



NARODOWY
BANK POLSKI

Economic Analysis and Research Department

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

Warsaw / 10th July 2023





Outline:

Projection 2023 – 2025

- Economic conditions abroad
- Economic perspectives for Poland
- Inflation

Uncertainty

Projection 2023-2025

Economic conditions abroad

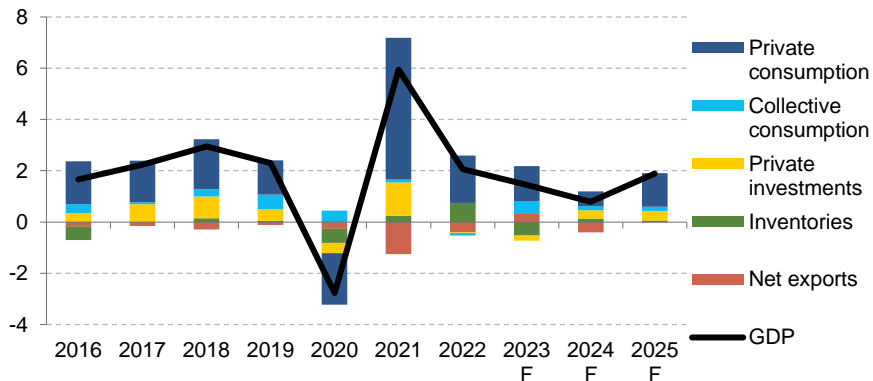
Economic activity abroad: moderate growth in developed economies over the projection horizon

GDP growth in the main economies – NBP forecast (%)

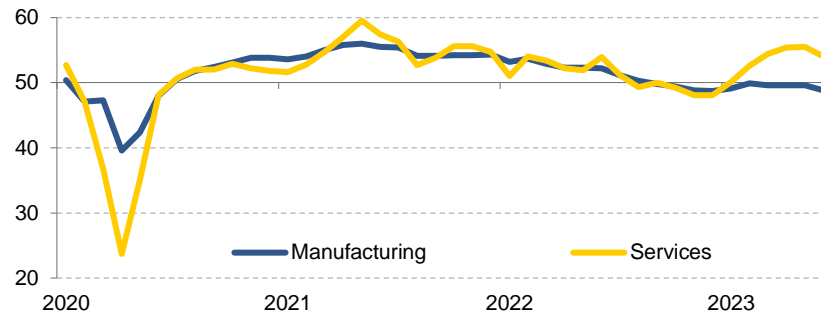
	2022	2023	2024	2025
Euro Area	3.5	0,7 (0.7)	1,5 (1.5)	1.5 (1.6)
Germany	1.8	-0.1 (0.2)	1.4 (1.6)	1.5 (1.6)
UK	4.1	0.4 (-0.2)	0.9 (1.0)	1.2 (1.4)
USA	2.1	1.4 (1.3)	0.8 (1.6)	1.9 (1.9)
China	3.0	5.3 (5.2)	4.9 (5.0)	4.8 (4.8)

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

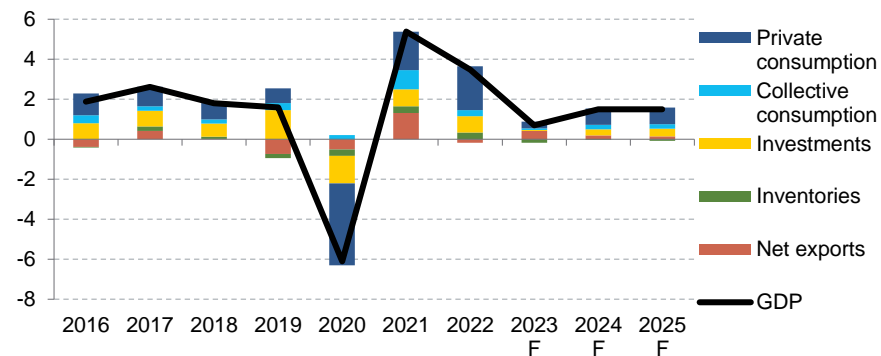
US real GDP growth decomposition (% and percentage points)



Global PMI (points)

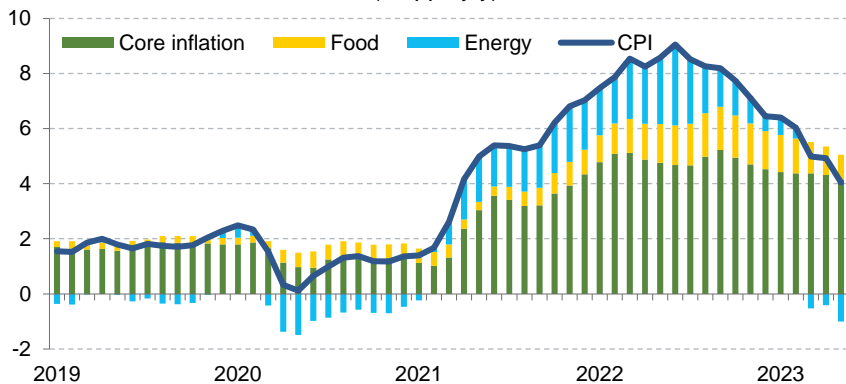


Euro Area real GDP growth decomposition (% and percentage points)

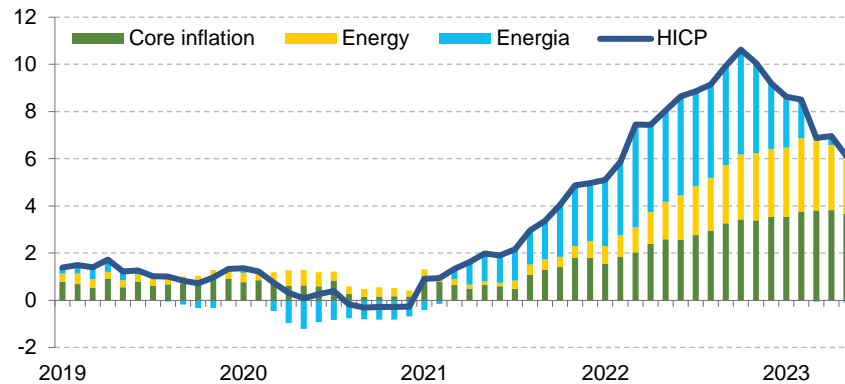


Inflation abroad: a gradual return to inflation targets due to the persistence of service price inflation

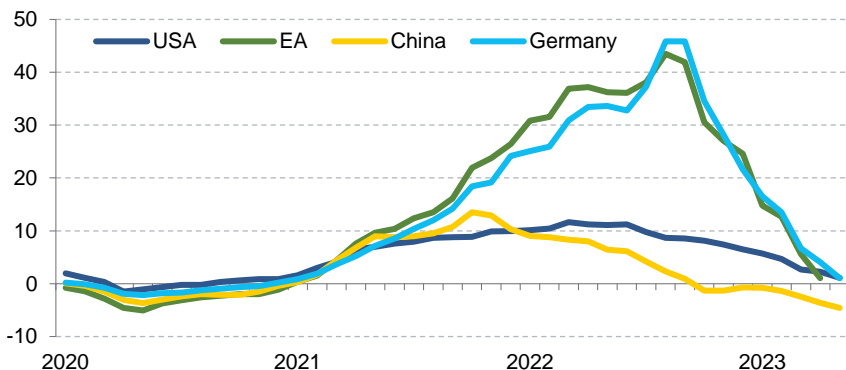
Decomposition of the CPI inflation in the USA
(%, pp., y/y)



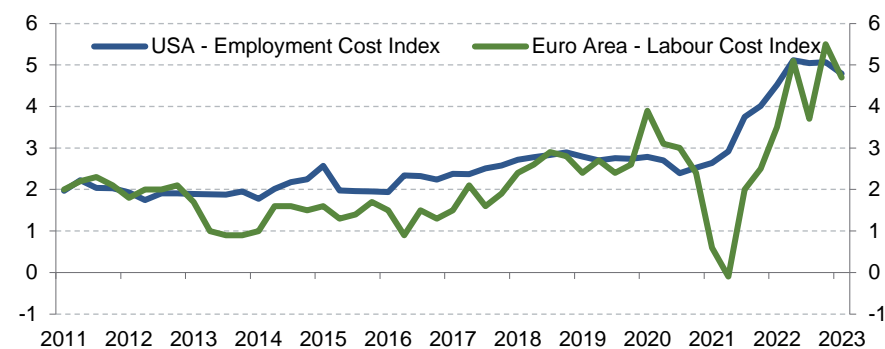
Decomposition of the HICP inflation in the euro area
(%, pp., y/y)



Producer price dynamics in selected economies (%, y/y)



Nominal wages in USA and Euro Area (%, y/y)



Core inflation: in EA – HICP excluding energy, food, alcohol and tobacco; in USA – CPI excluding energy and food.

Source: BLS, Eurostat, Refinitiv.



