



**NBP**

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Narodowy Bank Polski

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Economic Analysis Department

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# **Inflation and economic growth projection of Narodowy Bank Polski based on the NECMOD model**

Warsaw / 10th November 2020



## Outline:

Pandemic: economic  
fallout

Projection 2020 – 2022

- Economic conditions abroad
- Labour market
- Consumption demand
- Investment demand
- Foreign trade
- GDP
- Inflation

Uncertainty

# Outline:

1 Pandemic: economic fallout

2 Projection 2020 - 2022

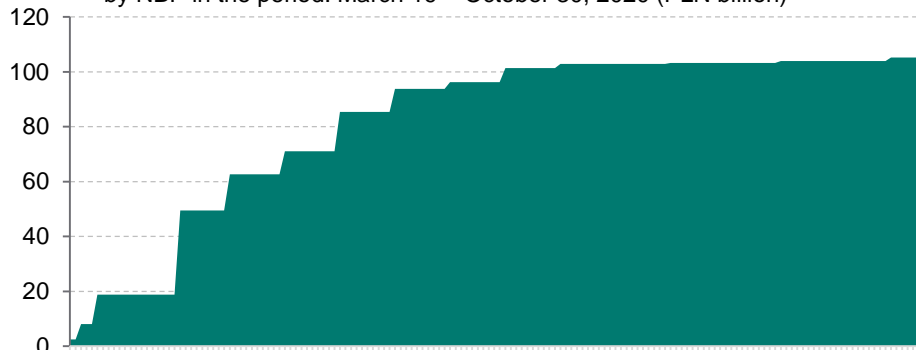
3 Uncertainty

## Projection – key assumptions

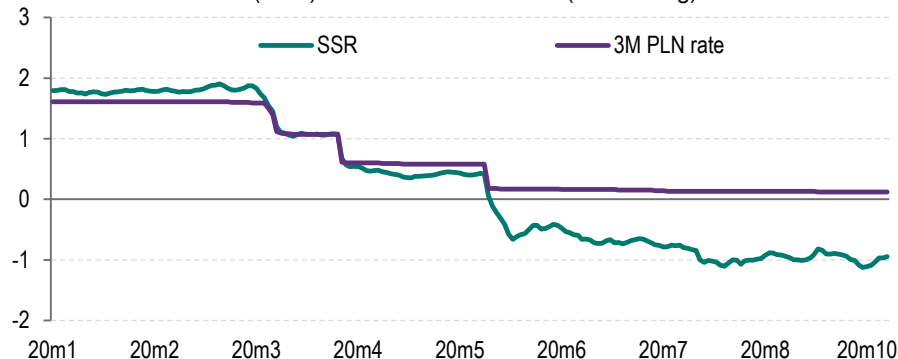
- In 2020 Q4 economic activity will drop again, owing to the escalation of the pandemic and the re-imposition of restrictions.
- However, the scale of GDP decline will be smaller than in 2020 Q2, when a strong negative shock affected most sectors of the economy coupled by a sharp slump in foreign demand.
- In the longer horizon of the forecast, especially in 2021, the recovery of economic activity will be hampered by potential waves of new infections, leading to temporary restrictions on the entire economy (or its sectors), as well as by the persistently elevated uncertainty.
- Some instruments of the fiscal anti-crisis package are still being applied in 2020 Q4 - expected prolonged positive impact of the government package on the economy.
- The projection does not take into account the inflow of EU funds under the *Next Generation EU* instrument - plans for the distribution of these funds in Poland are not yet available.
- The course of the COVID-19 pandemic and the related scale of restrictions are the main sources of risk in the projection.

## NBP monetary policy mitigating the negative impact of the COVID-19 pandemic. Short shadow rate in NECMOD model.

The accumulated value of structural operations on the open market run by NBP in the period: March 19 – October 30, 2020 (PLN billion)



Short shadow rate (SSR) and 3M PLN zero rate (Bloomberg)

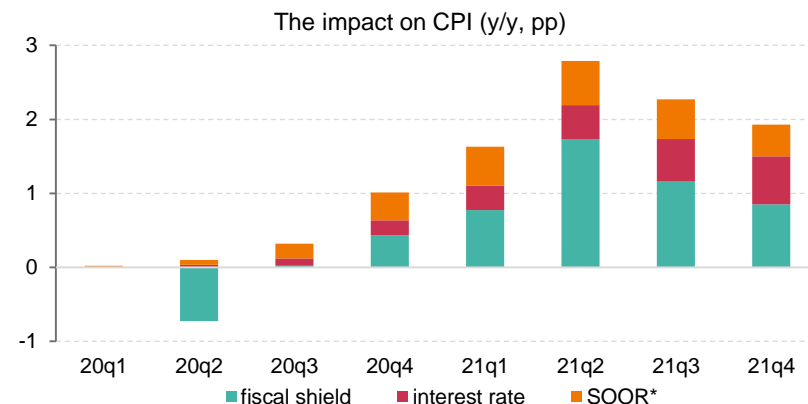
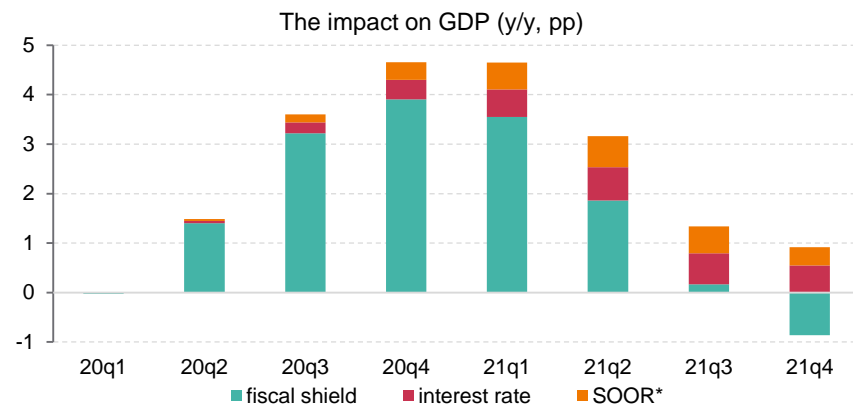


Asset purchase programs run by selected central banks to mitigate the effects of the COVID-19 epidemic (March 2020 - October 2020)

	NBP	FED	BoE	EBC
Programme's name	Structural Open Market Operations (SOOR)	Large-scale Asset Purchase (LSAP)	Asset Purchase Facility (APF)	Pandemic Emergency Purchase Programme (PEPP)
The current volume of asset purchased	105.3 mld PLN	2840 mld USD	310 mld GBP	627.6 mld EUR
The current volume of asset purchased in relation to GDP in 2019 (%)	4.6	13.3	14.0	5.3

- **Shadow interest rate** - (unobservable) value of the short-term interest rate, which corresponds to the total scale of debt securities purchase operations carried out by the NBP.

## Estimates of the impact of anti-crisis fiscal and monetary policy on GDP and inflation - NBP estimations (September 2020).



	The impact of interest rate reduction in 20Q1 and 20Q2		The impact of <i>SOOR</i> * 20Q1-20Q3		The impact of fiscal anti-crisis shield		The impact of monetary policy loosening		The impact of the <i>policy mix</i>	
	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021
CPI inflation (y/y, pp)	0.1	0.5	0.2	0.5	-0.1	1.1	0.3	1.0	0.2	2.2
GDP (y/y, pp)	0.2	0.6	0.1	0.5	2.1	1.3	0.3	1.1	2.4	2.4
Households' consumption (y/y, pp)	0.2	0.3	0.1	0.3	2.0	0.9	0.2	0.6	2.2	1.4

\*) *Structural open market operations*

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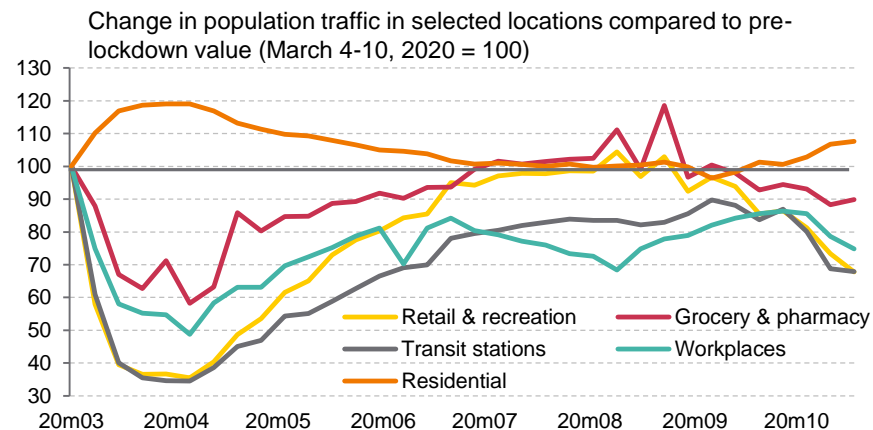
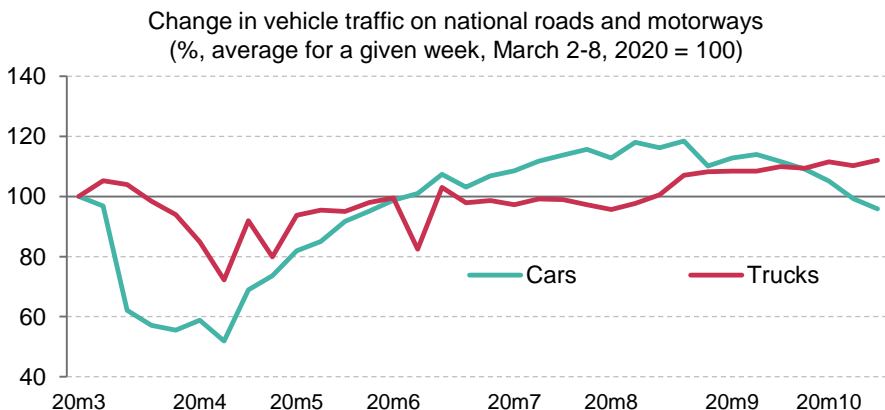
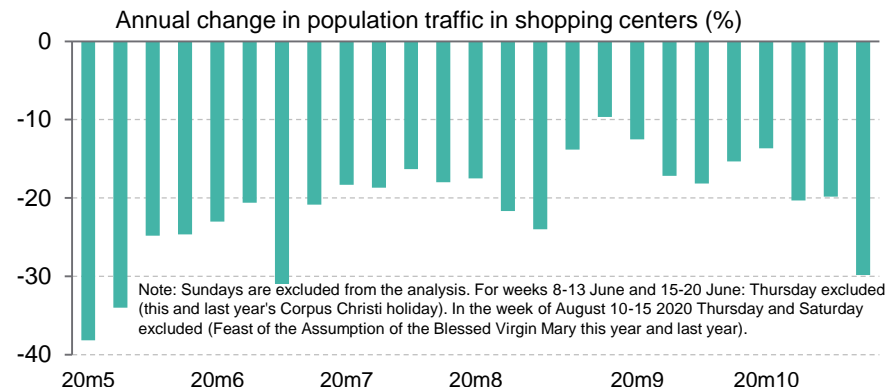
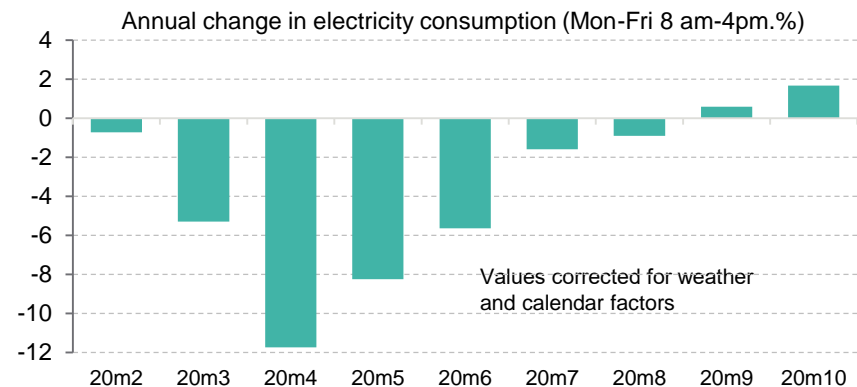
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# Pandemic: economic fallout

## High-frequency data point to a slowdown in economic recovery in recent weeks.

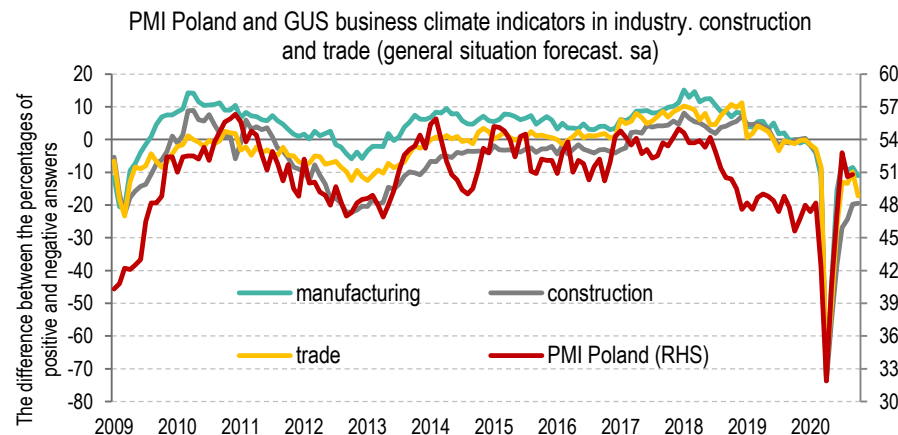
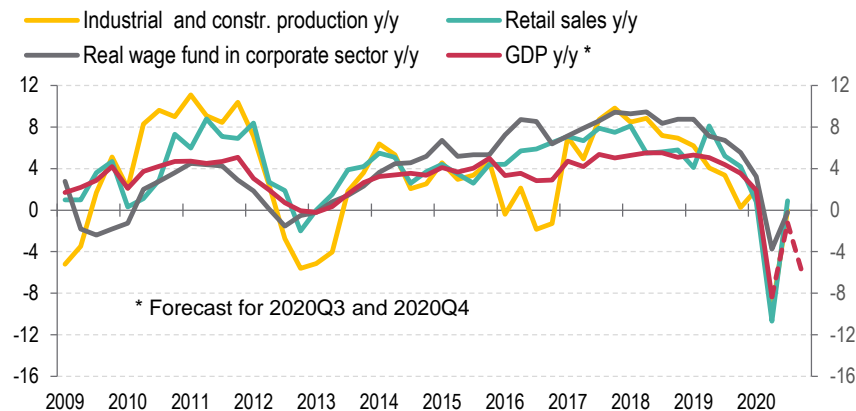


## Recovery of economic activity in 2020 Q3, followed by slowdown in 2020 Q4.

	20q2		20q3*		20q4*	
GDP (y/y) (%)	-8.4	(-10.6)	-1.2	(-7.7)	-6.5	(-5.3)
Domestic Demand (y/y) (%)	-9.9	(-11.1)	-2.5	(-9.1)	-7.6	(-5.3)
Household consumption (y/y) (%)	-10.8	(-12.0)	-0.4	(-4.3)	-7.5	(-2.2)
Public consumption (y/y) (%)	3.4	(7.0)	2.8	(5.7)	5.8	(6.0)
Gross fixed capital form. (y/y) (%)	-10.7	(-18.5)	-7.5	(-20.0)	-14.8	(-17.8)
Exports (y/y) (%)	-14.5	(-22.3)	-2.5	(-14.3)	-10.4	(-12.3)
Imports (y/y) (%)	-18.0	(-24.5)	-5.1	(-17.3)	-12.6	(-12.6)
Net exports contribution (pp.)	1.1	(0.0)	1.2	(1.2)	0.8	(-0.2)

\* Forecast for 2020q3 and 2020Q4

Values from the July projection are given in brackets (seasonally adjusted).  
Indicators with values higher than in the July projection are marked green, and indicators with lower values are marked red.





