Global Economic Outlook

January 2021

CNB CZECH NATIONAL BANK

Foreword

Dear Readers,

We entered the new year with the hope that it will turn out better than its predecessor, which was drastically affected by COVID-19. Last year showed us just how hard it is to make economic and other predictions. The CNB Monetary Department's long-running publication Global Economic Outlook provides a quick guide to global economic trends.

In this new winter issue, you'll find a summary of recent developments in the most economically important parts of the world.

The January GEO is close to my heart, as its analytical section focuses on one of the most discussed topics in the EU: the creation of national asset management companies (AMCs) and the possibility of formalised cross-border cooperation between AMCs in the EU. The non-performing loan (NPL) ratio is expected to rise as a result of the coronavirus crisis, so I consider this issue to be highly topical. However, given the historical experience in the Czech Republic and the risk of moral hazard, I am sceptical about establishing AMCs, whether at just the national level or at the EU level. Such a step would stabilise the balance sheets of commercial financial institutions, but at the cost of increasing the burden on the already strained public finances in many European countries. Moreover, passing problems on to the EU level is no panacea. In principle, bad loans should be resolved in some other way than by transferring them to companies established by the state, where the ultimate liability would lie with taxpayers. While I support unified application of the rules of competition in the NPL segment, I am wary of the idea of an institutionalised network of national AMCs.

I hope you enjoy the January issue.

Marek Mora, CNB Deputy Governor

Contents

Cut-off date for data
15 January 2021

CF survey date
11 January 2021

GEO publication date
22 January 2021

Notes to charts

ECB, Fed, BoE and BoJ: 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 Refinitiv 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.

Contact
gev@cnb.cz

Authors

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

I. Introduction

Welcome to this year's first issue of Global Economic Outlook. We would like to wish you every happiness and success in 2021. This year we will continue to bring you economic outlooks for selected advanced and emerging economies and financial and commodity markets, along with analyses focusing on topical economic issues. We no doubt all want the outlooks published this year to be better than in 2020, the year of Covid.

January 2021 will go down in modern history textbooks as the month the UK de facto left the EU. The third strongest economy in the EU thus ceased to be a member after over 48 years, including several years of protracted negotiations. An equally important event in January is **the inauguration of incoming US president Joe Biden.** Upon taking office, he is expected to introduce more expansionary fiscal support, among other things. Biden's plan, which has only been presented in general terms so far, includes measures amounting to around USD 1.9 trillion. Modern history will not be quick to forget the riots associated with the departure of the incumbent president Donald Trump, which led to a second attempt to impeach him.

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

GDP	EA	DE	US	UK	JP	CN	RU
2021	4.4	3.7	4.4	4.3	2.4	8.3	3.0
2022	4.0	3.6	3.4	5.8	2.2	5.4	2.4

Inflation	EA	DE	US	UK	JP	CN	RU
2021	0.9	1.5	2.1	1.5	-0.1	1.4	3.6
2022	1.3	1.6	2.2	2.0	0.5	2.1	3.8

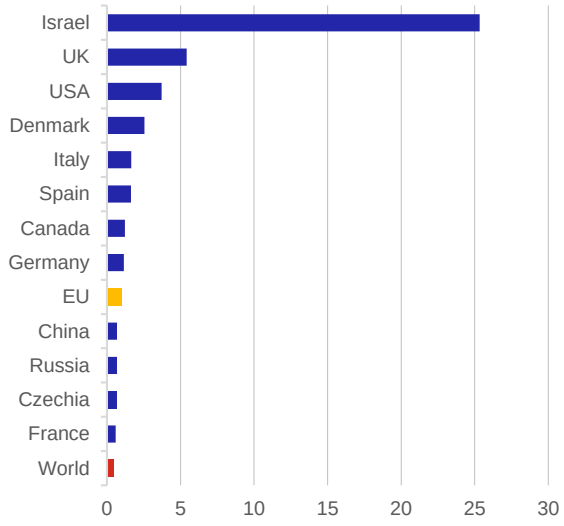
Source: Consensus Forecasts (CF)
Note: The arrows indicate the direction of the revisions compared with the last GEO.

Monetary policy normalisation is nowhere in sight. The statements made so far by the world's major central banks show that it will be difficult this year to begin normalising monetary policy (a renewed process in the case of the Fed and the BoE), i.e. raising monetary policy rates. This should be preceded by the end of the period of unconventional monetary policy (an unprecedentedly long period in the case of the ECB and the BoJ).

The January GDP growth outlooks further revise the notional pandemic bill, this time up to 2022. The economic growth forecasts look very optimistic at first glance (year-on-year growth of around 4%). However, the reality is that economies will possibly not get above the pre-Covid level of nominal GDP until 2022. The growth outlooks are better than they were in December only for US an China, This is likely related to the rollout of vaccination. **The January consumer inflation** outlooks simply confirm that inflation will fall short of the notional 2% ideal in many advanced countries over the next two years (as in previous years). The exception is the USA, where it is expected that the Fed will succeed once more.

According to the January CF, **the dollar** will depreciate moderately against sterling, the yen, the renminbi and the rouble at the one-year horizon, but it will weaken only slightly against the euro. According to the CF, the **Brent crude oil price** will increase to USD 53.9/bbl at the one-year horizon (highest estimate USD 65/bbl, lowest estimate USD 44/bbl). The outlook for 3M USD LIBOR market rates is slightly rising, while that for 3M EURIBOR **rates remains** negative and continues to decline gradually.

Share of population vaccinated in selected countries, v %



Source: ourworldindata.org
Note: Data available as of 15 January 2021.

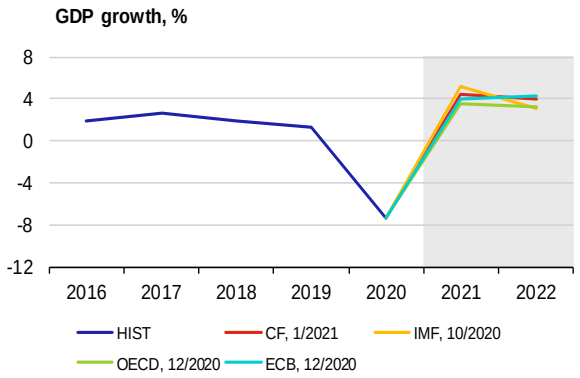
The chart in the current issue shows the current share of the total population vaccinated in selected countries. The situation in Israel is unique, with almost one quarter of people there already vaccinated. The country is currently publishing data on the vaccine's effectiveness. Preliminary findings indicate that it is slowing down the transmission of the virus as well, which is excellent news. In many European countries, high-risk groups (senior citizens and healthcare workers) are being vaccinated first and the general public will have to wait until later. The UK is considering administering only one dose of the vaccine to most of its population. This does not provide the same level of protection, but allows a larger proportion of the population to be vaccinated.

The current issue also contains an analysis: A network of national AMCs – part of the solution to the legacy of the financial crisis and the coronavirus crisis? The article looks at the risk posed by the coronavirus crisis to the financial sector and describes current work in the area of NPLs and their possible resolution. One solution is to set up asset management companies (AMCs). The article also notes that historically, public finances have usually had to be deployed to help resolve debt problems, because market mechanisms alone have seldom been sufficient.

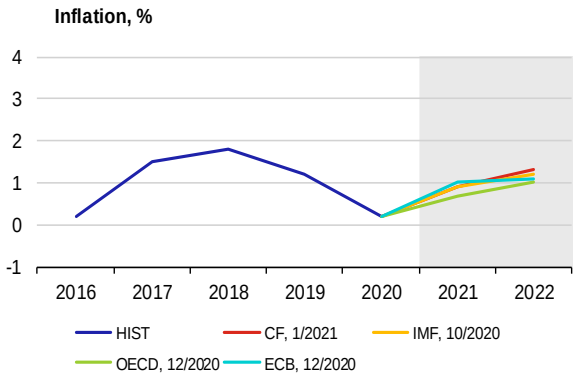
II.1 Euro area

The euro area economy was in the grip of a second wave of the pandemic at the end of 2020. Many countries have yet to get the pandemic under control, so it will continue to weigh on the euro area in 2021. The number of new COVID-19 cases began to rise sharply in October, leading to major (France) or minor (Germany) shutdowns of some economies. While countries with a more radical approach managed to get the pandemic under control and ease some of the restrictions in December, Germany had to introduce tougher measures and extend them into the first months of 2021. This has postponed any expectation of a recovery in the euro area in Q1. The gradual rollout of the vaccine gives hope for the months ahead, although there have been logistical difficulties and organisational problems all over Europe. Of the euro area economies, Italy and Spain are the vaccine champions (in per capita terms), while France has been very slow.

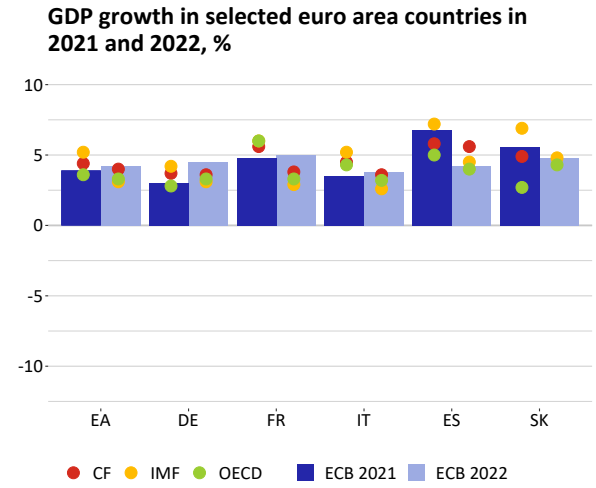
The euro area entered 2021 with a relatively robust industrial sector, which will mitigate the slump in services. The current volatility in economic activity will thus be substantially smaller than in the first wave of the pandemic. The November industrial production results have already indicated that industry is resilient – production rose by 2.5% month on month, reaching only 0.6% lower level than in the same period a year earlier. Industry is returning relatively quickly to pre-Covid crisis levels. Positive growth in industry in the euro area is also expected in December according to the leading PMI indicator (55.2 in December). Moreover, stockpiling by firms due to concerns over a disorderly Brexit contributed to the generally positive external demand situation in 2020 H2. By contrast, the services sector is burdened by shutdowns. This is reflected in the PMI in services, which remained in the contraction band in the last three months of 2020. The decline in retail sales in the euro area in November (of 6.1% month on month) was driven by developments in France and Belgium, where shutdowns resulted in a drop comparable to the first wave. In addition to lower textile and clothes sales, fuel sales were lower due to a forced decline in mobility in the crisis-hit countries. By contrast, the moderate measures in Germany did not fundamentally affect retail sales. Current developments indicate that of the major euro area economies the decline will

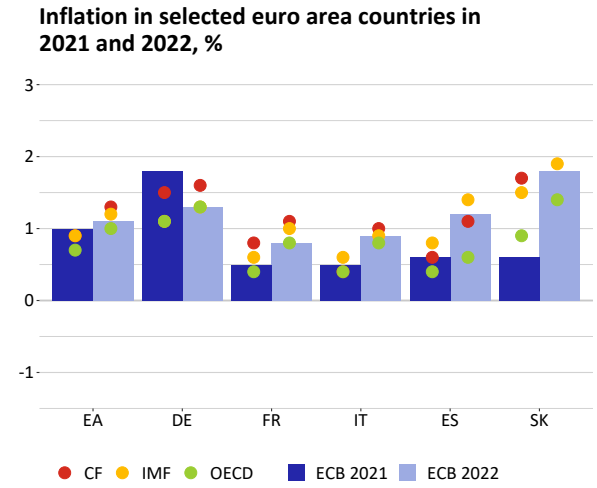


	CF	IMF	OECD	ECB
2021	4.4	5.2	3.6	3.9
2022	4.0	3.1	3.3	4.2



	CF	IMF	OECD	ECB
2021	0.9	0.9	0.7	1.0
2022	1.3	1.2	1.0	1.1





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

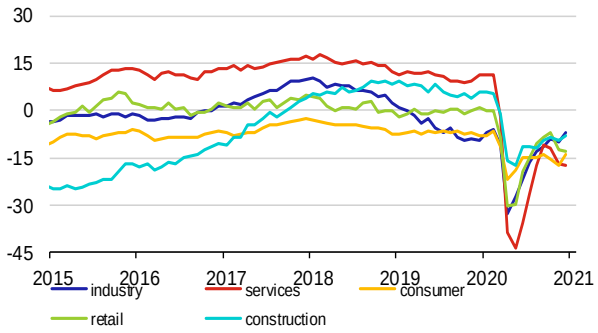
be most pronounced in France in 2020 Q4, while Germany will remain in the growth territory.

The current worsening of the situation was reflected by a downward revision in expected recovery of euro area growth in 2021 (4.4%). In 2022, the euro area will grow at a pace of 4% according to the January CF. Spain and France – both economies with a high share of services (for example, tourism) in value added – will see the strongest recoveries this year (5.8% and 5.6% respectively). Germany will record growth of 3.6% following a considerably smaller decline in 2020. In 2022, the French and German economies will grow by less than 4%, while Spain will continue to grow by over 6%. The January CF outlook was thus close to the ECB December forecast, which expects somewhat slower growth this year.

The outlook for inflation in the euro area is unchanged so far and still expects an only gradual acceleration. The euro area economy remained in deflation (-0.3%) from September to December, due mainly to a drop in prices of energy and other industrial products. Core inflation remains at 0.2%. Inflation expectations remain relatively stable for now, at over 1%. According to the January CF, euro area inflation will rise from 0.9% this year to 1.3% in 2022. While consumer prices in Germany will grow by more than 1.5% in both years, subdued inflation can be expected in Italy in particular. An expected increase in VAT and higher emission allowance prices will be reflected in inflation in Germany.

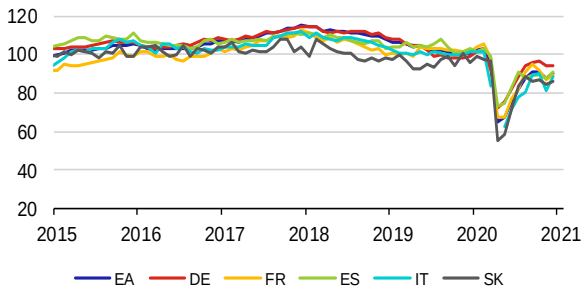
After the monetary policy easing in December, the outlook for the ECB's measures has stabilised. According to recent statements, the ECB assumes that lockdown measures will remain in place until the end of Q1. President Christine Lagarde said a continuation of restrictions on economic activity in Q2 would be a cause for concern. The central bank will not react either to a temporary rise in inflation connected with growth in demand in certain sectors this year, as the lifting of restrictions may push inflation higher on the back of the pent-up demandin the tourism and restaurant sectors..

