



EUROPEAN CENTRAL BANK

EUROSYSTEM

The risks of stubborn inflation

19 June 2023

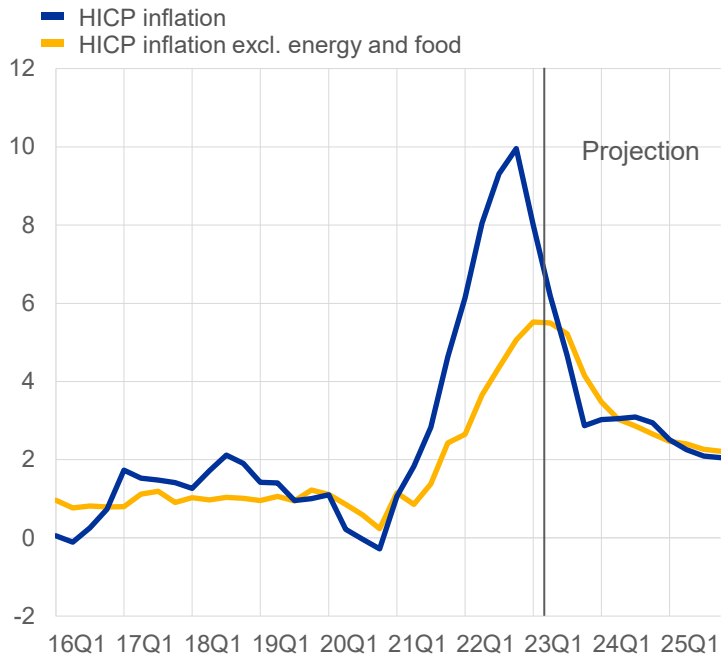
Isabel Schnabel, Member of the ECB's Executive Board
Euro50 Group, Luxembourg



Headline inflation drops mainly due to energy and food, while core inflation proves sticky

HICP inflation projections

(annual percentage changes)

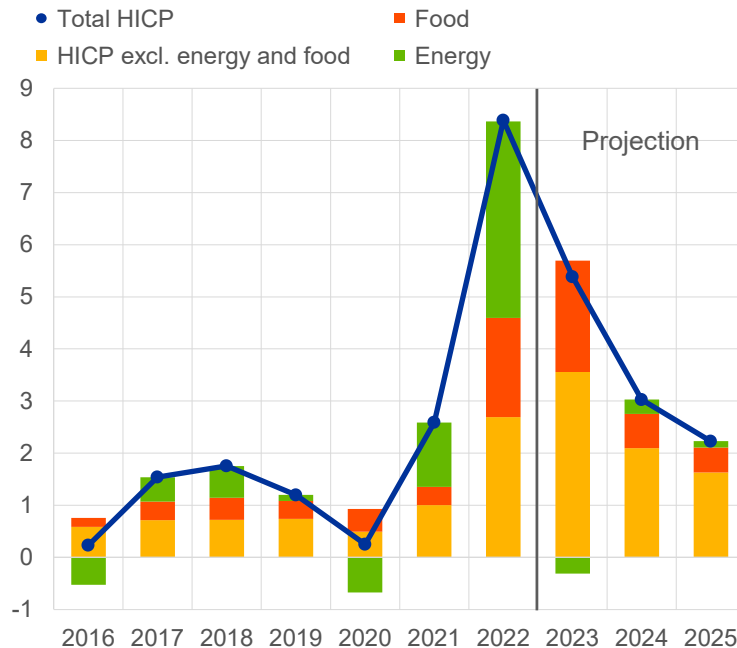


Source: June 2023 Eurosystem staff projections.

HICP inflation projections

– main components

(annual percentage changes, percentage points)

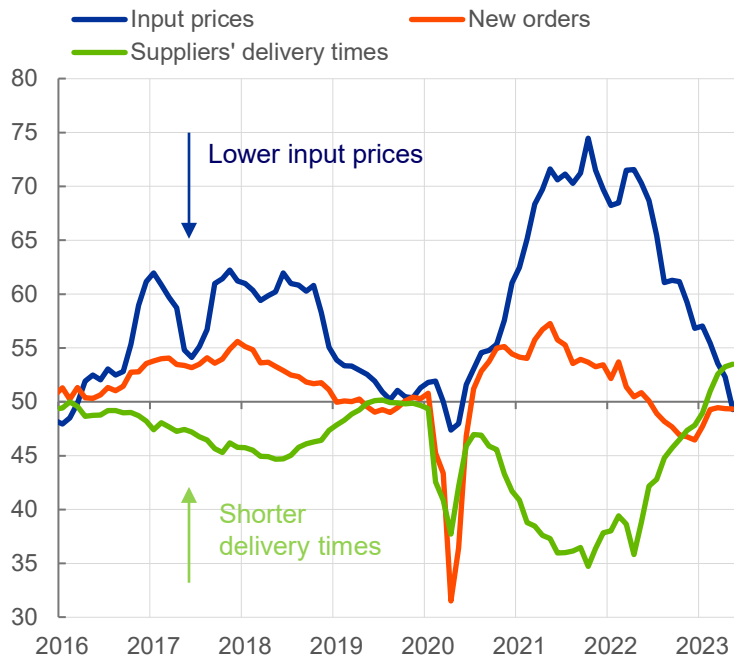


Source: June 2023 Eurosystem staff projections.

Inflation is increasingly driven by domestic factors, in particular wage growth

Global manufacturing PMI

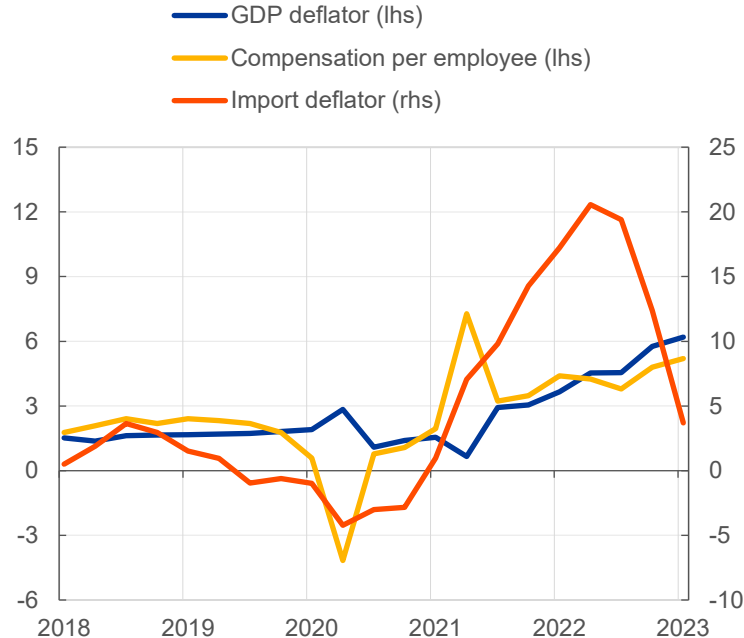
(diffusion index)



Sources: JP Morgan and S&P Global.
Latest observation: May 2023.

