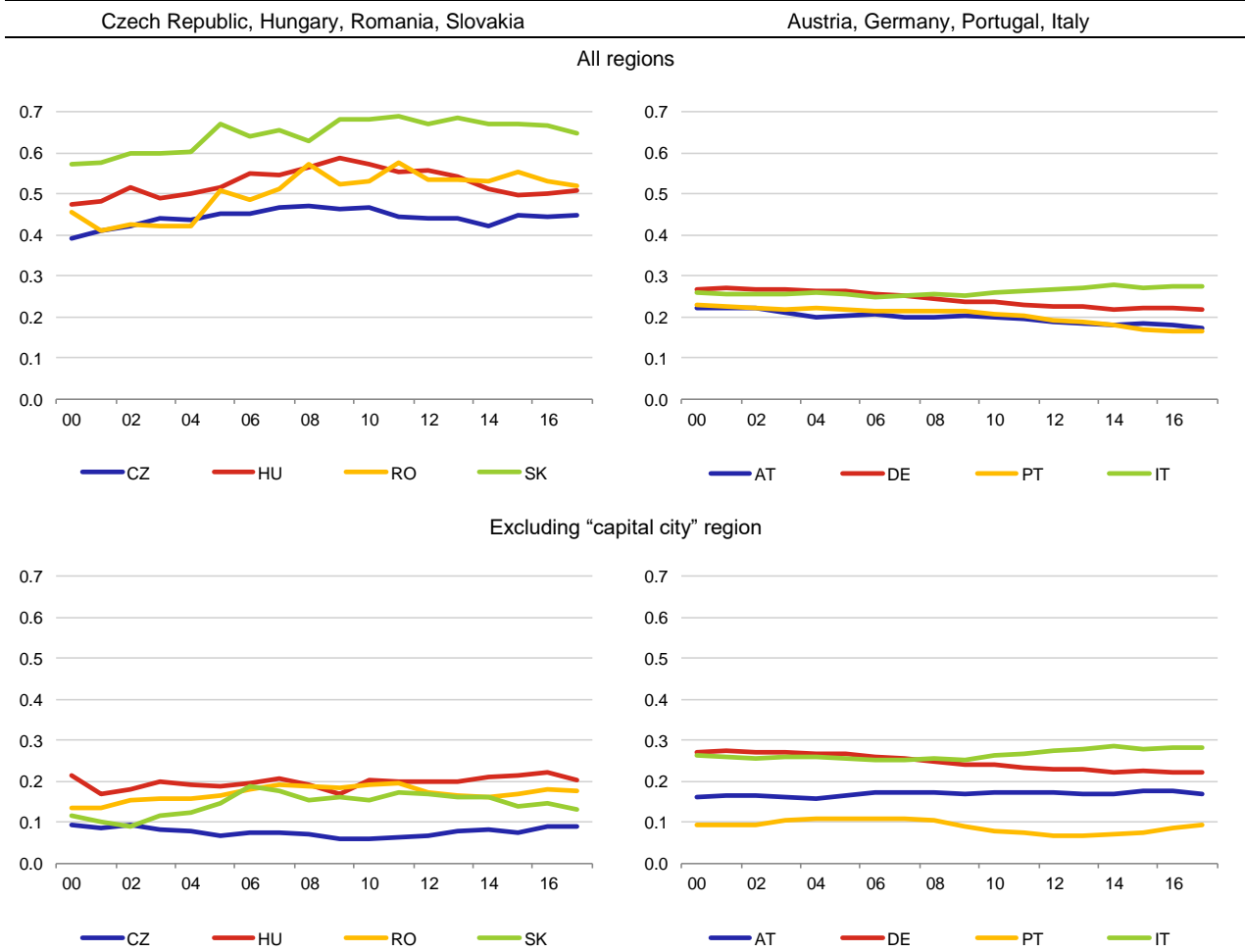
Source: Eurostat, CNB calculation

Note: The chart shows the sigma coefficient (the standard deviation of regional GDP per capita in PPP relative to the country average over time at the NUTS 2 level. Lower values mean a higher degree of convergence.

A1. Change in predictions for 2019

GDP growth, %

	CF		IMF		OECD		CB / EIU	
EA	-0.1	2020/2 2020/1	-0.1	2020/1 2019/10	+0.1	2019/11 2019/9	-0.1	2019/12 2019/9
US	0	2020/2 2020/1	-0.1	2020/1 2019/10	0	2019/11 2019/9	0	2019/12 2019/9
UK	0	2020/2 2020/1	0	2020/1 2019/10	+0.1	2019/11 2019/9	-0.5	2020/1 2019/11
JP	-0.1	2020/2 2020/1	+0.2	2020/1 2019/10	0	2019/11 2019/9	+0.2	2020/1 2019/10
CN	-0.3	2020/2 2020/1	+0.2	2020/1 2019/10	0	2019/11 2019/9	0	2020/1 2019/12
RU	+0.1	2020/1 2020/1	0	2020/1 2019/10	0	2019/11 2019/9	+0.1	2020/1 2020/1

Inflation, %

	CF		IMF		OECD		CB / EIU	
EA	-0.1	2020/2 2020/1	-0.2	2019/10 2019/4	-0.4	2019/11 2019/5	+0.1	2019/12 2019/9
US	-0.1	2020/2 2020/1	-0.4	2019/10 2019/4	0	2019/11 2019/5	0	2019/12 2019/9
UK	-0.1	2020/2 2020/1	-0.1	2019/10 2019/4	+0.3	2019/11 2019/5	0	2020/1 2019/11
JP	0	2020/2 2020/1	-0.2	2019/10 2019/4	-0.4	2019/11 2019/5	-0.1	2020/1 2019/10
CN	+0.1	2020/2 2020/1	-0.1	2019/10 2019/4	+0.1	2019/11 2019/5	0	2020/1 2019/12
RU	-0.1	2020/1 2020/1	-1.0	2019/10 2019/4	0	2019/11 2019/5	-0.4	2020/1 2020/1

