



EUROPEAN CENTRAL BANK

EUROSYSTEM

# Challenges for monetary policy at times of high inflation

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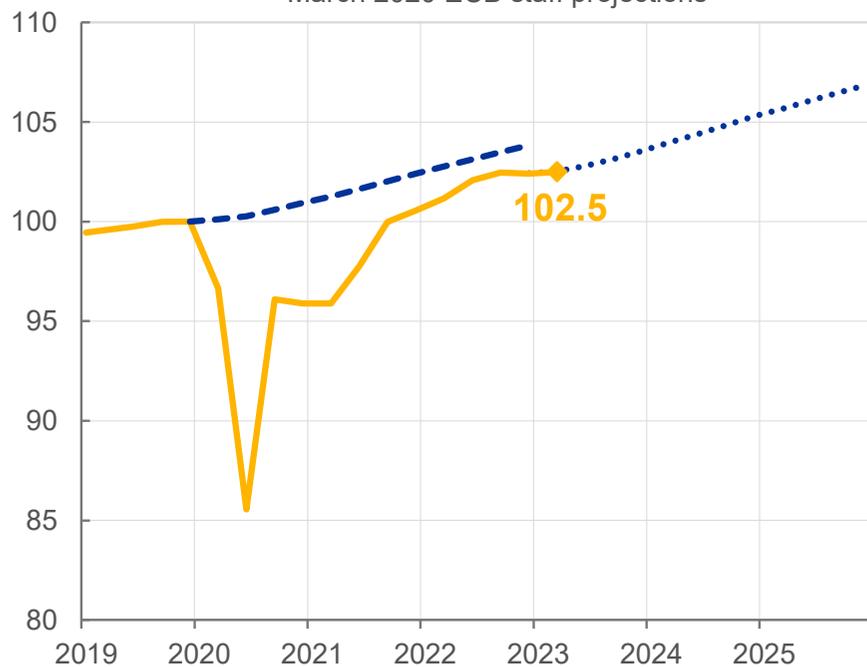
Hessischer Kreis  
Frankfurt, 9 May 2023

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

## Real GDP

(index: Q4 2019 = 100)

- ..... March 23 ECB staff projections
- Realised GDP
- - - March 2020 ECB staff projections

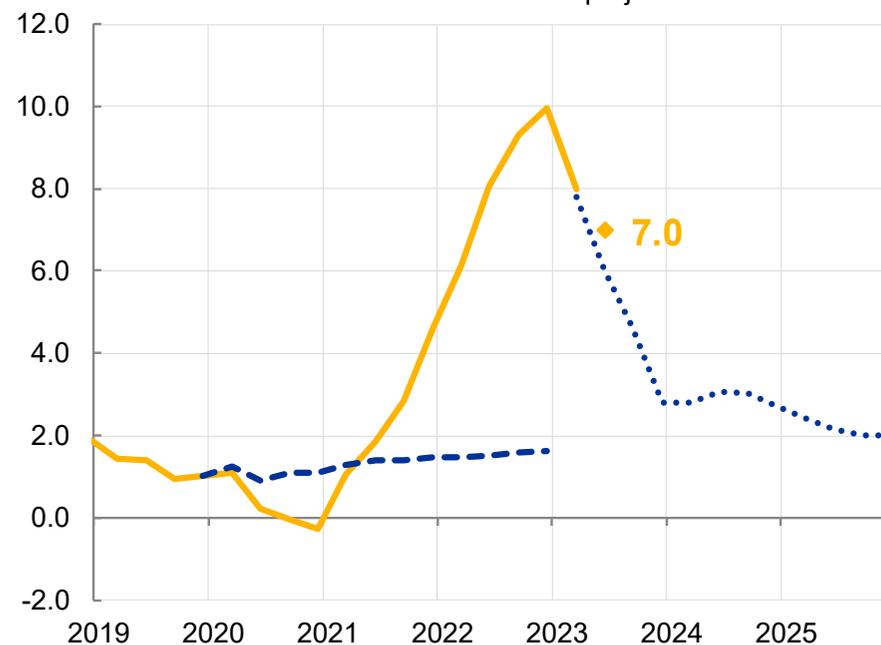


Sources: Eurostat, ECB and Eurosystem.  
Latest observation: Q1 2023 for realised GDP (diamond).

## Inflation

(annual percentage changes, quarterly data)

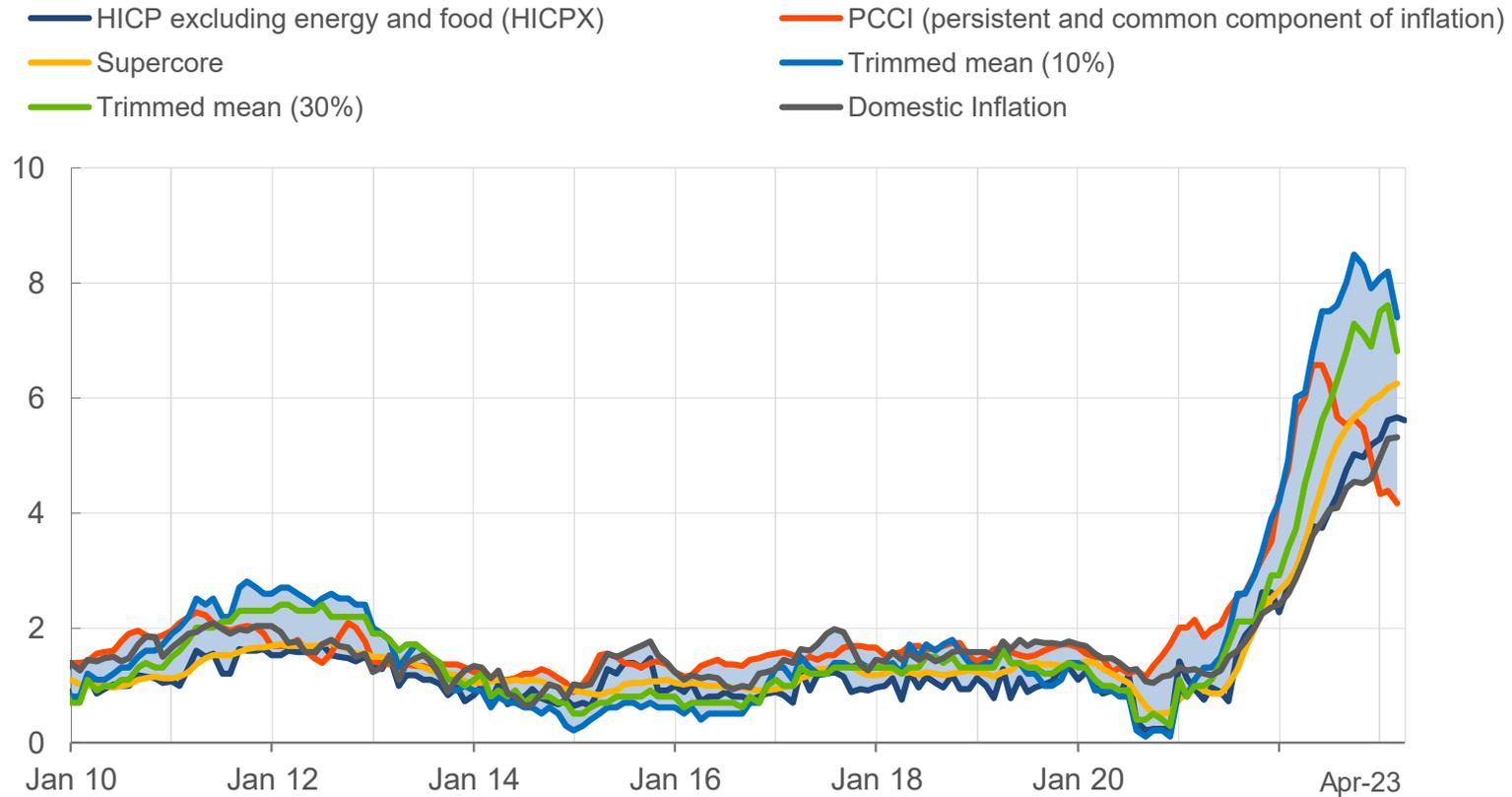
- ..... March 2023 ECB staff projections
- Realised HICP
- ◆ April 2023 (flash)
- - - March 2020 ECB staff projections



Sources: Eurostat, ECB and Eurosystem.  
Latest observation: Q1 2023 for quarterly data, April 2023 for monthly data (diamond).

# While headline inflation has started to decline, underlying inflation proves sticky

## Measures of underlying inflation (annual percentage changes)



Sources: ECB and ECB calculations.