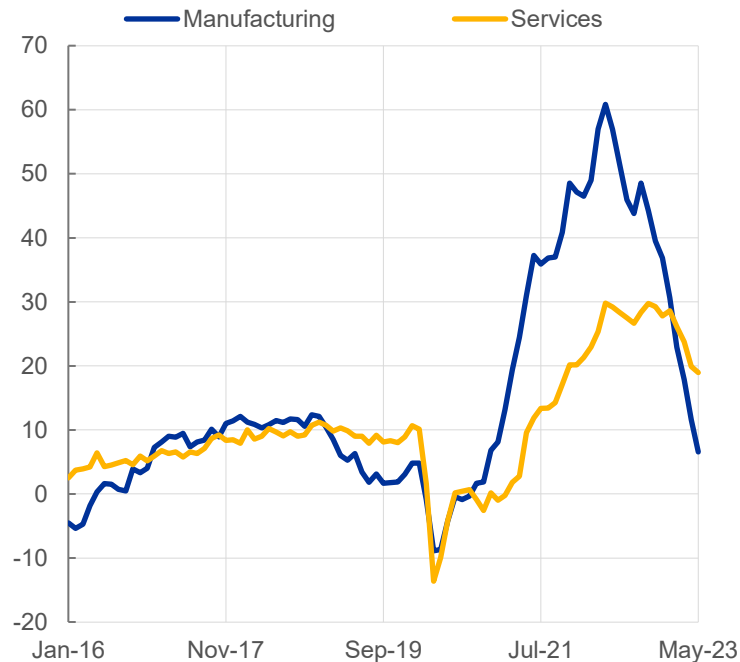
GPD deflator, import deflator and compensation per employee

(y-o-y changes)



Source: Eurostat.
Latest observation: 2023Q1.

Firms' selling price expectations (diffusion index)



Source: DG-ECFIN.
Latest observation: May 2023.

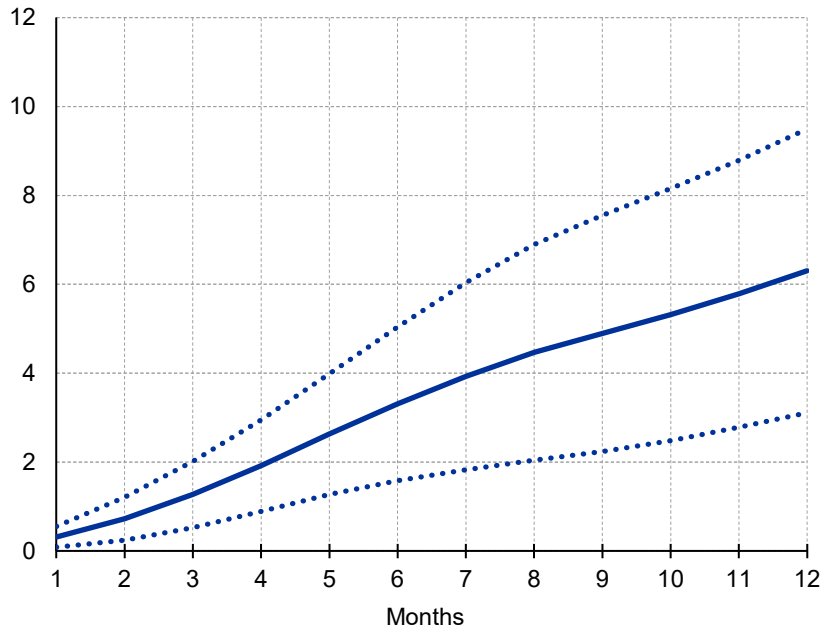
Risk-neutral option-implied probabilities for inflation outcomes above 3% and below 1% (percentages)



Sources: Bloomberg, Refinitiv and ECB calculations.

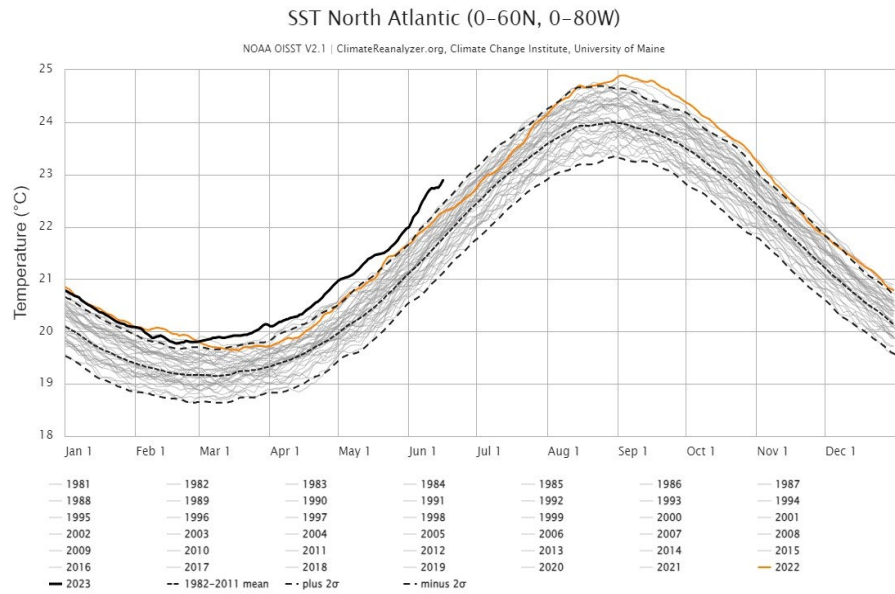
Notes: 5-days moving average of risk-neutral probabilities of inflation higher than 3% and lower than 1% implied by five-year and ten-year zero-coupon inflation options. The depicted probabilities are risk-neutral probabilities affected by risk premia and should therefore not be interpreted as "real world" (or physical) probabilities. Latest observation: 12 June 2023.

Global food price effects of a one degree temperature change during El Niño (percent)



Sources: Haver, US NOAA and ECB staff calculations.
Notes: The impulse response shows the impact of a 1°C increase in temperature during El Niño. Climate data based on the Oceanic Nino Index (ONI) of the US National Oceanic and Atmospheric Administration (NOAA), identifying El Niño as periods when the sea surface temperature in the East-Central tropical Pacific increases by 0.5°C compared to a 30 year average for five consecutive months. The chart shows 68% confidence intervals.
Latest observation: April 2023.

