Challenges for monetary policy at times of stubborn inflation

Isabel Schnabel
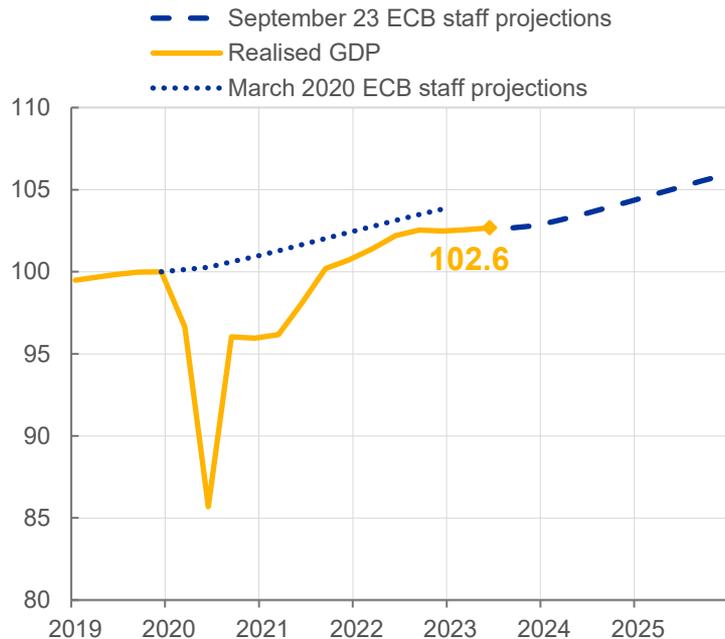*Member of the Executive Board
of the European Central Bank*

Association of German Banks, Meeting of the Economic and Monetary Policy Committee, Frankfurt, 20 September 2023

Economic growth and inflation in the euro area since the start of the pandemic
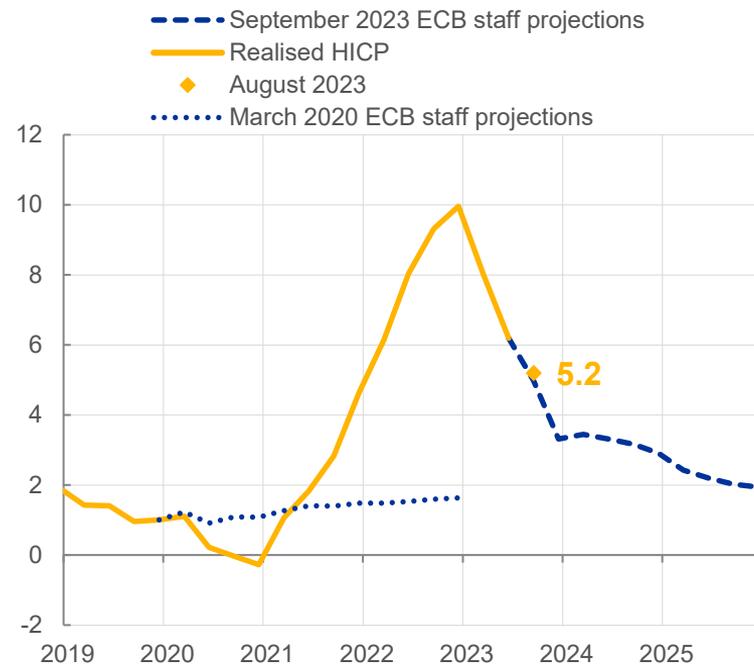
Real GDP
(index: Q4 2019 = 100)

- – – September 23 ECB staff projections
- —— Realised GDP
- ······ March 2020 ECB staff projections

102.6

Sources: Eurostat, ECB and Eurosystem.
Latest observation: Q2 2023 for realised GDP (diamond).

Inflation
(annual percentage changes, quarterly data)

- – – September 2023 ECB staff projections
- —— Realised HICP
- ◆ August 2023
- ······ March 2020 ECB staff projections

5.2

Sources: Eurostat and ECB.
Latest observation: Q2 2023 for quarterly data, August 2023 for monthly data (diamond).
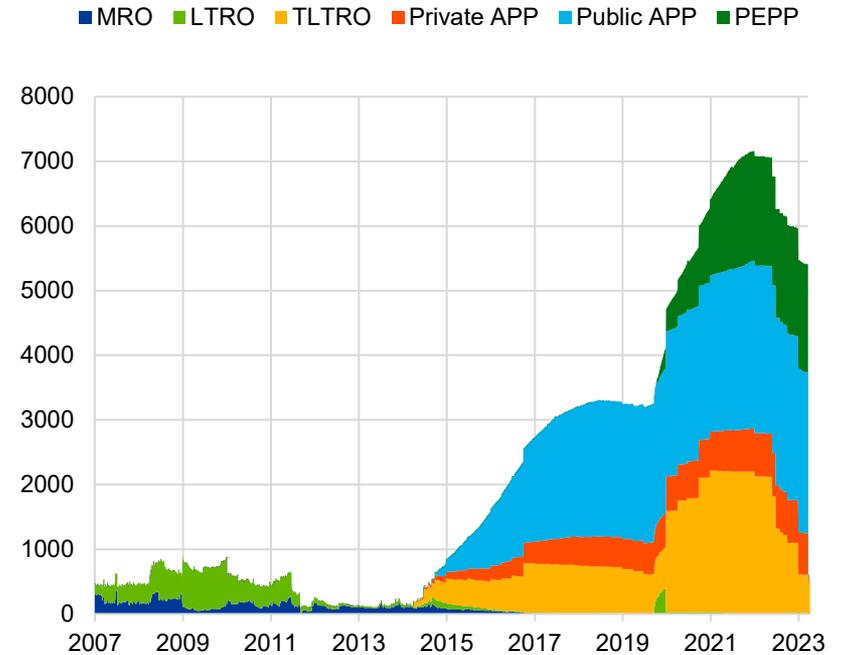
ECB took determined policy action to tackle unprecedented inflation surge

ECB key interest rates
(%)
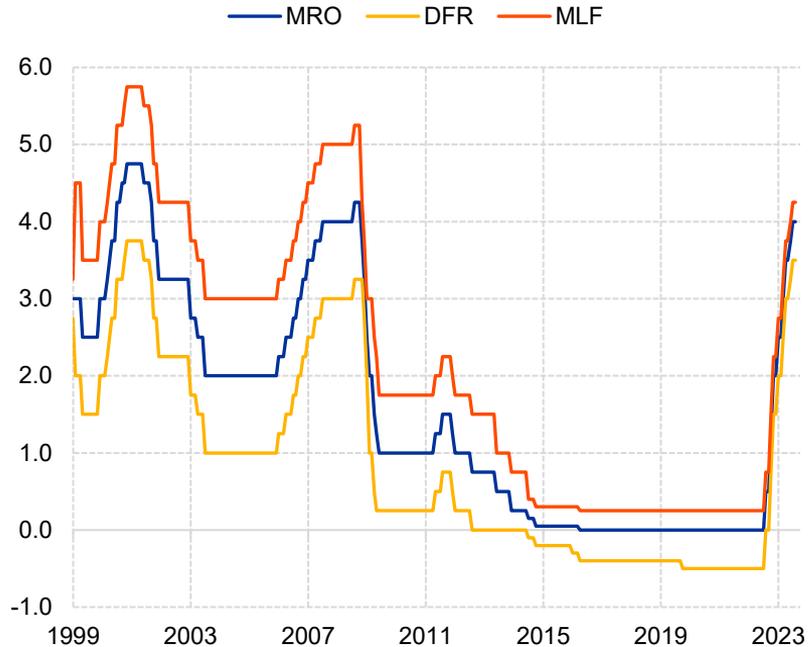
Source: ECB.
Latest observation: September 2023.