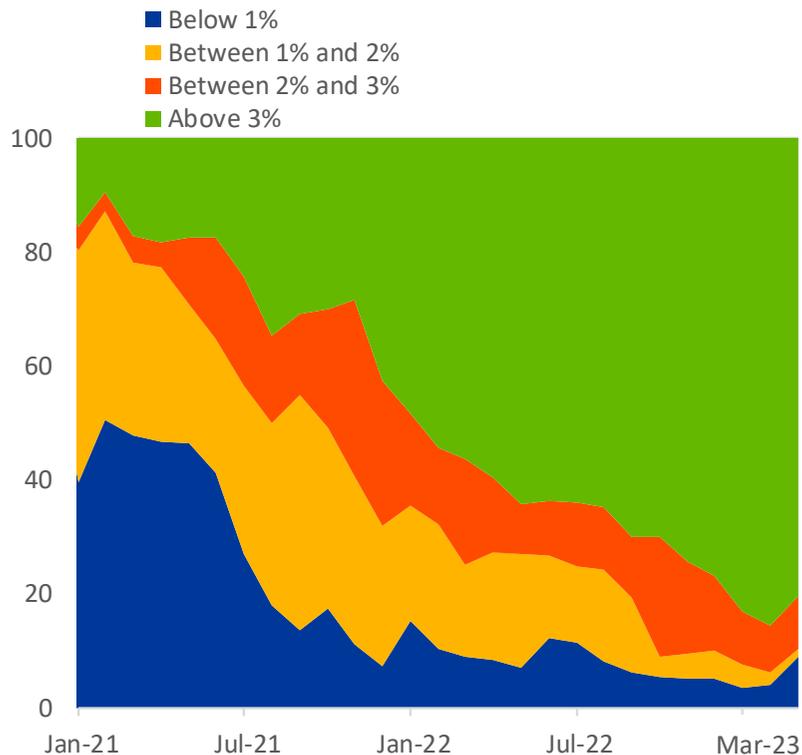
Notes: HICPX, Supercore and Trimmed means are non-seasonally adjusted, while PCCI is based on seasonally adjusted price series.

Latest observation: April 2023 (flash) for HICPX and March 2023 for the rest.

# Broadening of inflationary pressures to most components in the consumption basket

## Share of HICP components according to pace of change

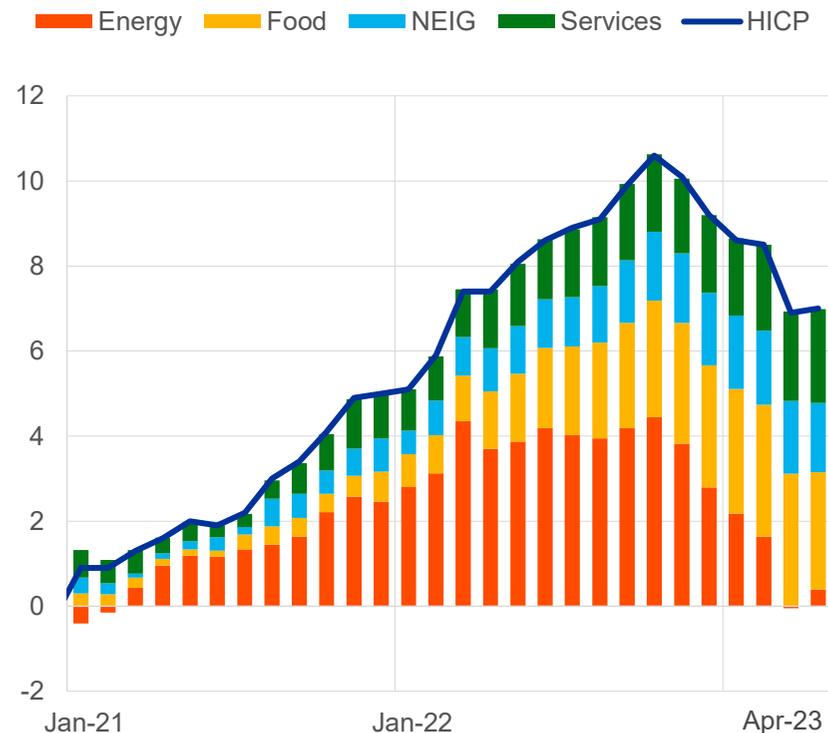
(percent)



Sources: ECB and ECB calculations.  
Latest observation: March 2023.

## Contributions to headline inflation

(annual percentage changes and percentage point contribution)

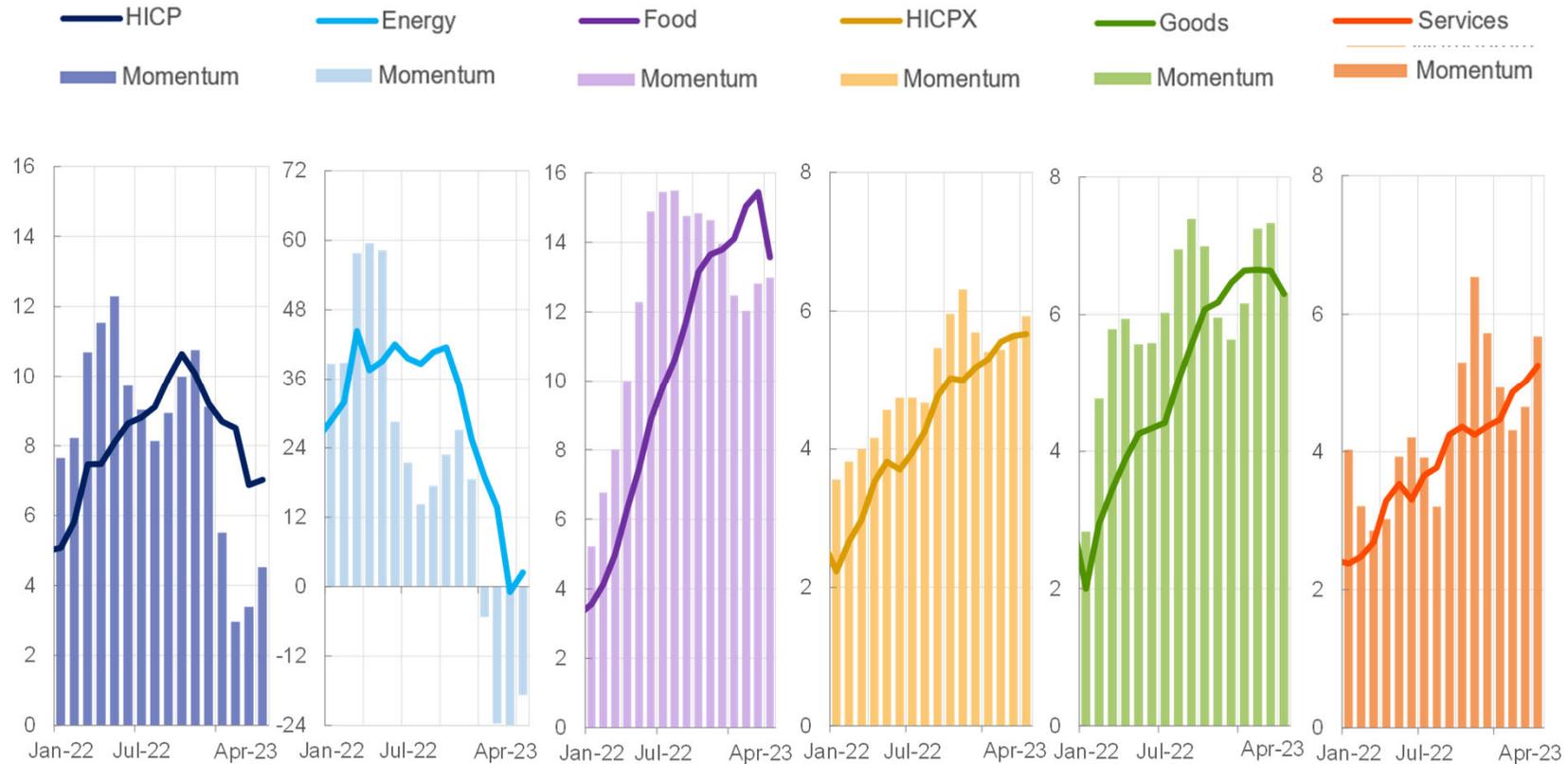


Sources: Eurostat and ECB calculations.  
Latest observation: April 2023 (flash).

# Inflation momentum remains high for all components except for energy

## Inflation momentum for HICP and its sub-components

(annual percentage change; annualised 3m-o-3m percentage change)



Sources: Eurostat and ECB calculations.

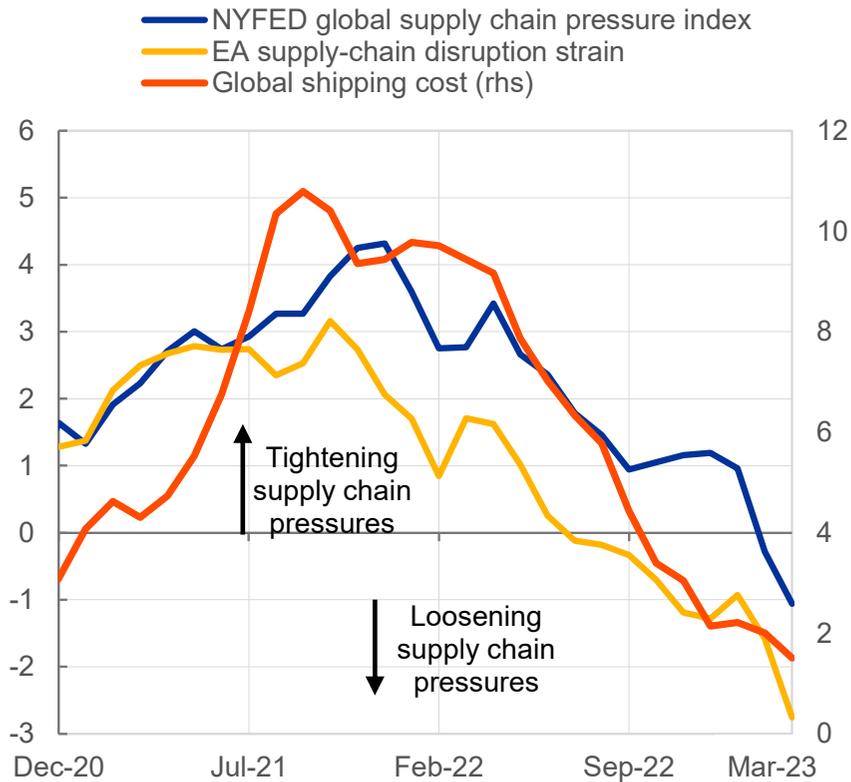
Note: Seasonally-adjusted data.