ESI leading indicators



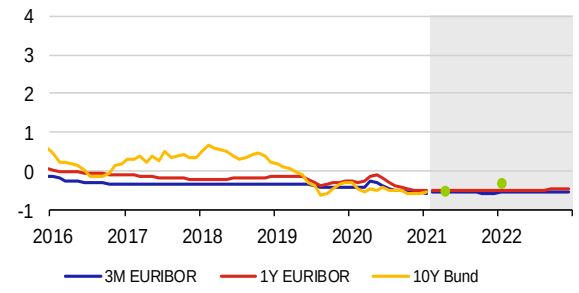
	industry	services	consum.	retail	constr.
10/20	-9.2	-12.1	-15.5	-6.9	-8.3
11/20	-10.1	-17.1	-17.6	-12.7	-9.3
12/20	-7.2	-17.4	-13.9	-13.1	-7.9

ESI leading indicators



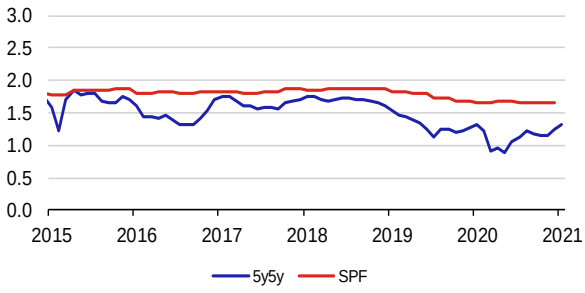
	EA	DE	FR	ES	IT	SK
10/20	91.1	97.0	91.7	89.5	90.2	87.2
11/20	87.7	94.2	87.1	87.5	81.5	84.6
12/20	90.4	94.3	89.2	90.8	88.3	85.8

Interest Rates, %



	12/20	1/21	4/21	1/22
3M EURIBOR	-0.54	-0.55	-0.54	-0.55
1Y EURIBOR	-0.50	-0.51	-0.50	-0.49
10Y Bund	-0.57	-0.53	-0.50	-0.30

Inflation expectations in the euro area, %



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

	5y5y	SPF
11/20	1.16	1.66
12/20	1.25	1.66
1/21	1.31	n.a.

II.2 United States

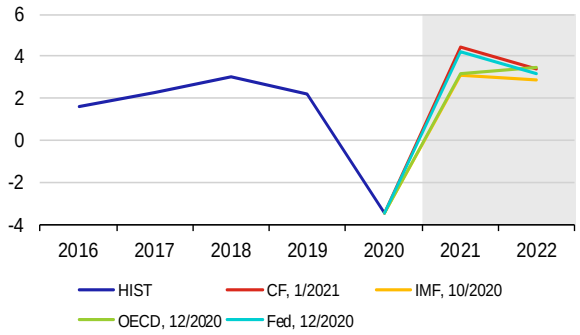
The USA was shaken by the attack on the Capitol by supporters of outgoing president Donald Trump. On the day the election results were formally confirmed and Joe Biden was certified as the new president, crowds of Trump supporters stormed the Capitol building where Congress was sitting. These political events are not only a black mark left after the Trump government, but also show the extent to which US society is divided. This is also likely to affect the performance of the US economy and its image worldwide. Joe Biden's inauguration is on 20 January 2021, with heightened security measures in place due to the events in the Capitol. President Trump is also losing political support among influential Republicans, because the Capitol as an important symbol of US democracy. The Senate election results in Georgia are also good news for the new Democratic president Joe Biden, as the Democrats hold a slight majority again**.**

According to the January CF outlook, the US economy will record growth of 4.4% this year, 0.4 pp higher than the December estimate. CF also improved its GDP growth outlook for 2020 by 0.1 pp to -3.5%. The new outlook for 2022 expects growth of 3.4% in 2022. In its December forecast, the Fed's expectations regarding the growth of the economy in both 2021 and 2022 were 0.2 pp less optimistic than the CF estimates. The approved fiscal stimulus of USD 900 billion is especially growth-friendly. Further stimulus is expected from the new president.

The number of coronavirus cases has not yet declined, but the USA has been very successful in rolling out the vaccine. Forward-looking indicators point to ongoing positive sentiment. However, the unemployment outlook indicates that the US economy will not reach the figures recorded at the beginning of last year over the next two years.

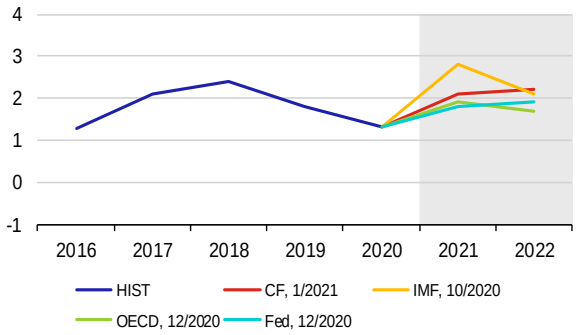
Inflation in the USA reached 1.4% year on year in December, due mainly to growth in prices of food (3.9%) and services (1.6%). By contrast, energy prices fell by 7%. CF increased its inflation outlook for 2021 by 0.1 pp to 2.1%, and the new outlook for 2022 expects consumer prices to rise by 2.2%. The Fed has a different view of inflation, predicting 1.8% in 2021 and 1.9% in 2022 in its December forecast.

GDP growth, %



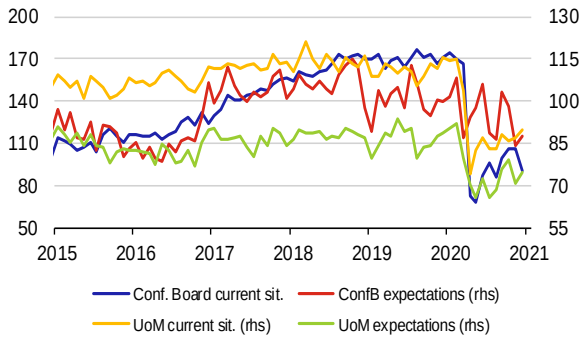
	CF	IMF	OECD	Fed
2021	4.4	3.1	3.2	4.2
2022	3.4	2.9	3.5	3.2

Inflation, %



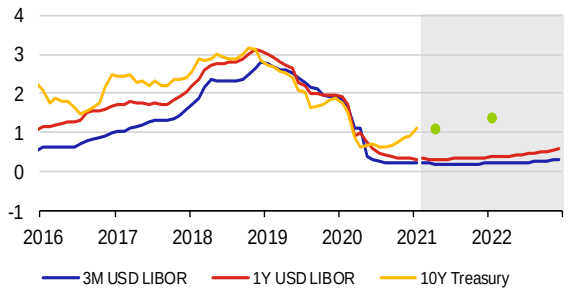
	CF	IMF	OECD	Fed
2021	2.1	2.8	1.9	1.8
2022	2.2	2.1	1.7	1.9

Leading indicators



	ConfB curr.	ConfB exp.	UoM curr.	UoM exp.
10/20	106.2	98.2	85.9	79.2
11/20	105.9	84.3	87.0	70.5
12/20	90.3	87.5	90.0	74.6

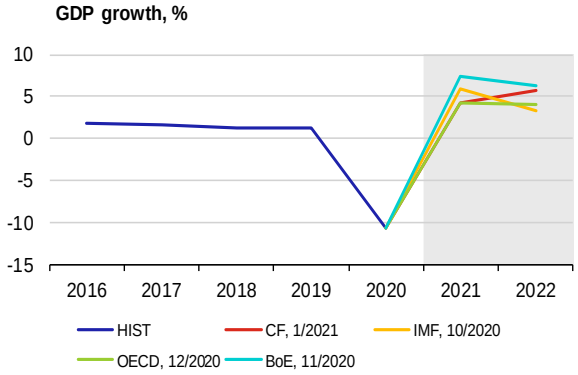
Interest Rates, %



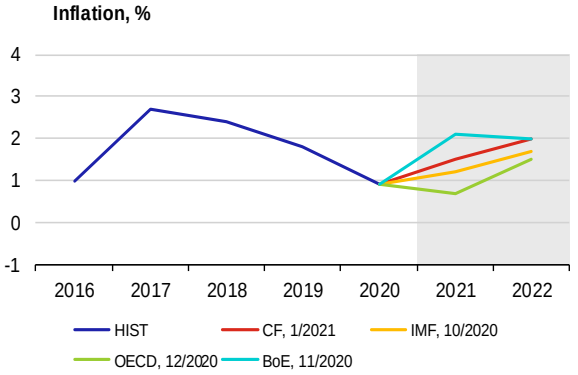
	12/20	1/21	4/21	1/22
USD LIBOR 3M	0.23	0.23	0.18	0.22
USD LIBOR 1R	0.34	0.34	0.33	0.38
Treasury 10R	0.93	1.10	1.10	1.40

II.3 United Kingdom

The threat of a hard Brexit was averted at the last minute by a trade deal agreed between the EU and the UK on Christmas Eve, but the UK economy is grappling with a surge in coronavirus cases. Despite continued vaccination, the UK has been seeing record daily numbers of new cases and deaths. This is related to the spread of a new strain of the virus. A strict national lockdown was introduced again on 5 January and is expected to last until mid-February, with the government to provide one-off payments of GBP 9,000 to firms affected by the closures. The BoE has left its key interest rate at 0.1% for now and its total quantitative easing unchanged at GBP 895 billion. CF lowered its GDP growth forecast for 2021 by 1 pp to 4.3% and expects growth of 5.8% in 2022. The UK left the EU single market and customs union at the start of 2021, but thanks to the agreement, tariffs and quotas will not be introduced. The UK achieved its goals in the controversial areas of competition and dispute resolution but backed down on fisheries. Despite the stagnation in the services sector, the composite PMI returned to the expansion band in December (50.4).



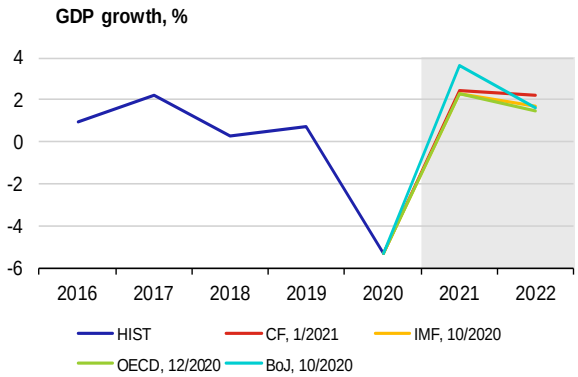
	CF		IMF	OECD	BoE
2021	4.3	↘	5.9	4.2	7.3
2022	5.8	★	3.2	4.1	6.3



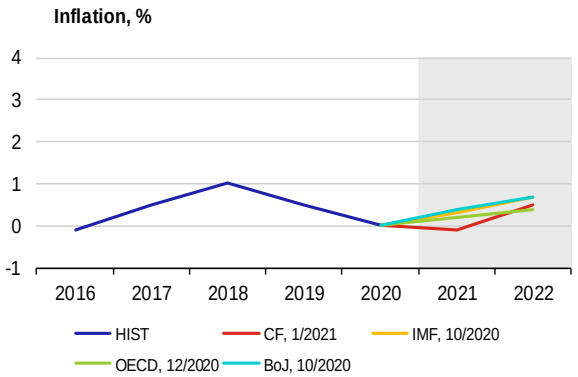
	CF		IMF	OECD	BoE
2021	1.5	↘	1.2	0.7	2.1
2022	2.0	★	1.7	1.5	2.0

II.4 Japan

The end of 2020 saw improved sentiment among firms in Japan despite a rise in infections. The BoJ's Tankan survey showed higher-than-expected growth in firms' confidence in Q4, especially in manufacturing. The share of manufacturers who considered business conditions to be "unfavourable" was still 10 pp higher than the share who considered them favourable, but the difference in Q3 had been 27 pp. The PMI also shows improved sentiment and (for the first time since April 2019) did not indicate worsening conditions in industry in December. Facing an increase in COVID-19 cases, the Japanese government reacted in January with relatively moderate lockdowns in several regions, including Tokyo. Consumer price deflation deepened to 0.9% in November. The BoJ responded in December by expanding its asset purchase and funding for lending programmes. The BoJ is also considering other tools, and the results of these deliberations should be known in March 2021. A decision is yet to be made on whether to hold the Olympics (postponed last year) in 2021.



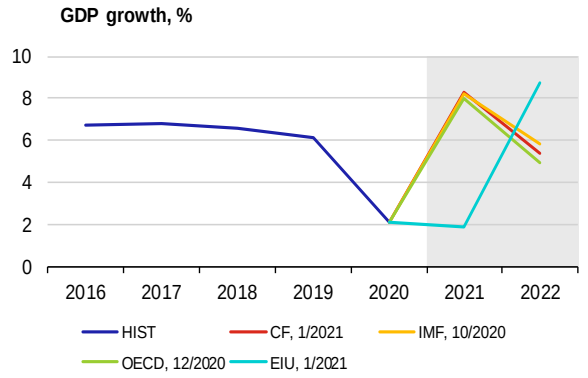
	CF		IMF	OECD	BoJ
2021	2.4	↘	2.3	2.3	3.6
2022	2.2	★	1.7	1.5	1.6



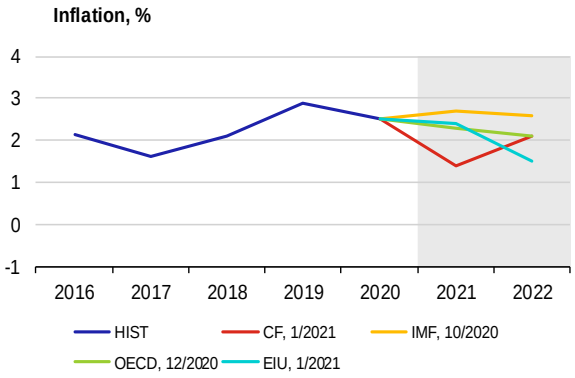
	CF		IMF	OECD	BoJ
2021	-0.1	↘	0.3	0.2	0.4
2022	0.5	★	0.7	0.4	0.7

II.5 China

Chinese economic growth will accelerate sharply this year. The growth will be driven mainly by private consumption, which is recovering rapidly from the decline caused by the coronavirus crisis. In addition to China's success in suppressing the spread of the coronavirus, consumption reflects solid growth in industry fostered by massive fiscal stimuli. Despite the newly elected Democrat-led US administration, uncertainty regarding trade relations between China and the USA will likely persist. According to the CF analysts' January outlook, the Chinese economy will record annual growth of 8.3% in 2021 and 5.4% in 2022. By contrast, consumer prices rose slightly by 0.2% year on year in December, after a drop in November. There is a risk that they might decline again at the beginning of this year, reflecting last year's base effects and increasing supplies of food, especially pork. Chinese consumer price inflation will grow by 1.4% this year, accelerating to 2.1% next year.



