



NARODOWY BANK POLSKI

Economic Analysis Department

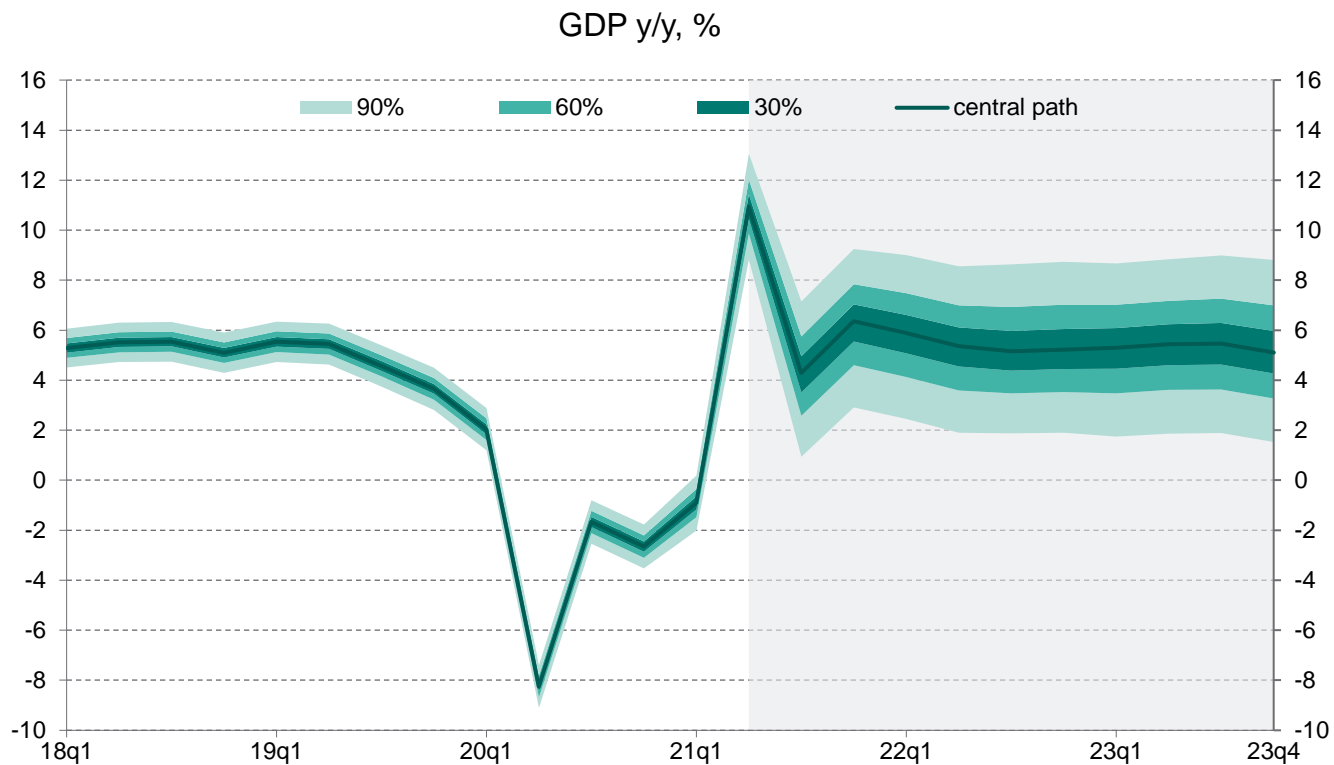
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# **Inflation and economic growth projection of Narodowy Bank Polski based on the NECMOD model**

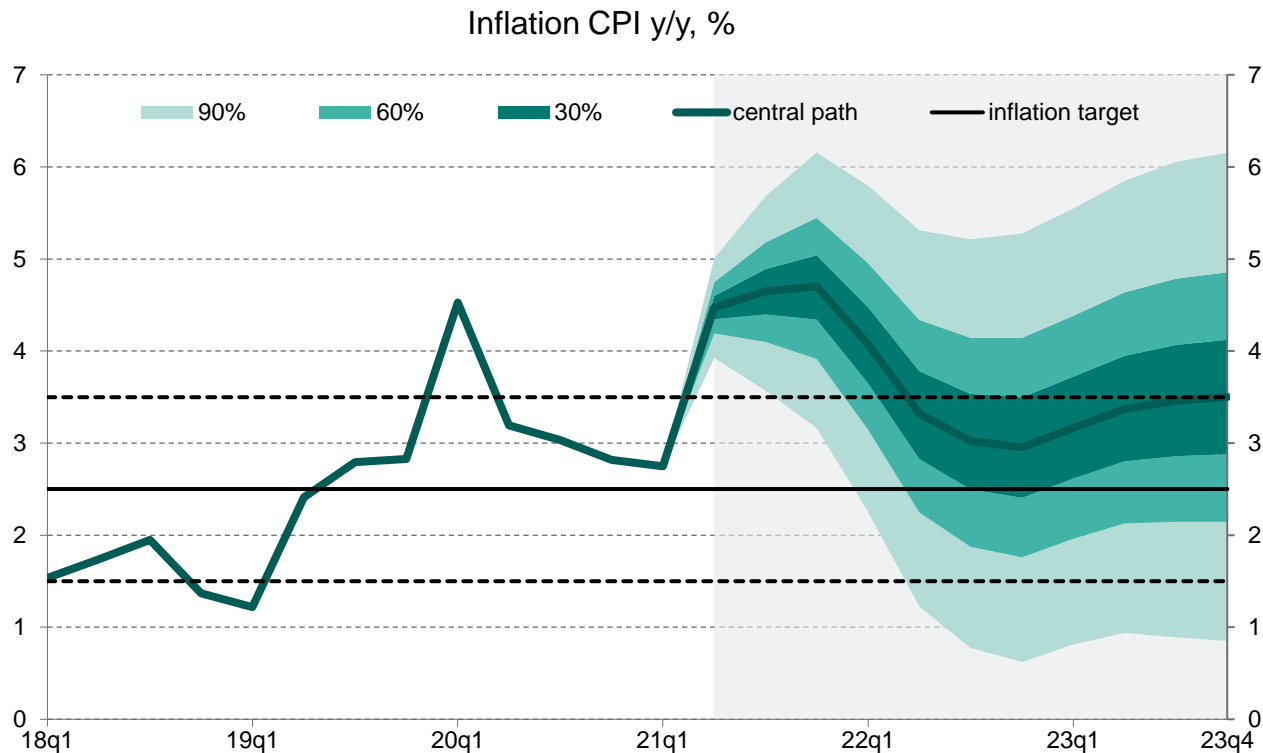
Warsaw / 12th July 2021



## Fast GDP growth in 2021-2023



## The return of inflation from the currently elevated level to inflation target tolerance band



## Plan prezentacji

Outline:

Economy after the 3rd  
wave of pandemic

Projection 2021 - 2023

- Economic conditions  
abroad
- Polish economy

Uncertainty

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1 Economy after the 3rd wave of pandemic

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2 Projection 2021 - 2023

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3 Uncertainty

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Outline:

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Projection 2021 - 2023

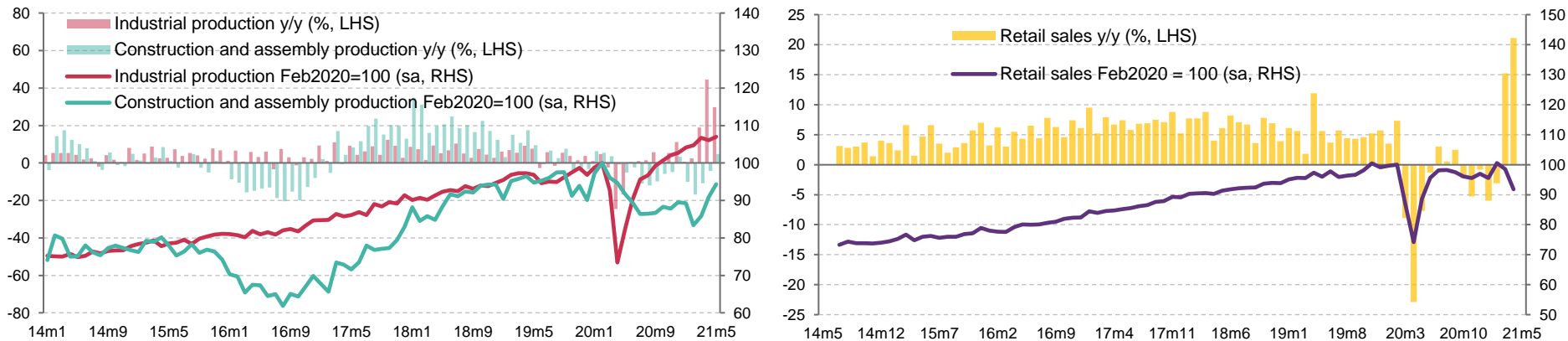
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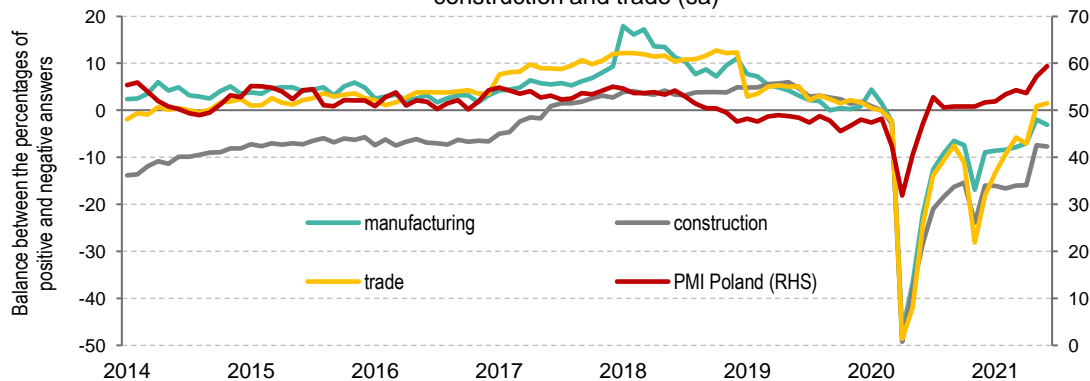
# Economy after the 3rd wave of pandemic

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## Gradual lifting of COVID-19 restrictions, which started at the end of April, contributed to an increase in economic activity.



PMI Poland and general business climate indicators (GUS) in manufacturing, construction and trade (sa)



## The available data shows the high degree of economic agents' adaptation to operating during a pandemic.

	21q1		21q2	
GDP (y/y) (%)	<b>-0.9</b>	(-1.5)	<b>10.9</b>	(9.6)
Domestic demand (y/y) (%)	<b>1.0</b>	(-2.3)	<b>12.4</b>	(10.5)
Household consumption (y/y) (%)	<b>0.2</b>	(-1.7)	<b>14.1</b>	(13.3)
Public consumption (y/y) (%)	<b>2.5</b>	(3.0)	<b>4.5</b>	(1.6)
Gross fixed capital form. (y/y) (%)	<b>1.3</b>	(-4.8)	<b>8.8</b>	(4.7)
Exports (y/y) (%)	<b>5.7</b>	(3.8)	<b>26.8</b>	(23.8)
Imports (y/y) (%)	<b>10.0</b>	(2.5)	<b>32.5</b>	(26.6)
Net exports contribution (pp.)	<b>-1.9</b>	(0.8)	<b>-0.5</b>	(-0.5)

Values from the March projection are given in brackets (21Q2 seasonally adjusted).

Indicators with values higher than in the March projection are marked green, and indicators with lower values are marked red.

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# Projection 2021-2023

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## Economic conditions abroad



## Regionally diversified economic recovery in 2021 after the pandemic

### Factors determining the forecast of economic growth:

- ↑ Improvement of the epidemic situation and lifting of the restrictions, especially in the developed countries.
- ↑ Large fiscal packages in the major world economies, including *American Rescue Plan* and *Next Generation EU*.
- ↑ Relatively high level of households savings.
- ↓ Epidemic situation in emerging economies.

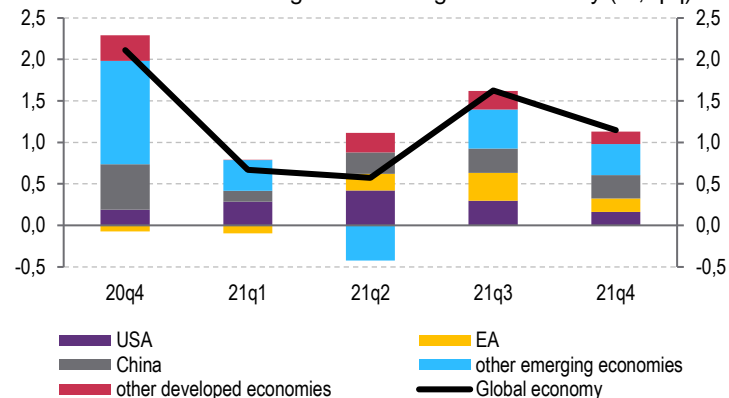
GDP forecast in the selected economies

GDP y/y, %	2021	2022	2023
Euro area	4.5 (3.9)	4.2 (3.9)	1.8 (2.0)
Germany	3.4 (3.1)	4.5 (4.3)	1.5 (1.5)
United Kingdom	7.1 (3.6)	4.7 (5.5)	1.8 (2.0)
USA	6.5 (4.6)	3.6 (3.2)	1.8 (1.9)
China	8.2 (8.0)	5.5 (5.5)	5.4 (5.4)

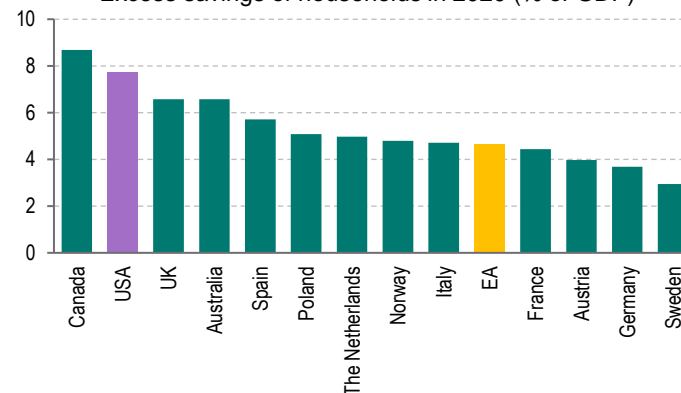
Values from the March projection are given in brackets. Indicators with values higher than in the March projection are marked green, and indicators with lower values are marked red.