A2. Change in predictions for 2020

GDP growth, %

	CF		IMF		OECD		CB / EIU	
EA	-0.1	2020/2 2020/1	-0.1	2020/1 2019/10	+0.1	2019/11 2019/9	-0.1	2019/12 2019/9
US	0	2020/2 2020/1	-0.1	2020/1 2019/10	0	2019/11 2019/9	0	2019/12 2019/9
UK	0	2020/2 2020/1	0	2020/1 2019/10	+0.1	2019/11 2019/9	-0.5	2020/1 2019/11
JP	-0.1	2020/2 2020/1	+0.2	2020/1 2019/10	0	2019/11 2019/9	+0.2	2020/1 2019/10
CN	-0.3	2020/2 2020/1	+0.2	2020/1 2019/10	0	2019/11 2019/9	0	2020/1 2019/12
RU	+0.1	2020/1 2020/1	0	2020/1 2019/10	0	2019/11 2019/9	+0.1	2020/1 2020/1

Inflation, %

	CF		IMF		OECD		CB / EIU	
EA	-0.1	2020/2 2020/1	-0.2	2019/10 2019/4	-0.4	2019/11 2019/5	+0.1	2019/12 2019/9
US	-0.1	2020/2 2020/1	-0.4	2019/10 2019/4	0	2019/11 2019/5	0	2019/12 2019/9
UK	-0.1	2020/2 2020/1	-0.1	2019/10 2019/4	+0.3	2019/11 2019/5	0	2020/1 2019/11
JP	0	2020/2 2020/1	-0.2	2019/10 2019/4	-0.4	2019/11 2019/5	-0.1	2020/1 2019/10
CN	+0.1	2020/2 2020/1	-0.1	2019/10 2019/4	+0.1	2019/11 2019/5	0	2020/1 2019/12
RU	-0.1	2020/1 2020/1	-1.0	2019/10 2019/4	0	2019/11 2019/5	-0.4	2020/1 2020/1

A3. GDP growth and inflation outlooks in the euro area countries

GDP growth in the euro area countries in 2020 and 2021, %
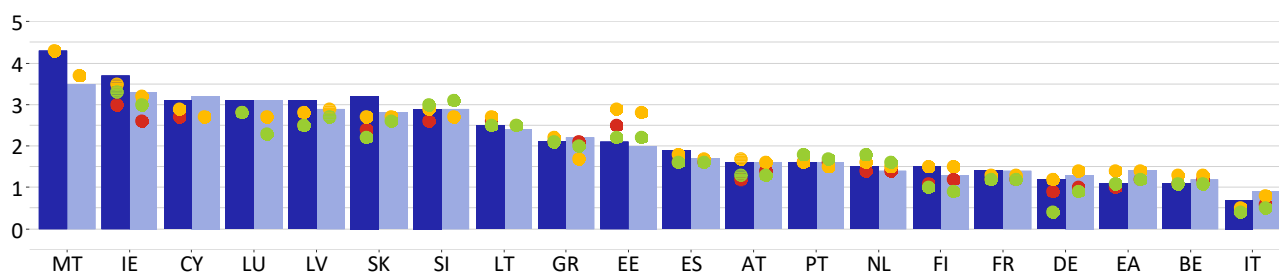
Inflation in the euro area countries in 2020 and 2021, %
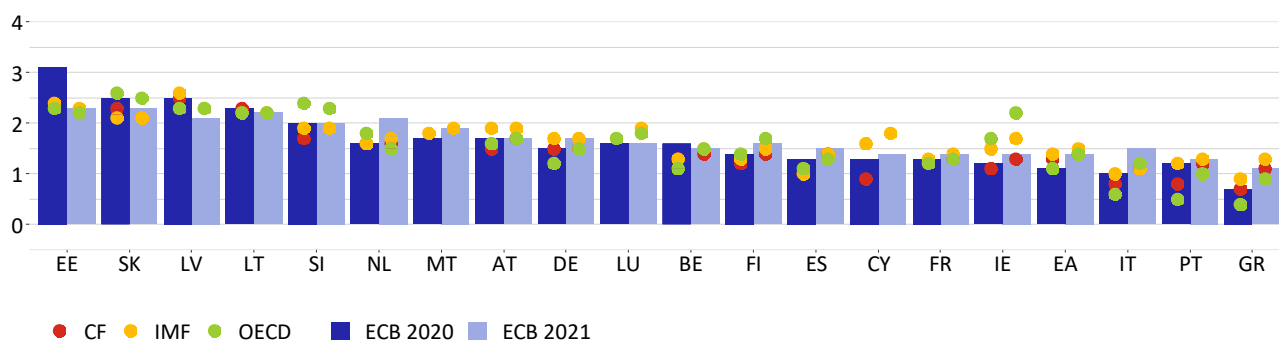
● CF   ● IMF   ● OECD   ■ ECB 2020   ■ ECB 2021

Note: Charts show institutions' latest available outlooks of for the given country.

