

Global Economic Outlook

November 2020



Contents

I. Introduction	2
II. Economic outlook in selected territories	3
II.1 Euro area	3
II.2 United States	5
II.3 United Kingdom	6
II.4 Japan	6
II.5 China	7
II.6 Russia	7
II.7 Developing countries in the spotlight	8
III. Leading indicators and outlook of exchange rates	9
IV. Commodity market developments	10
IV.1 Oil	10
IV.2 Other commodities	11
V. Focus	12
The fight between the Covid-19 pandemic and air transport has a clear winner so far: Are we facing a historical change?	12
A. Annexes	19
A1. Change in predictions for 2020	19
A2. Change in predictions for 2021	19
A3. GDP growth and inflation outlooks in the euro area countries	20
A4. GDP growth and inflation in the individual euro area countries	20
A5. List of abbreviations	27

Cut-off date for data

13 November 2020

CF survey date

9 November 2020

GEO publication date

20 November 2020

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.

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Jan Hošek	IV.1 Oil, IV.2 Other commodities

I. Introduction

COVID-19: “a vaccine is within reach”! As the pandemic escalates worldwide, a ray of hope is on the horizon. This comes with the announcement by Pfizer and BioNTech that their vaccine is 90% effective. The vaccine should be approved for emergency use in the USA by the end of November at the latest. Moreover, there are another dozen vaccines in the final phase of clinical testing around the world. In reality, however, a further tightening of restriction measures in November has brought many countries close to a lockdown (the USA, Austria, the United Kingdom, Germany, France and others). The

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

GDP	EA	DE	US	UK	JP	CN	RU
2020	-7.3 ↘	-5.5 →	-3.7 ↘	-11.0 ↘	-5.5 ↘	2.0 ↘	-4.2 ↘
2021	4.7 ↘	3.8 ↘	3.8 ↘	4.7 ↘	2.5 →	7.9 →	3.1 ↘

Inflation	EA	DE	US	UK	JP	CN	RU
2020	0.3 →	0.5 →	1.2 →	0.9 →	0.0 →	2.7 ↘	3.8 →
2021	0.9 →	1.5 →	2.0 →	1.5 →	0.0 →	1.9 ↘	3.6 ↘

Source: Consensus Forecasts (CF)

Note: The arrows indicate the direction of the revisions compared with the last GEO.

tone of an online ECB forum focusing on central banks' plans and outlooks amid the pandemic – a major monetary policy event – was also realistic. Attended by the heads of the world's main central banks, the forum curbed optimism about the rapid positive economic impacts arising from the discovery of an effective vaccine. However, the most significant event in November was the election of the 46th US president. Following a dramatic fight, financial markets reacted

positively to the news of Democrat Joe Biden's victory, whose leadership is expected to reduce the risk of an escalation of trade wars between the USA and the EU and China, for example. The (absence of a) result on the Brexit deal negotiations has not helped to ease the uncertainty, and what EU-UK relations will be like after 1 January 2021 remains in the balance.

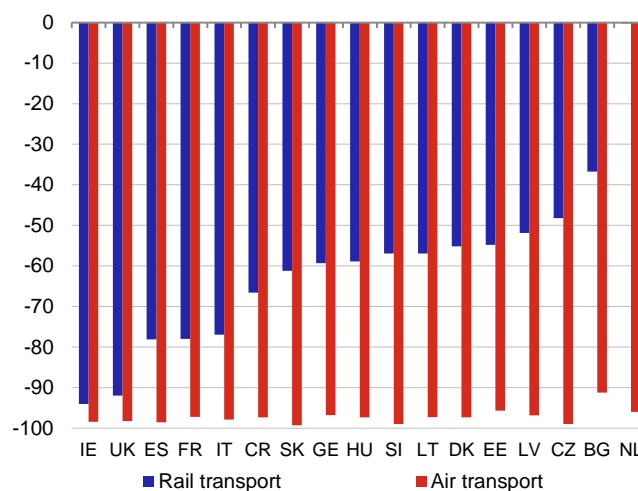
As the year comes to an end, slight revisions have been made to **the November GDP growth outlooks** for 2020. Unfortunately, 2020 will go down in history as the year of the largest post-war decline. The only exception is China where the virus originated. Even so, China's expected 2% growth is visibly lower than the level the world was used to. Next year, the economies we monitor are expected to grow by 3%–5% (less so for Japan, more so for China). **There were no changes in the consumer price inflation outlooks** in November compared with October, apart from a slight drop in inflation in China. Next year, price growth is expected to increase compared with this year. However, it will still not satisfy central bankers. Consumer inflation is predicted to reach the “ideal” 2% rate in the USA only.

The dollar will weaken slightly against the euro, sterling, the yen and the rouble at the one-year horizon, while strengthening against the renminbi, according to the November CF. The dollar exchange rate reflected the election race between Trump and Biden. The CF outlook for the Brent crude oil price at the one-year horizon is de facto the same as in October, at USD 48.4/bbl (highest estimate USD 64/bbl, lowest estimate USD 38/bbl). The outlook for 3M USD LIBOR rates is slightly falling, as is that for 3M EURIBOR rates, which has remained negative over the entire outlook horizon for several years.

The chart in this issue shows how the ongoing coronavirus crisis has affected passenger numbers in rail and air transport during the first wave of the pandemic (2020 Q2). Not only were restrictive measures introduced at that time, but borders were also closed. Passenger air travel thus almost came to a halt in most countries. However, a large drop in passenger numbers was also recorded in rail transport, but the decline differs greatly across Europe.

Air transport is analysed in more detail in the thematic section of this issue entitled: [The fight between the Covid-19 pandemic and air transport has a clear winner so far: Are we facing a historical change?](#) The article examines whether the changes caused by the pandemic will be permanent and how much damage will be done to the aviation sector, which has played a pivotal role in global developments in recent years. In the article, you will read about the different impacts of anti-pandemic measures on the traditional and low-cost airlines, the sectors related to the aviation industry and how air carriers and aircraft manufacturers are trying to cope with the current situation.

Developments in passenger transport in selected European countries in 2020 Q2 due to the coronavirus pandemic, in %



Source: Eurostat, CNB calculations

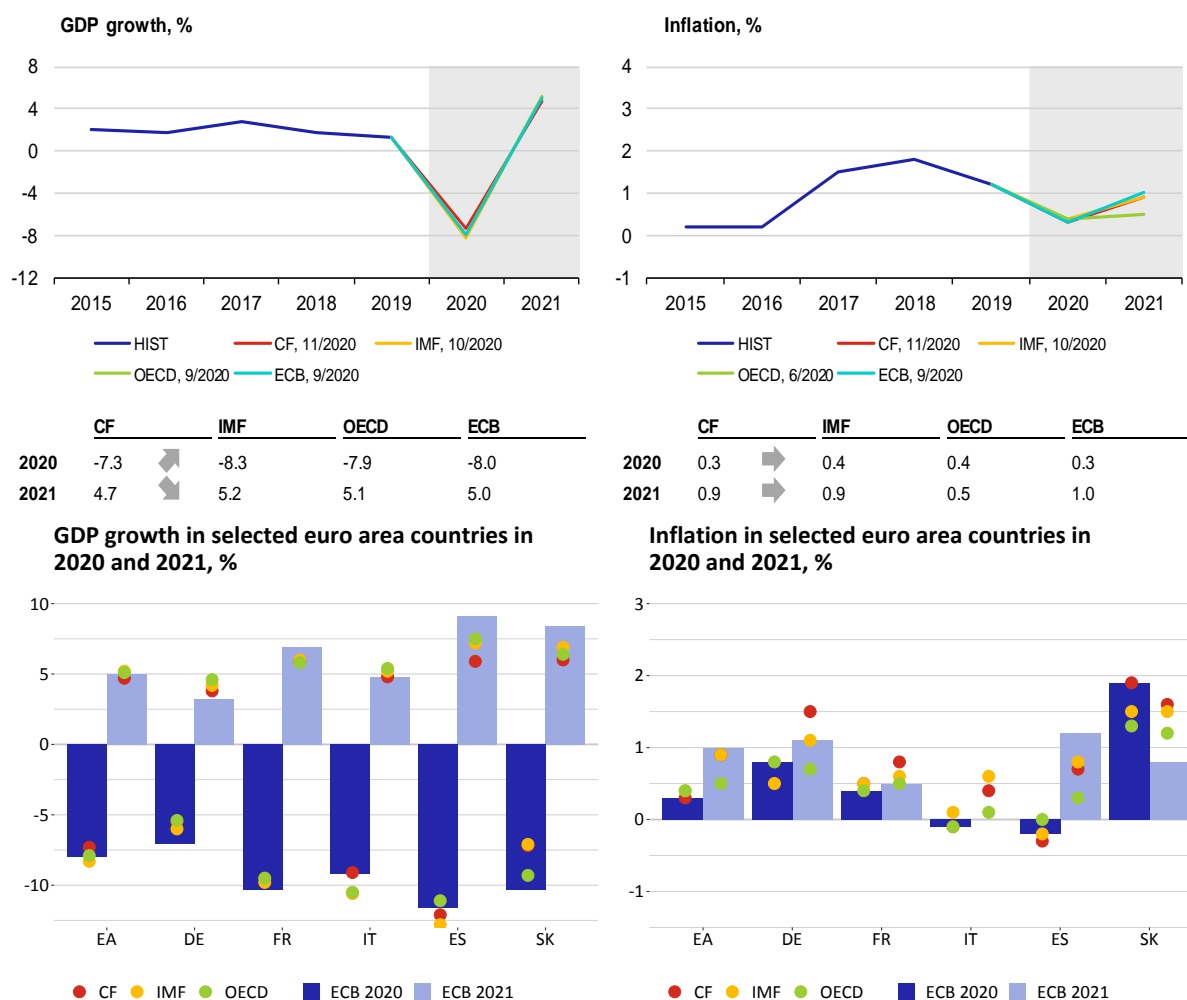
Note: The drop in 2020 Q2 compared to 2019 Q2. The data capture passenger numbers. Countries are ranked according to a drop in rail transport.

II.1 Euro area

The euro area economy made a faster recovery than expected from the first wave of the pandemic, expanding by 12.6% quarter on quarter in Q3. This fully reflects the technical impacts of reopening the economies after the spring closures, which to a large extent erased the drop in Q2. All large euro area economies were thus about 4%–5% below the level observed in the same period of 2019. The exception was Spain, where sectors related to hospitality and tourism failed to pick up, with the relatively early reintroduction of anti-epidemic measures there during the summer also playing a role.

The second pandemic wave has sent many euro area economies into lockdown, which will result in a further decline in the euro area at the end of the year. The sharply growing number of cases and the expected pressure on the health care systems forced many countries to take restrictive measures in early November. Unlike the first wave, these target services with a large degree of social contact, while industry has been spared. Schools remain mostly open, while bars and restaurants and some shops have been closed. This has seen an additional widening of the gap between industry and services, which was already apparent in summer. There are also differences between countries. While measures in France are similar to those in spring, Germany restricted only a fraction of services together with leisure activities. France and Belgium seem to have been hardest hit by the pandemic so far, but developments in Italy are also raising concerns. In any case, the euro area story is evolving from V-shaped to W-shaped, with the depth of the second trough not yet clear.

Industry in the euro area entered the second wave in relatively good shape, as leading indicators suggest. Industrial production in the euro area decreased slightly in September. This, however, was due to one-off effects on production in Italy. Germany and France recorded month-on-month growth of over 1%. Surveys indicate continued solid performance in manufacturing even during closures. Order numbers and other high-frequency indicators send the same message. Uninterrupted supply chains and open borders will further benefit industry. Unlike spring, the normal operation of firms has not yet been jeopardised by school closures or higher rates of sickness absences. The experience of the first wave has



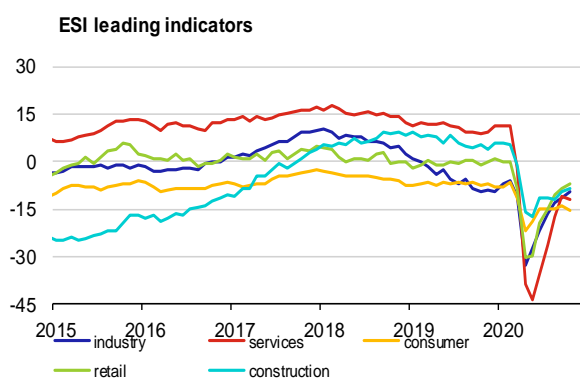
Note: Charts show institutions' latest available outlooks of for the given economy.

enabled a smoother transition to working from home and the creation of teams aimed at minimising the spread of the virus. The positive trend in the effects of foreign trade, particularly outside the euro area, cannot be overlooked. This concerns mainly Germany, which has largely benefited from the recovery in China in Q3. The result of the US elections, which could renew trade relations between the USA and the EU and pave the way for a US climate deal, has had the same effect.

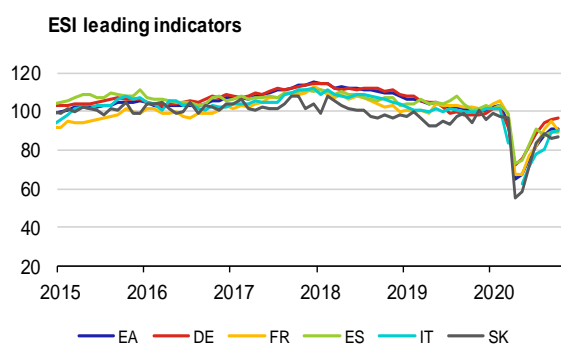
Based on the positive developments, in Q3 the November CF lowered its estimate of GDP decline in the euro area this year (to 7.3%) and the pace of recovery next year (to 4.7%). CF expects the sharpest drops this year to be recorded in Spain (-21%) and France (-9.5%), while the decline in Germany will be much lower (-5.5%). In 2021, the French and Spanish economies will expand by almost 6%, while German GDP is predicted to grow by 3.8%. It is clear that the pandemic will deal the heaviest blow to economies with a high share of services in value added, such as tourism (Spain). By contrast, the economic impact of the second pandemic wave on countries with a large share of industry (Germany) may be moderate. However, another wave of the pandemic would again worsen the euro area's prospects.

Nonetheless, the inflation outlook is unchanged, so inflation will accelerate (to 0.9%) again in 2021 after a slight price increase (of 0.3%) this year. The euro area economy remained in deflation (-0.3%) in October, due mainly to a drop in energy prices. The decline in prices of other industrial products moderated, but inflation in services continues to slow. The upward pressure on food prices has decreased compared to the spring wave of closures. Core inflation is still at 0.2%.

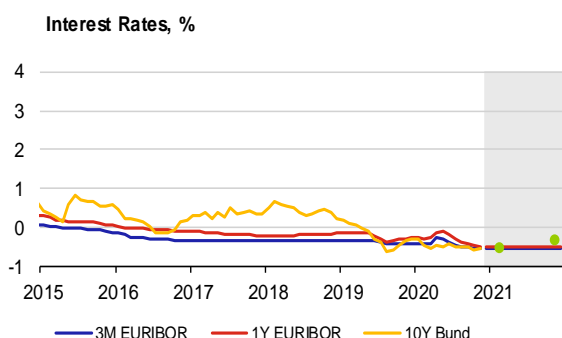
Renewed closures have weakened the inflation outlook in the months ahead, so the ECB's tone has become more dovish. According to the ECB, the current inflation trend in the euro area reflects short-term factors (such as a drop in VAT in Germany), but elevated economic slack, the appreciation of the euro and energy prices have an anti-inflationary effect. The current course of the pandemic suggests that inflation will remain negative for longer. According to the ECB, it is necessary to continue to support financing conditions to avoid a permanent spill over of the negative pandemic shock to wage and price developments. The bank therefore announced that it would recalibrate its instruments after its next forecast. According to the ECB, particularly asset purchases under the PEPP and TLTRO loans have turned out to be very effective.