Source: Bloomberg, Eurostat, IMF, OECD, DAE calculations.

The forecast of GDP growth in the global economy (% q/q)



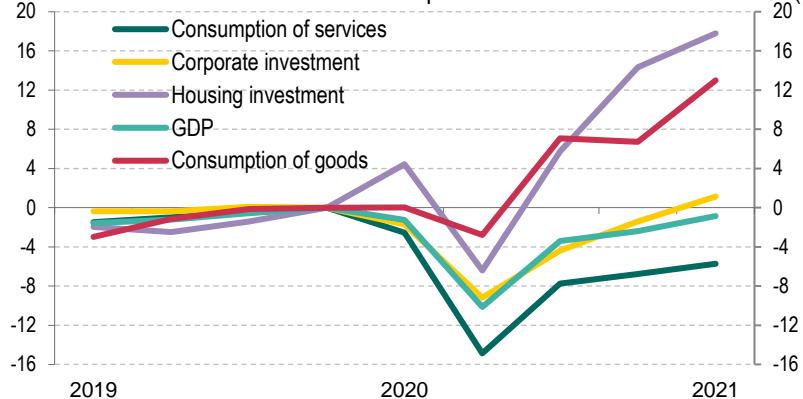
Excess savings of households in 2020 (% of GDP)



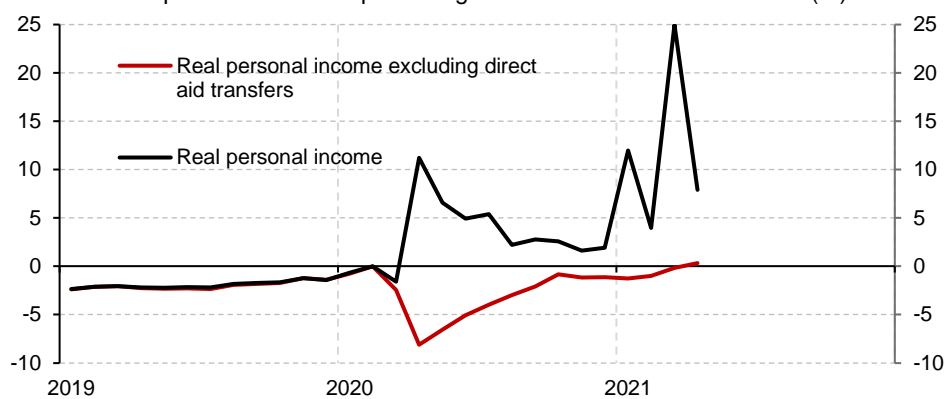
Excess savings in 2020 = Household savings – Average savings rate in 2017-2019\*  
Household disposable income

## The United States: high GDP growth supported by fiscal package

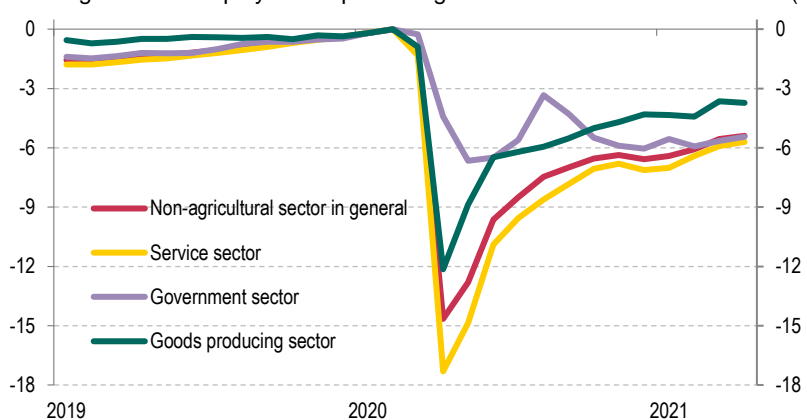
Deviation of real GDP and its selected components from the level in 2019 Q4 (%)



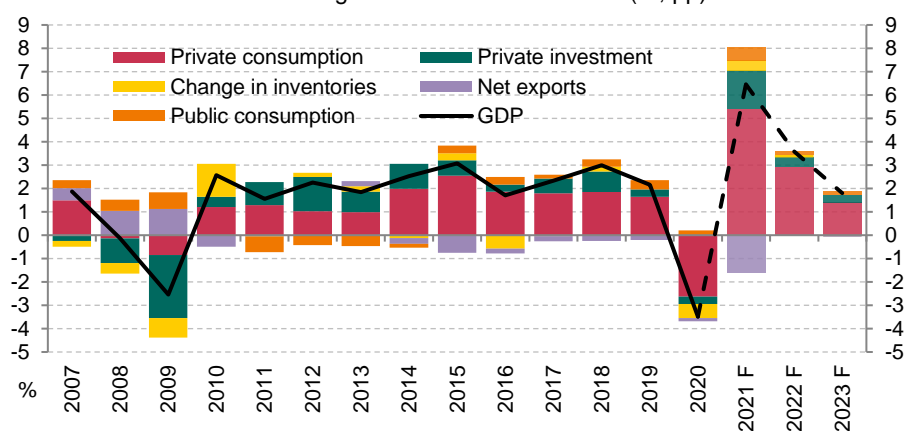
Real personal income - percentage deviation from Feb-2020 level (%)



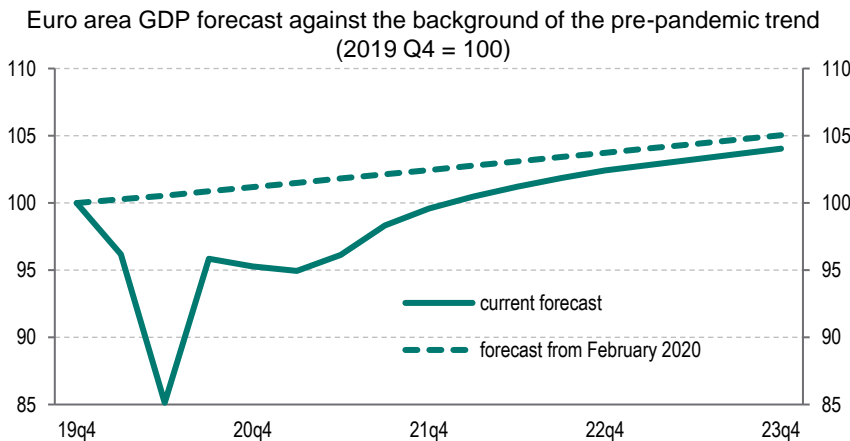
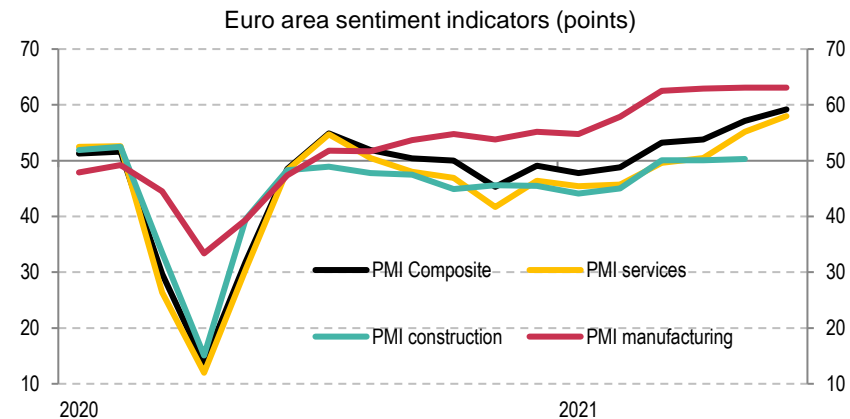
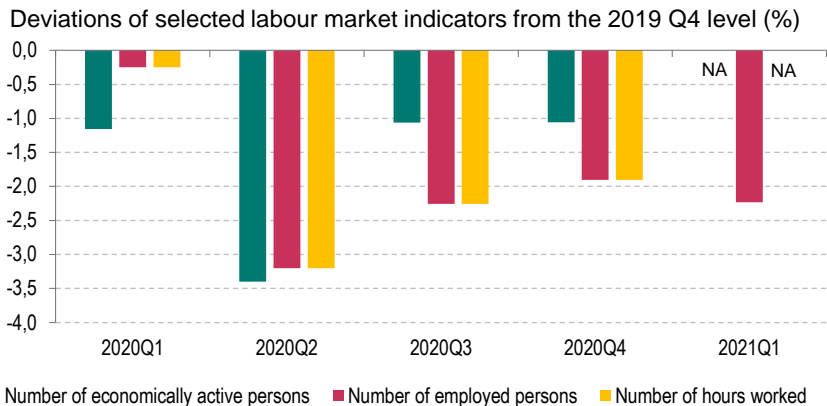
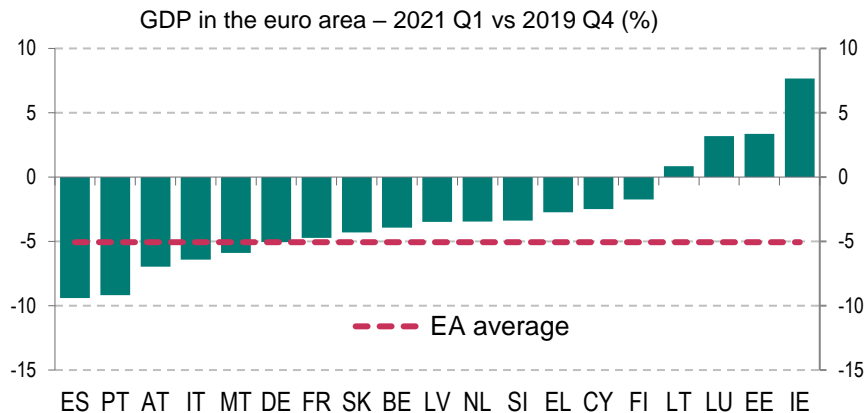
Non-agricultural employment - percentage deviation from Feb-2020 level (%)



Real GDP growth in the United States (% pp)



## Euro area: normalisation of economic activity supported by fiscal stimulus



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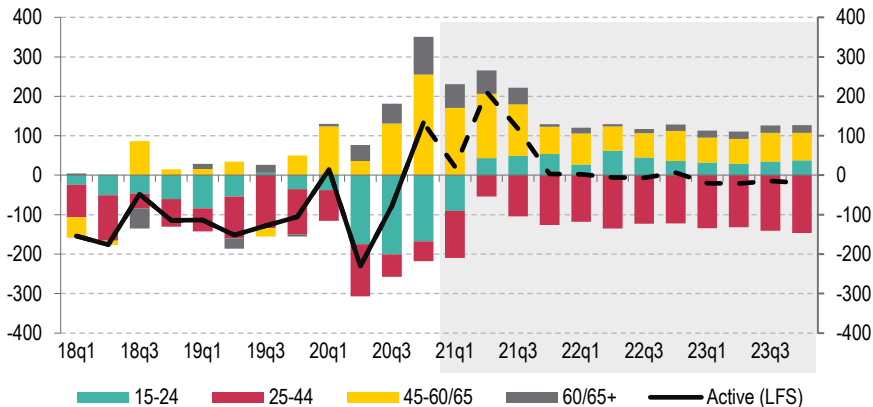
# Projection 2021-2023

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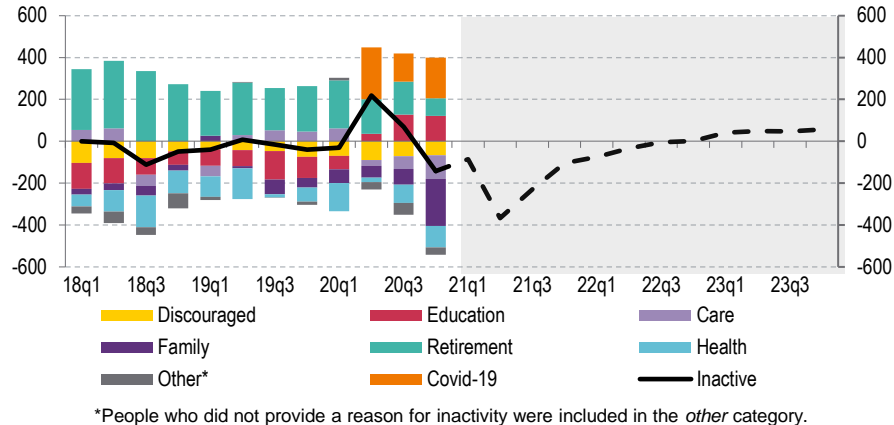
## Polish economy