Outline:

Projection 2023 – 2025

- Economic conditions abroad
- Economic perspectives for Poland
- Inflation

Uncertainty

Projection 2023-2025

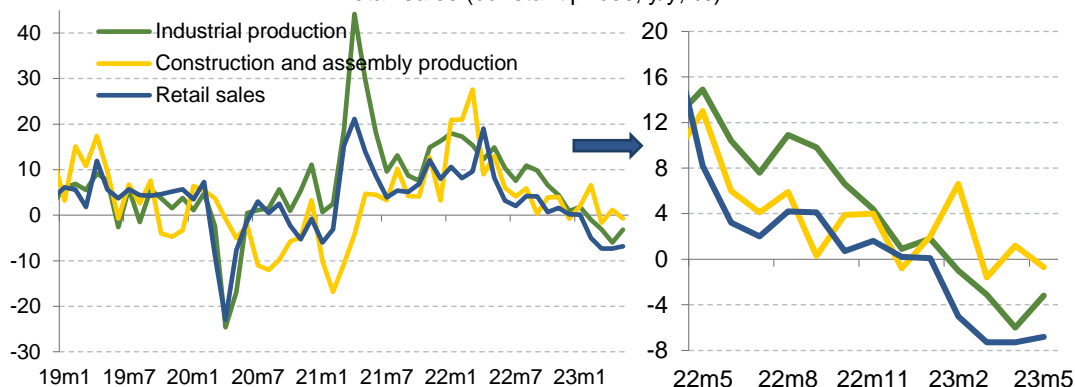
Economic perspectives for Poland

Stagnation of the economic activity in H1 2023, with relatively high investment growth rate of (large) companies

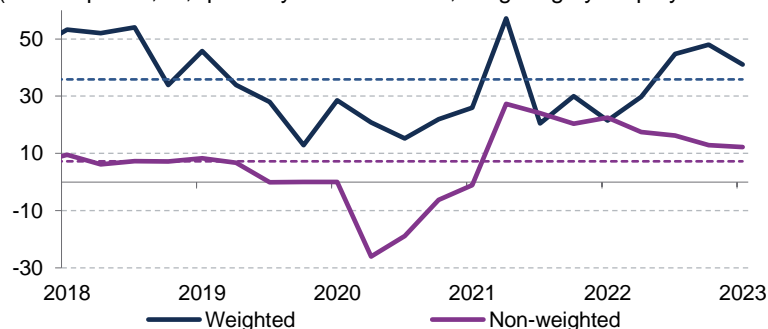
	23q1		23q2	
GDP (y/y, %)	-0.3	(-0.4)	-0.1	(0.8)
Domestic demand (y/y, %)	-5.2	(-2.5)	-2.2	(-0.5)
Household consumption (y/y, %)	-2.0	(-1.0)	-2.7	(-0.2)
Public consumption (y/y, %)	-0.5	(2.1)	-0.4	(0.9)
Gross fixed capital form. (y/y, %)	5.5	(2.8)	3.2	(1.4)
Change in inventories contrib. (y/y, pp.)	-4.1	(-2.5)	-1.0	(-0.8)
Net exports contribution (y/y, pp.)	4.3	(1.9)	2.0	(1.3)
Exports (y/y, %)	3.2	(0.9)	-0.6	(-0.3)
Imports (y/y, %)	-4.6	(-2.4)	-3.8	(-2.9)

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

Growth rates of industrial production, construction and assembly production and retail sales (constant prices, y/y, %)



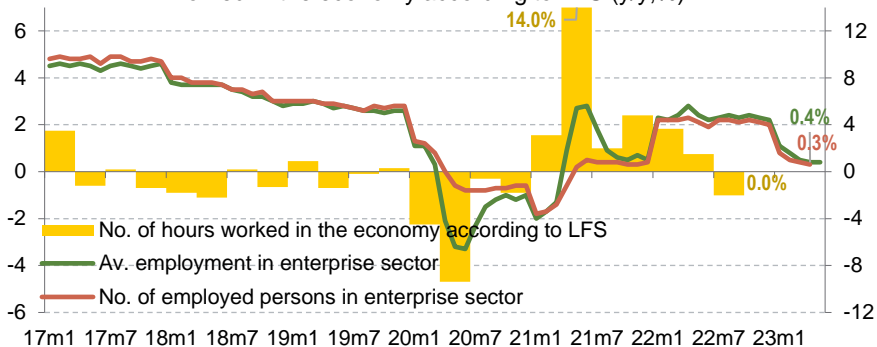
Average (median) investments growth rate (current prices, %, quarterly data F-01/I-01, weighting by employment size)



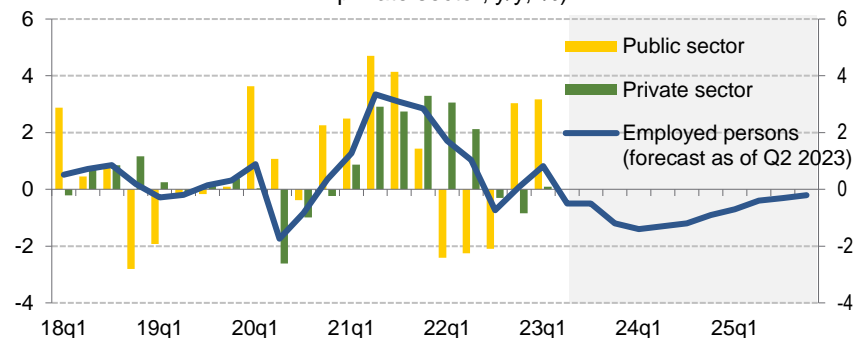
Note: dashed lines refer to averages from indicators since 2012.

Maintaining a good situation on the labor market, with a still high level of employment

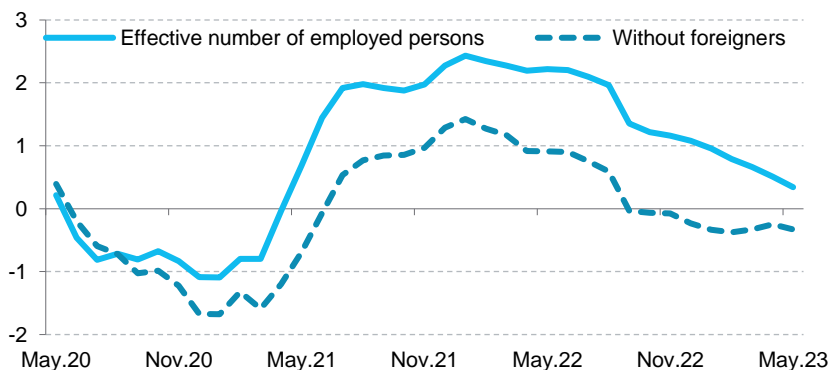
No. of employed persons, average employment in enterprise sector and hours worked in the economy according to LFS (y/y,%)



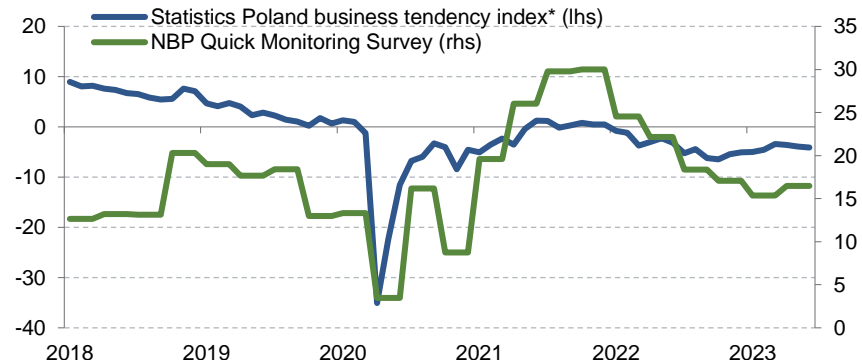
Employed persons according to LFS (by Q1 2023 broken down into public and private sector, y/y, %)



No. of employees registered for The Social Insurance Institution pension and disability insurance in total and excluding foreigners (% , y/y)



Index of expected changes in employment over the next 3 months (Statistics Poland business tendency survey) and in the next quarter (NBP Quick Monitoring Survey)

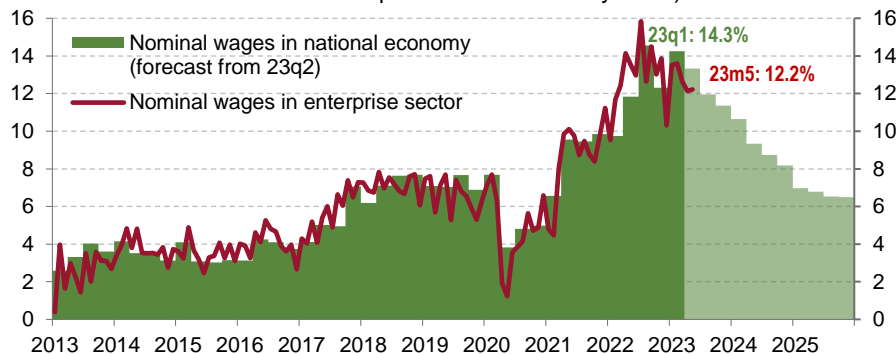


Source: Statistics Poland data, The Social Insurance Institution, MRIPS, NBP Quick Monitoring Survey, Eurostat, NBP calculations.

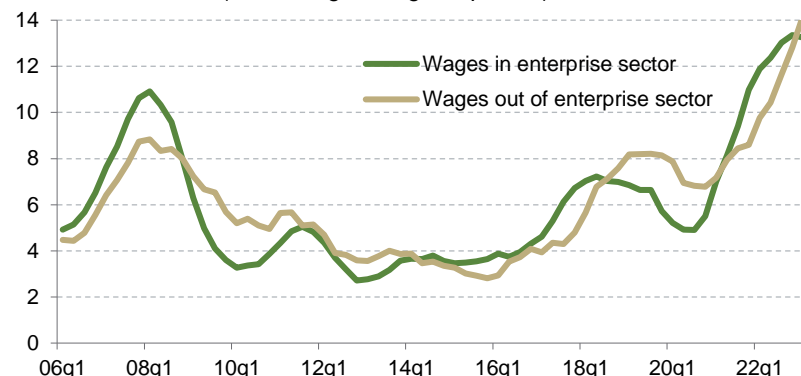
* Seasonally adjusted data. The index represents the difference between respective shares (in %) of answers indicating an increase and decrease in expected employment.