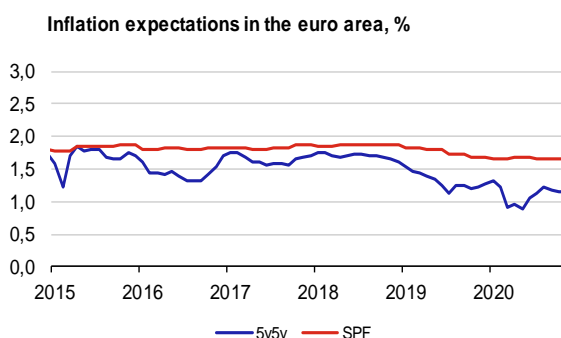
	industry	services	consum.	retail	constr.
8/20	-12.8	-17.2	-14.7	-10.5	-11.8
9/20	-11.4	-11.2	-13.9	-8.6	-9.5
10/20	-9.6	-11.8	-15.5	-6.9	-8.4



	EA	DE	FR	ES	IT	SK
8/20	87.5	94.3	90.8	88.1	80.6	88.2
9/20	90.9	95.5	94.9	89.7	89.0	85.9
10/20	90.9	97.0	90.4	89.5	90.2	87.2



	10/20	11/20	2/21	11/21
3M EURIBOR	-0.51	-0.52	-0.53	-0.54
1Y EURIBOR	-0.47	-0.48	-0.49	-0.49
10Y Bund	-0.57	-0.53	-0.50	-0.30



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

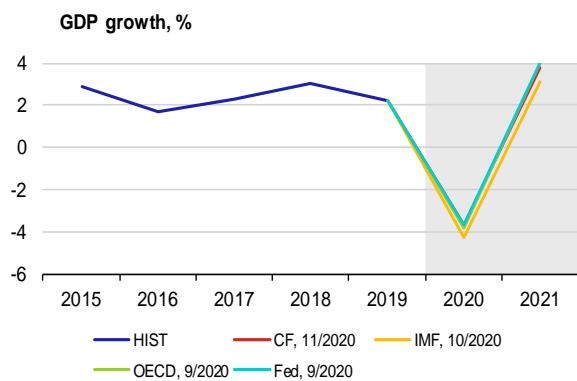
	5y5y	SPF
9/20	1.18	1.65
10/20	1.14	1.66
11/20	1.14	1.66

II.2 United States

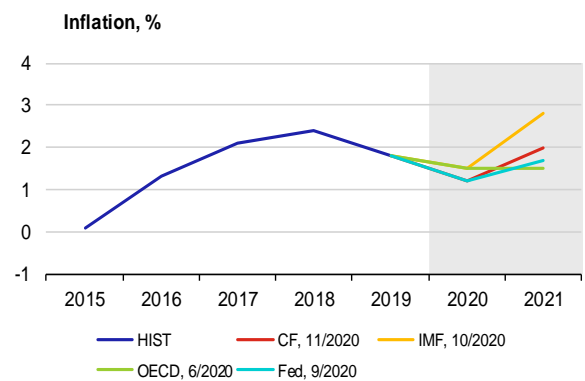
The event of the month is the US presidential elections, with current results indicating a victory for Democratic candidate Joe Biden. Biden defeated his opponent, incumbent US president and Republican candidate Donald Trump. The elections were held on 3 November. However, the counting of votes has not ended yet and, as current developments suggest, this is not going to happen anytime soon. Trump has not yet conceded the election and has launched legal actions. He is planning to initiate a recount in several key states in which he lost narrowly, as is his right. Biden has said that he mainly wants to focus on mitigating the spread of the coronavirus. The number of new cases has started to rise rapidly in the USA, again exceeding 100,000 cases per day. Biden served as Vice President to Barack Obama, so we can expect a partial return to the normalisation of trade relations worldwide. However, the EU imposed tariffs on US goods totalling around USD 4 billion in retaliation for the aid provided by the US government to Boeing. These retaliatory measures were approved by the WTO arbitration body.

The outlooks for the US economy are increasingly optimistic, as the new CF expects it to drop by just 3.7% this year and grow by 3.8% next year. These figures may seem very optimistic in light of the current coronavirus situation, but they already reflect the positive perception of the election result. Unemployment fell by 1 pp to 6.9% in October and non-farm payrolls increased by more than 600,000. The leading PMI indicators grew in both manufacturing (53.4) and services (56.9) compared to September. Consumer confidence is also increasing and retail sales continue to grow. Moreover, international trade is recovering slowly, although exports still lag well behind pre-pandemic levels.

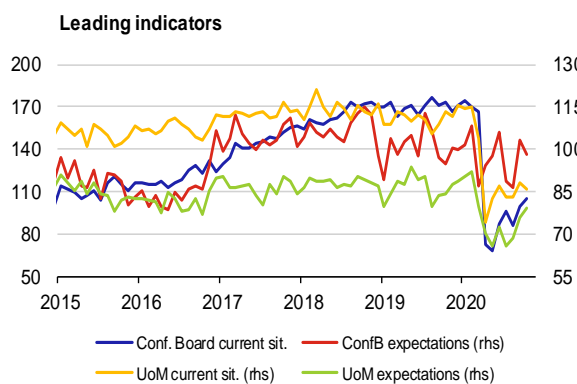
The Fed left its monetary policy unchanged at its November meeting and will continue to purchase assets at the current pace. Annual inflation reached 1.2% in October, due mainly to growth in prices of food (3.9%) and services (1.7%). By contrast, energy prices fell by 9.2%. According to CF, the inflation outlook remains at 1.2% for 2020 and 2.0% for 2021.



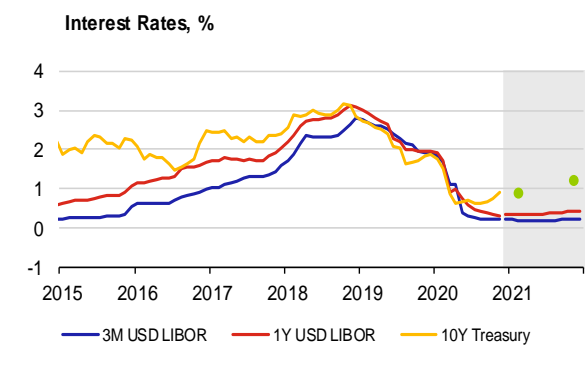
	CF	IMF	OECD	Fed
2020	-3.7	-4.3	-3.8	-3.7
2021	3.8	3.1	4.0	4.0



	CF	IMF	OECD	Fed
2020	1.2	1.5	1.5	1.2
2021	2.0	2.8	1.5	1.7



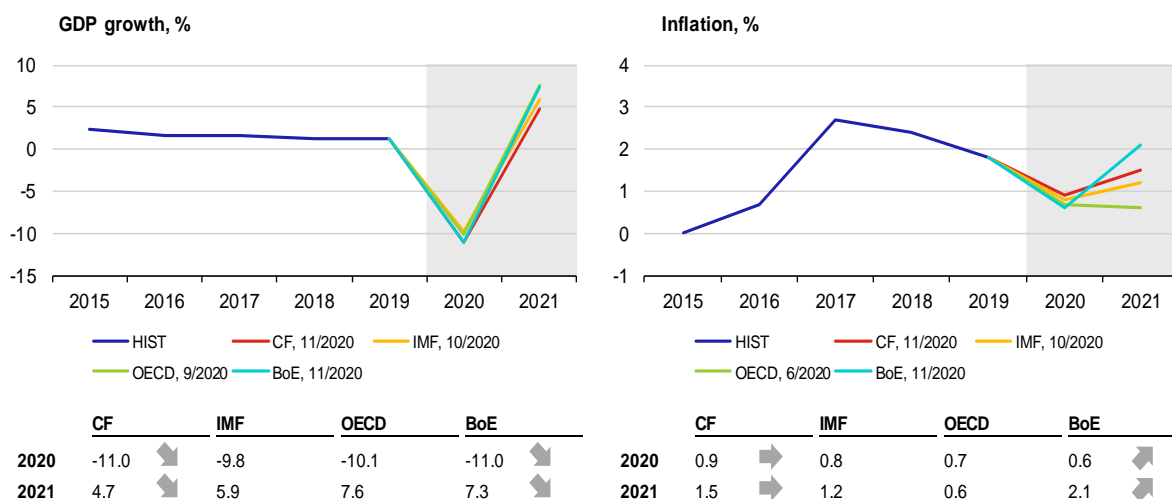
	ConfB curr.	ConfB exp.	UoM curr.	UoM exp.
8/20	85.8	86.6	82.9	68.5
9/20	98.9	102.9	87.8	75.6
10/20	104.6	98.4	85.9	79.2



	10/20	11/20	2/21	11/21
USD LIBOR 3M	0.22	0.22	0.21	0.23
USD LIBOR 1R	0.34	0.34	0.34	0.43
Treasury 10R	0.77	0.93	0.90	1.20

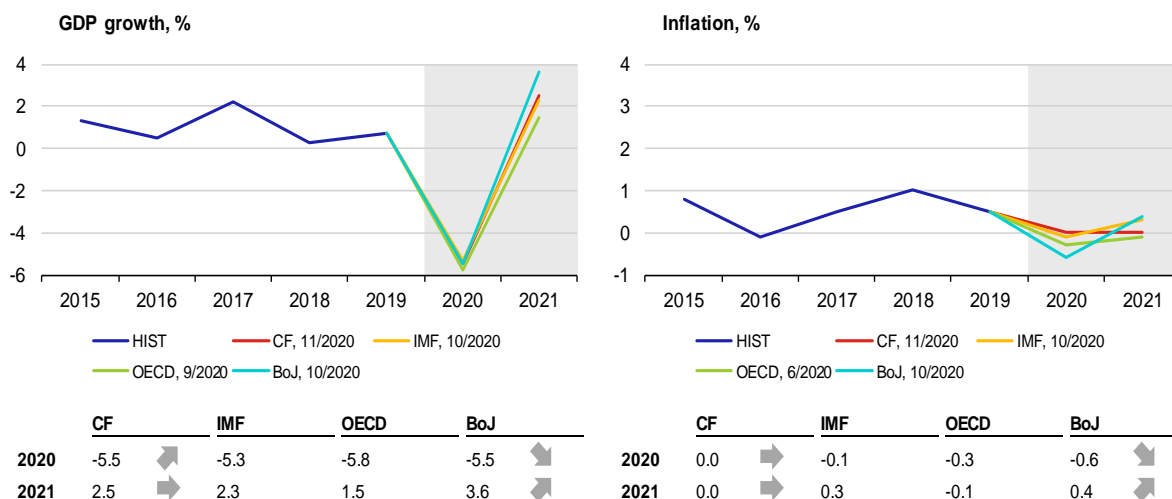
II.3 United Kingdom

In reaction to the rising rate of Covid-19 infections, the government introduced a one-month lockdown and the BoE expanded its asset purchases by GBP 150 billion. The total volume of government bond purchases is now GBP 875 billion. The BoE also published a new, more pessimistic forecast expecting GDP to drop by 11% this year and unemployment to peak at 7.75% in 2021 Q2. Therefore, the government also supported the UK economy by extending its furlough wage support scheme until March 2021 (covering 80% of employee salary up to GBP 2,500). The trade deal talks between the EU and the UK have not yet made tangible progress, with very little time left to reach and ratify an agreement by 31 December. The situation is also being complicated by Boris Johnson's insistence on the internal market bill, the controversial provisions of which were rejected by the House of Lords. CF estimates the same economic decline as the BoE in 2020 but foresees much slower GDP growth next year (4.7% compared with 7.3%). The forward-looking PMI composite indicator fell to 52.9 in October due to the slowest recovery in the last four months in both manufacturing and services.



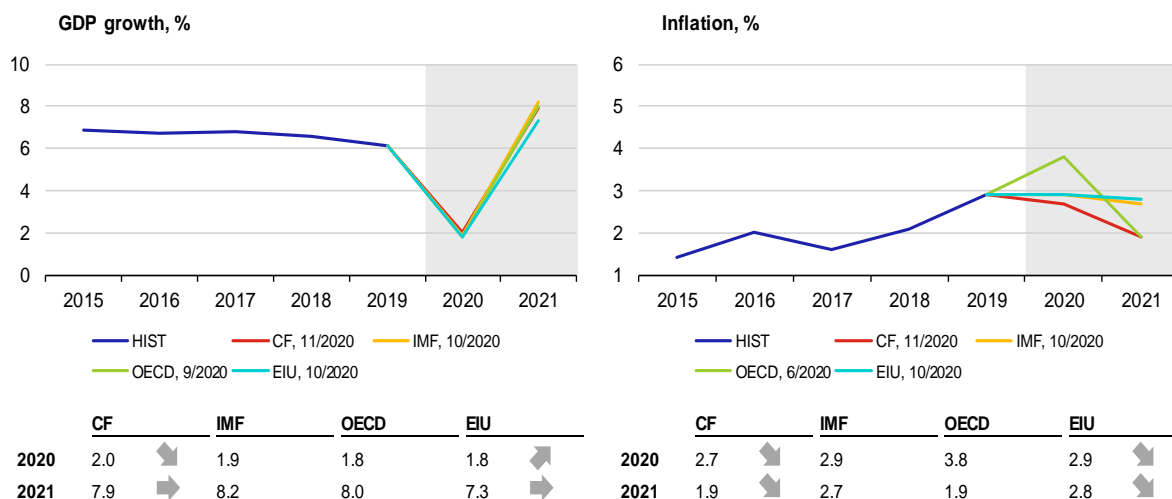
II.4 Japan

The BoJ's October forecast lowered the outlook for Japan's economy in 2020 but expects faster growth in 2021. The expected GDP downturn of 5.5% this year is 0.8 percentage point more pessimistic than the previous forecast. According to the central bank, this reflects caution of consumers and businesses despite a stable epidemic situation in Japan. The consumer confidence index, which has regained only two-thirds of its spring drop so far, also confirms the fall in sentiment. The PMI still shows a worsening of conditions in manufacturing as well. The Nikkei 225 stock index, popular mainly with retail investors, was the highest in November since 1991. However, the Topix index, which covers more stocks and weighs them by market capitalisation (and not price), has still not returned to pre-pandemic levels. In October, new Prime Minister Yoshihide Suga pledged that Japan would go carbon-neutral by 2050 but gave no specific transition plan.