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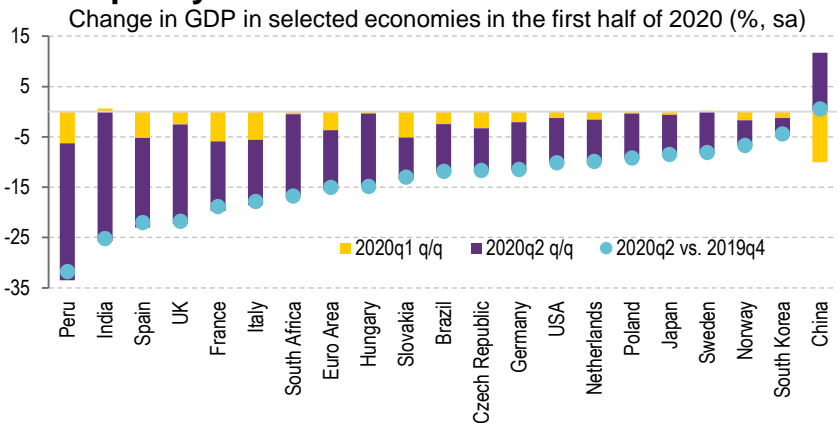
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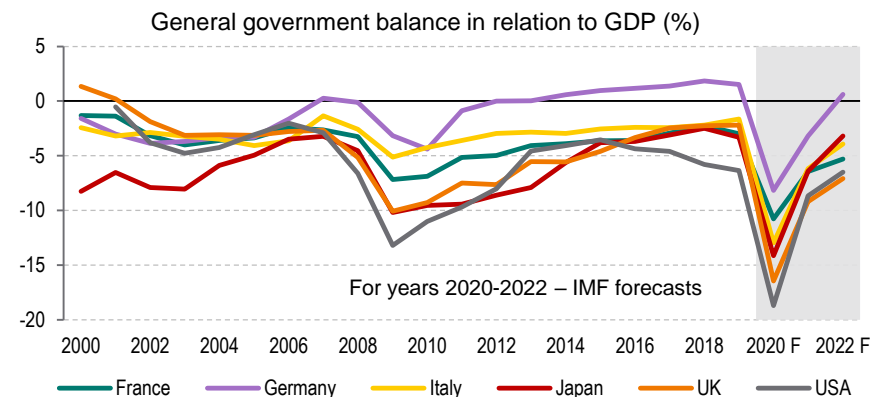
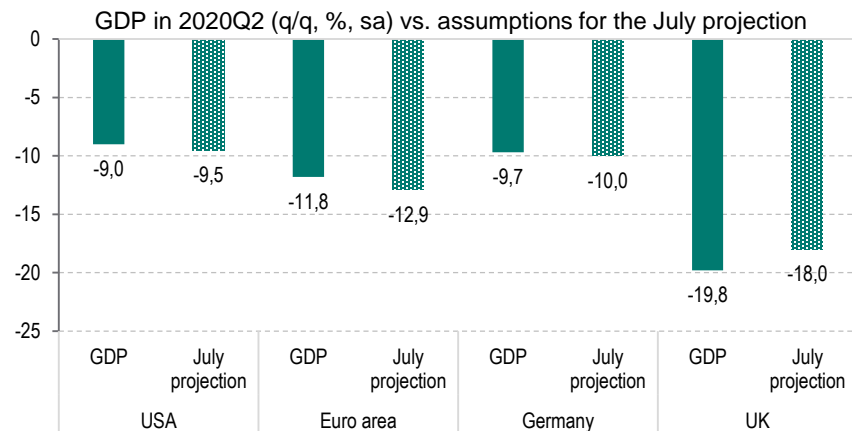
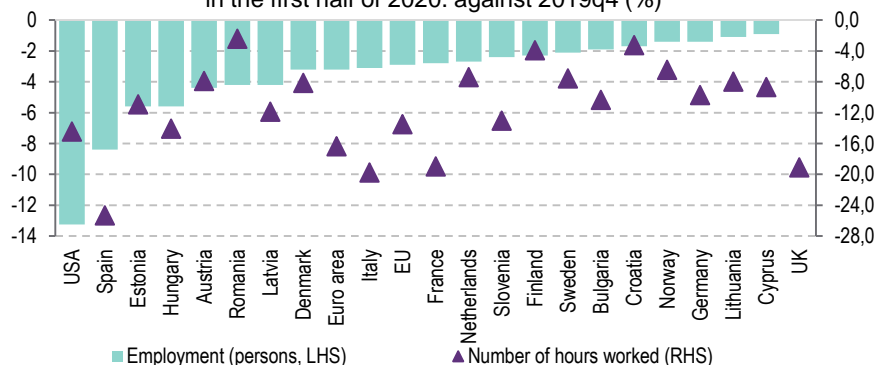
## Projection 2020-2022

### Economic conditions abroad

## World Economy: Record Breakdown in Activity in 2020 H1 moderated by a strong loosening of monetary and fiscal policy.

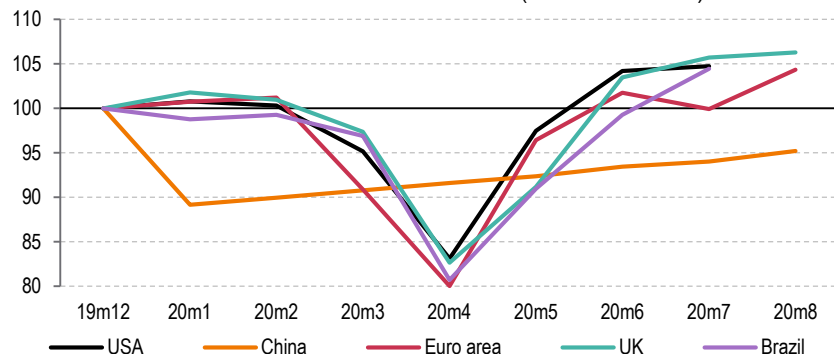


Change in employment and total number of hours worked in selected economies in the first half of 2020. against 2019q4 (%)

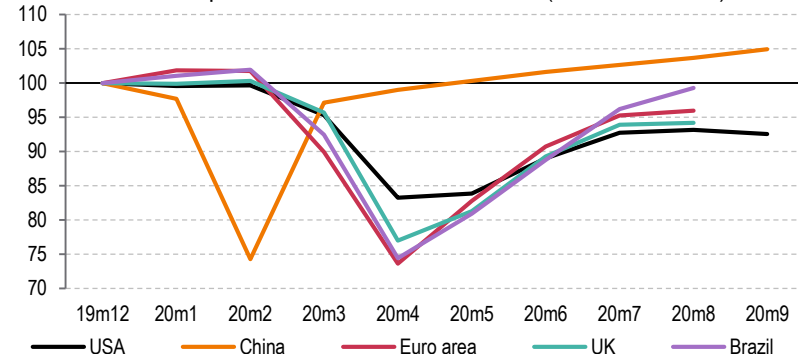


## The world economy: a clear, but varied between sectors and countries, recovery of activity in 2020 Q3, followed by economic downturn in 2020 Q4.

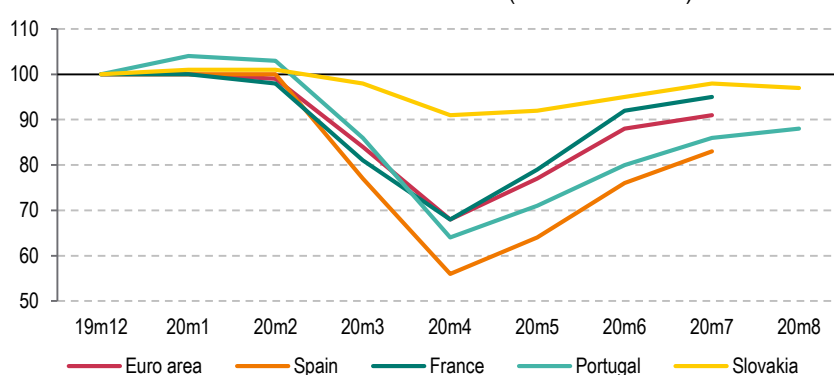
Retail sales in selected countries (Dec 2019 = 100)



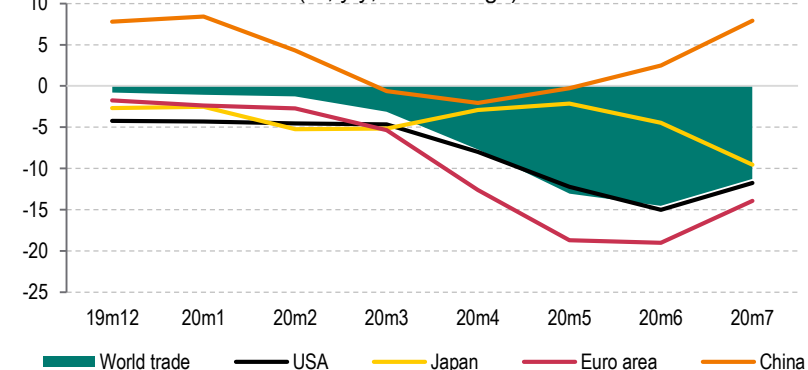
Industrial production in selected countries (Dec 2019 = 100)



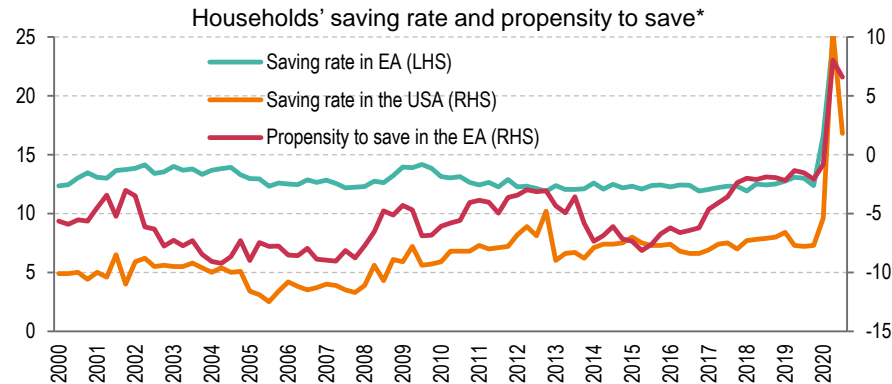
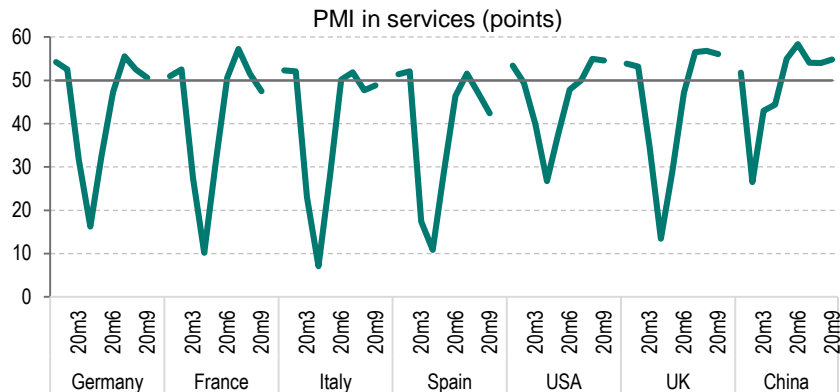
Services turnover indices\* (Dec 2019 = 100)



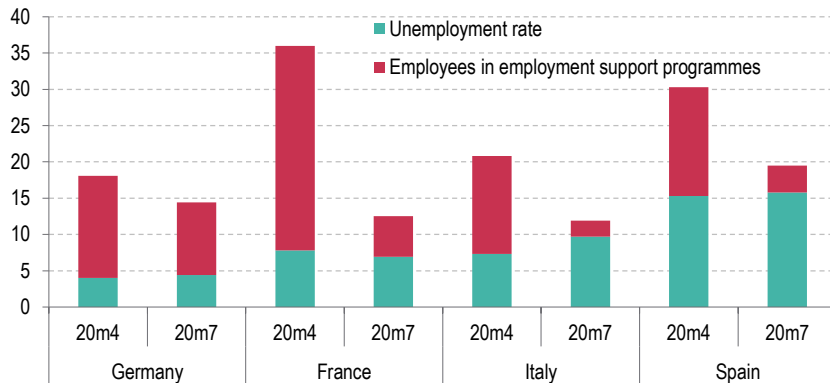
World trade in goods and export of goods in major economies (% y/y, 3M average)



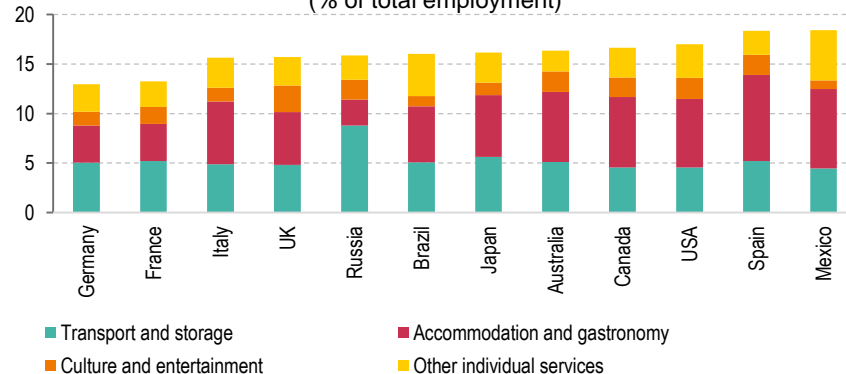
## World economy: recovery to pre-pandemic levels prolonged over time due to high uncertainty and the magnitude of the shocks.



Employees in employment support programs and unemployment (% professionally active)



Employment in sectors most vulnerable to the effects of the pandemic (% of total employment)



Source: data from OECD Interim Economic Outlook. Bloomberg. Eurostat. BEA. data on employment support programmes based on national sources;

\*) propensity to save in the EA = index calculated on the basis of European Commission surveys in accordance with the methodology proposed in ECB Economic Bulletin Issue 6/2020.

## In 2021-2022 a slow recovery in the global economy disturbed by possible restrictions in economic life.

### Factors determining the forecast of economic growth:

- ↑ A clear recovery in economic activity in 2020 Q3.
- ↑ Loose monetary policy and strong fiscal support.
- ↓ Deterioration of the epidemic situation in Europe, re-imposition of restrictions.
- ↓ High uncertainty concerning the further development of the pandemic.
- ↓ Poor growth prospects for emerging economies.
- ↓ Brexit.