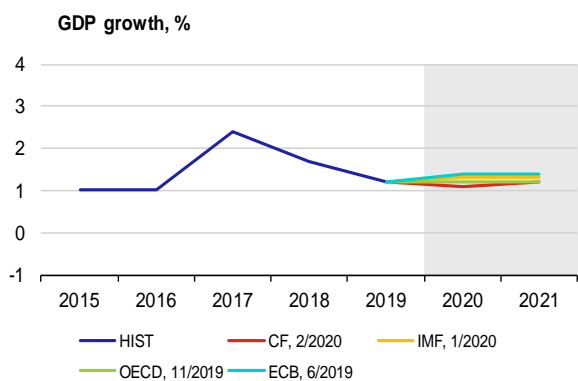## A4. GDP growth and inflation in the individual euro area countries

Germany

GDP growth, %

Inflation, %

—— HIST —— CF, 2/2020 —— IMF, 1/2020
—— OECD, 11/2019 —— DBB, 12/2019

—— HIST —— CF, 2/2020 —— IMF, 10/2019
—— OECD, 11/2019 —— DBB, 12/2019
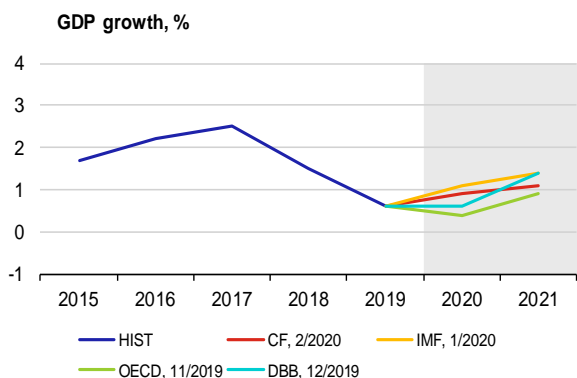
	CF		IMF		OECD	DBB
2020	0.9	→	1.1	↘	0.4	0.6
2021	1.1	↗	1.4	→	0.9	1.4
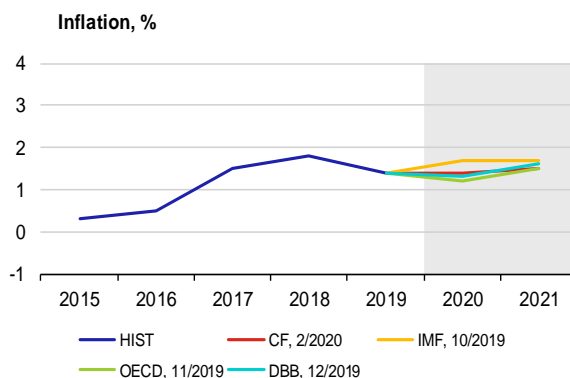
	CF		IMF		OECD	DBB
2020	1.4	↘	1.7		1.2	1.3
2021	1.5	→	1.7		1.5	1.6

France

GDP growth, %

	CF		IMF		OECD	ECB
2020	1.1		1.3		1.2	1.4
2021	1.2		1.3		1.2	1.4

Inflation, %
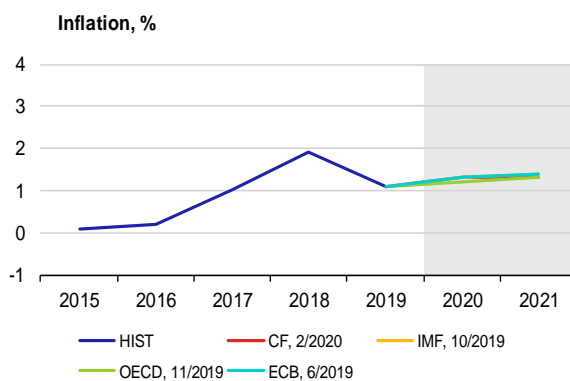
	CF		IMF	OECD	ECB
2020	1.3		1.3	1.2	1.3
2021	1.3		1.4	1.3	1.4

Italy

GDP growth, %
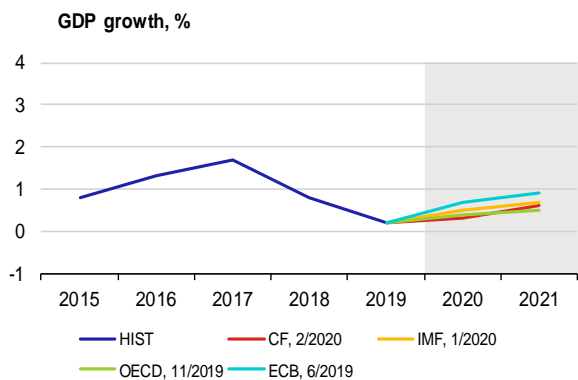
	CF		IMF		OECD	ECB
2020	0.3		0.5		0.4	0.7
2021	0.6		0.7		0.5	0.9

Inflation, %
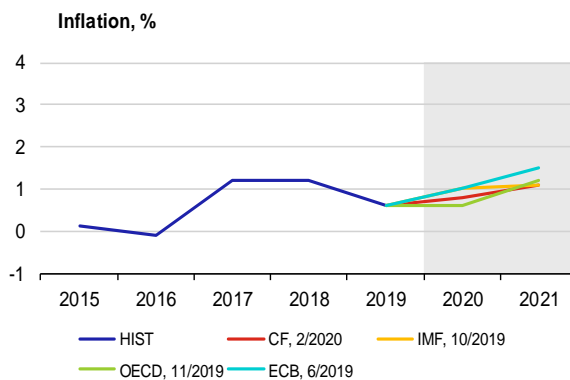
	CF		IMF	OECD	ECB
2020	0.8		1.0	0.6	1.0
2021	1.1		1.1	1.2	1.5

Spain

GDP growth, %
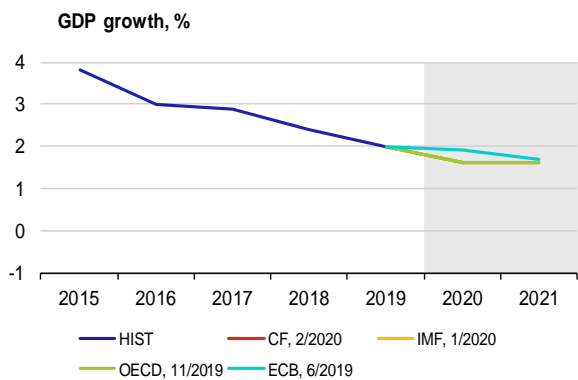
	CF		IMF		OECD	ECB
2020	1.6		1.6		1.6	1.9
2021	1.6		1.6		1.6	1.7

