

Inflation in the euro area – causes and outlook

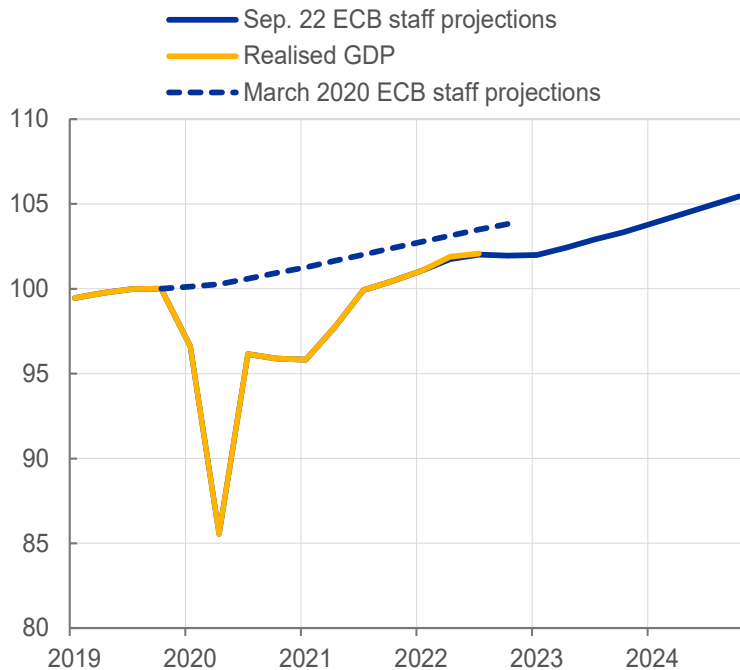
Isabel Schnabel, Member of the ECB's Executive Board

IG Metall Konjunkturgespräch, 29 November 2022

Economic growth and inflation in the euro area since the start of the pandemic

Real GDP growth

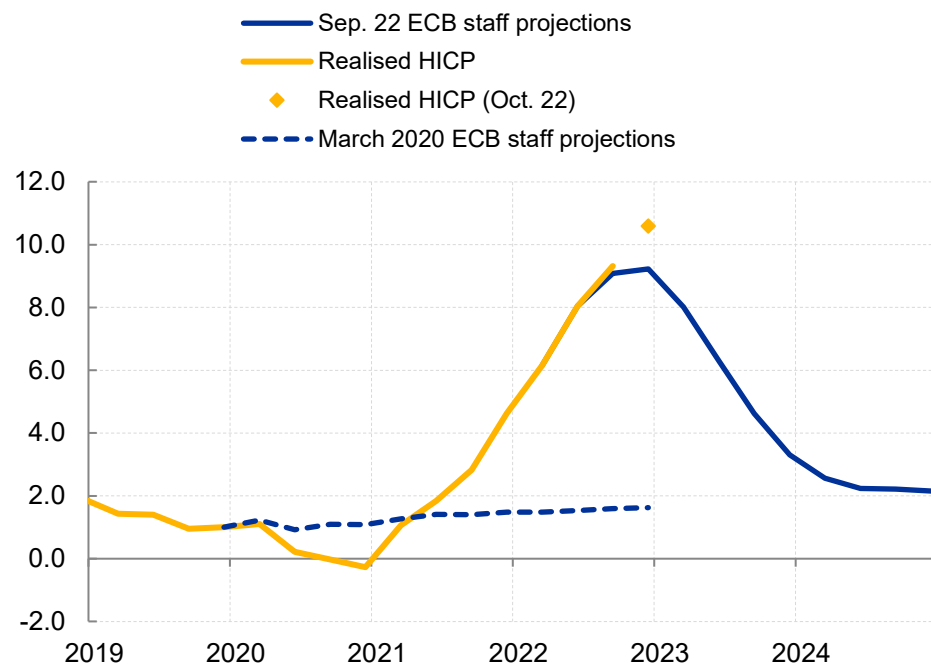
(index: Q4 2019 = 100)



Sources: Eurostat, ECB and Eurosystem.
Latest observation: Q3 2022.

Inflation

(annual percentage changes, quarterly data)

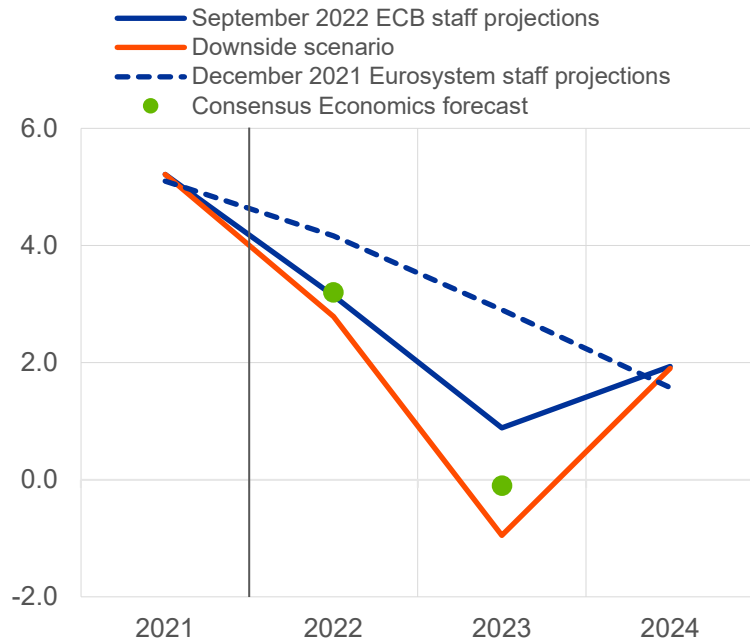


Sources: Eurostat, ECB and Eurosystem.
Latest observation: Q3 2022, October 2022 for HICP.

The war is having a negative impact on economic activity

Real GDP growth projections

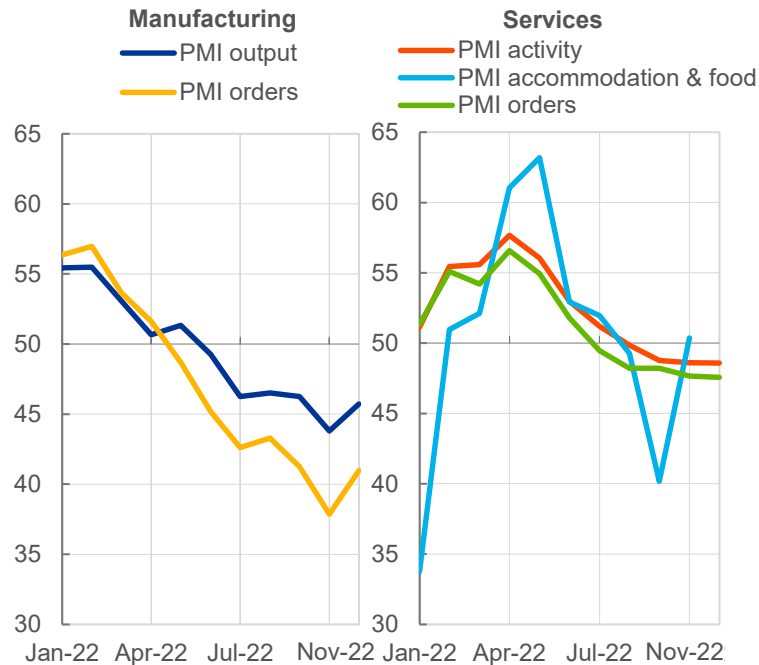
(annual percentage changes)



Sources: Eurosystem and Consensus Economics.
Note: Consensus Economics survey date 7 November 2022.

Euro area PMIs

(diffusion index)

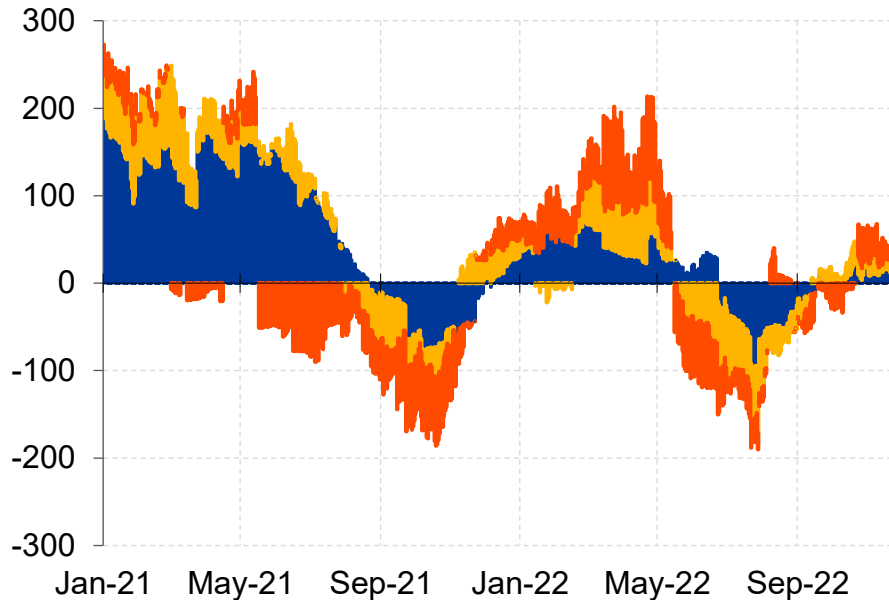


Source: S&P Global.
Latest observation: October 2022 for PMI accommodation and food,
November 2022 otherwise

Economic surprises have turned positive again with gas prices back at moderate levels