### GDP forecast in the selected economies

GDP y/y, %	2020	2021	2022
Euro area	-7.5 (-9.1)	3.2 (5.2)	4.0 (3.2)
Germany	-5.9 (-6.7)	3.4 (5.4)	3.7 (3.0)
United Kingdom	-10.4 (-9.6)	4.2 (5.1)	4.5 (3.3)
USA	-3.8 (-5.7)	3.3 (3.4)	2.3 (2.7)
China	1.7 (1.1)	7.7 (7.0)	5.5 (5.0)

*The values from the July projection are given in brackets. Indicators with values higher than in the July projection are marked green and indicators lower in red.*

*Source: data from OECD, Eurostat, national statistical offices, IMF, Bloomberg, NBP forecasts and calculations.*

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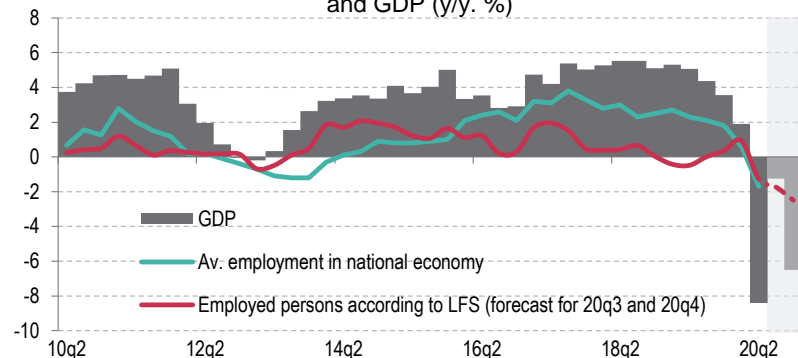
Uncertainty

# Polish economy

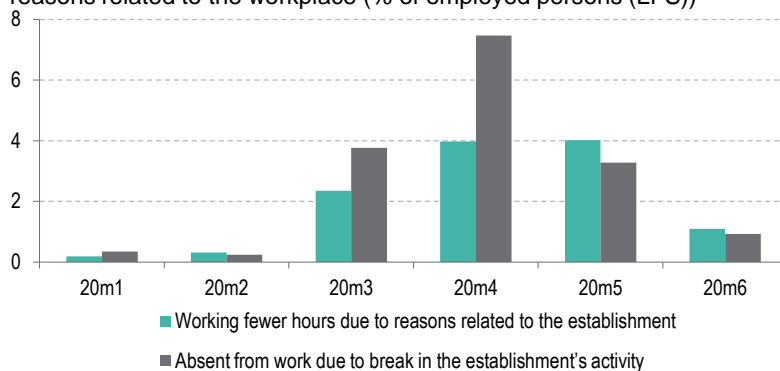
## Labour market

## Moderate decline in the number of employed with a marked decrease in GDP in 2020 Q2.

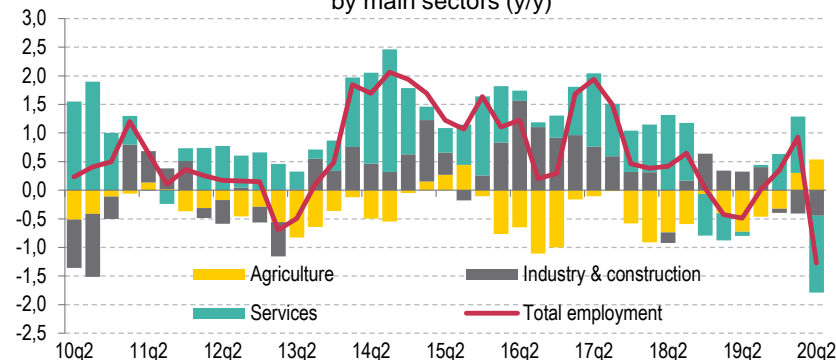
Number of employed persons (LFS), av. employment in the national economy and GDP (y/y. %)



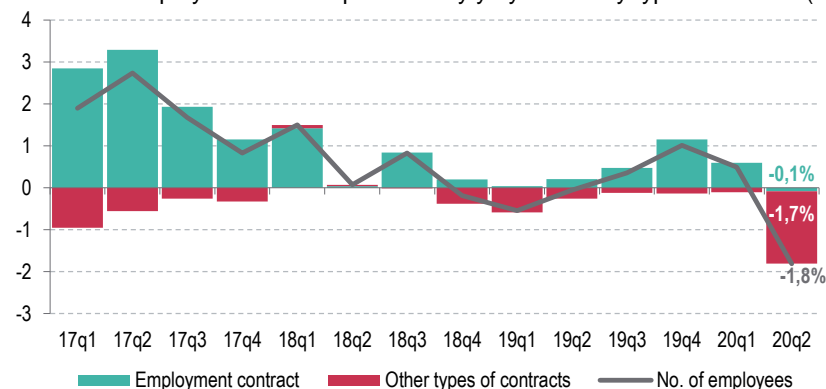
Employed persons absent from work and working fewer hours, due to reasons related to the workplace (% of employed persons (LFS))



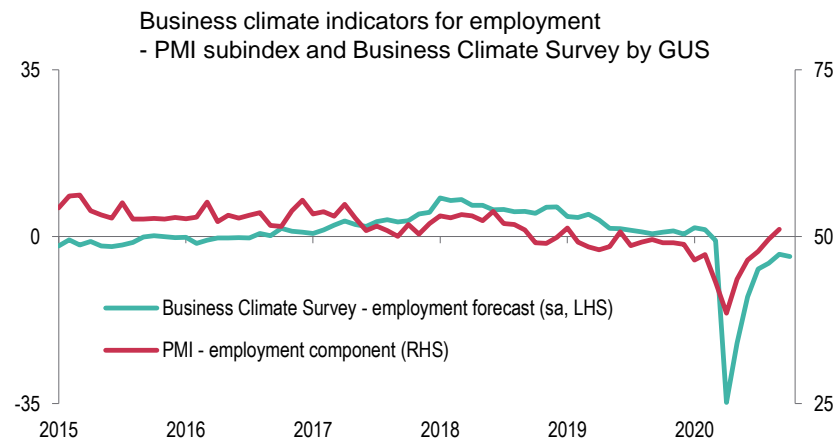
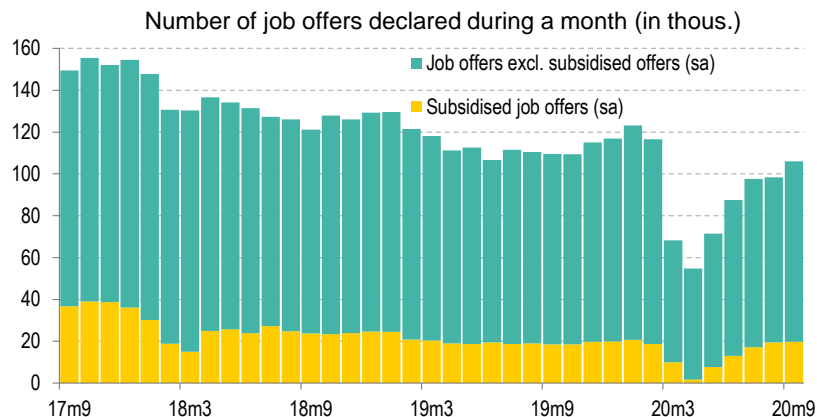
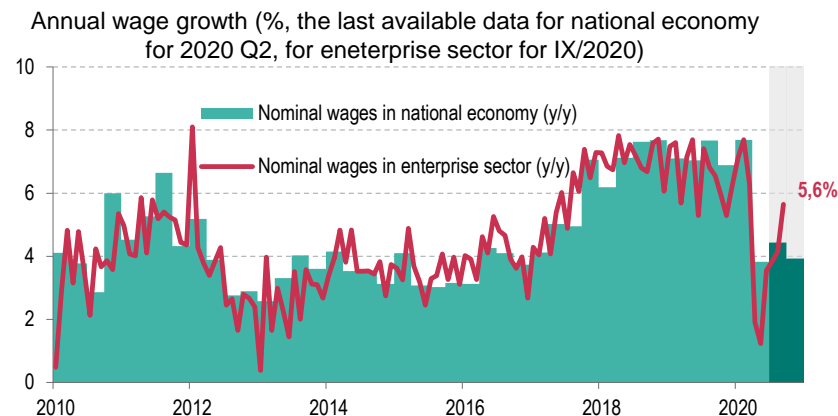
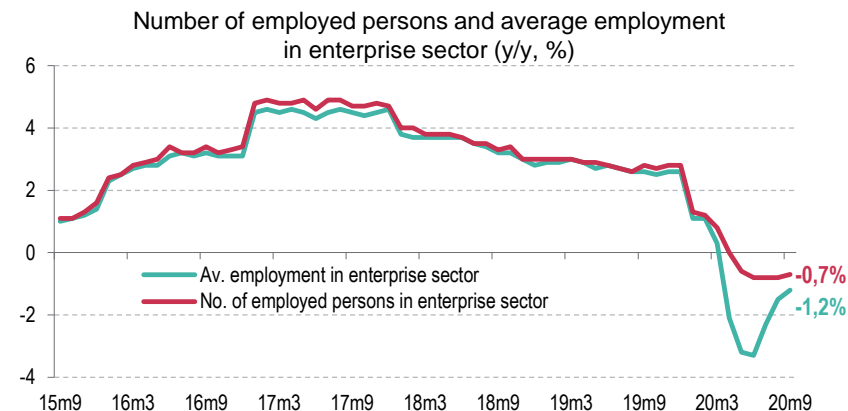
Decomposition of changes in the number of employed persons by main sectors (y/y)



Number of employees - decomposition of y/y dynamics by type of contract (%)



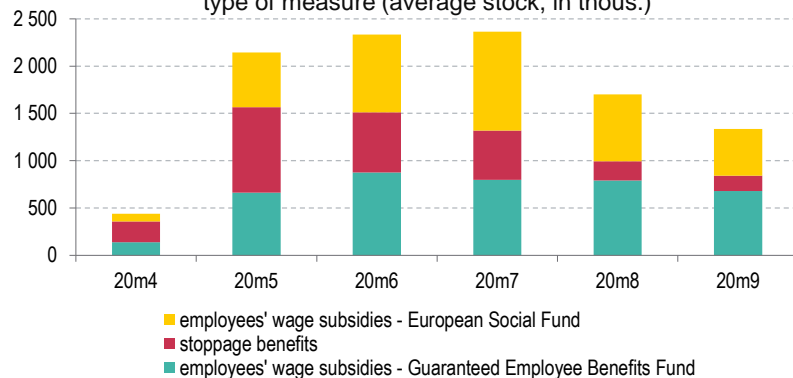
## Despite the improvement, the demand for labour in 2020 Q3 remains at a reduced level.



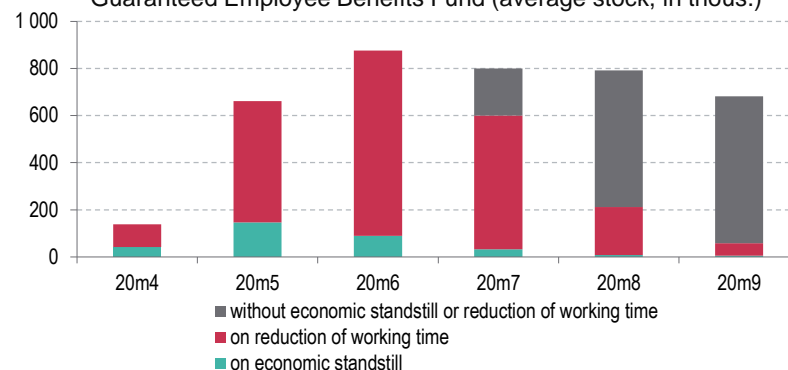


## The scale of adjustments on the labour market is mitigated by the anti-crisis measures.

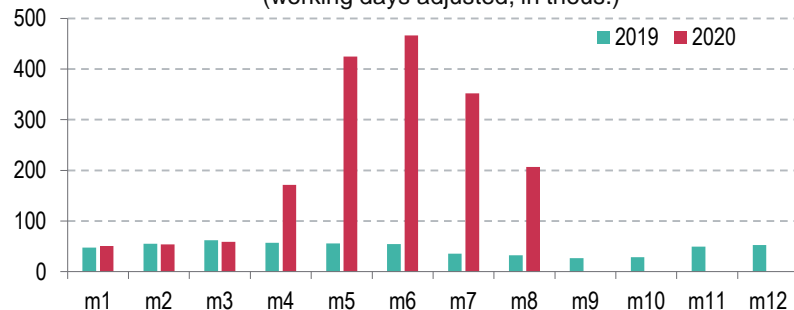
Number of employees benefiting from the *Anti-crisis Shield* by type of measure (average stock, in thous.)



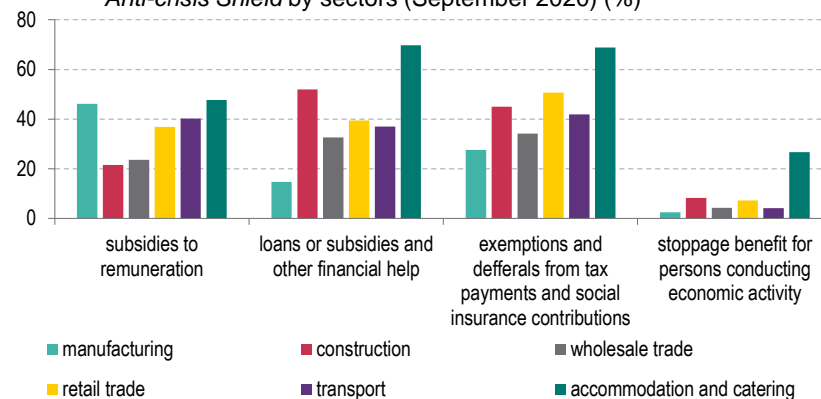
Number of employees with remuneration subsidies from the Guaranteed Employee Benefits Fund (average stock, in thous.)



Average daily number of people on the care allowance (working days adjusted, in thous.)

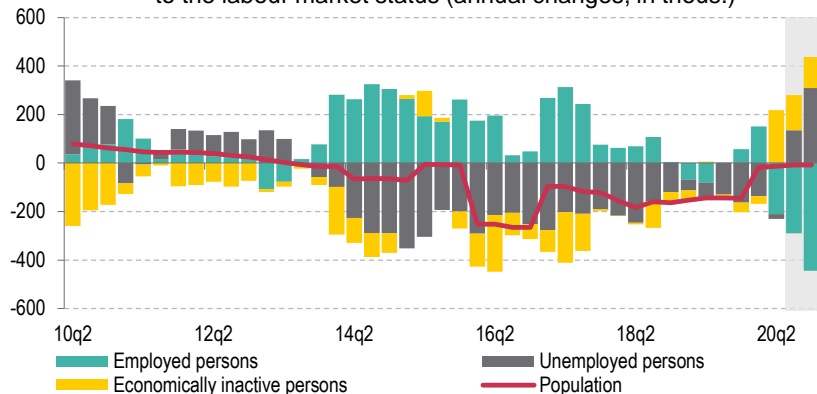


The share of enterprises using the support and facilities from the *Anti-crisis Shield* by sectors (September 2020) (%)

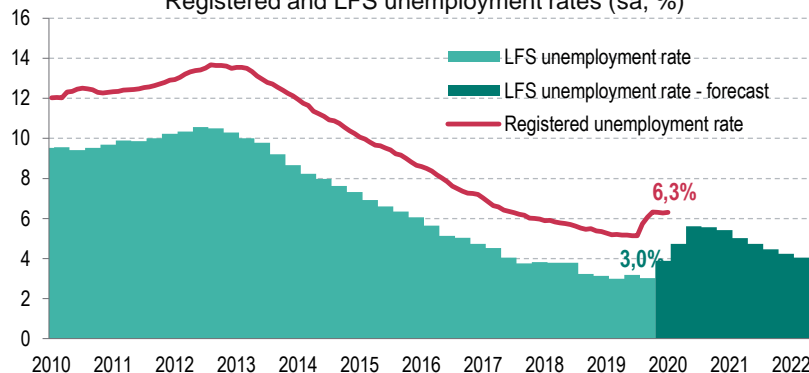


## The rise in the unemployment rate remains limited.

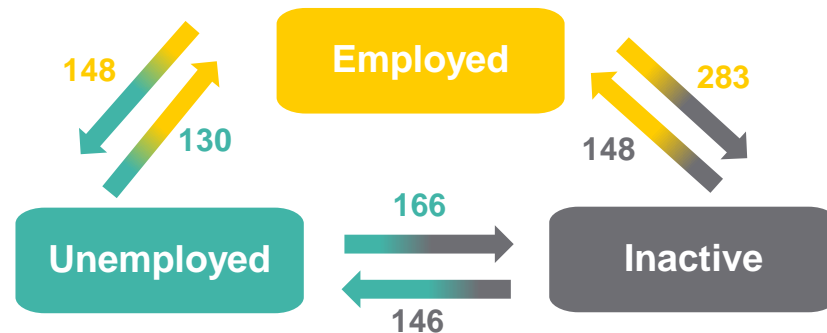
Changes in the basic population groups, distinguished according to the labour market status (annual changes, in thous.)