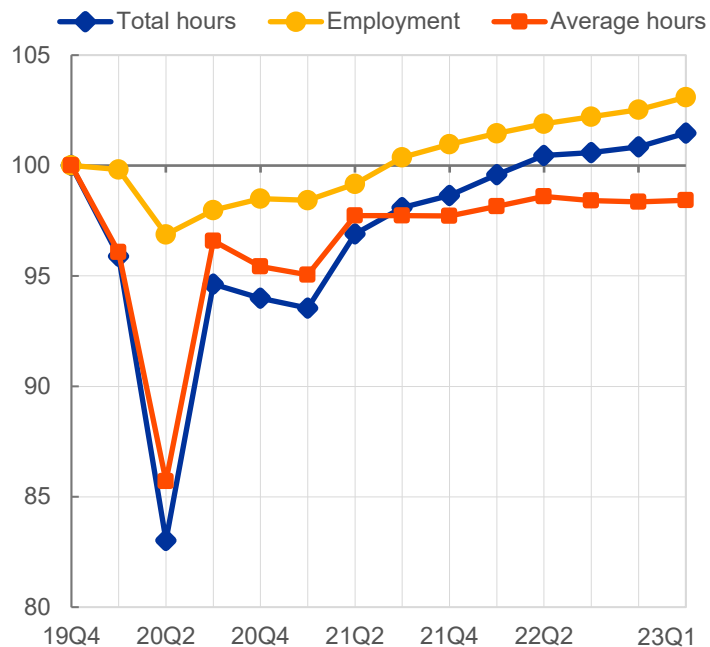
North Atlantic sea surface temperature anomaly (degree Celsius)



Source: Climate Change Institute, University of Maine.

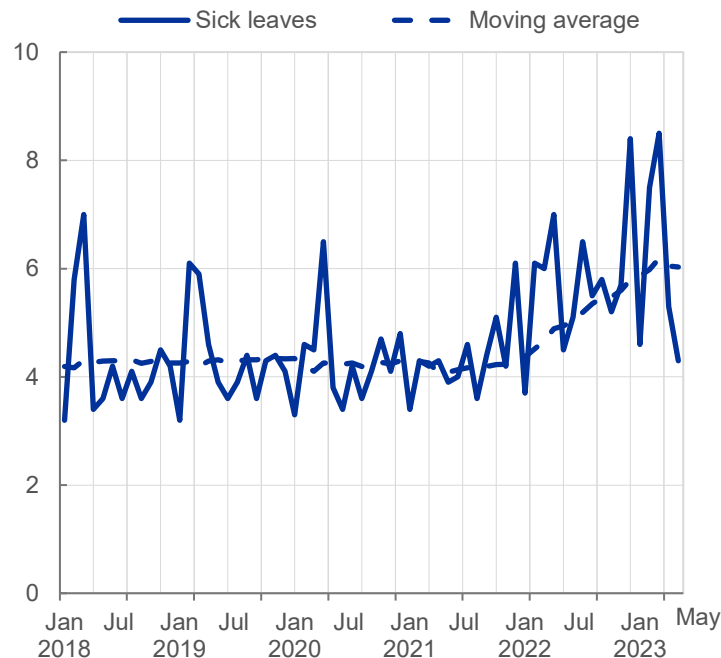
Average hours worked have not recovered completely, as sick leaves are rising

Total hours, employment and average hours (2019 Q4=100)



Sources: ECB calculation based on Eurostat data.
Latest observation: 2023Q1.

Germany: Sick leaves from work (percent of employees)

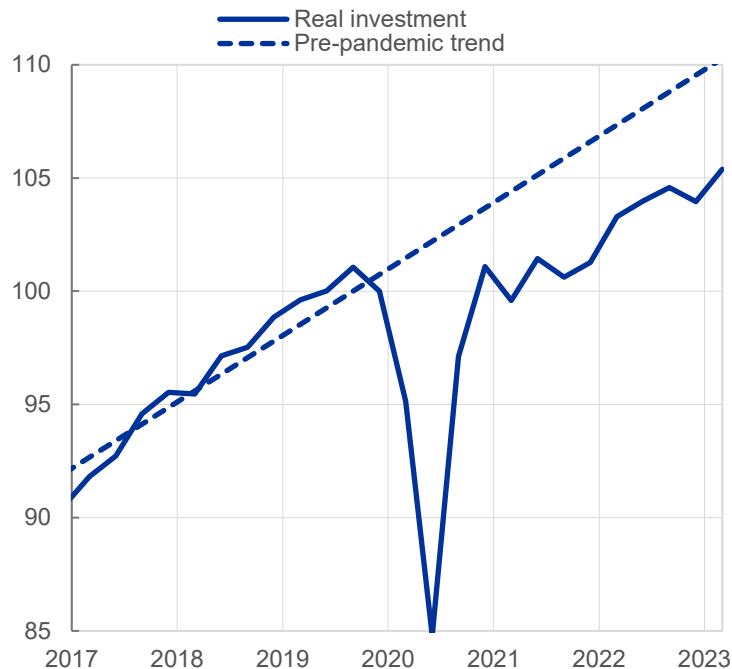


Source: Public health insurance funds in Germany.
Notes: Number of employees recorded as sick on the first day of the respective month as a share of all insured employees. The dashed line denotes the 12-month moving average.
Latest observation: May 2023.

Investment gap points to hysteresis effects, which may dampen potential growth

Real business investment

(index: January 2020 = 100)



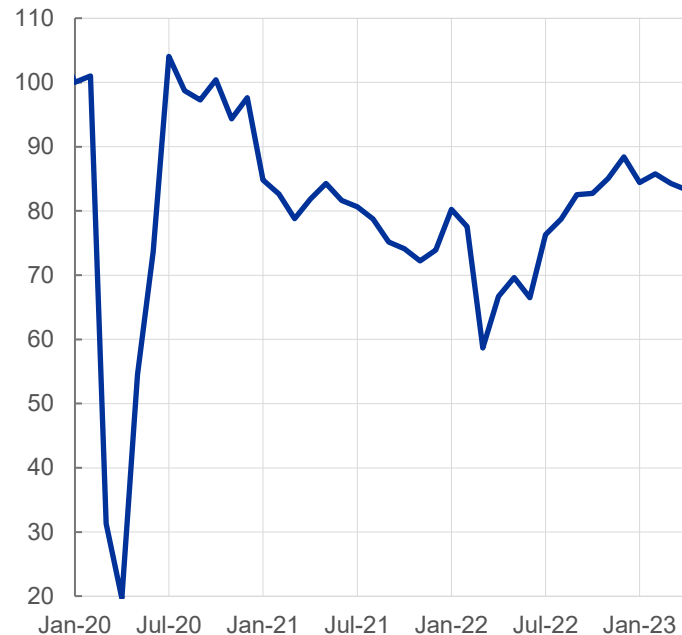
Sources: Eurostat and ECB calculations.

Note: Pre-pandemic trend estimated on the basis of quarterly data between 2013Q1 and 2019Q4. Real investment adjusted for the statistical volatility of intangible investment in Ireland.

Latest observation: 2023Q1.