Inflation, %
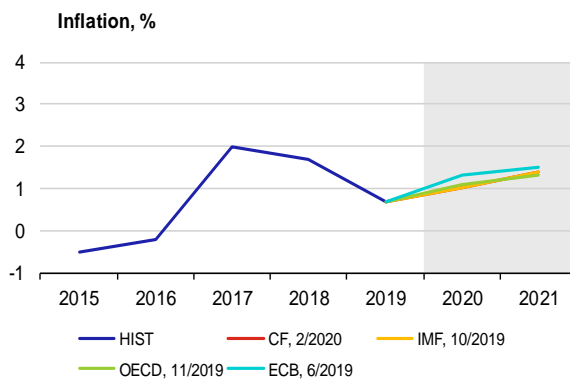
	CF		IMF	OECD	ECB
2020	1.0		1.0	1.1	1.3
2021	1.4		1.4	1.3	1.5

Netherlands

GDP growth, %
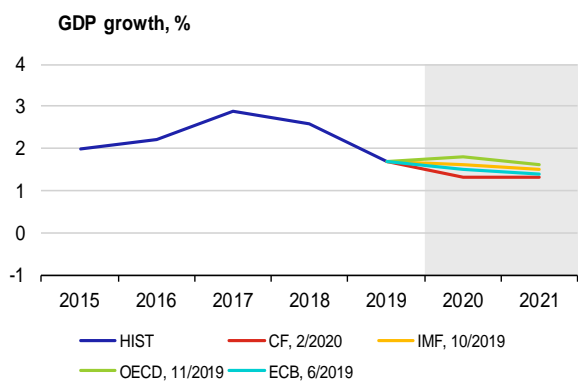
	CF		IMF	OECD	ECB
2020	1.3	⬂	1.6	1.8	1.5
2021	1.3	⬂	1.5	1.6	1.4

Inflation, %
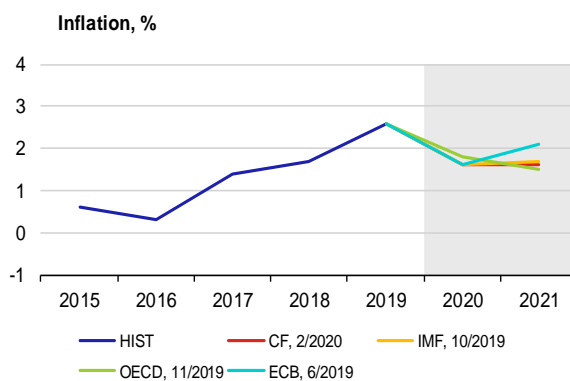
	CF		IMF	OECD	ECB
2020	1.6	➡	1.6	1.8	1.6
2021	1.6	➡	1.7	1.5	2.1

Belgium

GDP growth, %
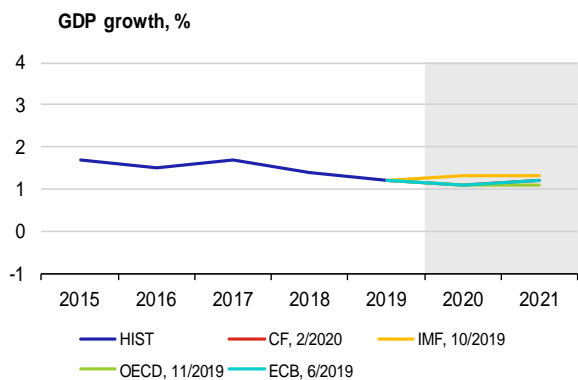
	CF		IMF	OECD	ECB
2020	1.1	➡	1.3	1.1	1.1
2021	1.2	➡	1.3	1.1	1.2

Inflation, %
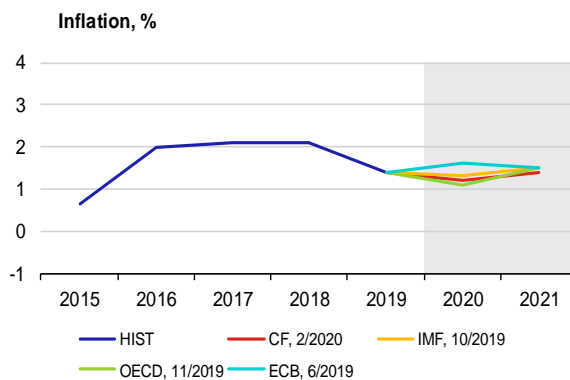
	CF		IMF	OECD	ECB
2020	1.2	⬂	1.3	1.1	1.6
2021	1.4	➡	1.5	1.5	1.5

Austria

GDP growth, %
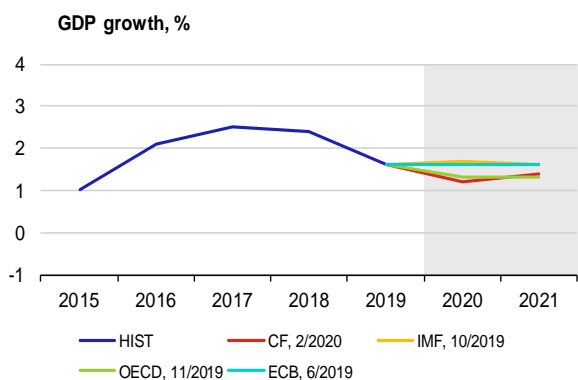
	CF		IMF	OECD	ECB
2020	1.2	➡	1.7	1.3	1.6
2021	1.4	➡	1.6	1.3	1.6