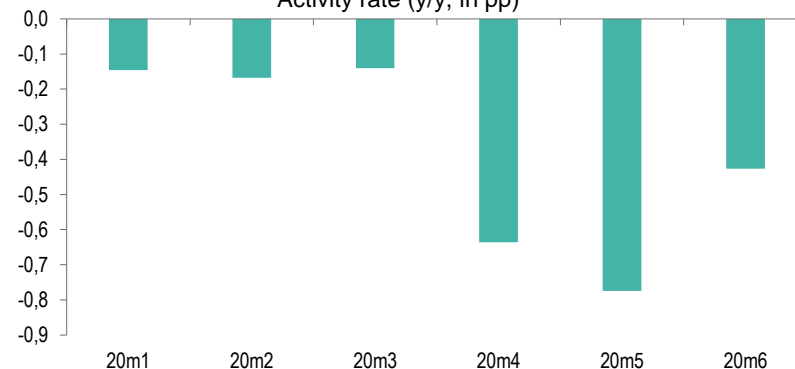
Registered and LFS unemployment rates (sa, %)



Flows on the labor market (between 2020 Q2 and 2020 Q1, LFS, in thous.)

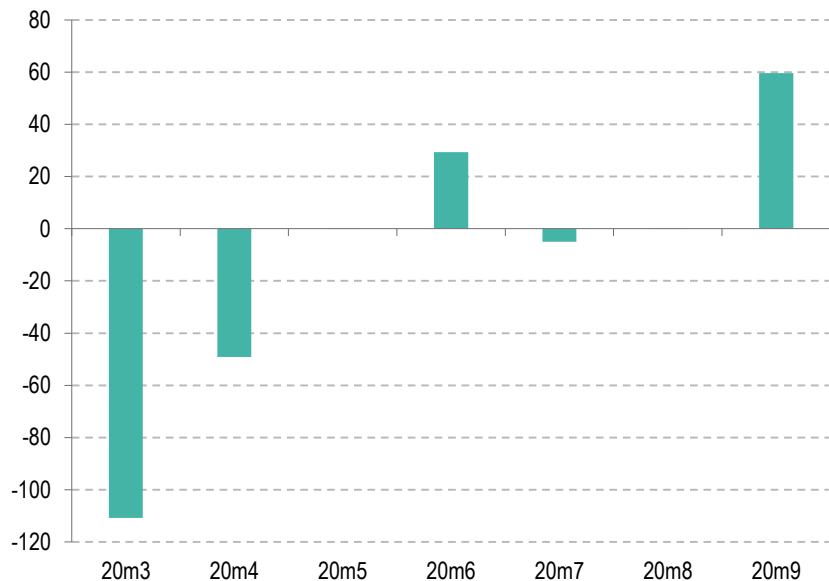


Activity rate (y/y, in pp)

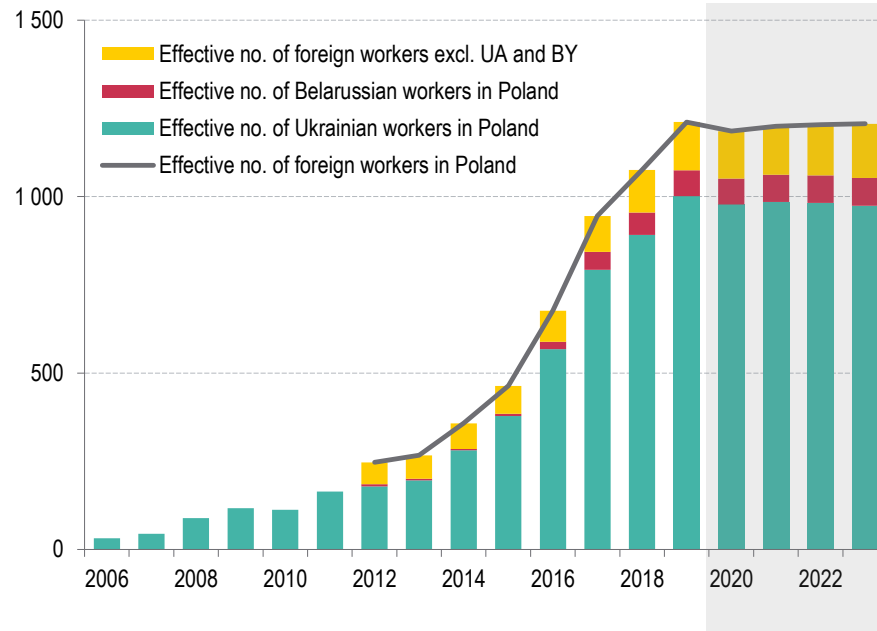


## Increase of the number of immigrants in 2020 Q3 after a decline in 2020 Q2.

Balance of the number of foreigners crossing Polish borders with Ukraine (in thous.)



Number of foreigners working in Poland - forecast (in thous.)



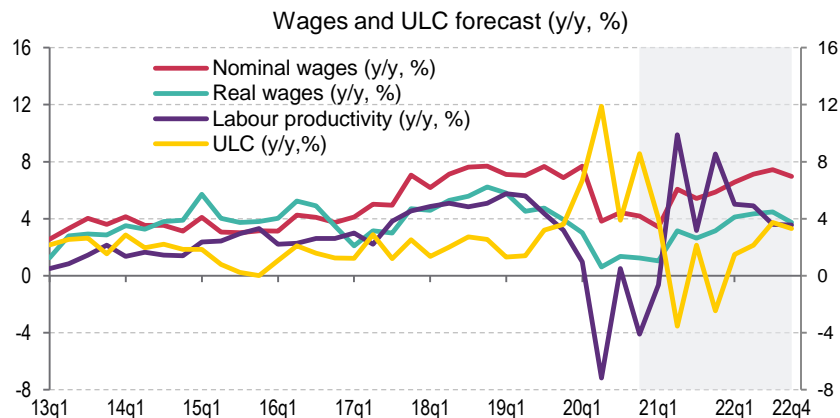
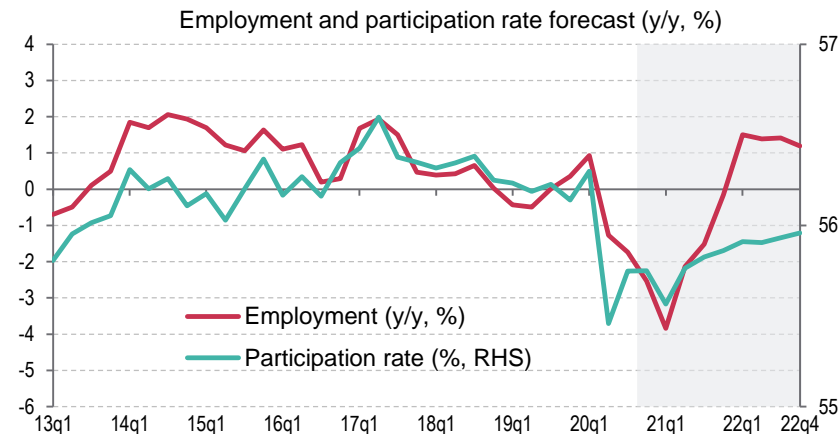
## The negative impact of the pandemic on the labour market in 2020-2021

	20q2		20q3*		20q4*	
Gross wages (y/y, %)	3.8	(1.2)	4.4	(0.8)	4.2	(1.3)
Real wages (y/y, %)	0.6	(-2.0)	1.4	(-1.8)	1.2	(-1.3)
Employment LFS (y/y, %)	-1.3	(-1.9)	-1.7	(-4.3)	-2.5	(-4.6)
ULC (y/y, %)	11.9	(10.9)	3.9	(4.9)	8.6	(1.9)
Labour productivity (y/y, %)	-7.2	(-8.8)	0.5	(-3.8)	-4.1	(-0.8)
Unemployment rate LFS (%)	3.0	(4.9)	3.9	(5.9)	4.7	(6.4)
Participation rate (%)	55.5	(56.8)	55.7	(55.7)	55.7	(55.6)

\* 2020 Q3 and 2020 Q4 - forecast

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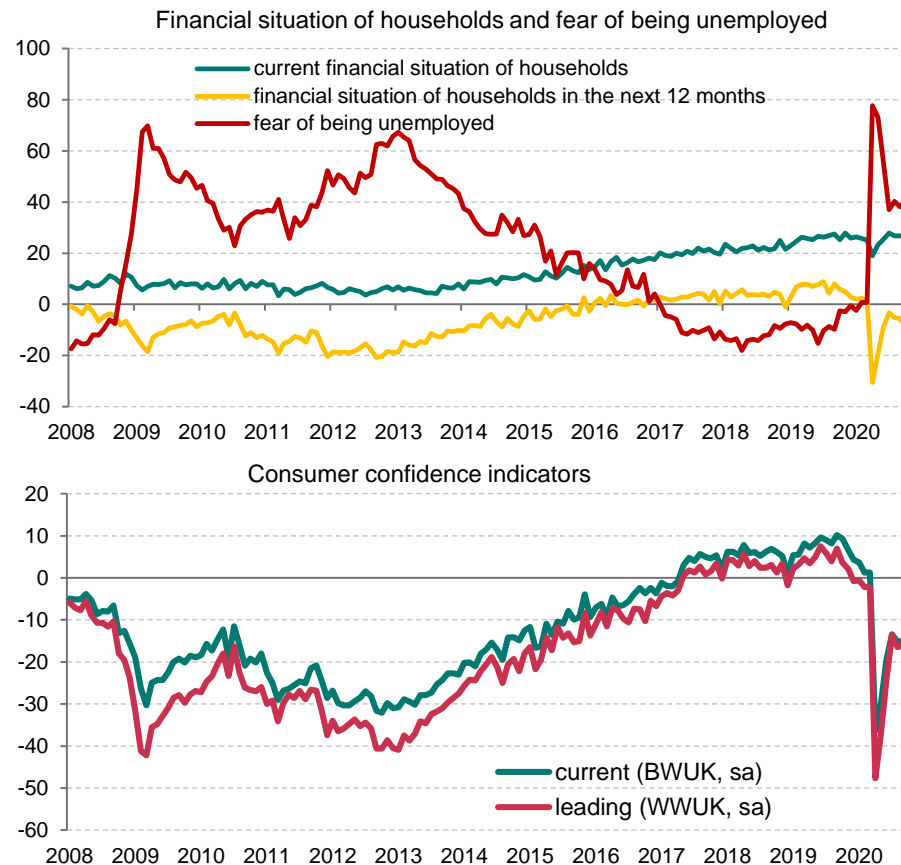
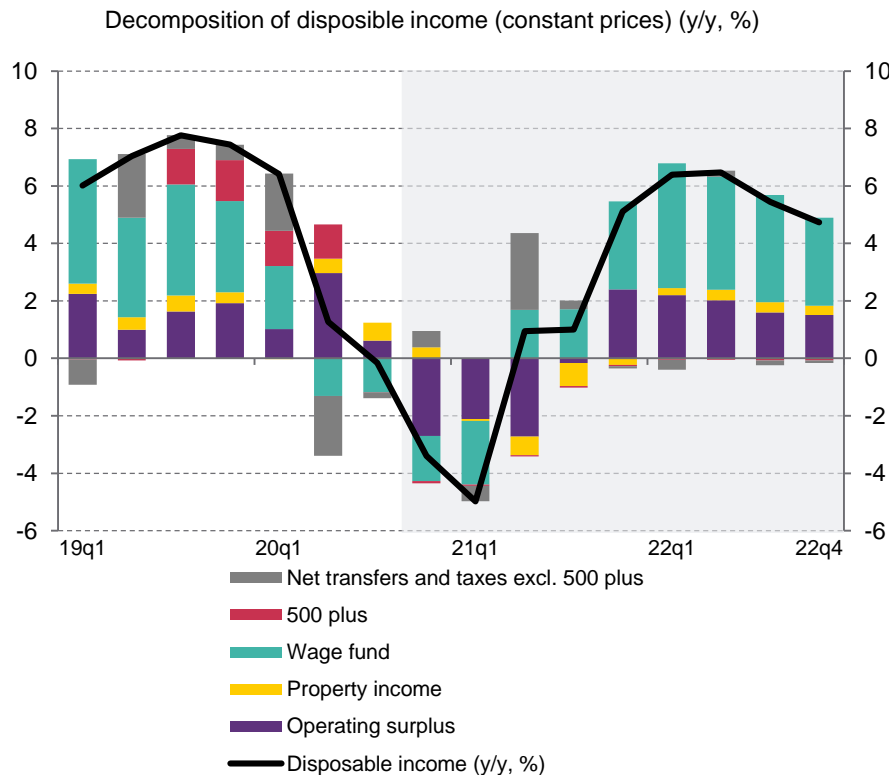
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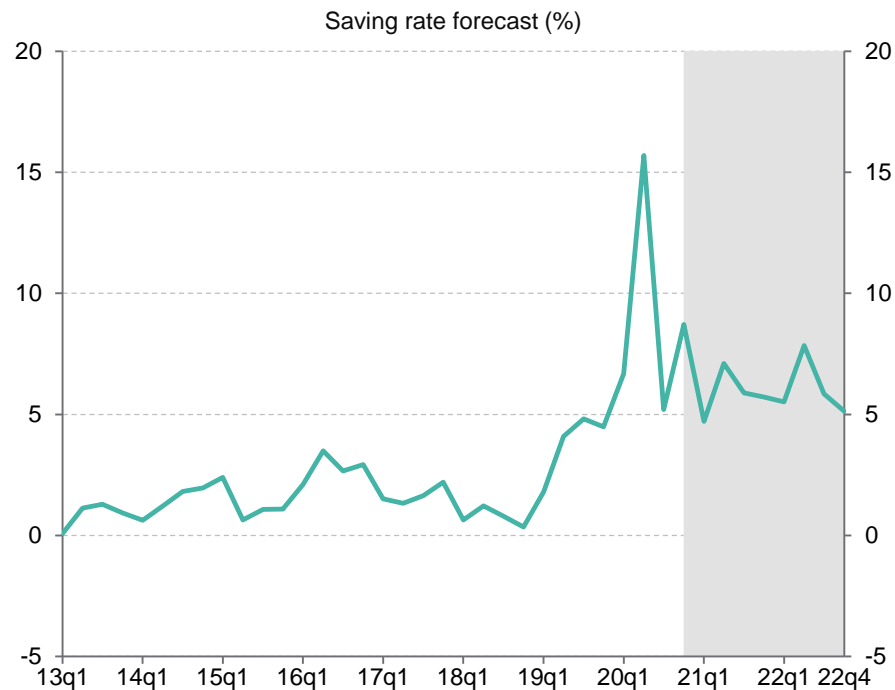
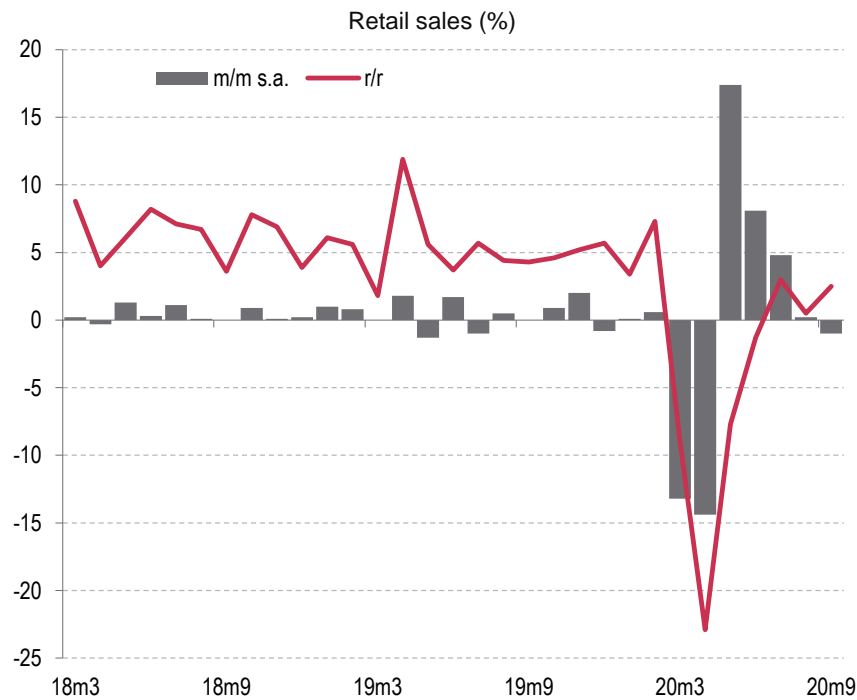
Uncertainty