Euro area car registrations

(index: January 2020 = 100)

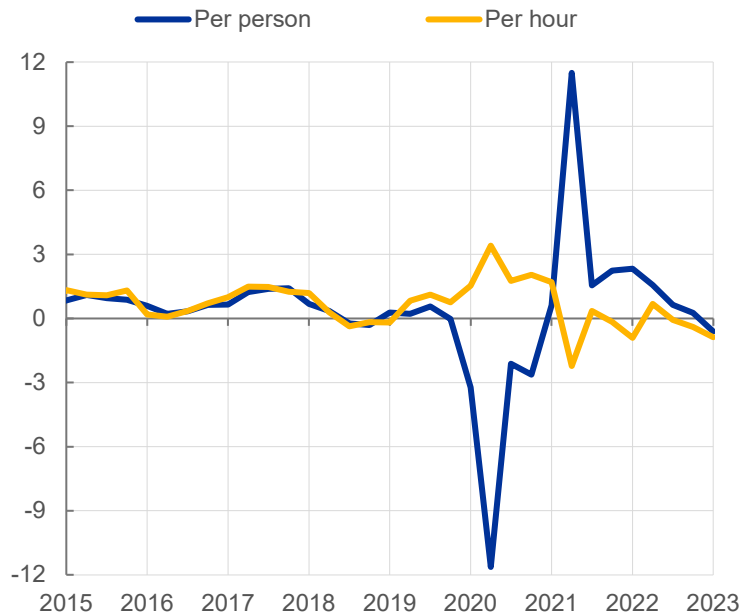


Sources: Eurostat and ECB calculations.

Latest observation: April 2023.

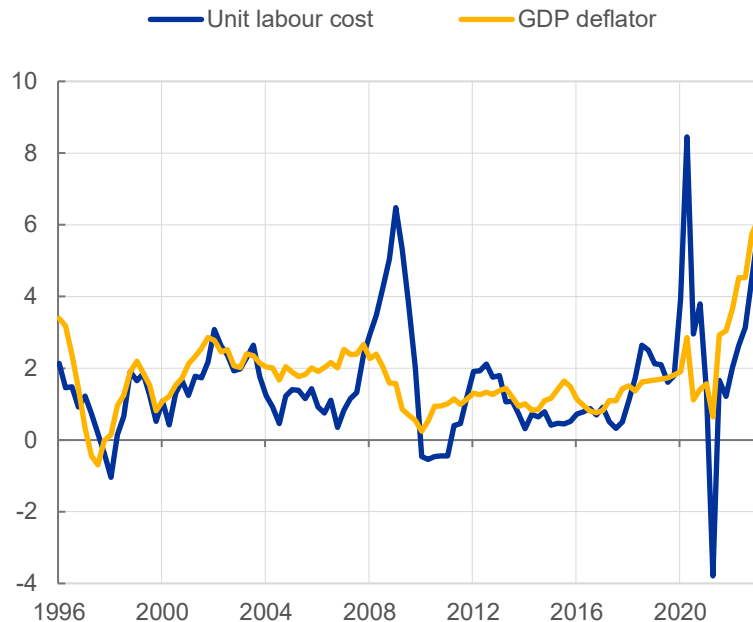
Lower productivity growth raises unit labour costs, posing risks to inflation

Labour productivity per hour and per person (y-o-y change in percent)



Sources: Eurostat and ECB calculations.
Latest observation: 2023Q1.

Unit labour cost and GDP deflator (annual percentage changes)

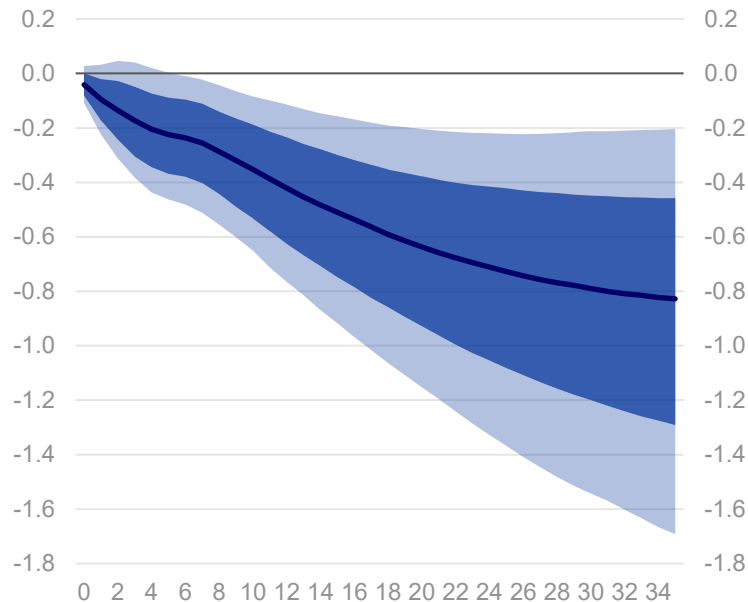


Source: Eurostat.
Latest observation: 2023Q1.

Large uncertainty about the effects of monetary policy on inflation

Price level response to a one percentage point monetary policy shock

(per cent)

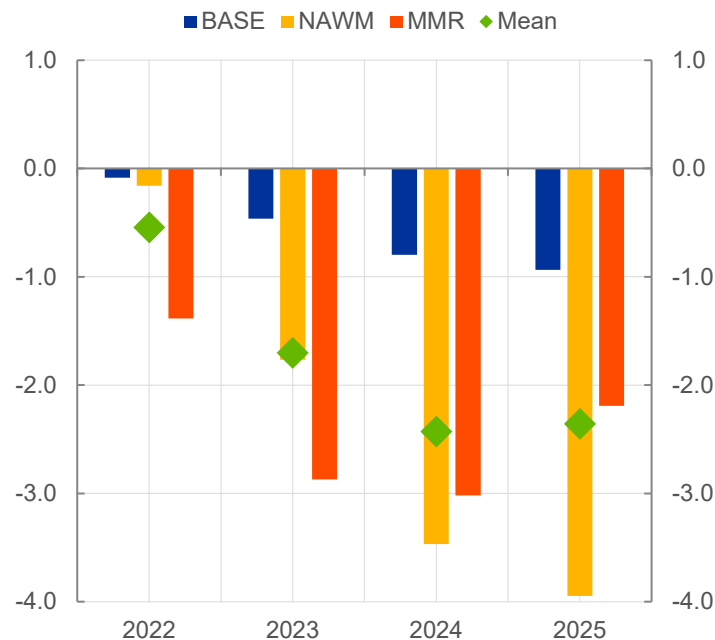


Source: Jarociński, M. and Karadi, P. (2022), "Deconstructing Monetary Policy Surprises - The Role of Information Shocks", *American Economic Journal: Macroeconomics*, Vol. 12(2), pp. 1-43.

Notes: Chart shows the GDP deflator in level. Median (line), percentiles 16-84 (darker band), percentiles 5-95 (lighter band).