Citigroup Economic Surprise Index in major jurisdictions

■ Euro area ■ United States ■ China



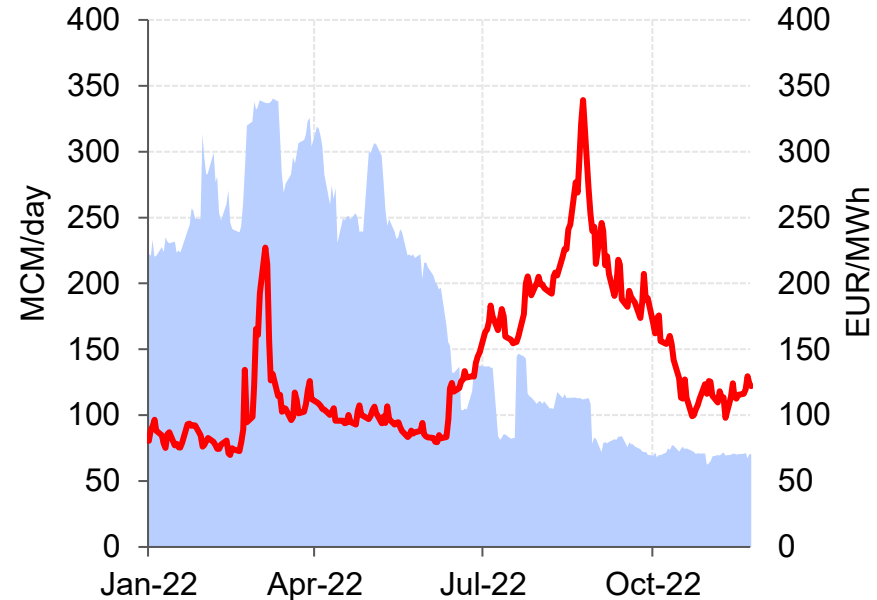
Sources: Bloomberg and ECB calculations.

Notes: The data shows economic data surprises relative to market expectations. A positive (negative) reading means that data releases have been stronger (weaker) than expected.

Latest observation: 24 November 2022.

EU natural gas prices and pipeline flows from Russia to Europe

■ Russian natural gas flows to Europe
— EU Natural Gas (rhs)



Sources: Bloomberg and ECB calculations.

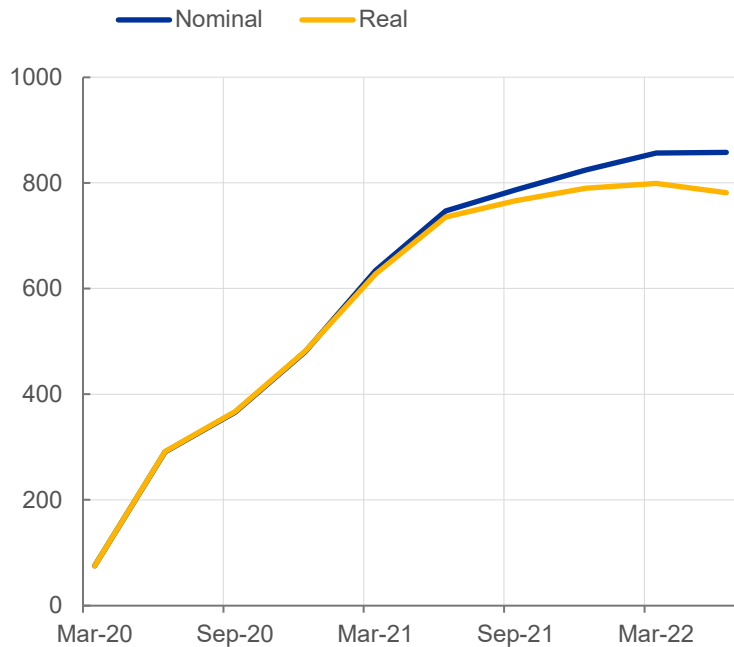
Notes: The chart shows natural gas prices in Europe (Dutch TTF futures) in addition to natural gas pipeline flows from Russia to Europe (via Nord Stream to Germany, Yamal to Poland, Ukraine and Bulgaria).

Latest observation: 24 November 2022.

Excess savings support demand, while industry backlog remains large

Accumulated excess savings

(since 2019 Q4; EUR bn)



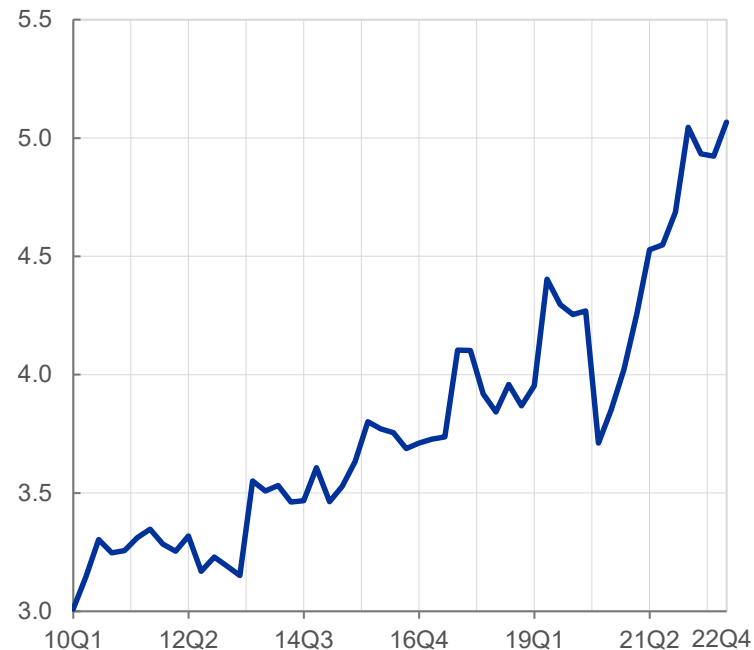
Source: Eurostat, ECB and ECB calculations.

Notes: The calculations follow Aladangady, A., Cho, D., Feiveson, L. and Pinto, E., "Excess Savings during the COVID-19 Pandemic," FEDS Notes, October 21, 2022. The real stock of excess savings is the nominal stock deflated by the HICP.

Latest observation: 2022Q2.

Industry backlog

(number of months)



Source: European Commission Business Survey.

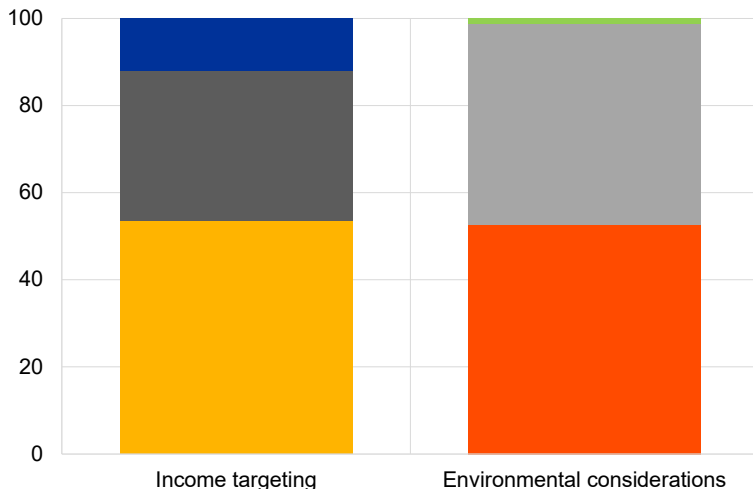
Notes: Industry backlog refers to the number of months of production assured by current order book levels.

Latest observation: 2022Q4.

Euro area measures to curb high energy prices in 2022

(percentage share of total based on the 2022 budgetary impact)

- Non-targeted support for households
- Supporting short-run fossil fuel consumption
- Transfers to firms and other non-targeted measures
- Environmentally neutral and/or not classifiable
- Targeted support for low-income households
- Contributing directly to the green transition

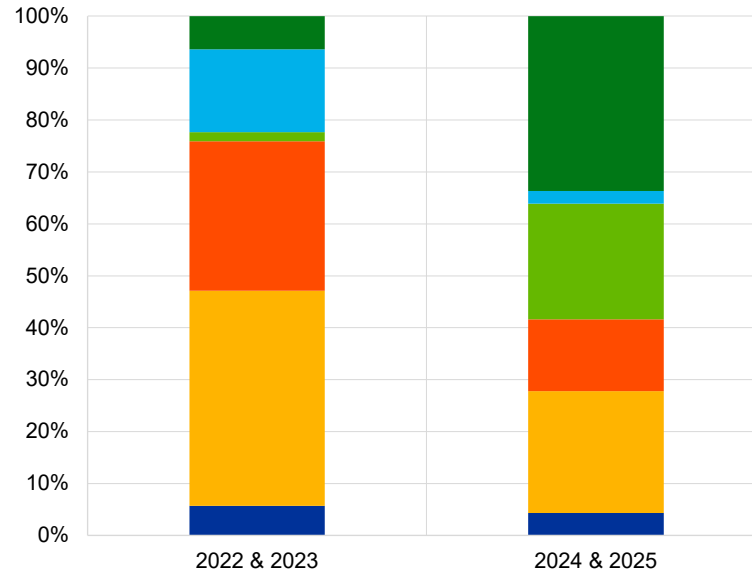


Source: ECB Economic Bulletin Issue 5, 2022: Euro area fiscal policy response to the war in Ukraine and its macroeconomic impact. (https://www.ecb.europa.eu/pub/economic-bulletin/focus/2022/html/ecb.ebbox202205_07~6db6f2c297.en.html)

Euro area fiscal measures by type of instrument

(percentage of total war-related fiscal support)

- Government consumption
- Government investment
- Subsidies
- Indirect taxes
- Other transfers
- Direct taxes and social contributions



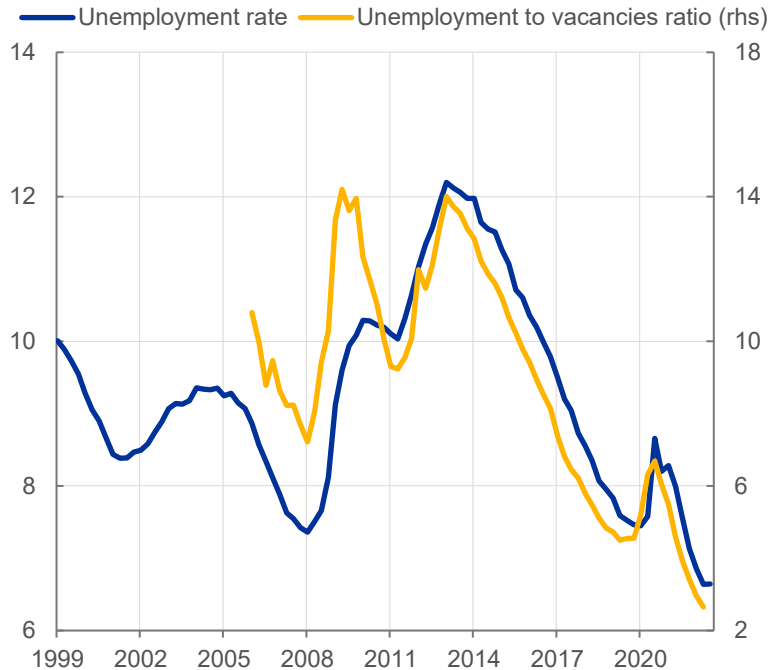
Source: ECB calculations.