## Consumption demand

## Deterioration of financial situation of households. Still poor consumer sentiment.

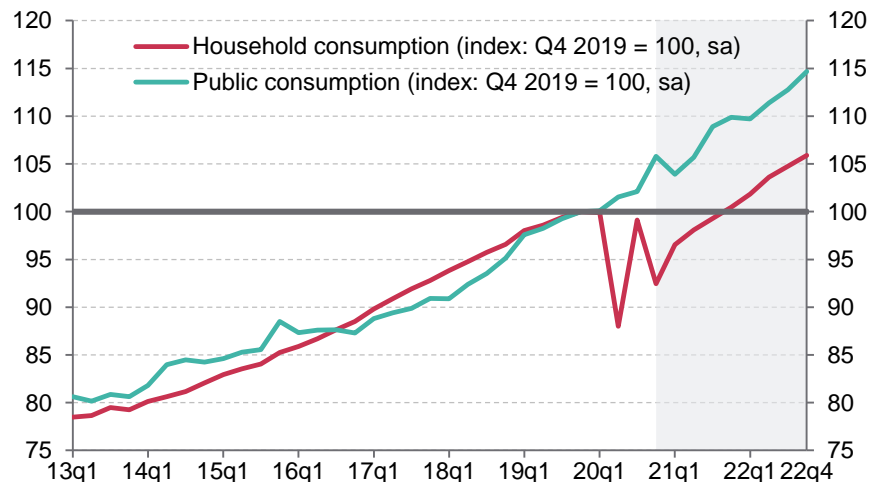


**Retail sales rebound in 2020 Q3, reaching its pre-pandemic level.  
Deterioration of the outlook for 2020 Q4.**



## Another decline in consumption in 2020 Q4. Gradual increase in the longer horizon.

Consumption forecast



y/y, %	2019	2020	2021	2022
Household consumption	4.0	-4.2	3.9	5.5
Public consumption	6.2	3.6	4.6	4.7

### Household consumption :

- ⇩ ⇧ Worsening of the income situation of consumers. Gradual upturn in the longer horizon.
- ⇩ Restrictions imposed due to pandemic escalation.
- ⇩ Changing consumer behaviour for fear of contamination.
- ⇩ High uncertainty – savings rate increase.
- ⇧ Fiscal and monetary policy support.

### Public consumption :

- ⇧ Increase in health care spending related to the pandemic.
- ⇧ Tourism vouchers (the highest impact in 2021).
- ⇩ Wage freeze in public sector in 2021.
- ⇩ Neutral fiscal policy assumed in the longer projection horizon.



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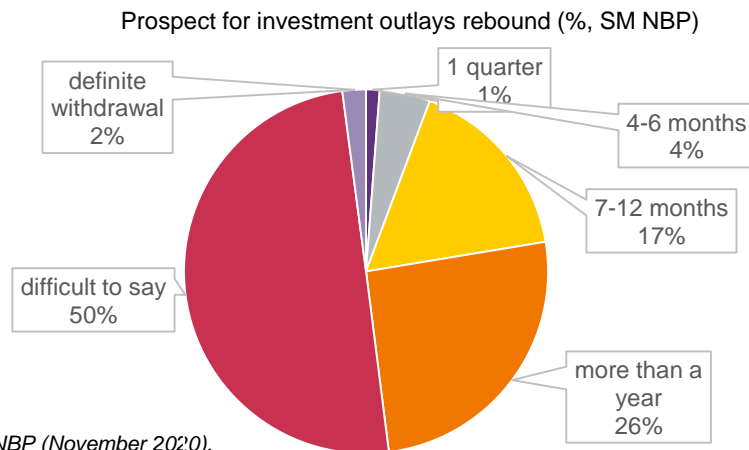
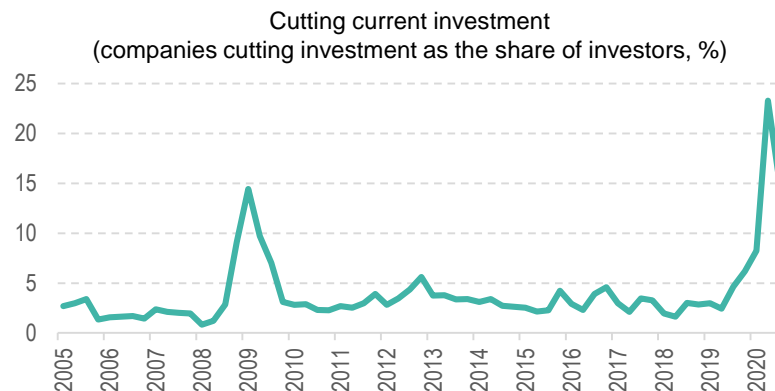
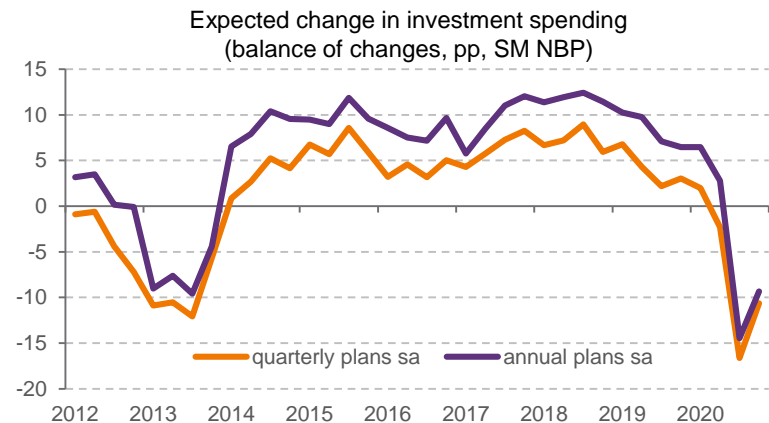
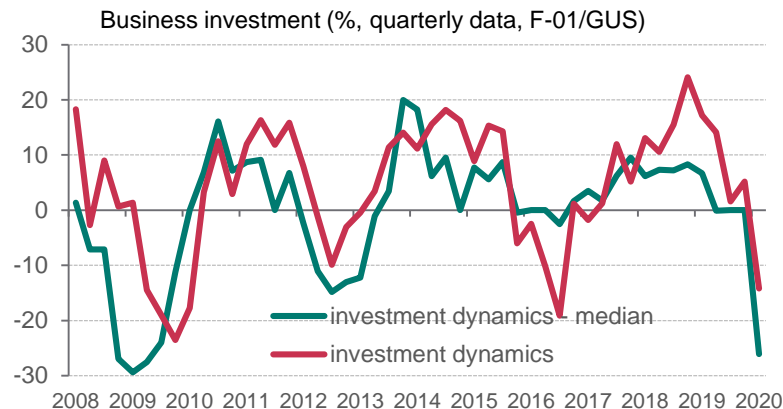
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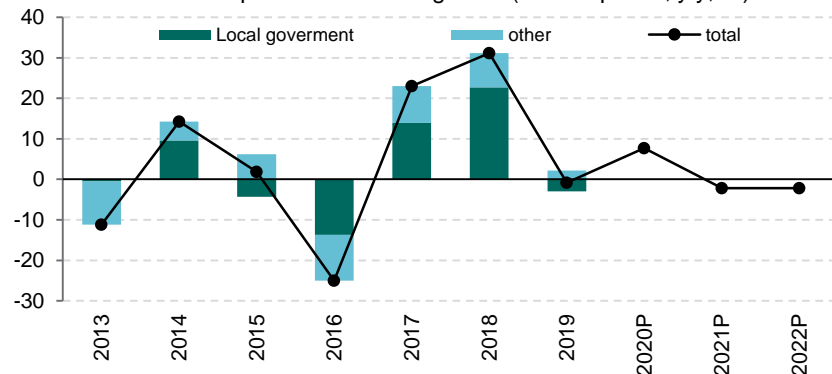
## Profound and widespread slump in investment outlays of enterprise sector. Uncertain and rather distant perspective of returning to the upward growth path.



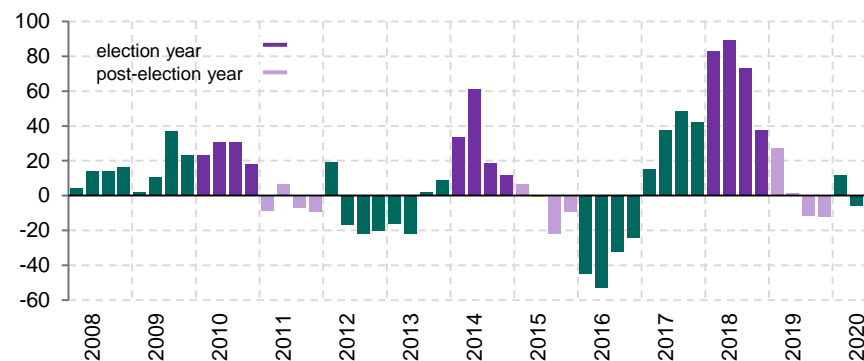
Source: GUS, SM NBP (November 2020).

## High EU funds absorption supports economic growth in 2020.

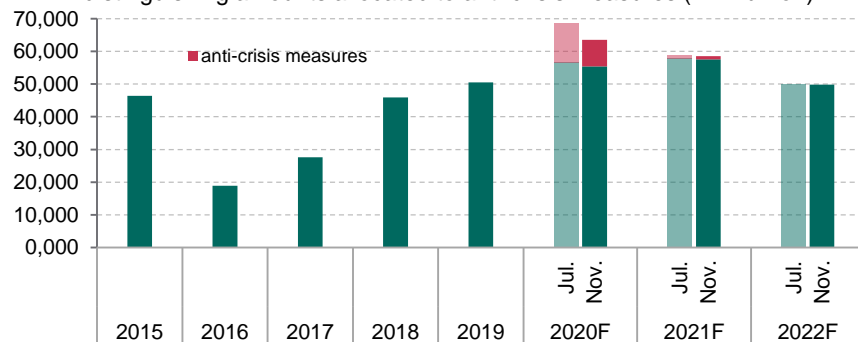
Contributions to public investment growth (current prices, y/y, %)



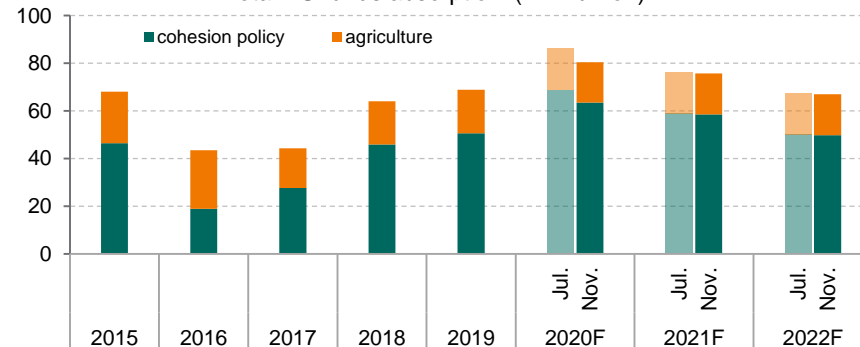
Local government investment expenditure (quarterly data, current prices, y/y, %)



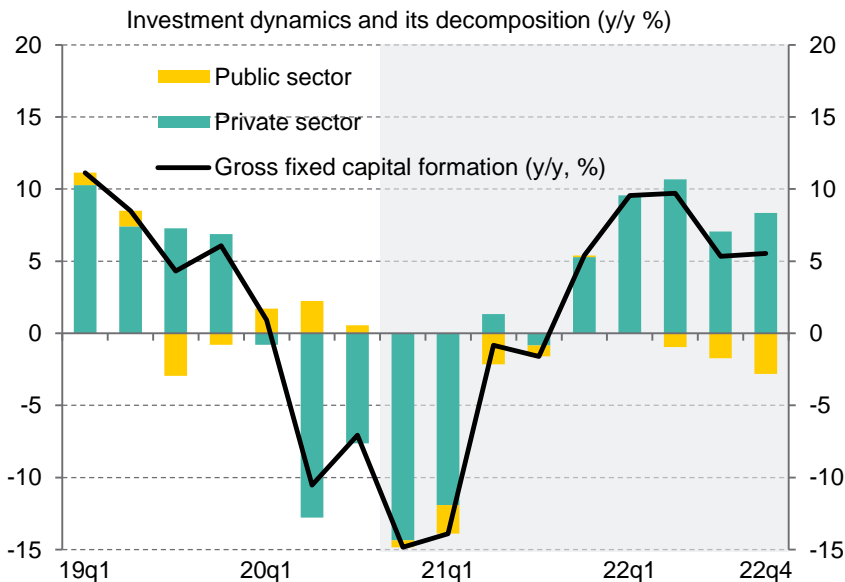
EU cohesion policy funds absorption, distinguishing amounts allocated to anti-crisis measures (PLN billion)



Total EU funds absorption (PLN billion)



## Sustained decline in investment rate, due to high uncertainty and only a limited rebound in demand.



### Private investment:

- ↕ ↗ Drop in demand in 2020Q4 and its gradual improvement afterwards.
- ↕ High uncertainty, restrictions imposed on enterprises and lower propensity for long-term commitment of economic agents .
- ↕ Unfavourable financial situation of large share of agents.
- ↗ Relatively sound residential demand, supported by heightened households' saving rate.
- ↗ ↕ In 2020 marked increase in EU funds absorption (contracted to investment), followed by decreases in the years 2022-2022.