Latest observation: April 2023 (flash).

# Supply-side shocks from bottlenecks and energy prices continue to fade

## Supply bottlenecks

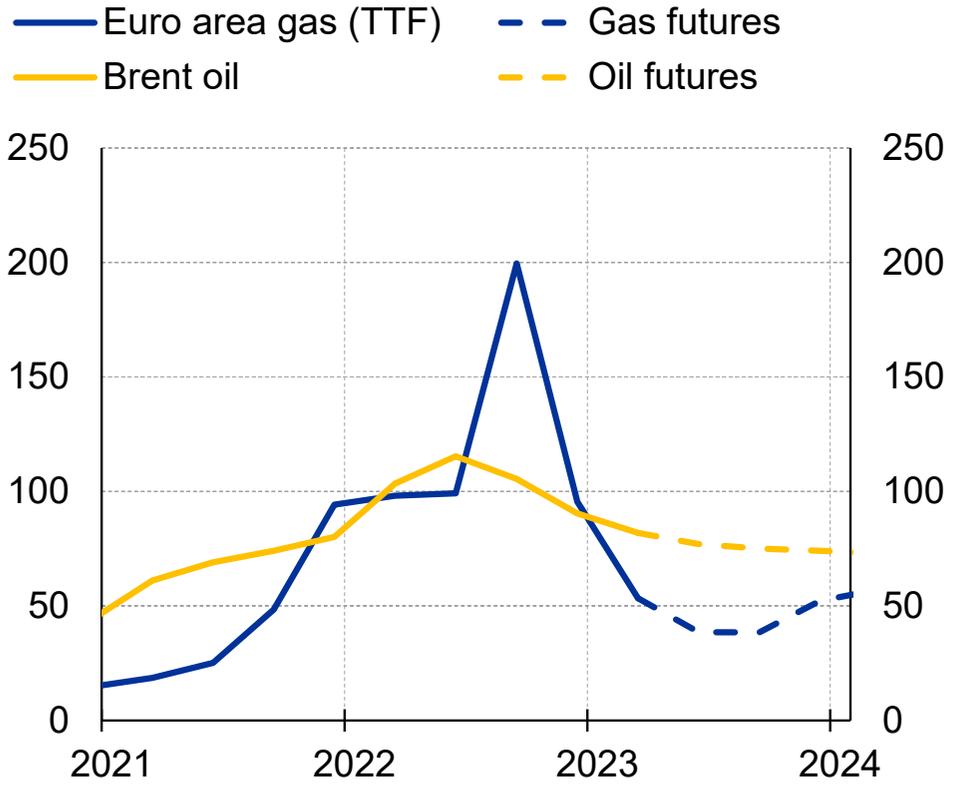
(lhs: standard deviations; rhs: USD per TEU)



Sources: Haver Analytics, Refinitiv and ECB calculations.  
 Notes: Global shipping cost is Freightos Baltic aggregate across major trade routes. TEU stands for twenty-foot equivalent unit shipping container.  
 Latest observation: March 2023

## Gas and oil prices with futures

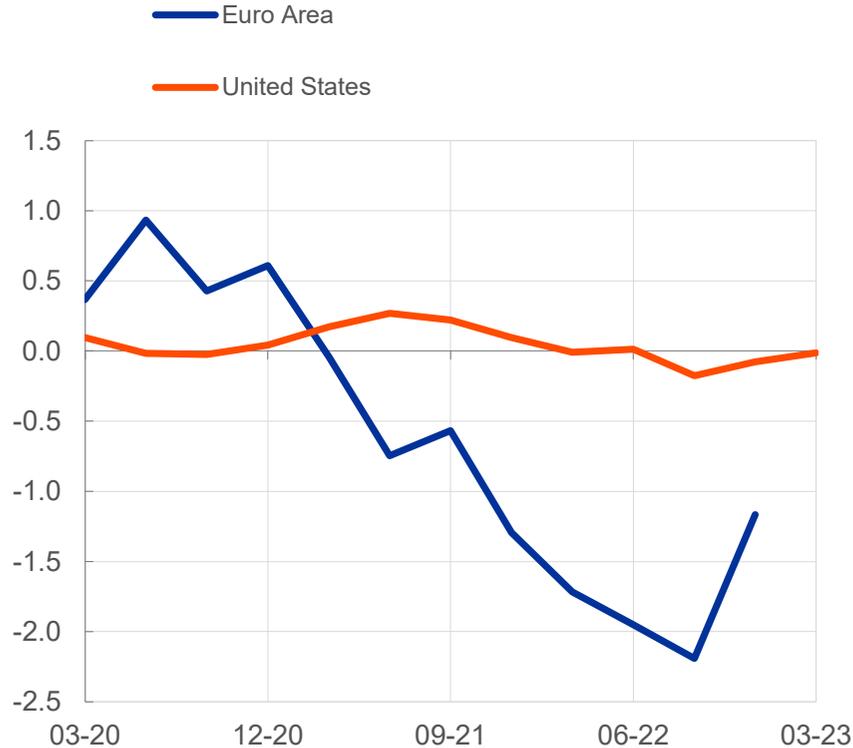
(Gas: EUR/MWh, Oil: USD/barrel)



Sources: Refinitiv, Bloomberg and ECB calculations.  
 Latest observation: 5 May 2023.

# Terms-of-trade shock is reversing while fiscal response remains expansionary

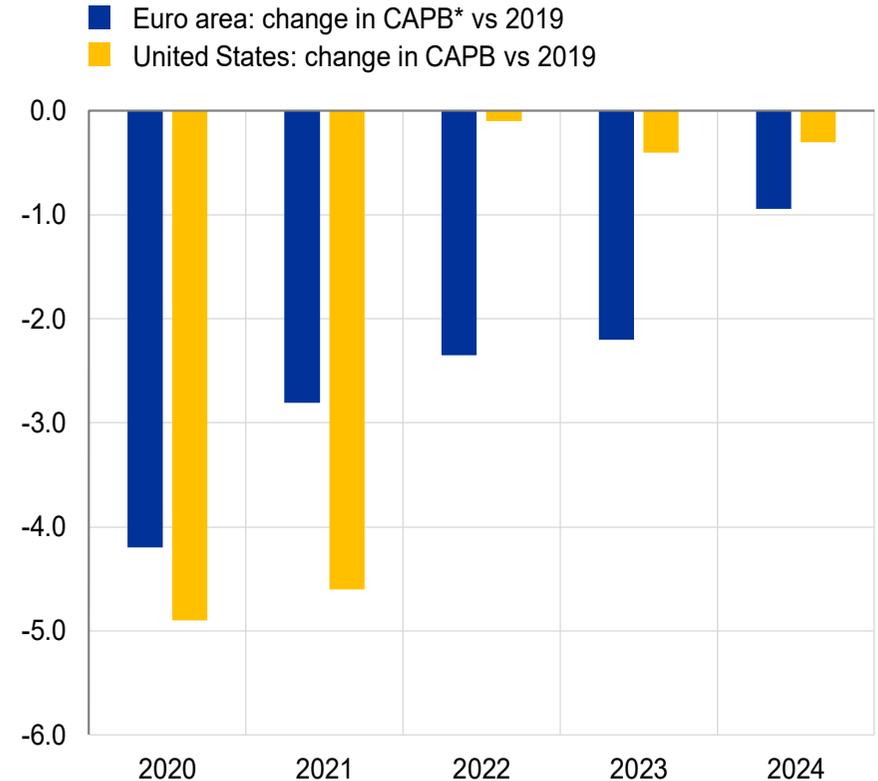
## Income effects of terms-of-trade shock (impact on year-on-year GDP growth in percentage points)



Source: Haver analytics, Eurostat and ECB calculations.

Notes: The income effect of terms of trade is calculated import and export price changes by their respective past values (one-year lag) expressed as percentage of GDP. The latest observation is 2022 Q4 for EA and 2023 Q1 for US.

## Fiscal response to pandemic and energy crisis (percent of potential GDP)



Source: March 2023 ECB staff Macroeconomic projections and IMF Fiscal Monitor, April 2023.