Over the projection horizon nominal wages will continue to grow at an elevated rate, although there are already signs of adjustment of labor costs by enterprises to slower economic growth

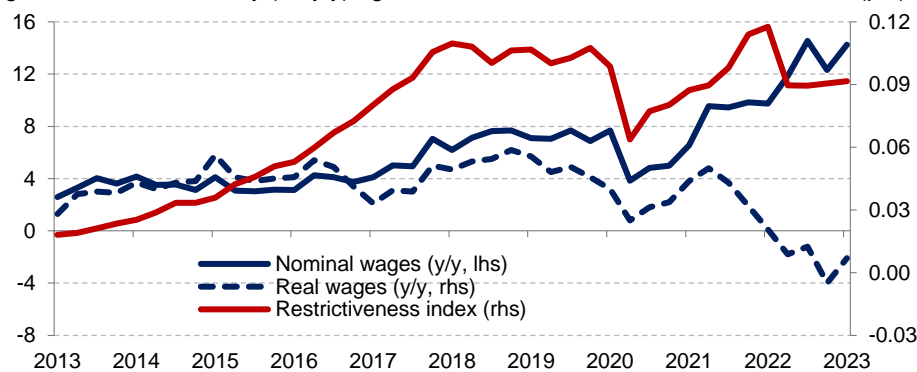
Nominal wage dynamics (in %, y/y, national economy data as of 23q1, data from enterprise sector as of May 2023)



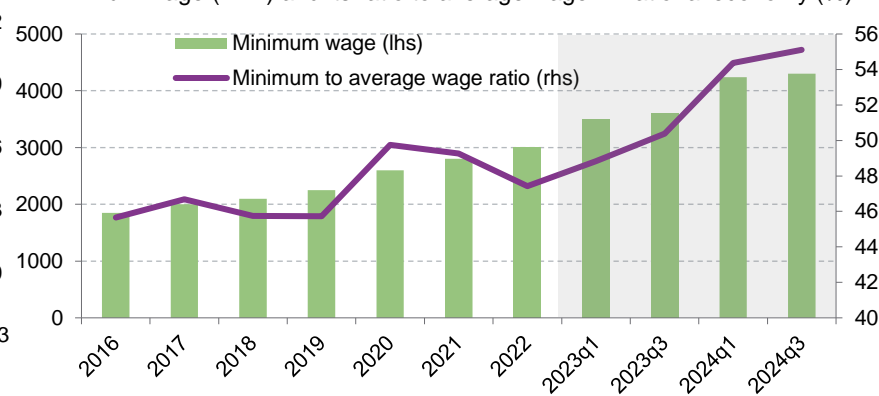
Annual growth rate of wages in enterprise and non-enterprise sector (% , moving average 4-quarters)



Wages in national economy (% , y/y) against the labour market restrictiveness index (pts)

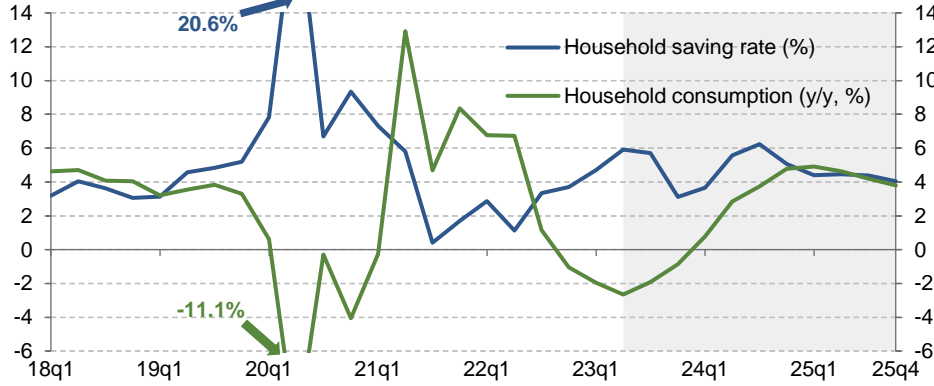


Minimum wage (PLN) and its ratio to average wage in national economy (%)

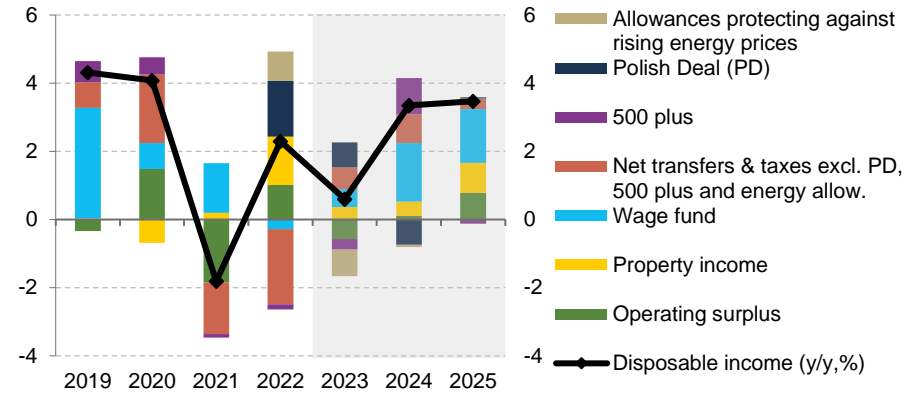


In 2024, household consumption growth rate will accelerate as a result of a more favorable development of their real disposable income

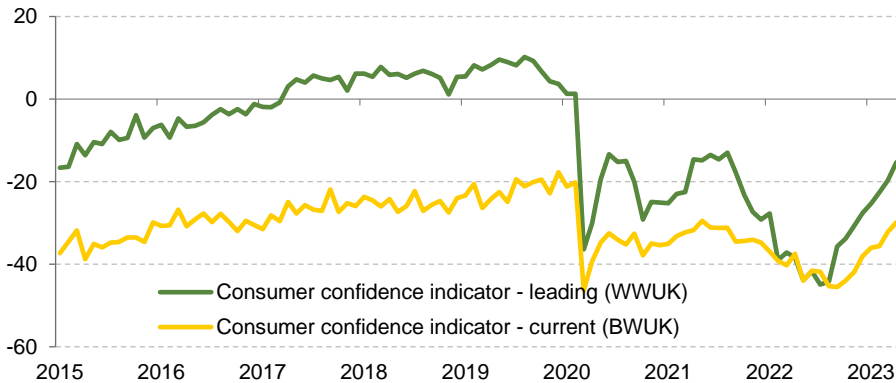
Household voluntary saving rate (%) and household consumption forecast (y/y, %)



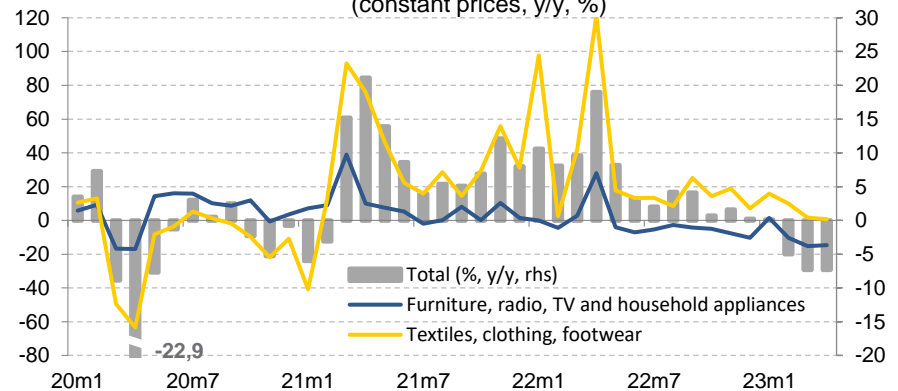
Decomposition of disposable income (constant prices, y/y, %)



Consumer confidence indices



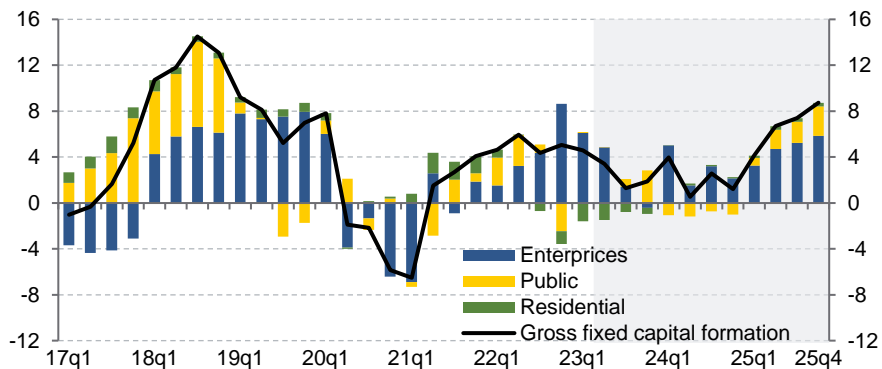
Retail sales of selected categories of goods against total retail sales (constant prices, y/y, %)



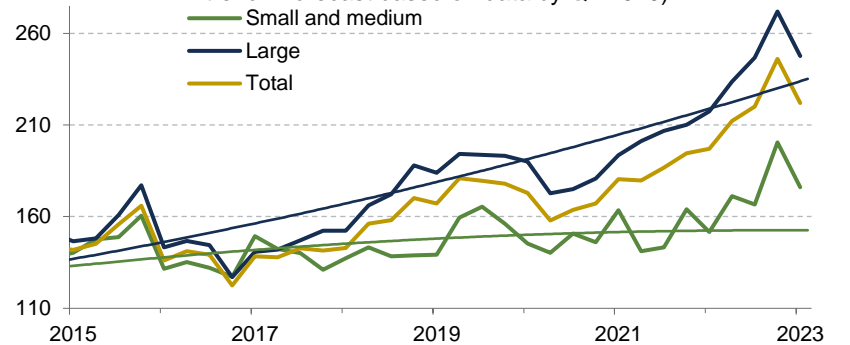
Source: Statistics Poland data, NBP calculations.