Inflation, %
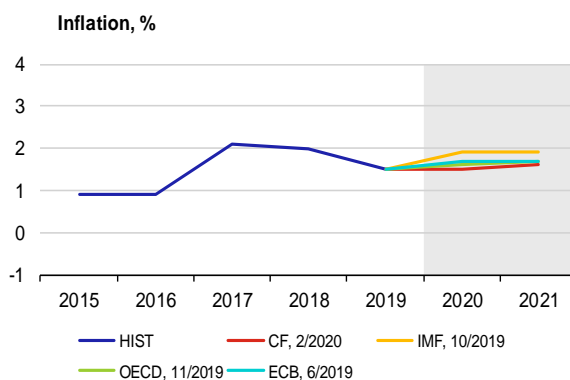
	CF		IMF	OECD	ECB
2020	1.5	➡	1.9	1.6	1.7
2021	1.6	⬂	1.9	1.7	1.7

Ireland

GDP growth, %
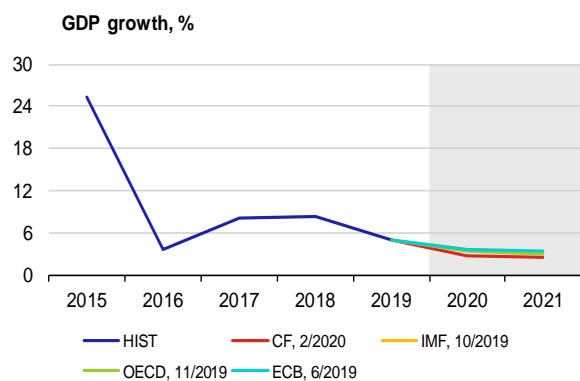
	CF		IMF	OECD	ECB
2020	2.8	➡	3.5	3.3	3.7
2021	2.6	➡	3.2	3.0	3.3

Inflation, %
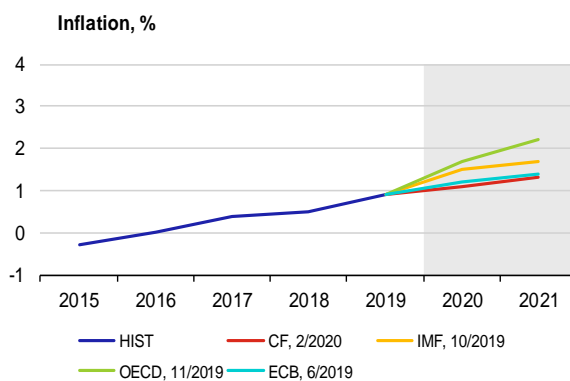
	CF		IMF	OECD	ECB
2020	1.1	➡	1.5	1.7	1.2
2021	1.3	➡	1.7	2.2	1.4

Finland

GDP growth, %
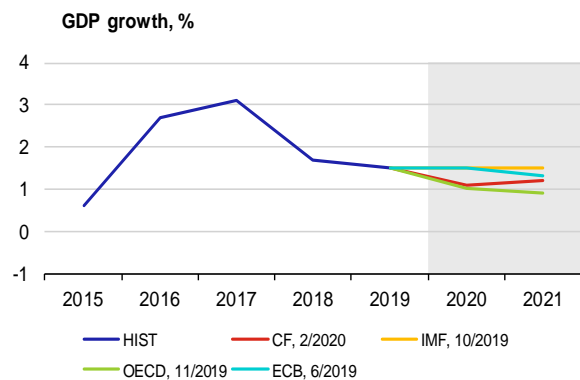
	CF		IMF	OECD	ECB
2020	1.1	➡	1.5	1.0	1.5
2021	1.2	➡	1.5	0.9	1.3

Inflation, %
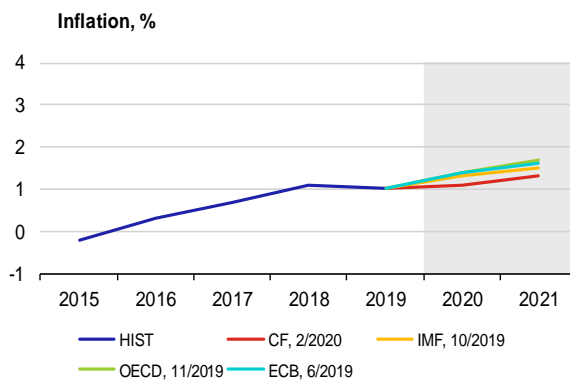
	CF		IMF	OECD	ECB
2020	1.1	⬊	1.3	1.4	1.4
2021	1.3	⬊	1.5	1.7	1.6

Portugal

GDP growth, %
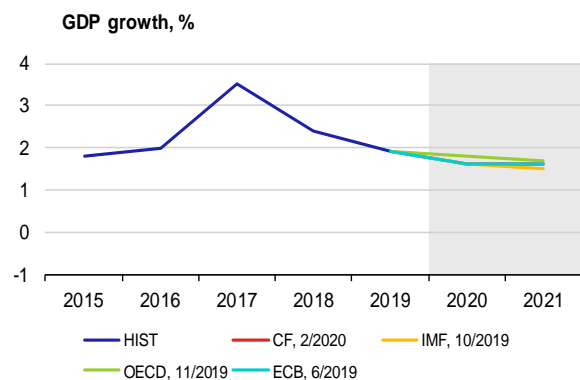
	CF		IMF	OECD	ECB
2020	1.6	➡	1.6	1.8	1.6
2021	1.6	➡	1.5	1.7	1.6