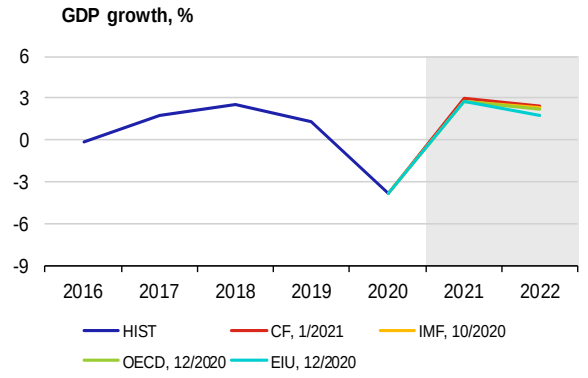
	CF	IMF	OECD	EIU
2021	8.3	8.2	8.0	1.9
2022	5.4	5.8	4.9	8.7



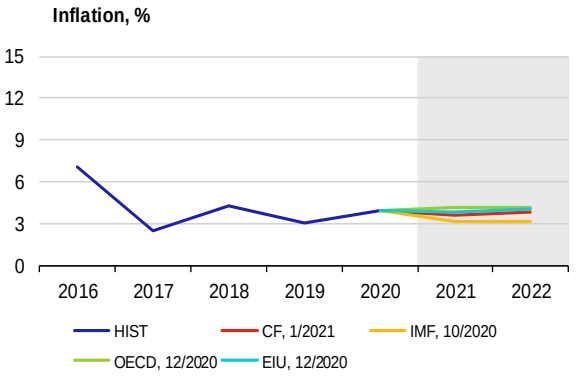
	CF	IMF	OECD	EIU
2021	1.4	2.7	2.3	2.4
2022	2.1	2.6	2.1	1.5

II.6 Russia

The economic contraction is slowing, while inflation accelerated slightly at the year-end. The 3.4% year-on-year decrease in GDP in 2020 Q3 was caused mainly by a sharp fall in household consumption (of 8.4%). However, imports recorded the biggest drop, falling by almost 20%. Exports fell by 8.5%, as a result of which the share of net exports in GDP reached 3.8%, i.e. 2.2 pp lower than in the same period a year earlier. At the end of 2020, consumer price inflation accelerated to 4.9%, driven mainly by an upswing in food price inflation, and slightly exceeded the December CF outlook, which had expected 4.3%. This is the highest inflation rate since May 2019. Inflation is expected to return to the 4% target, or slow even further, at the end of this year. In 2021 Rosstat increased the number of goods and services items it uses to calculate consumer price inflation from 520 to 536.



	CF	IMF	OECD	EIU
2021	3.0	2.8	2.8	2.8
2022	2.4	2.3	2.2	1.8



	CF	IMF	OECD	EIU
2021	3.6	3.2	4.1	3.8
2022	3.8	3.2	4.1	4.0

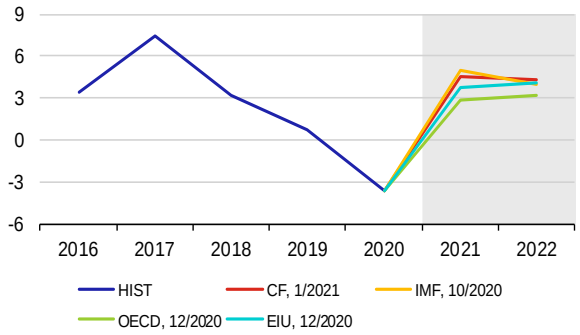
II.7 Developing countries in the spotlight – Turkey

The recovery of the Turkish economy in 2019 Q3 was supported by credit growth. However, this led to a renewed upswing in the country's already high inflation. Inflation exceeded 12% last year. For this year, the CF outlook expects consumer prices to rise by 12.7%. Inflation accelerated on the back of growth in loans. However, this caused the Turkish lira to depreciate and foreign exchange reserves to become run down. New central bank governor Naci Agbal announced after his appointment that rates would go up. The rates were raised at the November meeting. The new interest rate is 4.75%. The new governor aims to stabilise the exchange rate and reduce Turkey's double-digit inflation. However, according to the outlooks of some international institutions, inflation will fall below 10% in 2022 at the earliest.

Gold and digital currency are two topical issues for the Turkish central bank. According to the available data, the central bank sold 21 tonnes of gold, or 3.6% of its gold reserves, in November. This trend is opposite to that followed by the central bank in the last three years, during which it multiplied its gold reserves. At the end of December, the central bank's management announced the launch of a pilot digital currency project in the second half of 2021. This will make Turkey one of the few countries (along with China, Sweden and the Bahamas) in which central banks have advanced to the pilot project or launch phase in the digital currency area.

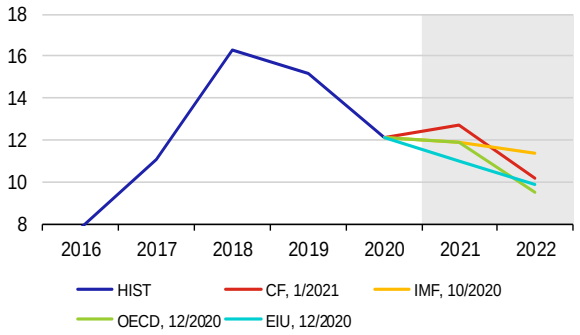
Like other countries, Turkey is grappling with another wave of the coronavirus. The country entered this year under tight economic restrictions (the stringency index is 80). The lockdown, however, seems to be effective, as the daily number of new cases has dropped to around 10,000. At the same time, other indicators show that Turkey has generally coped very well with the coronavirus. Unemployment is essentially unchanged and imports and exports are at pre-crisis levels. According to the CF outlook, the Turkish economy will grow by 4.5% in 2021 and 4.3% in 2022 after contracting by 3.6% in 2020. The outlooks of other institutions in the second half of 2020 are similar. The most pessimistic OECD outlook expects growth of 2.9% this year. By contrast, the most optimistic October IMF outlook predicts 5% growth.

GDP growth, %



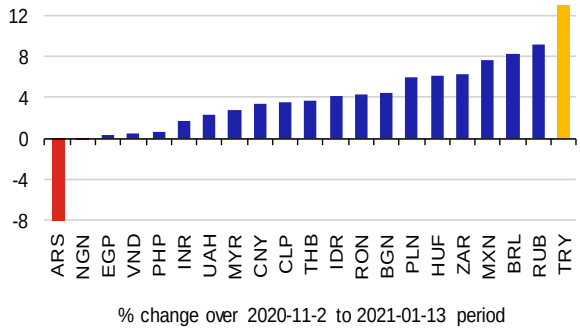
	CF	IMF	OECD	EIU
2021	4.5	5.0	2.9	3.7
2022	4.3	4.0	3.2	4.1

Inflation, %



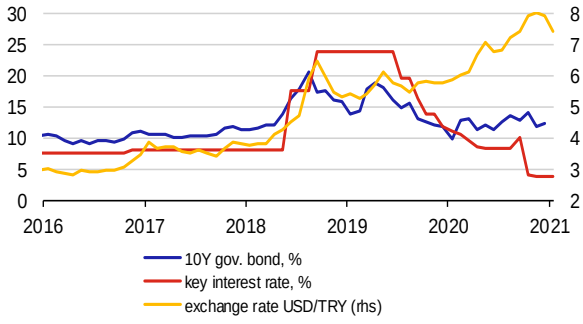
	CF	IMF	OECD	EIU
2021	12.7	n.a	11.9	11.0
2022	10.2	n.a.	9.5	9.9

Currency performance vis-à-vis USD



% change over 2020-11-2 to 2021-01-13 period

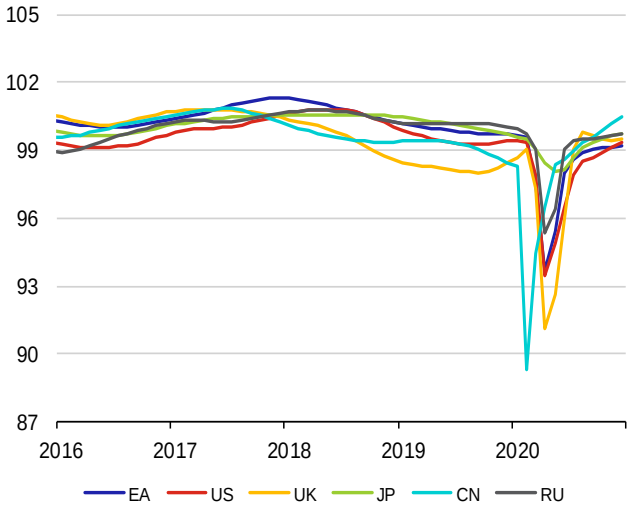
Selected indicators



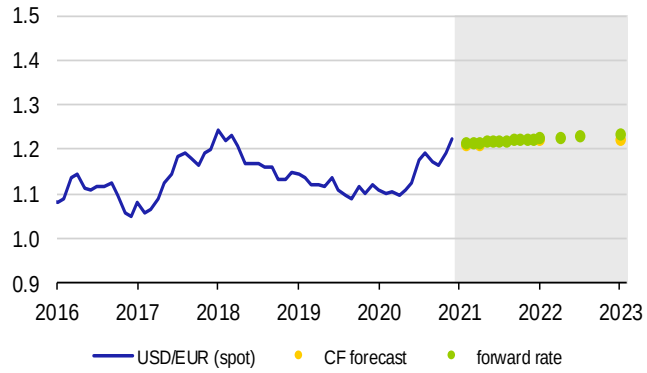
	10Y gov. bond, %	interest rate, %	USD/TRY
10/2020	14.10	4.00	7.91
11/2020	11.93	3.90	8.05
12/2020	12.51	3.75	7.94

III. Leading indicators and outlook of exchange rates

OECD Composite Leading Indicator

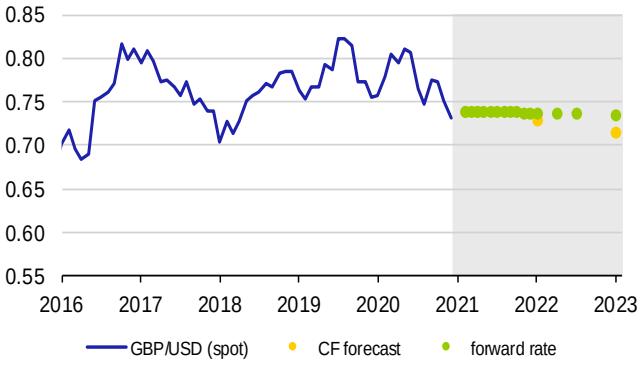


The US dollar (USD/EUR)



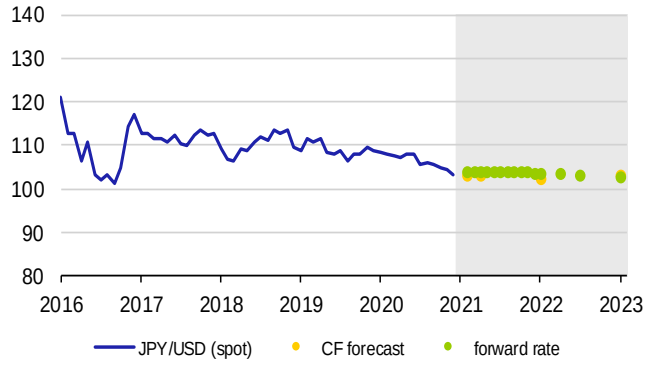
	11/1/21	2/21	4/21	1/22	1/23
spot rate	1.215				
CF forecast		1.212	1.211	1.225	1.222
forward rate		1.216	1.218	1.226	1.236

The British pound (GBP/USD)



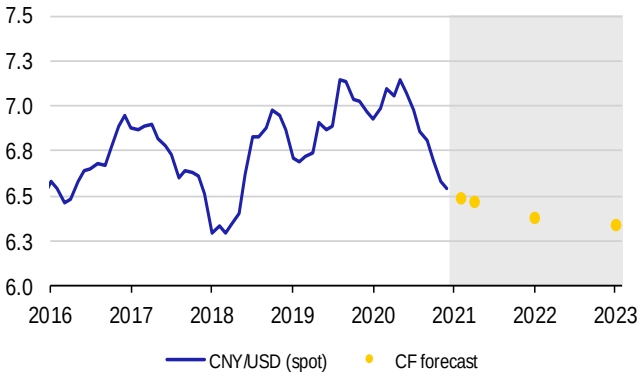
	11/1/21	2/21	4/21	1/22	1/23
spot rate	0.741				
CF forecast		0.740	0.740	0.729	0.716
forward rate		0.740	0.739	0.738	0.736

The Japanese yen (JPY/USD)



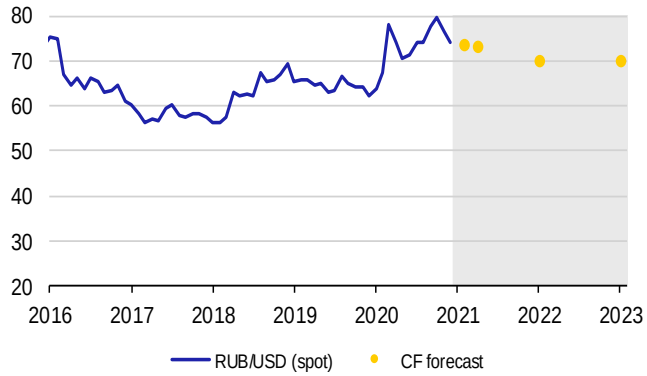
	11/1/21	2/21	4/21	1/22	1/23
spot rate	104.3				
CF forecast		103.4	103.1	102.5	103.1
forward rate		104.2	104.2	103.7	103.1

The Chinese renminbi (CNY/USD)



	11/1/21	2/21	4/21	1/22	1/23
spot rate	6.475				
CF forecast		6.492	6.469	6.383	6.342

The Russian rouble (RUB/USD)



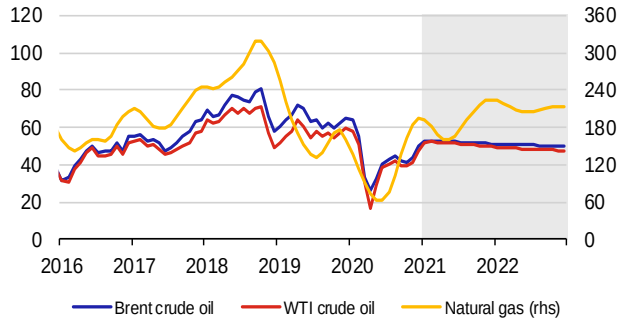
	11/1/21	2/21	4/21	1/22	1/23
spot rate	74.63				
CF forecast		73.59	73.10	70.00	70.10

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

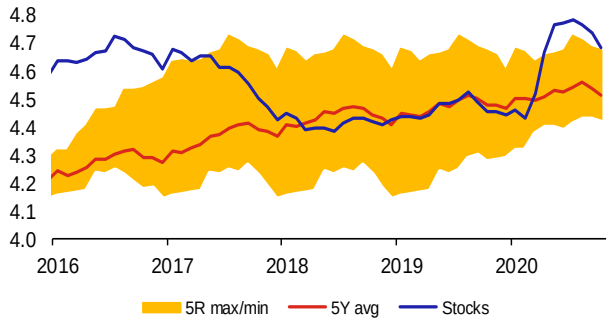
The Brent crude oil price stabilised just above USD 50/bbl in the second half of December. Saudi Arabia's decision to unilaterally cap output pushed the price up again in early January. The Brent price stopped rising in mid-December on news of the emergence of a new, more aggressive coronavirus strain in the UK. Further oil price growth was also prevented by a drop in demand from Asia and uncertainty about OPEC+ output, with Russia pushing for another rise in production in February and Saudi Arabia trying to keep it the same. By contrast, oil prices were boosted by the Brexit deal, a slightly weakening dollar and the fiscal stimulus approved in the USA. Prices surged further in the first half of January after Saudi Arabia's surprise promise to unilaterally cut output by another one million barrels a day in February and March. Other OPEC+ countries are expected to keep production unchanged, with only Russia and Kazakhstan likely to raise it slightly. The aim is to keep global oil inventories falling in Q1, when seasonally lower demand will be depressed further by a further tightening of government coronavirus restrictions in Europe, the USA and part of Asia. The January oil price growth was also due to cold weather in the northern hemisphere and to the Democrats' victory in the Senate elections in Georgia. The Brent and WTI prices thus exceeded the key technical levels of USD 55/bbl and USD 50/bbl respectively. The market curve is signalling a fall in the Brent price to USD 46/bbl in mid-2022 and then slight growth. The current EIA forecast also expects oil prices to drop, but only in the first half of this year. The Brent price is then expected to be flat at around USD 51/bbl and return to growth next year. According to the EIA, the forecast uncertainties are significant. They include, on the demand side, the course of the pandemic, the rate of vaccination and a potential change in consumer behaviour. On the supply side, the question is how long OPEC+ countries will be willing to restrict output and how strictly they will adhere to the quotas. Lastly, there is uncertainty about US shale producers' response to the relatively high oil prices.