Maintaining a relatively high growth rate of gross fixed capital formation in Q1 2023 due to continued strong growth in investment by (large) enterprises

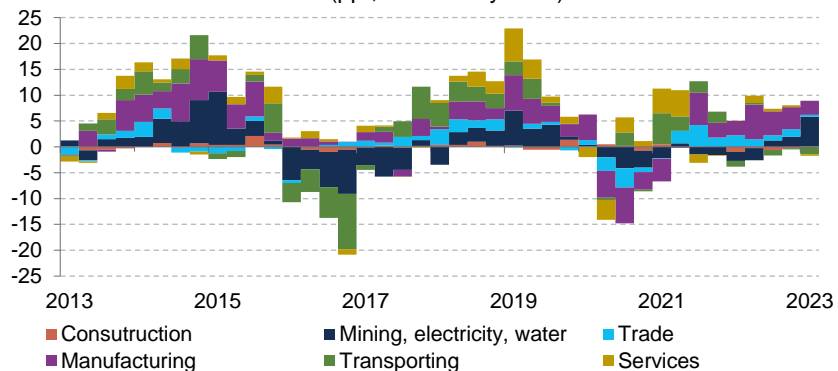
Decomposition of gross fixed capital formation (y/y, %)



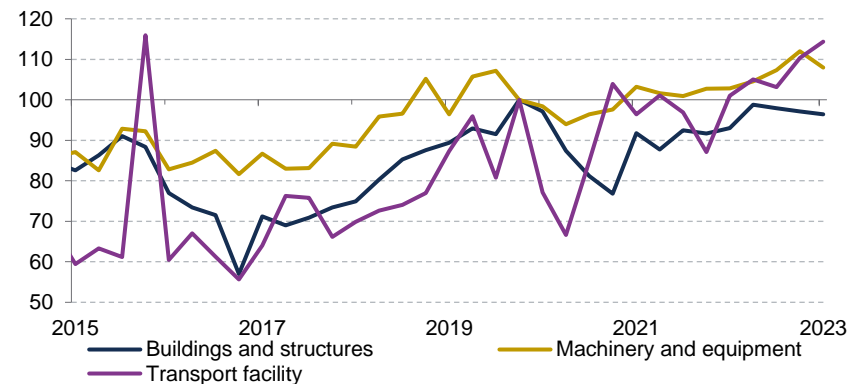
Investment dynamics by employment size (2010 = 100%, s.a., current prices, trend – forecast based on data by Q4 2019)



Contributions to the real investments growth rate by PKD (pp., deflated by NBP)

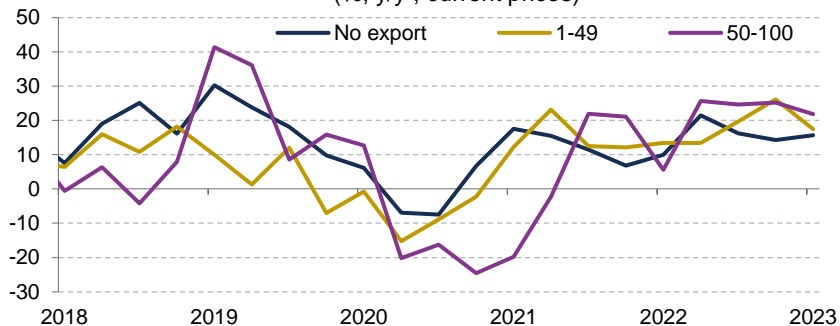


Real investments growth rate by types of outlays (2019=100, s.a., deflated by NBP)

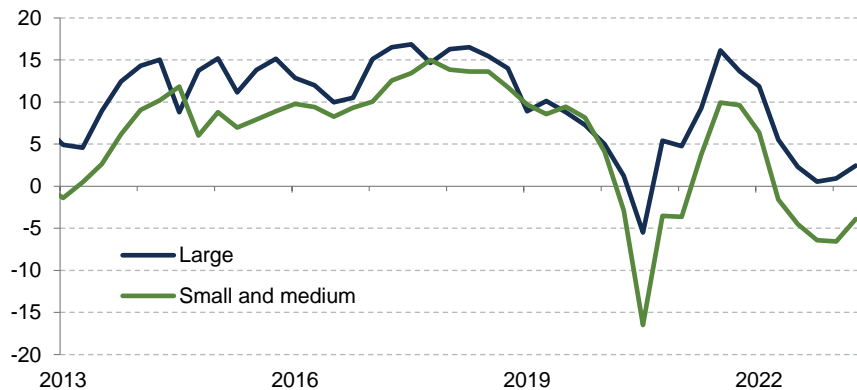


Good investments among exporters, but the demand prospects may limit them. Investments of enterprises are supported by their solid financial condition

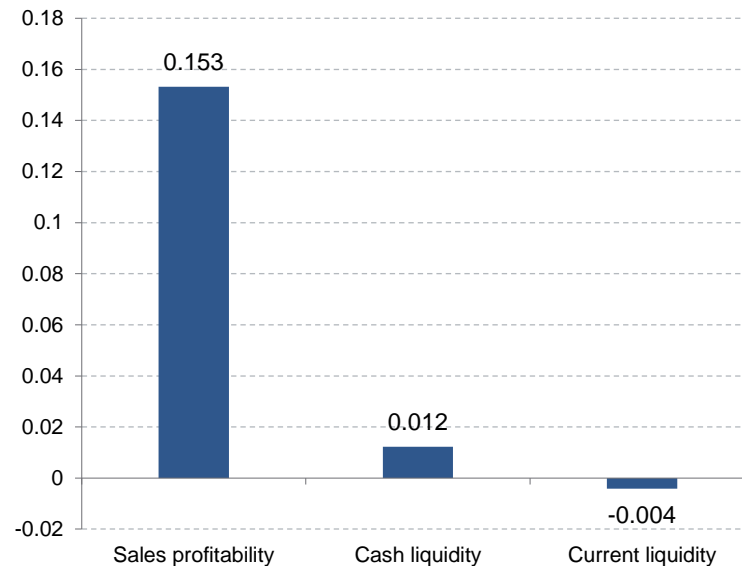
Enterprises' investments growth rate by share of exports in revenues (% , y/y , current prices)



Index of quarterly demand forecasts by employment size (pp.)

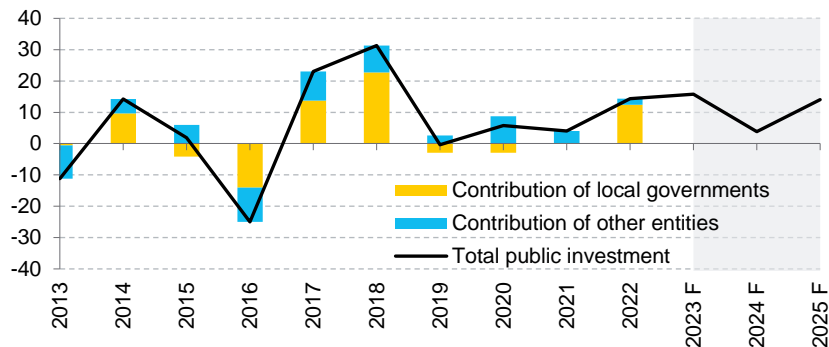


Estimated impact on investment rate

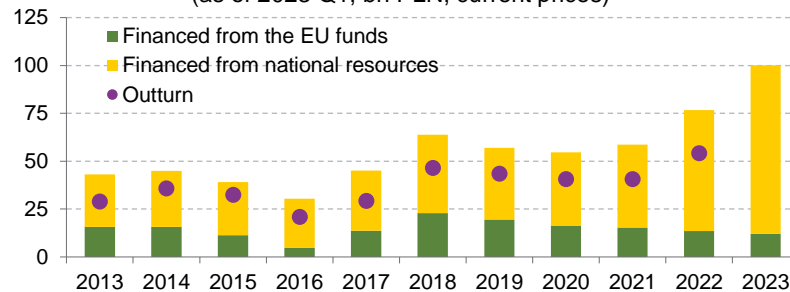


In 2023 planned stronger increase in local government investments, in 2024 the expected slowdown in public investment due to the overlap between the end of old EU perspective and initial phase of the new one

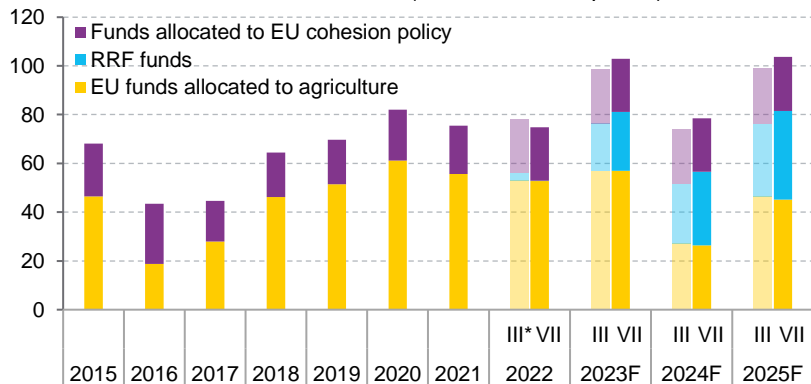
Nominal growth rate of public investment and contribution of its main components (y/y, % and pp.)