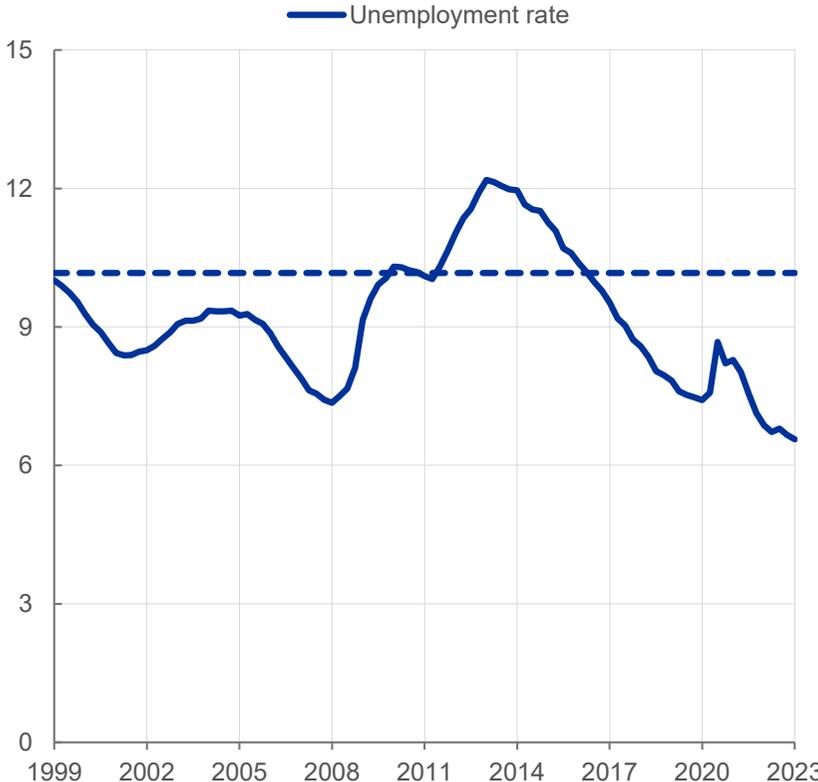
Notes: Negative (positive) numbers denote fiscal loosening (tightening) vs 2019.

\*CAPB stands for the cyclically adjusted primary balance. For the EA, this is adjusted for NGEU grants on the revenue side, in line with the definition for the EA fiscal stance. The measure shown in chart is a proxy for the discretionary fiscal policy response since the pre-pandemic period (2019). It includes also other factors (such as revenue windfalls/shortfalls). The measures for the EA and US are not fully comparable due to the timing and other methodological differences between the two sources.



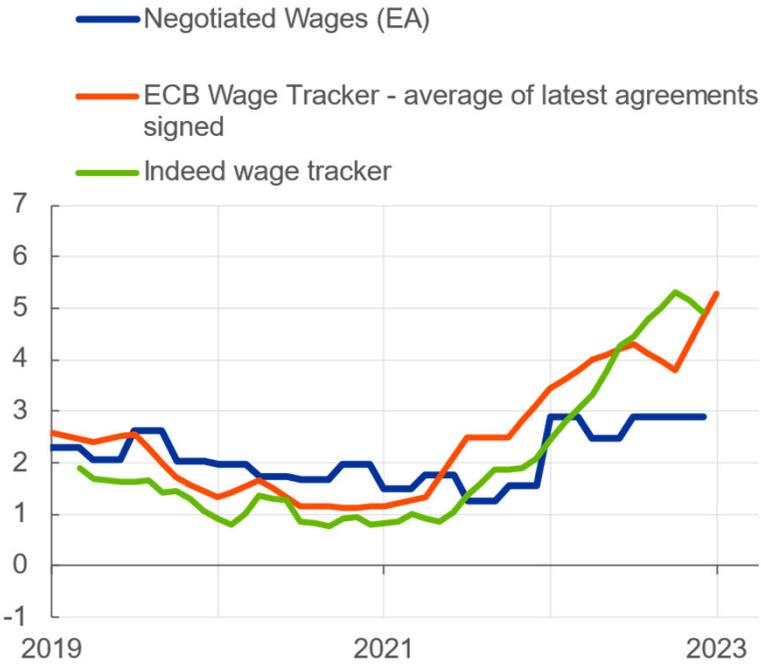
# Strong labour markets with nominal wage growth picking up

## Unemployment rate (percent)



Sources: Eurostat Labour Force Survey and ECB staff calculations.  
 Notes: The dashed line refers to the sample average over 1999M1-2023M2.  
 Latest observation: March 2023.

## Nominal wage growth (annual percentage changes)

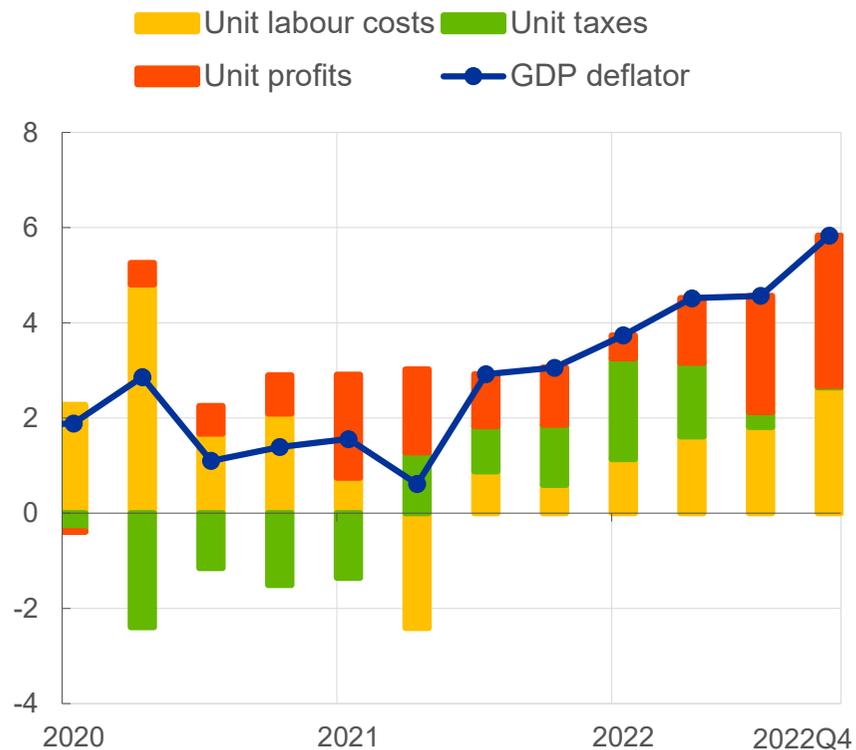


Sources: Adrjan, Pawel & Reamonn Lydon (2022), [Wage Growth in Europe: Evidence From Job Ads](#) – Central Bank of Ireland - Economic letter - Vol 2022, No. 8 (December), ECB and Eurostat. Notes: the ECB wage tracker is calculated based on micro data on wage agreements provided by Bundesbank, Banco de España, the Dutch employer association (AWVN), Oesterreichische Nationalbank, Bank of Greece, Banca d'Italia and Banque de France. EA aggregate based on ES, IT, GR, AT, DE, NL and FR. Latest observations: 2022 Q4 for negotiated wages, December 2022 for Indeed Data and for ECB wage tracker.

# Rise in profits has played an important role for the rise in domestic inflation

## GDP deflator

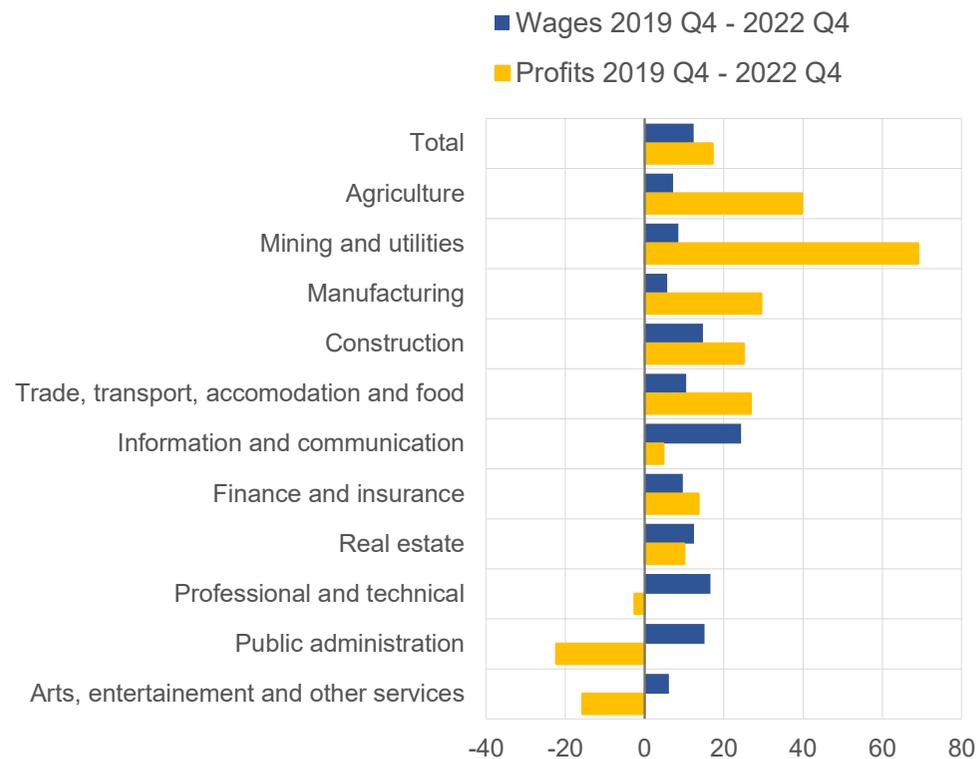
(annual percentage changes; percentage point contributions)



Sources: Eurostat and ECB staff calculations.  
Latest observation: 2022 Q4.