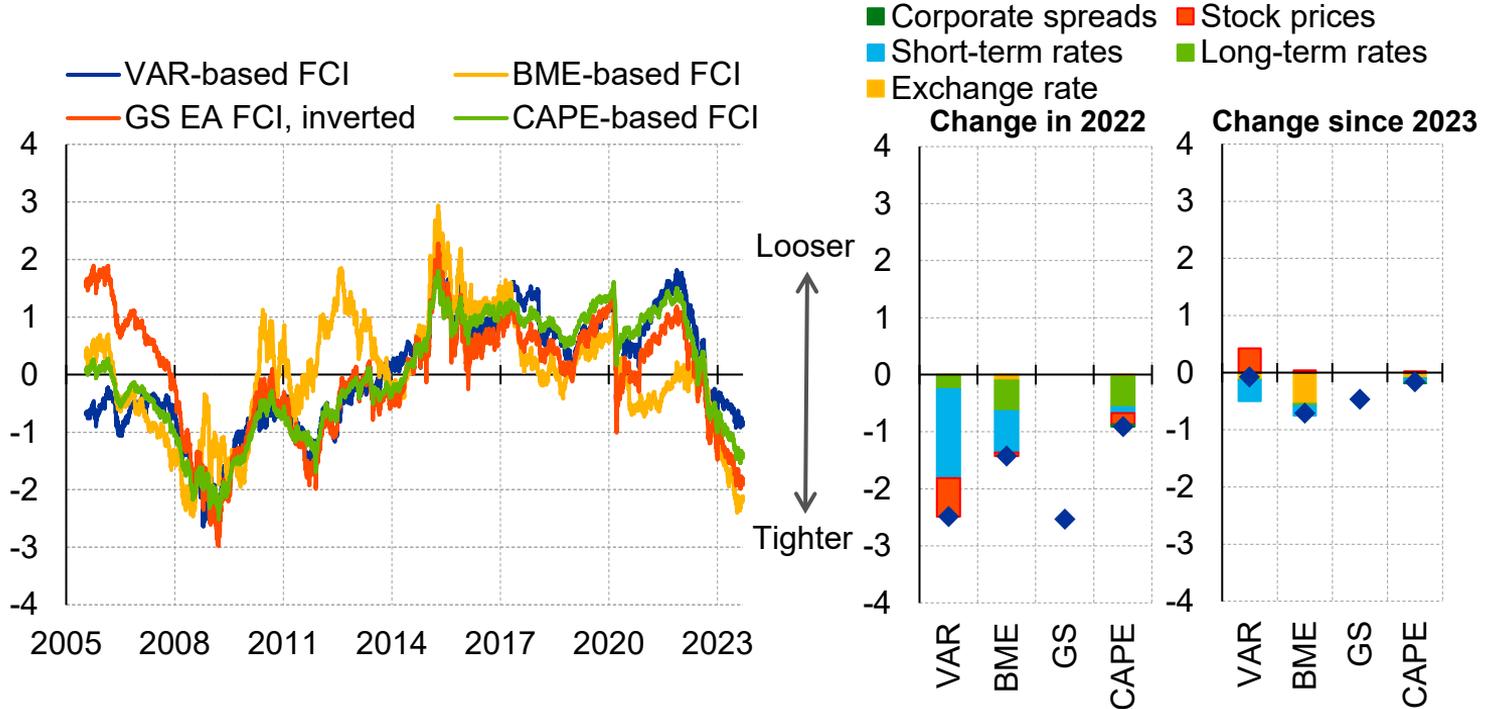## Monetary policy assets
(€ billion)

Source: ECB.
Notes: Public APP is PSPP, Private APP is CBPP3, ABSPP and CSPP.
Latest observation: September 2023.

Tightening of financial conditions occurred to the largest part in 2022

Financial conditions indices
(lhs panel: index; rhs panel: index points)

Legend:
- Corporate spreads
- Stock prices
- Short-term rates
- Long-term rates
- Exchange rate

VAR-based FCI — BME-based FCI — GS EA FCI, inverted — CAPE-based FCI

Looser / Tighter

Change in 2022 — Change since 2023

Strong transmission to funding costs and bank lending

Composite cost of borrowing
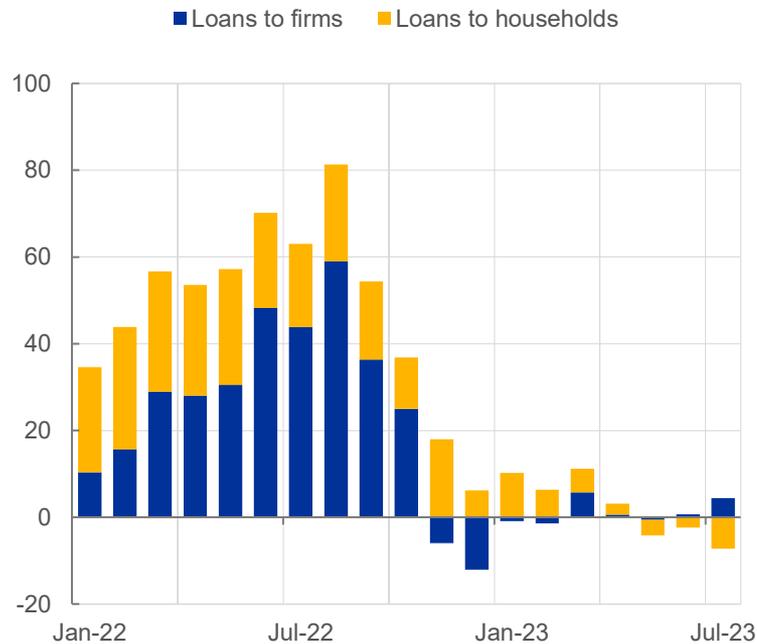### (percentages per annum)
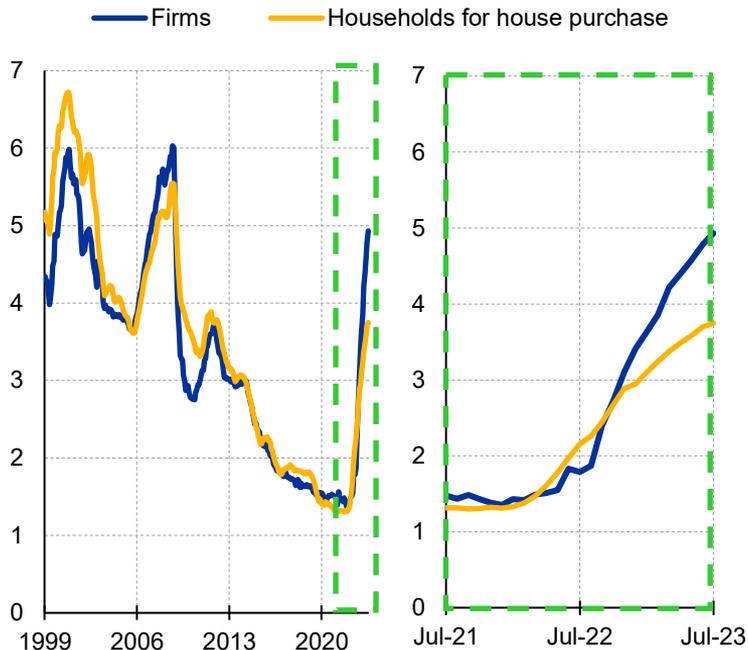
Sources: ECB (MIR) and ECB calculations.
Notes: The indicator for the total cost of bank borrowing for firms is calculated by aggregating short-term and long-term rates using a 24-month moving average of new business volumes.
Latest observation: July 2023.