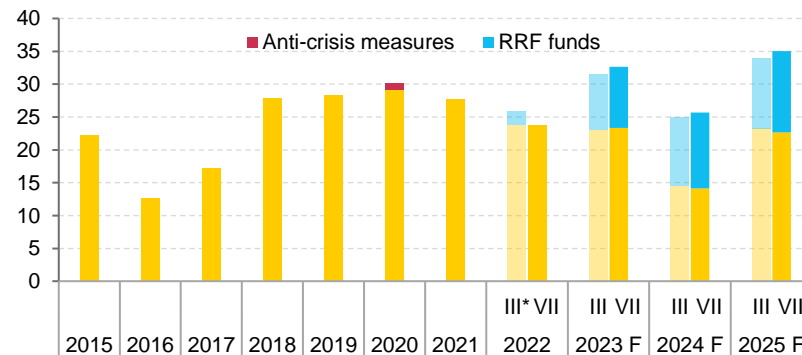
Planned local governments investment spending (as of 2023 Q1, bn PLN, current prices)



Total use of EU funds (bn PLN, current prices)

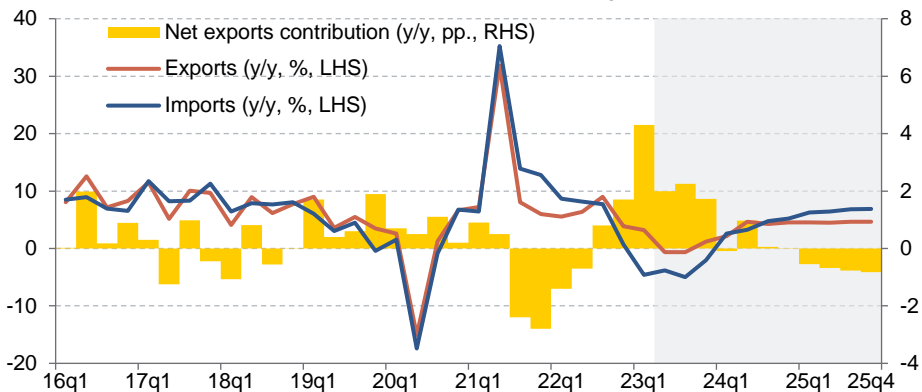


EU funds used for public investments (bn PLN, current prices)

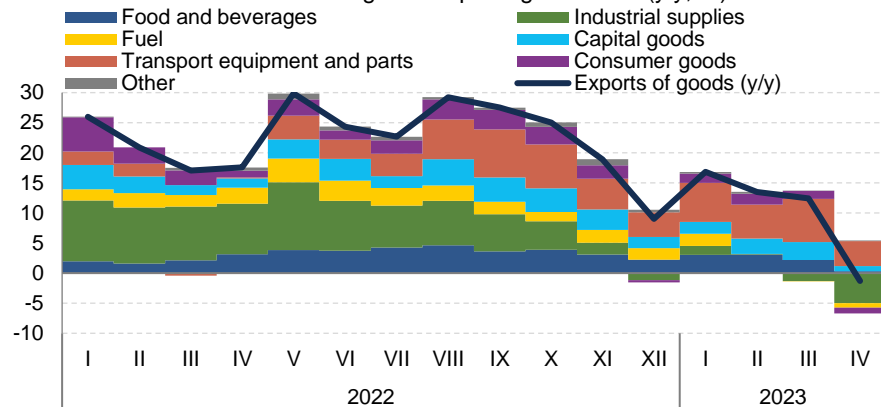


In 2023 slower growth in exports as a result of weakening demand from the euro area. The contribution of net exports to GDP growth rate positive due to a stronger cyclical reaction of imports, in 2025 again negative.

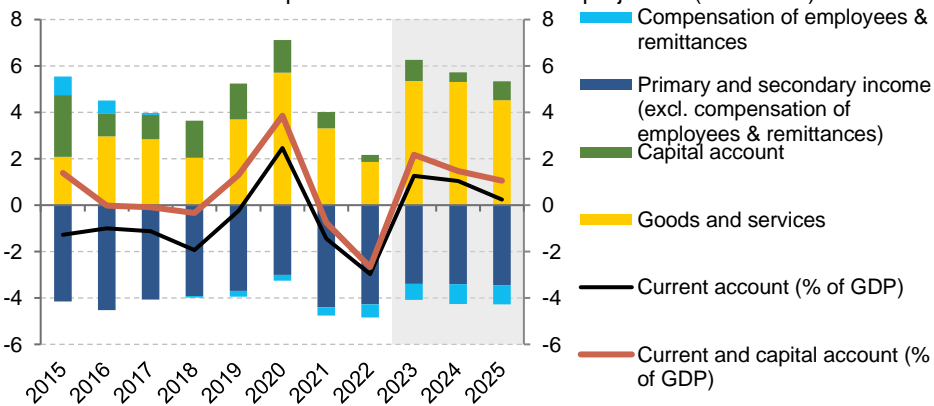
Net exports contribution to GDP growth rate



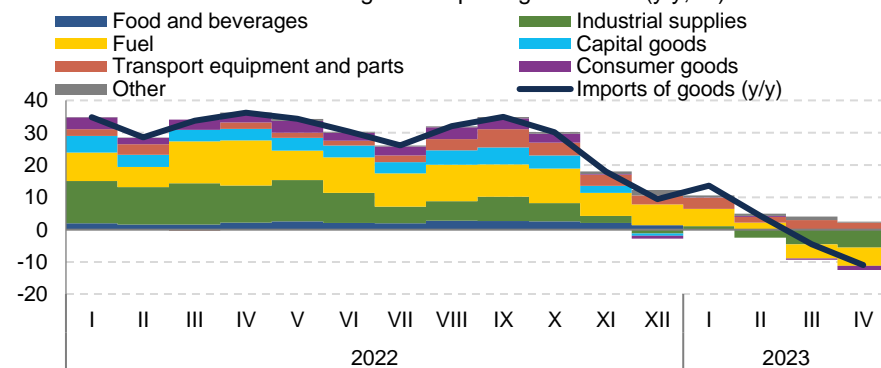
The value of goods exports growth rate (y/y, %)



Current and capital account balance in the projection (% of GDP)

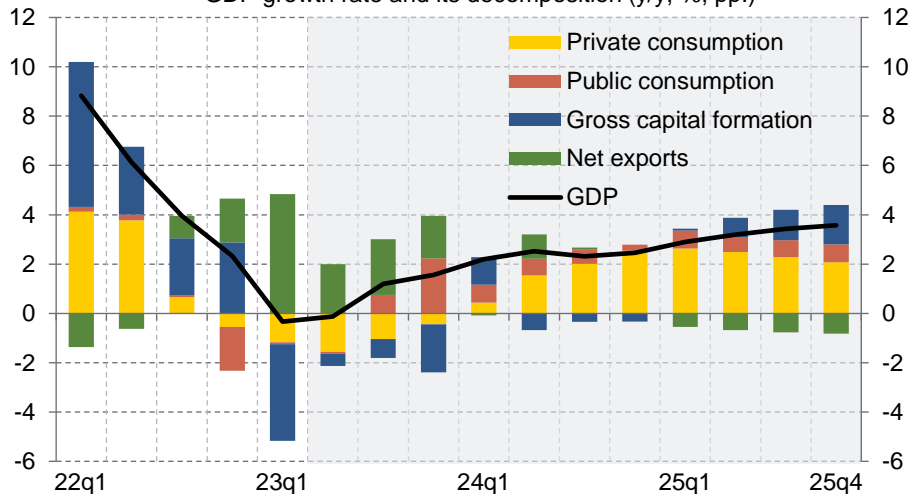


The value of goods imports growth rate (y/y, %)



GDP growth (y/y) in Q2 2023 close to zero. GDP in 2023 slightly lower than in March projection, but stronger rebound in 2024-2025.

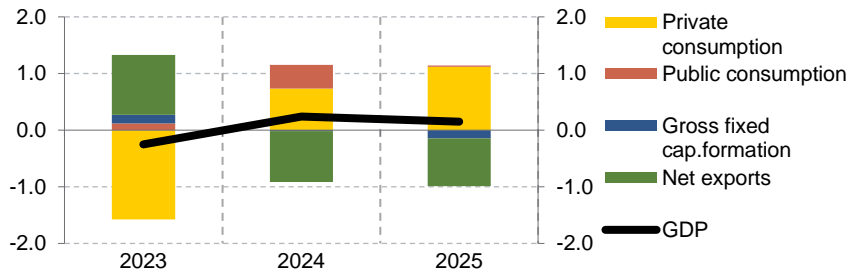
GDP growth rate and its decomposition (y/y, %, pp.)