Notes: The bars show the average shares in the total Ukraine war-related fiscal support.

Euro area unemployment rate at record low level amid labour shortages

Unemployment and vacancies

(left-hand scale: percentages; right-hand scale: ratio)



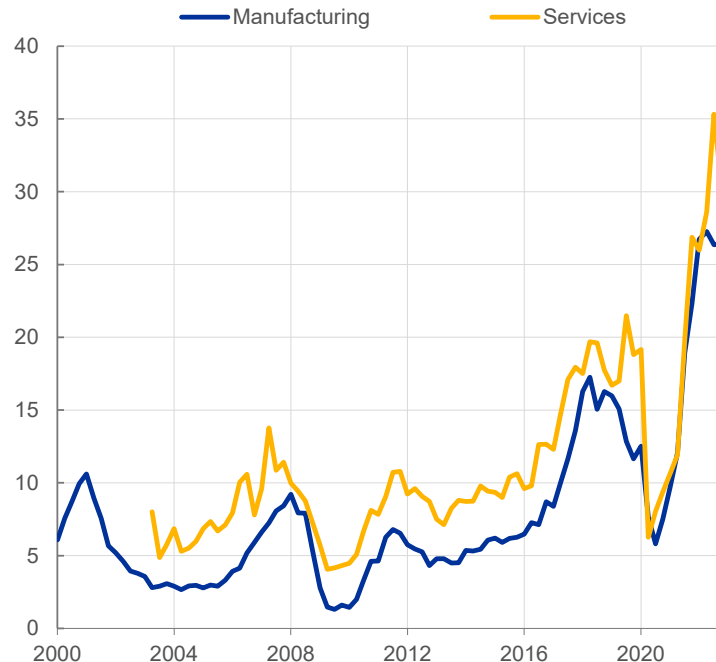
Sources: Eurostat, Haver Analytics and ECB staff calculations.

Notes: Eurostat vacancies are reported only in firms with 10 or more employees in France.

Latest observations: 2022 Q3.

Limits to production – shortage of labour

(percentage balances)



Source: European Commission.

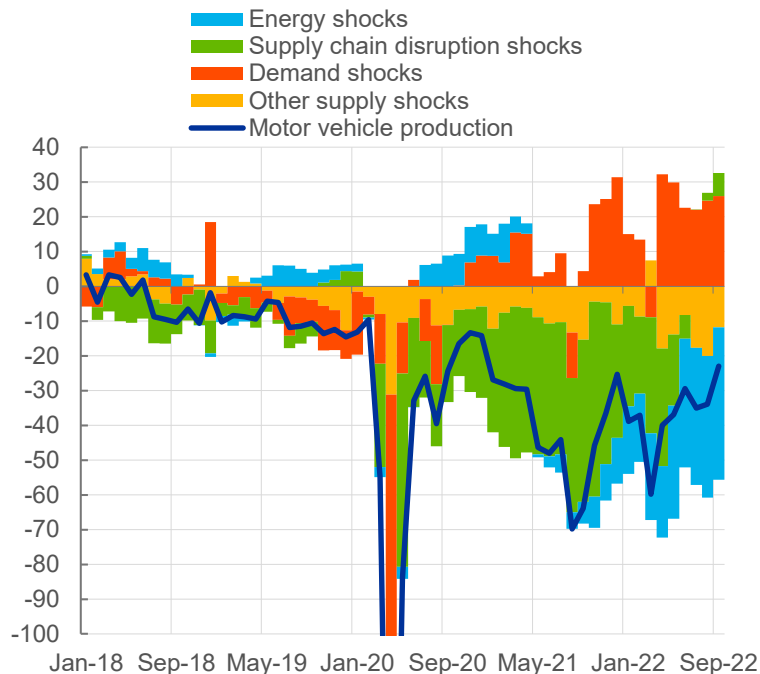
Notes: Survey in industry and the services sector: percentage of firms who indicate labour shortages as limits on production and business.

Latest observation: 2022 Q4 (October 2022).

Increase in energy prices significantly hampers potential output

Motor vehicle production – contribution of shocks

(percentage deviation from trend, percentage points)

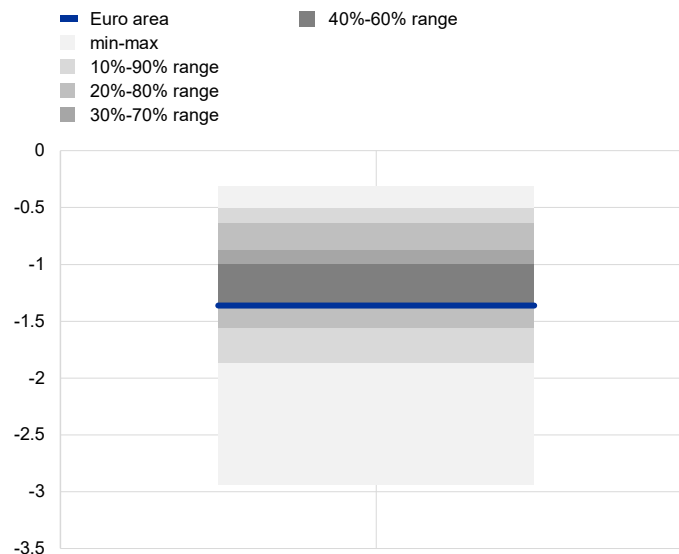


Sources: Eurostat, Markit and ECB staff calculations.

Notes: The Bayesian SVAR includes Motor vehicle production, car prices, HICP energy and PMI suppliers' delivery times. Shocks are identified using sign and narrative restriction methods. Technical details on the method can be found in De Santis, R. A. and Van der Veken, W. (2022), "Deflationary Financial Shocks and Inflationary Uncertainty Shocks: An SVAR Investigation", Working Paper Series, No 2727, ECB. Last observation: Sep. 2022.

Impact of the recent increase in energy prices on the level of potential output across euro area countries

(percentage deviations)



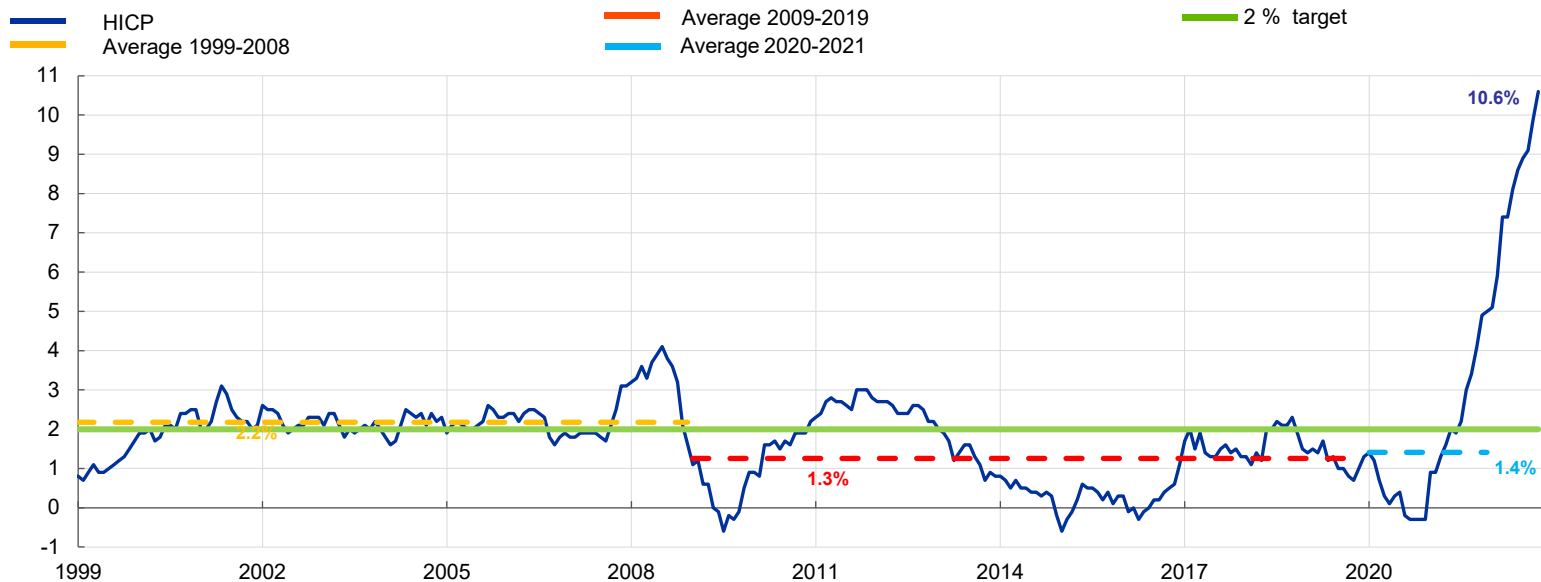
Source: ECB calculations based on the Basic Model Elasticities.