Bank loans to firms and households
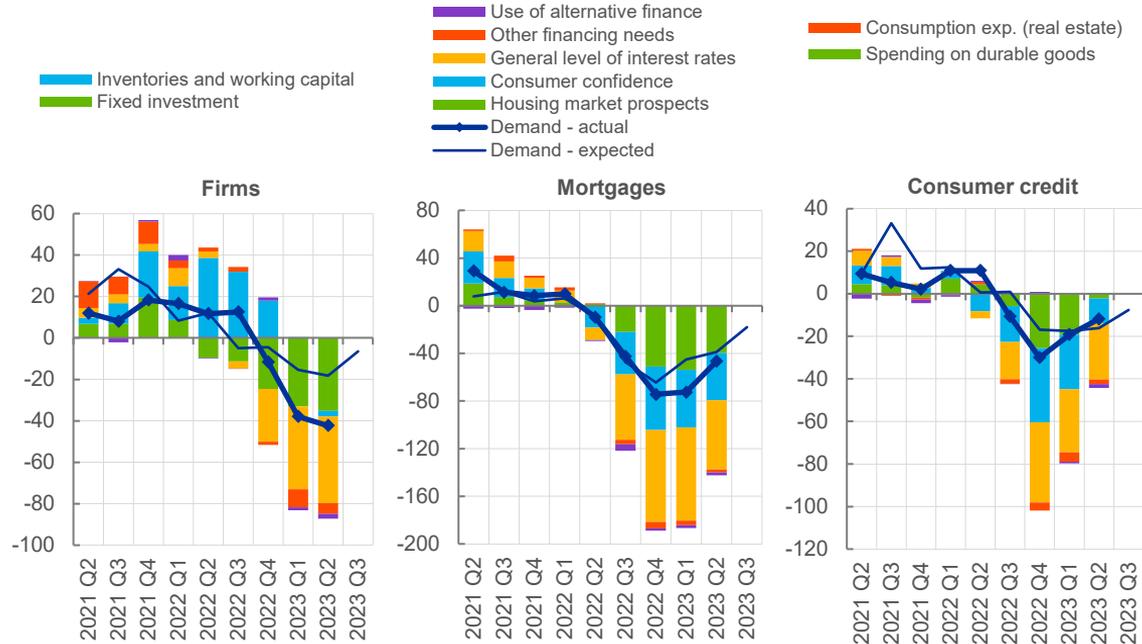### (monthly flow in EUR bn)

Sources: ECB (BSI).
Notes: Loans to households and firms are adjusted for sales and securitisation. Loans to firms are also adjusted for cash pooling.
Latest observation: July 2023.

Demand for loans to firms, households for house purchase and consumer credit

(net percentages of banks)
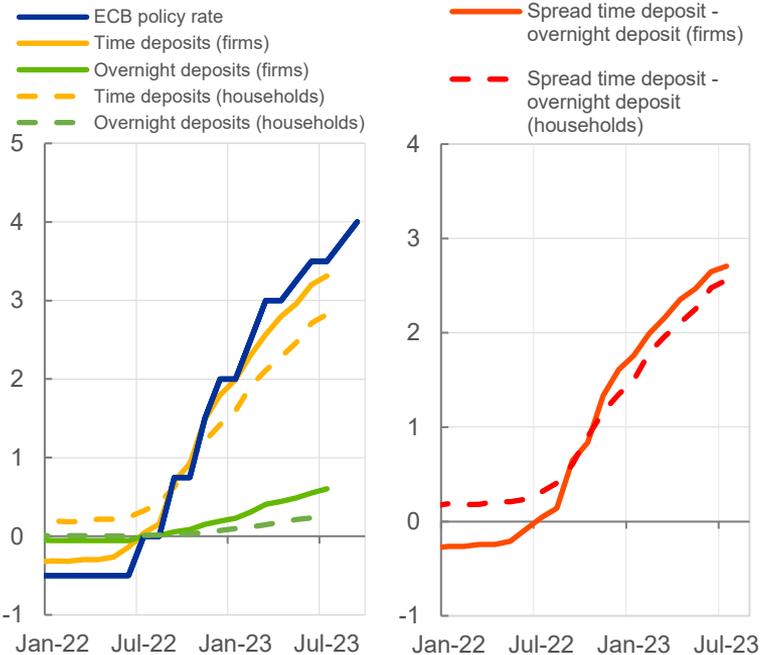
Source: ECB (July 2023 Bank Lending Survey).
Notes: The net percentage refers to the difference between the sum of the percentages for "increased considerably" and "increased somewhat" and the sum of the percentages for "decreased somewhat" and "decreased considerably".
Latest observation: 2023Q2.

Limited pass-through to deposit rates and moderate decline in house prices

Deposit rate pass-through
(lhs: percentage per annum; rhs: percentage points)

Legend:
- ECB policy rate
- Time deposits (firms)
- Overnight deposits (firms)
- Time deposits (households)
- Overnight deposits (households)
- Spread time deposit - overnight deposit (firms)
- Spread time deposit - overnight deposit (households)

Sources: ECB (MIR, FM) and ECB calculations.
Last observations: September 2023 for the ECB policy rate, July 2023 for deposit rates.

House prices
(Monthly RRE price indices – December 2019 = 100)

Legend: EA, ES, IT, DE, FR, NL
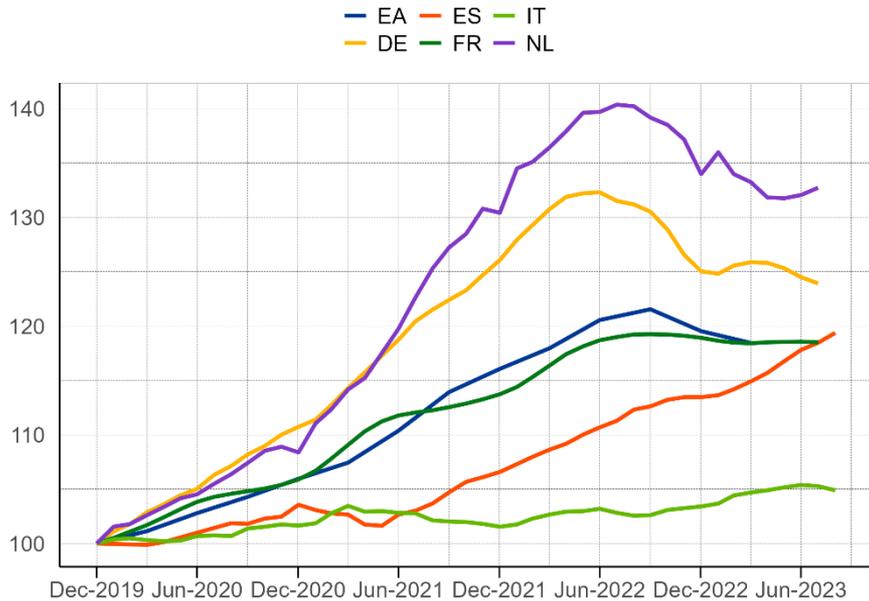
Sources: Europace, Eurostat, Immobiliare.it, Indomio.es, Meilleursagents.com, Statistics Netherlands.
Notes: RRE stands for Residential Real Estate. Last EA observation from Eurostat is for Q1 2023, so several countries with more timely data available are added. For IT and ES an average listing price index is reported. For ES Dec 2019 to March 2020 is the Eurostat variable due a lack of data. For all other countries the index reported is a hedonic price index based on transaction prices.
Latest observation: July 2023 for DE, FR and NL, August 2023 for ES and IT Q1 2023 for EA.
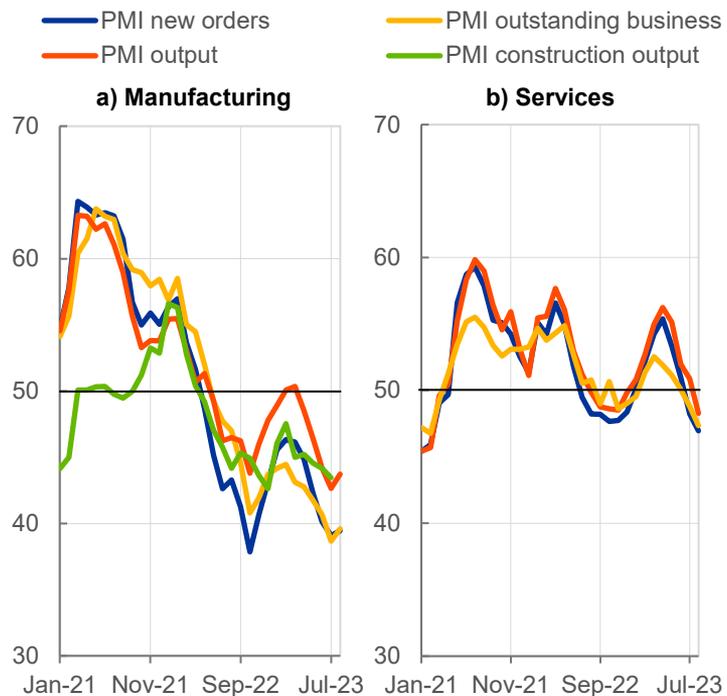
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Surveys point to weakening of euro area growth and employment
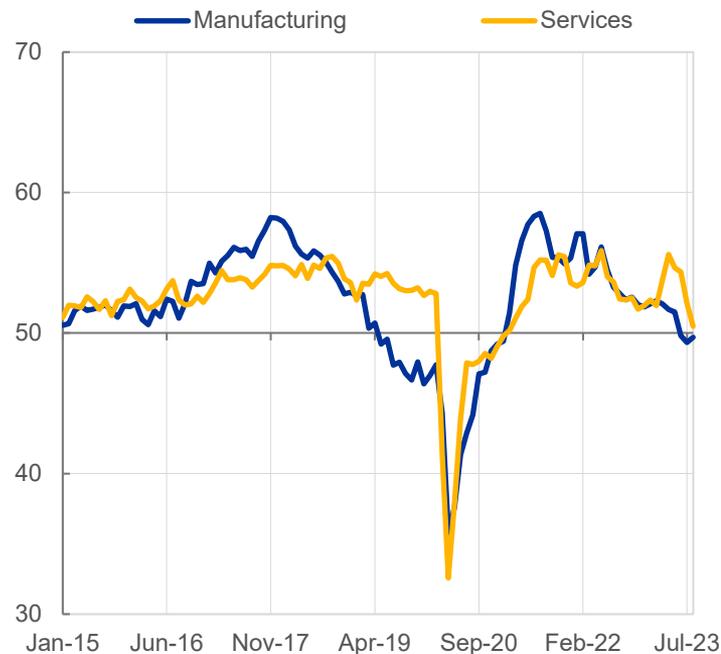
PMI activity indicators
(diffusion indices)