Inflation, %
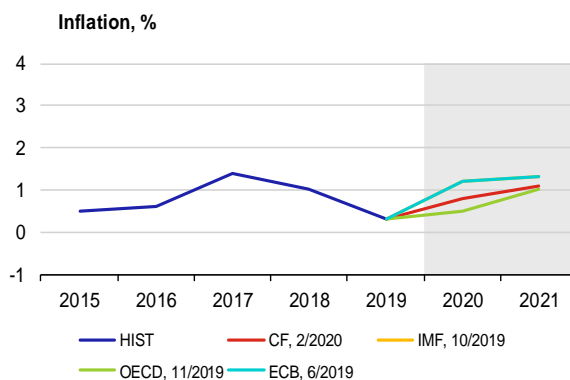
	CF		IMF	OECD	ECB
2020	0.8	➡	1.2	0.5	1.2
2021	1.1	⬊	1.3	1.0	1.3

Greece

GDP growth, %

Inflation, %
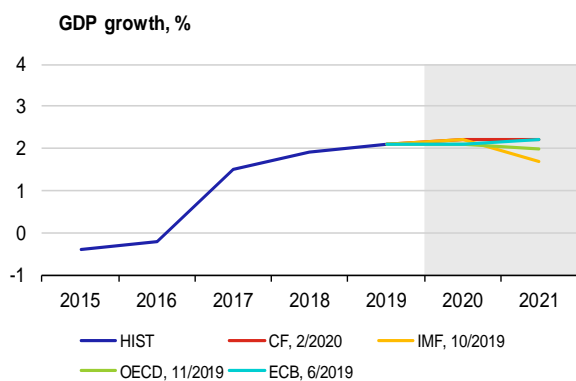
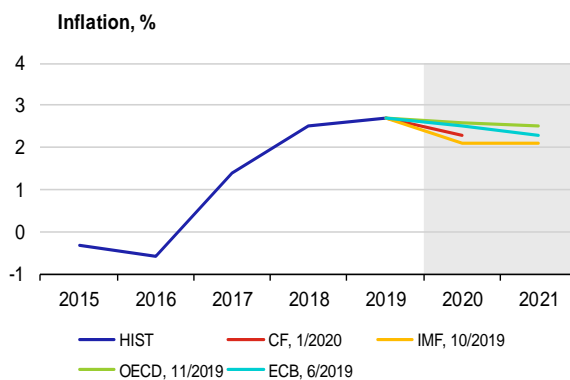|	CF		IMF	OECD	ECB
2020	2.2	↗	2.2	2.1	2.1
2021	2.2	↗	1.7	2.0	2.2
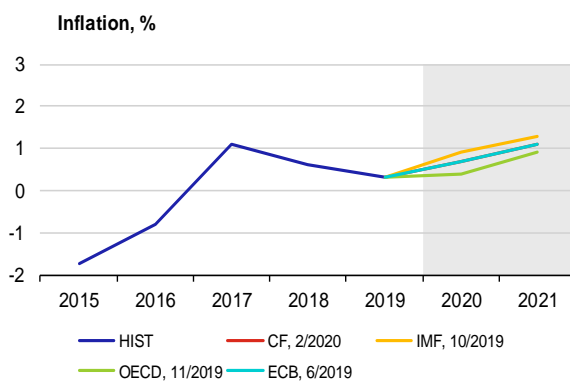
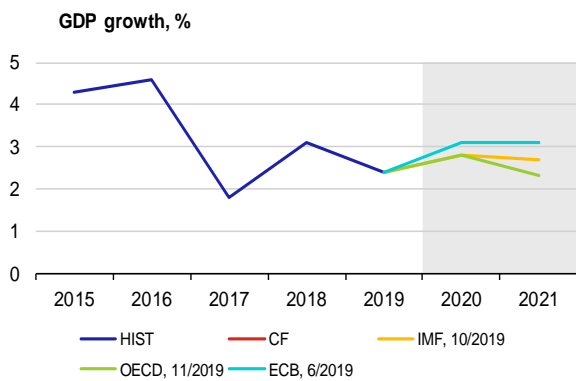|	CF		IMF	OECD	ECB
2020	0.7	➡	0.9	0.4	0.7
2021	1.1	➡	1.3	0.9	1.1

Slovakia

GDP growth, %

Inflation, %
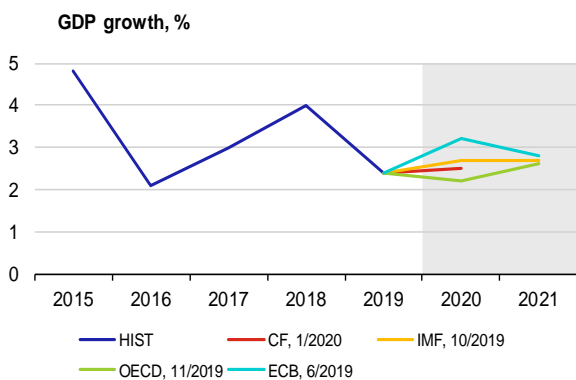
	CF		IMF	OECD	ECB
2020	2.5	↗	2.7	2.2	3.2
2021	n.a	★	2.7	2.6	2.8