## Recovery of labour activity and the growing number of immigrants on the labour market

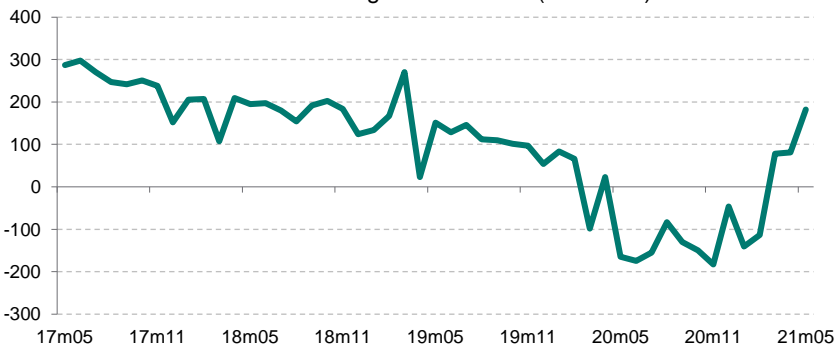
Labour activity by age groups (y/y, thousand, forecast from 2021 Q1)



Reasons for inactivity (y/y, thousand, forecast from 2021 Q1)



12-month balance of foreign passenger border traffic at Polish land border crossings with Ukraine (thousand)

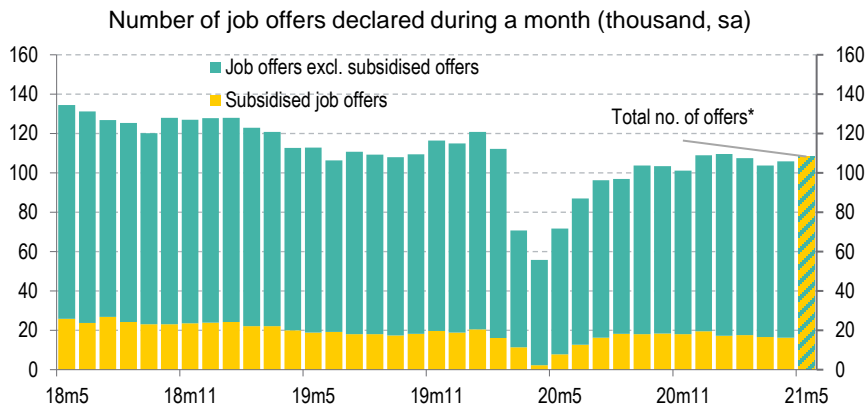
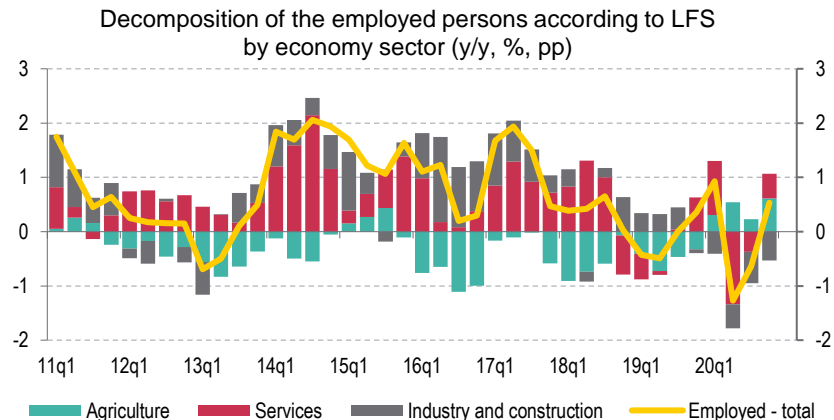
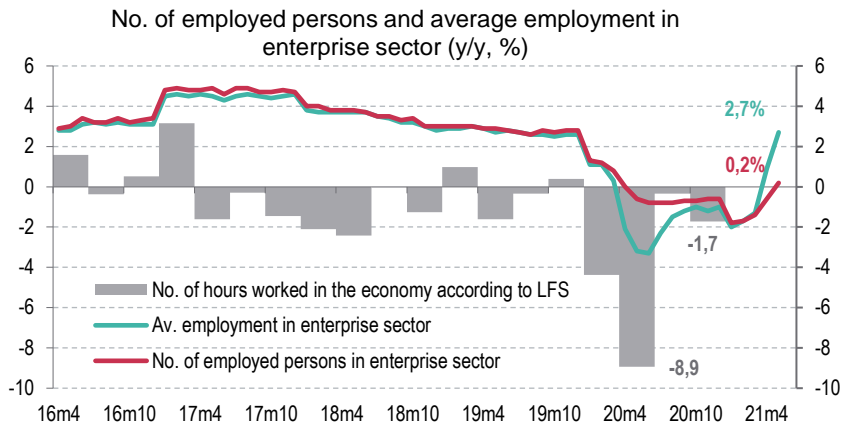


Source: GUS data, NBP calculations.

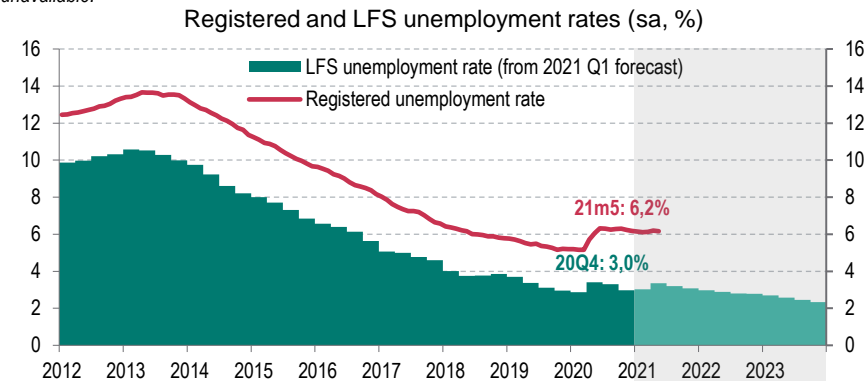
Projected number of foreigners working in Poland (thousand)



## Significantly smaller impact of the second and third waves of the pandemic on the labour market

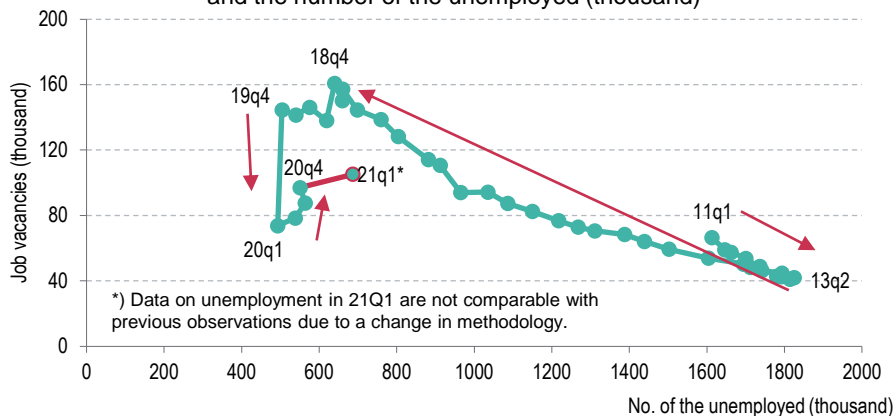


\*) Note: Data from labour offices for the last month refer to total number of offers, more detailed breakdown is yet unavailable.

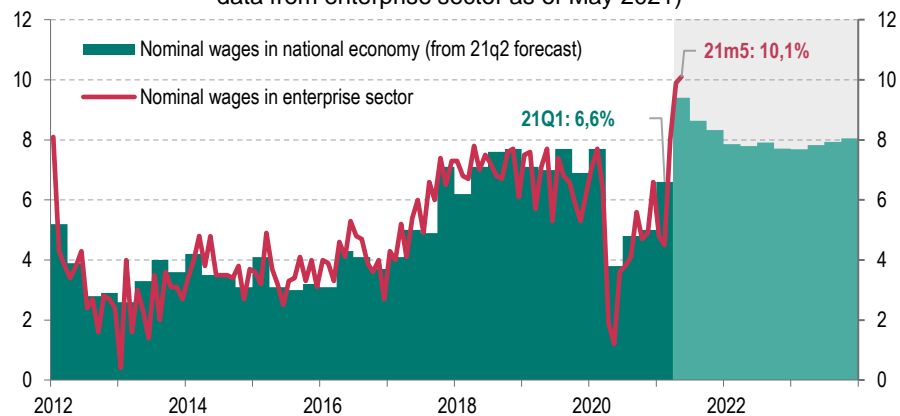


## After the slowdown in 2020, wage growth will pick up again over the projection horizon.

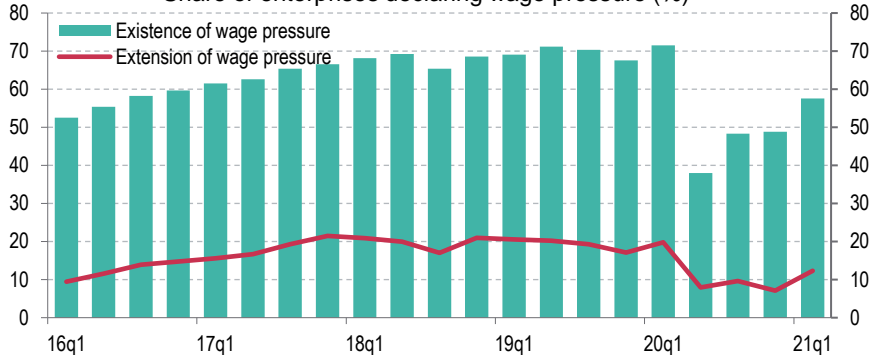
Beveridge curve - relationship between the number of job vacancies and the number of the unemployed (thousand)



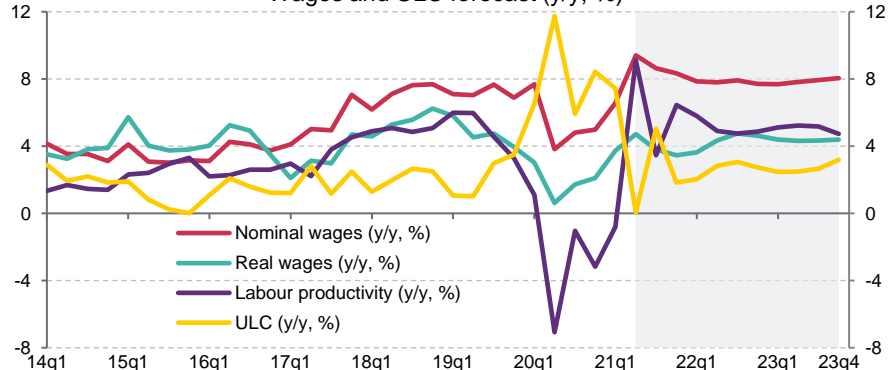
Nominal wage dynamics (% , y/y, national economy as of 21Q1; data from enterprise sector as of May 2021)



Share of enterprises declaring wage pressure (%)

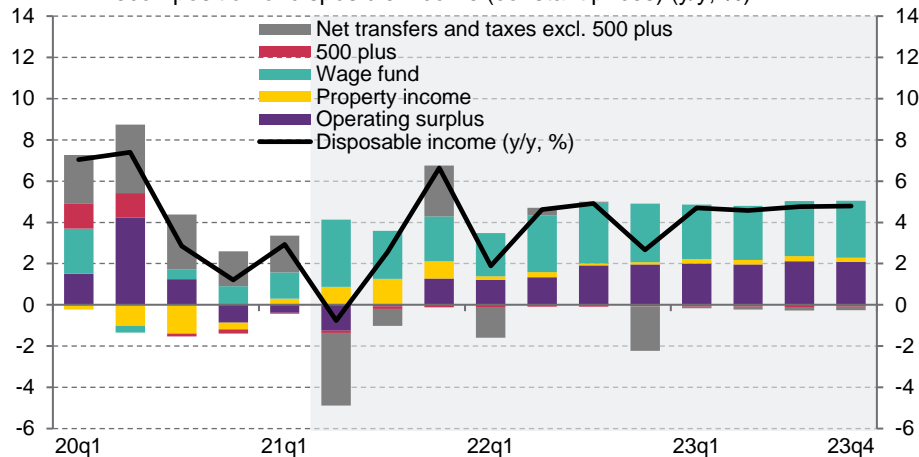
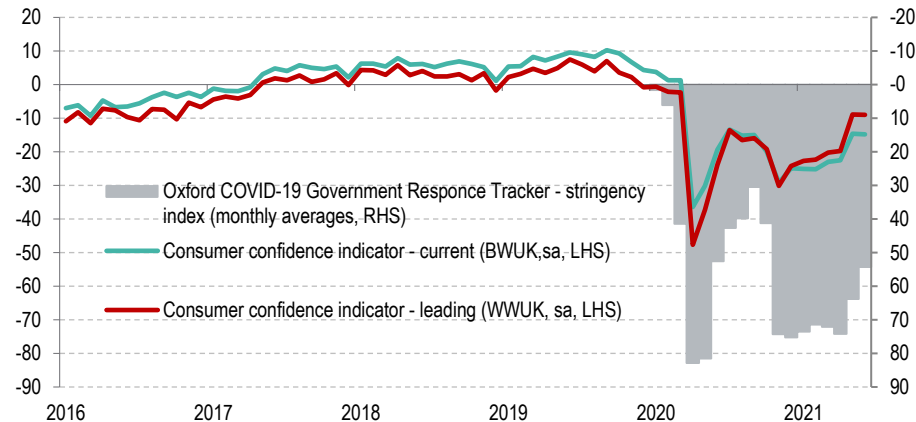