## Sectoral wage and profit developments

(percentage changes over indicated period)

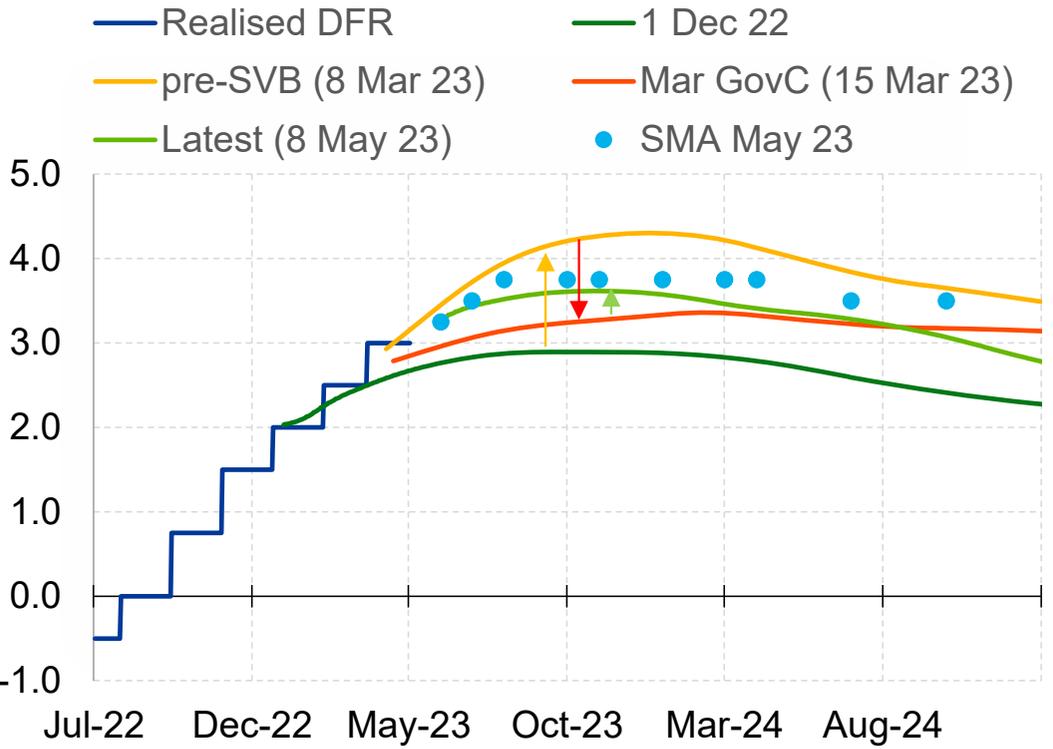


Sources: Eurostat and ECB calculations. Notes: For each sector, wages refer to compensation of employees and labour income of the self-employed, and profits refer to gross operating surplus, computed as nominal gross value added minus wages. The total labour income of the self-employed is computed assuming that the per-capita labour income of the self-employed is the same as that of employees and it is then distributed to each sector according to the sector-specific share of total compensation of employees.

# Sharp repricing of rate expectations due to persistent inflation and financial instability

## Euro nominal forward OIS curve

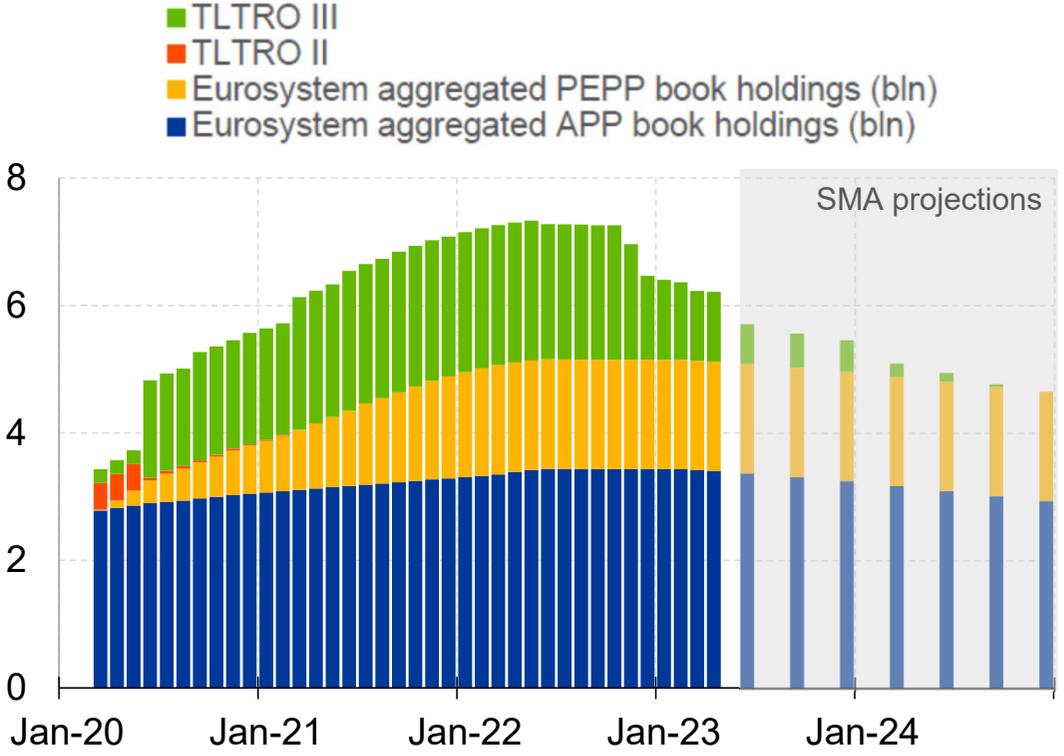
(percent)



Sources: Bloomberg, ECB calculations.  
 Notes: Chart refers to realized and forward deposit facility rate (DFR) levels. SMA refers to the expected level of DFR. Latest observation: 8 May 2023.

## Eurosystem bond holdings and TLTROs

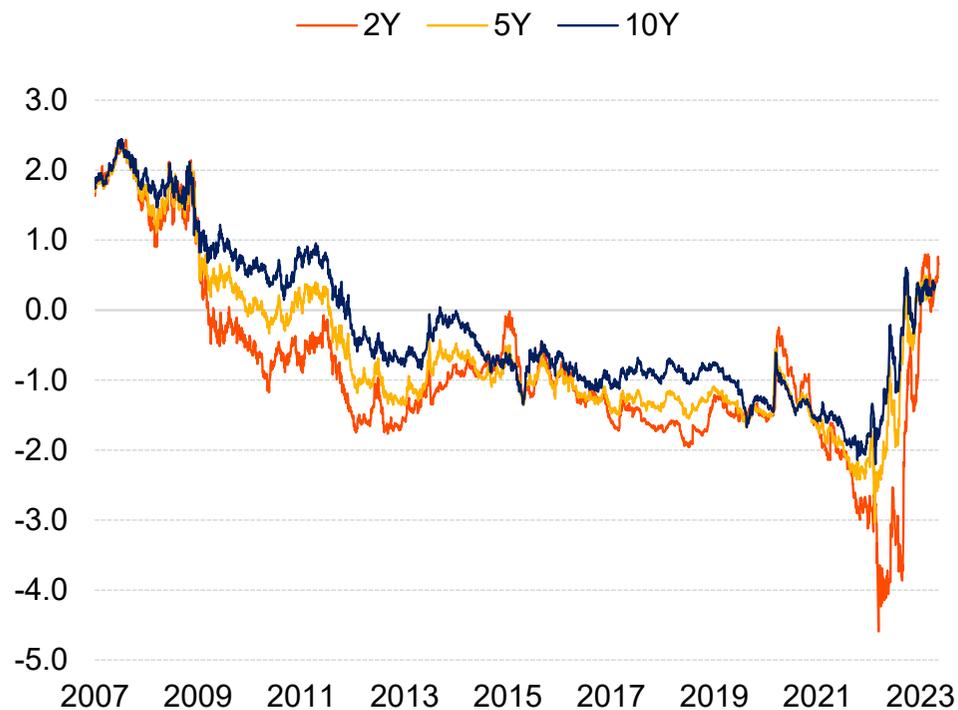
(EUR trillion)



Source: ECB, Survey of Monetary Analysts (SMA).  
 Notes: Blue and yellow bars show Eurosystem aggregated holdings under the asset purchase programme (APP) and pandemic emergency purchase programme (PEPP) in book amortized values. SMA responses for the projections. Latest observation: April 2023.

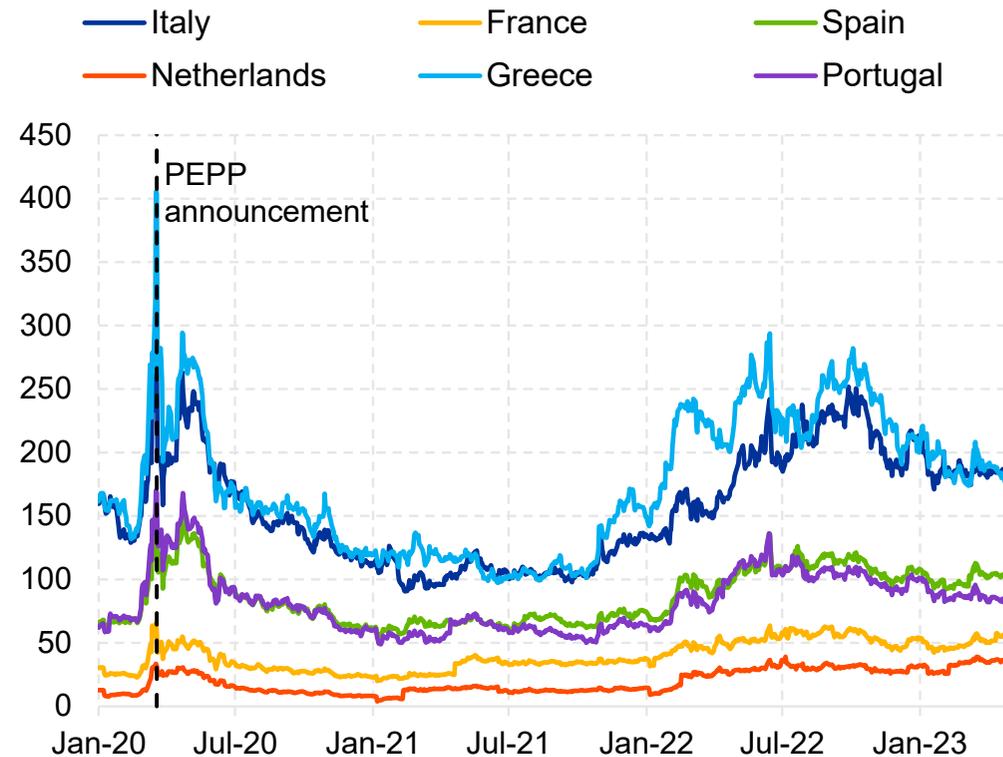
# Real rates have risen from very low levels with stable sovereign spreads

## Euro area real OIS rates (percent)



Sources: Bloomberg.  
Latest observation: 8 May 2023.