### Public investment :

- ↗ In 2020, an increase in public investment, mainly resulting from the road and rail investment schedule, as well as the high EU funds absorption (including anti-crisis measures resources).
- ↕ Marked drop in EU funds absorption in 2022, due to the end of the current EU financial perspective.

y/y, %	2019	2020	2021	2022
Gross fixed capital formation	7.2	-8.2	-3.0	7.5

Outline:

Pandemic: economic  
fallout

Projection 2020 – 2022

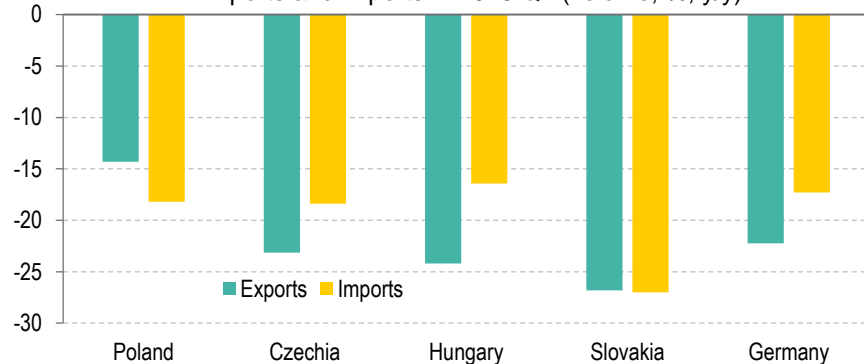
- Economic conditions abroad
- Labour market
- Consumption demand
- Investment demand
- Foreign trade
- GDP
- Inflation

Uncertainty

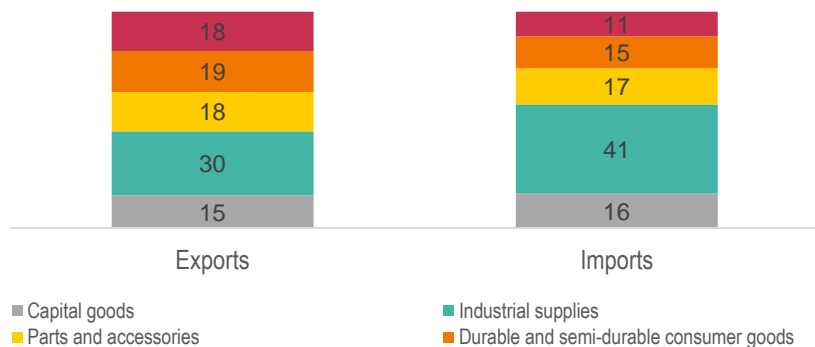
## Foreign trade

## Rebound in exports in 2020 Q3 after a significant slump in foreign trade.

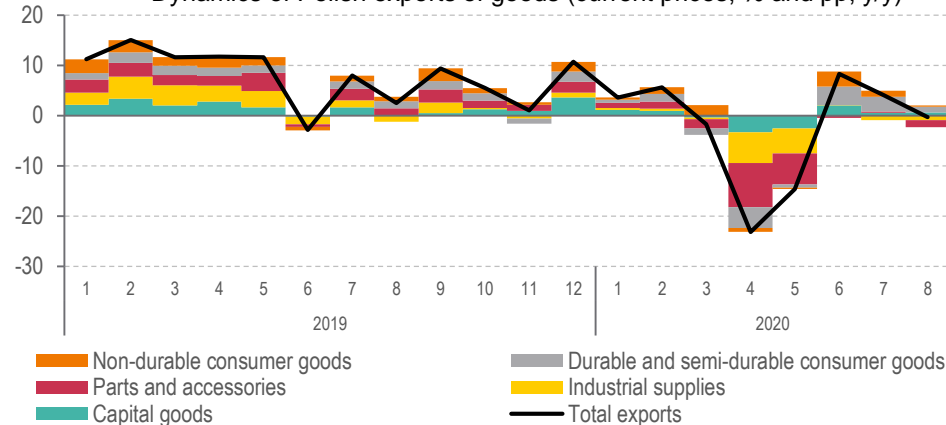
Exports and imports in 2020 Q2 (volume, %, y/y)



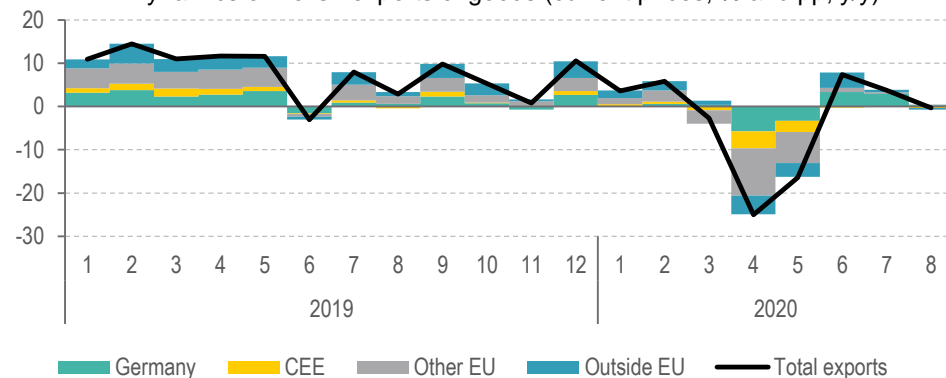
Product structure of Polish exports and imports of goods (% , 2019, according to BEC)



Dynamics of Polish exports of goods (current prices, % and pp, y/y)

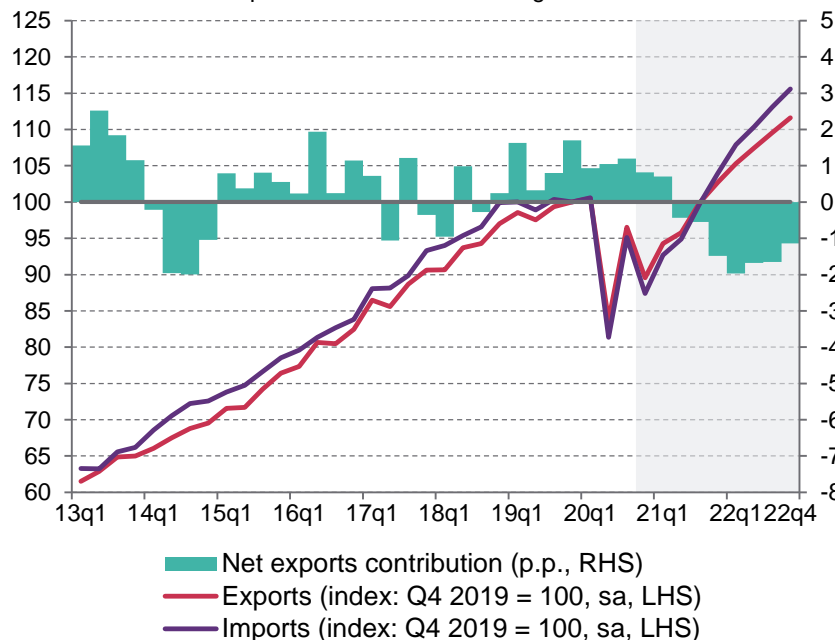


Dynamics of Polish exports of goods (current prices, % and pp, y/y)



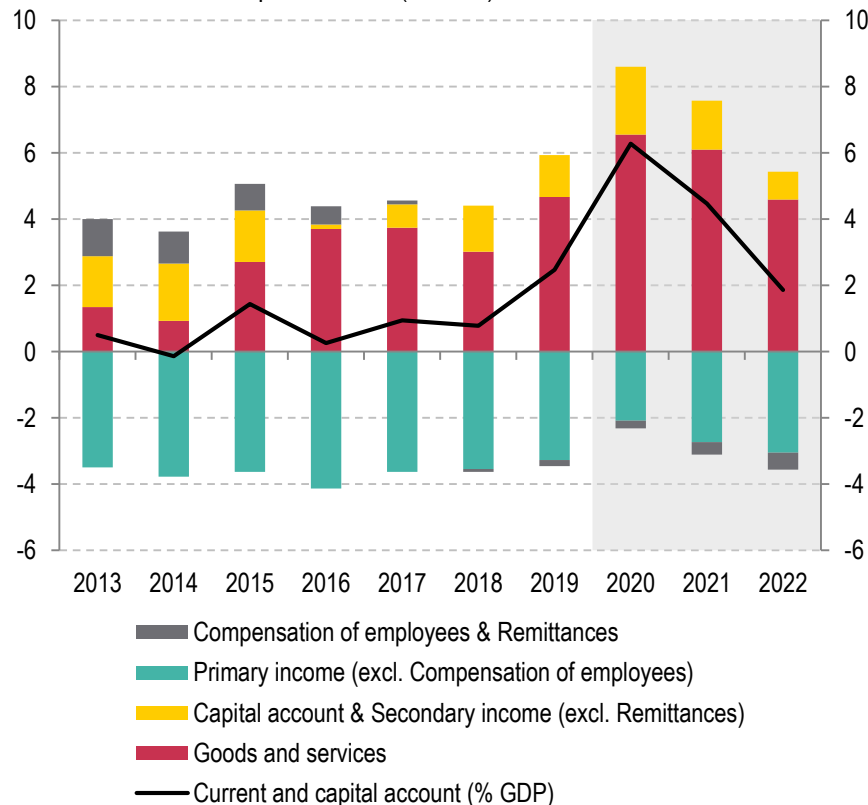
**Due to anti-cyclical nature of net exports, its contribution to GDP growth will decrease and become negative in the longer projection horizon.**

Net exports' contribution to GDP growth



y/y, pp	2019	2020	2021	2022
Net exports contribution to growth	1.1	1.0	-0.4	-1.6

Current and capital account (% GDP)



Outline:

Pandemic: economic  
fallout

Projection 2020 – 2022

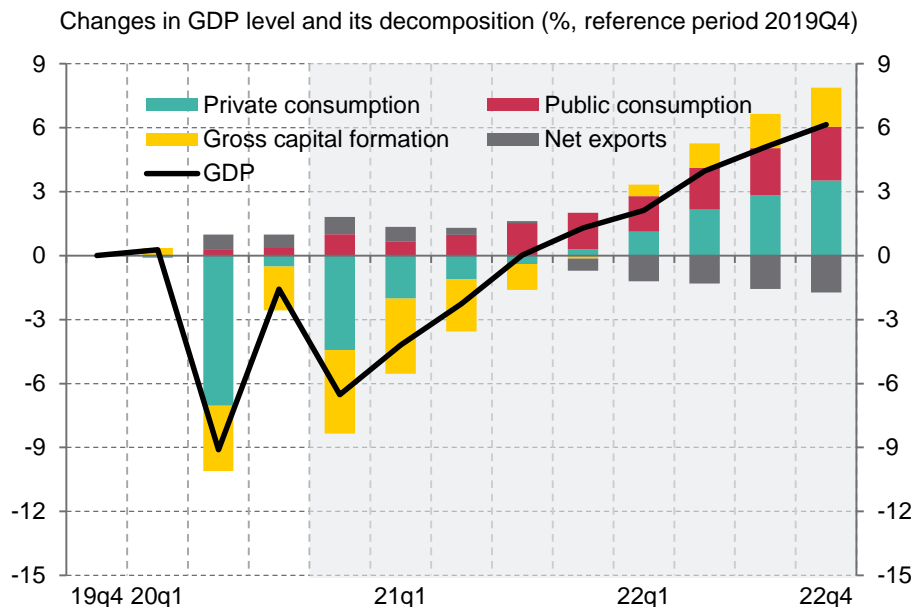
- Economic conditions abroad
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Uncertainty

## Gross domestic product



## After the GDP decline in 2020Q4, only a limited recovery in economic activity expected in the years 2021-2022.



y/y, %	2019	2020	2021	2022
GDP	4.1	-3.5	3.1	5.7

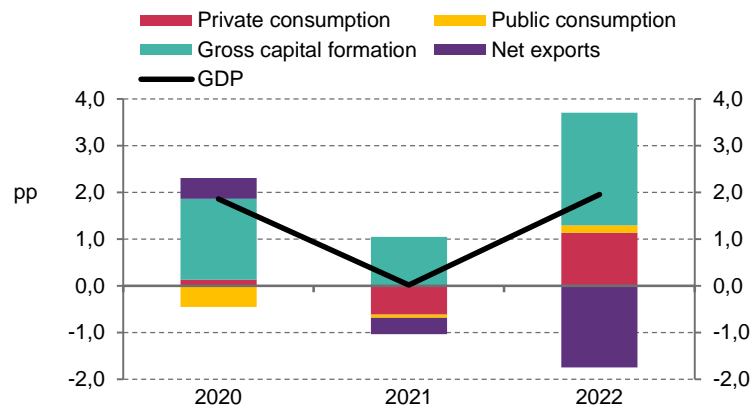
↓ In 2020Q4 there will be another slowdown in economic activity, driven by the restrictions imposed due to the second wave of the COVID-19 pandemic and by the persistent high uncertainty about the further course of the pandemic.

↑ In the years 2021-2022, **private consumption** will gradually increase. However, due to the increase in uncertainty, imposed restrictions, a moderate improvement in the labor market and changes in consumer preferences, private consumption will reach the level from 2019Q4 in the second half of 2021.

↓ Sustained decline in **investment rate**, as a result of increased uncertainty, pandemic-related restrictions and unfavorable financial standing of companies, as well as the negative contribution of the EU funds absorption to the investments growth in 2021-2022.

↑ ↓ **The contribution of net exports to GDP growth**, in line with its anti-cyclical nature, will be positive in 2020 and will drop below zero in the following years.

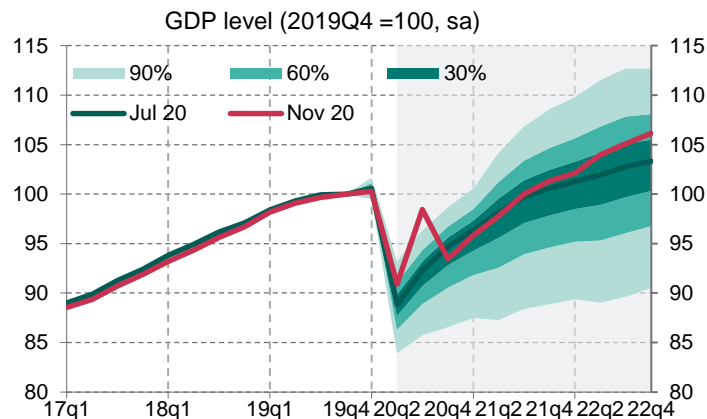
## November projection of GDP compared to the July projection



↑ Stronger than expected impact on consumption and investments of government anti-crisis programs supporting the labor market and entrepreneurs.

↑ Better than expected data on economic activity and the situation on the labor market in 2020 Q2 and Q3.

↓ Worsening of the COVID-19 epidemic situation, hence broadening of the scope of current restrictions and introduction on new constraints in Poland and abroad from 2020Q4.



GDP y/y, %	2020	2021	2022
July 2020	-5.4	4.9	3.7
November 2020	-3.5	3.1	5.7

Outline:

Pandemic: economic  
fallout

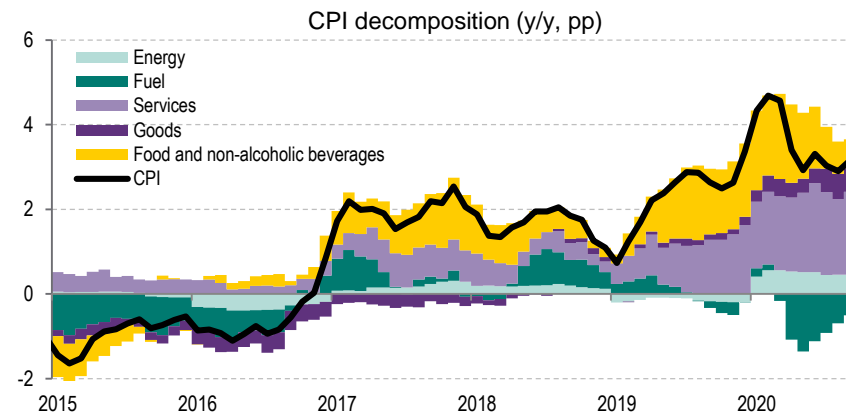
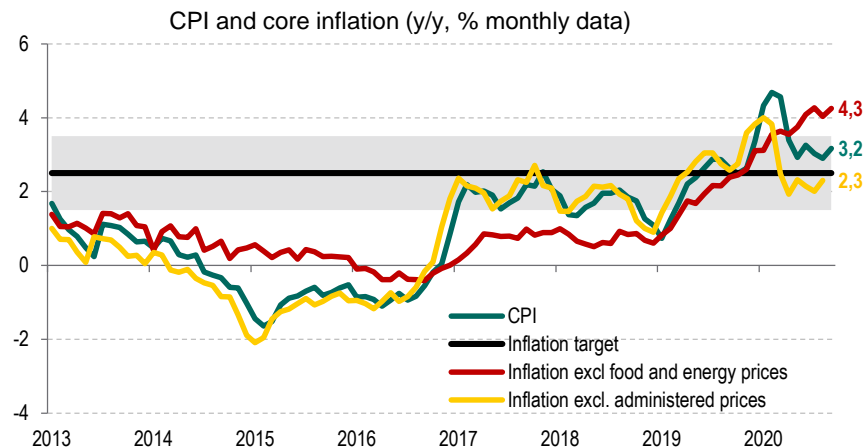
Projection 2020 – 2022

- Economic conditions abroad
- Labour market
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Uncertainty