Factors determining domestic activity over the projection horizon:

- ⇓ strong negative supply shocks reinforced by the consequences of Russia's aggression against Ukraine
- ⇓ significant **economic slowdown abroad in 2023 r.**
- ⇓ prior **hikes of the NBP interest rates**
- ⇑ **fiscal changes**, including valorisation of Family 500 Plus benefits
- ⇑ **statutory regulation of tariffs for selected energy carriers**
- ⇑ good situation in labour market
- ⇑ **fading away of the negative effects of supply shocks and economic recovery abroad in 2024-2025**
- ⇓ **in 2024 significant decrease in the influx of EU funds** related to the end of spending under the EU 2014-2020 perspective

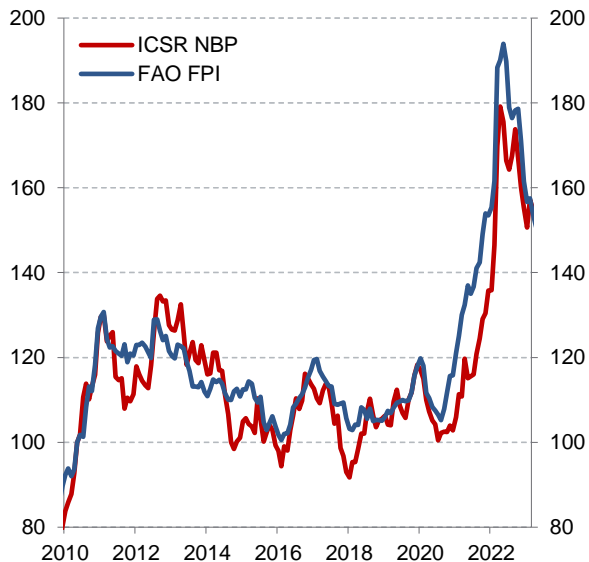
Decomposition of changes in GDP growth rate between projection rounds (y/y, pp.)



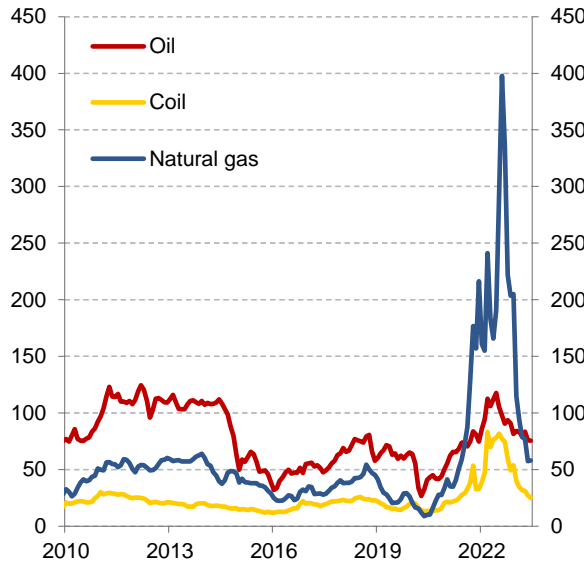
GDP, y/y, %	2021	2022	2023	2024	2025
July 2023	6.9	5.1	0.6	2.4	3.3
March 2023	6.8	4.9	0.9	2.1	3.1

Commodity prices have significantly declined compared to their record values in 2022.

ICSR NBP and FAO FPI
(may 2010=100, EUR, monthly data)

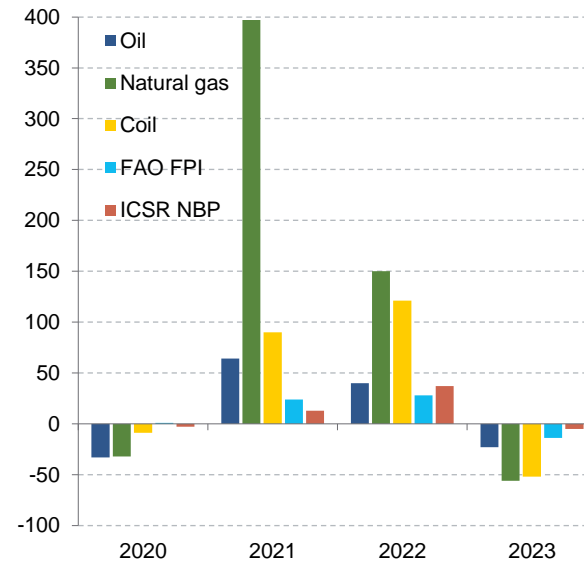


Prices of oil, natural gas and coal
(USD/boe, monthly data)



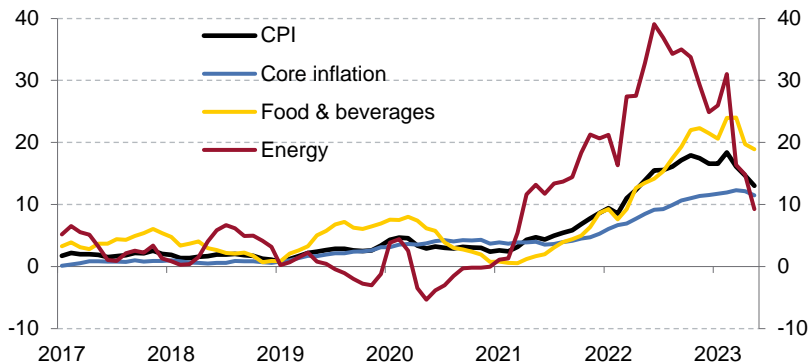
*boe - barrel of oil equivalent

Average annual commodity price dynamics
(%)

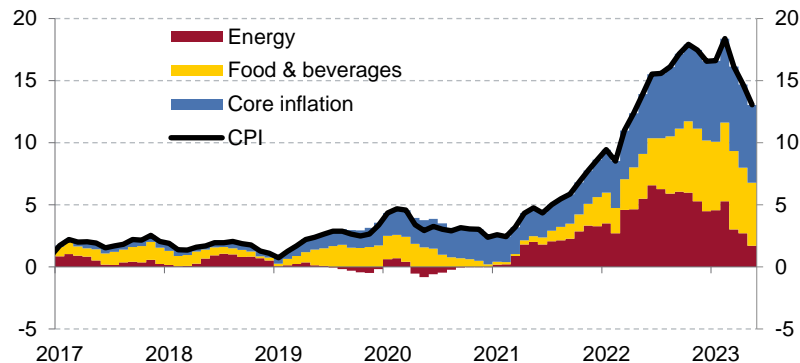


Decrease in CPI inflation since February 2023

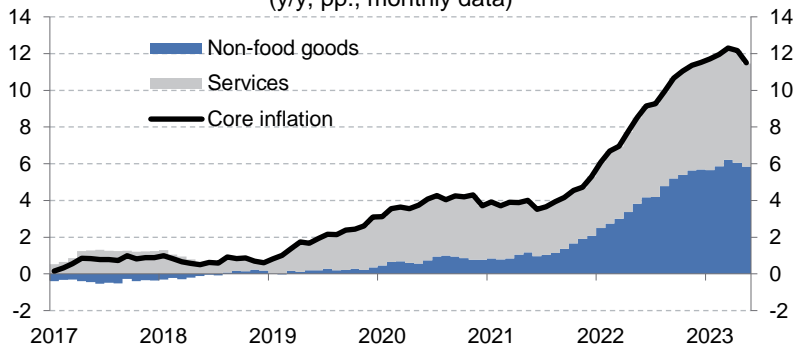
Consumer price dynamics (y/y, %, monthly data)



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



Decomposition of core inflation (CPI inflation excl. food and energy) (y/y, pp., monthly data)



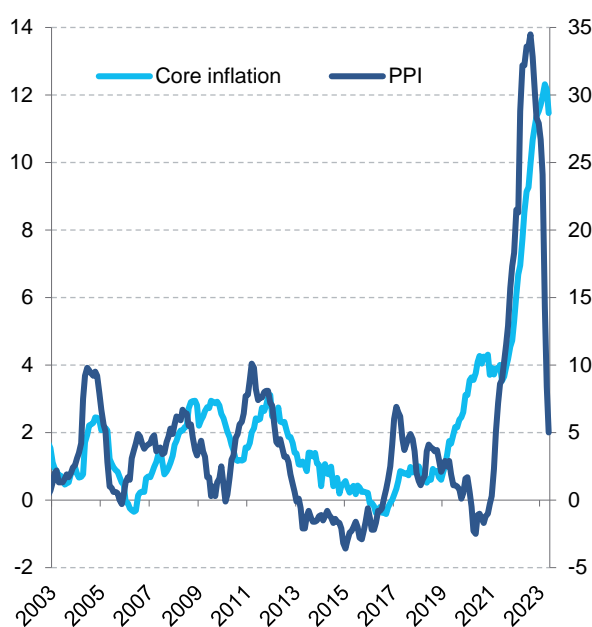
Inflation in Q1 2023 and its Q2 2023 estimates in July projection compared to the March projection (y/y, pp.)

r/r, %	23q1		23q2	
CPI inflation	17.0	(17.2)	13.1	(12.8)
Core inflation	12.0	(11.8)	11.6	(11.1)
Food prices inflation	22.9	(21.7)	18.8	(16.4)
Energy prices inflation	24.2	(26.7)	9.5	(12.6)

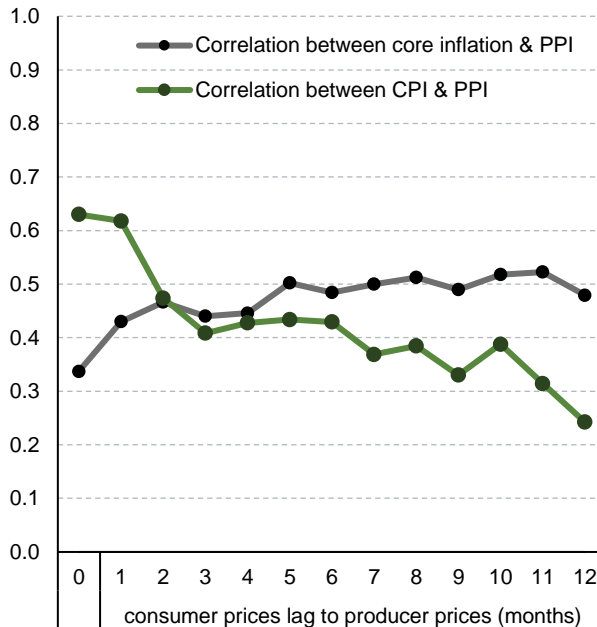
Values from the March projection are given in brackets (seasonally adjusted). Indicators with values higher than in the March projection are marked green, and indicators with lower values are marked red.