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

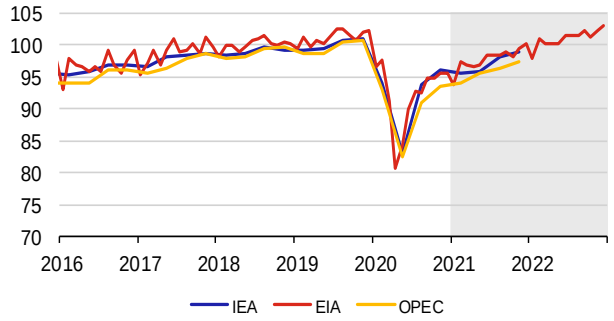


	Brent	WTI	Natural gas
2021	52.22	51.24	189.21
2022	50.55	48.41	211.03

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

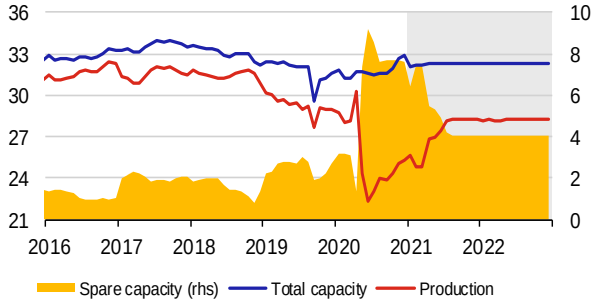


Global consumption of oil and oil products (mil. barrel / day)



	IEA	EIA	OPEC
2021	97.14	97.78	95.90
2022		101.08	

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



	Production	Total capacity	Spare capacity
2021	27.14	32.26	5.12
2022	28.23	32.29	4.07

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

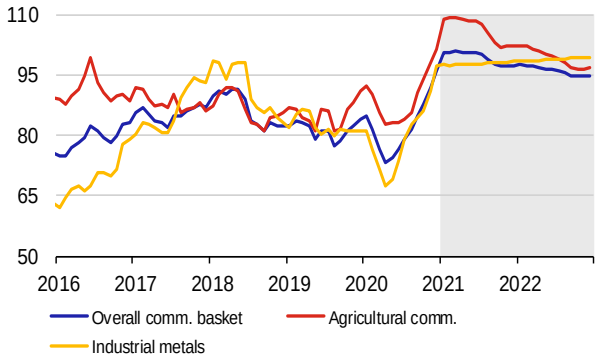
The average natural gas price in Europe surged again in December after a temporary stagnation in November. This was due to cold weather in Europe and sharply rising LNG prices in Asia, which are limiting the amounts of LNG heading to Europe. Gas stocks in Europe thus fell sharply in December and were much lower year on year. Cold weather in North-East Asia, strong economic activity in China and high LNG prices also caused coal prices to rise further to a 20-month high.

The average monthly non-energy commodity price index continued to rise in December and the first half of January. In December, the growth was due mainly to a previous increase in industrial metals prices, while the effect of a rising food commodity sub-index was dominant in the first half of January. The downward path of expected food commodity prices outweighs the stagnation of industrial metals prices in the outlook for the overall index as well.

Most of the components of the food commodity price sub-index contributed to its renewed growth. The largest contributors were the "energy" cereals – corn and soy, but they are expected to see the strongest corrections in the outlook. Wheat also recorded its highest price since the start of 2014. Sugar, coffee and beef prices increased to a lesser extent.

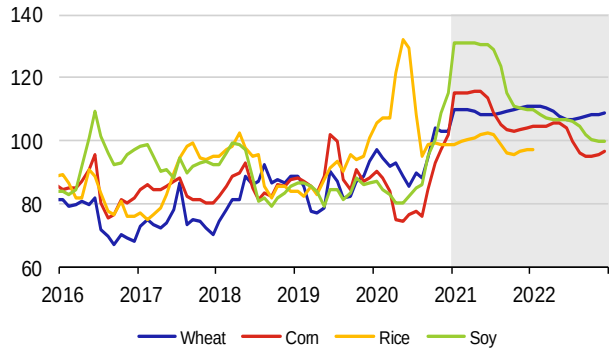
The movements of the individual components of the industrial metals price sub-index were more mixed. The previous strong growth in aluminium, copper, lead and zinc prices halted in early December, so only tin and – at a weaker pace – nickel prices continued to rise. The iron ore price was flat in December but recorded further strong growth in early January, reaching its highest level since 2011. Global manufacturing continued to grow at the end of last year, with growth in new orders at a 10-year high. However, growth in the leading JPMorgan Global PMI in manufacturing halted in December at the November level of 53.8. Even so, it remains at a 33-month high.

Non-energy commodities price indicies



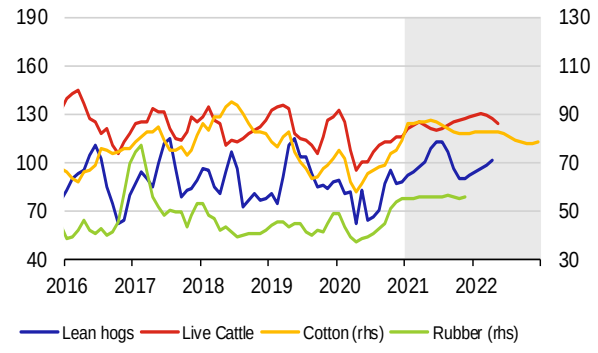
	Overall	Agricultural	Industrial
2021	99.3	106.2	97.8
2022	96.0	99.2	98.9

Food commodities



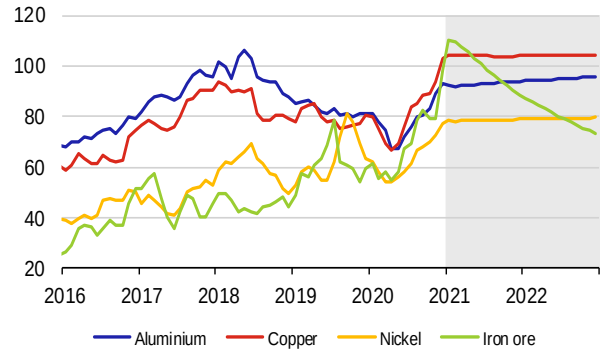
	Wheat	Corn	Rice	Soy
2021	109.5	110.0	99.3	123.7
2022	108.7	100.8	97.5	105.0

Meat, non-food agricultural commodities



	Lean hogs	Live Cattle	Cotton	Rubber
2021	99.0	123.6	84.7	55.4
2022	97.1	127.8	80.4	

Basic metals and iron ore



	Aluminium	Copper	Nickel	Iron ore
2021	92.9	104.0	78.5	99.6
2022	94.9	104.2	79.2	79.8

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.

A network of national AMCs – part of the solution to the legacy of the financial crisis and the coronavirus crisis?[1]

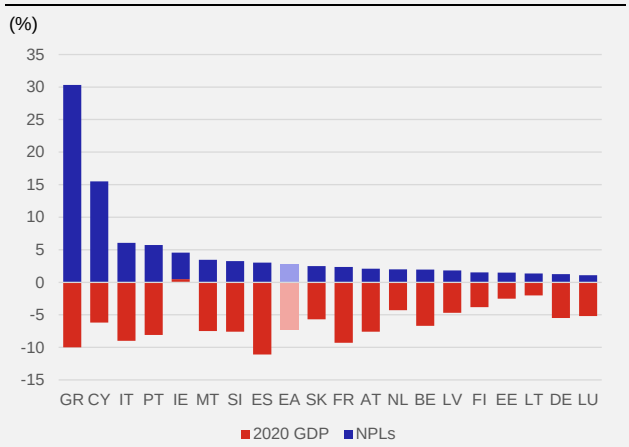
The financial crisis, the debt crisis and subsequently the coronavirus crisis have put intense pressure on monetary, macroprudential and fiscal policy in a short period of time. Having learned from the financial crisis ten years ago, institutions are not hesitating to provide huge support to their economies – central banks are helping with unconventional instruments and governments are rapidly taking on debt to ensure adequate funding for compensation packages for their restrictive measures. It is more difficult to come up with a solution across the countries of the euro area, where the ECB's single monetary policy and the ESRB's efforts to pursue a common approach to macroprudential policy come up against nineteen formally independent national fiscal policies. In this situation, unless the coronavirus crisis quickly becomes a thing of the past, there is a danger that the non-performing loans (NPLs) in financial institutions' balance sheets (especially in the euro area) will cause a financial crisis. To avert such a crisis, it might be appropriate to create a network of national asset management companies (AMCs) to help tackle the rise in NPLs on a purely market basis. If the problems in the banking sector were to reach truly intolerable levels, it may even be necessary to resort to a radical solution involving state-established specialised institutions in the countries concerned. History offers a few examples. The aim of this article is to bring this (still sensitive) discussion to the fore and provide a schematic depiction of the principle on which AMCs operate.

How does the problem of NPLs arise?

The repayment/default rate displays cyclicality over the business cycle. Along with this, risk perceptions of financial market participants also change cyclically and, especially in periods of sustained growth, risks are generally underestimated. Macroprudential policy focuses among other things on drawing attention to and mitigating such risks. It tries to prevent potential problems and is therefore geared more towards the future, including elimination of the financial stability paradox. This states that the greatest risks in the financial sector arise in good times when everything looks great at first glance and indicators are improving.

In times of crisis, however, the number of loans which are not and will not be repaid always rises. Provided that classified loans (NPLs) do not reach a critical level and financial institutions are sufficiently capitalised, an increase in NPLs should not present a fundamental problem for the financial system.

Chart 1 – Proportion of NPLs in financial institutions' balance sheets and GDP growth for 2020



Source: EBA, ECB
Note: The figures for 2020 are outlooks based on the ECB's September projections

Historically, however, risks have been consistently underestimated, and it is only when they materialise – and serious problems arise as a result – that any attempt is made to avert catastrophe. Mora and Koza (2018) illustrate that the situation in Europe can serve as a warning. They state that the NPL ratio more than tripled within five years of the Global Financial Crisis (GFC), with NPLs accounting for around 6% of EU GDP in autumn 2017. Chart 1 shows the current situation. They also point to large differences between countries. In the current context, it is worth adding that countries which have high NPL ratios in their banking sectors (Greece, Italy and Portugal) and whose additional fiscal space is more than limited have been hit harder by the coronavirus crisis.[2]

If the amount of NPLs in a financial institution's balance sheet became too high, the institution could fail and, in the worst-case scenario, threaten the stability of the entire banking system. A threat to the banking sector's financial stability arises if the financial institution concerned is systemically important ("too big to fail") or is too interconnected with other institutions ("too interconnected to fail"). The GFC was triggered by the collapse of a large investment bank which had such a large quantity of NPLs in its balance sheet it was no longer able to cover its losses. Because financial institutions are

[1] Authors: Luboš Komárek and Petr Polák. The views expressed in this article are those of the authors and do not necessarily reflect the official position of the Czech National Bank. The authors would like to thank Lukáš Pfeifer, Radek Urban and Pavel Vacek from the Czech National Bank for their valuable comments.

[2] The current coronavirus crisis differs from the 2007–2009 GFC in that it is having very different impacts across the sectors of economies. This time the winners and losers are more visible. The services sector has undoubtedly been the worst hit. This is particularly noticeable in countries strongly associated with tourism.

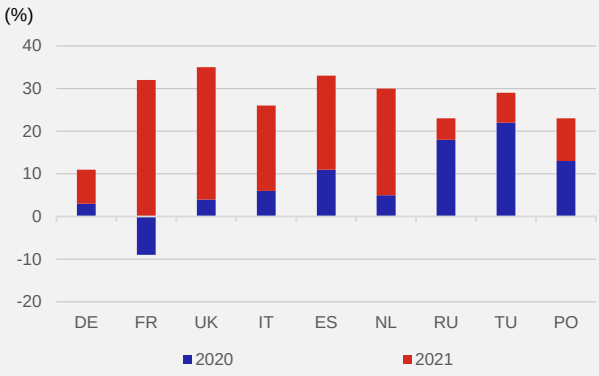
very interconnected, the US Fed, for example, decided, in cooperation with the US government, to support other weakened institutions to prevent them from collapsing too and ultimately destabilising the banking system as a whole (a domino effect). However, this is not the only historical experience that can be used to illustrate the problem of bad assets in the financial system. In the 1990s, the banking system in Southeast Asia also went through a crisis where banks had to be restructured by removing bad assets from their balance sheets (Klingebiel, 2000; Inoguchi, 2012). The experience in Europe can be illustrated by the transformation of the economies of Eastern Europe (the Czech Republic, Poland and Hungary) in the 1990s (Kollár and Komárek, 2009) and of Spain and Ireland following the financial crisis (Byrne, 2015).

Banking sector restructuring has always been a burden on public finances. This sad fact has resulted in greater emphasis on the current orientation of macroprudential policy,[3] which is meant to systematically limit the pressure of the banking sector on public finances in times of recession.[4] Besides preventive macroprudential policy, the crisis resolution framework also attempts to limit the impact on public finances. In addition, in times of crisis, public finances come under pressure from the real sector and as a result of support provided to households. The current coronavirus crisis is a shining example of this, as massive fiscal support totalling several per cent of GDP has been provided to employees of closed firms and for company support programmes. Countries' debt burdens, most often expressed in terms of the ratio of debt to nominal GDP, have thus gone up considerably as a result of both an increase in the debt itself (the numerator) and a decline in the level of GDP (the denominator).