Notes: The scenario is based on the September 2022 ECB staff macroeconomic projections, in deviation from a counterfactual where the price of the synthetic energy price is fixed at the average for the period from the fourth quarter of 2017 to the first quarter of 2019. The synthetic energy price is a combination of oil and gas spot and futures prices, where their respective growth rates are weighted (80% oil, 20% gas). Around the euro area average, shaded areas denote the deciles of the impact of the current energy price shock on the level of potential output after four years, by country, for the nineteen euro area countries.

Sharp increase in inflation since 2021 after prolonged period of subdued inflation

Euro area inflation

(annual percentage changes)

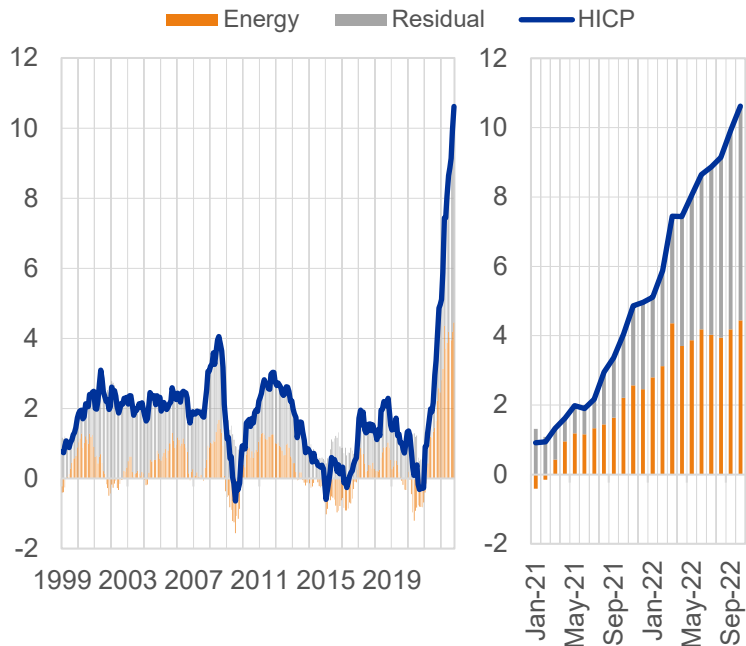


Source: Eurostat and ECB staff calculations.
Latest observation: October 2022.

Energy is a key contributor to headline inflation in the euro area

Energy contribution to HICP

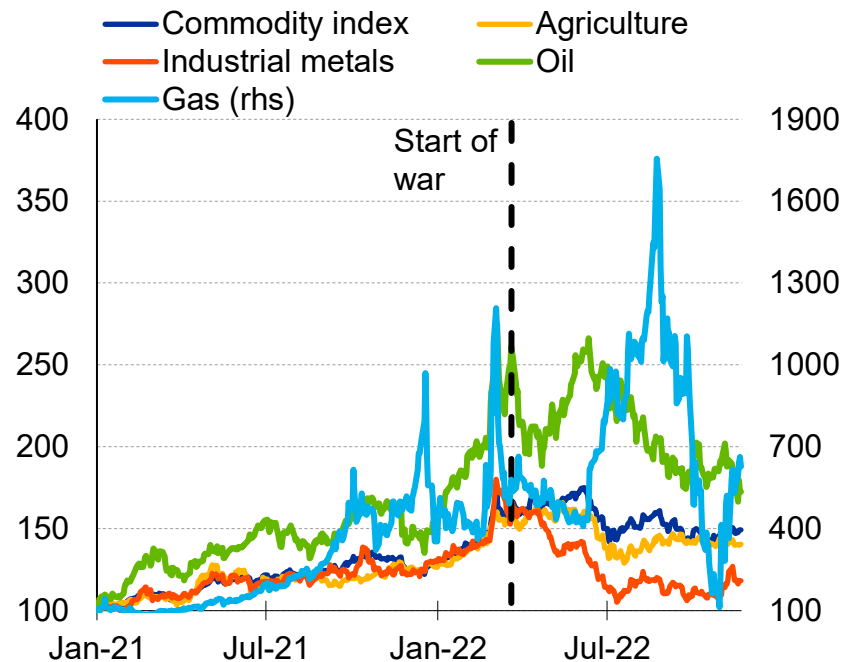
(annual percentage changes; percentage point contributions)



Sources: Eurostat and ECB staff calculations.
Latest observation: October 2022.

Commodity prices

(index: 1 January 2021 = 100)

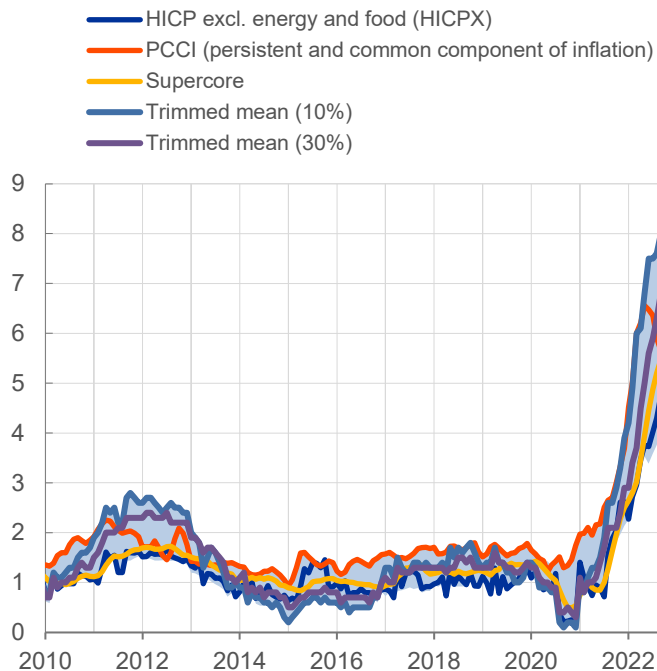


Sources: Bloomberg, Refinitiv and ECB calculations.
Latest observation: 24 November 2022.

Underlying inflation pressures have risen sharply and become more broad-based

Measures of underlying inflation

(annual percentage changes)



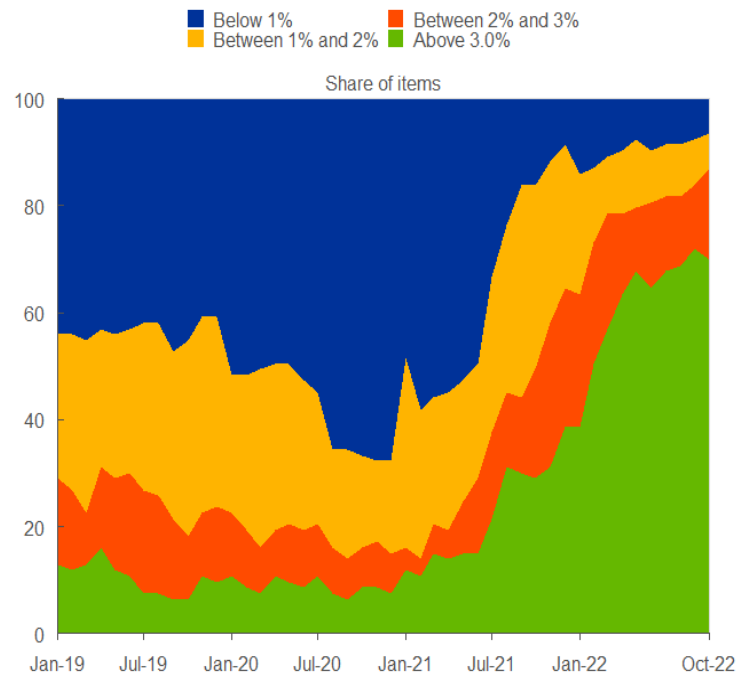
Sources: ECB and ECB staff calculations.

Notes: HICPX, Supercore and Trimmed means are non-seasonally adjusted, while PCCI is based on seasonally adjusted price series.

Latest observation: October 2022.

Share of HICP components according to pace of change

(percent)



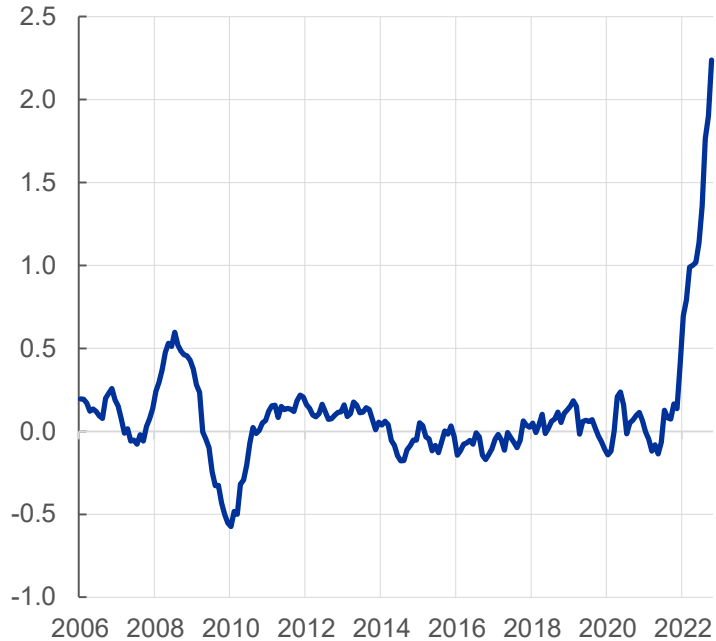
Sources: ECB and ECB staff calculations.