Impact of ECB policy normalisation since December 2021 on HICP Inflation

(year-on-year percentage points)



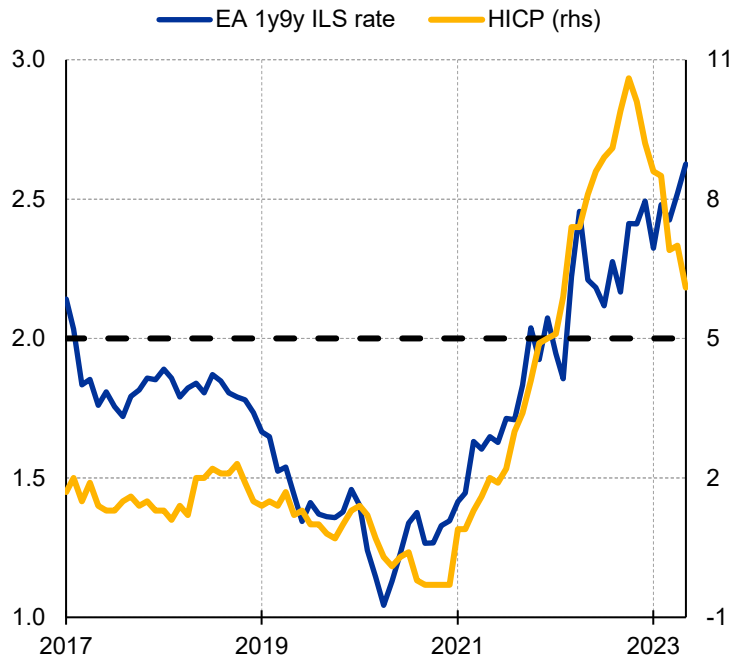
Sources: ECB calculations using the New Area-Wide Model (Coenen, Karadi, Schmidt, Warne (2021)), the MMR model (Mazelis, Motto, Ristinieni (2023)), and the BASE model (Angelini, Bokan, Christoffel, Ciccirelli, Zimic (2019)).

Notes: The chart shows the impact of policy normalisation between December 2021 and June 2023. The mean refers to the mean of the three models (ECB-BASE, NAWM-II, and MMR).

Long period of above-target inflation raises concerns about shift in inflation expectations

Euro area 1y9y inflation-linked swap rate and HICP inflation

(percentages per annum)



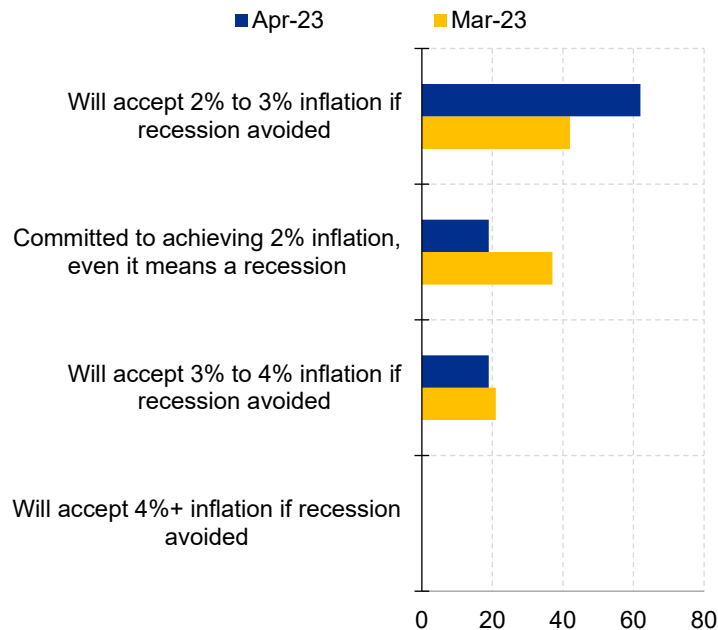
Source: Refinitiv and ECB calculations.

Notes: The black dashed line is based on the left-hand axis and marks the ECB's 2% inflation target.

Latest observation: May 2023.

Bank of America sentiment survey: view on central bank inflation targets

(% share in total respondents)

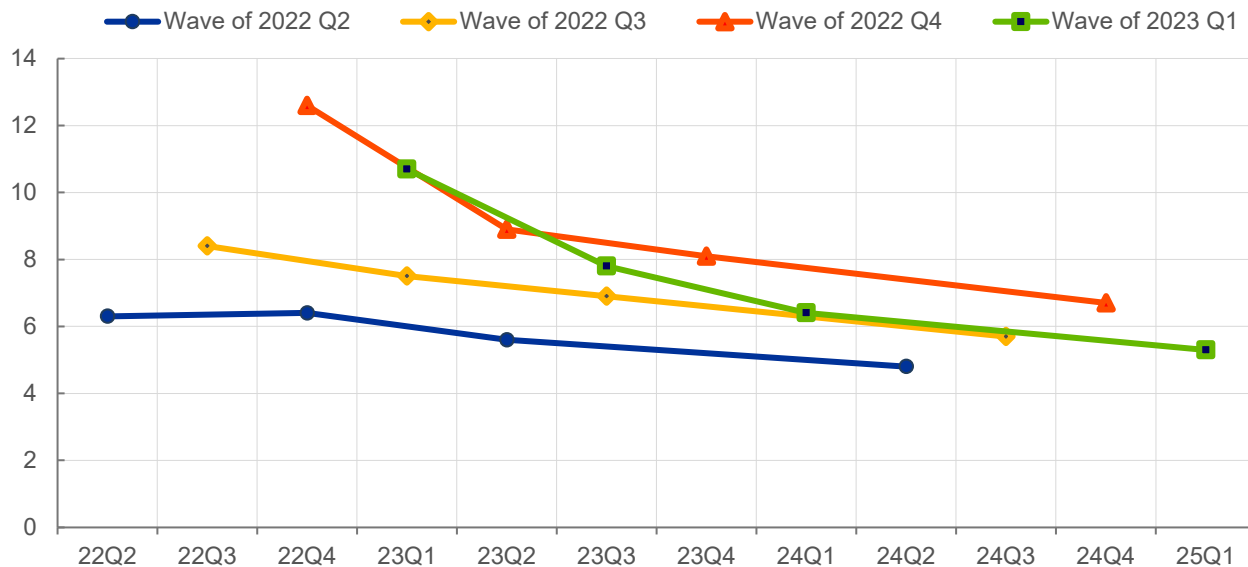


Source: Bank of America Global Research FX and Rates Sentiment Survey.

Italian firms expect consumer price inflation to decline but to remain very high

Expectations of consumer price inflation by Italian firms

(percentage changes on year-earlier period)



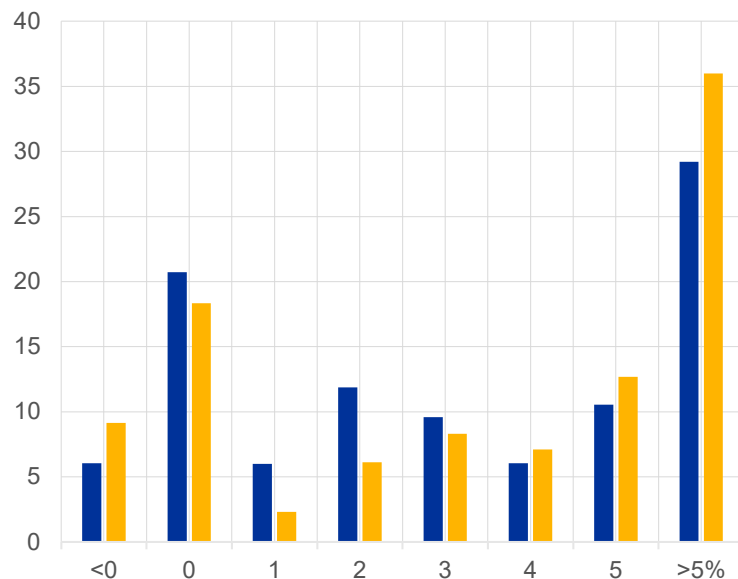
Source: Survey on Inflation and Growth Expectations, Banca d'Italia, Statistics Series, April 6th 2023.