## 10-year euro area sovereign spreads versus Germany (basis points)

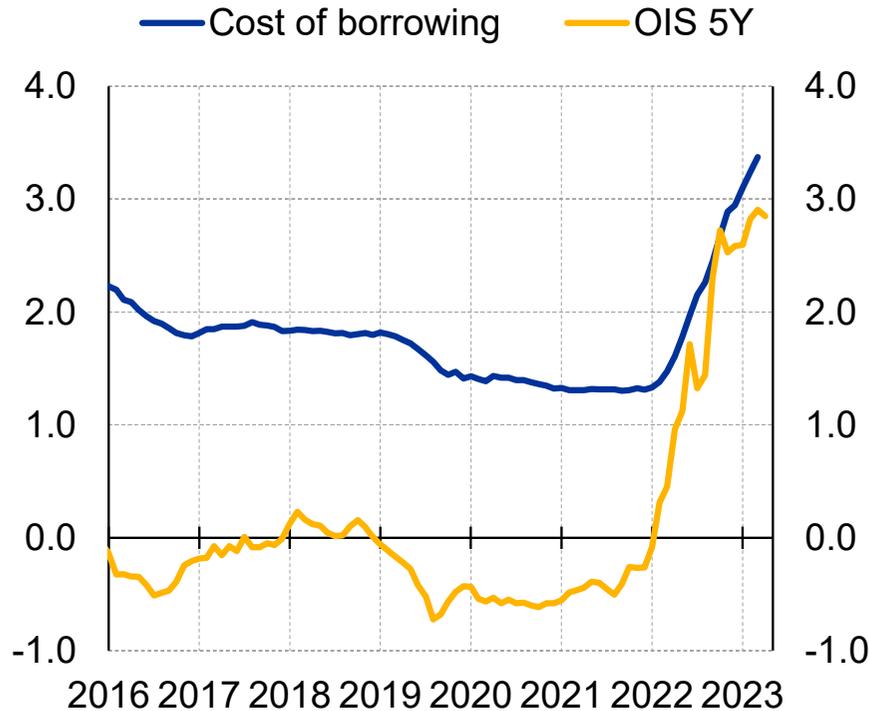


Sources: Bloomberg  
Latest observation: 5 May 2023

# Higher mortgage rates translate into lower house prices

## Risk-free rates and mortgage rates for households

(percentages per annum)



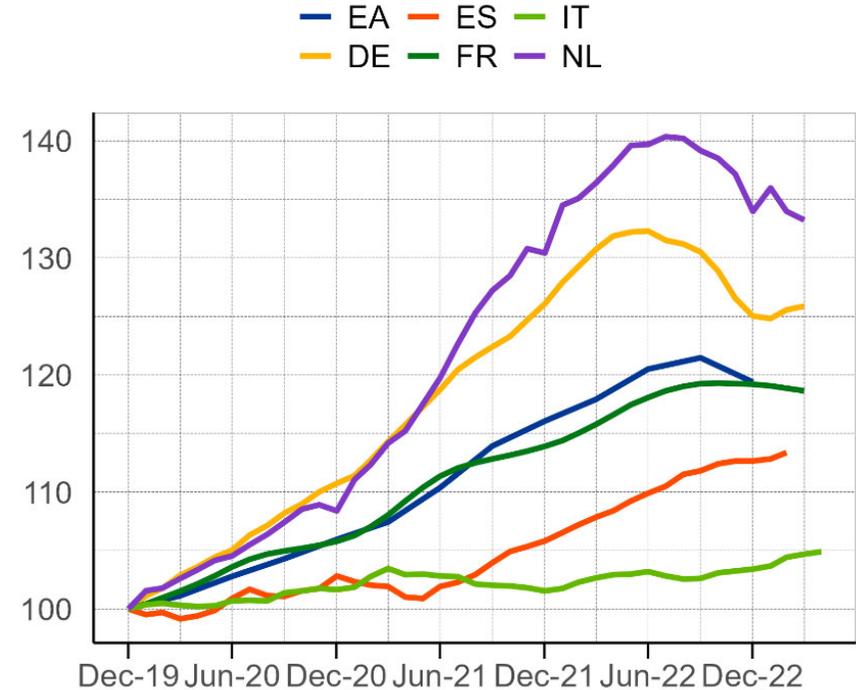
Sources: ECB and ECB calculations.

Notes: The cost of borrowing indicator is calculated as a weighted average of MFI interest rates on short-term and long-term loans to households for house purchase, where the new business volumes used are smoothed with a moving average of the previous 24 months' observations.

Latest observation: March 2023 for the cost of borrowing, 4 May 2023 for the OIS 5Y.

## House prices

(Monthly RRE price indices – December 2019 = 100)

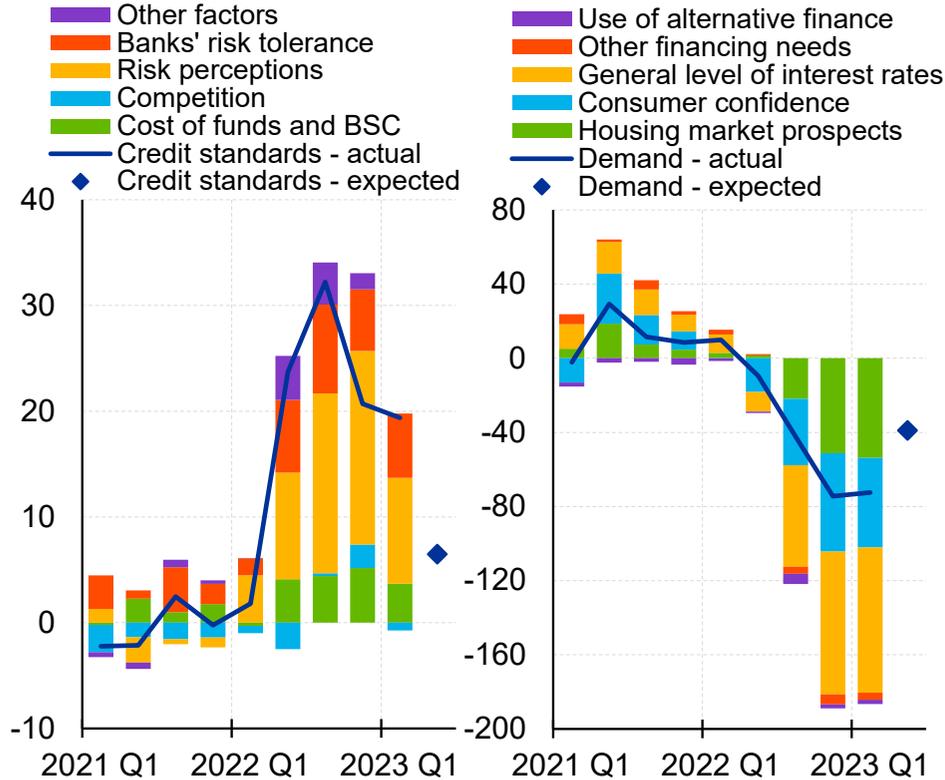


Sources: Europace, Eurostat, Immobiliare.it, Indomio.es, Meilleursagents.com, Statistics Netherlands. Notes: RRE stands for Residential Real Estate. Last EA observation from Eurostat is for Q4 2022, so several countries with more timely data available are added. For IT and ES an average listing price index is reported, for all other countries the index reported is a hedonic price index based on transaction prices. Latest observation: April 2023 for IT, March 2023 for DE, FR and NL, February 2023 for ES, Q4 2022 for US and EA.