Latest observation: October 2022.

Low-income households face higher inflation due to different consumption basket

Inflation gap between the lowest and highest income quintiles

(percentage points; excluding housing costs)

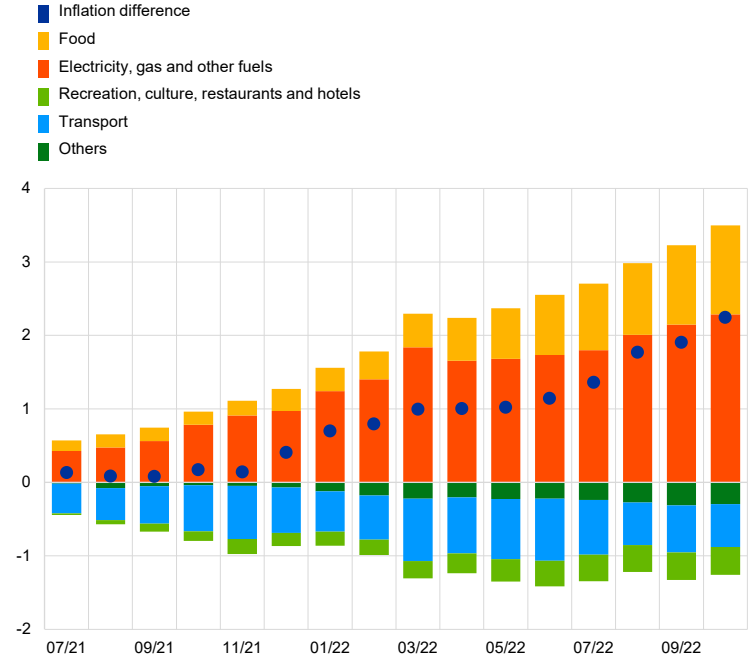


Source: Eurostat, Household Budget Survey, Istat and ECB calculations.

Notes: Quintile-specific inflation rates are calculated based on quintile-specific consumption baskets and are calculated excluding spending on "Rents and Owner-occupied housing costs". Weights based on the household budget survey are updated annually in line with updates of official HICP weights. See Charalampakis et al. (2022): "The impact of the recent rise in inflation on low-income households" ECB Economic Bulletin Box issue 7 2022
Latest observation: October 2022

Decomposition of inflation difference between the lowest and highest income quintiles

(percentage points)



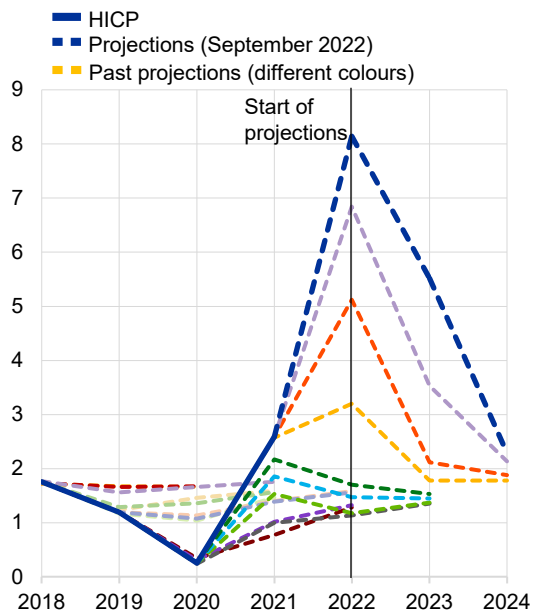
Sources: Eurostat Household Budget Survey, ISTAT and ECB calculations.

Notes: The contributions of individual components are calculated as the component-level inflation rate multiplied by the difference in the weights of the component in the quintile-specific consumption baskets. Quintile-specific inflation rates are calculated excluding spending on "rents and owner-occupied housing costs". Weights based on the HBS are updated annually in line with updates to the official HICP weights.

Projections are pointing to a sharp decline in inflation, but history of projection errors

Inflation projections – HICP

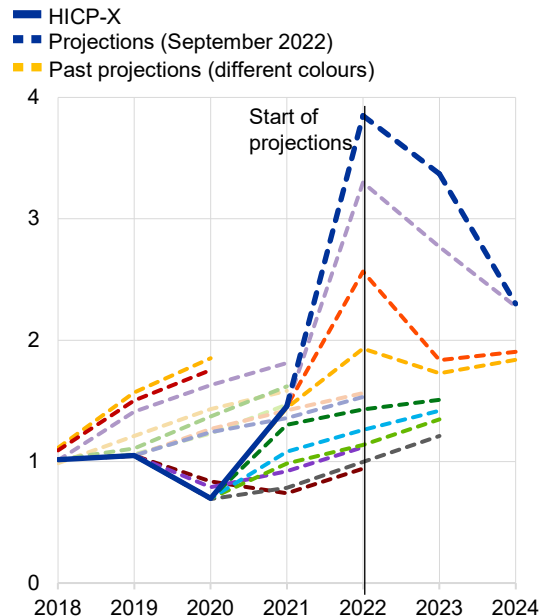
(annual percentage changes)



Sources: Eurostat, ECB and Eurosystem.
Latest observation: 2021 for HICP and HICP-X (annual data).

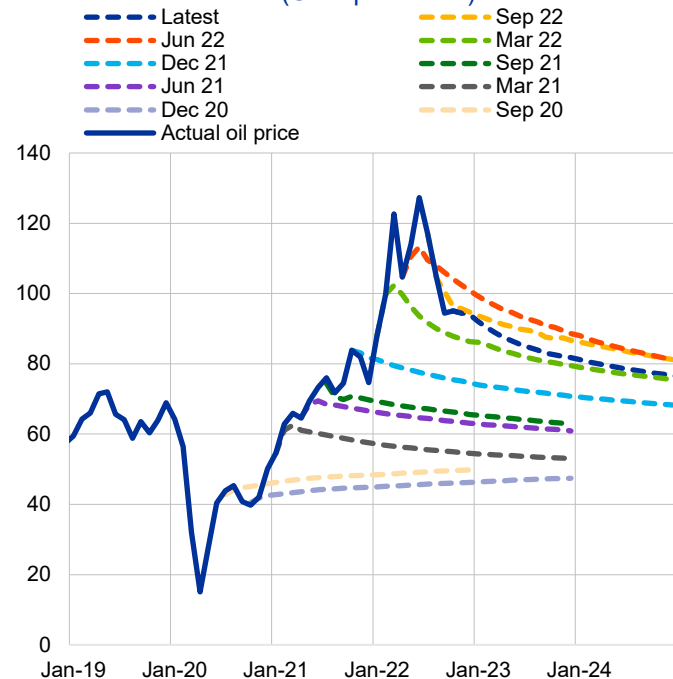
Inflation projections – HICP-X

(annual percentage changes)



Oil prices and assumptions

(USD per barrel)



Sources: Refinitiv and ECB.
Notes: Dashed lines refer to oil price assumptions in respective ECB and Eurosystem staff projection exercises. Oil price futures curves are calculated using 10 business day averages.
Latest observations: October 2022 for monthly data, 23 November 2022 for latest assumptions.

Wage growth has picked up significantly in light of sharply declining real wages

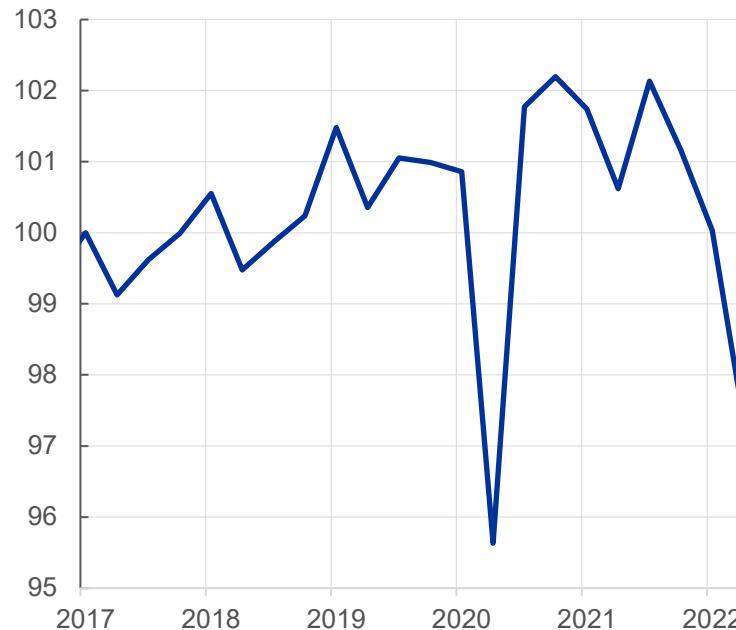
Negotiated wage growth and nominal wage growth in job ads

(annual percentage changes)



Real compensation per employee

(index: 2017 Q1 = 100)



Sources: Adrjan, Pawel & Reamonn Lydon (2022), [Wage Growth in Europe: Evidence From Job Ads](#) – Central Bank of Ireland - Economic letter - Vol 2022, No. 7 (November) and ECB.