	CF		IMF	OECD	ECB
2020	2.3	➡	2.1	2.6	2.5
2021	n.a	★	2.1	2.5	2.3

Luxembourg

GDP growth, %

Inflation, %

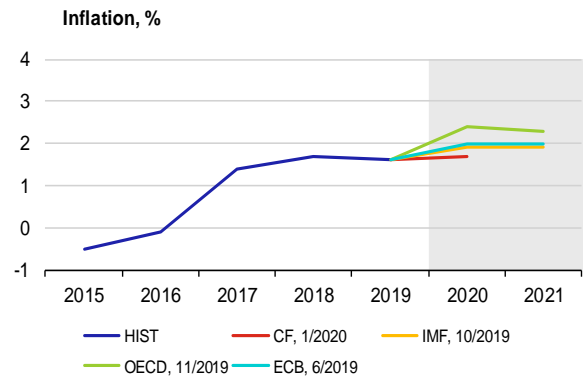|	CF	IMF	OECD	ECB
2020	n. a.	2.8	2.8	3.1
2021	n. a.	2.7	2.3	3.1
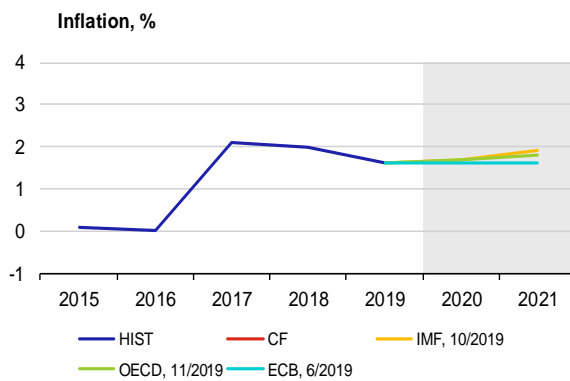
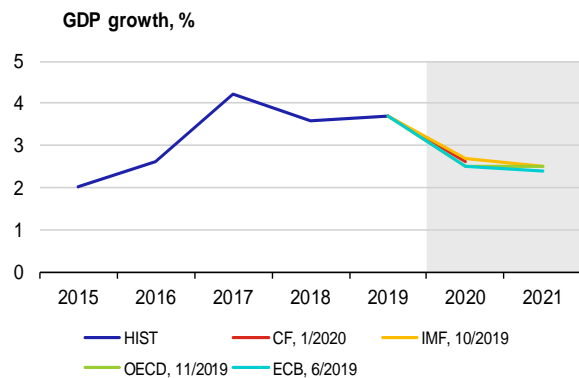|	CF	IMF	OECD	ECB
2020	n. a.	1.7	1.7	1.6
2021	n. a.	1.9	1.8	1.6

Slovenia

GDP growth, %

Inflation, %
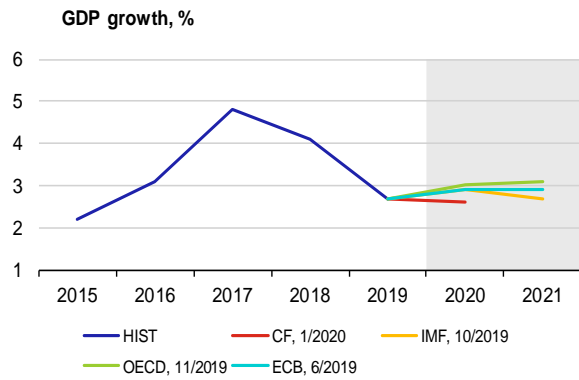
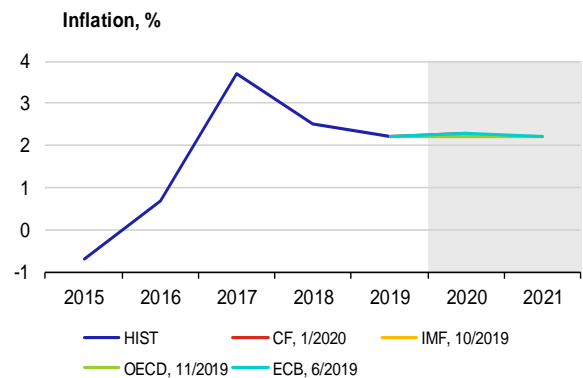|	CF		IMF	OECD	ECB
2020	2.6	➡	2.9	3.0	2.9
2021	n.a	★	2.7	3.1	2.9

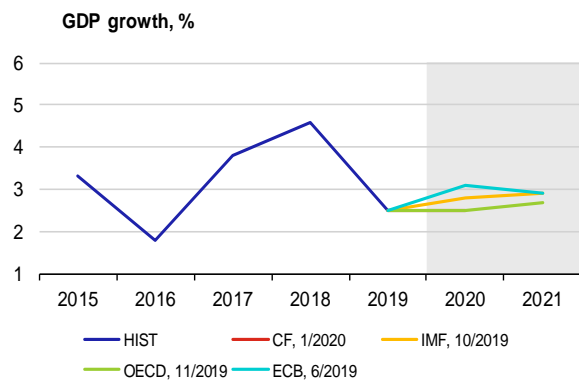|	CF		IMF	OECD	ECB
2020	1.7	➡	1.9	2.4	2.0
2021	n.a	★	1.9	2.3	2.0

Lithuania

GDP growth, %
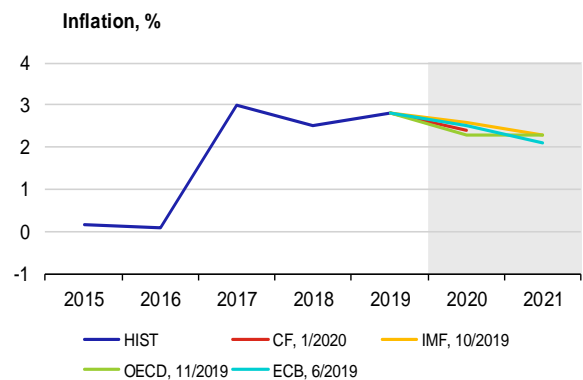

Inflation, %

	CF		IMF	OECD	ECB
2020	2.6	➡	2.7	2.5	2.5
2021	n.a	★	2.5	2.5	2.4

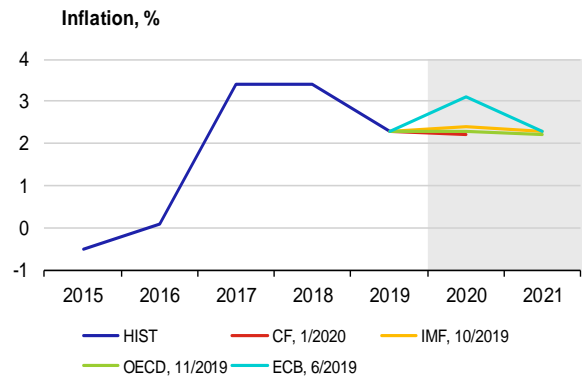|	CF		IMF	OECD	ECB
2020	2.3	➡	2.2	2.2	2.3
2021	n.a	★	2.2	2.2	2.2