Most euro area consumers expect prices to remain unchanged or to rise strongly

The ECB's Consumer Expectations Survey: histograms (per cent)

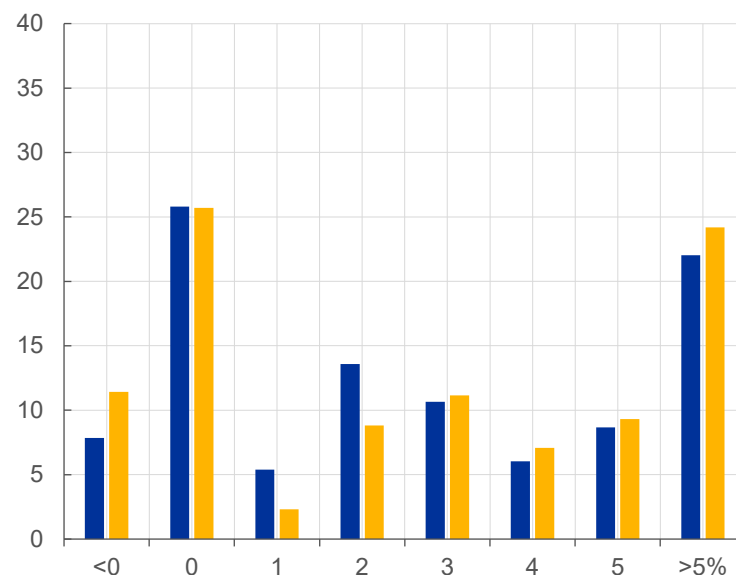
One year ahead inflation expectations

■ April 2020-April 2023 ■ April 2023



Three years ahead inflation expectations

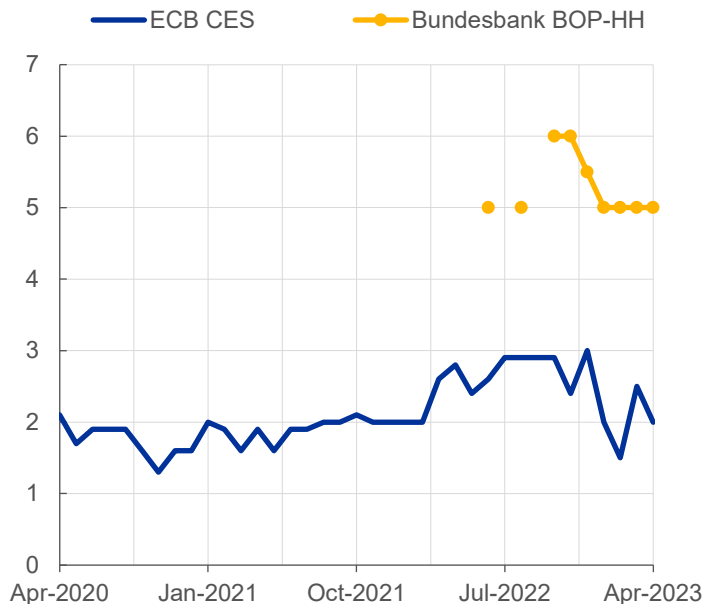
■ April 2020-April 2023 ■ April 2023



Source: ECB-CES and ECB Staff calculations.

Inflation perceptions stay historically high despite falling inflation

Germany: inflation expectations three years ahead (per cent)

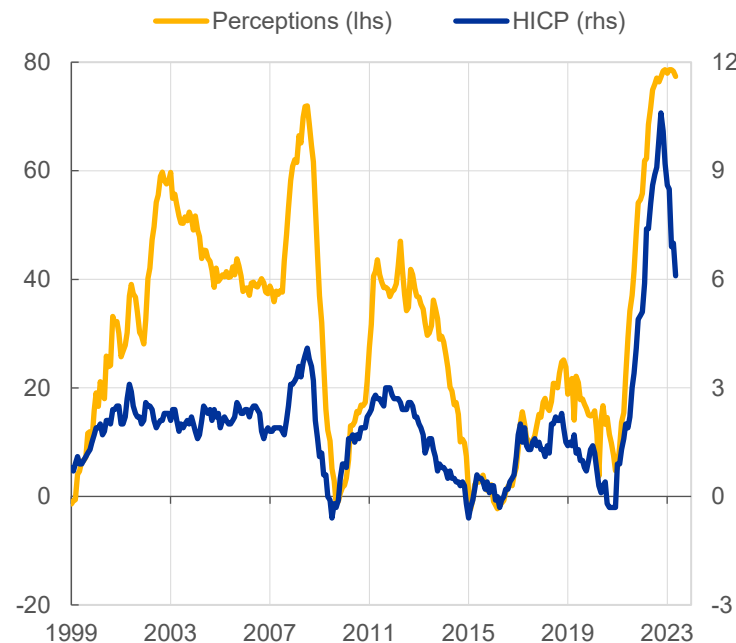


Source: ECB-CES, Bundesbank BOP-HH and ECB Staff calculations.

Notes: The ECB's CES (Consumer Expectations Survey) depicts consumer inflation expectations from the German subsample of a representative survey run by the ECB in each of the six largest euro area countries (Belgium, Germany, Spain, France, Italy and the Netherlands). The BOP-HH (Bundesbank Online Panel Households) depicts inflation expectations for German citizens.

Latest observation: April 2023.

Inflation perceptions and HICP (percent balance and percent)

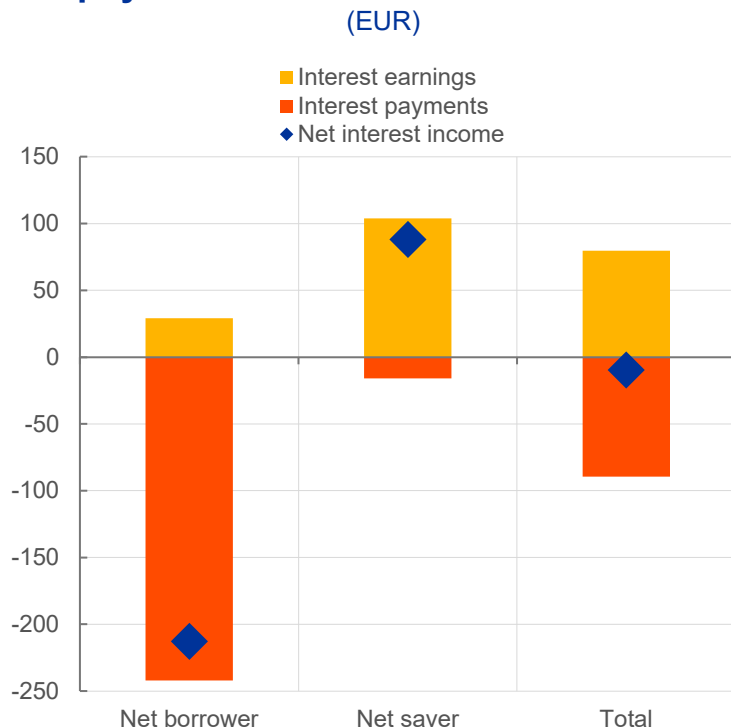


Source: European Commission Consumer Survey and Eurostat.