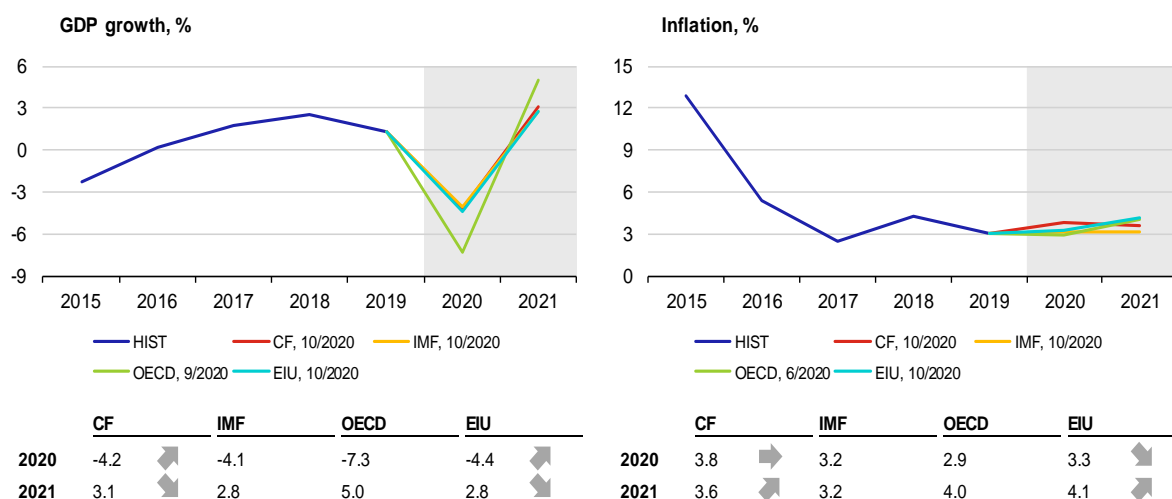
II.5 China

The Chinese economy grew further by 4.9% year on year in Q3, i.e. by 1.7 percentage points more than in Q2. This reflected continued solid growth in investment of 2.6%. However, the contribution of investment fell markedly from the previous quarter. By contrast, domestic consumption rose for the first time since the onset of the coronavirus crisis in early 2020, up by 1.7%. The growth in industry supported by fiscal stimuli is thus beginning to be felt markedly in consumption as well, with retail sales rising by 3.3% in September, the largest increase this year. To a lesser extent (0.6%), net exports also contributed to the faster growth in economic activity. CF analysts expect the Chinese economy to grow by 2% in 2020 and 7.9% in 2021. Annual consumer price inflation slowed considerably to 0.5% in October, mainly on account of base effects reflecting the sharp increase in pork prices at the end of last year. According to the November CF outlook, consumer prices will grow at a pace of 2.7% this year, slowing to 1.9% in 2021.



II.6 Russia

The Russian central bank published a new medium-term forecast. The GDP downturn this year is expected to reach 4%–5%, half a percentage point less than in the July forecast owing to better-than-expected export dynamics. In the years ahead, the economy will return to growth, which will, however, slow from 3%–4% next year to 2%–3% in 2023. In the medium term, the bank foresees anti-inflationary risks prevailing over inflationary ones. At the short-term horizon, by contrast, inflation will increase slightly. It is expected to reach 3.9%–4.2% at the end of this year. Next year, consumer price inflation will slow to 3.5%–4%. Inflation is expected to reach the 4% target over the subsequent two years. Exports in dollar terms will not approach the pre-crisis level until 2023. However, this assumes that Urals oil will be about one-third cheaper: USD 64/bbl in 2019 versus USD 45–50/bbl in the next three years. The trade balance will be lower than last year.

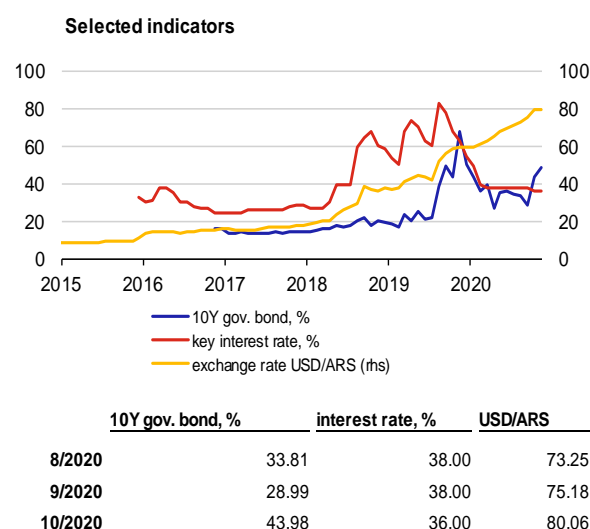
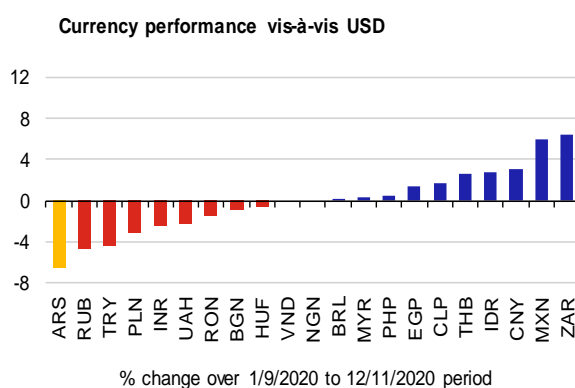
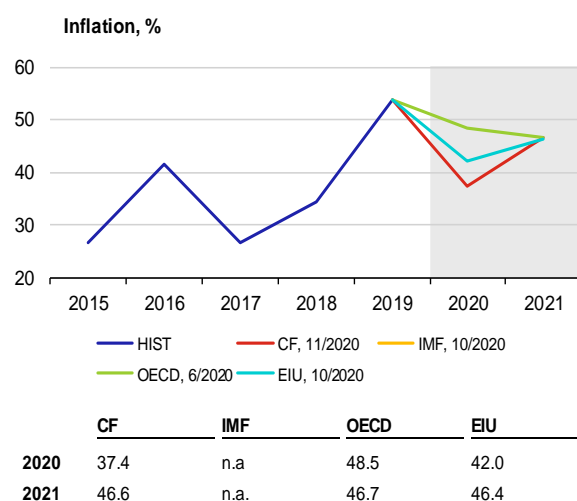
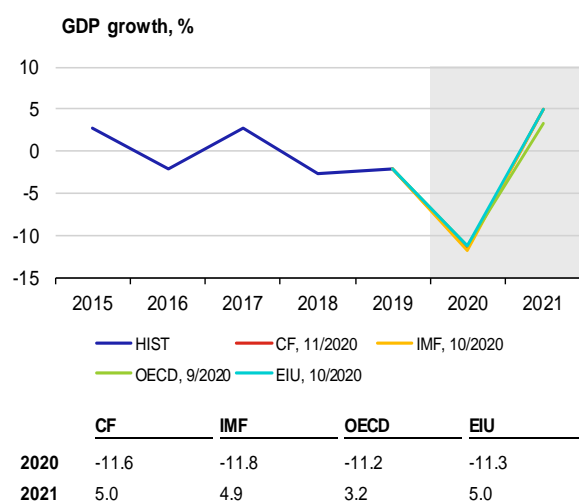


II.7 Developing countries in the spotlight

Lorem Argentina continues to fight on several fronts. The quarterly GDP downturn was 19.1% in Q2. Annual inflation slowed to 36.6% in September, but that is partly the result of price controls of basic food items, administered prices and measures to prevent a depreciation of the Argentinian peso by the central bank, which lowered its key interest rate by 2 percentage points to 36% in October and kept in place capital controls and state funding. Moreover, Argentina has not been very successful in combating the pandemic, with government measures, which were among the strictest in the world, failing to curb the spread of the virus as intended. According to estimates, the peso is highly overvalued (up to 50%).

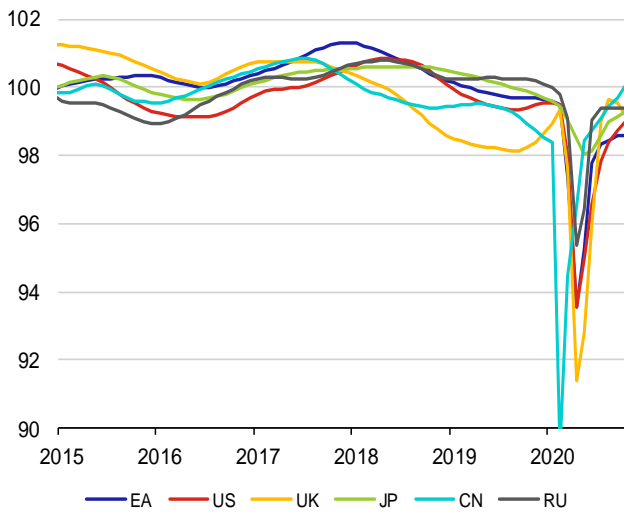
Argentina is facing negotiations with the IMF about the repayment of USD 44 billion to this international organisation. This is the second round of negotiations shortly after the land of tango reached an agreement with private creditors on debt restructuring totalling USD 65 billion in September. Argentina is hoping for repayment to the IMF to be postponed by at least 4.5 years. According to the fund's rules, however, an agreement would entail the country's commitment to implement comprehensive structural economic reforms, which would have serious political implications for the left-wing government of President Fernández. However, the combination of a large drop in economic activity, rising debt, decreasing central bank reserves and a lack of investor confidence is putting Argentina in a position in which it will be left with no choice. If the current approach were maintained, it would almost certainly record uncontrolled currency depreciation and become unable to meet its current obligations to creditors.

In its fight against the coronavirus, Argentina is expected to focus on building health care infrastructure rather than introducing further lockdowns. Institutions and analysts expect the recovery in economic activity to be strong but it falls short of offsetting the previous decline. GDP growth is expected to reach 3%–5% next year, with inflation averaging around 46%. The November CF expects the key interest rate to stand at 36% on average in 2021 and the peso to depreciate against the dollar to more than ARS 100/USD.

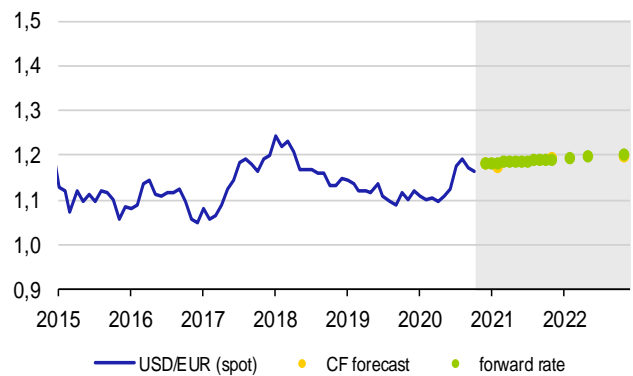


III. Leading indicators and outlook of exchange rates

OECD Composite Leading Indicator

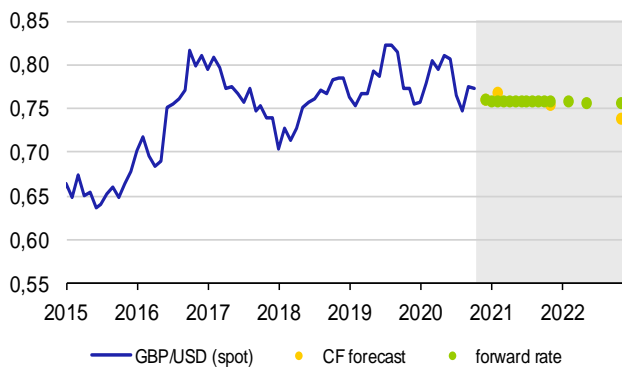


The US dollar (USD/EUR)



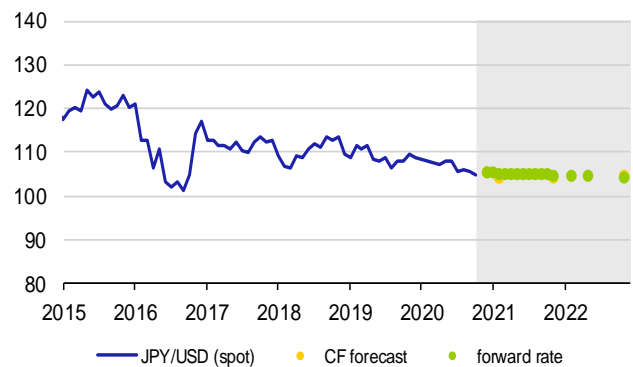
	9/11/20	12/20	2/21	11/21	11/22
spot rate	1.182				
CF forecast		1.182	1.176	1.193	1.196
forward rate		1.182	1.184	1.191	1.202

The British pound (GBP/USD)



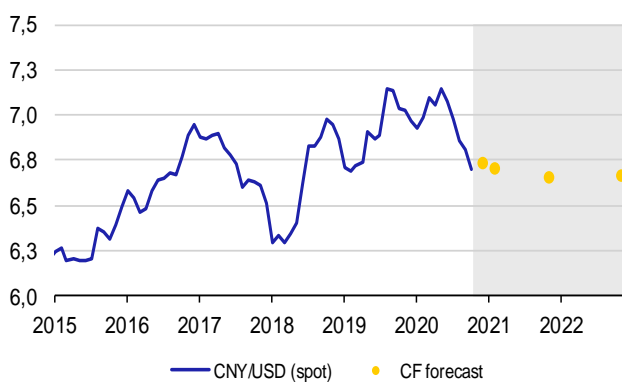
	9/11/20	12/20	2/21	11/21	11/22
spot rate	0.760				
CF forecast		0.760	0.769	0.754	0.739
forward rate		0.759	0.759	0.758	0.756

The Japanese yen (JPY/USD)



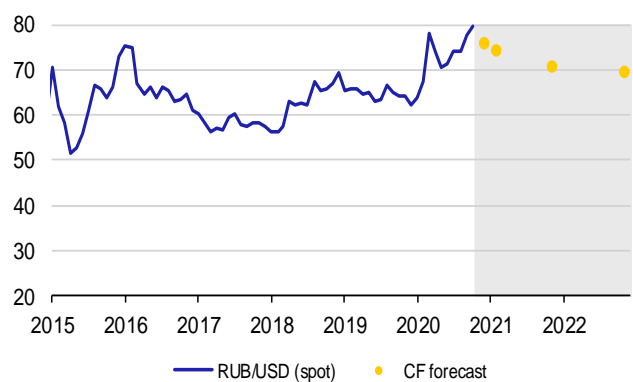
	9/11/20	12/20	2/21	11/21	11/22
spot rate	105.4				
CF forecast		105.4	104.2	104.2	104.5
forward rate		105.3	105.2	104.8	104.1

The Chinese renminbi (CNY/USD)



	9/11/20	12/20	2/21	11/21	11/22
spot rate	6.571				
CF forecast		6.734	6.709	6.653	6.670

The Russian rouble (RUB/USD)



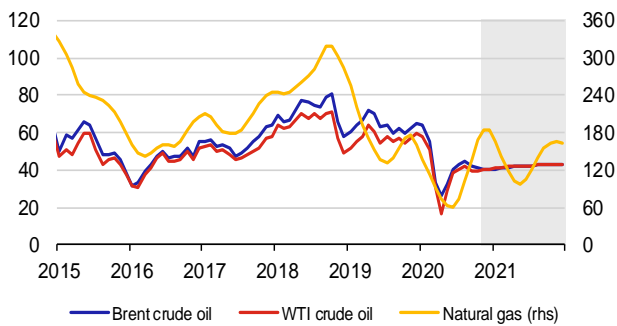
	9/11/20	12/20	2/21	11/21	11/22
spot rate	76.02				
CF forecast		75.89	74.34	70.91	69.37

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

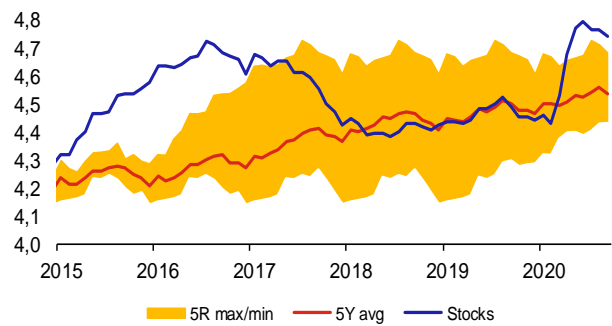
The price of Brent crude oil mostly fluctuated around USD 42/bbl from the second half of September. Declines below USD 40/bbl in early and late October were only short-lived. The first was in response to US President Trump's coronavirus illness. The second was deeper and longer-lasting. It was a reaction to a temporarily stronger dollar, surprisingly fast and strong growth of oil extraction in Libya and a faster rise in the number of new coronavirus cases in Europe and the USA and the related restrictive measures, especially in Europe. The latter also fostered sell-offs on broader financial markets. In early November, however, the dollar quickly returned to a weaker level and the price of oil was supported by favourable news, for example, an increase in the quotas on oil imports into China from 2021 and a large drop in US oil stocks. Signals are also getting stronger that OPEC+ may postpone the increase in extraction planned for early January by 3–6 months. Uncertainty surrounding the US presidential and Senate elections temporarily slowed the increase in oil prices and the subsequent announcement of Joe Biden's victory did not have a clear-cut impact on oil prices either. However, news of successful Covid-19 vaccine trials led to further strong growth in the oil price, amplified by the closing of huge short positions by hedge funds. Nonetheless, most analysts agree that there is no fundamental reason for stronger oil prices so far, as demand is now being dampened markedly by the escalating coronavirus pandemic and cannot be expected to recover due to widespread vaccination until the second half of 2021. The EIA expects Brent prices to stay close to USD 40/bbl until the end of 2020 owing to still high global oil stocks and reserve capacity. During the first half of 2021, they will edge up to around USD 48/bbl. The November CF expects a similar price one year ahead. By contrast, the current Brent futures curve signals smooth price growth from the current level of around USD 44/bbl to just USD 46/bbl in late 2021.