Legend:
- PMI new orders (blue)
- PMI output (red)
- PMI outstanding business (yellow)
- PMI construction output (green)

a) Manufacturing
b) Services

Source: S&P Global.
Latest observation: August 2023.

PMI employment
(diffusion indices)

Legend:
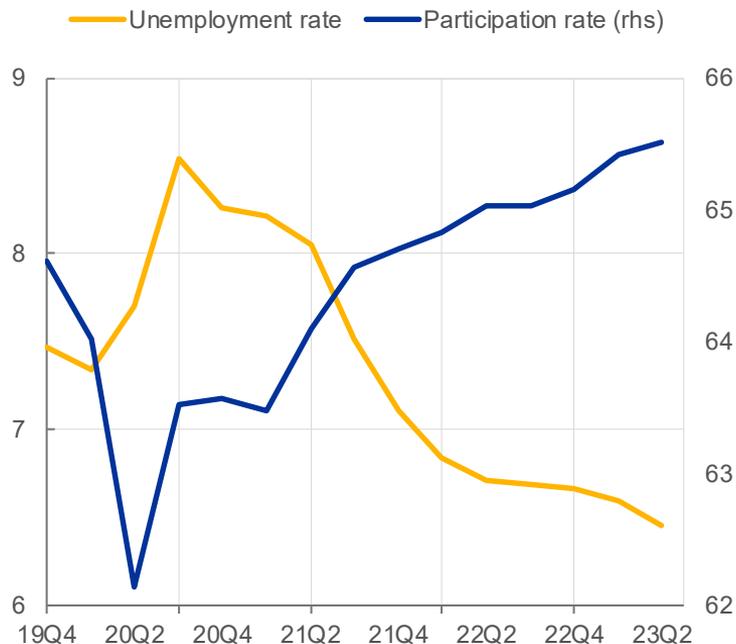- Manufacturing (blue)
- Services (yellow)

Source: S&P Global.
Latest observation: August 2023.

Resilient labour market and rising real income as supporting factors

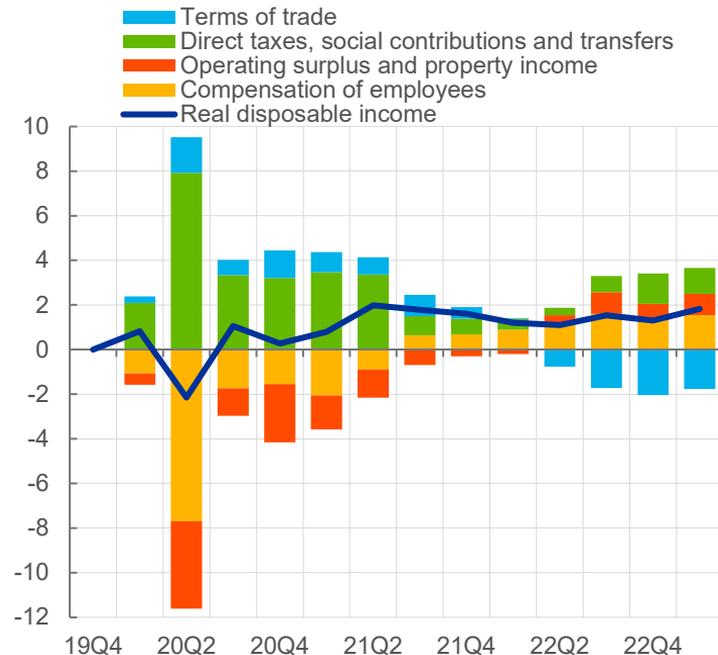## Labor force participation and unemployment
(%)

Source: Eurostat.
Latest observations: Q2 2023 for unemployment rate and Q2 2023 for participation rate.

Real disposable income
(index: Q4 2019 = 0, percentages and percentage point contributions)
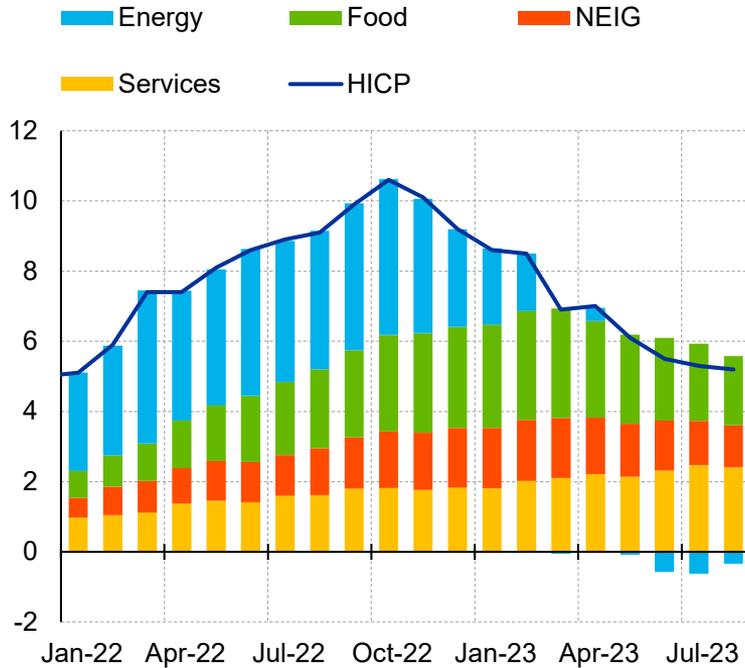

Sources: Eurostat and ECB calculations.
Notes: Disposable income is deflated with the private consumption deflator, whereas its components are deflated with the GDP deflator. "Terms of trade" are calculated as the ratio of GDP to the private consumption deflators. For more details, see De Santis and Stoevsky (2023).
Latest observations: Q1 2023.