Latest observation: May 2023.

Impact of tighter monetary policy on households' net interest income is limited so far

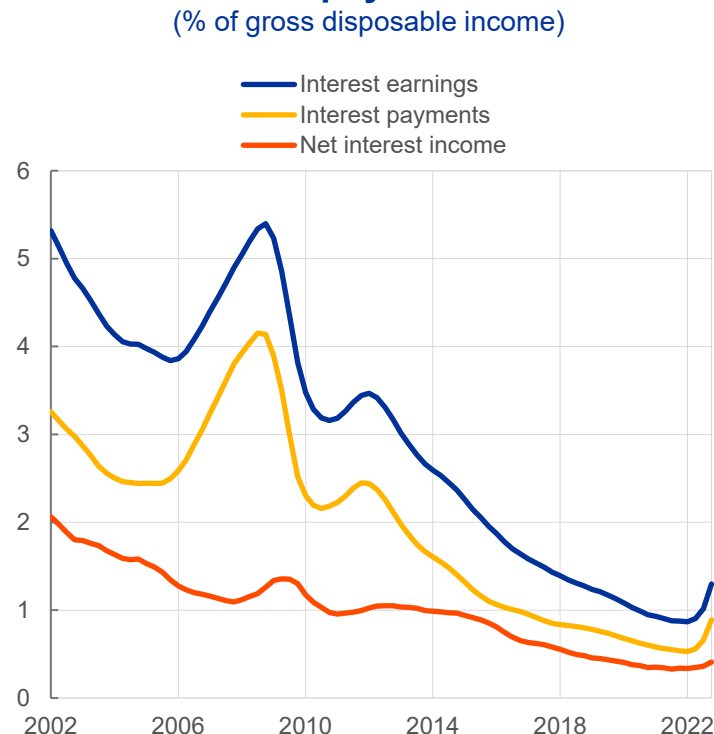
Change in interest earnings and payments between 21Q4 and 22Q4 (EUR)



Sources: Eurostat and ECB calculations.

Note: Computations based on euro area sector accounts and the Household Finance and Consumption Survey. Net borrower = households with negative net financial wealth; Net saver = households with positive net financial wealth. Latest observation: 2022Q4.

Euro area households' interest earnings and payments (% of gross disposable income)

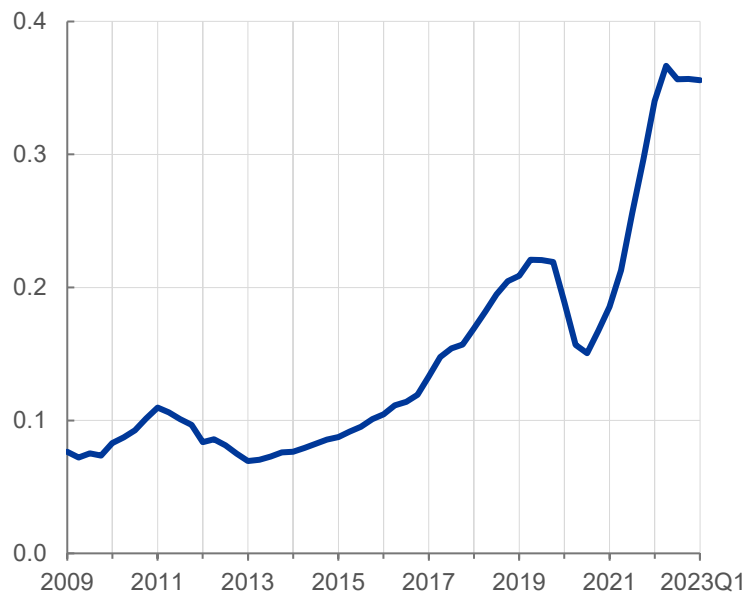


Sources: Eurostat and ECB calculations.

Note: Interest payments/earnings after allocation of FISIM (financial intermediation services indirectly measured), based on four-quarter sums. Latest observation: 2022Q4.

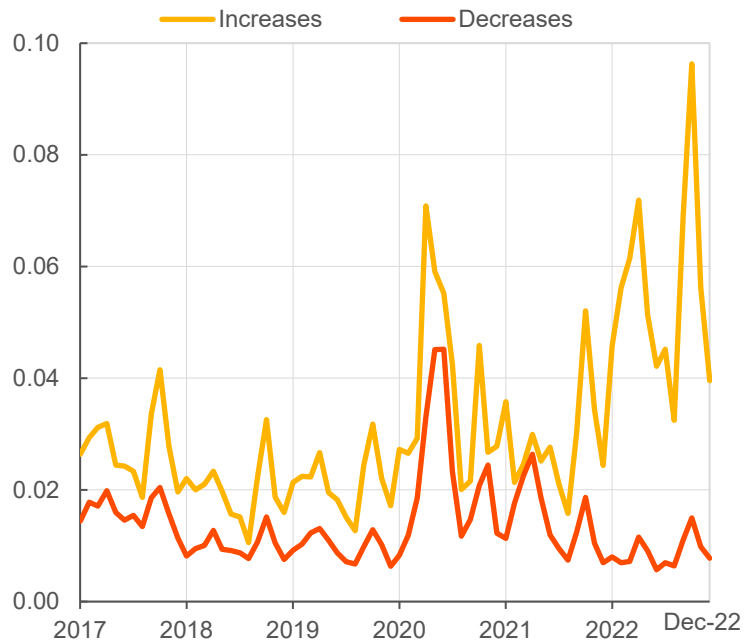
Tight labour market and more frequent price changes raise risk of wage-price spiral

Ratio of vacancies to unemployed workers



Sources: ECB calculation based on Eurostat and Haver data.
Latest observation: 2023Q1.