Wages and ULC forecast (y/y, %)

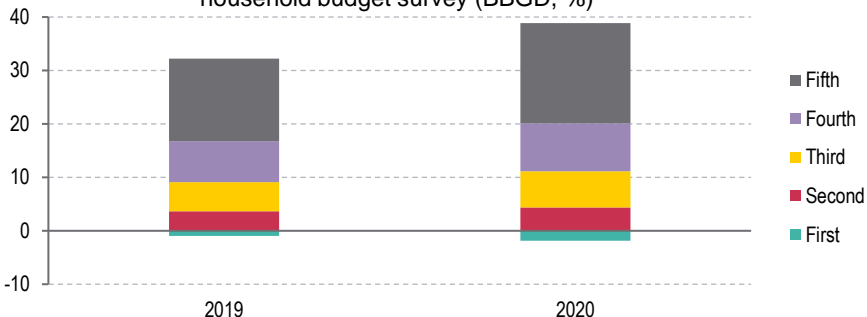


## Easing of restrictions improves consumer confidence.

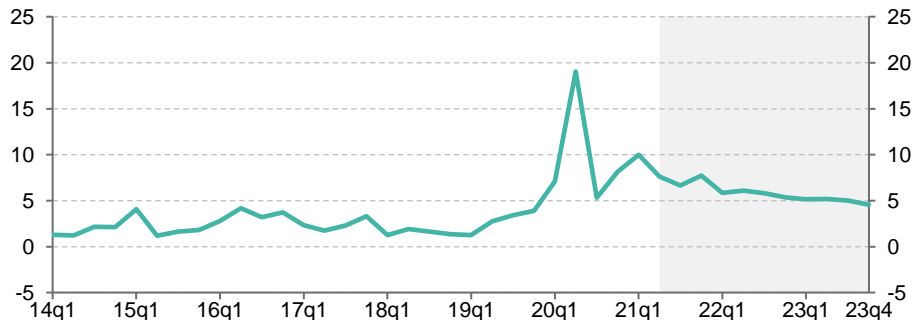
Decomposition of disposable income (constant prices) (y/y, %)


 Consumer confidence indicators vs. pandemic restrictions  
 (Oxford COVID-19 Government Response Tracker – monthly averages)


Implied savings rate by quintile groups - NBP estimates based on GUS household budget survey (BBGD, %)



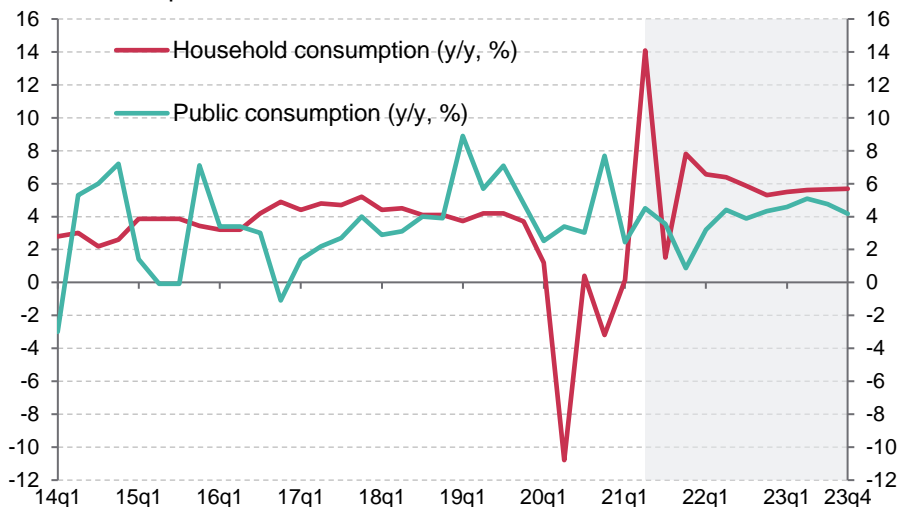
Households saving rate forecast (% , sa)





## The recovery of the Polish economy in 2021 strongly supported by household consumption

Consumption forecast



y/y, %	2020	2021	2022	2023
Households consumption	-3.0	5.5	6.0	5.6
Public consumption	4.4	2.8	4.0	4.7

### Private consumption:

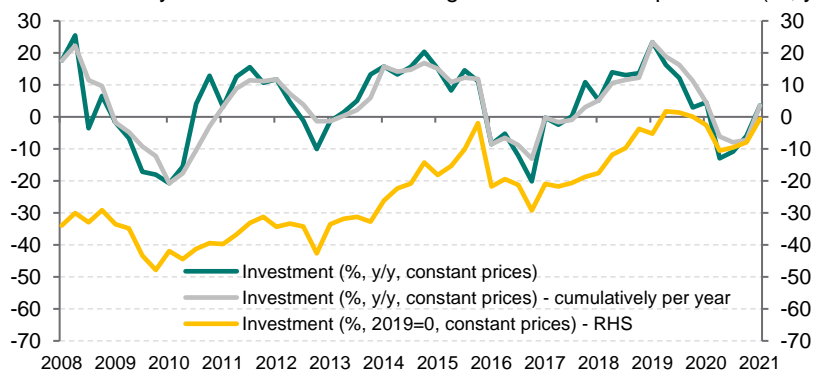
- ⇓ Changes in the behaviour of the population for fear of contamination, still lowered consumer sentiment and the sanitary regime in force.
- ⇑ Significant adaptation of consumers to operating in the pandemic.
- ⇑ Gradual lifting of epidemic restrictions, decreasing COVID-19 threats and expected further improvement in consumer sentiment.
- ⇑ Still relatively high level of the household savings rate.

### Public consumption:

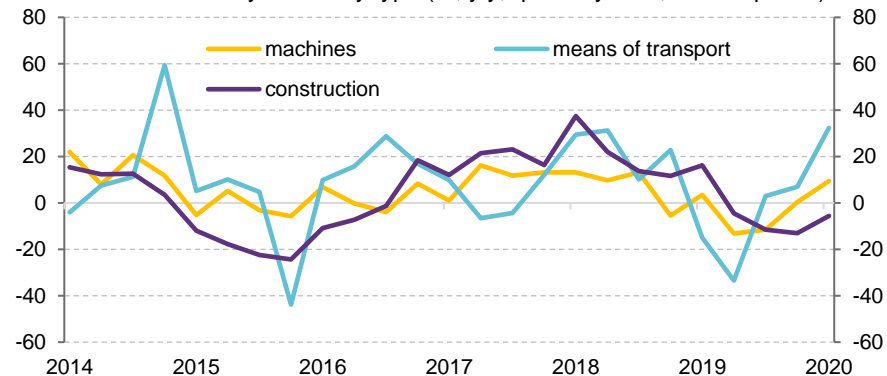
- ⇓ Freeze of salaries in the budgetary sector in 2021.
- ⇑ Increase in spending on some public services in 2021 as a result of easing the restrictions.
- ⇑ Return to neutral fiscal policy towards the end of the projection horizon.

## In 2021 Q1 an increase of investment in services, further declines in manufacturing – however, visible signs of recovery in the investment activity in this sector

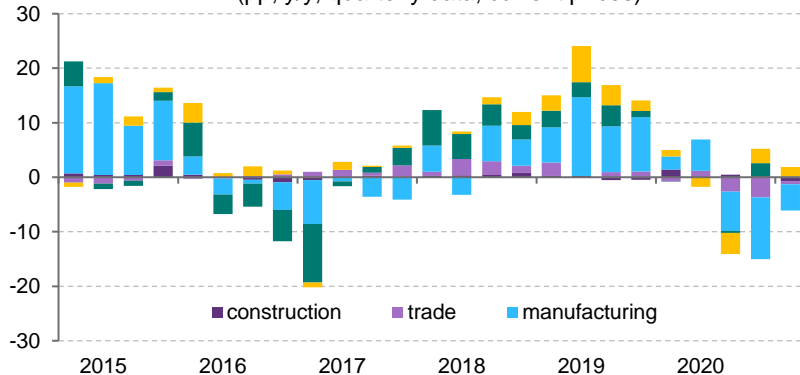
Investment dynamics of medium and large non-financial corporations (% , y/y)



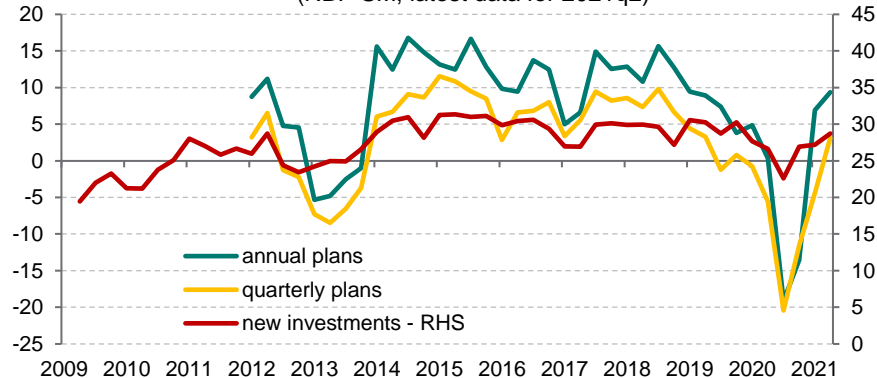
Investment dynamics by type (% , y/y, quarterly data, current prices)



Contribution to investment dynamics according to PKD (pp, y/y, quarterly data, current prices)

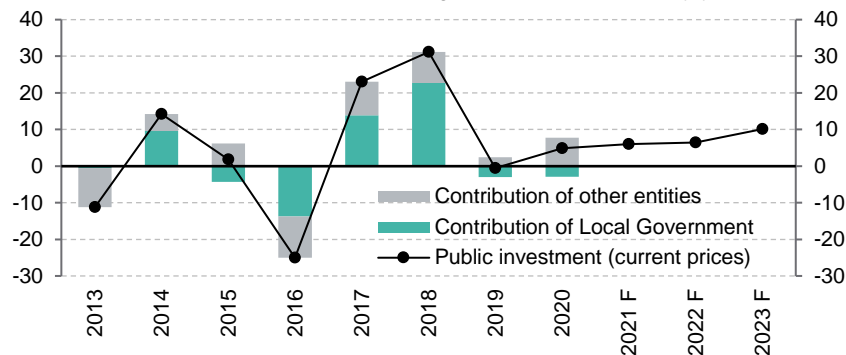


Assessment of investment activity in manufacturing (NBP SM, latest data for 2021q2)

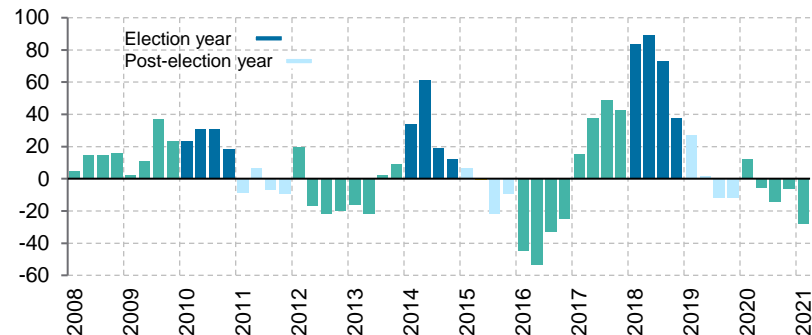


## The EU funds under the Next Generation EU instrument (*Recovery and Resilience Facility - RRF*) will support the growth of public investments in the coming years.

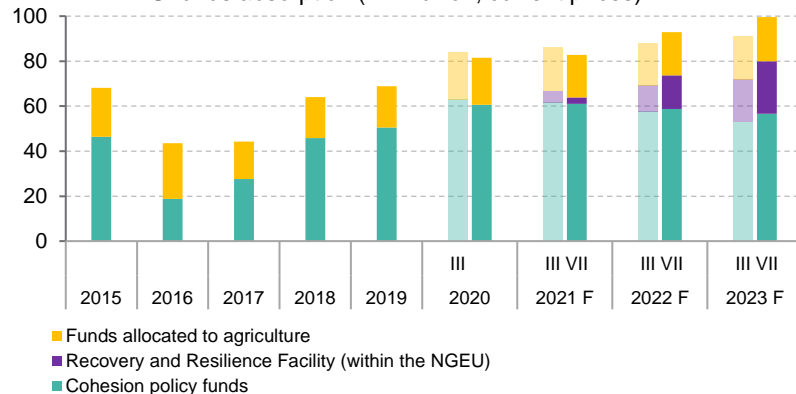
Contributions to public investment growth (current prices, y/y, %)



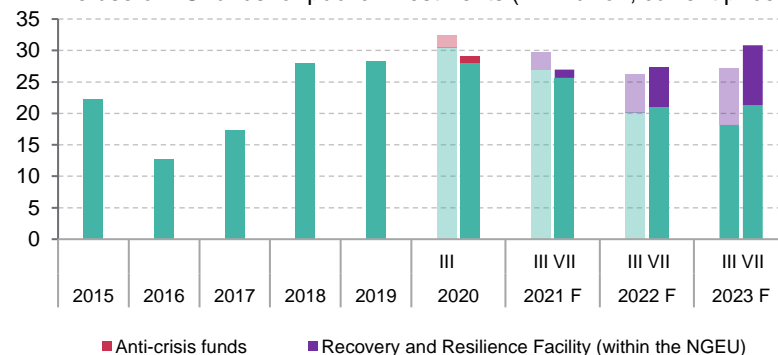
Local Government investment (quarterly data, y/y, %, current prices)