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Decline in headline inflation, while underlying inflation proves more stubborn
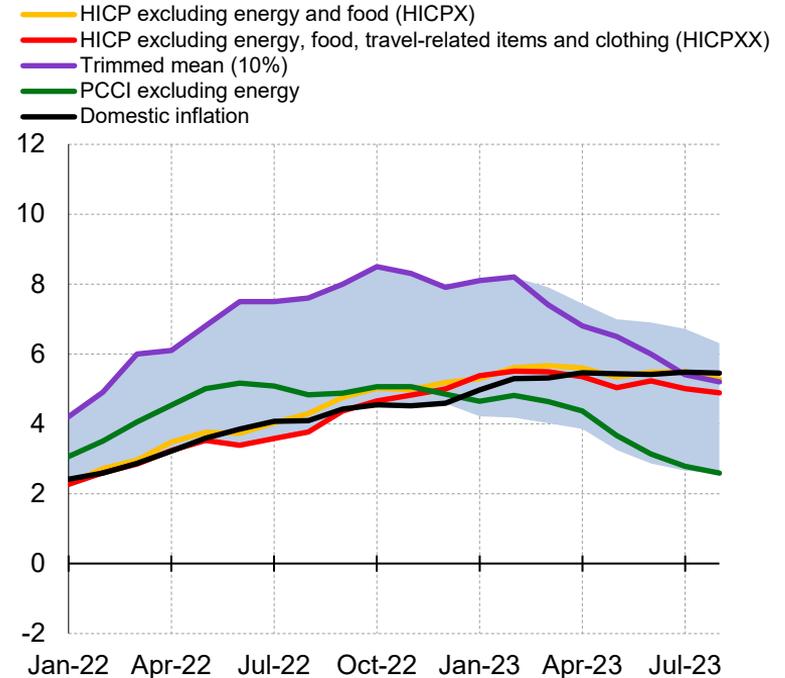
Contributions to headline inflation
(annual percentage changes and percentage point contribution)

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

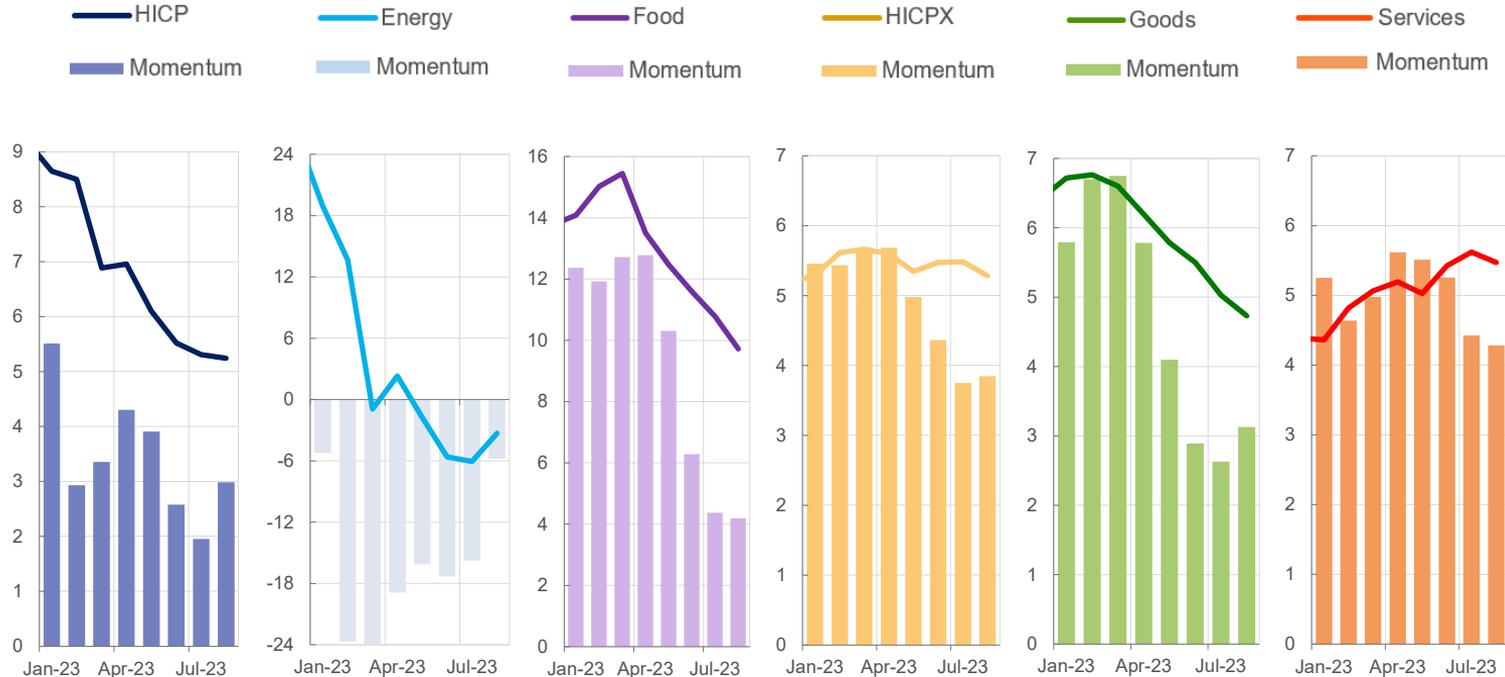## Measures of underlying inflation
(annual percentage change)

Sources: Eurostat and ECB calculations.
Latest observations: August 2023.

Momentum remains high and has been rising recently for HICP and HICPX

Inflation momentum for HICP and sub-components
(annual percentage change, 3m-o-3m annualised percentage change)

Sources: Eurostat and ECB calculations.
Notes: Momentum is defined as annualised 3 months-on-3 months rates, seasonally adjusted data. HICPX: HICP excluding energy and food, Goods are non-energy industrial goods.
Latest observation: August 2023.
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Cross-sectional distribution of longer-term inflation point forecasts
(percent)
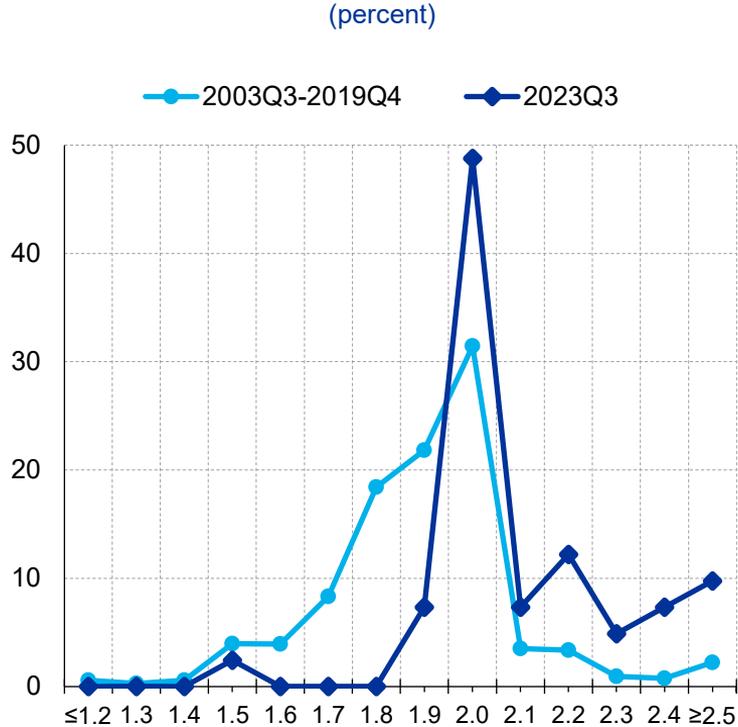
Sources: Survey of Professional Forecasters (SPF) and ECB calculations.
Notes: Y-axis shows percent of respondents; x-axis shows the HICP inflation rate. Longer-term expectations refer to 4-5 years ahead.
Latest observation: Q3 2023 SPF.