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

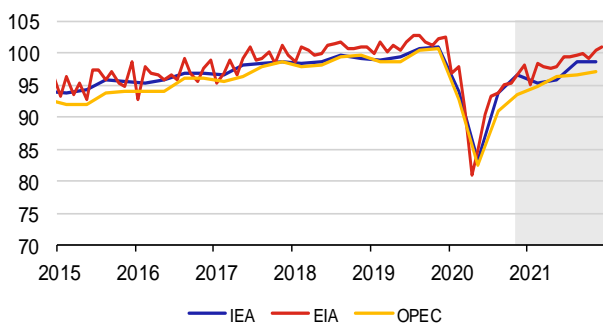


	Brent	WTI	Natural gas
2020	42.05	38.75	115.62
2021	42.25	42.20	136.76

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

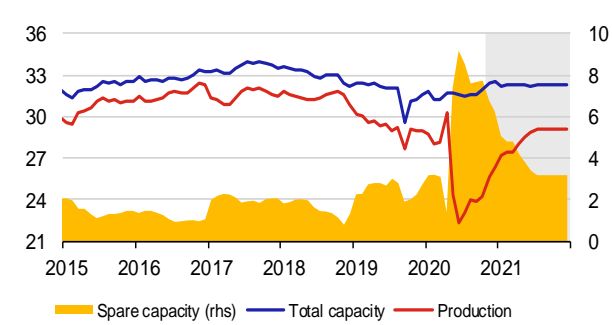


Global consumption of oil and oil products (mil. barrel / day)



	IEA	EIA	OPEC
2020	91.93	92.91	89.99
2021	97.13	98.80	96.24

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



	Production	Total capacity	Spare capacity
2020	25.72	31.72	5.99
2021	28.51	32.27	3.75

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

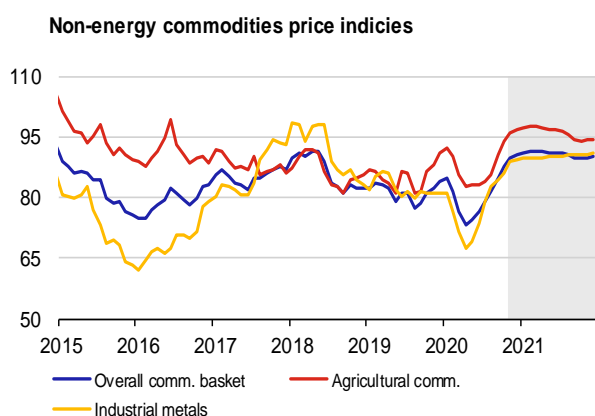
Note: Oil price at ICE, average gas price in Europe – World Bank data, smoothed by the HP filter. Future oil prices (grey area) are derived from futures and future gas prices are derived from oil prices using model. Total oil stocks (commercial and strategic) in OECD countries – IEA estimate. Production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

IV.2 Other commodities

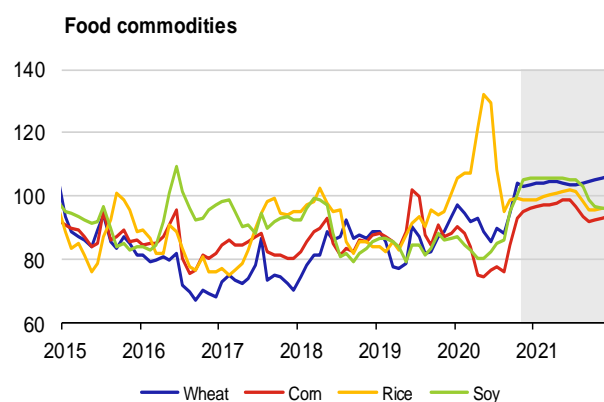
The average monthly price of natural gas in Europe continued to record strong growth in October. The price at the Dutch Title Transfer Facility rose by 24% month on month to USD 4.9/MBtu. This was due to lower temperatures and shortfalls in supplies from Norway. Further LNG price growth in Asia to USD 6.2/MBtu also contributed to the increase in European prices. Gas stocks in Europe were virtually unchanged during October, reaching 94.5% of total capacity (compared with 97% last year). Higher natural gas prices and expectations of a cold winter in North-East Asia also caused prices of Australian coal to rise by 8.9% in October. However, coal prices were prevented from rising higher by import restrictions imposed by China, where coal imports fell by 27% month on month (47% year on year) in October.

The non-energy commodity price index continued to rise in October and the first half of November, again supported by similar trends in both its components. However, while the outlook for the base metals price sub-index is also rising, the expected path of the food commodity price sub-index is falling.

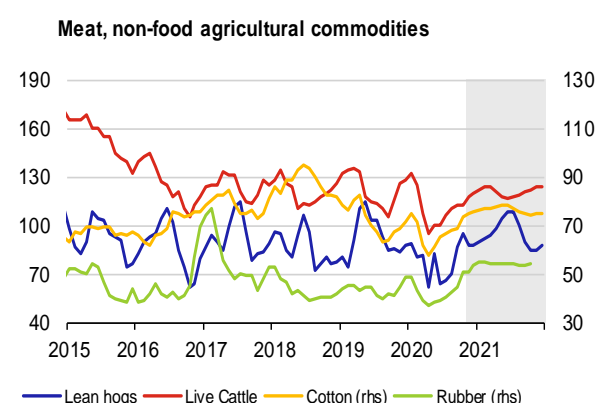
The rise in the base metals price sub-index still reflects the recovery in manufacturing worldwide and above all in China. All the metals included, except lead, contributed to varying degrees. However, copper prices rose only slightly, as higher investor demand was offset by rising stocks at the LME. Conversely, iron ore prices switched to a decline in October after five months of growth, following a similar pattern to iron ore imports into China. The latter fell in October by 22.7% year on year. As for food commodities, grain prices still rose apace (except for flat rice prices), although wheat and corn prices slightly corrected their growth in late October. Sugar prices also picked up, whereas coffee and cocoa prices fell further. In mid-October, pork prices partly reversed their previous strong growth. Beef prices fell similarly but then returned to growth.



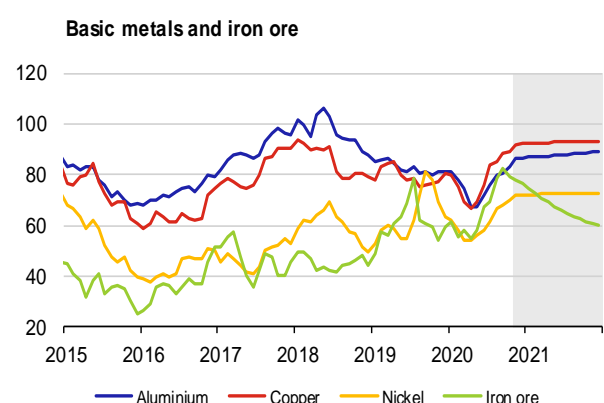
	Overall	Agricultural	Industrial
2020	81.7 ↗	88.7 ↗	79.2 ↗
2021	90.6 ↗	96.0 ↗	90.2 ↗



	Wheat	Corn	Rice	Soy
2020	94.7 ↗	84.4 ↗	108.7 ↘	89.8 ↗
2021	104.7 ↗	95.7 ↗	99.2 ↗	102.6 ↗



	Lean hogs	Live Cattle	Cotton	Rubber
2020	79.2 ↘	111.6 ↗	68.2 ↗	43.9 ↗
2021	95.0 ↘	121.1 ↗	76.3 ↗	54.3 ↗



	Aluminium	Copper	Nickel	Iron ore
2020	77.8 ↗	80.6 ↗	62.7 ↗	68.2 ↗
2021	87.9 ↗	92.8 ↗	72.5 ↗	66.2 ↗

Source: Bloomberg, CNB calculations.

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

The fight between the Covid-19 pandemic and air transport has a clear winner so far: Are we facing a historical change? ¹

Air transport, which is a major global industry, is experiencing its worst crisis in its century-old history. The expectation that the situation will return to “normal” and that lost revenues will be recovered is more than optimistic given the large level of uncertainty in the sector. This is coupled with a lack of passenger confidence arising from the possibility of infection, with people from all over the world gathered in the enclosed space of an aircraft. From the airlines’ perspective, the situation seems to be somewhat better for low-cost carriers (LCCs) but the entire air transport sector will be hit with a fall in employment. The two major aircraft manufacturers have suffered enormous losses, although European Airbus has fared better than US Boeing. Air freight transport has also been hit. This segment is crucial for the operation of global supply chains, especially for food and medical supplies in the current situation. The air transport market is experiencing a number of long-term or even possibly permanent changes. The most significant ones include falling ticket prices offered with numerous benefits, the cancellation of most fees, the decommissioning of large-capacity aircraft and a loss of interest in business or long-haul flights.

Introduction

The Covid-19 pandemic presents a challenge to the whole world and has led to the most serious disruption of the global economy since WWII. The coronavirus started to spread very quickly from Wu-han, where it was first detected at the end of 2019, to the whole world, mainly due to global air travel and the underestimation of early anti-epidemic measures. According to World Health Organisation data, around 100,000 confirmed cases of the infection had already been confirmed by early March, with the first million cases registered in early April. Individual governments therefore responded by introducing restrictive measures, especially in tourism. Travel was restricted at all levels, which also had a sizable impact on the air transport segment.

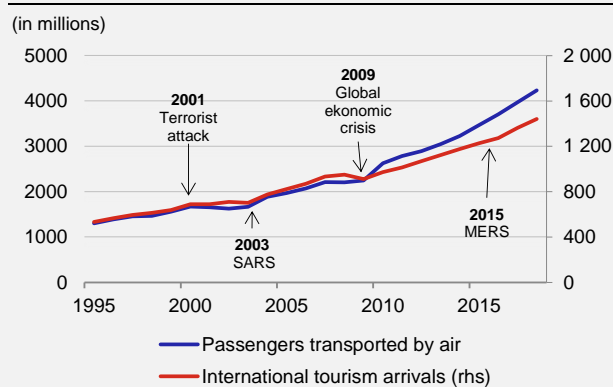
The industry is experiencing change after years of upward trends in passenger numbers. In 2019, the number of passengers totalled 4.3 billion, more than 100,000 commercial flights were operated daily and about 10 million people were employed in air travel. The upward trend in passenger numbers was expected to continue and to double in the next 15 years, as has been seen with regularity since 1988. The last decade was very profitable for airlines, with the whole aviation industry recording sales totalling around USD 600 billion in 2019 alone, while losses are now expected for at least the next two years.

The ban on international travel has affected more than 90% of the global population. Tourism de facto halted in March 2020. The measures introduced to curb the spread of the coronavirus in the form of travel bans, border closures, quarantines, etc., resulted in a rapid slowdown in the air transport sector. Due to the multiplier effect, employment and support for jobs in related sectors (mostly restaurants and hotels) are not supported without air travel and so generally tourism is not stimulated. In a matter of a few months, there was a shift from a high level of aviation-enabled tourism to “zero” activity and news started to come in about staff lay-offs and bankruptcies in the aviation industry (FT Reporters, 2020). The first to succumb to market pressures was the British low-cost regional airline Flybe, which became insolvent due to financial difficulties in early March. Large airlines also felt the gravity of the situation and many of them requested government support.

Major crises and global travel

Global travel has experienced many crises. In the 21st century specifically these included the September 11 terrorist attack (2001), the SARS epidemic (2003), the financial crisis (2008/2009) and the MERS epidemic (2015). But none of these crises has led to a longer-term decline in the global development of tourism (see Chart 1). Although tourism as a system would seem to withstand external shocks, none of the above threats to the air industry was on a scale of such magnitude and speed as the Covid-19 pandemic. This shock is unparalleled since the massive growth in international travel in the 1950s (Gössling, Scott and Hall, 2020).

Chart 1 – The impact of major crises on global travel



Source: The World Bank

¹ Written by Michaela Ryšavá. The views expressed in this article are those of the author and do not necessarily reflect the official position of the Czech National Bank.

Due to globalisation, there is an interwoven system of economies which is connected by the air transport network among other things. Unfortunately, air travel plays a major role in accelerating and enhancing coronavirus transmission, and epidemics are thus becoming one of the main threats to society and tourism due to the high mobility of the current global population. Therefore, global changes increase the incidence of epidemics and pandemics, including the Spanish flu, the Asian flu and the Hong Kong flu in the 20th century, and SARS, the bird flu, the swine flu, MERS and Ebola in the 21st century (Gössling, Scott and Hall, 2020). What is unique about the Covid-19 pandemic is that although it may not kill as many people as, for instance, Ebola, it can be spread by individuals for several days before the onset of symptoms. This is because they are unaware they have contracted the virus and therefore do not take the necessary steps to self-isolate or wear protective gear.

Despite efforts by the tourism industry to draw attention in the past to the need for further examination of a pandemic scenario and for greater investment in preparing for one, this has not happened. For the most part, only general studies of the impacts of various pandemic scenarios on the global economy have been carried out, with McKibbin and Sidorenko (2006) being among the most cited. Their estimates showed that a pandemic similar to the Spanish flu would mean a loss of around 12.6% of global GDP, with such a massive global slowdown of this kind also resulting in about 142 million deaths. The Spanish flu is considered an important analogy for the current situation, being the first “modern” pandemic to be characterised by rapid spread of a virus via global transport. What is more, the Spanish flu and Covid-19 are similarly virulent (Gössling, Scott and Hall, 2020). As the severity of the pandemic increases, so do its societal costs, including those related to restrictions in aviation. Given the much greater connectivity in today’s world and the aggressive nature of the current pandemic, the impacts can be expected to be much bigger than the above estimates suggest.