# Tighter lending standards dampen credit growth for households and firms

## Credit standards and demand for loans to households for house purchase

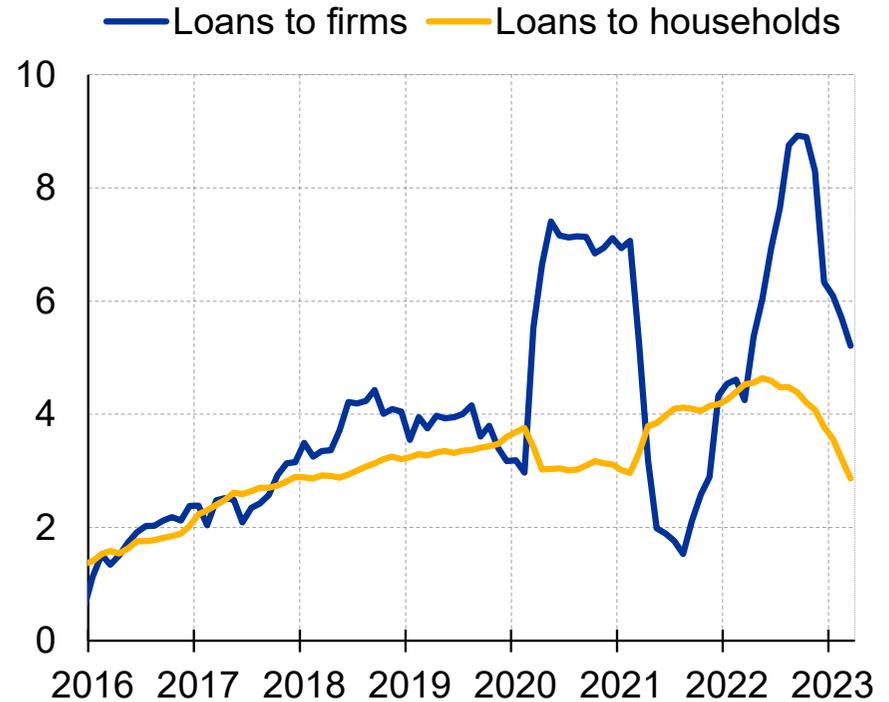
(net percentages of banks reporting a tightening or an increase)



Source: ECB (Bank Lending Survey). Notes: Net percentages refer to the difference between the percentage of banks reporting a tightening (an increase) and the percentage of banks reporting an easing (a decrease). "Other factors" refer to the further factors which were mentioned by the banks as having contributed to changes in credit standards. "BSC" for "balance sheet constraints". The separate factors are also reported in net terms but do not sum to the net tightening of credit standards (net increase in loan demand). Latest observation: 2023 Q1 (April 2023 Bank Lending Survey).

## Bank loans by borrower type

(annual percentage changes)



Sources: ECB (Balance Sheet Statistics) and ECB calculations. Notes: Loans are adjusted for loan sales and securitization as well as positions arising from notional cash pooling services provided by MFIs. Latest observation: March 2023.

# Financial turbulence has mainly affected financial firms but limited fallout in euro area

## Equity prices

(Index levels, Jan 2022 = 100)

### Banks

— EA — US



### Non-financial corporations

— EA — US

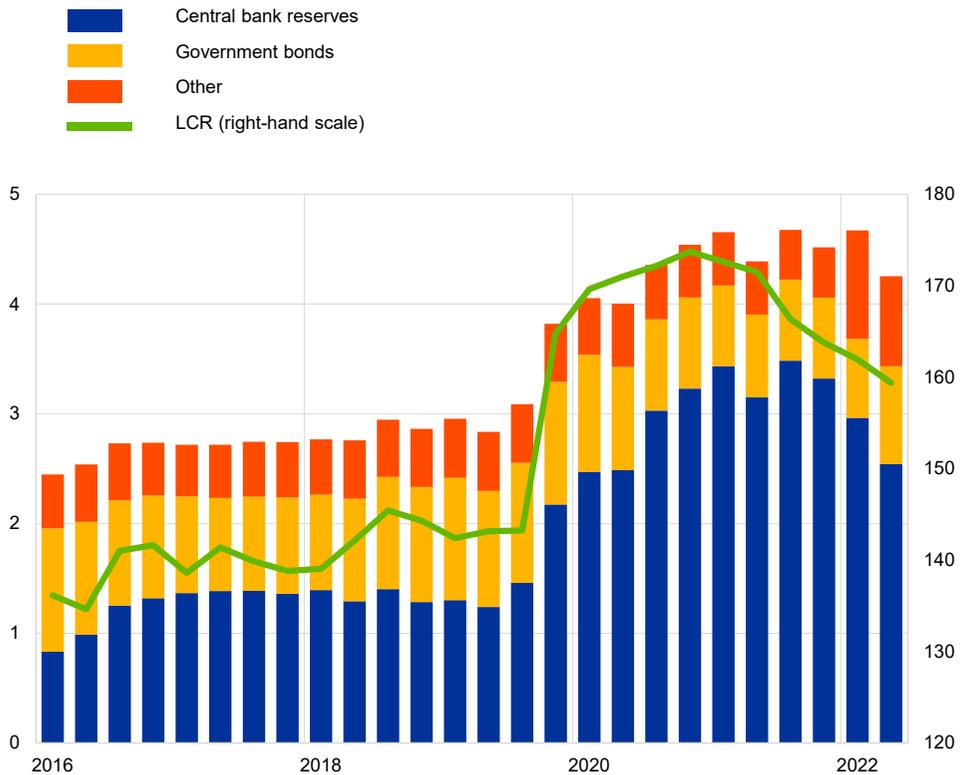


Sources: Bloomberg, ECB calculations. Notes: NFC series are based on standard S&P500 and Eurostoxx indices, stripped of banks and financial sectors. Daily data. Last observation: 5 May 2023.

# Euro area banking sector has robust liquidity and capital ratios

## Liquidity ratios of banks

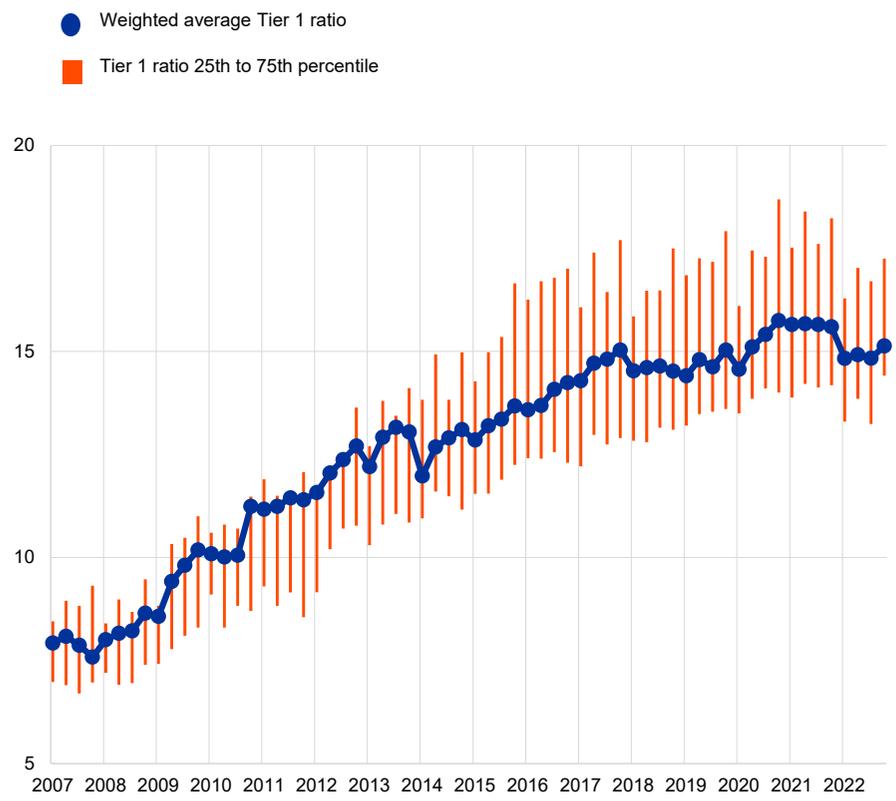
(lhs: EUR trillions, rhs: percentage, Q3 2016 – Q4 2022)



Source: ECB Supervisory Banking Statistics.  
 Note: Based on a sample of 84 Significant Institutions.

## Capital ratios of banks

(percentages, Q1 2007- Q4 2022)

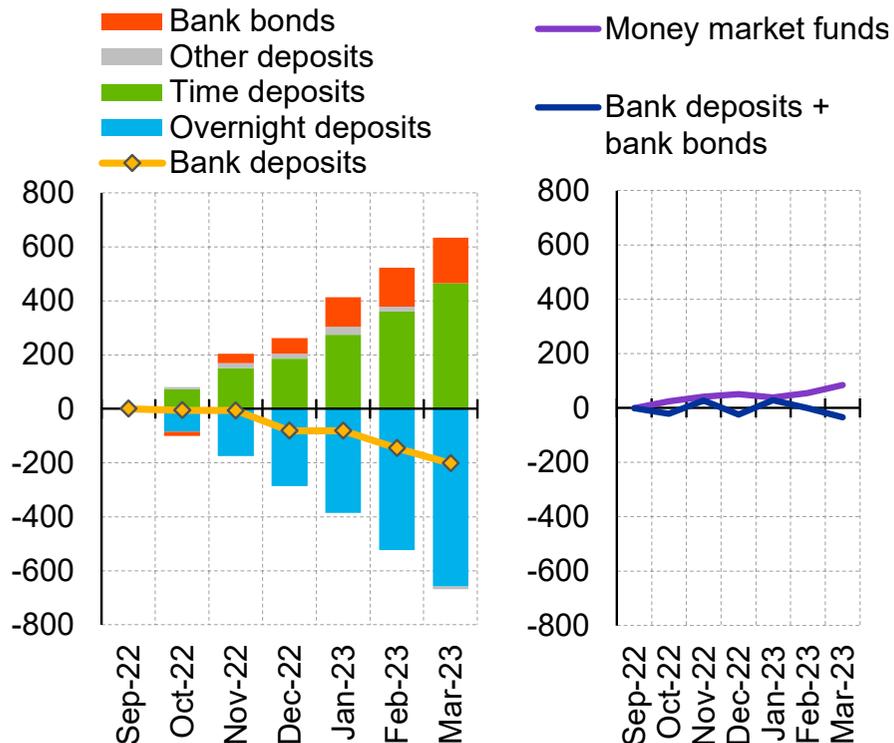


Source: Bloomberg.  
 Note: Weighted average Tier 1 ratio for an unbalanced sample of up to 76 euro area banks.