Model-based decomposition of euro area inflation-linked swap rates
### (percentages)
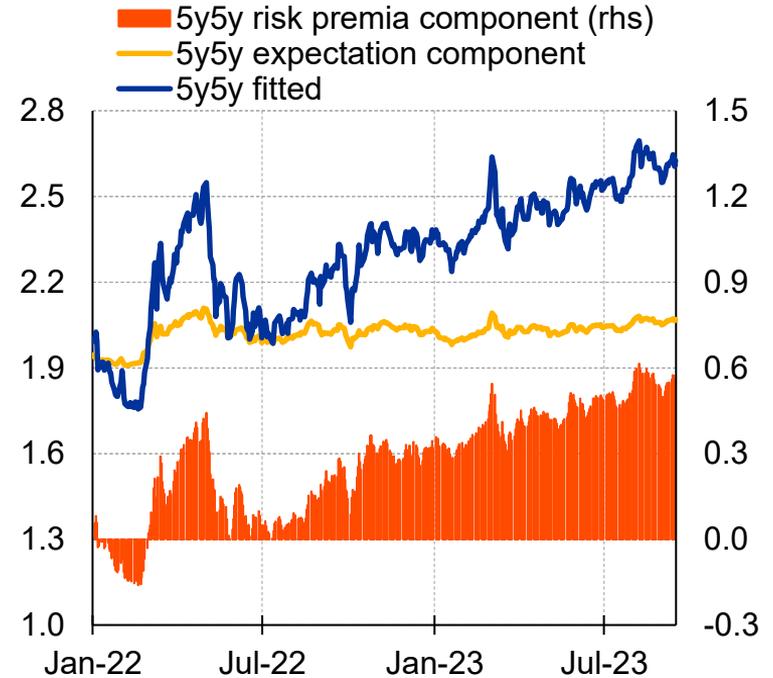
Sources: Refinitiv and ECB calculations.
Notes: Premia-adjusted forward ILS rates are average estimates from two affine term structure models as in Joslin, Singleton and Zhu (2011) applied to ILS rates non-adjusted for the indexation lag; see Burban et al. (2022), ECB Economic Bulletin Issue 8, 2021, Box 4. Inflation compensation rates refer to a linear interpolation between fixings and 1-year forward. Latest observation: 18 September 2023.

New supply-side shocks may pose upside risks to inflation

Daily oil price decomposition
(cumulated percentage change)

- Economic activity
- Supply
- Risk sentiment
- Oil price

July GovC

Since July GovC
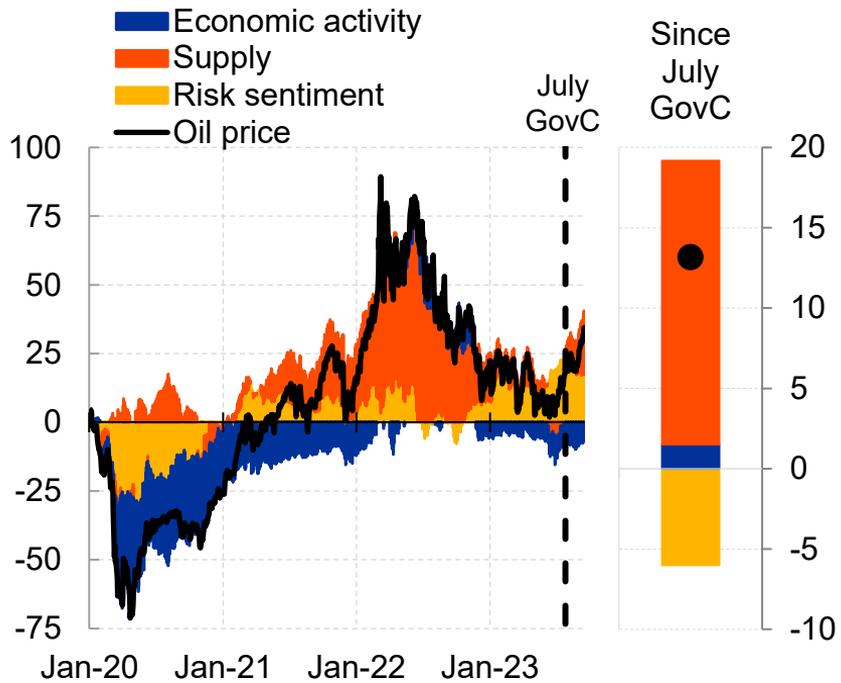
Sources: Refinitiv and ECB staff calculations.
Notes: Structural shocks are estimated using the spot price, futures-to-spot spread, markets expectations on oil price volatility and stock price index. The model decomposes the 1-month Brent crude futures price.
Latest observation: 18 September 2023.
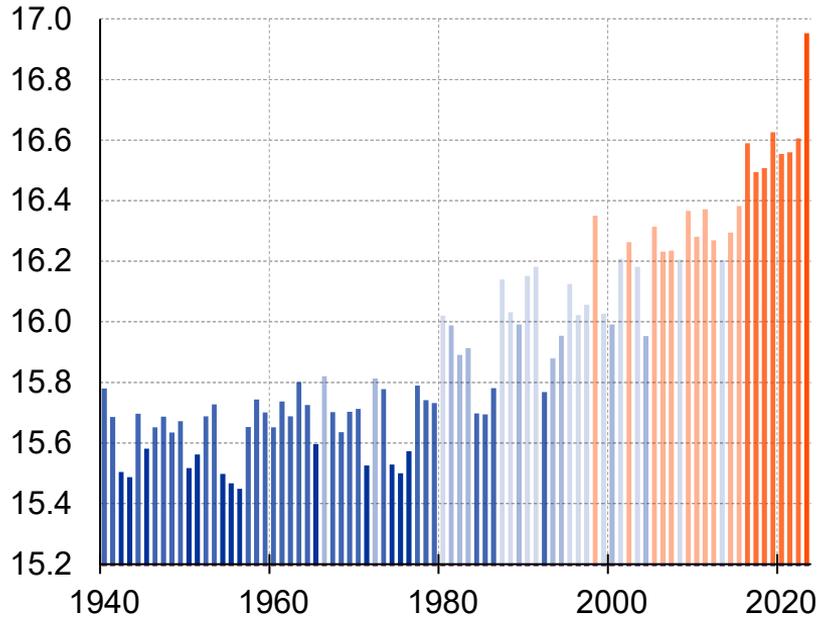
Commodity price index
(2018=100)

Sources: HWWI and ECB staff calculations.
Latest observation: 18 September 2023.

Extreme weather events due to climate change and El Niño may affect future food prices

Global surface air temperature
(in °C)

Sources: ERA5, ECMWF, Copernicus Programme.
Notes: Anomalies are calculated relative to July average during 1991-2020 reference period (16.23 °C). Shades of blue show below-average years, shades of red show above-average years.
Latest observation: July 2023 (monthly).