EU funds absorption (PLN billion, current prices)

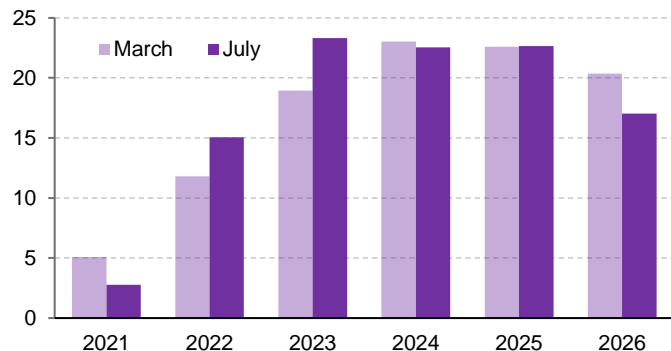


The use of EU funds for public investments (PLN billion, current prices)



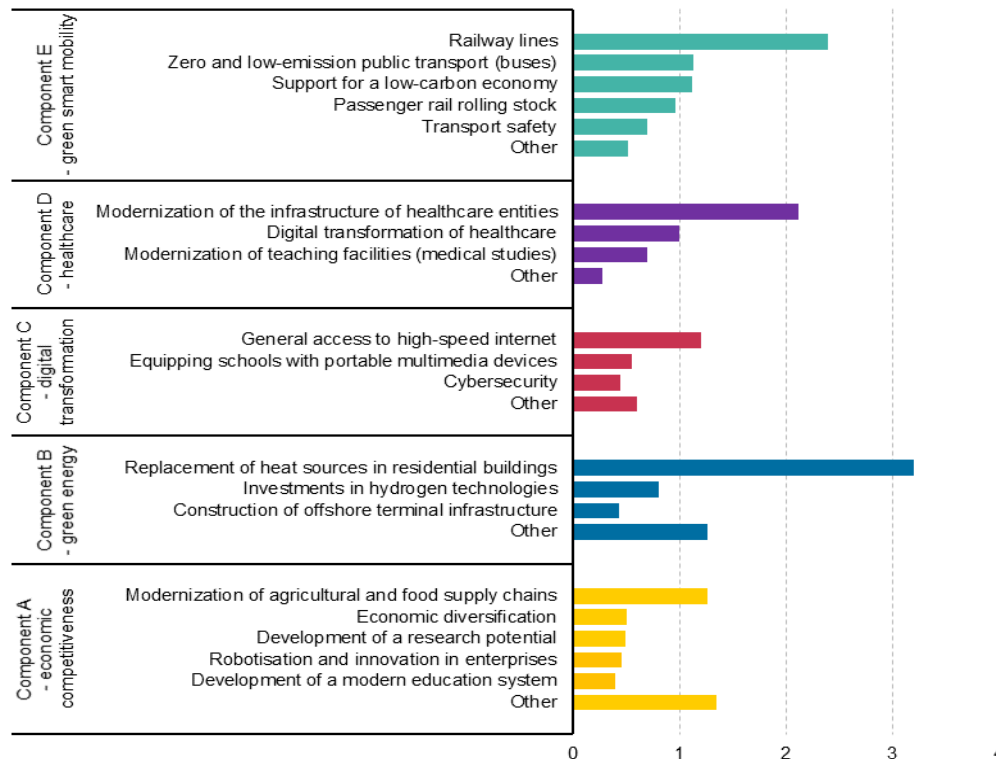
## The projected absorption of the RRF funds in 2022-2023 is higher than in the March projection, due to adjusting the projection assumptions to the National Reconstruction Plan (KPO).

Projected absorption of funds from the RRF (PLN billion)



Source: NBP.

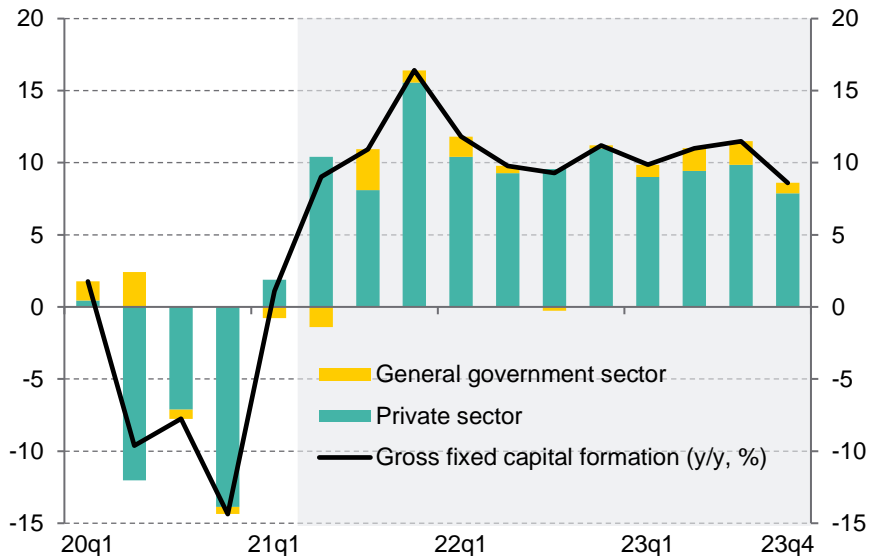
Allocation of subsidies from RRF according to National Reconstruction Plan (KPO), broken down into five components (EUR billion)



Source: National Reconstruction Plan (Polish abbreviation KPO) - project published in April 2021, table compiled by NBP.

## Return of the investment to the pre-pandemic level at the turn of 2021-2022

Investment dynamics and its decomposition (y/y %)



y/y, %	2020	2021	2022	2023
Gross fixed capital formation	-9.6	8.2	10.5	10.2

### Private investment:

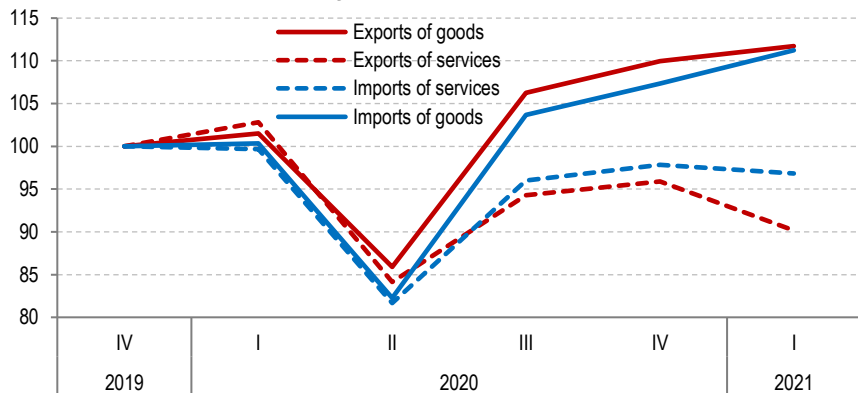
- ↑ Gradual lifting of epidemic restrictions.
- ↑ The return of corporate investment sentiment to pre-pandemic levels - albeit still below its long-term average.
- ↑ Low degree of automation and robotization of the Polish industry and rising labour costs.
- ↑ Relatively high housing demand, supported by the increased level of savings of some households and the record low level of interest rates.
- ↑ Implementation of the National Reconstruction Plan.

### General government investment:

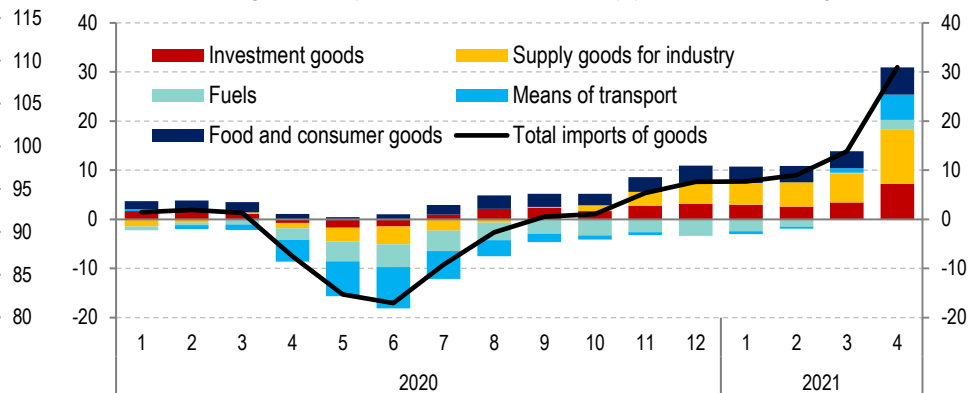
- ↓ Decline in funds from the 2014-2020 EU perspective, which, according to the *n + 3 rule*, ends in 2023.
- ↑ Implementation of the National Reconstruction Plan.
- ↑ In 2023 beginning of the the absorption of the funds from 2021-2027 perspective

## Strong recovery in foreign trade after the collapse in 2020 Q2

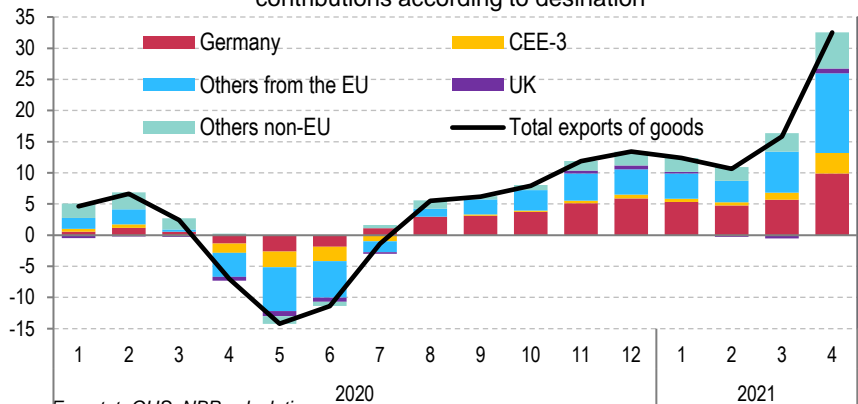
Exports and imports of goods and services (volume, sa, 2019 Q4 = 100)



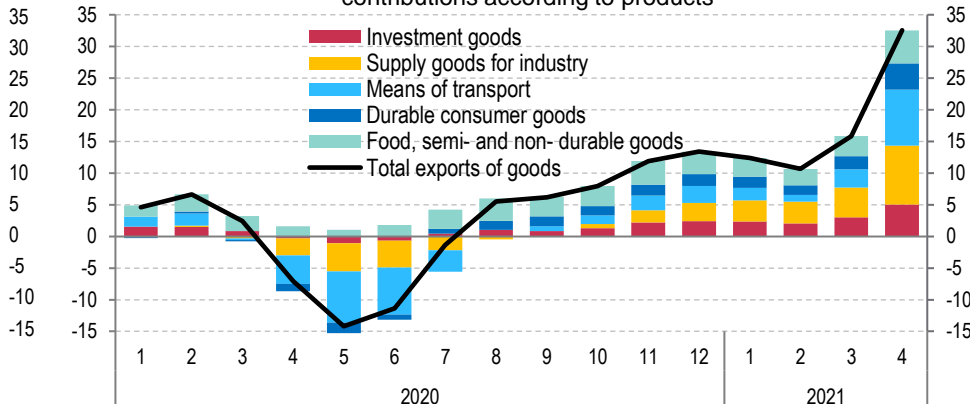
Import of goods – dynamics (current prices, y/y, 3months-average, %)



Exports of goods - dynamics (current prices, y/y, 3months-average, %), contributions according to desination

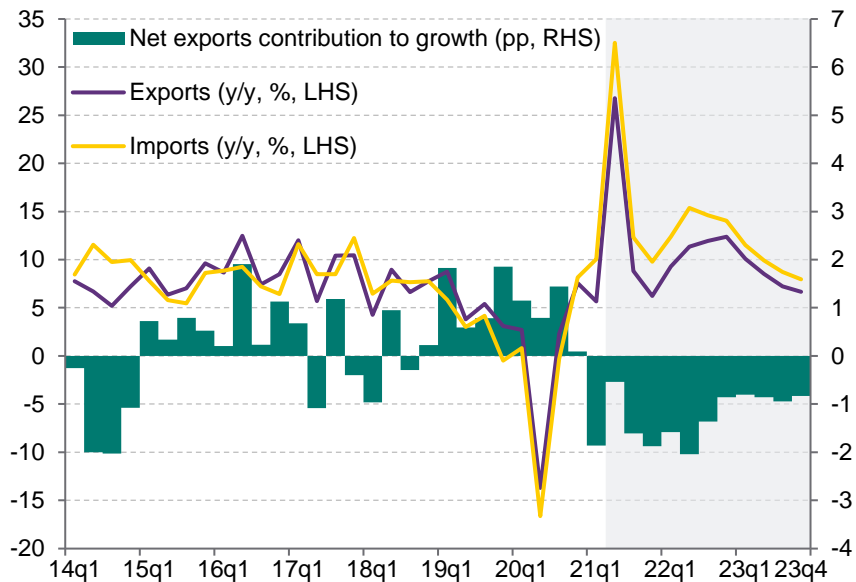


Exports of goods (current prices, y/y, 3months-average, %), contributions according to products