# Shift from overnight into time deposits, while deposit rates increase only sluggishly

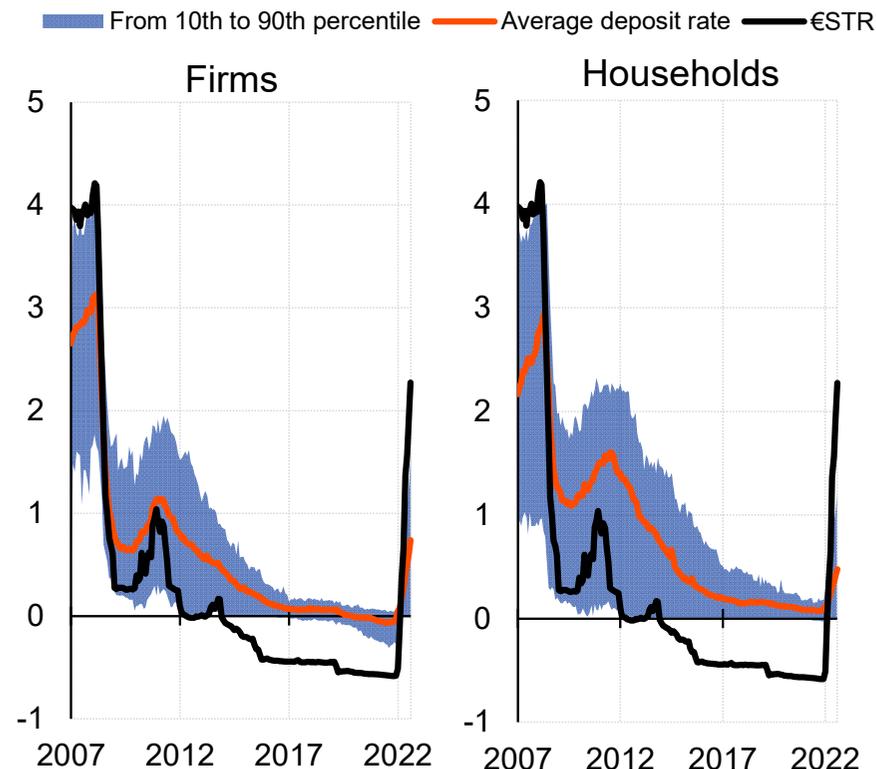
## Bank funding

(cumulated flows in EUR bn since end-September 2022; SA)



## Composite deposit rates vs €STR

(percentages per annum)



Sources: ECB (BSI) and ECB calculations.

Notes: Bank deposits consist of deposits held with the MFI sector by euro area residents excluding MFIs, central government and financial vehicle corporations involved in securitisation activity. Their flows have been adjusted for the operational incident in TARGET2 inflated the September 2022 OFI deposits, to be then reversed in October and November 2022. Bank bonds are those held by euro area residents excluding MFIs and central government. Latest observation: March 2023.

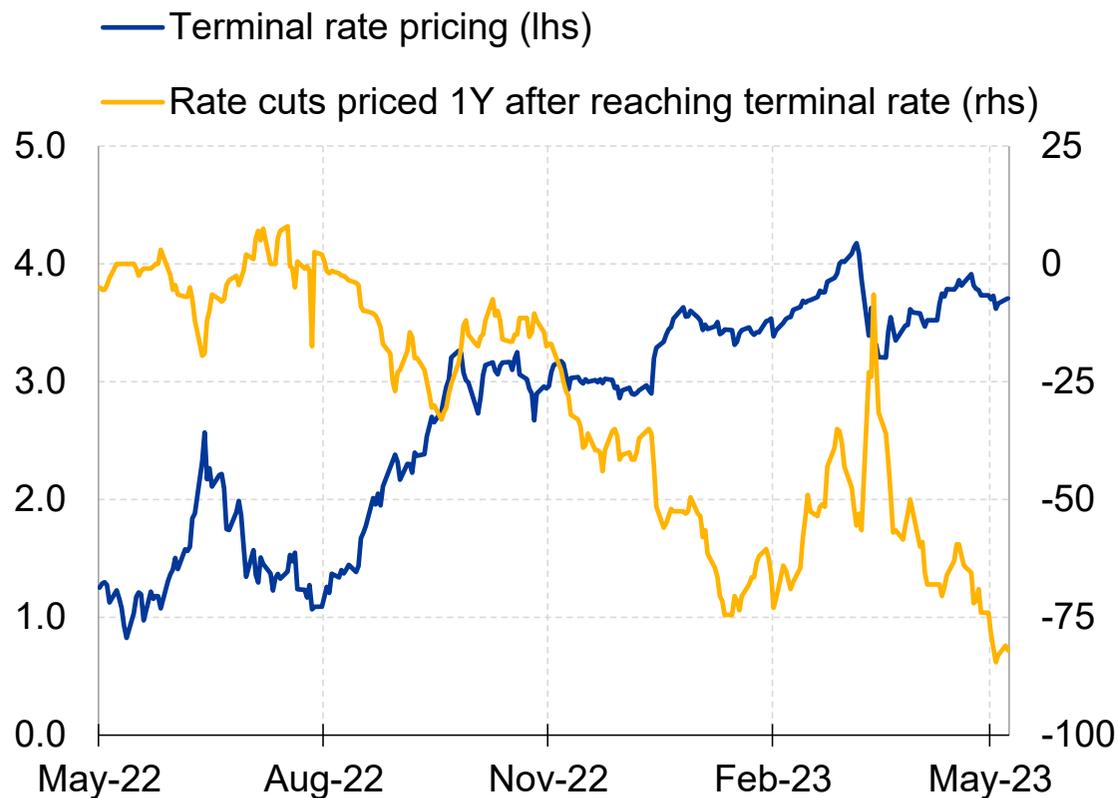
Sources: ECB (iBSI, iMIR).

Notes: Distribution of composite deposit rates on firms' (lhs) and households' (rhs) newly issued deposits weighted by outstanding amounts (cumulated over six months). The average deposit rate is taken from the aggregate MIR data. Latest observation: February 2023.

# Repricing of terminal rate as full APP run-off expected as of July

## Terminal rate and cuts priced one year after terminal rate is reached

(percent, basis points)

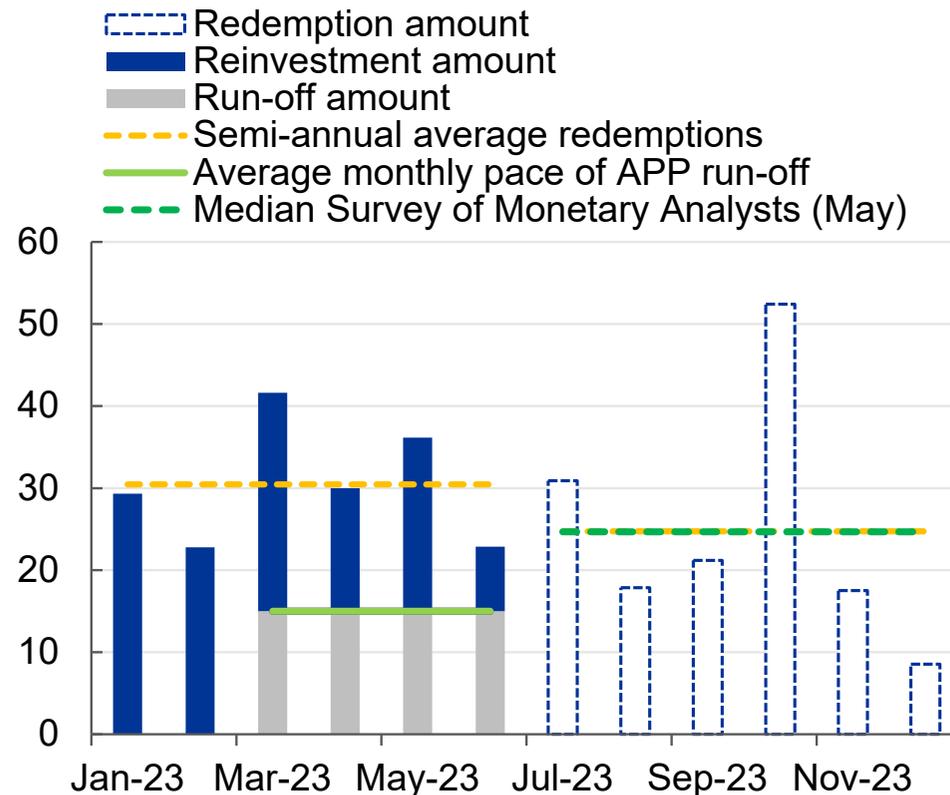


Sources: Bloomberg, ECB calculations.

Notes: Market pricing for terminal rate refers to the maximum of Maintenance Period-dated OIS forward contracts. Rate cut pricing reflects the difference between 3-month Euribor at the time of reaching the terminal rate and one year later. Latest observation 8 May 2023.

## Redemption and reinvestment under APP

(in EUR bn)



Source: ECB.

**Thank you very much for your attention!**