Airlines – low-cost vs. major air carriers

The fall in demand for air travel has affected airlines which began to struggle to survive. According to information from the International Air Transport Association (IATA), a total of 7.5 million flights were cancelled from January to July. The year 2020 will be the worst year in history for airlines. The total net loss is estimated at USD 84.3 billion in 2020, and losses will continue to a lesser extent into 2021, assuming, of course, that next year will be a year of “return to normal”. Airlines in all regions are expected to record operating losses in 2020. A total of 32 millions jobs related to air transport (including tourism) are at risk. The IATA estimates that global air passenger transport will not get back to the pre-coronavirus crisis level before 2024.

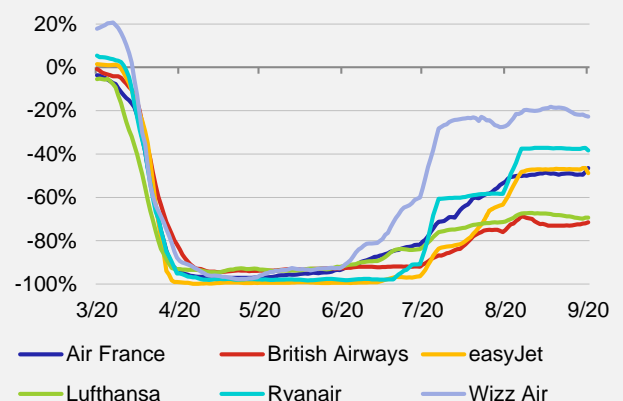
LCCs have taken the lead so far in the “battle of the skies” (see Chart 2). Relative to major airlines, some LCCs saw a boom before the outbreak of the pandemic, most notably the Irish Ryanair. This airline was the largest in Europe based on passenger numbers, overtaking flag carriers such as Lufthansa, British Airways and Air France. A comparative advantage of LCCs is that they can keep their costs to the minimum in the long run. For example, they can cut costs on crew training and aircraft repairs because they usually operate only one type of aircraft. What is more, the length of time their airplanes spend on the ground is minimal (Bouška, 2020b).

Conversely, major air carriers struggle with high costs. Unlike LCCs, they usually have an older and more diverse fleet (Bouška, 2020b). Their other big disadvantage is their focus on relatively costly long-haul flights, which are currently under greater pressure than regional flights. Wage costs are also an issue; they are high due to the bargaining power of airline staff unions.

The two types of carriers are therefore addressing relatively different behavioural strategies during the current pandemic. The traditional airlines are trying to cut costs where they can. They are laying off staff in the form of planned redundancies, decommissioning some of the aircraft from their fleet and suspending planned investments (mostly cancelling orders for new aircraft). LCCs (such as the Irish Ryanair and the Hungarian Wizz Air) are trying to take advantage of the current situation. Their strategy is to take a greater share of the market while other airlines are cutting back on flights. The key principle is to use new aircrafts. They are acquired at a lower cost during the crisis, as manufacturers are willing to accept lower profit margins. Overall, LCCs might strengthen their position even further relative to the traditional airlines. LCCs also benefit from having a flat organisational structure and the flexibility which enables them to adapt quickly to a situation and to market demand. Aircraft and crews can therefore be sent to destinations which are accessible at any given time (DeLuca, 2020). The absence of strong unions and the possibility of offering mass wage cuts at the expense of mass

Chart 2 – Daily number of flights compared to last year for selected airlines

(weekly moving averages in %)



Source: Eurocontrol

redundancies also works in their favour. Moreover, there is a large number of pilots – who were once scarce – on the labour market, and airports have more available slots for flights.

According to the IATA data, most airlines had cash liquidity for a period of less than three months and would not have been able to survive a longer period of air travel restrictions without government support. Due to the nature of air transport (mostly support for trade and tourism), governments worldwide are generally compelled to provide support to carriers in the industry. Although LCCs are likely to survive, as are flag carriers, many of them will be partly under state ownership or will have liabilities towards the state (Whitley, 2020b). In Europe, for example, Lufthansa received a rescue package of EUR 9 billion from the government, and Air France received government support of EUR 7 billion. In both cases, this took the form of state loans and loan guarantees. In the case of LCCs, it mostly involves loan guarantees (e.g. the British airline EasyJet obtained almost EUR 0.7 billion in loan guarantees).

Aircraft manufacturers

The rivalry between the largest aircraft manufacturers Airbus and Boeing has not gone away, even during the pandemic crisis. The drop in air transport has negatively impacted the two major global aircraft manufacturers, and this promises to be a very bad year for them. Before the crisis, they had been getting ready to accelerate production due to a large number of orders but they have now been forced to scale back. Above all, they have decided to cut or suspend production of the larger wide-body aircraft. The 2020 Q2 data showed that substantial losses are inevitable in the current situation. Airbus recorded a loss of around EUR 1.4 billion and Boeing reported a loss of about USD 2.4 billion (Zenkner, 2020). The number of commercial aircraft delivered is decreasing (see Chart 3). This provided manufacturers with the necessary cash liquidity (most of the purchase price is paid upon delivery of aircraft to the airlines). What is more, the situation is unlikely to improve in the coming years, as suggested in the above-mentioned IATA forecast. Zenkner (2020) also states that Airbus and Boeing are planning to lay off tens of thousands of staff, amounting to about one-tenth of their workforce.

However, Airbus fares somewhat better in the battle of the duopoly of aircraft manufacturers. This is also due to Boeing's problem with the Boeing 737 Max, which has been ongoing for more than eighteen months now. The airliner was grounded worldwide due to technical issues after two fatal crashes. Boeing experienced record-high losses due to the extraordinary costs of grounding the aircraft (including damages requested by airlines). The Boeing 737 Max was supposed to play a key role in the future development of Boeing and efforts are being made to recertify the model.

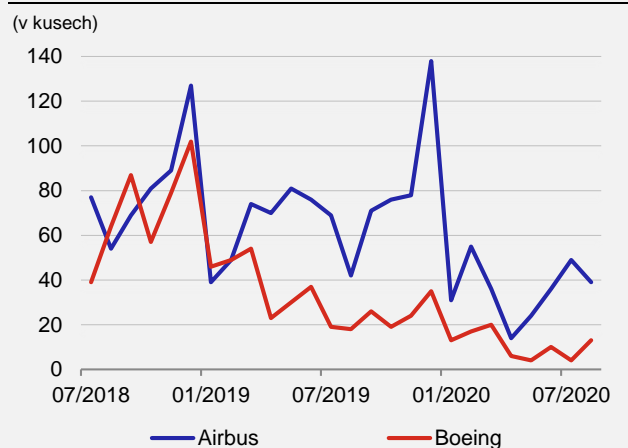
Unemployment

One of the key impacts of the pandemic crisis has been a drop in employment in the air transport industry. As a result of travel restrictions, this sector has had to lower its capacity. This, together with efforts by airlines to reduce fixed and variable costs, has triggered lay-offs and employment contract negotiations. The pandemic has introduced huge uncertainty to the industry, connected mainly with weak demand and the uncertain return to 2019 transport parameters.

Analysts have started conducting new empirical studies to analyse the impact of the pandemic on employment in air transport. One of the studies was conducted by Joseph B. Sobieralski (2020) and attempts – like most others – to estimate at least in approximate terms the impacts of the pandemic on the industry compared with previous global crises. The author divides airlines into three main categories: major, low-cost and regional.

Paradoxically, the pandemic has different impacts on employment in each airline category. In general, airlines reduce capacity during crises (shocks) due to travel restrictions and falling demand. The findings of Sobieralski's study (2020) suggest that employment in major airlines is most impacted during times of uncertainty such as pandemics. The decline in employment persists for a long time owing, among other things, to high wage commitments, which put immense pressure on major airlines to reduce staff numbers. In the case of low-cost airlines, employment is expected to suffer only for a short time after the shock. The initial sharp drop in employment is followed by a speedy recovery, probably on account of lower wages. Last but not least, regional airlines show an increase in employment after the shock. This is probably because major airlines attempt to reduce costs by using regional airlines to operate on routes with smaller and more efficient aircraft.

Chart 3 – Deliveries of commercial aircraft



Source: Forecast international

The bigger the airline and its financial exposure, the higher its vulnerability to shocks. Sobieralski's study forecasts total job losses at about 7% of the aviation workforce (*ceteris paribus*). However, given the global nature of the Covid-19 pandemic, the impact may be larger and may be close to the upper bound of the estimate, which represents a decrease of over 13% of the airline workforce. Overall, the results show that low-cost and regional airlines will survive the crisis without big job losses compared with major airlines.

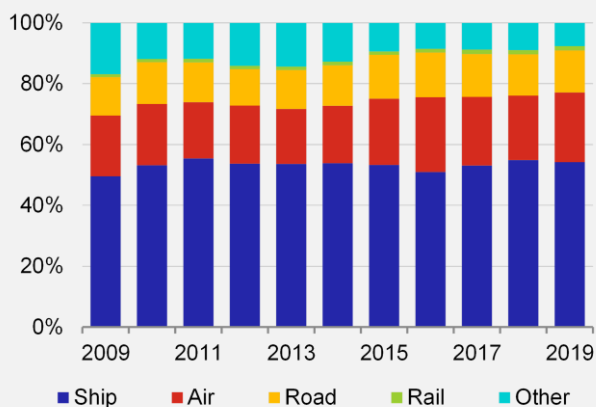
The impact on employment is different for each employee category. The hardest hit are jobs related to passenger check-in and boarding processes and flight operations, while those employed in management fare better (probably owing to their low share in the workforce). Generally, lower-skilled workers are affected the most by reductions in staff numbers due to the pandemic shock. However, this finding is not limited to air transport.

Air freight transport and international trade

Aviation is a driver of global economic development. Around one-third of all global trade by value is transported by air (see Charts 4 and 5), making air freight transport a key part of global business. Aviation supports about 3.6% of global GDP (USD 2.7 trillion). Global airlines transport over 4 billion passengers and around 58 million tonnes of freight. The provision of these services creates 10.2 million direct jobs and contributes USD 704.4 billion directly to global GDP. Among other things, aviation is essential for the tourism industry, which is quickly becoming one of the biggest services sectors in the world (Industry High-level Group, 2019).

Chart 4 – Goods imports outside the EU by type of transport

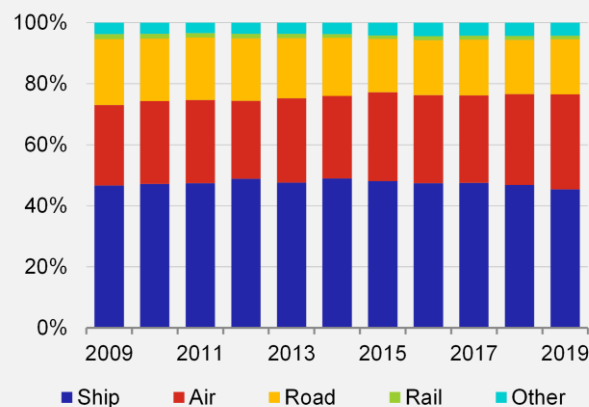
(% of total)



Source: Eurostat

Chart 5 – Goods exports outside the EU by type of transport

(% of total)



Source: Eurostat

Aviation is central to international trade and economic development. According to IATA, countries with 1% better air freight connectivity are 6% more engaged in international trade. Therefore, countries have huge potential to improve their trade competitiveness on the global market by implementing policies that support the effective transport of freight by air. According to the forecasts by representatives of the aviation industry, world economies will be even more dependent on international trade in the future than they are now (Aviation Benefits Beyond Borders, 2020).

Air freight transport is fast and reliable over long distances compared with other types of transport. This carries a higher price compared to other modes of transport. Consequently, air freight transport is mostly used to deliver goods that are light, compact, perishable and have a high unit value. This is why more than one-third of total international trade in terms of value is shipped by air, but in terms of trade volume air transport accounts for just 0.5% (IATA, 2020b).

Air transport is vital to the global supply chains of many industries. Mostly those that use the transport of time-sensitive goods. Exporters of perishable goods such as food and flowers (many of whom are in developing countries) can only reach export markets using air transport. This provides stable employment and economic growth to developing countries, which benefit from this kind of trade. For these countries a trade downturn could mean a slowdown in economic convergence. Likewise, the pharmaceutical industry relies on air transport for the delivery of time-sensitive medical supplies, especially vaccines. Rapid delivery is also essential for corporations that provide production processes and rely on urgent supplies of parts for machinery and equipment.

Flights cancellations as a result of the Covid-19 pandemic and associated travel restrictions reduced the availability of air freight at a time when demand for the urgent transport of basic goods increased. This led to a rise in air freight transportation prices. Secretary General of The International Air Cargo Association (TIACA) Vladimir Zubkov said in an online interview for the International Airport Review in May 2020 that global air freight capacity fell by 35%. A recovery in air freight will play an important role in restoring global supply chains and the economy.

Transformation of air transport after the Covid-19 pandemic

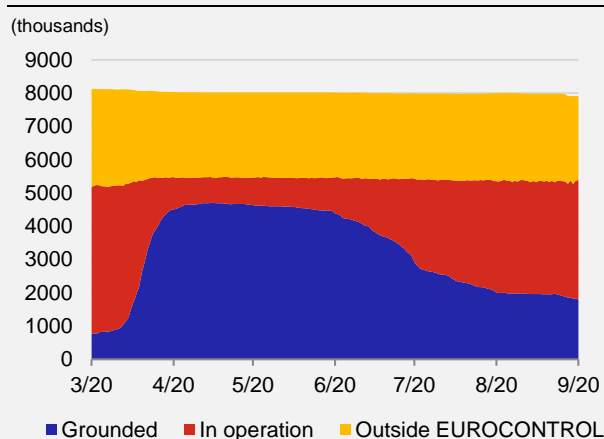
Airlines are doing all they can to restore passenger confidence in the deeply hit aviation sector. For around three months airlines operated with virtually zero sales and most aircraft was grounded (see Chart 6). On the one hand, aviation is a victim of the pandemic. On the other hand, however, tourism in general supports the pandemic by spreading it. The level of uncertainty is high internationally, and it is not only the airlines that will have to adapt to changes in the aviation environment. We can therefore expect a very long and difficult road to recovery ahead in this sector.

Consumer response and the associated demand for travel and air transport is crucial. There are many factors affecting consumer decisions – from economic influences (disposable income and economic wellbeing) to more social considerations (perceived health risks and new epicentres of the infection). So far people have not been too willing to return to enclosed aircraft cabins, as they need reassurance that they are not at risk of contracting the coronavirus on board an aircraft. One example of the impact of the pandemic on consumer behaviour is the change that has been seen in the area of short business flights.² The popularity, support and use of video conferences all across sectors has increased sharply as a result of the pandemic crisis and the subsequent introduction of measures to curb the spread of the coronavirus. Due to the circumstances, the need for business flights has been reconsidered radically and airlines fear that demand for these flights will remain low.