Core inflation reacts with greater lag to changes in PPI than CPI

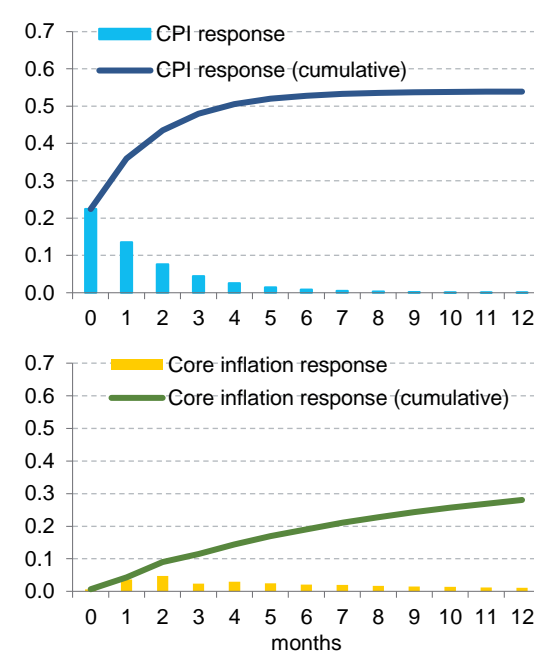
Core inflation (CPI inflation excl. food and energy) and PPI on domestic market (y/y, %)



Current and lagged coefficients of correlation (s.a. data, m/m)

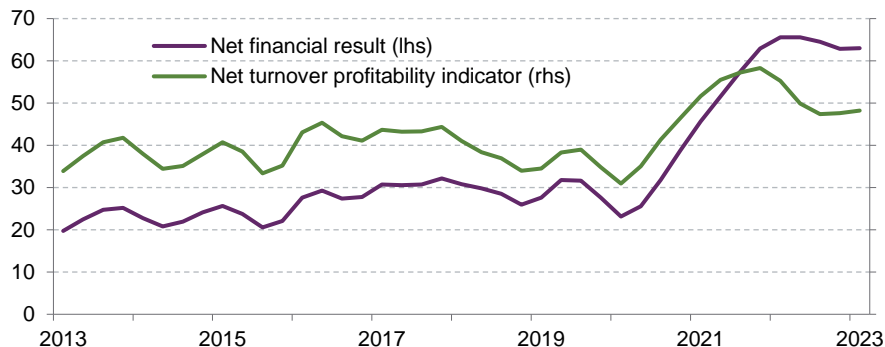


Impulse response of CPI and core inflation to the 1 pp. increase of PPI on domestic market

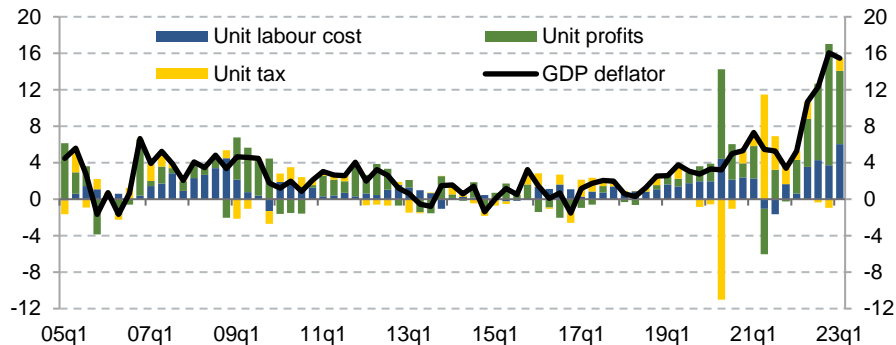


A significant increase in the gross operating surplus per unit of production of non-financial enterprises, with varying degrees of difficulty in transferring cost impulses to prices

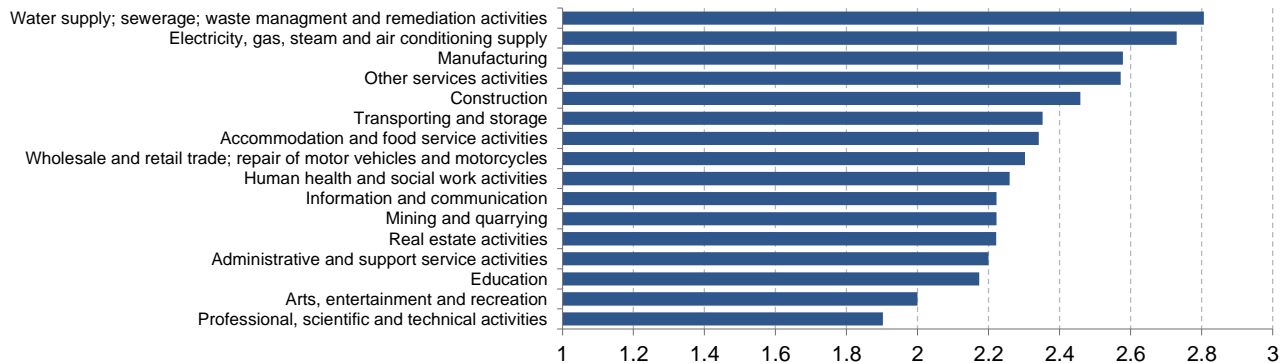
Net financial result (bn PLN) and net turnover profitability indicator



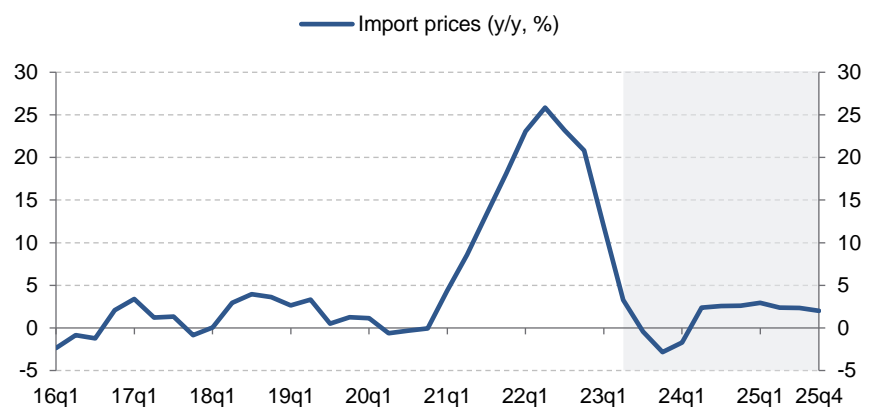
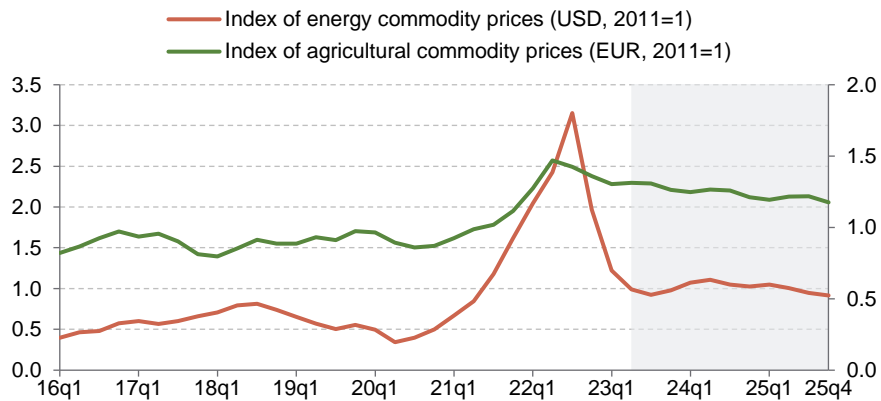
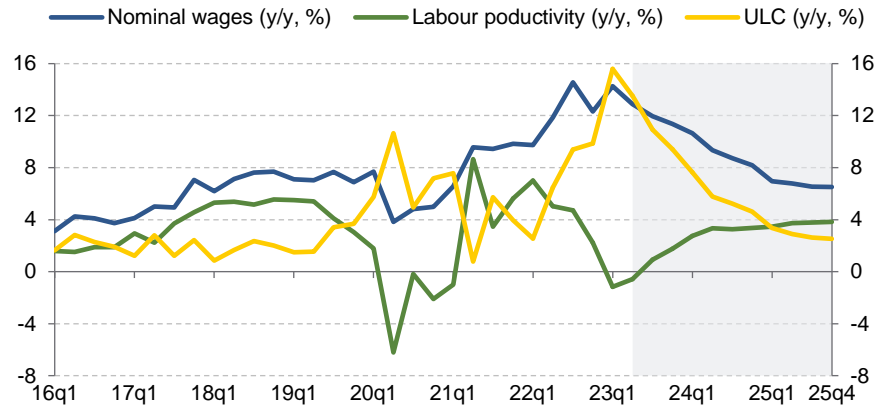
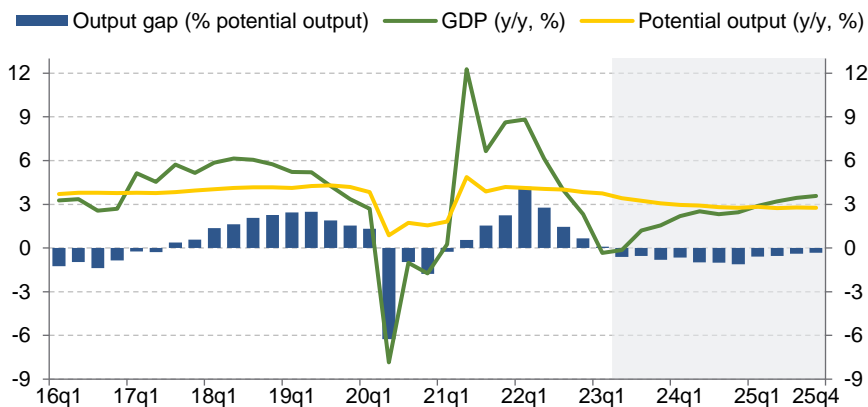
Decomposition of changes in y/y GDP deflator