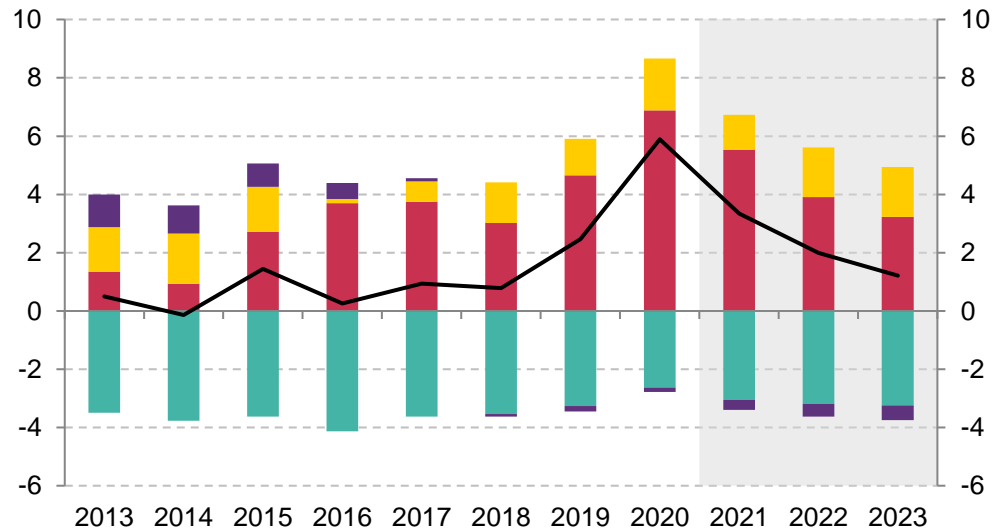
**Due to the anti-cyclical nature, the net exports contribution to growth will be negative throughout the projection horizon.**

Net exports contribution to GDP growth



y/y, pp	2020	2021	2022	2023
Net exports contribution to growth	0.8	-1.3	-1.5	-0.9

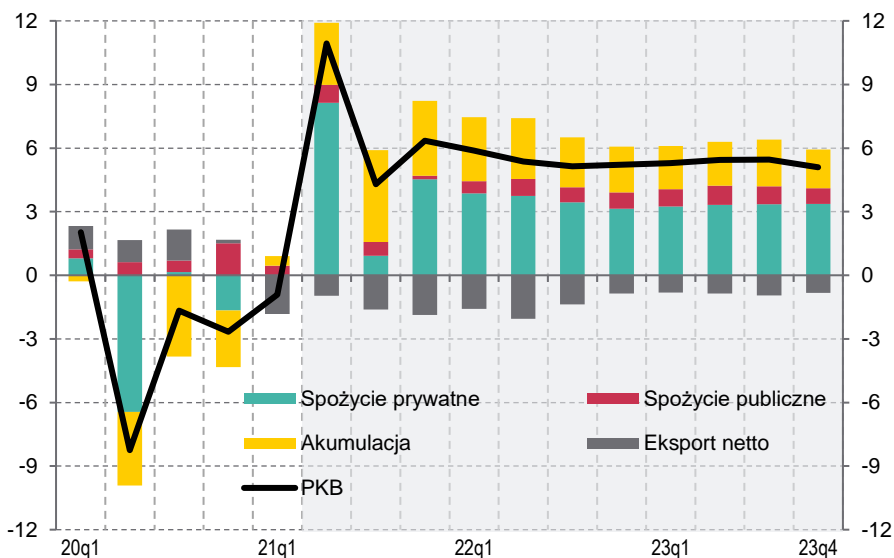
Current and capital account (% GDP)



- Compensation of employees & remittances
- Primary income (excl. compensation of employees)
- Capital account & secondary income (excl. remittances)
- Goods and services
- Current and capital account (% GDP)

**In line with the estimate adopted in the projection, in 2021 Q2 GDP in Poland returned to its pre-pandemic level. It is expected that in the coming quarters the economy will grow at an average rate exceeding 5% y/y.**

GDP dynamics and decomposition (y/y, %, pp)



↑ From 2021 Q2, a **sustained economic recovery**, thanks to the improvement of the epidemic situation, the recovery of activity abroad and the improved outlook for domestic demand.

↑ **Private consumption**, supported by lifting of epidemic restrictions, improving consumer sentiment and still elevated savings rate, will be the main source of growth over the projection horizon.

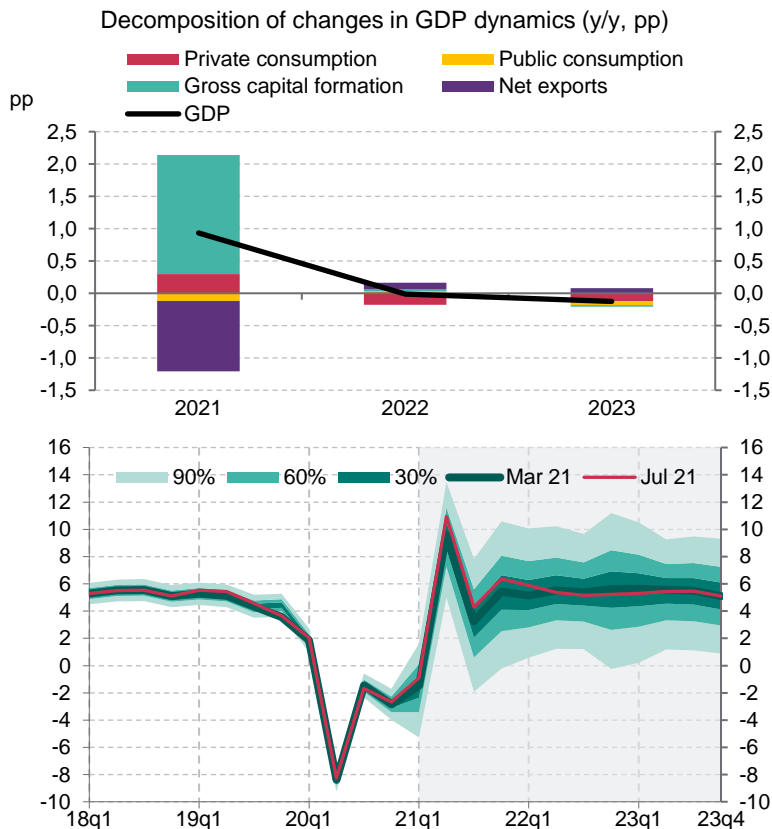
↑ **Investments** will also make an important contribution to GDP growth, due to the lifted restrictions, improved sentiment and the implementation of the National Reconstruction Plan. Gross fixed capital formation will return to the pre-pandemic level at the turn of 2021-2022.

↓ **The contribution of net exports to GDP growth**, in line with its countercyclical nature, will be negative.

y/y, %	2020	2021	2022	2023
GDP	-2.7	5.0	5.4	5.3



## July projection of GDP compared to the March projection

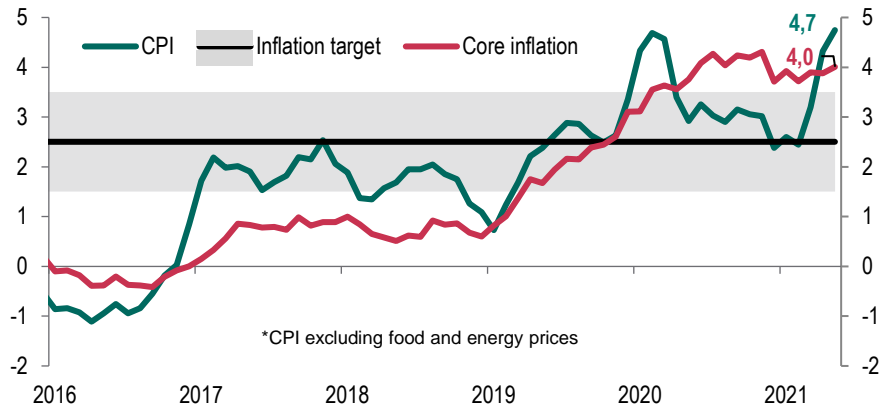


- ↑ Higher than expected GDP estimate for 2021 Q1 and relatively favourable data for April and May this year, proving a higher than assumed degree of economic agents' adjustment to operating in the pandemic.
- ↑ Faster than expected vaccination campaign and easing the pandemic restrictions in Poland and in developed countries.
- ↑ Implementation of another fiscal package in the United States (*American Rescue Plan*) - the adoption of which was not certain prior to the closing of the March projection.
- ↑ Higher assumed level of EU funds absorption under the National Reconstruction Plan.

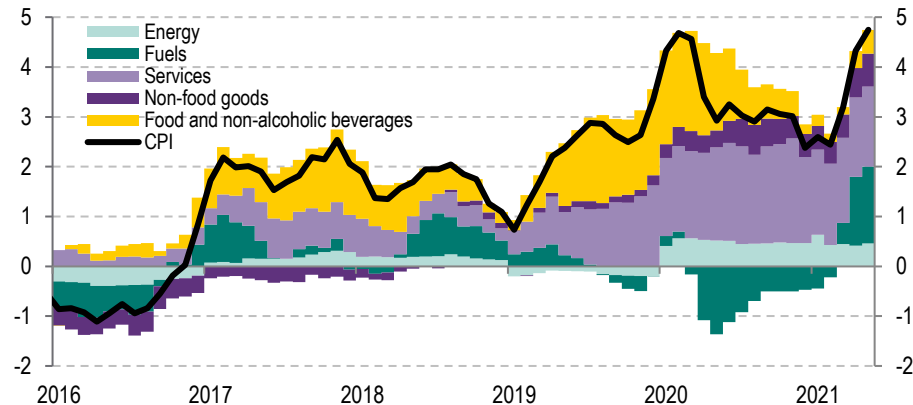
GDP y/y, %	2021	2022	2023
March 2021	4.1	5.4	5.4
July 2021	5.0	5.4	5.3

## Elevated inflation in recent months, mainly due to high growth in energy prices

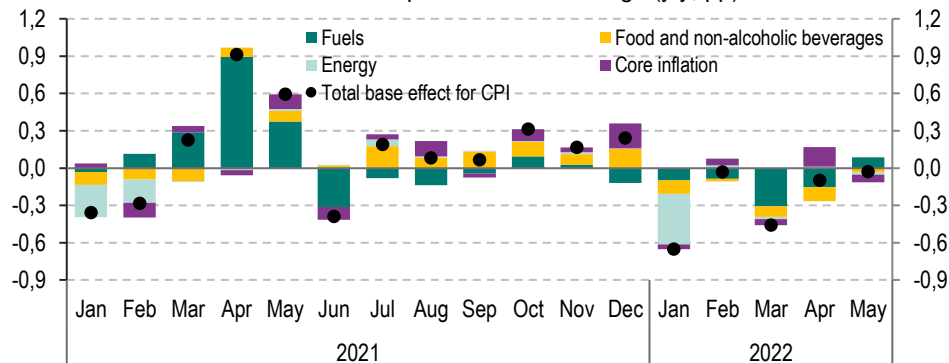
CPI and core\* inflation (y/y, % monthly data)



CPI decomposition (y/y, pp, monthly data)



Base effect decomposition in CPI change (y/y, pp)

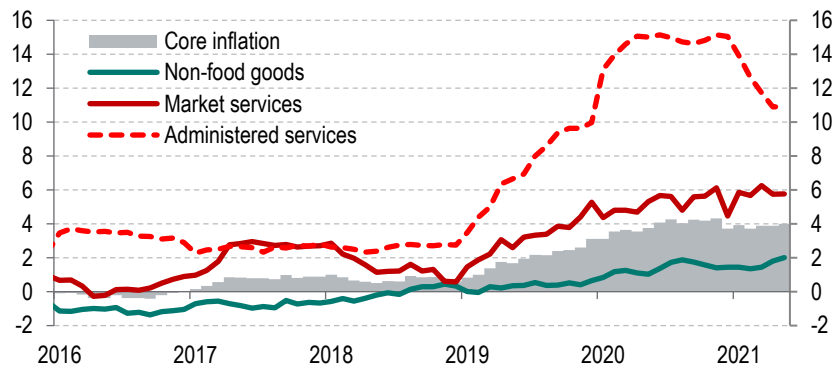


y/y, %	21q1		21q2	
CPI inflation	2.7	(2.5)	4.5	(3.4)
Core inflation	3.8	(3.5)	3.8	(2.9)
Food prices	0.6	(0.6)	1.5	(0.4)
Energy prices	2.6	(2.2)	12.2	(10.2)

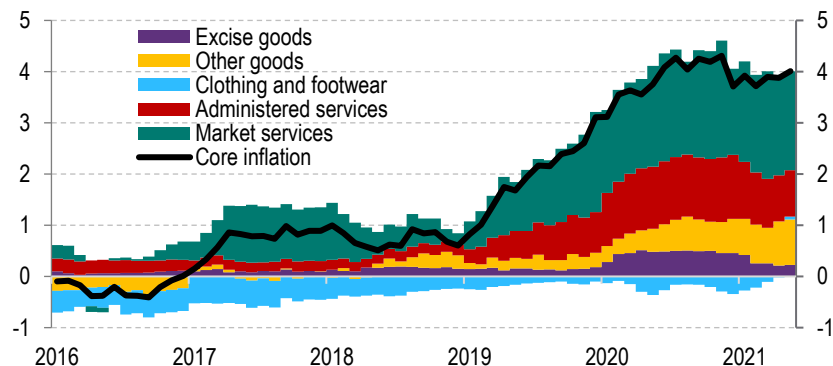
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## A high increase in the prices of administered services and a recovery of demand in industries where restrictions are lifted

CPI inflation excluding food and energy prices (y/y, %, monthly data)



Decomposition of core inflation (y/y, pp, monthly data)