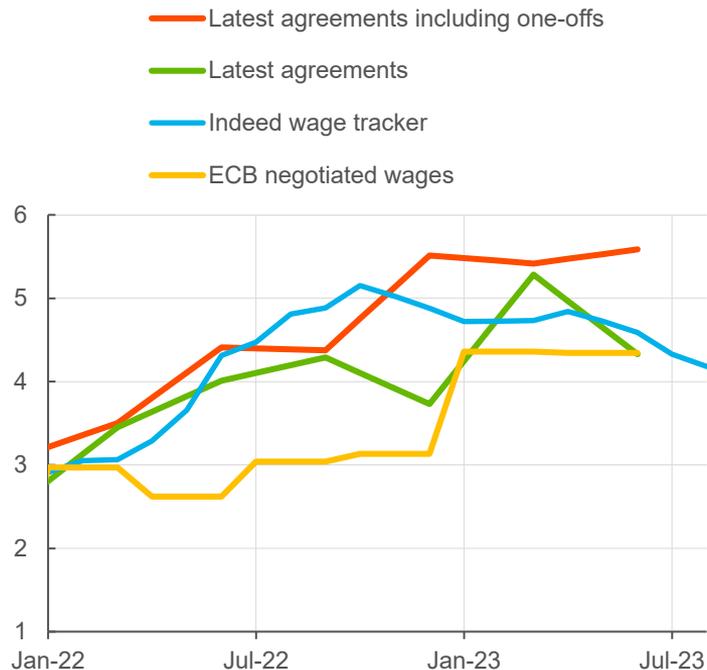## Medium-term corn and wheat price risks derived from option prices
(2005=100)
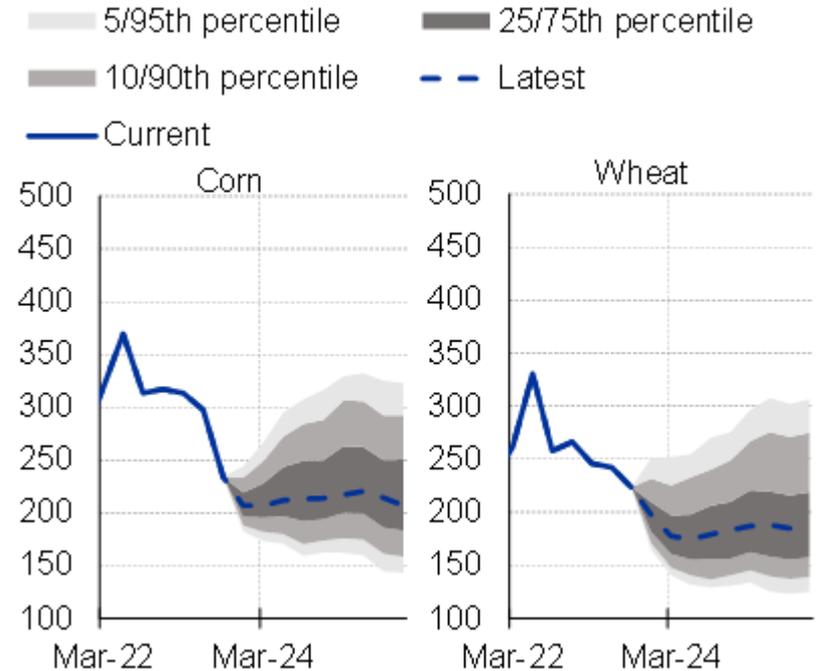
Sources: Refinitiv and ECB Staff Calculations.
Notes: Ranges for possible future prices of corn and wheat are calculated using percentiles of option-implied risk-neutral price distributions calculated from option quotes on corn and wheat at different delivery dates traded on 22 August 2023 following Black, F. and Scholes, M. (1973).
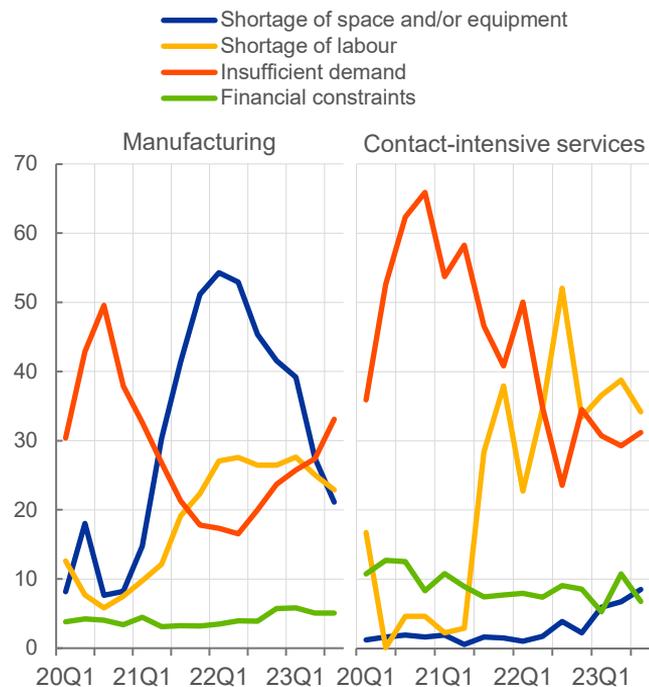Latest observation: 15 September 2023.

Dynamics in wage growth remain strong, while labour shortages persist

Wage trackers
(annual percentage change)

Legend:
- Latest agreements including one-offs
- Latest agreements
- Indeed wage tracker
- ECB negotiated wages

Limits to production
(percentage of respondents)

Legend:
- Shortage of space and/or equipment
- Shortage of labour
- Insufficient demand
- Financial constraints

Manufacturing — Contact-intensive services

Sources: Calculated based on micro data on wage agreements provided by Deutsche Bundesbank, Banco de España, the Dutch employer association (AWVN), Oesterreichische Nationalbank, Bank of Greece, Banca d 'Italia and Banque de France.
Notes: Indicator of latest wage agreements shows the wage growth implied by agreements reached in a quarter for 12 months ahead. Indeed tracker measures wage growth in online job ads, computed by the Central Bank of Ireland.
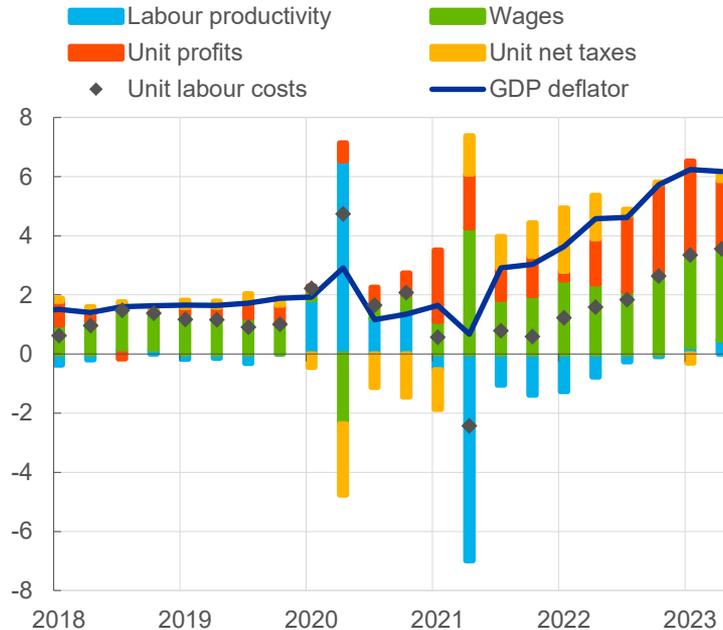Latest observations: August 2023 for Indeed Wage Tracker; June 2023 for the rest.

Sources: European Commission and ECB calculations.
Latest observation: 2023 Q3.

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GDP deflator – income side decomposition
(annual percentage changes, percentage points contributions)

Legend:
- Labour productivity
- Wages
- Unit profits
- Unit net taxes
- ◆ Unit labour costs
- GDP deflator