Approaches to resolving problem assets in banks' balance sheets

Simplifying somewhat, two basic approaches can be taken to resolving a bank's problem assets:[5] through assets and/or through liabilities.[6] How does this work? In the first case, the state or another institution buys the bank's problem assets and replaces them with other assets, most often securities, which are usually issued by the state for this purpose. These changes are reflected primarily on the assets side of the bank's balance sheet.[7] In the case of clear-outs through the liabilities side, or an increase in the bank's equity by a third party, the state provides banks with financial assets, for instance by acquiring a share in the bank. This is reflected in a change in the bank's equity and also understandably on the assets side of its balance sheet (for more details see, for example, Kollár and Komárek, 2009). If it is not an option to leave the problem assets in banks' balance sheets and subsequently resolve them (i.e. to follow the usual approach), then one of the most widely used methods is to transfer them to a specialised institution. Such institutions can be created on the basis of a purely market-led solution (an AMC) or as an institution initiated by the state (government).[8]

Chart 2 – Insolvency outlook due to the coronavirus crisis in selected European countries



Source: Euler Hermes and Allianz Research

Asset management companies (AMCs)

Various methods are used to resolve problem assets in banks' and financial institutions' balance sheets, from the sale of collateral, through the sale of assets to a third party, to the management of these assets with the intention of selling them later at a better price. Assets can be sold to a third party individually, in blocks, or through traditional

[3] Since the start of the new millennium, this process has been initiated by the Bank for International Settlements (BIS).

[4] The use of macroprudential policy as prevention is briefly described by Brož et al. (2019), for example.

[5] The primary reason for the emergence of distressed and non-performing loans was banks' bad lending policy. For this reason, in normal times, bank shareholders and management should be the ones to foot the main costs for their mistakes. However, the coronavirus crisis and government lockdowns have led to a new phenomenon where companies and banks are not in fact to blame for all NPLs.

[6] Primary resolution through the assets (liabilities) side can have an impact on the mirror side of the balance sheet, i.e. liabilities (assets). One example is an increase in a bank's capital, which also has an impact on the assets side.

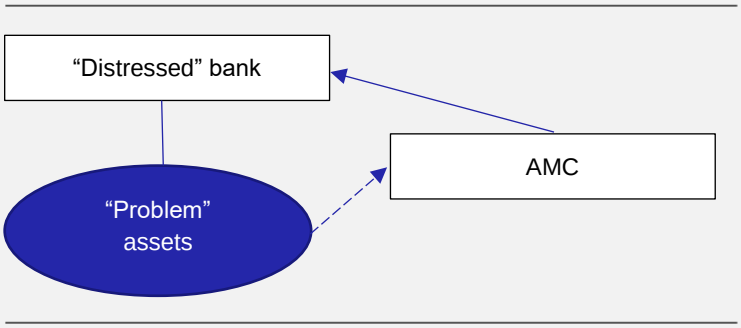
[7] This is the case only if the problem assets in the balance sheet are measured and sold at fair value. If they are not recorded at fair value, there will be a profit or a loss from the sale, which will either increase or decrease the bank's equity. The above also applies if the sale is not implemented at fair value, for example if the book value is higher than the fair value and the buyer is willing to pay more than the fair value (i.e. it pays the book value). From an accounting perspective, this is actually a disadvantageous transaction for the buyer because a loss is incurred at the time of purchase.

[8] The literature in this area sometimes regards AMCs as an umbrella term, i.e. a term which also includes, as a sub-category, specialised ad hoc institutions initiated by the state (government) for resolving large systemic problems in the financial sector.

securitisation (in the case of synthetic securitisation, the assets are not sold, only the risk is transferred). In the case of an individual sale of problem assets, the institution organising the sale acts merely as an agent between the distressed bank and the purchaser. If the assets are sold in blocks, the institution acts as the owner of those assets and seeks to pair them in a way that ultimately maximises the net present value arising from their sale. However, the main question is who sells these troubled assets. The seller can be either the distressed bank itself or its new owner, or a private institution specialising in the management and sale of problem assets. In many cases, though, it has been a public institution with a mandate from the state to sell and often also manage such assets.

One technique for managing a bank's problem assets is to set up an asset management company (AMC), to which those assets are then transferred. This technique is based on the assumption that helping distressed banks or other financial institutions in this way will accelerate the debt restructuring process. Chart 3 illustrates how an AMC operates.

Chart 3 – Asset management company model



Source: Authors

The basic motivation for setting up an AMC is the existence of a large amount of NPLs and the fact that banks themselves do not necessarily have any experience of recovering NPLs. The benefits of creating an AMC are: (i) it generates economies of scale (the problem loans of several banks or of the banking sector as a whole are dealt with by a single institution, which can pool the distressed assets and sell them in packages), (ii) the special powers granted to the AMC by the government allow it to better recover NPLs, even in an environment of poor market discipline and immature legislation, (iii) it breaks the friendly connections between some banks and companies, (iv) it creates a secondary market for distressed assets, because the secondary sale of assets is contingent on there being a secondary market for trading in them (although a secondary NPL market could also be created using other resolution methods, so this is not necessarily a comparative advantage of this technique over the alternatives), and (v) it improves the return on capital invested in the bank. This technique also has certain pitfalls: (i) the risk of insufficient expertise, information and experience on the part of government-appointed AMC managers, (ii) the generation of complicated lawsuits associated with the administrative complexity of this technique, (iii) politicisation of the AMC's work, (iv) the potential for corruption, and, in particular, (v) the risk of moral hazard for banks relieved of their NPLs.

All these factors make it difficult to estimate the net benefits of this technique ex ante. A study by the World Bank[9] refutes the popular opinion that AMCs, unlike other market approaches to resolution in the banking sector, are immune to the disadvantages of an undeveloped legal and institutional environment. The reason for this mistaken popular opinion is the aforementioned limiting effect of a weak institutional environment on the ability of an AMC to achieve its objectives. AMC managers may be exposed to corruption and to political (when there is a change in the ruling party) and other pressures, which may lead them to prefer a suboptimal solution. The higher the ratio of claims transferred to the AMC to the total debt in the economy, the higher the level of politicisation of the debt restructuring process as a whole.

Transferring bad loans to an AMC does not make them disappear from the economy, nor does the economy avoid a restructuring of such loans as a result. As a matter of principle, it would not be right either if banks were relieved of all their bad loans (through a centralised AMC). State intervention should be kept to a minimum in order to best maintain the conditions of market competition. Therefore, only the most burdensome loans should be transferred. Those which are less distressed should be restructured by banks at their own expense.

The creation of a network of AMCs of euro area countries?

The motivation for the possible creation of a network of national AMCs in euro area countries is to prevent NPLs from growing rapidly in the balance sheets of euro area banks and other financial institutions as a consequence of the worsening situation caused by the coronavirus crisis. In July 2017, the European Systemic Risk Board (ESRB) issued a recommendation to develop a network of AMCs. According to Mora and Koza (2018), it is very difficult to take further steps in this direction at EU level, as some countries with high NPL ratios are seeking to delay further measures for fear of escalating the problems in their banking sectors. Despite this, several points from the ESRB's NPL action plan have been implemented, including an amendment of the Capital Requirements Regulation. On the basis of the NPL action plan, the European Commission in March 2018 presented a package of measures to tackle high NPL ratios. These include a blueprint on the set-up of AMCs. The idea of a national network of "bad banks" has once again come to the fore in the

[9] Calomiris, Klingebiel and Laeven (2004).

context of an initiative by the European Commission,[10] which expects a wave of company failures to occur shortly after the coronavirus crisis ends. In October 2020, Andrea Enria, current Chair of the Supervisory Board of the ECB, followed up on the Commission initiative in an article warning that in a severe scenario NPLs in the euro area could reach EUR 1.4 trillion, well above the levels of the 2008 financial and 2011 EU sovereign debt crises (Enria, 2020). Enria also states that a joint European initiative could be a useful tool to cope with the expected increase in NPLs and also to ensure a level playing field in the banking union. The ECB also issued a warning in its November Financial Stability Review that the economic fallout from the coronavirus pandemic will weigh on banks in the latter part of 2020 and into 2021 (ECB, 2020).

The market mechanisms for the purchase of NPLs work very well in many countries. Banks with problem assets commonly deal with them by selling them to a third party. As mentioned above, an advantage of AMCs (and one of the economic incentives for setting them up) is economies of scale. This ties in with the idea of an international network, which could – thanks to communication and a common approach – increase liquidity and returns in this segment .

Antonio Carrascosa, a former member of the Single Resolution Board, recently published a sceptical opinion piece on the idea of a pan-European solution. He sees local AMCs as an option but believes they should not be publicly funded (Carrascosa, 2020), i.e. he is an advocate of a market solution. However, plans and reality don't always match up. An example of this is the resolution of Poland's Idea Bank at the end of last year,[11] where the Resolution Fund was used to fund the Polish AMC.

Specifics of the coronavirus crisis and fiscal space

The coronavirus crisis differs from the 2007–2009 financial crisis not only in terms of its origin, but also in the differing degrees to which it has hit the various sectors of the economy. The GFC was caused by the property bubble bursting, which significantly affected practically all sectors of the economy. The economic downturn that started last year was due primarily to government-imposed lockdowns in response to the epidemic situation, which greatly restricted the mobility of factors of production, in particular labour. The impacts on the individual sectors of the economy have not been identical; the services sector has suffered the most. The functioning of economies is currently linked to commitments made by national governments to provide various levels of support to their economies.[12] In addition to this support, the option to defer payment obligations has been introduced for both individuals and legal entities. We thus find ourselves in a situation where it is not clear how individual debtors are faring, i.e. whether they are able to do business better or worse than before the crisis. Therefore, the scale of company failures in the period ahead is not yet clear from the available data. There is also a danger of "free riders", i.e. entities unaffected by the Covid pandemic may also apply for assistance. Indeed, this is definitely already happening. However, there are also positive aspects to the present situation. The current experience could lead to greater sustainability (such a shift from "unnecessary" travel towards remote communication, a decrease in the excessive shares of certain services, and activation of the pharmaceutical industry in the fight against traditional diseases such as cancers).

Just as the state is currently providing support to individual segments of the economy, it could also support the banking sector. The state has an interest in the stability of the financial sector, That's why it regulates the sector and, where necessary, actively intervenes when market mechanisms fail. The AMC idea is based on market mechanisms (including in the European Commission proposal). If the market no longer wants to purchase problem assets from banks but the amount of such assets in banks' balance sheets is too high, a state-managed AMC can be set up. To ensure maximum transparency of this process, public AMCs should be established for a limited period of time and advance notice of this period should be given to market participants, preferably when the AMC is created.

In addition to resolving problem assets using market AMCs, there is the option of the state setting up a bridge institution to take excessive distressed bank assets under its wing. Recent historical experience is based, for example, on banking sector resolution in former communist countries such as the Czech Republic.

If a country has sufficient fiscal space to potentially stimulate its economy, it has a much greater chance of stabilising it. This holds both for "normal" recessions caused by the natural (economic and financial) cycle of the market mechanism, and for sudden crises of a global nature affecting a string of other economies. The academic literature contains many interesting findings in this regard. For example, Reinhart and Rogoff (2009) show that the ratio of government debt to GDP very often increases after a crisis, reflecting a decline in revenues and, unless the fiscal authority is simultaneously passive, an increase in expenditure. This is confirmed by Mendoza and Ostry (2008), who show that the lower the debt-to-GDP ratio, the greater the propensity towards activist (expansionary) fiscal policy. Romer and Romer (2017) find that if the debt-to-GDP ratio reaches around 130%, there is no longer any room for economic stimulus through fiscal policy.

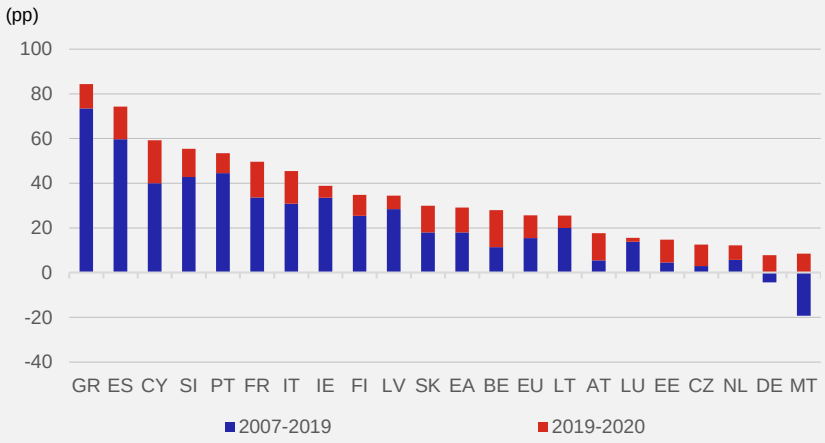
[10] "Brussels seeks to help banks offload rising tide of bad loans" https://www.ft.com/content/294e7af5-7eff-4d38-89f0-6985eb20abb2, https://ec.europa.eu/commission/presscorner/detail/en/IP_20_2375.

[11] Resolution in the form of the sale of part of the business – the rump of the original balance sheet in the AMC: https://www.bfg.pl/przymusowa-restrukturyzacja-idea-bank-s-a/.

[12] COVID-19-related fiscal measures are described, for example, in Polák et al. (2020).

Like the monetary space, the current fiscal space in the large group of OECD countries is very limited. This is shown in Chart 4, which illustrates how the usable fiscal space for a potential economic policy response has changed since 2007. The y-axis shows the change in the debt-to-GDP ratio. The chart shows that the vast majority of countries constantly increase their debt instead of creating a fiscal buffer for resolving future problems. The fiscal space has thus diminished in good times, which is not good news. The case of the euro area illustrates that it is very difficult to increase the fiscal space. Despite a series of debt-reducing measures leading to a slowdown in economic growth (especially in the southern euro area countries), the debt of the euro area as a whole has fallen only marginally.

Chart 4 – Change in the relative fiscal space



Source: Eurostat, authors' calculation
Note: Change in the ratio of government debt to GDP; the available data for 2007 Q4, 2009 Q4 and 2020 Q2 are used for the calculation.

Soon after the last crisis, the coronavirus crisis unexpectedly hit the economies recovering from the financial and EU debt crises. Many countries may find it very hard to stabilise their economies in either the monetary or the fiscal area. We can thus conclude that for many nations the economic policy options for responding to the potential need to stimulate the economy are very limited. In the monetary policy area, unconventional tools can be used in an emergency to ensure that statutory mandates are fulfilled. Nonetheless, even here, the room has already been largely exhausted, in terms of both the use of an appropriate tool and the duration of that use. Many central banks, including the ECB, have been unable to abandon the unconventional tools they have been using continuously since the GFC of 2008–2009. Only a few central banks in advanced countries (the Fed, the Banco de México, the Bank of Canada, the Bank of England and the CNB) succeeded in achieving a brief period of normalisation before the Covid pandemic erupted. In the case of fiscal policy, however, there are basically no unconventional tools, leaving aside unrealistic promises linked to the election cycle.