Dynamics of core inflation and its components (y/y, %)

y/y, %	Jan21	Feb21	Mar21	Apr21	May21
<b>Core inflation</b>	<b>3.9</b>	<b>3.7</b>	<b>3.9</b>	<b>3.9</b>	<b>4.0</b>
Excise goods	3.4	2.1	2.1	1.7	1.8
Other goods, including:	0.9	1.2	1.3	1.8	2.1
clothing and footwear	-3.7	-2.9	-1.4	-0.3	0.8
household equipment	1.6	2.1	1.8	2.5	2.9
Administered services	13.9	12.6	11.7	10.9	10.9
Market services	5.9	5.7	6.3	5.7	5.8

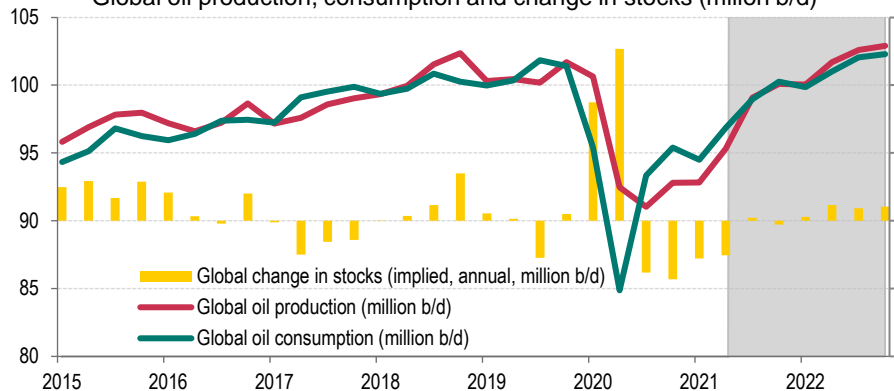
Decomposition of core inflation – contributions (y/y, pp)

y/y, pkt.proc.	Jan21	Feb21	Mar21	Apr21	May21
<b>Core inflation</b>	<b>3.9</b>	<b>3.7</b>	<b>3.9</b>	<b>3.9</b>	<b>4.0</b>
Excise goods	0.4	0.3	0.3	0.2	0.2
Other goods, including:	0.4	0.5	0.6	0.8	0.9
clothing and footwear	-0.3	-0.2	-0.1	0.0	0.1
household equipment	0.2	0.2	0.2	0.2	0.3
Administered services	1.1	1.0	1.0	0.9	0.9
Market services	2.0	1.9	2.1	1.9	1.9

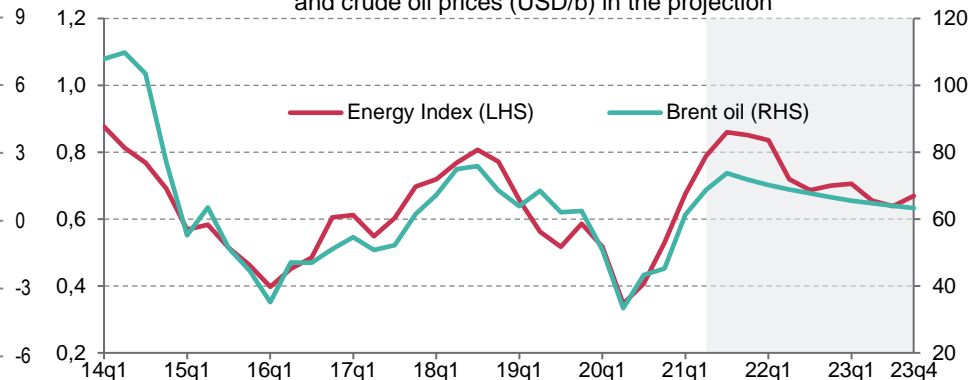
## Increase in commodity and freight prices along with the recovery of demand after the pandemic

### Rising prices of CO<sub>2</sub> emission allowances

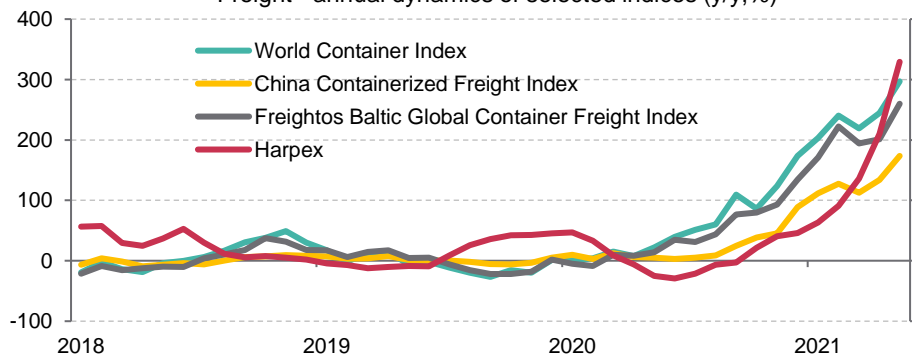
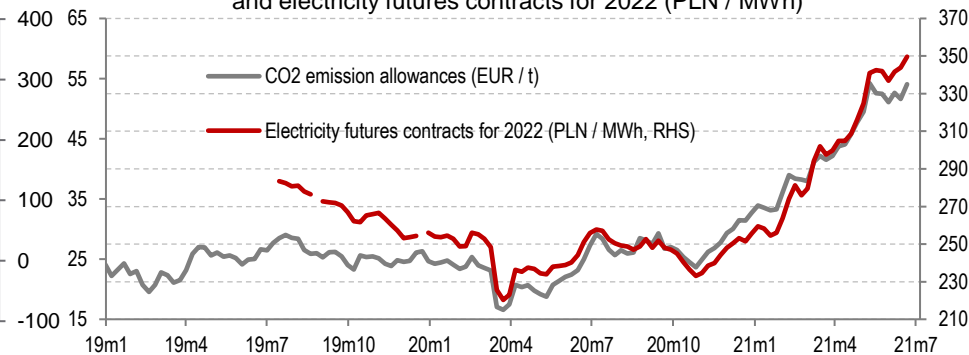
Global oil production, consumption and change in stocks (million b/d)



Index of world energy commodity prices (USD, 2011=1) and crude oil prices (USD/b) in the projection

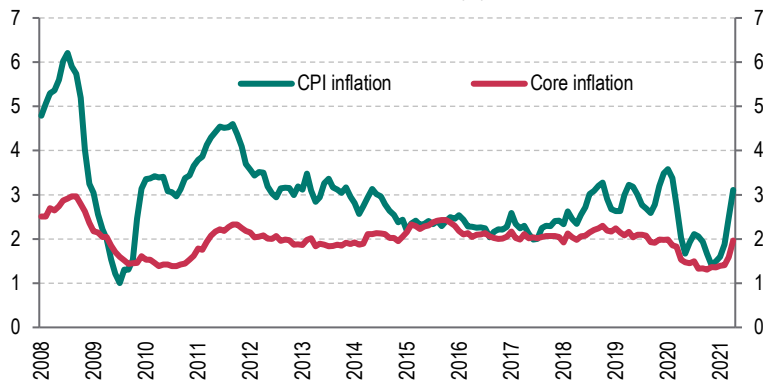


Freight - annual dynamics of selected indices (y/y,%)

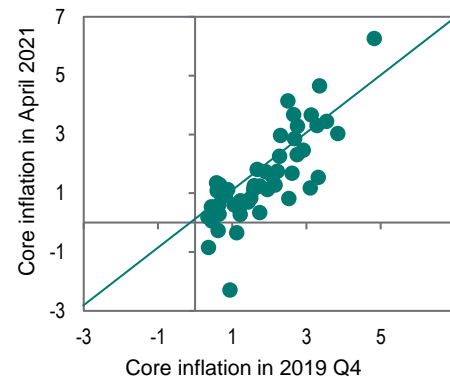

 Prices of CO<sub>2</sub> emission allowances (EUR / t) and electricity futures contracts for 2022 (PLN / MWh)


## Inflation in the global economy increased markedly due to base effects and temporary supply and demand imbalances.

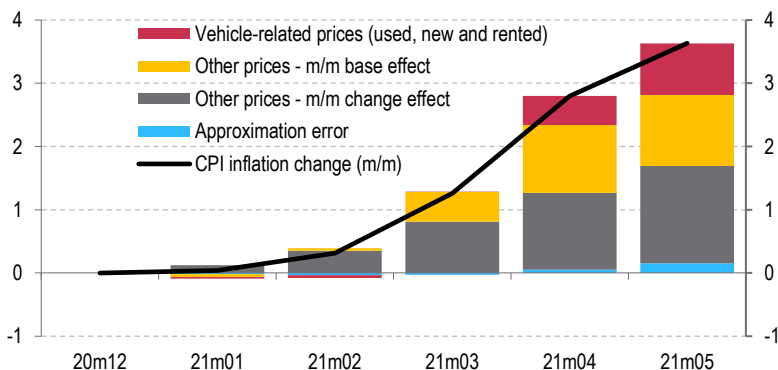
Global inflation (% , y/y)



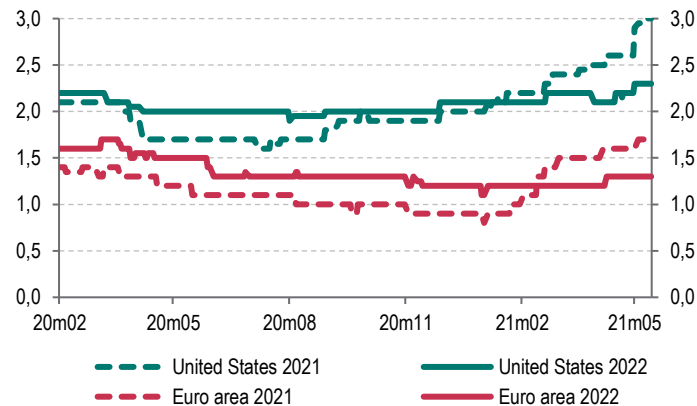
Core inflation in advanced and developing economies



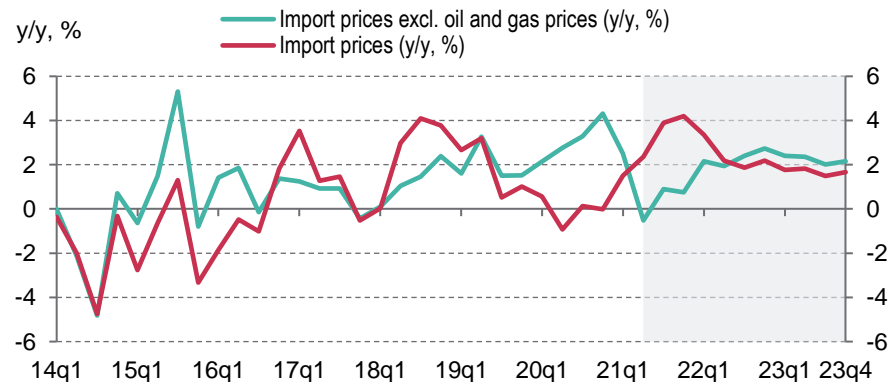
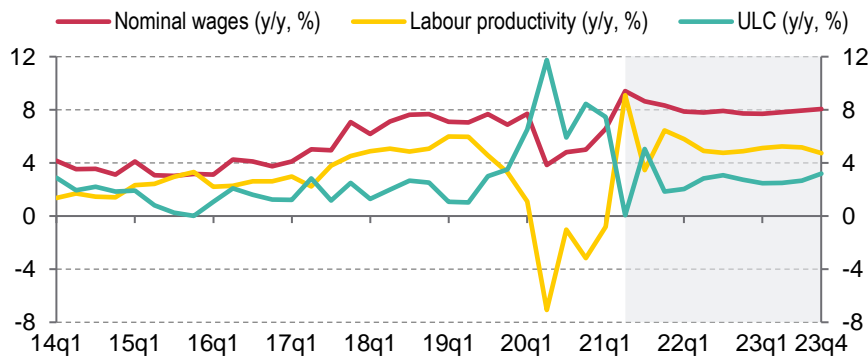
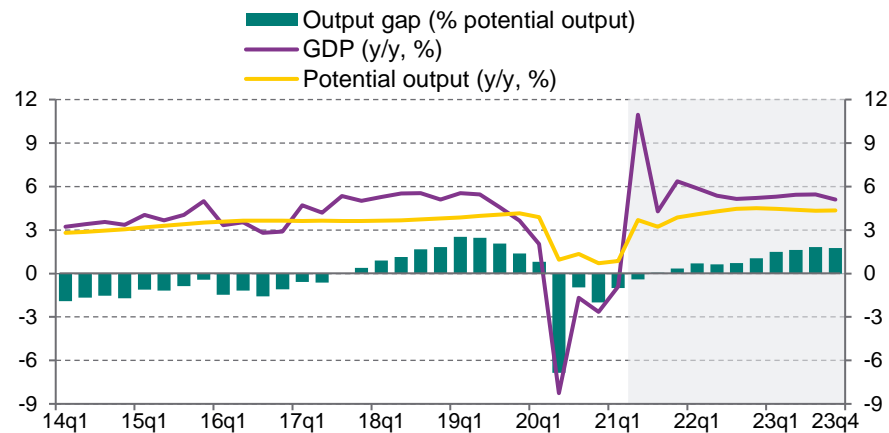
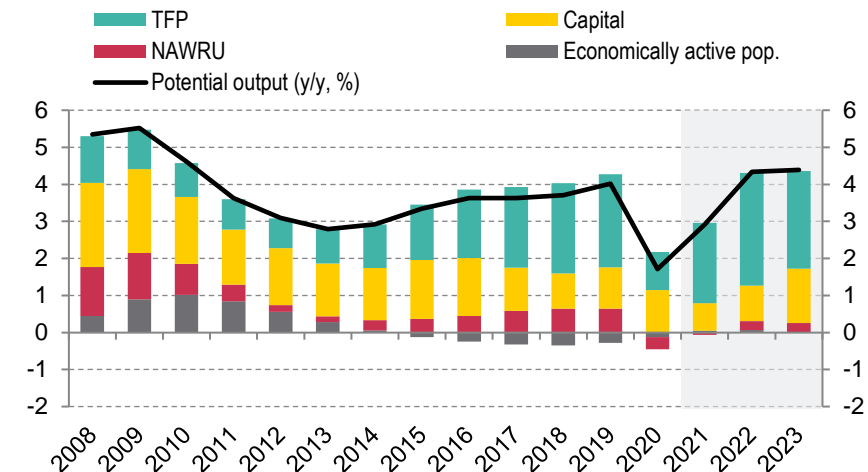
Decomposition of the CPI inflation change in the United States (m/m, pp)