Sources: Eurostat and ECB staff calculations.
Latest observation: 2023 Q2.
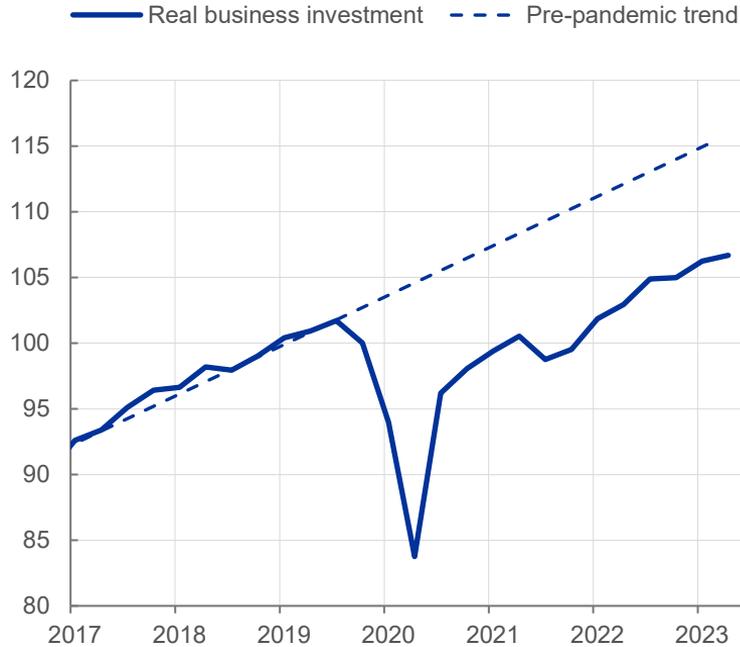
Labour productivity per hour
(index 2019 Q4 = 100)
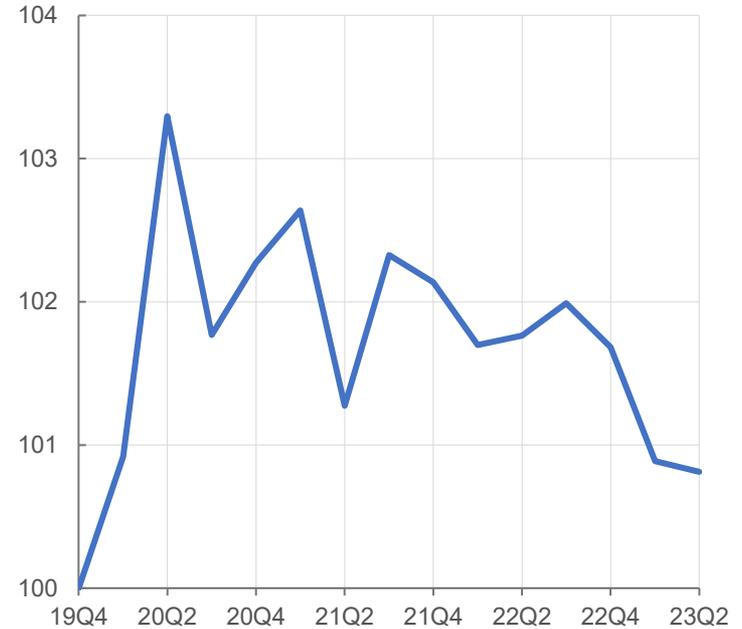
Sources: ECB calculation based on Eurostat data.
Latest observation: 2023 Q2.

Real business investment
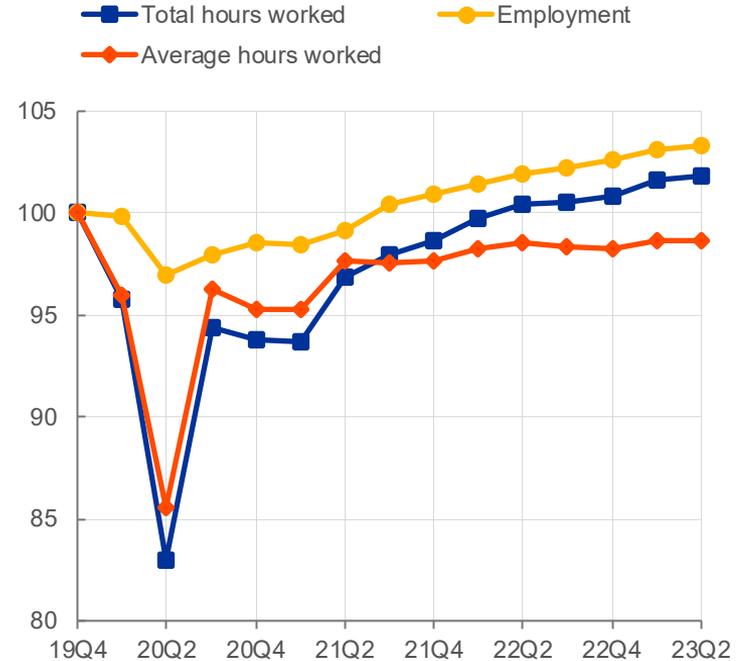### (index: 2019 Q4 = 100)

Source: ECB calculation based on Eurostat data.
Note: Pre-pandemic trend estimated on the basis of quarterly data between 2013 Q1 and 2019 Q4. Real investment adjusted for the statistical volatility of intangible investment in Ireland.
Latest observation: 2023 Q2.

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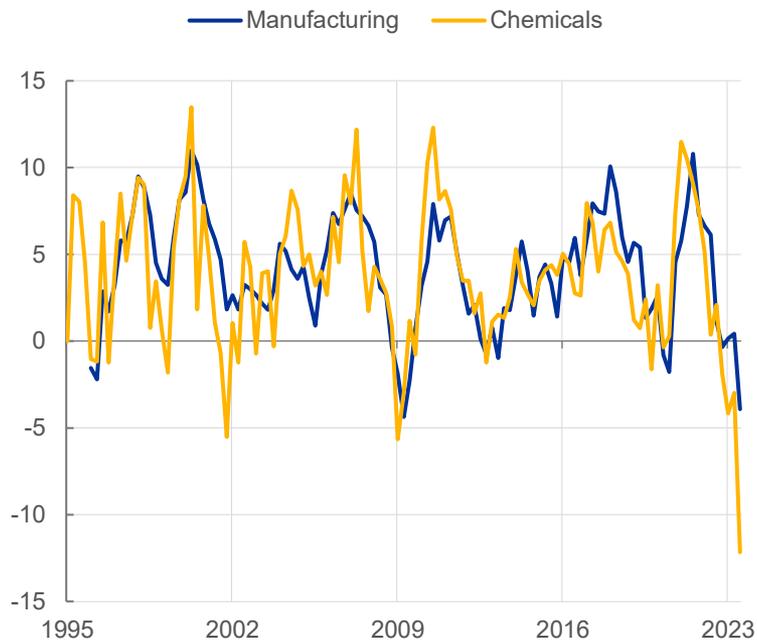### (index 2019 Q4= 100)

Source: ECB calculation based on Eurostat data.
Latest observation: 2023 Q2.

Energy shock threatens to leave permanent scars in the euro area
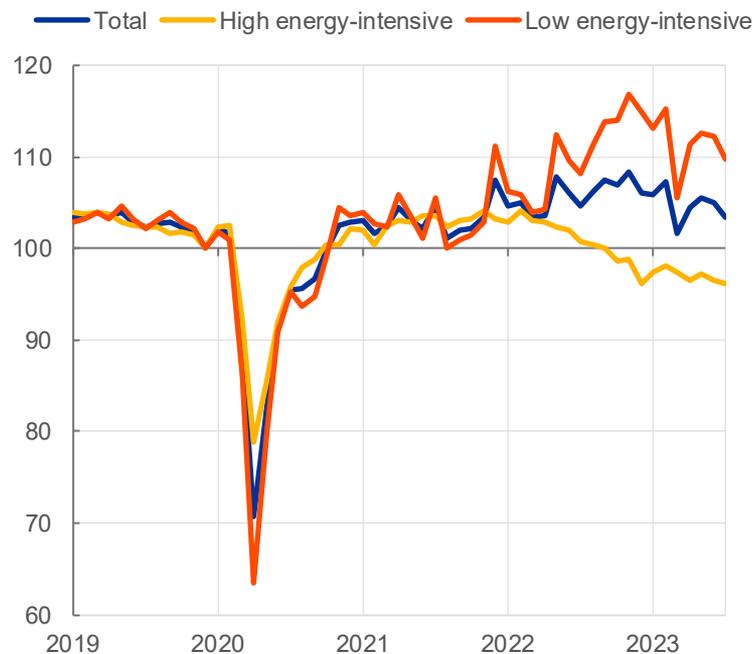
Competitive position in domestic market
(percentage balance)

Source: DG-ECFIN.
Latest observation: Q3 2023.

Industrial production: manufacturing sector
(index: December 2019 = 100)

Sources: Eurostat, Trade Data Monitor and ECB staff calculations.
Notes: Data are seasonally-adjusted. Industrial production indices for individual sectors are aggregated with value-added weights. Low (high) energy-intensity sectors are defined as those with an energy intensity lower (higher) than that of the median sector. For more details, see Chiacchio, De Santis, Gunnella and Lebastard (2023).
Latest observation: July 2023.

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