Unsustainable fiscal policy (an increasing burden relative to GDP) can lead to inflationary pressures and complicate the functioning of monetary policy. This is the well-known phenomenon of fiscal dominance. The underlying intertemporal constraint allows for the possibility of financing higher expenditures than revenues through taxation, deficits or monetisation. In this situation, such fiscal dominance would put pressure on the monetary authority (see Sargent and Wallace, 1981), the price level in the economy would become dependent on government budgetary constraints, and the monetary authority would be unable to focus fully on achieving its monetary policy objectives (see Woodford, 1995). By contrast, monetary dominance would push the government to cut spending and increase taxation in the absence of other factors constraining the central bank in the pursuit of its target (often an inflation target).

Conclusion

We see little need for a network of AMCs across the euro area countries for the time being, but we do believe it would be prudent to lay the groundwork for this process. The low need for such a network at the moment is primarily due to the different NPL infection rates in the balance sheets of banks and other financial institutions in Europe and to the issue of moral hazard, which could cause a local problem to spread to the EU level. However, even from the current perspective, the creation of AMCs in the hardest hit countries cannot be ruled out. The question is, though, whether this step alone would resolve the overall situation.

In the case of the Czech economy, there is practically no need to establish an AMC, even in the future. This is due to the very good condition of banks and other financial institutions, which are not yet signalling any severe deterioration in the area of NPLs, coupled with the well-functioning management of problem loans by banks and the potential market sale of those loans to third parties. Any formation of an AMC in the Czech Republic should take maximum account of market principles. We would deem it useful for the competent authorities to prepare an operational framework for the establishment and operation of such an institution. In other words, better safe than sorry. The current regulatory framework is different to the situation 20 years ago, so it would not be easy to "dust off" the Consolidation Bank/Czech Consolidation Agency model. After the Czech Republic joined the EU, major changes were made to the public support regulations. This makes it difficult to use public money to rescue banks, even if there were still sufficient fiscal space.

References

Brož, V., Holub, L. & Pfeifer, L. (2019): Využívání makroobezřetnostních nástrojů k prevenci vzniku systémově vysoké úrovně nevýkonných úvěrů, https://www.cnb.cz/cs/o_cnb/cnblog/Vyuzivani-makroobezretnostnich-nastroju-k-prevenci-vzniku-systemove-vysoke-urovne-nevykonnych-uveru/

Byrne, M. (2015). Bad banks: the urban implications of asset management companies. Urban Research & Practice, 8(2), 255–266.

Carrascosa, A. (2020): A European Bad Bank – a necessary tool for financial stability? https://srb.europa.eu/en/node/1109

Calomiris, C., Klingebiel, D., & Laeven, L. (2004). A taxonomy of financial crisis resolution mechanisms: cross-country experience. The World Bank.

ECB (2020): Financial Stability Review, November 2020

Enria, A. (2020): ECB: the EU needs a regional 'bad bank', Financial Times, 26. October, 2020, https://www.ft.com/content/cc3a9a51-4d9a-4c73-9ff0-9f623ecf4065

Fell, J., Grodzicki, M., Martin, R., & O'Brien, E. (2017). A Role for systemic Asset Management Companies in solving Europe's non-performing loan problems. European Economy–Banks, Regulation and the Real Sector, (17.1).

He, D., Ingves, S., & Seelig, S. A. (2006). Issues in the establishment of asset management companies. In Bank Restructuring and Resolution (pp. 212–226). Palgrave Macmillan, London.

Inoguchi, M. (2012). Nonperforming loans and public asset management companies in Malaysia and Thailand. Asia Pacific Economic Research Paper, (398).

Klingebiel, D. (2000). The use of asset management companies in the resolution of banking crises: Cross-country experience. The World Bank.

Kollár, M., & Komárek, L. (2009). Možnosti řešení problematických aktiv komerčních bank, Politická ekonomie, 5.

Mendoza, E. G., & Ostry, J. D. (2008). International evidence on fiscal solvency: Is fiscal policy "responsible"?. Journal of Monetary Economics, 55(6), 1081-1093.

Mora, M., & Koza, O. (2018): Úvěry se selháním a situace v Evropě jako varovný příklad, Bankovnictví 20. 4. 2018, 10, rubrika: Fokus/Ekonomika.

Polák, P., Komárek, L., Netušilová, P. & Polášková, I. (2020): Reakce fiskální politiky na COVID-19 aneb jak z krize rychle ven, Globální ekonomický výhled 5/2020

Reinhart, C. M., Rogoff, K. S. (2009): This Time Is Different: Eight Centuries of Financial Folly. Princeton, NJ: Princeton University Press.

Romer, C. D., & Romer, D. H. (2017). New evidence on the aftermath of financial crises in advanced countries. American Economic Review, 107(10), 3072-3118.

Sargent, T. J., & Wallace, N. (1981). Some unpleasant monetarist arithmetic. Federal reserve bank of minneapolis quarterly review, 5(3), 1-17.

Woodford, M. (1995): Price-level determinacy without control of a monetary aggregate. Carnegie-Rochester Conference Series on Public Policy, Vol. 43, December 1995, No. 2, s. 1–46, ISSN 0167-2231.

Woodford, M. (1996): Control of the public debt: A requirement for price stability?. NBER,Massachusetts, NBER Working Paper No. 5684, July 1996, 35.

Keywords

financial crisis, AMCs, NPLs

JEL classification

G21, O16, H63

A1. Change in predictions for 2021

GDP growth, %

	CF		IMF		OECD		CB / EIU	
EA	-0.3	2021/1 2020/12	-0.8	2020/10 2020/6	-1.5	2020/12 2020/9	-1.1	2020/12 2020/9
US	+0.4	2021/1 2020/12	-1.4	2020/10 2020/6	-0.8	2020/12 2020/9	+0.2	2020/12 2020/9
UK	-1.0	2021/1 2020/12	-0.4	2020/10 2020/6	-3.4	2020/12 2020/9	-1.7	2020/11 2020/8
JP	-0.2	2021/1 2020/12	-0.1	2020/10 2020/6	+0.8	2020/12 2020/9	+0.3	2020/10 2020/7
CN	+0.3	2021/1 2020/12	0	2020/10 2020/6	0	2020/12 2020/9	-5.4	2021/1 2020/11
RU	0	2021/1 2020/12	-1.3	2020/10 2020/6	-2.2	2020/12 2020/9	0	2020/12 2020/11

Inflation, %

	CF		IMF		OECD		CB / EIU	
EA	0	2021/1 2020/12	-0.1	2020/10 2020/4	+0.2	2020/12 2020/6	0	2020/12 2020/9
US	+0.1	2021/1 2020/12	+0.6	2020/10 2020/4	+0.4	2020/12 2020/6	+0.1	2020/12 2020/9
UK	-0.1	2021/1 2020/12	-0.3	2020/10 2020/4	+0.1	2020/12 2020/6	+0.3	2020/11 2020/8
JP	-0.1	2021/1 2020/12	-0.1	2020/10 2020/4	+0.3	2020/12 2020/6	+0.1	2020/10 2020/7
CN	-0.3	2021/1 2020/12	+0.1	2020/10 2020/4	+0.4	2020/12 2020/6	-0.4	2021/1 2020/11
RU	0	2021/1 2020/12	+0.2	2020/10 2020/4	+0.1	2020/12 2020/6	0	2020/12 2020/11

A2. Change in predictions for 2022

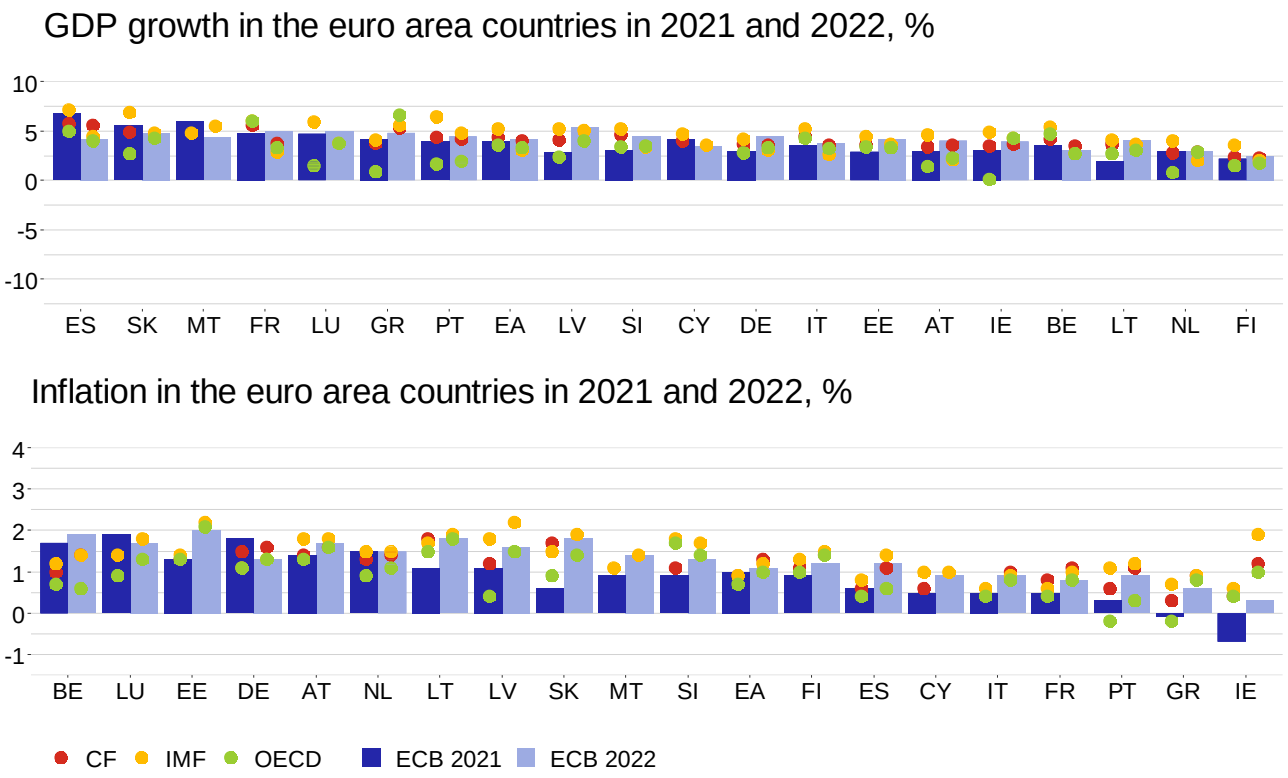
GDP growth, %

	CF		IMF		OECD		CB / EIU	
EA	---	2021/1 ---	---	2020/10	---	2020/12 ---	+1.0	2020/12 2020/9
US	---	2021/1 ---	---	2020/10	---	2020/12 ---	+0.2	2020/12 2020/9
UK	---	2021/1 ---	---	2020/10	---	2020/12 ---	+2.8	2020/11 2020/8
JP	---	2021/1 ---	---	2020/10	---	2020/12 ---	+0.1	2020/10 2020/7
CN	---	2021/1 ---	---	2020/10	---	2020/12 ---	+3.3	2021/1 2020/11
RU	---	2021/1 ---	---	2020/10	---	2020/12 ---	+0.1	2020/12 2020/11

Inflation, %

	CF		IMF		OECD		CB / EIU	
EA	---	2021/1 ---	---	2020/10	---	2020/12 ---	-0.2	2020/12 2020/9
US	---	2021/1 ---	---	2020/10	---	2020/12 ---	+0.1	2020/12 2020/9
UK	---	2021/1 ---	---	2020/10	---	2020/12 ---	-0.1	2020/11 2020/8
JP	---	2021/1 ---	---	2020/10	---	2020/12 ---	0	2020/10 2020/7
CN	---	2021/1 ---	---	2020/10	---	2020/12 ---	-1.3	2021/1 2020/11
RU	---	2021/1 ---	---	2020/10	---	2020/12 ---	-0.1	2020/12 2020/11

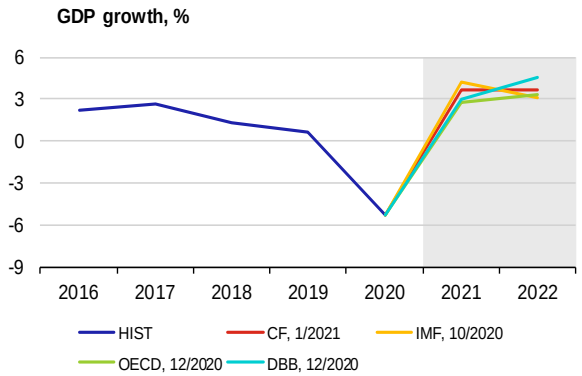
A3. GDP growth and inflation outlooks in the euro area countries



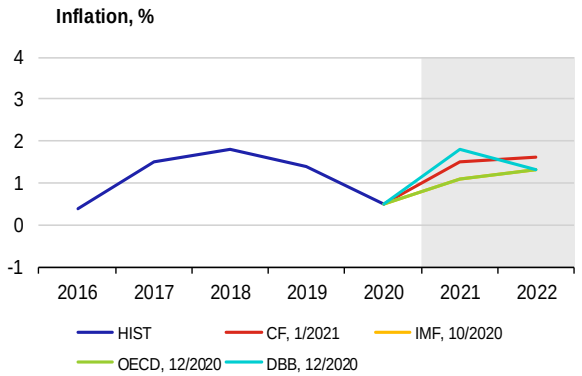
Note: Charts show institutions' latest available outlooks of for the given country.