Latvia
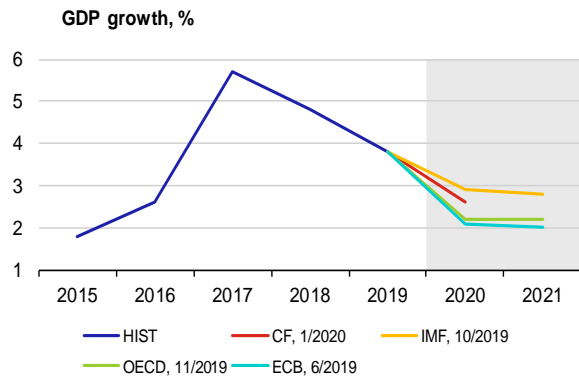

GDP growth, %

Inflation, %

	CF		IMF	OECD	ECB
2020	2.5	➡	2.8	2.5	3.1
2021	n.a	★	2.9	2.7	2.9

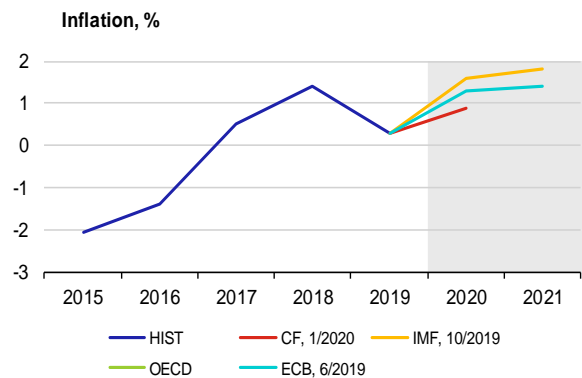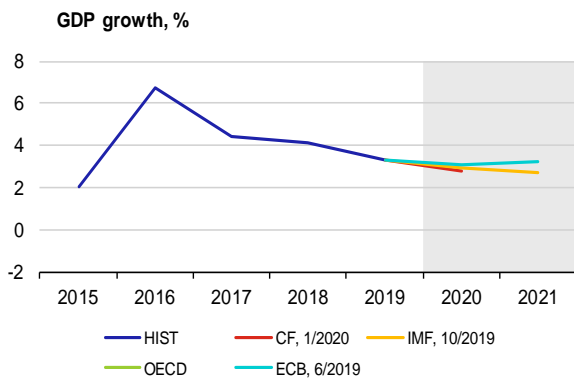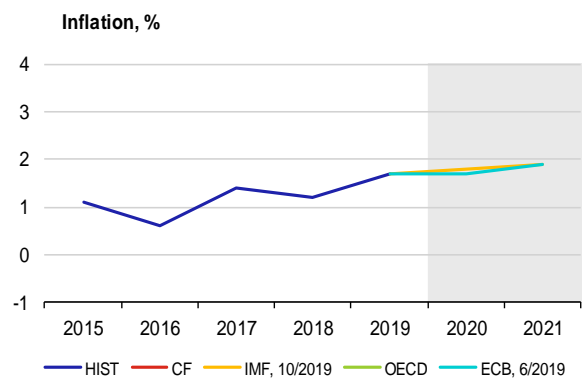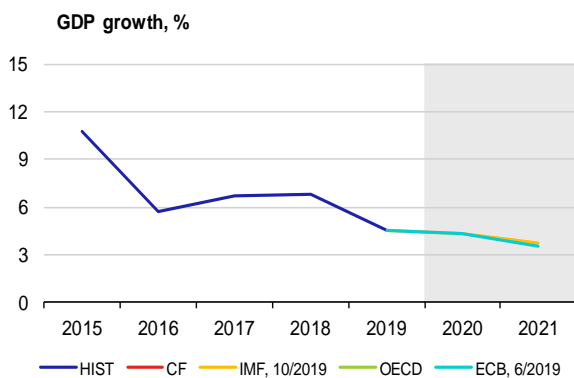|	CF		IMF	OECD	ECB
2020	2.4	⬊	2.6	2.3	2.5
2021	n.a	★	2.3	2.3	2.1

Estonia

GDP growth, %

	CF		IMF	OECD	ECB
2020	2.6	↗	2.9	2.2	2.1
2021	n.a	★	2.8	2.2	2.0

Inflation, %

	CF		IMF	OECD	ECB
2020	2.2	↘	2.4	2.3	3.1
2021	n.a	★	2.3	2.2	2.3

Cyprus

GDP growth, %

	CF		IMF	OECD	ECB
2020	2.8	↗	2.9	n. a.	3.1
2021	n.a	★	2.7	n. a.	3.2

Inflation, %

	CF		IMF	OECD	ECB
2020	0.9	→	1.6	n. a.	1.3
2021	n.a	★	1.8	n. a.	1.4

Malta

GDP growth, %

	CF	IMF	OECD	ECB
2020	n. a.	4.3	n. a.	4.3
2021	n. a.	3.7	n. a.	3.5

Inflation, %

	CF	IMF	OECD	ECB
2020	n. a.	1.8	n. a.	1.7
2021	n. a.	1.9	n. a.	1.9

A5. List of abbreviations

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

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