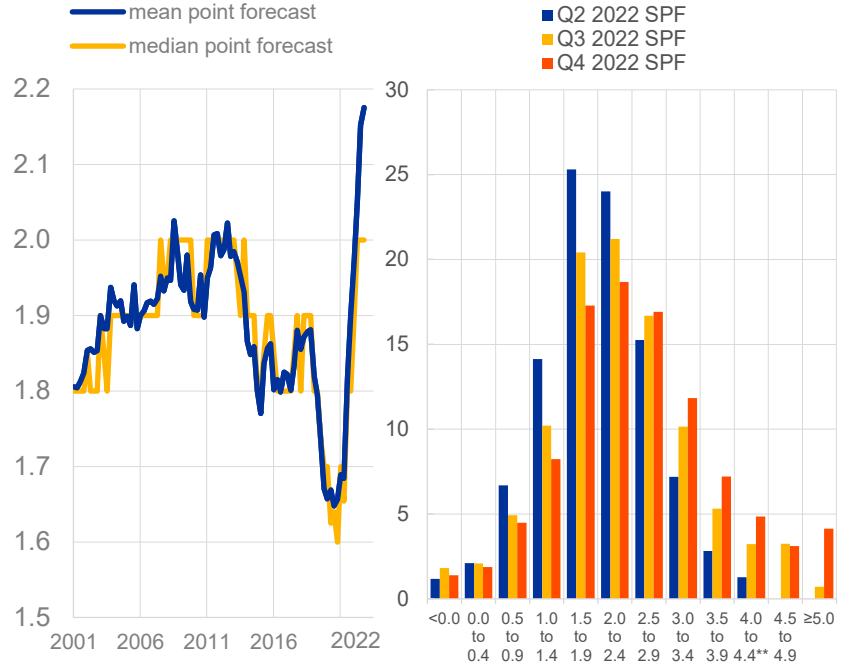
Latest observation: 2022 Q2 for negotiated wages and October 2022 for Indeed data.

Source: Eurostat and ECB calculations.

Notes: Compensation per employee is deflated using the HICP. Latest observation: 2022Q2.

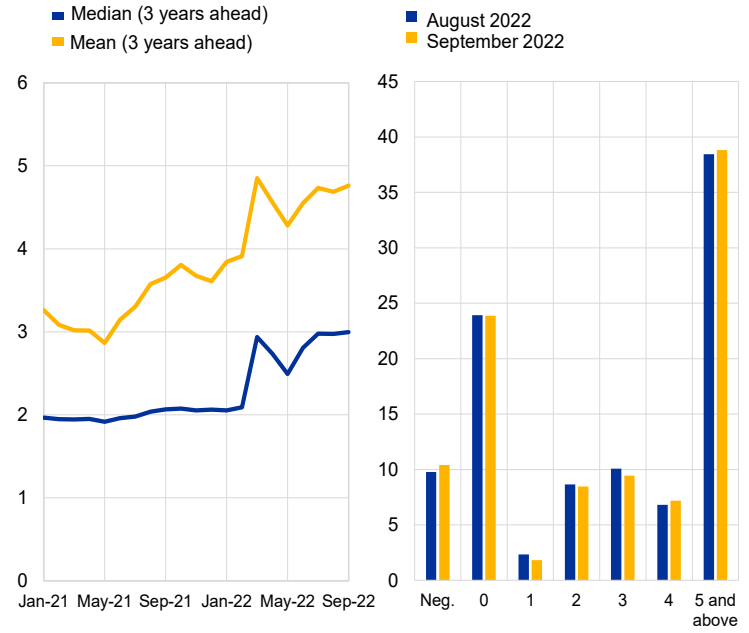
Inflation expectations remain broadly anchored but risks of de-anchoring

Survey of Professional Forecasters:
Inflation expectations in the longer-term (LHS) and 2024 (RHS)
 (LHS: annual percentage changes; RHS: percent)



Sources: ECB SPF.
 Latest observations: 2022 Q4 (October).

Consumer Expectations Survey:
Inflation expectations 3 years ahead
 (LHS: annual percentage changes; RHS: x-axis: annual percentage changes; y-axis: percentages of respondents)

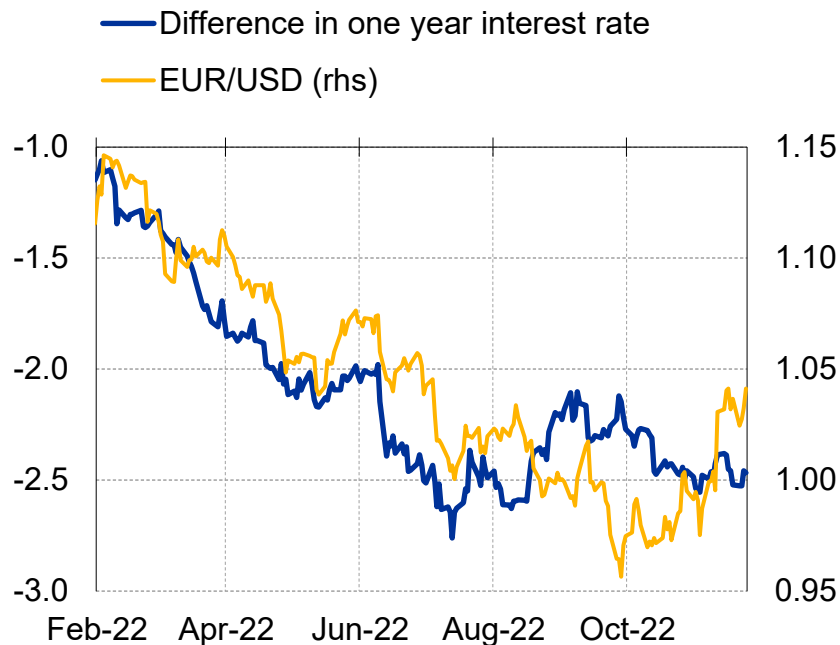


Sources: ECB Consumer Expectations Survey and ECB staff calculations.
 Notes: "Median" refers to the median across individual respondents. The data are winsorised at the 2nd and 98th percentile. Mean values are 4.69% and 4.76% for August and September respectively. Median values are 2.98% and 3.00% for August and September respectively.
 Latest observations: September 2022.

Euro depreciation due to divergent policy expectations but recent reversal

EUR/USD and short-rate differences

(lhs: differential in 1Y OIS, rhs: EUR/USD)



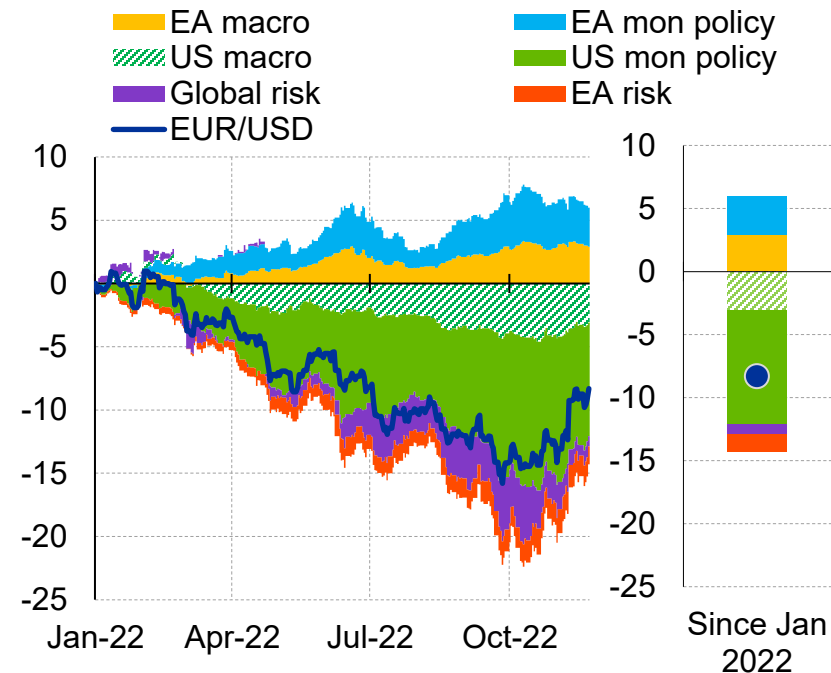
Source: Bloomberg and ECB.

Notes: Blue lines depicts the differential of Euro Area and US (EA-US) one-year OIS rates.

Latest observation: 24 November 2022.

Drivers of EUR/USD

(lhs: cumulative changes since Jan-22, rhs: percent)



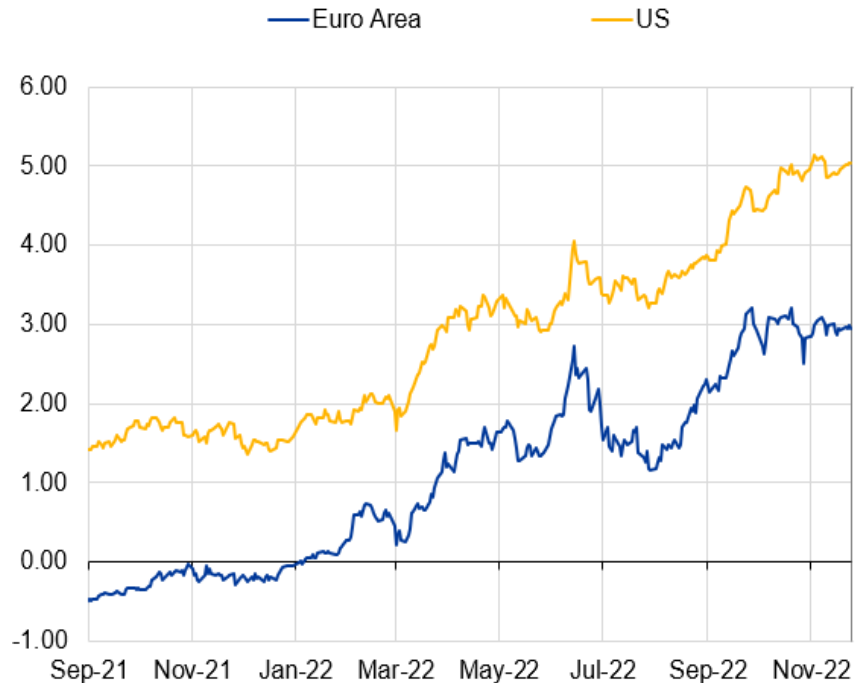
Source: ECB and ECB staff calculations.