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

Germany

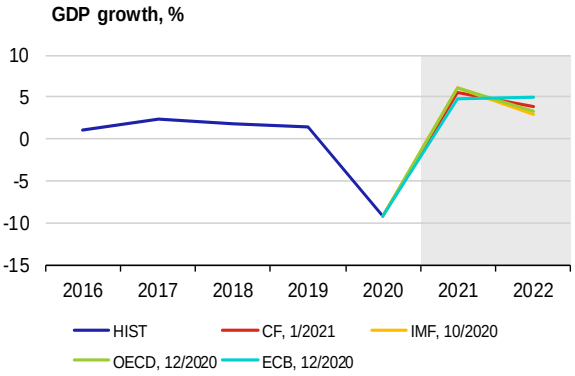


	CF	IMF	OECD	DBB
2021	3.7	4.2	2.8	3.0
2022	3.6	3.1	3.3	4.5

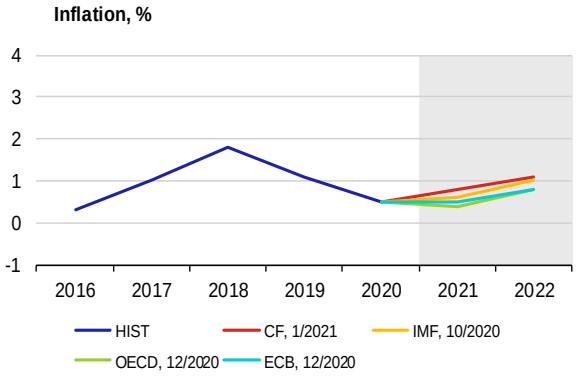


	CF	IMF	OECD	DBB
2021	1.5	1.1	1.1	1.8
2022	1.6	1.3	1.3	1.3

France

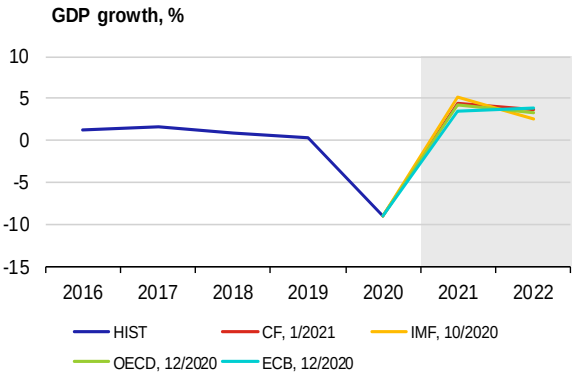


	CF	IMF	OECD	ECB
2021	5.6	6.0	6.0	4.8
2022	3.8	2.9	3.3	5.0

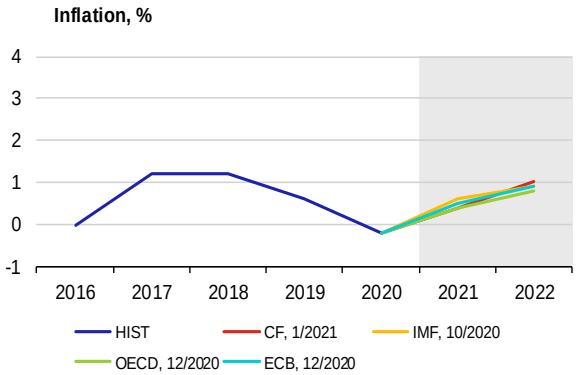


	CF	IMF	OECD	ECB
2021	0.8	0.6	0.4	0.5
2022	1.1	1.0	0.8	0.8

Italy

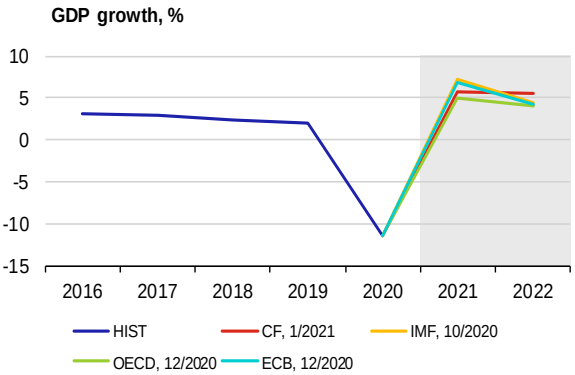


	CF	IMF	OECD	ECB
2021	4.5	5.2	4.3	3.5
2022	3.6	2.6	3.2	3.8

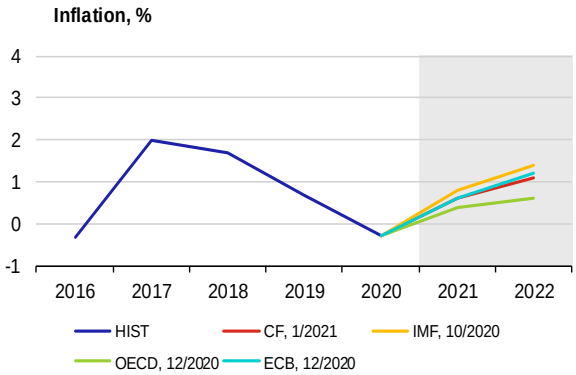


	CF	IMF	OECD	ECB
2021	0.4	0.6	0.4	0.5
2022	1.0	0.9	0.8	0.9

Spain

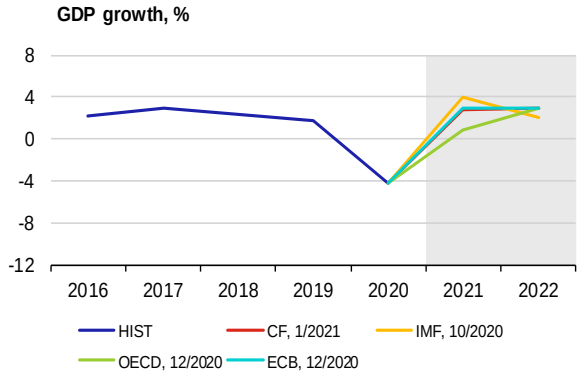


	CF	IMF	OECD	ECB
2021	5.8	7.2	5.0	6.8
2022	5.6	4.5	4.0	4.2

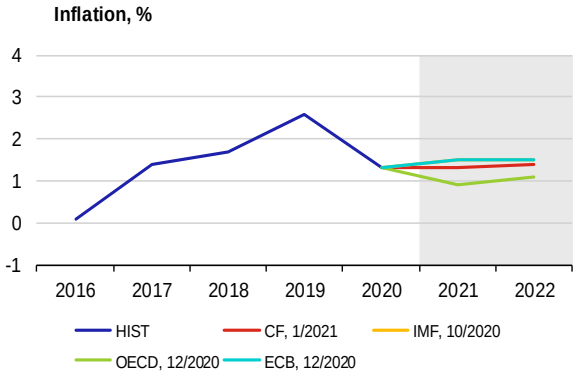


	CF	IMF	OECD	ECB
2021	0.6	0.8	0.4	0.6
2022	1.1	1.4	0.6	1.2

Netherlands

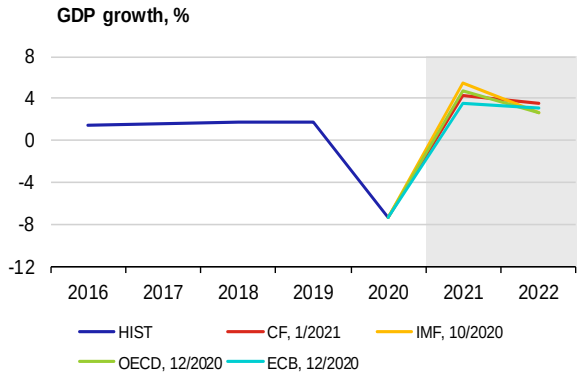


	CF	IMF	OECD	ECB
2021	2.8	4.0	0.8	2.9
2022	2.9	2.0	2.9	2.9

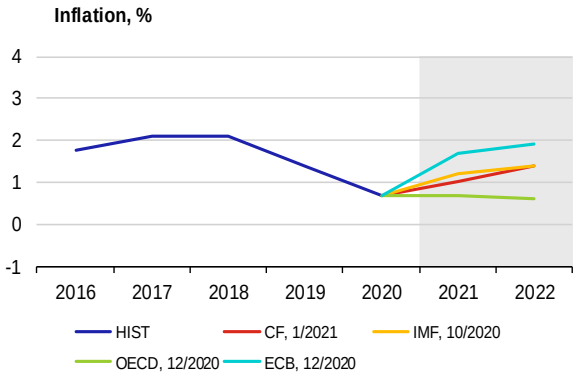


	CF	IMF	OECD	ECB
2021	1.3	1.5	0.9	1.5
2022	1.4	1.5	1.1	1.5

Belgium

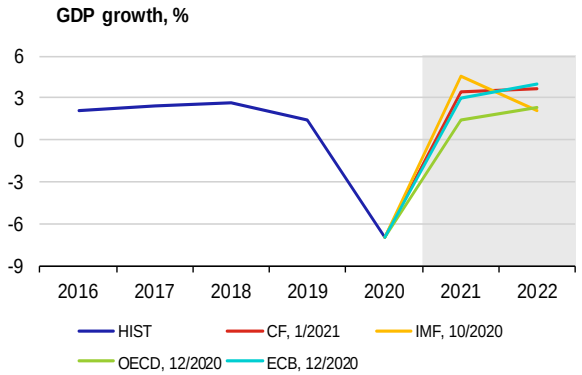


	CF	IMF	OECD	ECB
2021	4.2	5.4	4.7	3.5
2022	3.5	2.7	2.7	3.1

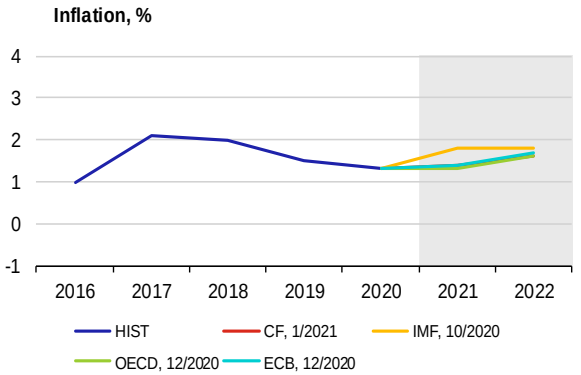


	CF	IMF	OECD	ECB
2021	1.0	1.2	0.7	1.7
2022	1.4	1.4	0.6	1.9

Austria

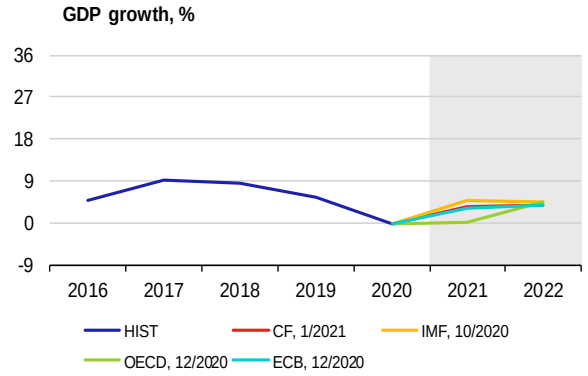


	CF	IMF	OECD	ECB
2021	3.4	4.6	1.4	3.0
2022	3.6	2.1	2.3	4.0

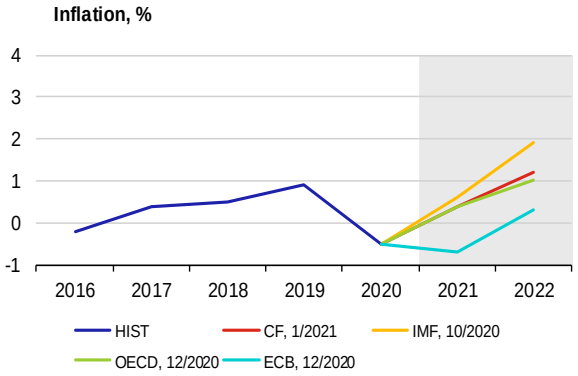


	CF	IMF	OECD	ECB
2021	1.4	1.8	1.3	1.4
2022	1.6	1.8	1.6	1.7

Ireland

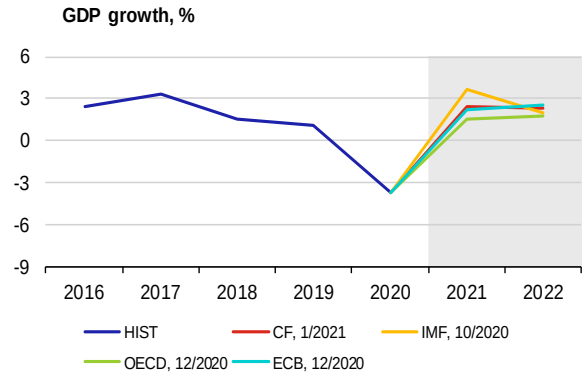


	CF	IMF	OECD	ECB
2021	3.5	4.9	0.1	3.1
2022	3.7	4.3	4.3	3.9

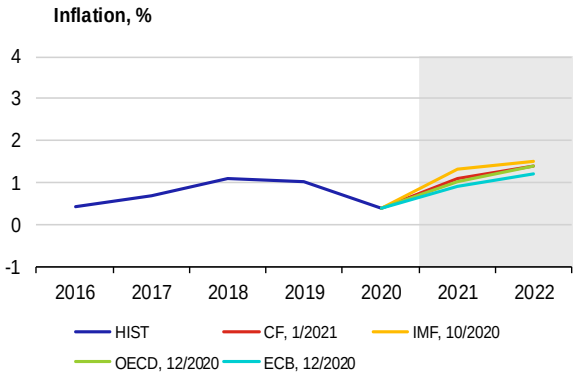


	CF	IMF	OECD	ECB
2021	0.4	0.6	0.4	-0.7
2022	1.2	1.9	1.0	0.3

Finland

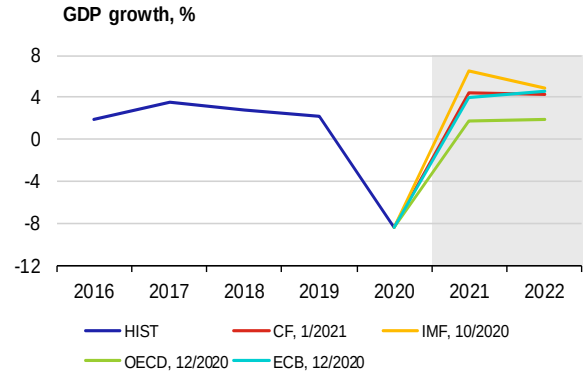


	CF	IMF	OECD	ECB
2021	2.4	3.6	1.5	2.2
2022	2.3	2.0	1.8	2.5

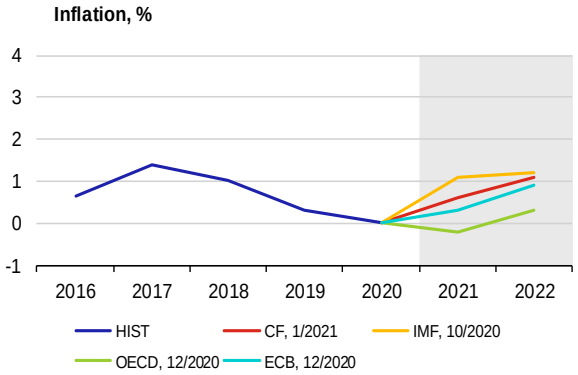


	CF	IMF	OECD	ECB
2021	1.1	1.3	1.0	0.9
2022	1.4	1.5	1.4	1.2

Portugal



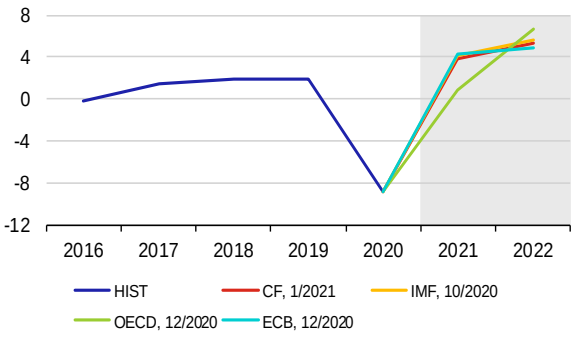
	CF	IMF	OECD	ECB
2021	4.4	6.5	1.7	3.9
2022	4.2	4.8	1.9	4.5