Frequency of price adjustment in Italy (share of items with a price change compared to prev. month)

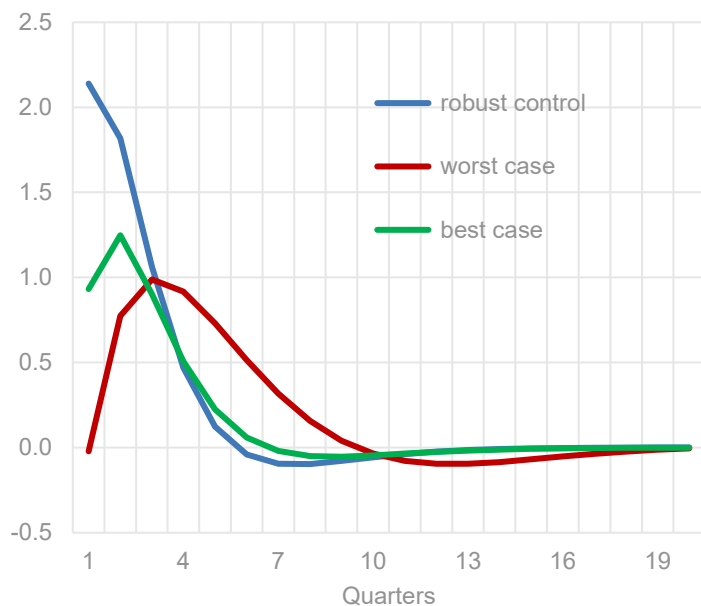


Source: Istat and Banca d'Italia staff calculations.
Note: Statistics computed excluding temporary sales.
Latest observation: December 2022.

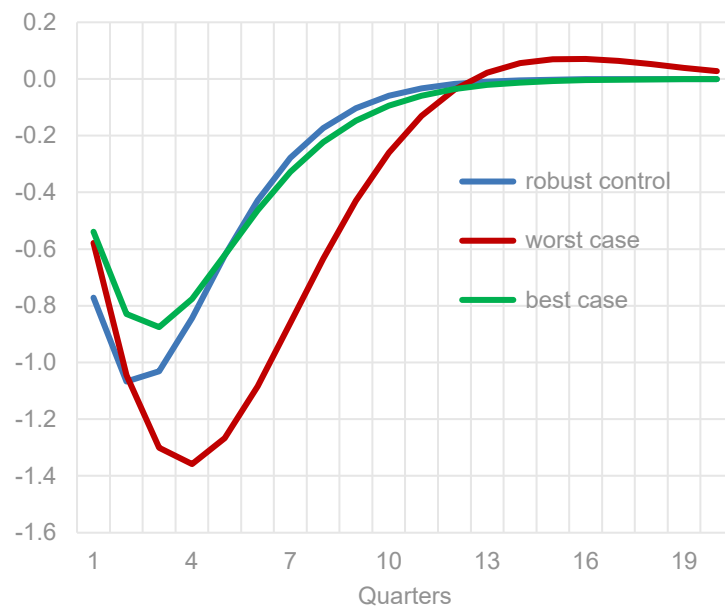
Robust monetary policy protects against de-anchoring of inflation expectations

Model-implied responses to a cost shock (percent)

Real rate



Output gap



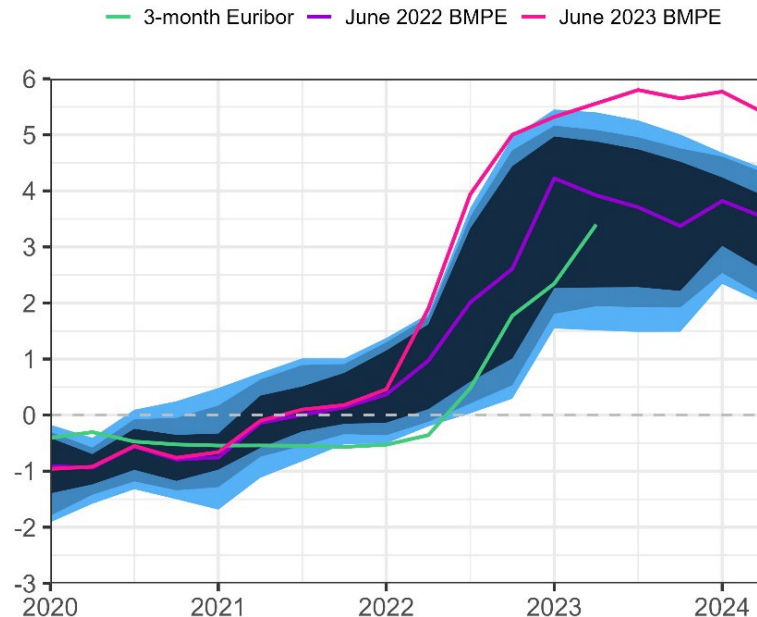
Source: Brandao-Marques, L., R. Meeks, V. Nguyen (forthcoming), "Monetary Policy under the Current Uncertainty", IMF Working Paper.

Notes: Robust control refers to a scenario where the central banks acts as if inflation persistence is high although persistence is actually low. The best (worst) case describes a situation where actual inflation persistence is low (high) and the central bank assumes persistence is low.

Policy outcomes can be improved by giving more weight to observable data

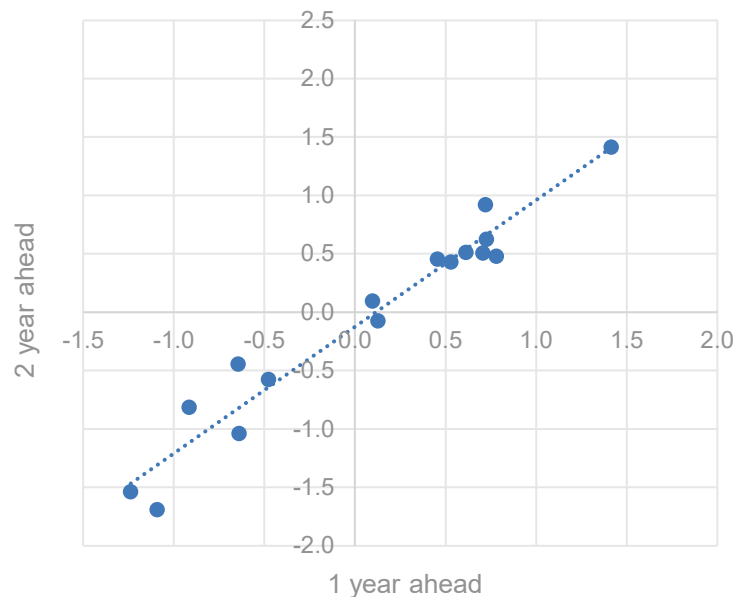
Taylor-rule implied interest rate paths: impact of inflation forecast errors

(percent)



Consensus Economics: consumer price inflation forecast errors

(y-o-y change in percentage points)



Source: ECB calculations.

Notes: The chart compares interest paths starting in 2022 Q3 based on the BMPE projections from June 2022 with the ex-post outcomes and the June 2023 BMPE. Taylor rules have been estimated for different forecast horizons of HICP inflation (current, 1-year ahead and 2-year ahead) and a variety of estimates for the output gap and natural rate of interest. The fans show the distribution of the implied 3m EURIBOR paths across all specifications. The paths over the forecast horizon are based on the ECB broad macro-economic projections (BMPE).

Source: Mojon, B., Nodari, G. and Siviero, S. (2023), „Disinflation milestones”, BIS Bulletin, No 75.

Thank you very much for your attention!