Notes: Based on 2-country BVAR including 10-year EA OIS rate, EA GDP-weighted sovereign spread, EA stock price, EUR/USD, 10-year EA OIS -US Treasury spread & US stock prices. Identification via sign and narrative restrictions & estimated using daily data 2005-22. Decrease denotes a euro depreciation against the US dollar.

Latest observation: 24 November 2022.

Market pricing of terminal rate

(percentage per annum)

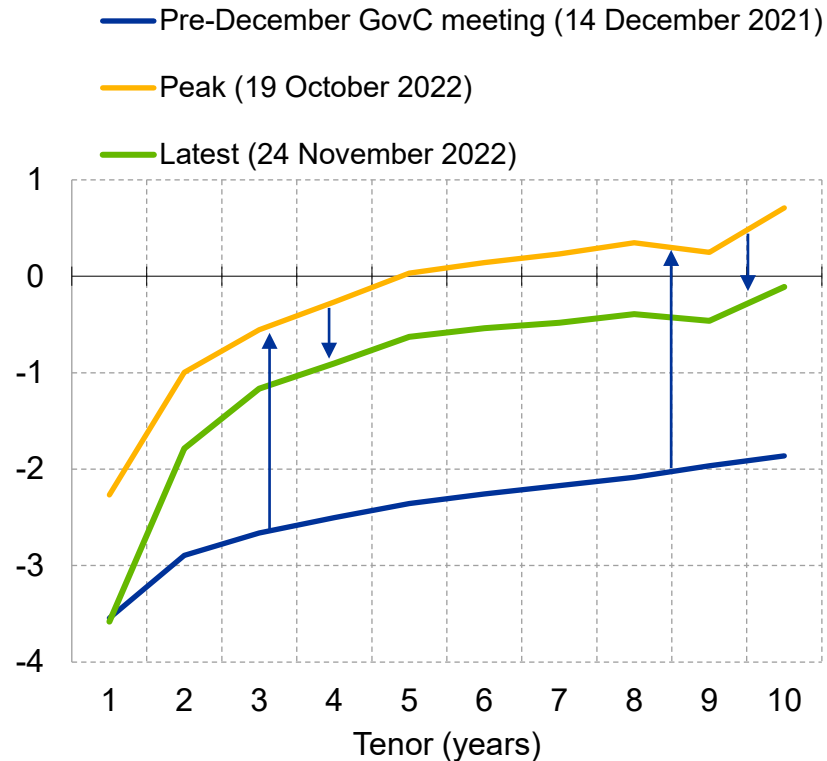


Sources: Morgan Stanley, Bloomberg, ECB and ECB calculations.

Notes: The terminal rate for the euro area is derived from the euro overnight index swap (OIS) forward curve by capturing the first local peak within a five-year horizon for each observation. The terminal rate for the United States is an estimate calculated by Morgan Stanley. Latest observation: 24 November 2022.

Euro area real GDP-weighted yield curve

(percentage per annum)

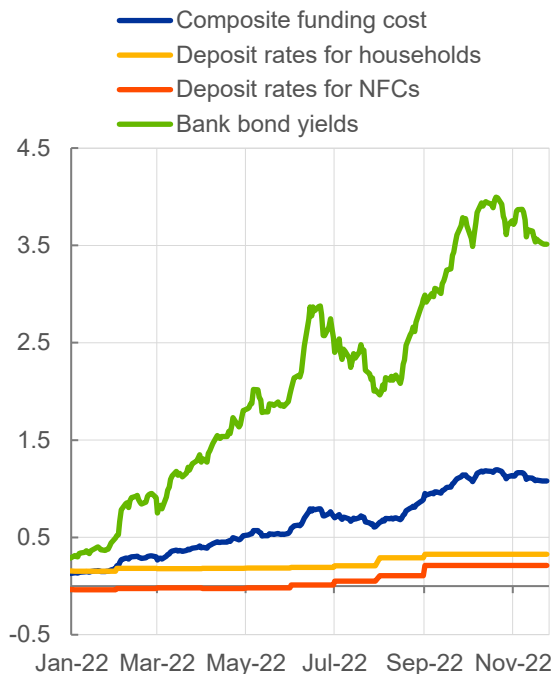


Sources: SDW and ECB calculations.
Latest observation: 24 November 2022.

Rising funding costs for banks, corporates and households, but real rates stay low

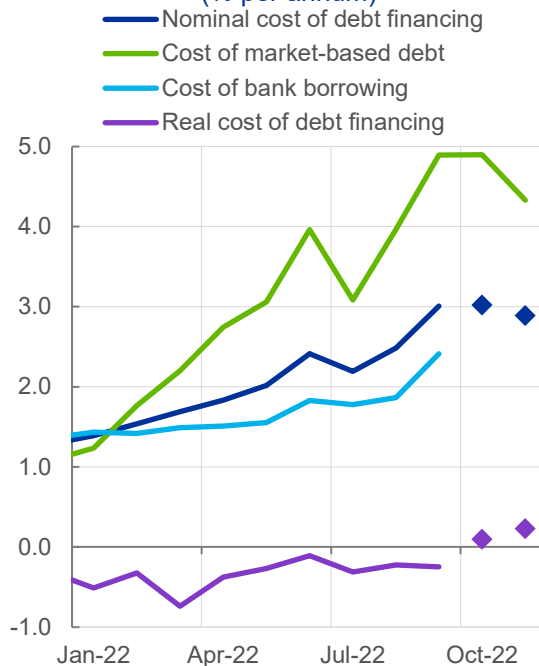
Composite bank funding costs

(% per annum)



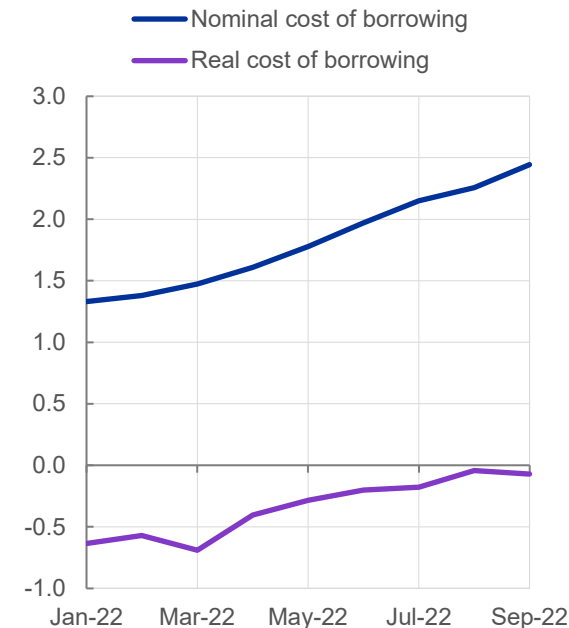
Cost of debt financing for euro area firms

(% per annum)



Cost of borrowing of households for house purchase

(% per annum)



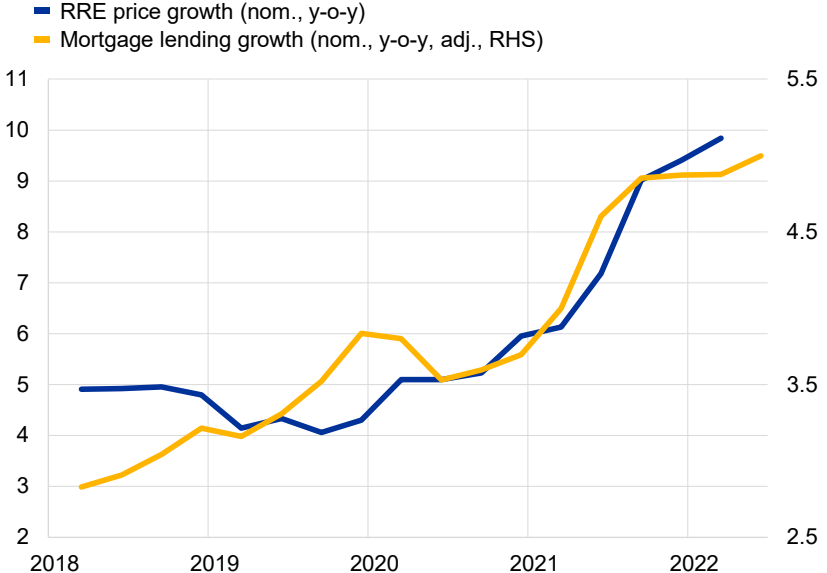
Sources: ECB (MIR, BSI), IHS Markit iBoxx and ECB calculations. Notes: Composite funding cost is the weighted average of the cost of deposits and market debt funding, with the respective outstanding amounts on bank balance sheets used as weights. Deposit rates are on new business. Calculated assuming that deposit rates remain at their September level until 24 November 2022. Latest observations: September 2022 for BSI and MIR; 24 November 2022 for iBoxx.

Sources: ECB (MIR, QSA), Merrill Lynch, Refinitiv, Bloomberg, Consensus Economics and ECB calculations. Notes: The diamonds refer to estimates assuming the cost of bank borrowing remained at its September 2022 level in October and November 2022. Latest observations: September 2022 for the nominal and real cost of debt financing and bank borrowing; 24 November 2022 for the cost of market-based debt.