In response to pervasive uncertainty connected with the Covid-19 pandemic, standards are changing both for security and boarding procedures and on board of the aircraft itself. Passenger temperatures are taken prior to boarding, protective equipment and disinfection is available, and modified queueing (physical distancing) is enforced at airports. Some airports even test passengers for Covid-19. However, all these measures incur additional costs and complicate the flight schedule, and so far there has not been a harmonised system of health safety measures across countries. For example, aircraft crews are protected with visors and use desinfectans to an increased extent. More emphasis is also placed on cleaning the aircraft more frequently and more thoroughly. Inflight services such as providing refreshments and daily newspapers have also been restricted or abolished completely (Whitley, 2020b). However, enforcing sufficient distancing on board aircraft presents the biggest problem. This may not seem like too much of an obstacle at first, as the gradual return to flying has been accompanied by half-empty aircraft, but this measure may become very costly over time. According to IATA estimates, compulsory distancing between passengers would place a great financial burden on airlines in the long term. The maximum aircraft capacity would fall to 62%, which is below the average profitability threshold of 77%. This scenario would inevitably lead to an increase in air fares. One of the main arguments of airlines is that planes have a very effective ventilation system, so almost the only risk to passengers is their proximity to other passengers or to the crew when they are speaking (Powley, Hollinger and Peel, 2020). High hygiene standards have already been put in place in this respect. Moreover, cabins are likely to undergo more permanent changes as well, for example, headrest canopies and fabric barriers between seats are being considered (Whitley, 2020a). Aircraft manufacturers are also examining other ways to improve safety. Boeing is researching new materials such as antimicrobial coatings or surfaces that would kill any virus landing on them. These materials could then be used in equipment installed by the aircraft manufacturer.

Some airlines are adopting a low fares strategy in an effort to fill their aircraft. Therefore, many air tickets can be purchased at exceptionally low prices, as airlines attempt to boost demand so that their planes do not fly half empty. Generally, services that were once subject to a charge are now included in the ticket price. This mainly aims to prevent passengers from returning tickets and requesting refunds en masse, which could deprive many airlines of the much-needed cash for their operation (Powley, Keohane and Bushey, 2020). However, these lower prices are probably not economically sustainable over the long term. One of the reasons is that many airlines have gone bankrupt as a result of the Covid-19 pandemic, and some more are likely to do so in the future, which will lower market competition. Moreover, as soon as

Chart 6 – Grounded aircraft in the EUROCONTROL area



Source: Eurocontrol

Note: Eurocontrol is a pan-European civilian and military organisation focused on supporting European aviation. It has 41 member countries in Europe and comprehensive agreements with two non-European countries.

² Business travellers account for 12% of airline passengers but are usually twice as profitable. On some flights, in fact, they generate 75% of the airline's revenue.

<https://www.investopedia.com/ask/answers/041315/how-much-revenue-airline-industry-comes-business-travelers-compared-leisure-travelers.asp>

passengers regain confidence in the health safety of travel and flying and demand increases, this will put additional upward pressure on prices and lead to inevitable increases.

The era of high-capacity aircraft seems to be coming to an end. Before the Covid-19 pandemic, there were insufficient slots for landing and take-off, pushing up airline costs and forcing them to use large aircraft. However, the current situation is different, as there are essentially enough slots due to the crisis and airlines are switching to the strategy of using a greater number of smaller aircraft, which are more adaptable to the current situation worldwide. High-capacity aircraft also require special treatment at airports and thus airports had to invest large sums to optimise their construction design to accommodate the optimal operation of large aircraft. Therefore, only a limited number of airports did so, and airports in holiday destinations in particular were not willing to make these additional investments. Technological progress is also playing a role, bringing smaller (two-engine) aircrafts to a sufficiently high level of reliability for long-haul flights. The redundancy of large aircrafts in today's world is also confirmed by the declining orders for these aircraft and the cancellation of their production. Airbus, for example, has already officially announced its intention to cease production of its A380 model next year, and Boeing will stop manufacturing its iconic 747 model after 50 years (Hron, 2020).

It is also important to bear in mind that this crisis presents a window of opportunity to reassess and restructure the air transport industry, as well as considering its contribution to climate change. As travel is a significant source of greenhouse gas emissions, a gradual reduction in CO₂ emissions in aviation is becoming a very important topic. The crisis in air travel is indirectly forcing airlines to gradually discard old and inefficient aircraft (Gössling, Scott and Hall, 2020). Although the list of negatives associated with the crisis could be endless, there are also some positives. It has given us the opportunity to reconsider the financial structures of airlines and their carbon footprint. For example, airlines, which are currently more stable, can avail of the crisis to modernise their fleets and become greener.

Conclusion

July offered hope for the resurrection of air transport in the form of slow expansion, which unfortunately did not last long. Despite initial optimism of airlines, which saw a light at the end of the tunnel for the first time since the industry's collapse in March, no such recovery was made. This was due to a rapid deterioration of the epidemic situation around the world in August, with most countries reporting record numbers of infections. This in turn led to the reintroduction of restrictive measures.

The situation is likely to deteriorate until the year-end, with demand for flights already decreasing. Owing to insufficient passenger demand, airlines have been limiting flights in autumn and winter to the most popular routes only, i.e. the ones worth maintaining. In general, the impacts of the Covid-19 pandemic will be felt less by airlines that do not specialise in long-haul flights. Air fares are decreasing again for the time being, and tickets are being offered with many benefits free of charge, making it possible for passengers to change the date or even the destination at no additional charge. Most charges, which were a major source of airline revenue, are being abolished, and the basic parameters of airline tickets are thus changing.

It will be very difficult to restore passenger confidence in flying, and it will probably take a long time. Airlines are trying hard to convince customers that flying in an enclosed space with hundreds of other people is not as risky as it may seem at first sight. Calming the public and convincing it of the health safety of air travel is crucial, since the development of an effective vaccine may even take years and an aircraft usually needs to have 70–80% occupancy for the airline to make a profit. Airlines, aircraft manufacturers and airports are conducting an intensive campaign focusing on safety concerns related to the spread of Covid-19. Overall, however, the future of aviation is very uncertain.

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Keywords

aviation, airlines, aircraft manufacturers, Covid-19 pandemic

JEL classification

E24, L93, Z30

A1. Change in predictions for 2020

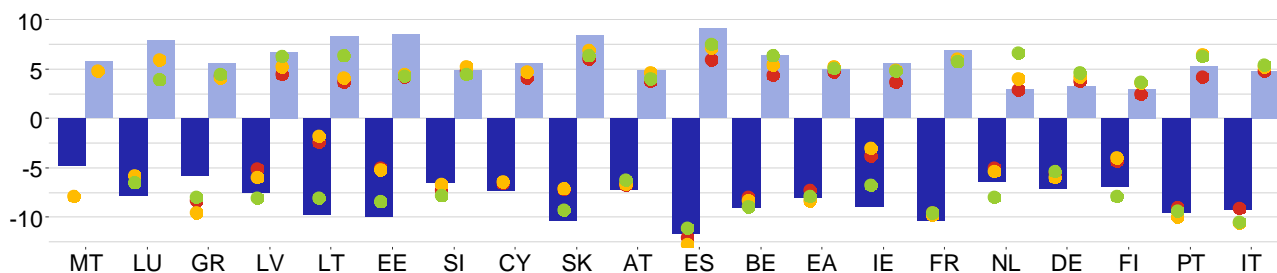
	GDP growth, %				Inflation, %			
	CF	IMF	OECD	CB / EIU	CF	IMF	OECD	CB / EIU
EA	+0.2 2020/11 2020/10	+1.9 2020/10 2020/6	+1.2 2020/9 2020/6	+0.7 2020/9 2020/6	0 2020/11 2020/10	+0.2 2020/10 2020/4	-0.7 2020/6 2019/11	0 2020/9 2020/6
US	+0.3 2020/11 2020/10	+3.7 2020/10 2020/6	+3.5 2020/9 2020/6	+2.8 2020/9 2020/6	0 2020/11 2020/10	+0.9 2020/10 2020/4	-0.6 2020/6 2019/11	+0.4 2020/9 2020/6
UK	-0.9 2020/11 2020/10	+0.4 2020/10 2020/6	+1.4 2020/9 2020/6	-1.5 2020/11 2020/8	0 2020/11 2020/10	-0.4 2020/10 2020/4	-1.5 2020/6 2019/11	+0.3 2020/11 2020/8
JP	+0.2 2020/11 2020/10	+0.5 2020/10 2020/6	+0.2 2020/9 2020/6	-0.8 2020/10 2020/7	0 2020/11 2020/10	-0.3 2020/10 2020/4	-1.4 2020/6 2019/11	-0.1 2020/10 2020/7
CN	-0.3 2020/11 2020/10	+0.9 2020/10 2020/6	+4.4 2020/9 2020/6	+0.1 2020/10 2020/9	-0.1 2020/11 2020/10	-0.1 2020/10 2020/4	+1.6 2020/6 2019/11	-0.6 2020/10 2020/9
RU	+0.3 2020/10 2020/9	+2.5 2020/10 2020/6	+0.7 2020/9 2020/6	+1.3 2020/10 2020/9	0 2020/10 2020/9	+0.1 2020/10 2020/4	-1.1 2020/6 2019/11	-0.1 2020/10 2020/9

A2. Change in predictions for 2021

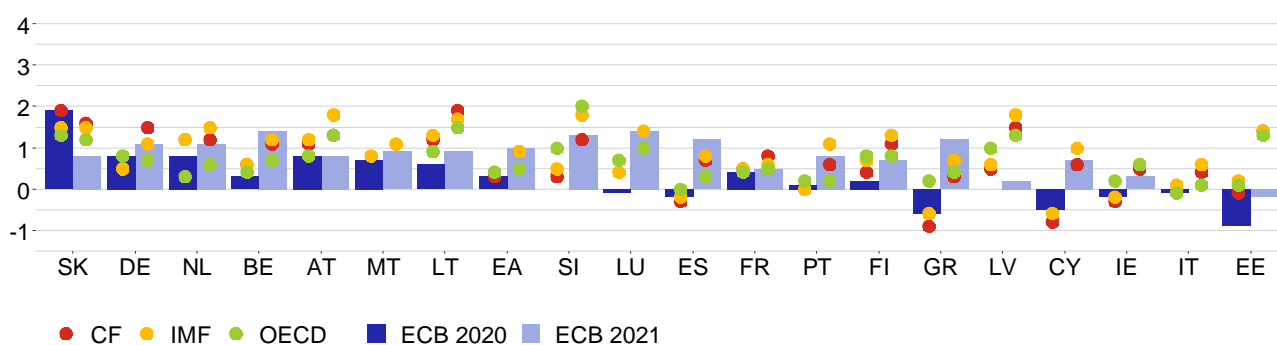
	GDP growth, %				Inflation, %			
	CF	IMF	OECD	CB / EIU	CF	IMF	OECD	CB / EIU
EA	-0.6 2020/11 2020/10	-0.8 2020/10 2020/6	-1.4 2020/9 2020/6	-0.2 2020/9 2020/6	0 2020/11 2020/10	-0.1 2020/10 2020/4	-0.9 2020/6 2019/11	+0.2 2020/9 2020/6
US	+0.1 2020/11 2020/10	-1.4 2020/10 2020/6	-0.1 2020/9 2020/6	-1.0 2020/9 2020/6	0 2020/11 2020/10	+0.6 2020/10 2020/4	-0.6 2020/6 2019/11	+0.1 2020/9 2020/6
UK	-1.0 2020/11 2020/10	-0.4 2020/10 2020/6	-1.4 2020/9 2020/6	-1.7 2020/11 2020/8	0 2020/11 2020/10	-0.3 2020/10 2020/4	-1.5 2020/6 2019/11	+0.3 2020/11 2020/8
JP	0 2020/11 2020/10	-0.1 2020/10 2020/6	-0.6 2020/9 2020/6	+0.3 2020/10 2020/7	0 2020/11 2020/10	-0.1 2020/10 2020/4	-1.3 2020/6 2019/11	+0.1 2020/10 2020/7
CN	0 2020/11 2020/10	0 2020/10 2020/6	+1.2 2020/9 2020/6	0 2020/10 2020/9	-0.1 2020/11 2020/10	+0.1 2020/10 2020/4	0 2020/6 2019/11	-0.3 2020/10 2020/9
RU	-0.2 2020/10 2020/9	-1.3 2020/10 2020/6	-1.0 2020/9 2020/6	-0.2 2020/10 2020/9	+0.1 2020/10 2020/9	+0.2 2020/10 2020/4	0 2020/6 2019/11	+0.2 2020/10 2020/9

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

GDP growth in the euro area countries in 2020 and 2021, %



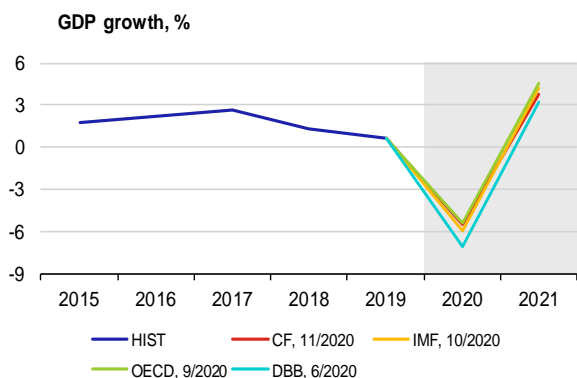
Inflation in the euro area countries in 2020 and 2021, %



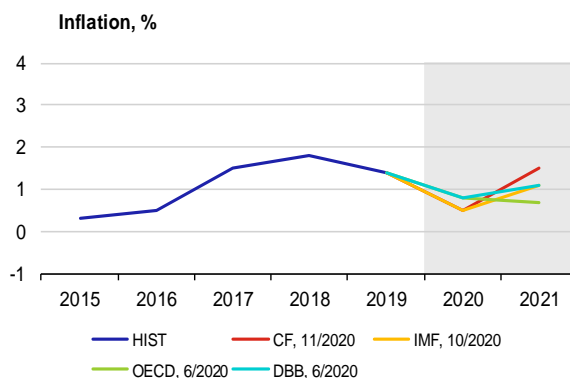
Note: Charts show institutions' latest available outlooks of for the given country.