## Inflation

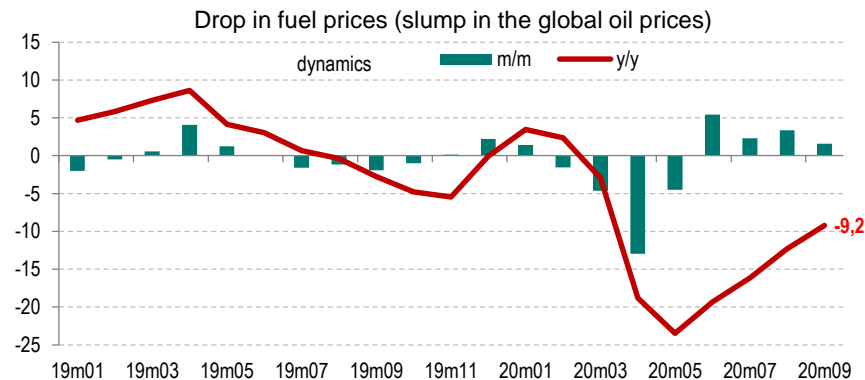
**In 2020Q3, the decline in inflation resulted from lower food price growth with rising fuel prices and core inflation.**



y/y, %	20q2		20q3		20q4*	
CPI inflation	3.2	(3.2)	3.0	(2.8)	2.9	(2.7)
Core inflation	3.8	(3.7)	4.2	(3.3)	4.2	(3.0)
Food prices	6.4	(6.4)	3.2	(4.7)	2.0	(3.9)
Energy prices	-4.2	(-4.3)	-1.6	(-2.1)	-0.4	(-0.4)

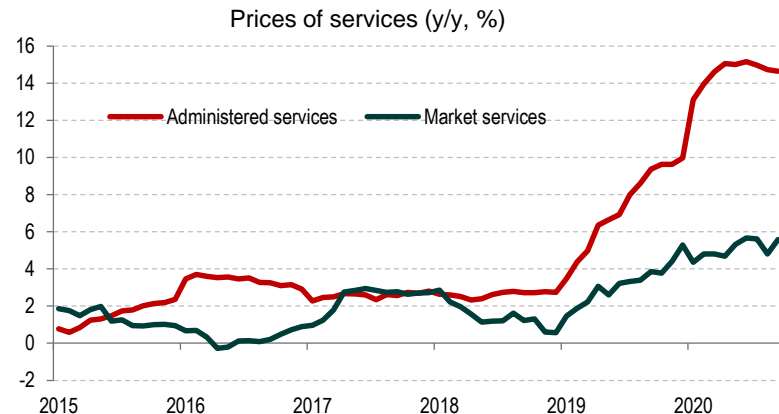
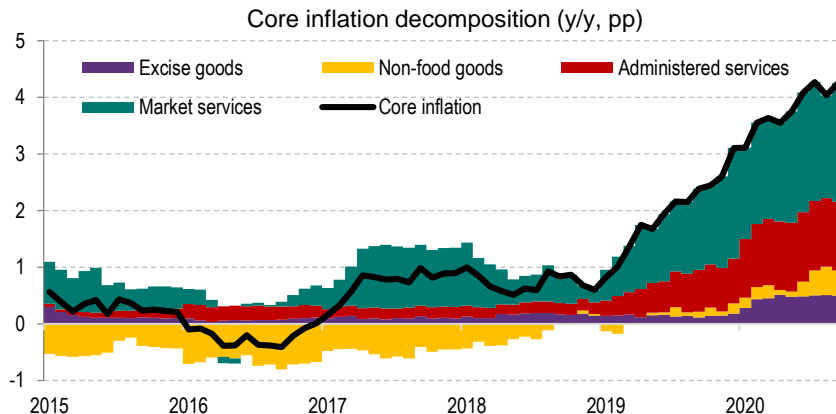
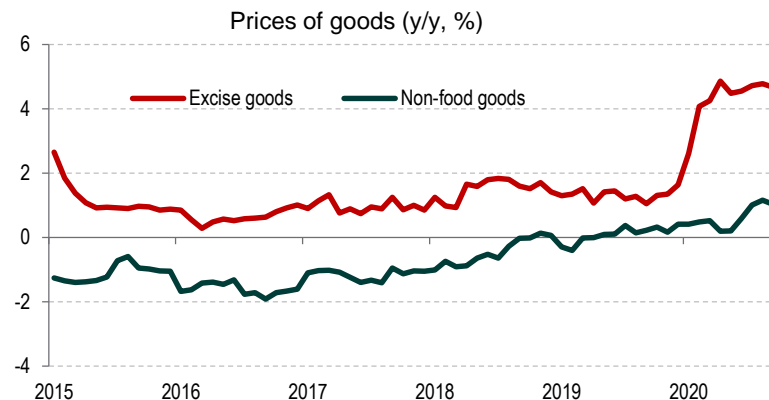
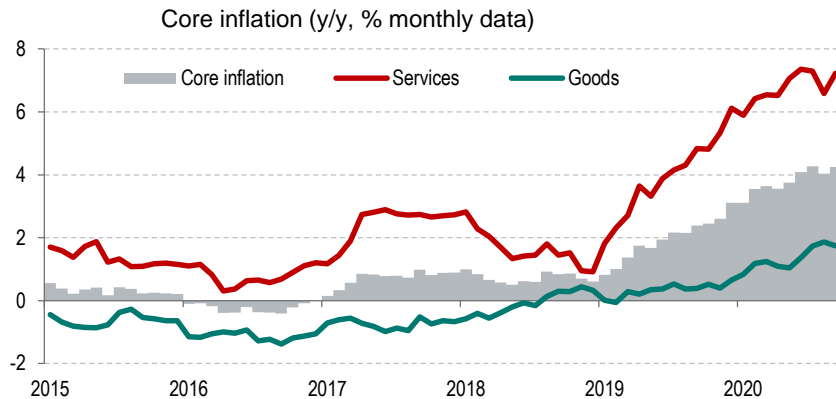
\* 2020Q4 - forecast

Values from the July projection are given in brackets (seasonally adjusted). Indicators with values higher than in the July projection are marked green, whereas indicators with lower values are marked red.

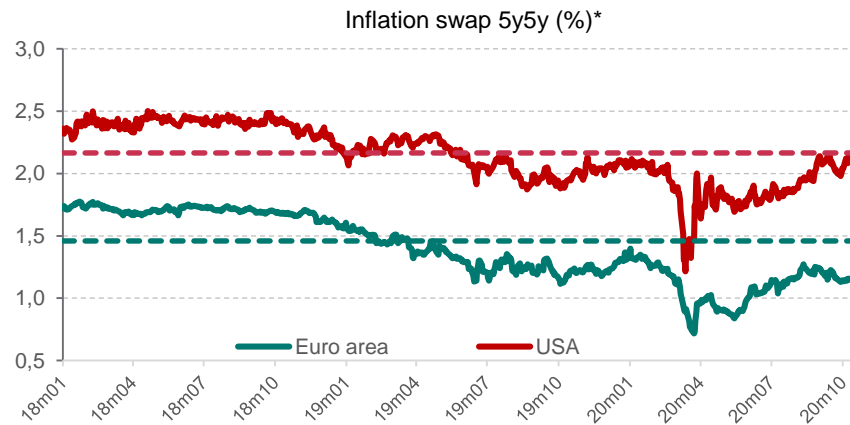
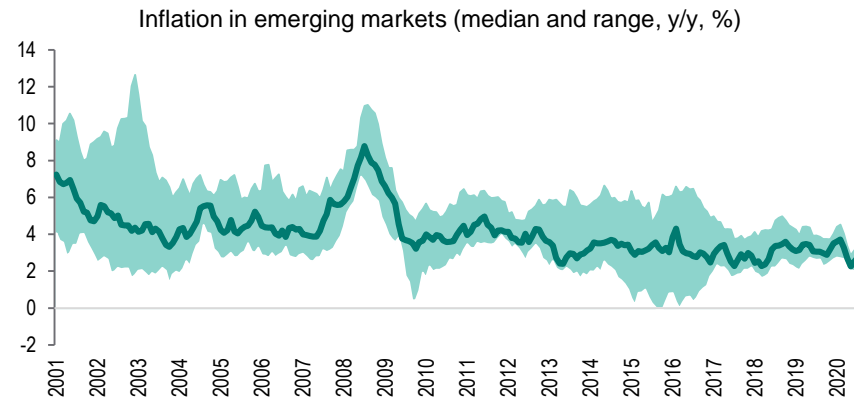
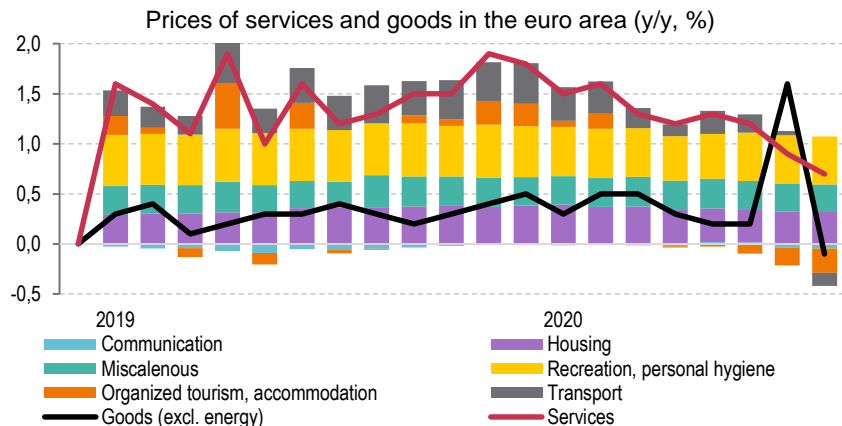
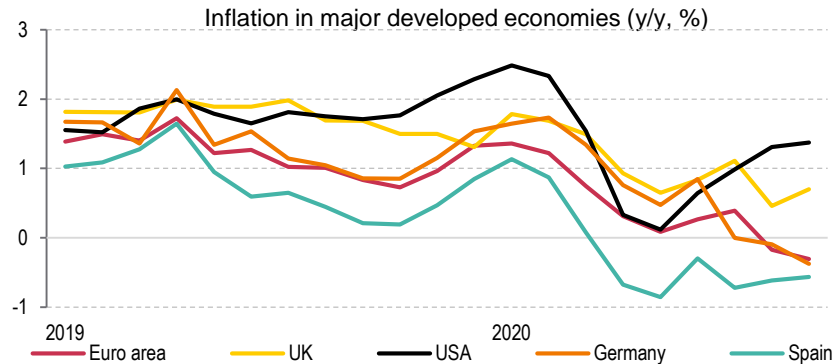


Source: GUS, NBP data.

## Increase in core inflation in 2020Q3, as a result of high growth of prices of services and non-food products.

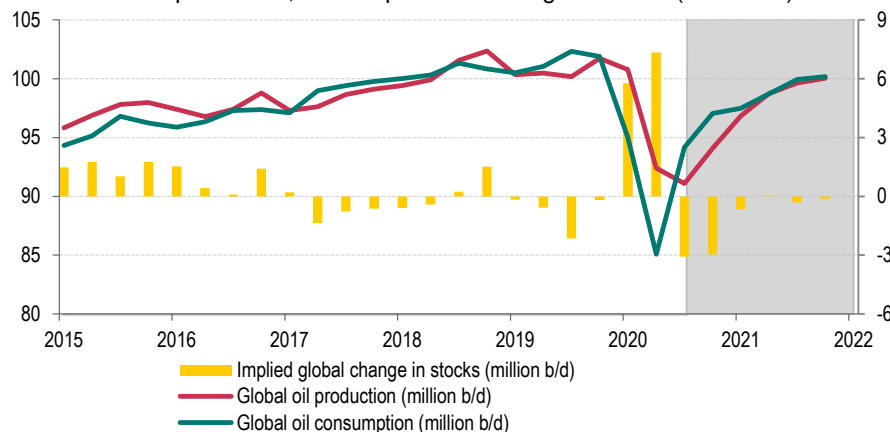


## Low inflation in the economic environment of Poland due to the pandemic. Varying inflation levels in the euro area and the United States.

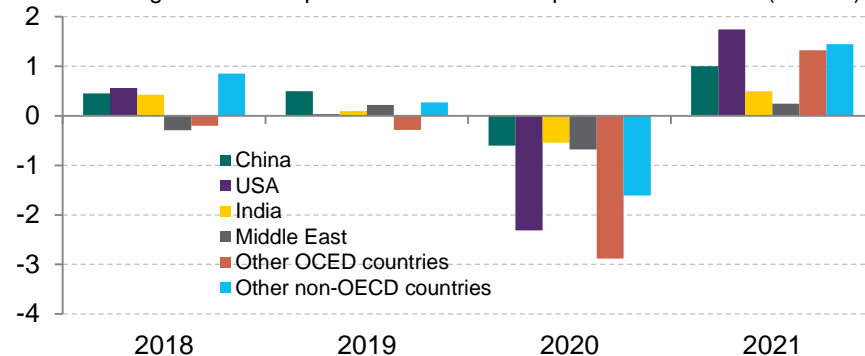


## Oil prices stabilize at a reduced level over the projection horizon.

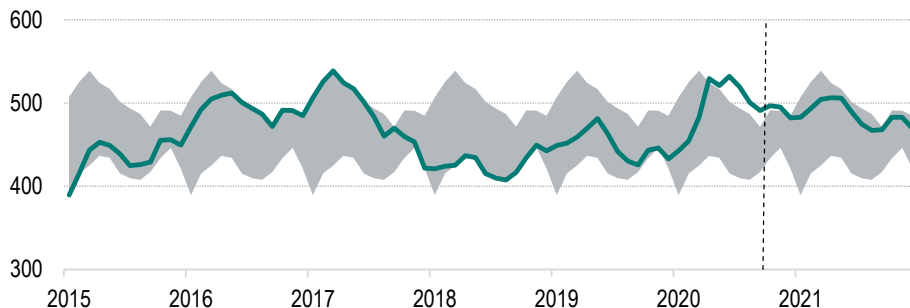
Global oil production, consumption and change in stocks (million b/d)



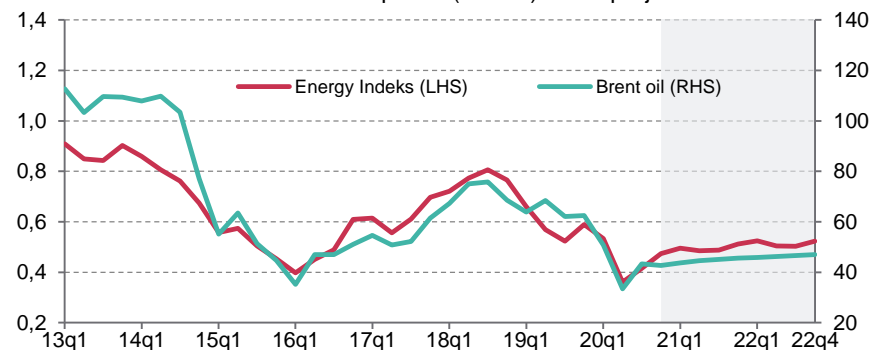
Changes in consumption of crude oil and liquid fuels worldwide (mln b/d)