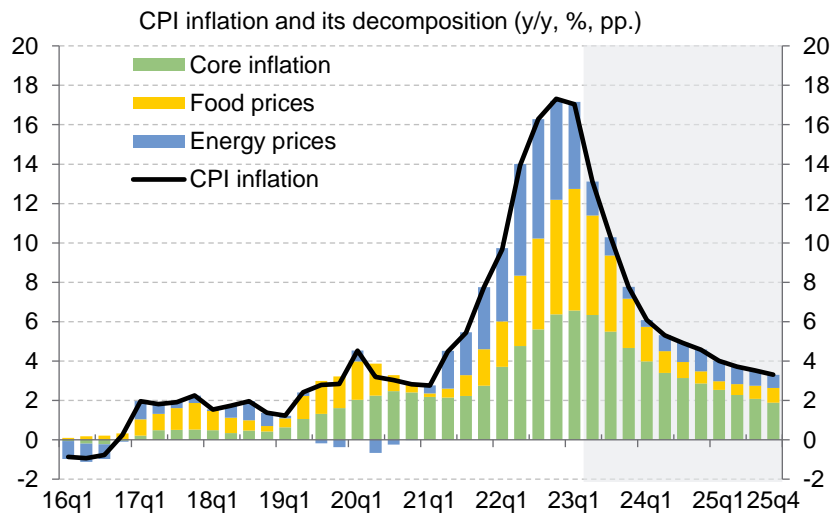
Difficulties, observed in Q2 2023, in transferring the increase in costs to prices by NACE sections



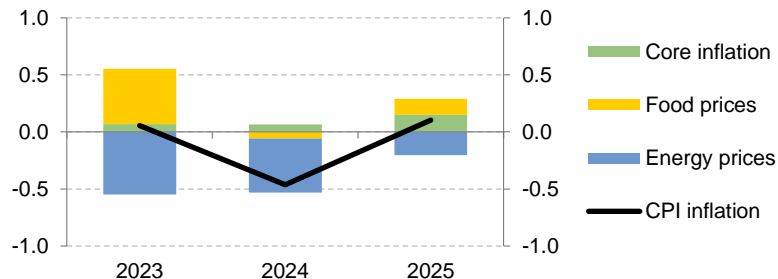
Over projection horizon demand pressure at a reduced level, contributing to a decline in CPI inflation



Gradual return of inflation to the band of deviations from the NBP inflation target over 2023-2025.



Decomposition of CPI forecast changes between the projection rounds (y/y, pp.)



The inflation path over the projection horizon will be affected by:

- ⇩ fading away of recent years' inflation drivers:
 - ⇩ **slowdown in the domestic demand growth**
 - ⇩ further **decline in energy and agricultural commodity prices** in global markets
 - ⇩ **receding tensions in supply networks**
 - ⇩ **slowdown of inflation abroad**
 - ⇩ **declining labor cost dynamics**
- ⇩ Government shielding measures, including **gas price freeze, price cap for electricity, legal maximum tariff increase for heat in 2023**, maintaining reduced VAT rates on food
- ⇩ **increased inflation persistence** (elevated inflation expectations translating into stronger wage pressures, increased acceptance of higher price growth)
- ⇩ **expiry of a significant part of the arrangements** that were in place in 2022 **under the Anti-Inflation Shield**, assumed scaling back of government shielding measures in 2024-2025

CPI, y/y, %	2021	2022	2023	2024	2025
July 2023	5.1	14.4	11.9	5.2	3.6
March 2023	5.1	14.4	11.9	5.7	3.5



Outline:

Projection 2023 – 2025

- Economic conditions abroad
- Economic perspectives for Poland
- Inflation

Uncertainty

Uncertainty

- Risks
- Fancharts

Risks

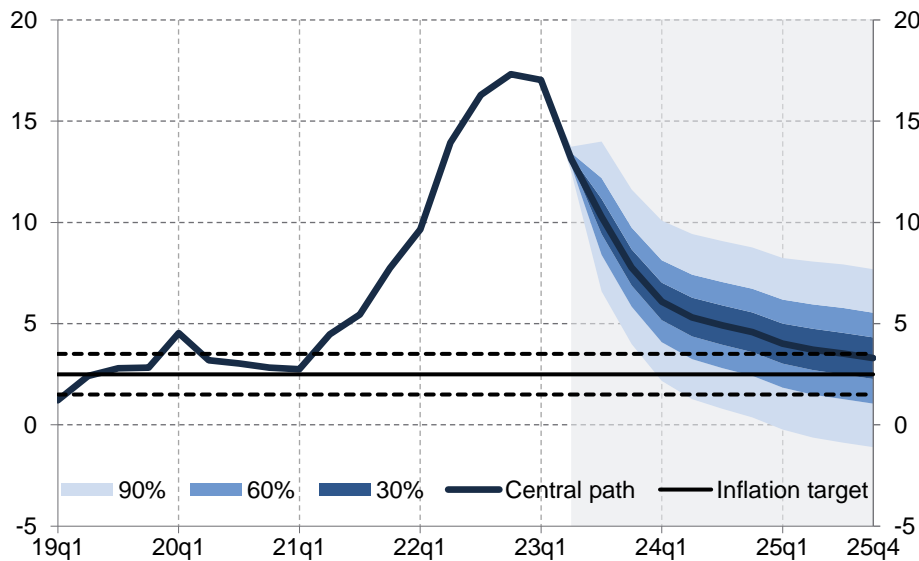
- **Further course of Russia's military aggression against Ukraine**
- **Global supply and demand for energy commodities**
- **Effects of monetary tightening by ECB and FED**
- **Disturbances in financial system**
- **Government shielding measures**

In the July projection horizon there is:

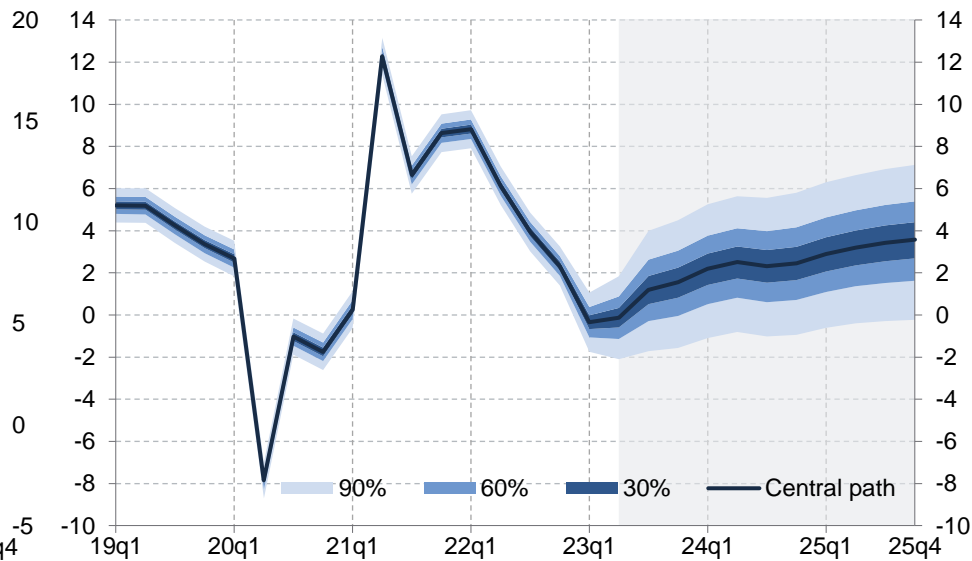
- ↔ **Close to symmetric distribution of risks to CPI inflation**
- ↓ **Slightly higher probability of GDP growth falling below the projection's central path**

The most important source of risk for these variables are the **macroeconomic effects of Russia's military aggression against Ukraine.**

CPI Inflation (y/y, %)



GDP (y/y, %)



CPI y/y, %	below 1.5%	below 2.5%	below 3.5%	below centr. path	within 1.5-3.5% range
2023	0%	0%	0%	50%	0%
2024	5%	12%	22%	50%	17%
2025	17%	30%	48%	50%	31%

CPI y/y, %	central path	50% probability interval	
2023	11.9	11.1	12.7
2024	5.2	3.7	6.8
2025	3.6	2.1	5.1

GDP y/y, %	central path	50% probability interval	
2023	0.6	-0.2	1.3
2024	2.4	1.4	3.3
2025	3.3	2.1	4.4



**NARODOWY
BANK POLSKI**