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

Germany

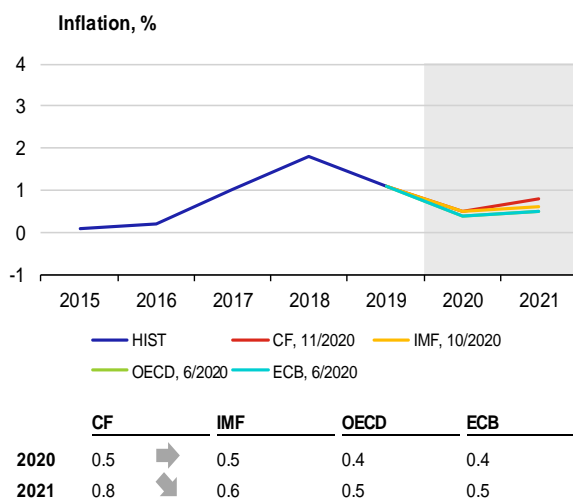
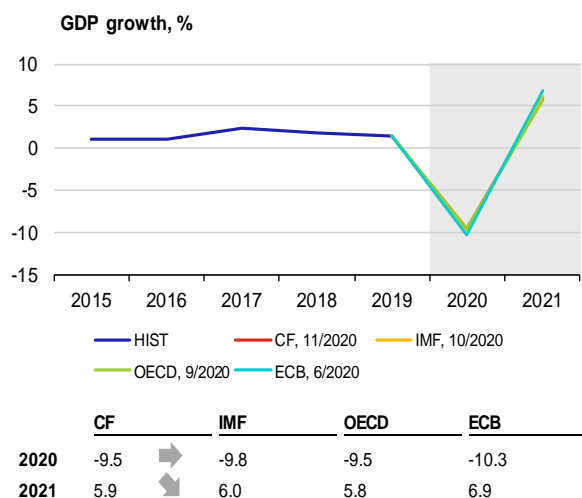


	CF	IMF	OECD	DBB
2020	-5.5	-6.0	-5.4	-7.1
2021	3.8	4.2	4.6	3.2

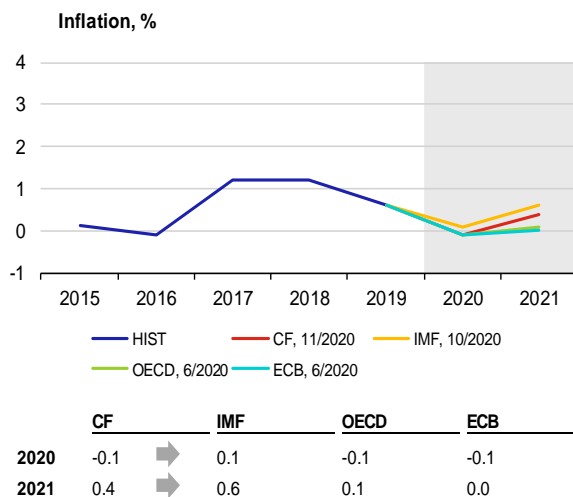
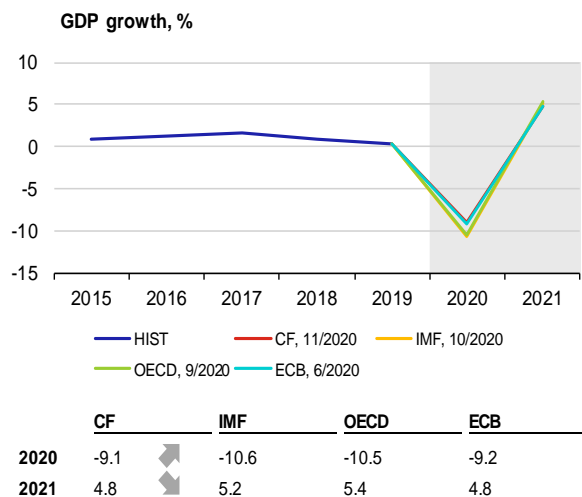


	CF	IMF	OECD	DBB
2020	0.5	0.5	0.8	0.8
2021	1.5	1.1	0.7	1.1

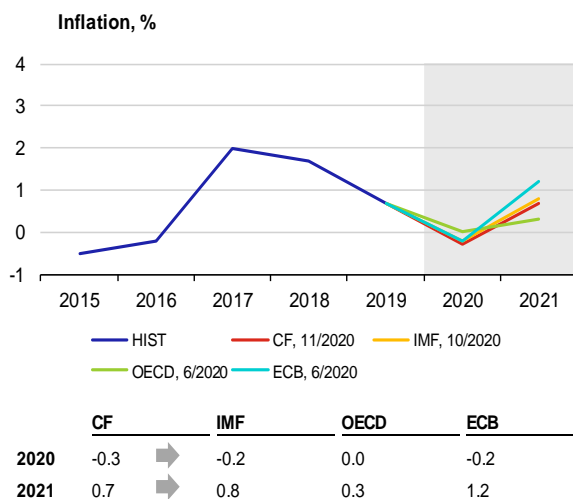
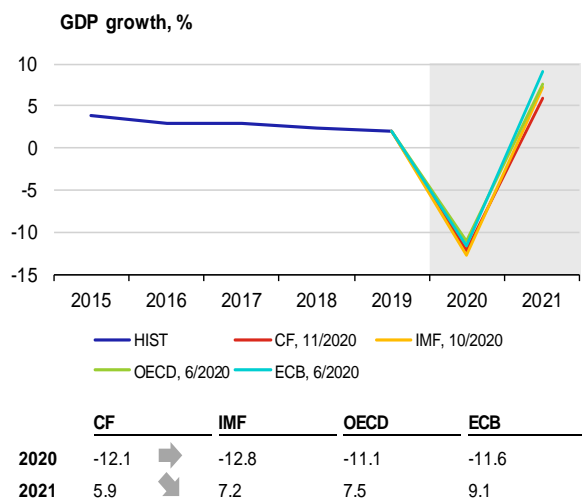
France



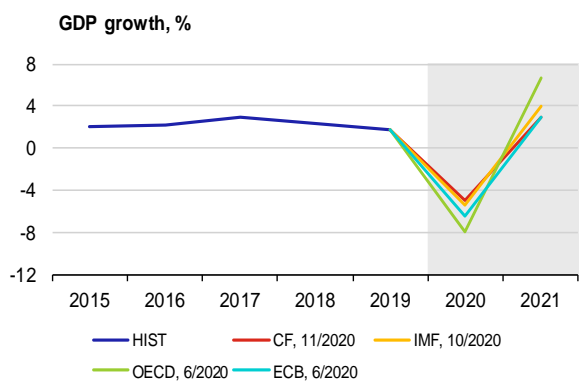
Italy



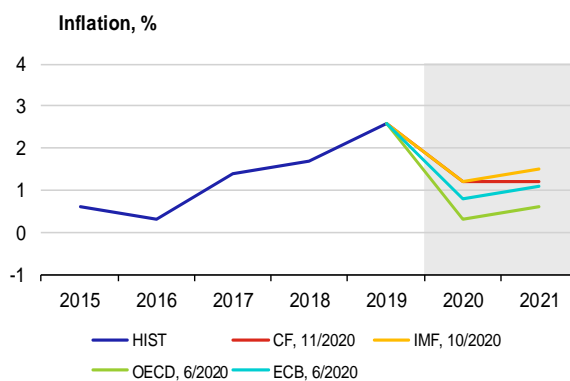
Spain



Netherlands

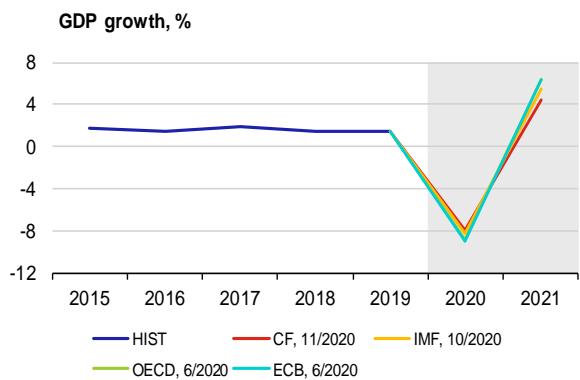


	CF	IMF	OECD	ECB
2020	-5.0	-5.4	-8.0	-6.4
2021	2.9	4.0	6.6	2.9

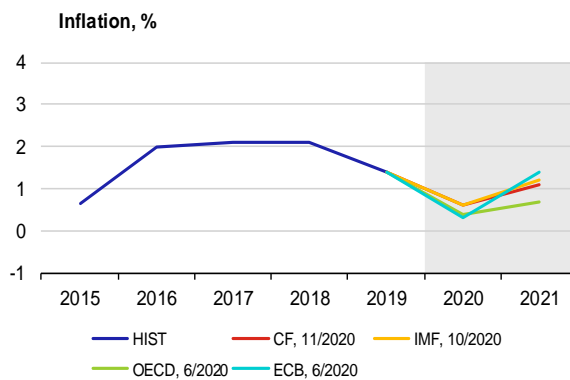


	CF	IMF	OECD	ECB
2020	1.2	1.2	0.3	0.8
2021	1.2	1.5	0.6	1.1

Belgium

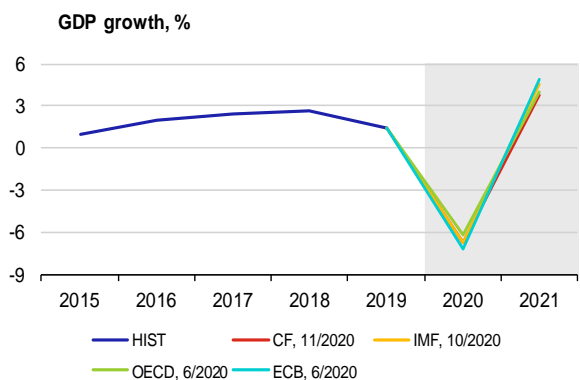


	CF	IMF	OECD	ECB
2020	-8.0	-8.3	-8.9	-9.0
2021	4.4	5.4	6.4	6.4

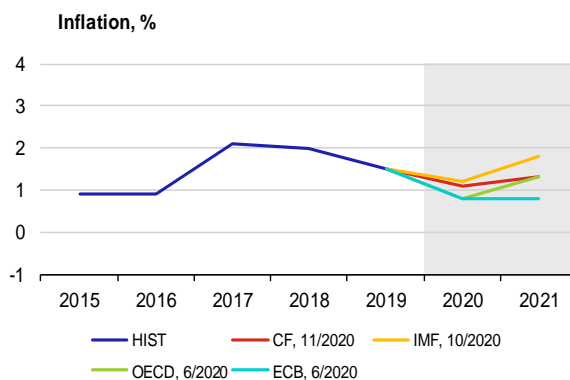


	CF	IMF	OECD	ECB
2020	0.6	0.6	0.4	0.3
2021	1.1	1.2	0.7	1.4

Austria

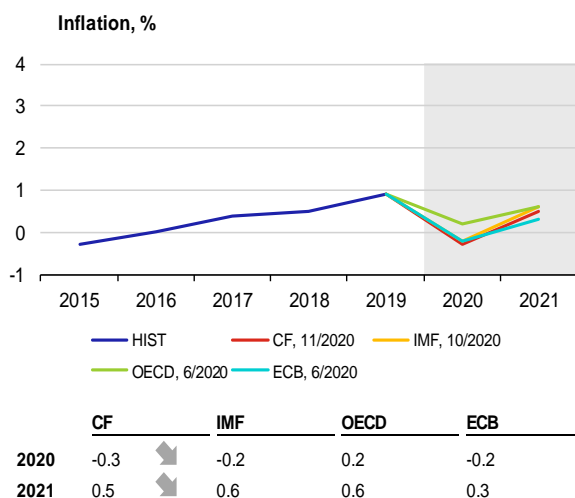
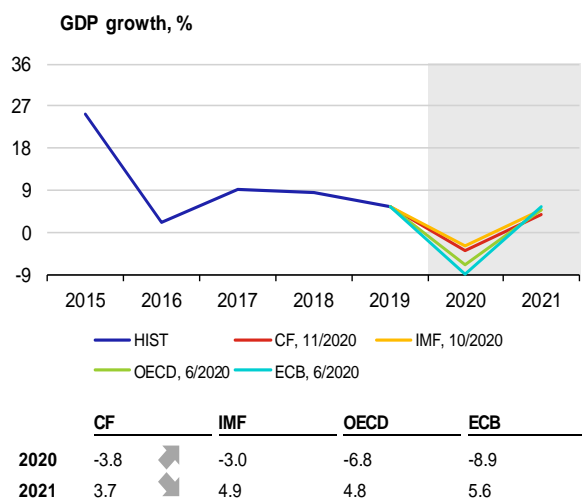


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2020	-6.8	-6.7	-6.2	-7.2
2021	3.8	4.6	4.0	4.9

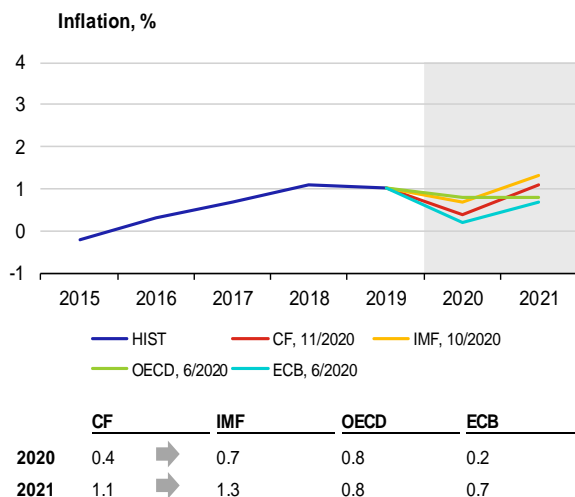
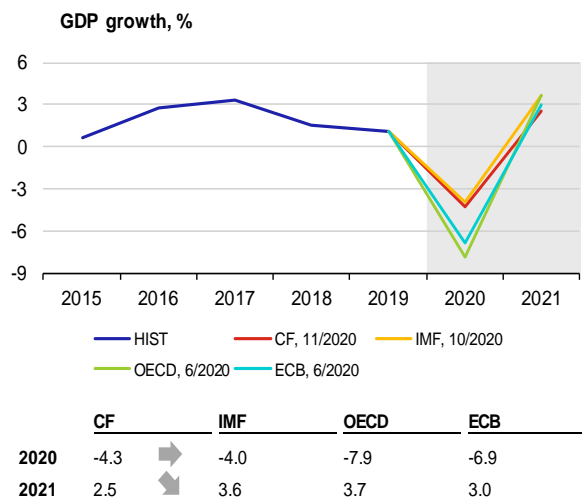


	CF	IMF	OECD	ECB
2020	1.1	1.2	0.8	0.8
2021	1.3	1.8	1.3	0.8

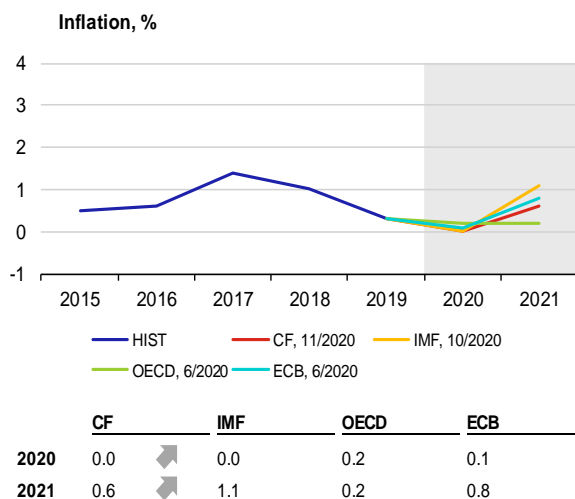
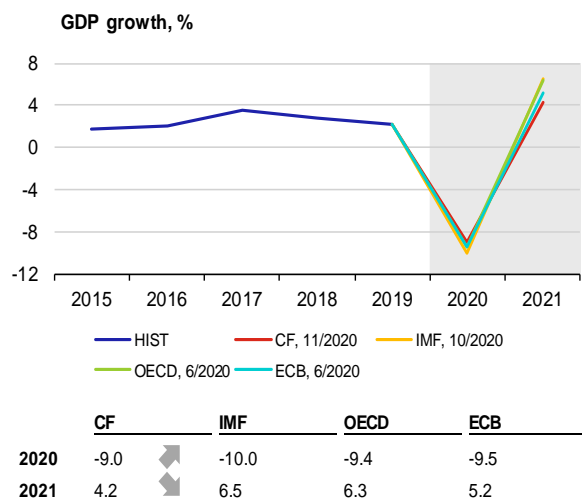
Ireland