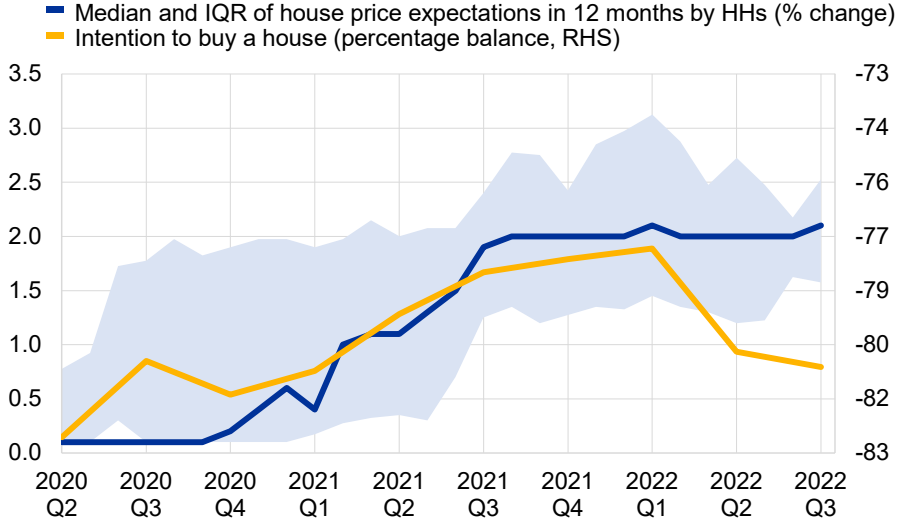
Sources: ECB (MIR), Bloomberg, Consensus Economics and ECB calculations. Notes: The cost of borrowing indicator for households for house purchase is calculated by aggregating short- and long-term rates on new loans for house purchase using a 24-month moving average of new business volumes. Latest observations: September 2022.

Signs of ending housing boom after high growth of real estate prices and mortgages

Euro area residential real estate prices and mortgage lending (percentages)



Euro area households' expectations for house prices and intention to buy a house in next 12 months (percentage; median and interquartile range (IQR))



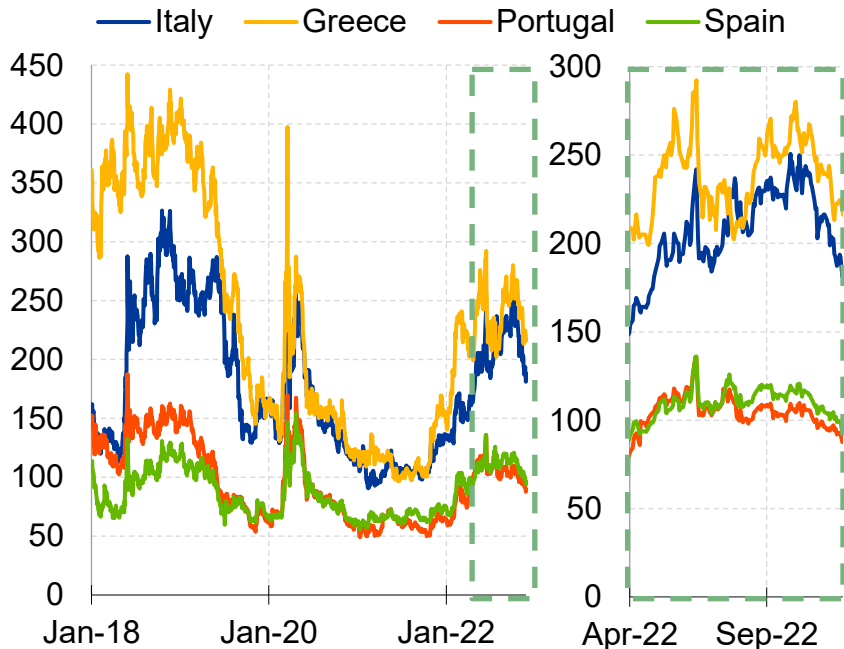
Sources: ECB and ECB calculations.
 Latest observation: RRE price growth (nom., y-o-y) 2022 Q1, Mortgage lending growth (nom., y-o-y, adj., RHS) 2022 Q2.

Sources: CES, European Commission and ECB calculations.
 Latest observation: September 2022 for house price expectations and 2022 Q3 for intention to buy a house.

Sovereign bond spreads have become less sensitive to shifts in rate expectations

Sovereign 10-year bond spreads

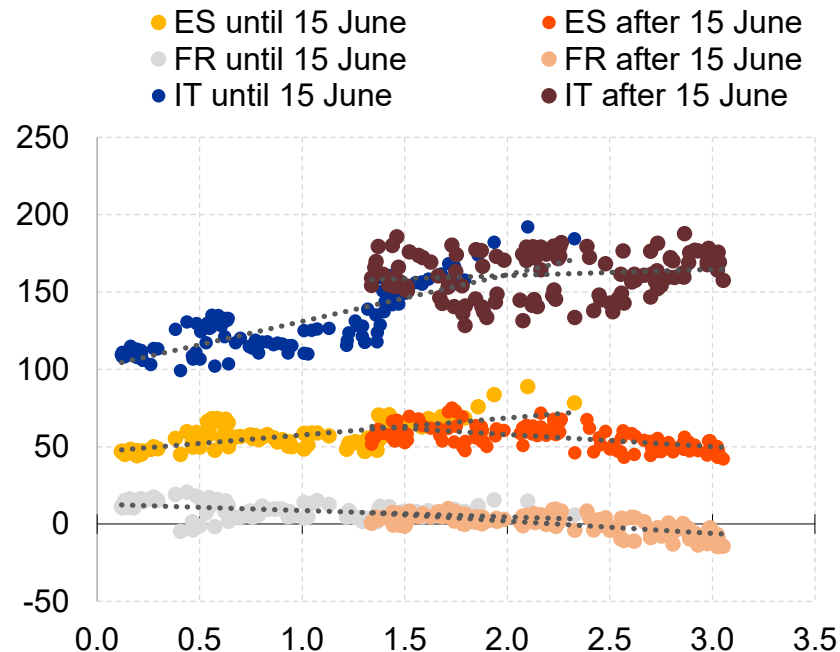
(basis points)



Sources: Bloomberg.
Latest observation: 24 November 2022.

Sensitivity of sovereign bond spreads to rate expectations

(basis points)

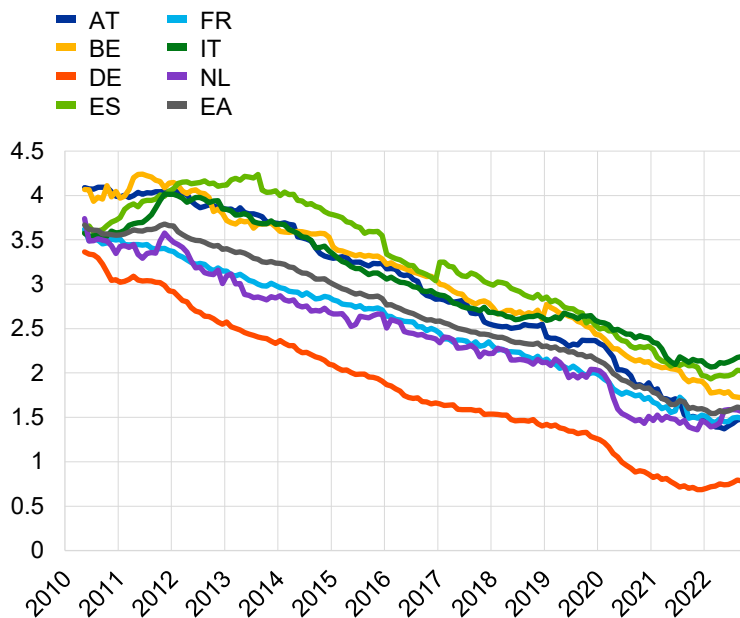


Sources: Bloomberg, ECB calculations.
Latest observation: 24 November 2022.

Public debt sustainability hinges more on economic growth than interest rates

Average nominal sovereign yields on total outstanding government debt securities

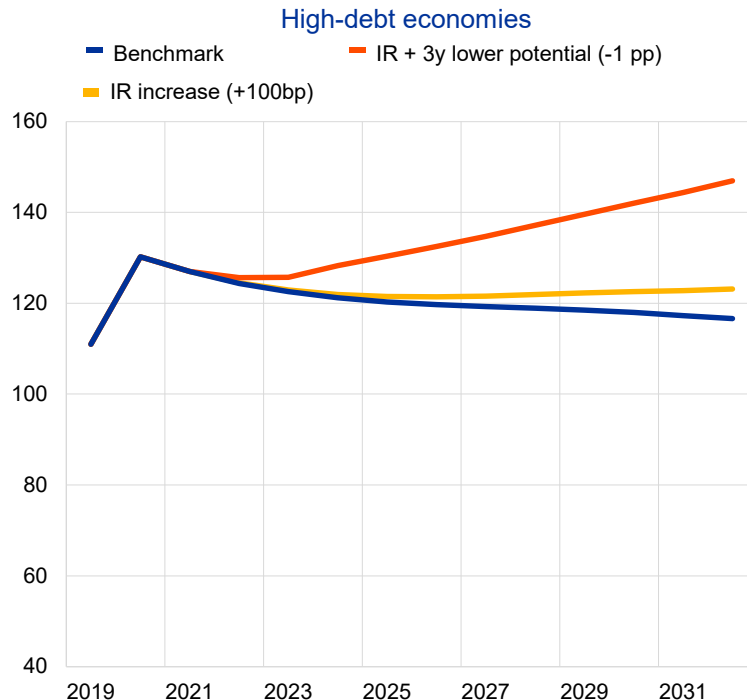
(% per annum)



Sources: ECB and ECB calculations.
Latest observation: October 2022.

Impact of an interest rate and GDP shock on debt-to-GDP ratio

(percentages)



Sources: European Commission and ECB calculations.

Notes: High-debt economies are countries with a debt-to-GDP ratio exceeding 90% in 2019. Interest rate shock assumes permanently higher interest rates by 100 basis points (bp) across countries and maturities. Potential growth shock assumes potential growth lower by 1 percentage point (pp) for three years, implying permanently lower potential output levels.

Thank you very much for your attention!