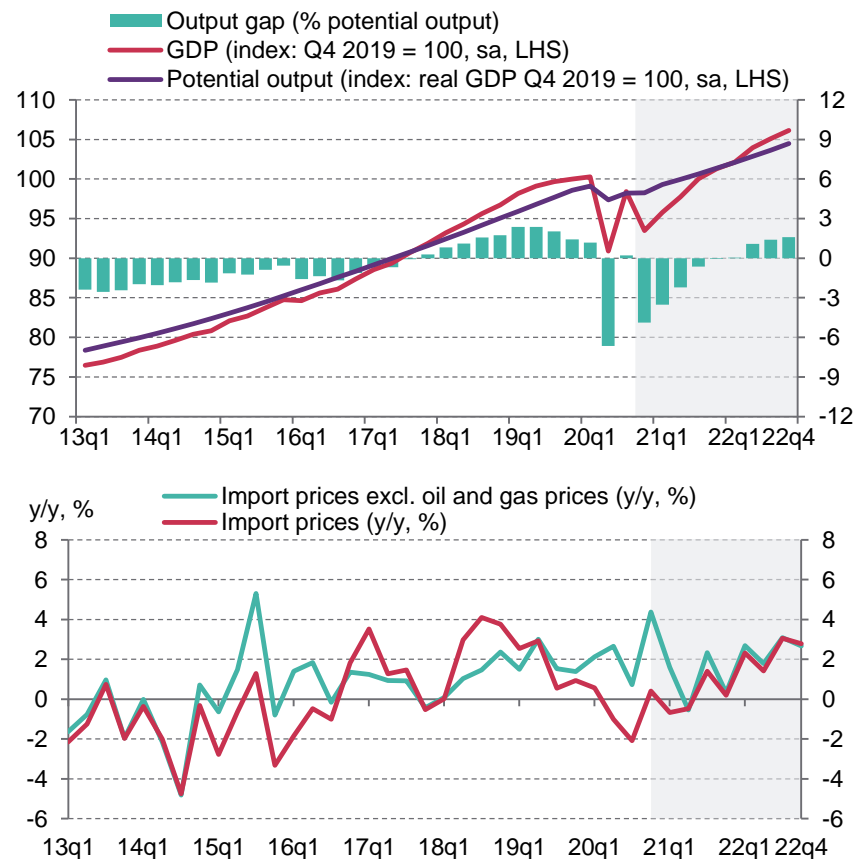
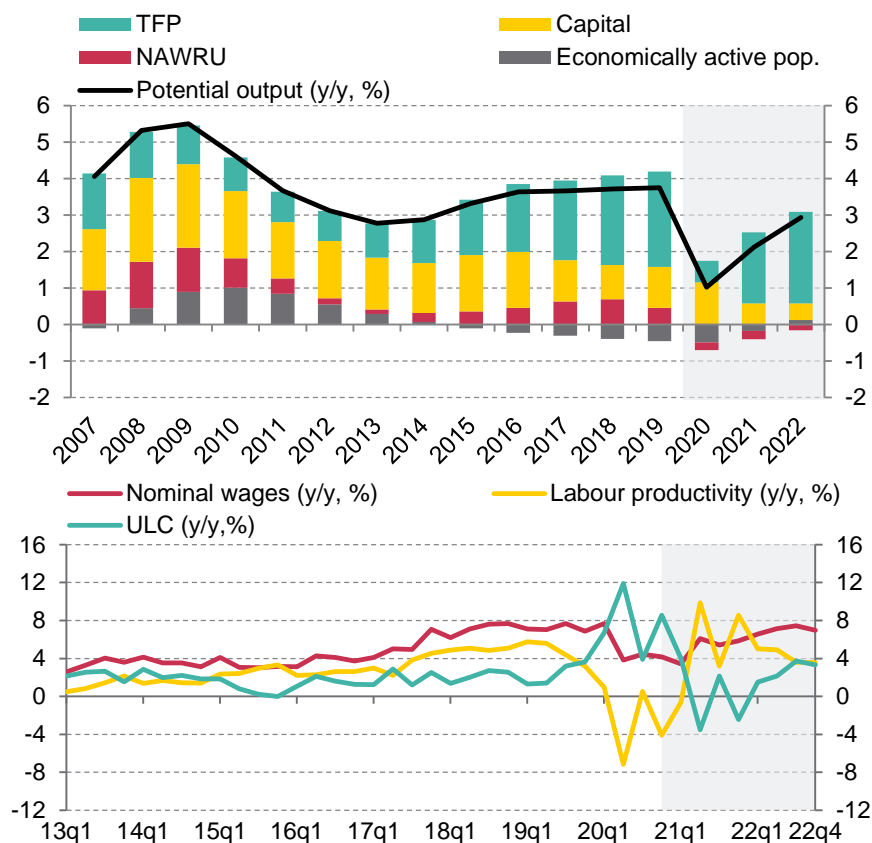
Market crude oil inventories in the US (million b/d)



Energy commodities' prices index (USD, 2011=1) and crude oil prices (USD/b) in the projection

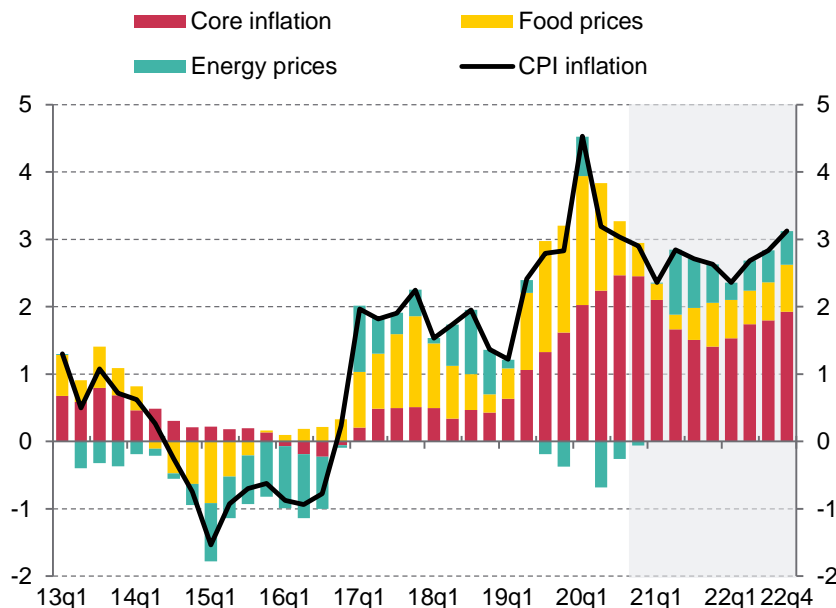


## Demand pressure lowers inflation in 2021 and raises CPI in 2022.





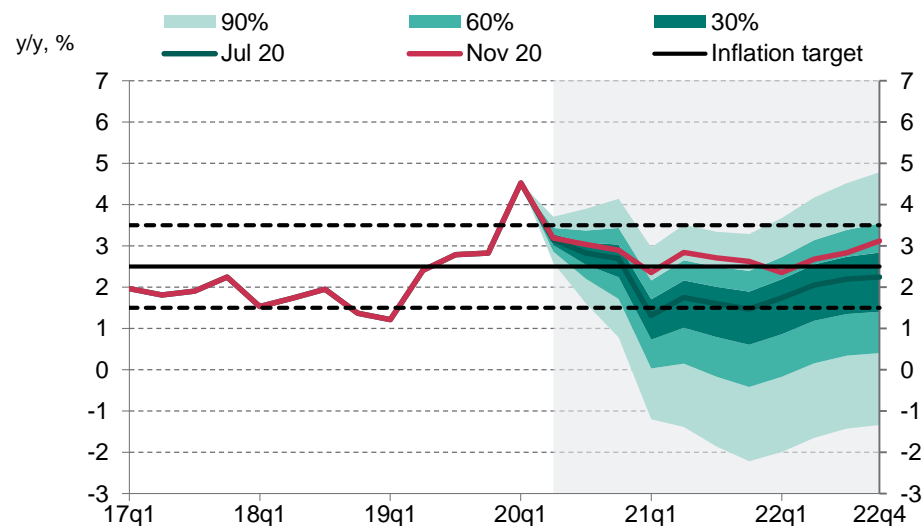
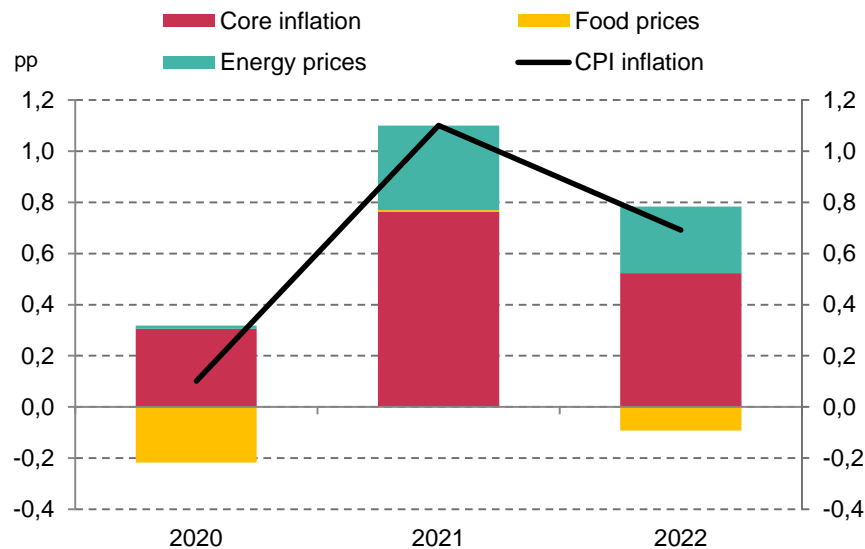
**Throughout the projection horizon, CPI inflation will remain within the range for deviations from the NBP inflation target set at 2.5% +/- 1 percentage point.**



y/y, %	2019	2020	2021	2022
CPI inflation	2.3	3.4	2.6	2.7

- ↓ Relatively low demand pressure resulting from only limited economic recovery in 2021. In 2022 its further growth.
- ↓ Slight fall of unit labor costs in 2021 and moderate acceleration in 2022.
- ↓ ↑ Low level of energy commodity prices on global markets this year, followed by an increase in 2021-2022.
- ↑ Increase in electricity prices for households from January 2021, due to the raise of prices of CO<sub>2</sub> emission allowances and wholesale prices on the commodity power exchange in recent months.
- ↑ Further increase of waste disposal fees introduced by several local governments.
- ↑ Introduction of the sugar levy in January 2021.
- ↓ High food supply in the coming quarters (improvement in agrometeorological conditions).

## November CPI inflation projection compared to the July projection



CPI y/y, %	2020	2021	2022
July 2020	3.3	1.5	2.1
November 2020	3.4	2.6	2.7

Outline:

Pandemic: economic  
fallout

Projection 2020 – 2022

- Economic conditions abroad
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- Consumption demand
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Uncertainty

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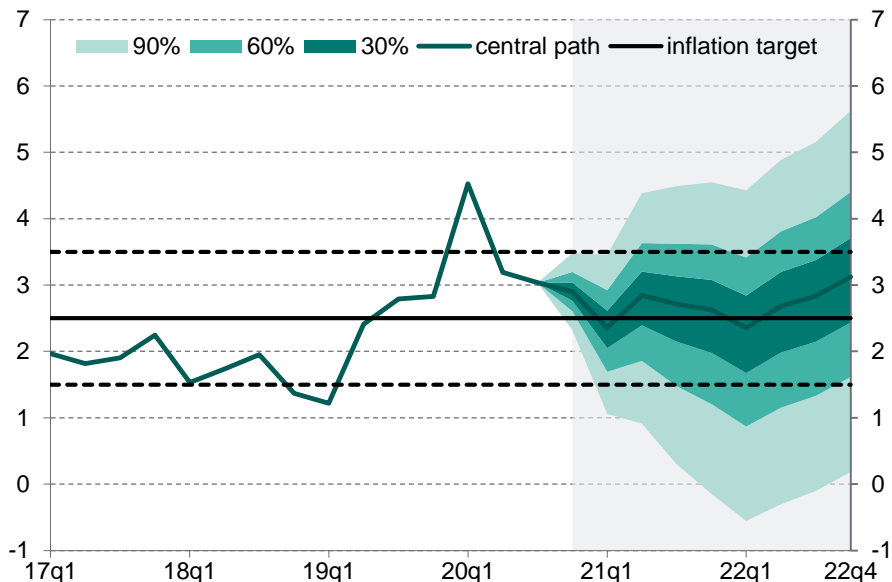
## Uncertainty

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- Risk factors
- Fan charts

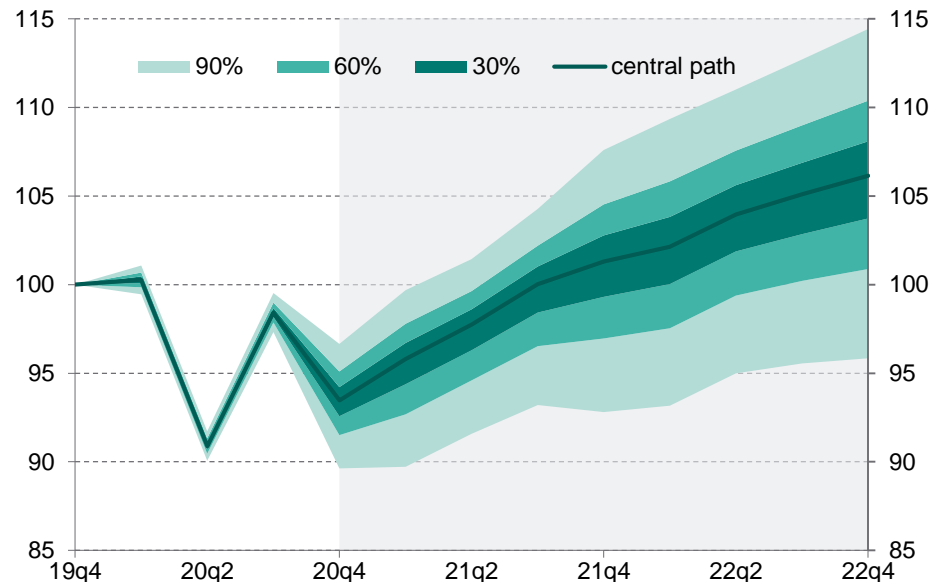
Risk area	Description	Impact	Scale of impact
More severe course of the pandemic	<ul style="list-style-type: none"> <li>High number of new infections requiring national governments to introduce more radical or long-term administrative constraints on economic activity. No effective and common methods of treating or preventing new COVID-19 infections throughout the projection horizon.</li> <li>Production curtailments or even shutdowns, due to widespread absenteeism of employees (quarantine and the need to provide care for children amid school / day-care closures). Higher operating costs of enterprises and lower work efficiency.</li> <li>Permanent change in the economic behaviour of the population (the principle of increased social distance) - decrease in demand for certain services.</li> <li>High uncertainty and pessimistic business sentiment - increased financial markets tension and investment reduction.</li> <li>Slowdown or reversal of globalization processes, intensification of trade disputes between the United States, the European Union and China, negative impact of Brexit.</li> <li>In consequence sustained loss of potential output (reduction in corporate investment, increase in equilibrium unemployment rate, lower participation rate, slower growth of total factor productivity).</li> </ul>	Inflation ↓ GDP ↓↓	**
Milder course of the pandemic	<ul style="list-style-type: none"> <li>In Poland and abroad, high efficiency of the introduced restrictions and compliance with the sanitary regime, significant advances in the treatment or prevention of COVID-19.</li> <li>Increase in optimism of economic agents, return of consumer and investor behaviour to the pre-pandemic patterns.</li> <li>Improvement of the global sentiment (gradual easing of tensions in world trade, increasing trade volumes).</li> <li>The introduction of the EU instrument to counter the impact of the coronavirus pandemic (<i>Next Generation EU</i>) in 2021 – due to the lack of detailed plans for the use of these funds by Poland, package is not included in projection.</li> <li>Only temporary fall of potential output.</li> </ul>	Inflation ↑ GDP ↑	*
Prices of energy and agricultural commodities	<ul style="list-style-type: none"> <li>Volatility of the global prices of energy commodities due to changes in demand and actions taken by the major producers.</li> <li>Risk of a significant deviation of meteorological conditions compared to the long-term average in countries that are important food producers and in Poland.</li> </ul>	Inflation ⇕ GDP ⇕	*
Summary		Inflation ↓	GDP ↓↓

CPI inflation (y/y, %)



CPI y/y, %	below 1.5%	below 2.5%	below 3.5%	below centr. path	within 1.5-3.5% range
2020	0%	0%	82%	50%	82%
2021	19%	52%	86%	57%	67%
2022	26%	50%	76%	57%	50%

GDP level (Q4 2019 = 100)



CPI y/y, %	central path	50% probability interval	
2020	3.4	3.4	3.5
2021	2.6	1.8	3.2
2022	2.7	1.6	3.6

GDP y/y, %	central path	50% probability interval	
2020	-3.5	-4.1	-3.0
2021	3.1	0.8	4.5
2022	5.7	3.8	7.8

*We protect the value of money*