	CF	IMF	OECD	ECB
2021	0.6	1.1	-0.2	0.3
2022	1.1	1.2	0.3	0.9

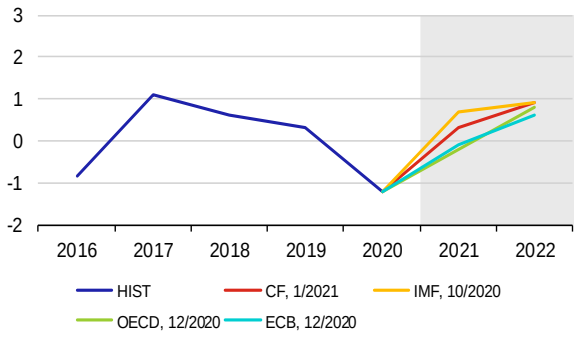
Greece

GDP growth, %



	CF	IMF	OECD	ECB
2021	3.8	4.1	0.9	4.2
2022	5.3	5.6	6.6	4.8

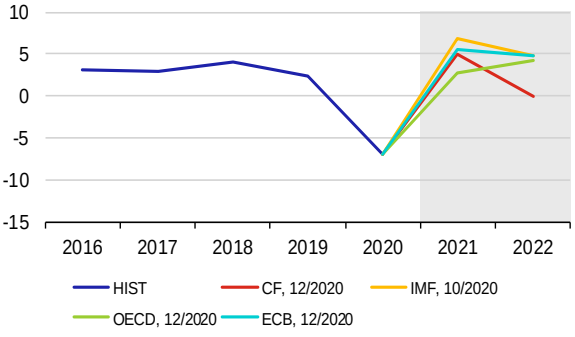
Inflation, %



	CF	IMF	OECD	ECB
2021	0.3	0.7	-0.2	-0.1
2022	0.9	0.9	0.8	0.6

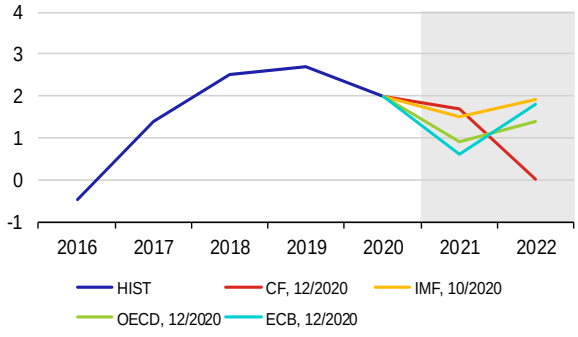
Slovakia

GDP growth, %



	CF	IMF	OECD	ECB
2021	4.9	6.9	2.7	5.6
2022	n.a.	4.8	4.3	4.8

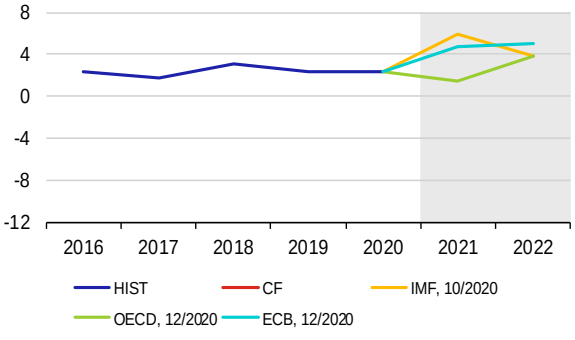
Inflation, %



	CF	IMF	OECD	ECB
2021	1.7	1.5	0.9	0.6
2022	n.a.	1.9	1.4	1.8

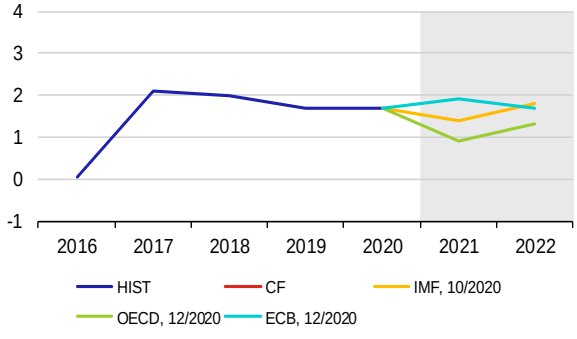
Luxembourg

GDP growth, %



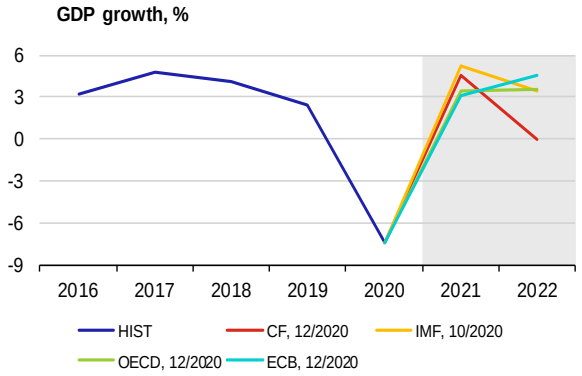
	CF	IMF	OECD	ECB
2021	n. a.	5.9	1.5	4.7
2022	n. a.	3.8	3.8	5.0

Inflation, %

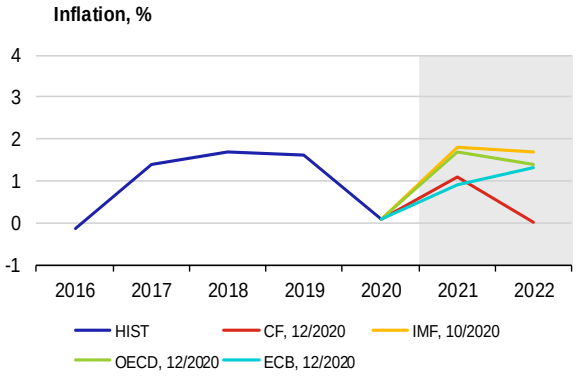


	CF	IMF	OECD	ECB
2021	n. a.	1.4	0.9	1.9
2022	n. a.	1.8	1.3	1.7

Slovenia

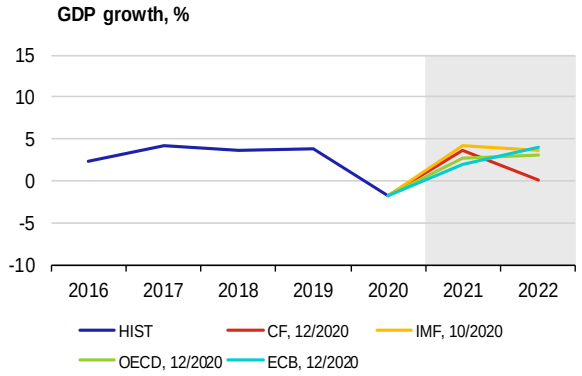


	CF	IMF	OECD	ECB
2021	4.6	5.2	3.4	3.1
2022	n.a.	3.4	3.5	4.5

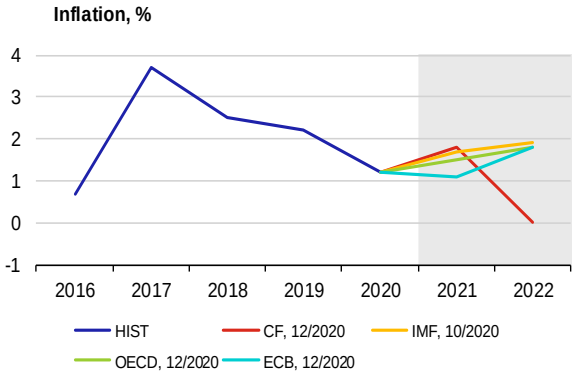


	CF	IMF	OECD	ECB
2021	1.1	1.8	1.7	0.9
2022	n.a.	1.7	1.4	1.3

Lithuania

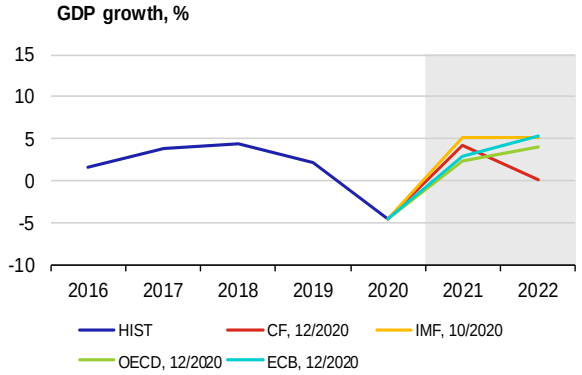


	CF	IMF	OECD	ECB
2021	3.7	4.1	2.7	1.9
2022	n.a.	3.7	3.1	4.0

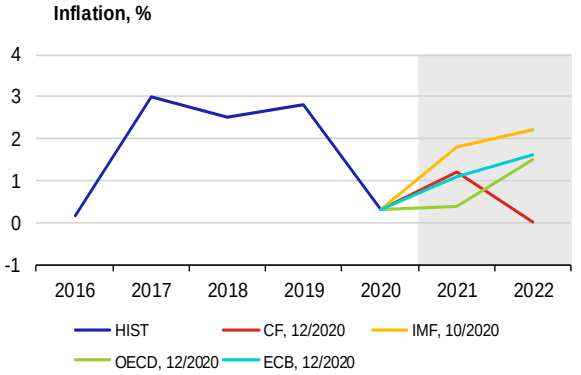


	CF	IMF	OECD	ECB
2021	1.8	1.7	1.5	1.1
2022	n.a.	1.9	1.8	1.8

Latvia



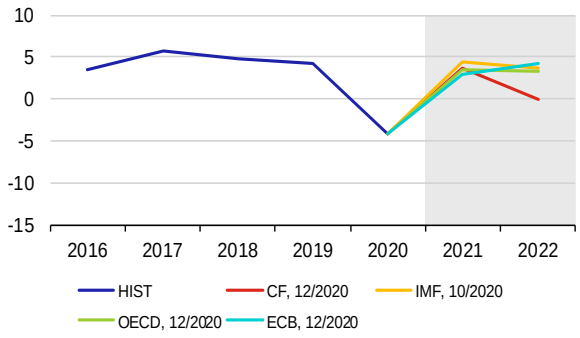
	CF	IMF	OECD	ECB
2021	4.1	5.2	2.4	2.8
2022	n.a.	5.1	4.0	5.3



	CF	IMF	OECD	ECB
2021	1.2	1.8	0.4	1.1
2022	n.a.	2.2	1.5	1.6

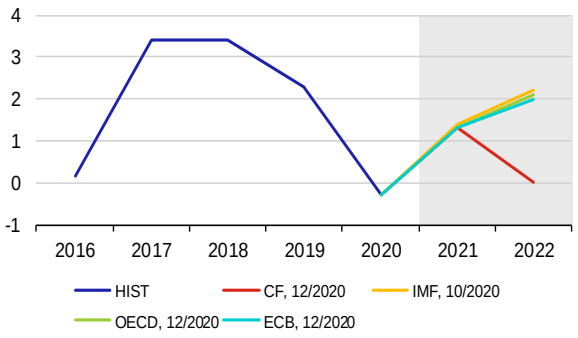
Estonia

GDP growth, %



	CF	IMF	OECD	ECB
2021	3.6	4.5	3.4	2.9
2022	n.a	3.7	3.3	4.2

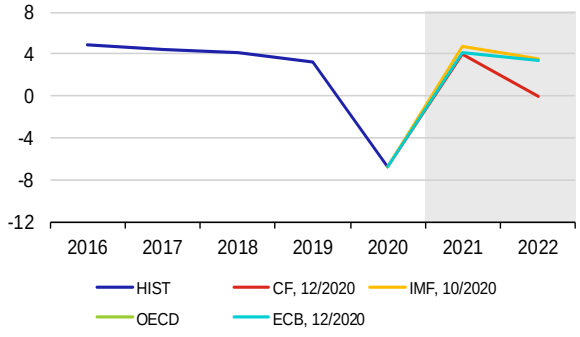
Inflation, %



	CF	IMF	OECD	ECB
2021	1.3	1.4	1.3	1.3
2022	n.a	2.2	2.1	2.0

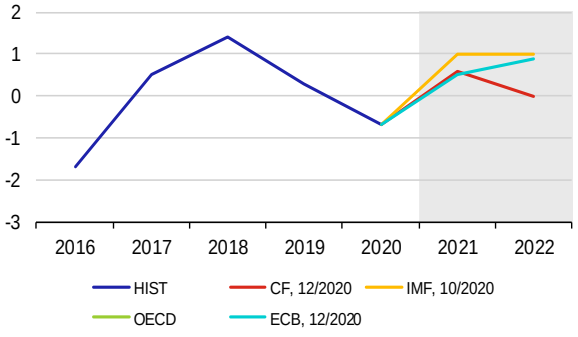
Cyprus

GDP growth, %



	CF	IMF	OECD	ECB
2021	4.0	4.7	n. a.	4.1
2022	n.a.	3.6	n. a.	3.4

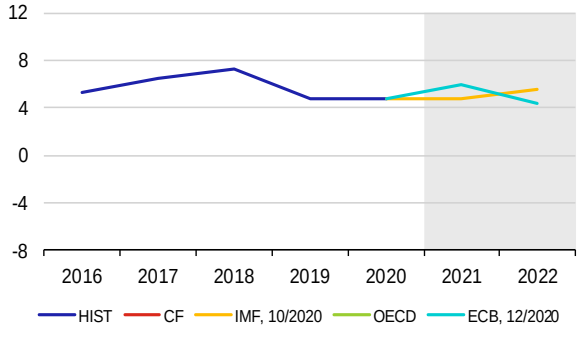
Inflation, %



	CF	IMF	OECD	ECB
2021	0.6	1.0	n. a.	0.5
2022	n.a.	1.0	n. a.	0.9

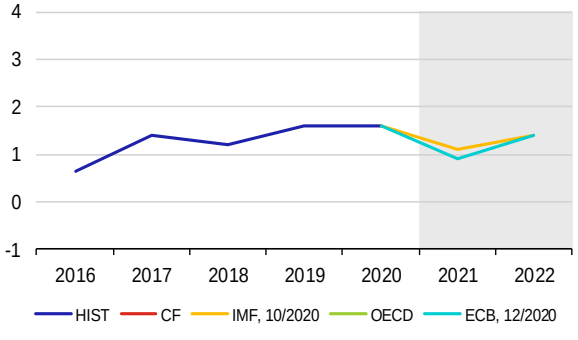
Malta

GDP growth, %



	CF	IMF	OECD	ECB
2021	n. a.	4.8	n. a.	5.9
2022	n. a.	5.5	n. a.	4.4

Inflation, %



	CF	IMF	OECD	ECB
2021	n. a.	1.1	n. a.	0.9
2022	n. a.	1.4	n. a.	1.4

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
OPEC+	member countries of OPEC oil cartel and 10 other oil-exporting countries (the most important of which are Russia, Mexico and Kazakhstan)
PMI	Purchasing Managers' Index
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

Publisher:
ČESKÁ NÁRODNÍ BANKA
Na Příkopě 28
115 03 Praha 1
Česká republika

Contact:
ODBOR KOMUNIKACE SEKCE KANCELÁŘ
Tel.: 224 413 112
Fax: 224 412 179
www.cnb.cz