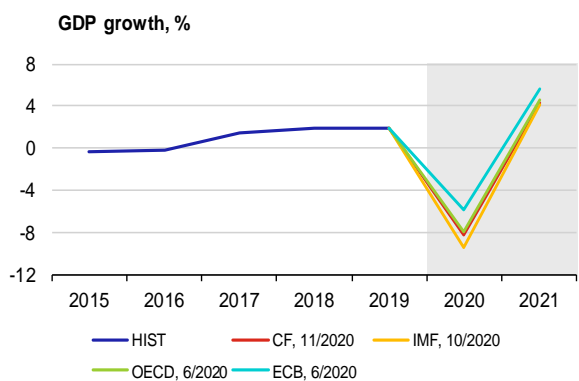
Finland



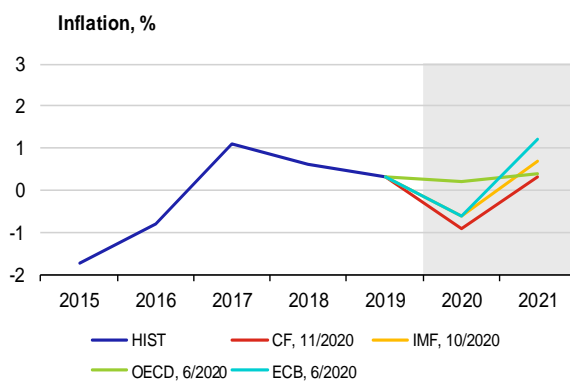
Portugal



Greece

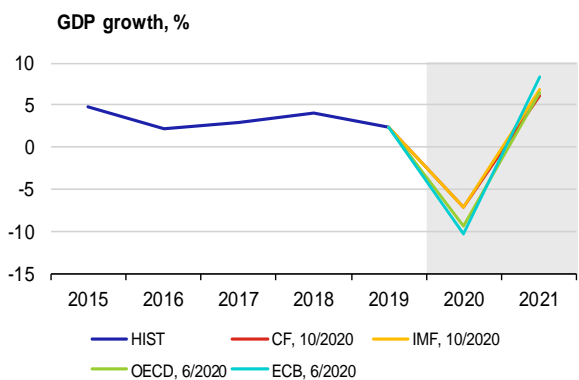


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2020	-8.3	-9.5	-8.0	-5.8
2021	4.3	4.1	4.5	5.6

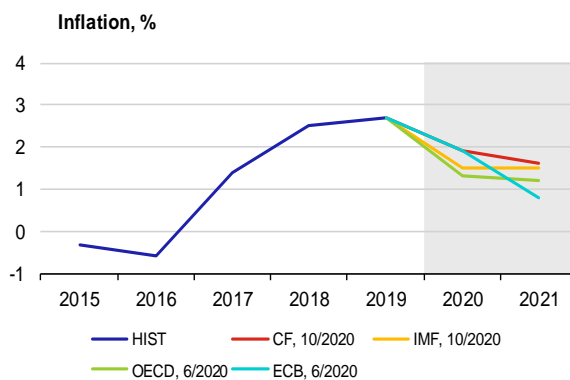


	CF	IMF	OECD	ECB
2020	-0.9	-0.6	0.2	-0.6
2021	0.3	0.7	0.4	1.2

Slovakia

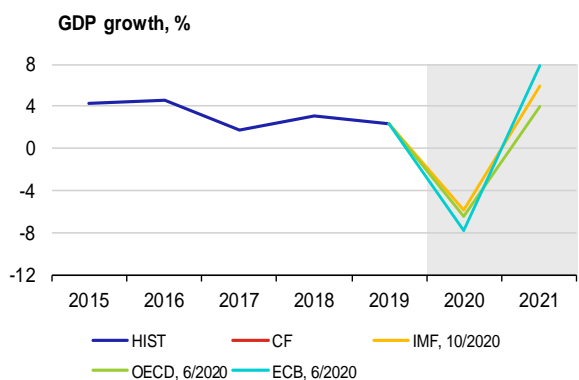


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2021	6.0	6.9	6.4	8.4

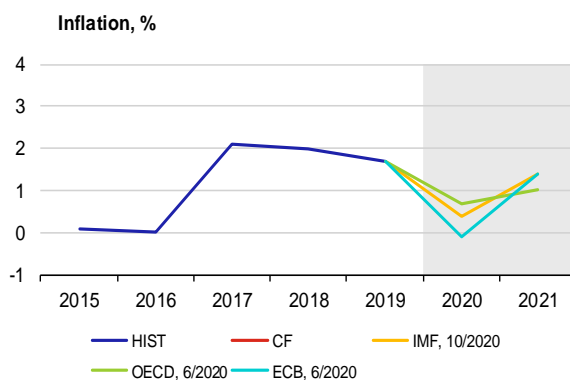


	CF	IMF	OECD	ECB
2020	1.9	1.5	1.3	1.9
2021	1.6	1.5	1.2	0.8

Luxembourg

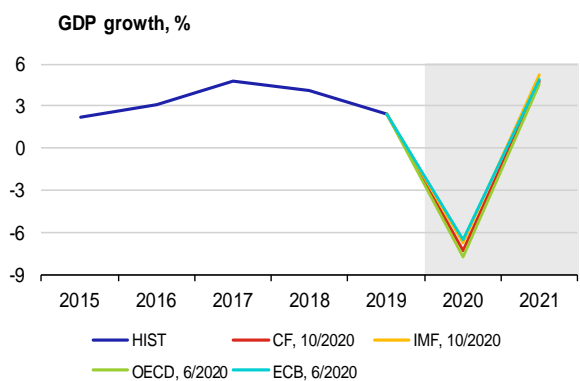


	CF	IMF	OECD	ECB
2020	n. a.	-5.8	-6.5	-7.8
2021	n. a.	5.9	3.9	7.9

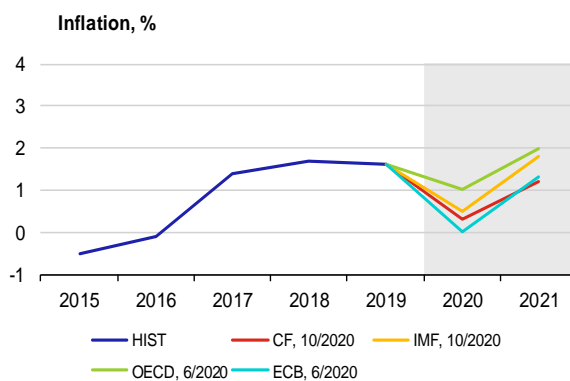


	CF	IMF	OECD	ECB
2020	n. a.	0.4	0.7	-0.1
2021	n. a.	1.4	1.0	1.4

Slovenia

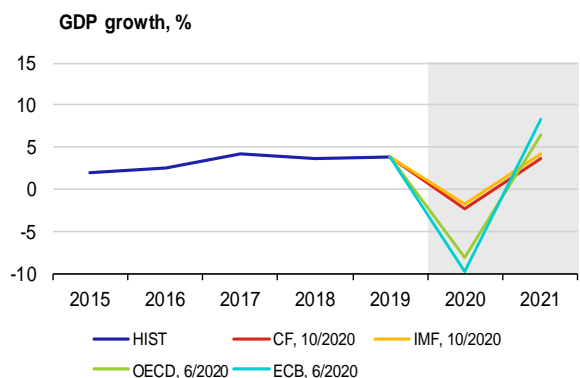


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2021	4.8	5.2	4.5	4.9

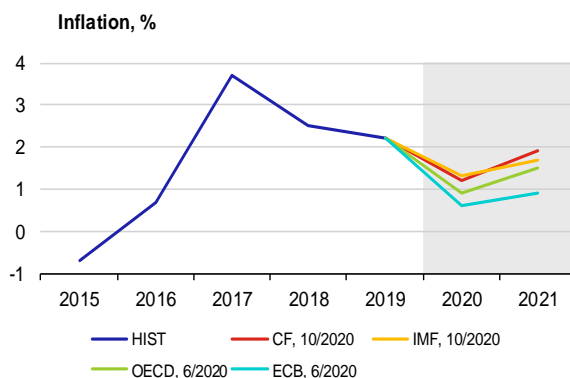


	CF	IMF	OECD	ECB
2020	0.3	0.5	1.0	0.0
2021	1.2	1.8	2.0	1.3

Lithuania

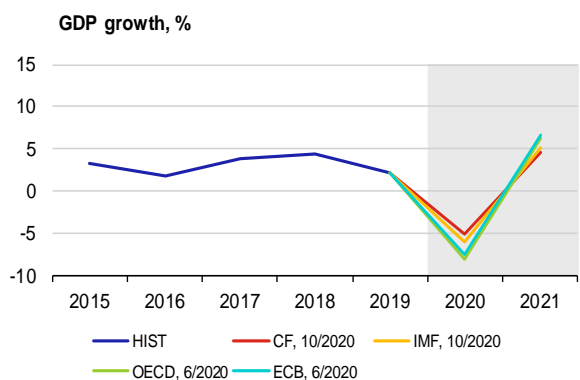


	CF	IMF	OECD	ECB
2020	-2.4	-1.8	-8.1	-9.7
2021	3.7	4.1	6.4	8.3

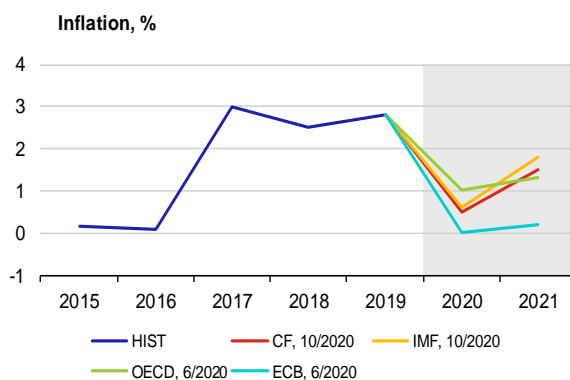


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2020	1.2	1.3	0.9	0.6
2021	1.9	1.7	1.5	0.9

Latvia

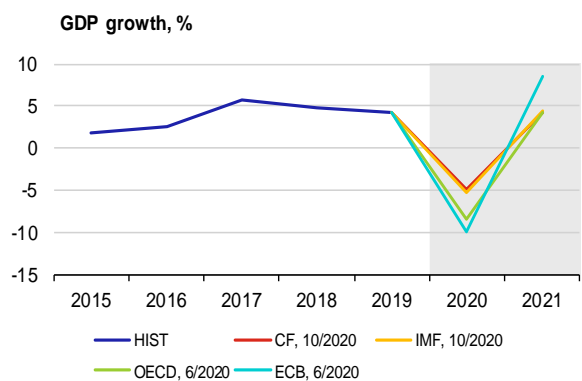


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2020	-5.1	-6.0	-8.1	-7.5
2021	4.5	5.2	6.3	6.7

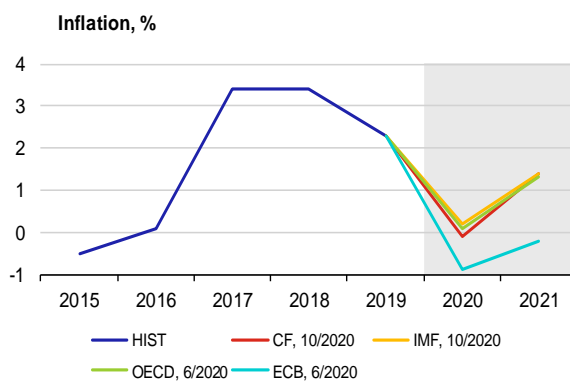


	CF	IMF	OECD	ECB
2020	0.5	0.6	1.0	0.0
2021	1.5	1.8	1.3	0.2

Estonia

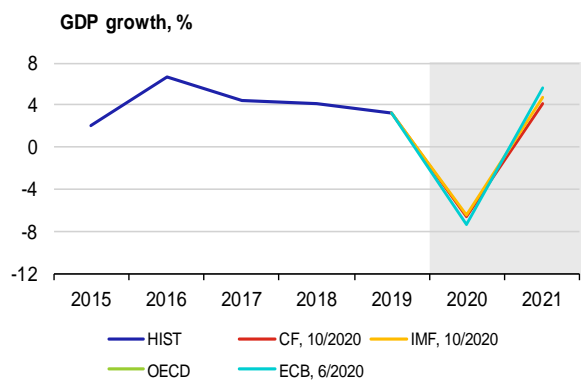


	CF	IMF	OECD	ECB
2020	-5.0	-5.2	-8.4	-10.0
2021	4.2	4.5	4.3	8.5

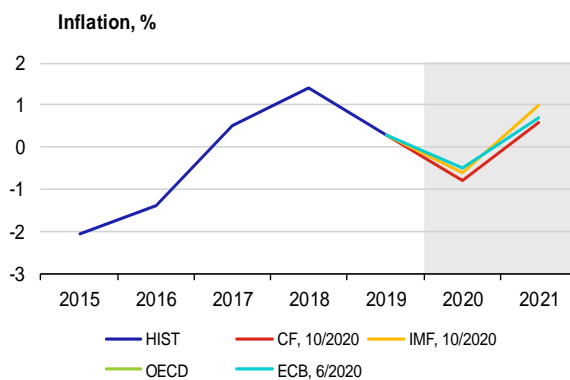


	CF	IMF	OECD	ECB
2020	-0.1	0.2	0.1	-0.9
2021	1.4	1.4	1.3	-0.2

Cyprus

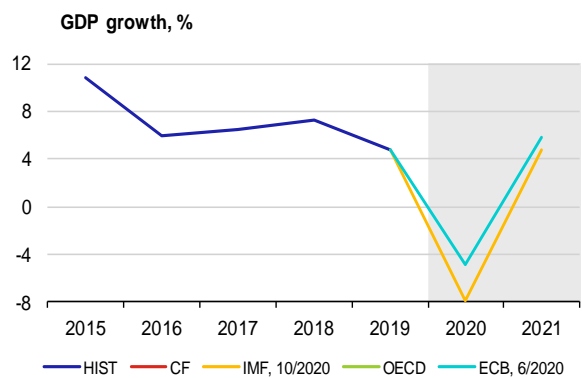


	CF	IMF	OECD	ECB
2020	-6.6	-6.4	n. a.	-7.3
2021	4.1	4.7	n. a.	5.6

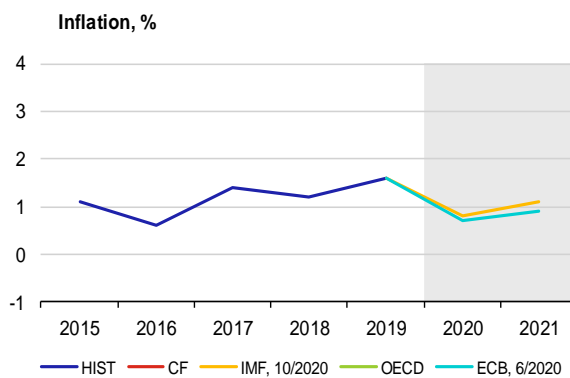


	CF	IMF	OECD	ECB
2020	-0.8	-0.6	n. a.	-0.5
2021	0.6	1.0	n. a.	0.7

Malta



	CF	IMF	OECD	ECB
2020	n. a.	-7.9	n. a.	-4.8
2021	n. a.	4.8	n. a.	5.8



	CF	IMF	OECD	ECB
2020	n. a.	0.8	n. a.	0.7
2021	n. a.	1.1	n. a.	0.9

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

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