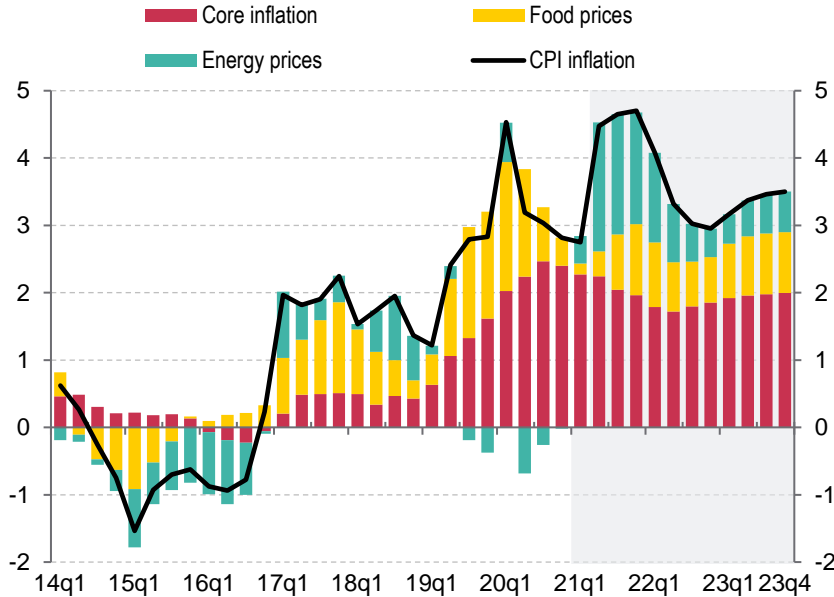
Forecasts of inflation in the United States and the euro area



## Inflation driven by the delayed impact of the domestic and foreign demand recovery



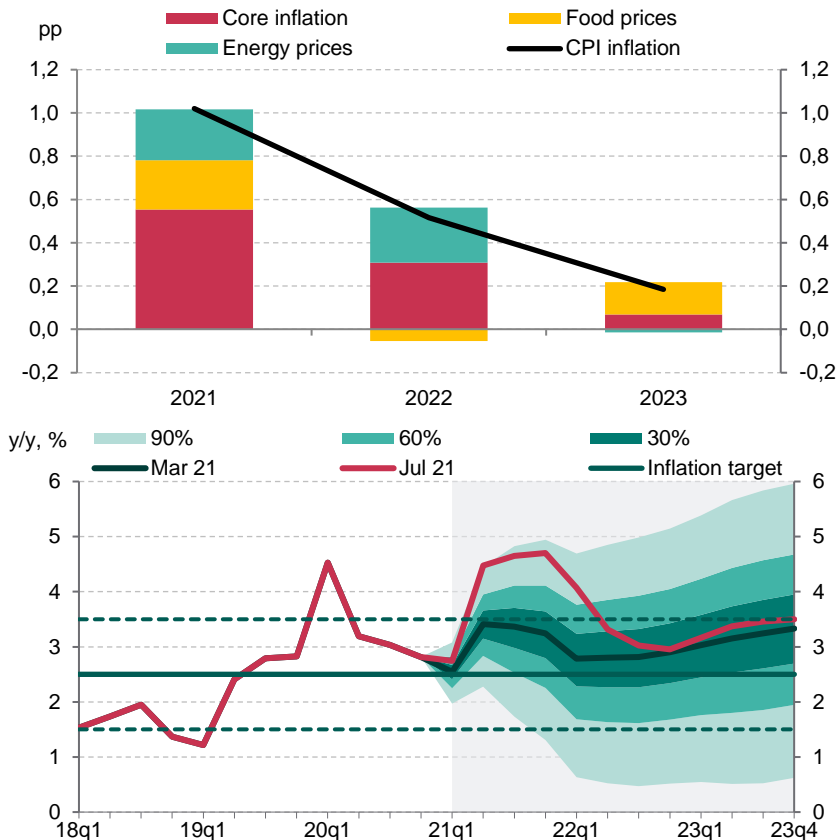
## In 2022 inflation will return to the NBP inflation target tolerance band, defined as 2.5% +/- 1 percentage point.



y/y, %	2020	2021	2022	2023
CPI inflation	3.4	4.2	3.3	3.4

- ↑ ↓ Increase in energy commodity prices on global markets in 2021. Stabilization of prices in the following years.
- ↑ ↓ Increase in electricity prices for households in January this year, due to the growing prices of CO<sub>2</sub> emission allowances, higher RES fees and the introduction of a capacity charge.
- ↑ ↓ Realisation of the pent-up demand in industries where restrictions are relaxed. Impact expiring in 2022.
- ↑ ↓ Tensions in global supply chains. Impact expiring in 2022
- ↑ ↓ Rises of certain administered prices. Impact expiring in 2022.
- ↑ The tense supply situation on the meat market, rising costs of meat production driven by quickly growing prices of feed grains on global markets and the released demand from the HoReCa sector.
- ↓ High plant harvest in 2020 and relatively favourable weather conditions this year.
- ↑ Delayed impact of recovery in domestic and foreign demand after the pandemic. Acceleration of wage dynamics due to the limited labour supply.

## July CPI projection compared to the March projection



- ↑ Stronger than expected recovery in demand related to a significant easing of socio-economic restrictions in Poland.
- ↑ Tensions in global supply networks leading to delays in production and distribution.
- ↑ Increase in prices of telecommunication services after the *cut-off date* of the previous projection.
- ↑ Significant increase in crude oil prices rose in the global markets after the *cut-off date* of the previous projection.
- ↑ Limited supply of meat as a result of the dynamic development of avian flu and lower production profitability due to more expensive feed.
- ↑ Stronger improvement of the economic situation in Poland and abroad leading, with a delay, to an increase in the main components of inflation in the years 2022-2023.
- ↑ Stronger increase in energy prices in 2022 related to the prolonged impact of higher energy commodity prices on world markets and CO<sub>2</sub> emission allowances.

CPI y/y, %	2021	2022	2023
March 2021	3.1	2.8	3.2
July 2021	4.2	3.3	3.4



Outline:

Economy after the 3rd  
wave of pandemic

Projection 2021 - 2023

- Economic conditions  
abroad
- Polish economy

Uncertainty

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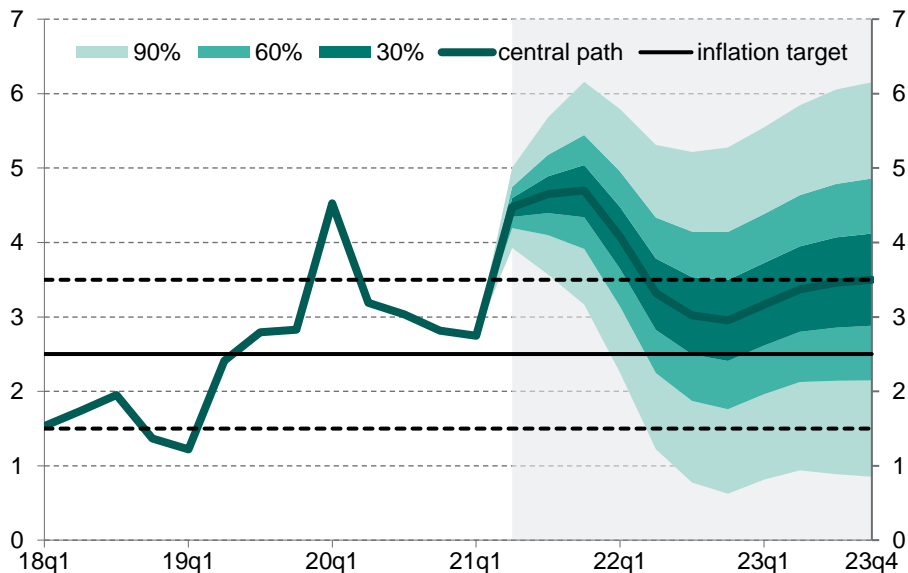
# Uncertainty

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- Risk factors
- Fan charts

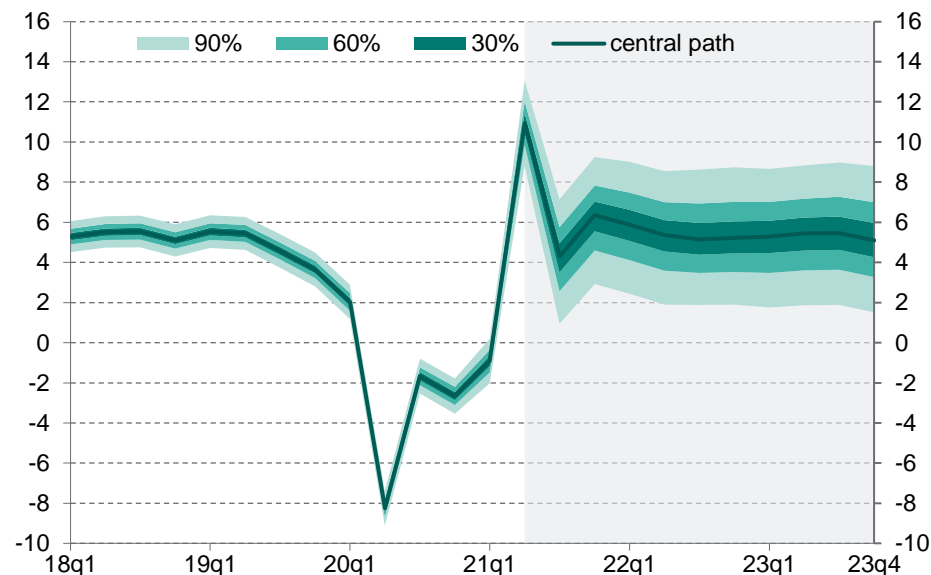
Risk area	Description	Impact	Scale of impact
More severe course of the pandemic, combined with a permanent decline in economic activity in Poland	<ul style="list-style-type: none"> <li>▪ Smaller effectiveness of the measures to contain the COVID-19 pandemic, especially in terms of new infections: emergence of new coronavirus mutations with higher transmission or resistance to the vaccines used; shorter than expected vaccine-induced immunity. As a result, recurring periods of pandemic expansion and return of restrictions in Poland and around the world.</li> <li>▪ Permanent change in the economic behaviour of the population – decline in demand for certain services. Increase in the number of bankruptcies of enterprises, mainly in the service industries, in particular hotels, recreation, culture and catering. Limited space for further economic policy anticrisis actions.</li> <li>▪ Intensification of international trade disputes, resulting in: higher barriers to world trade, foreign investment reduction and a slowdown in technology transfer to less developed economies. Limited productivity growth in the global economy. Maintaining restrictions on international mobility leading to a crisis in economies with a large share of the tourism sector in GDP. Increasing disruptions in international supply chains.</li> <li>▪ Sustained loss of potential output in Poland (reduction in corporate investment, increase in equilibrium unemployment rate, lower participation rate, slower growth of total factor productivity).</li> </ul>	Inflation ↓ GDP ↓↓	**
Fast and permanent containment of the pandemic	<ul style="list-style-type: none"> <li>▪ Significant progress in reducing the pandemic in emerging markets and developing economies and even more intensive adaptation of economic agents to functioning amid a fading pandemic (high vaccination effectiveness and acceleration of vaccination rate, approval of a new effective drug for the treatment of COVID-19, increasing the supply of vaccines in emerging and developing economies, increasing public willingness to vaccinate, milder COVID-19 mutations).</li> <li>▪ Increase in optimism of economic agents, return of consumer and investor behaviour to the pre-pandemic patterns. Unleashing of households' pent-up demand.</li> <li>▪ Improvement in the global sentiment and stronger positive impact of anti-crisis packages launched due to pandemic in Poland and abroad. Launching of the announced further fiscal packages in the United States.</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. Further spread of animal diseases around the world.</li> </ul>	Inflation ⇕ GDP ⇕	*
<b>Summary</b>			Inflation ⇕ GDP ↓

Inflation CPI y/y, %



CPI y/y, %	below 1.5%	below 2.5%	below 3.5%	below centr. path	within 1.5-3.5% range
2021	0%	0%	8%	51%	8%
2022	6%	24%	56%	51%	50%
2023	9%	27%	53%	50%	44%

GDP y/y, %



CPI y/y, %	central path	50% probability interval	
2021	4.2	3.8	4.4
2022	3.3	2.5	4.1
2023	3.4	2.4	4.3

GDP y/y, %	central path	50% probability interval	
2021	5.0	4.1	5.8
2022	5.4	4.2	6.5
2023	5.3	4.1	6.5



NARODOWY BANK POLSKI

*Dbamy o wartość polskiego pieniądza*