EUROPEAN CENTRAL BANK

EUROSYSTEM

The benefits and costs of asset purchases

28 May 2024

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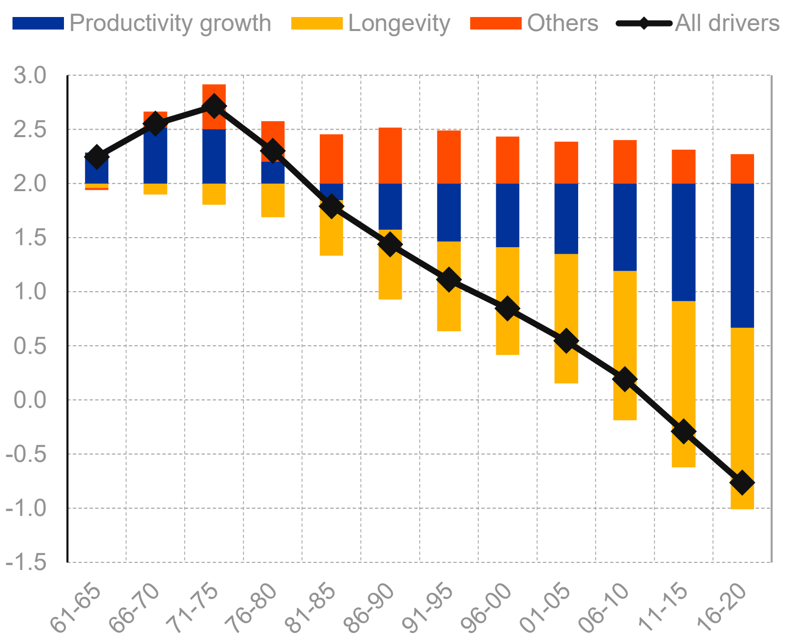
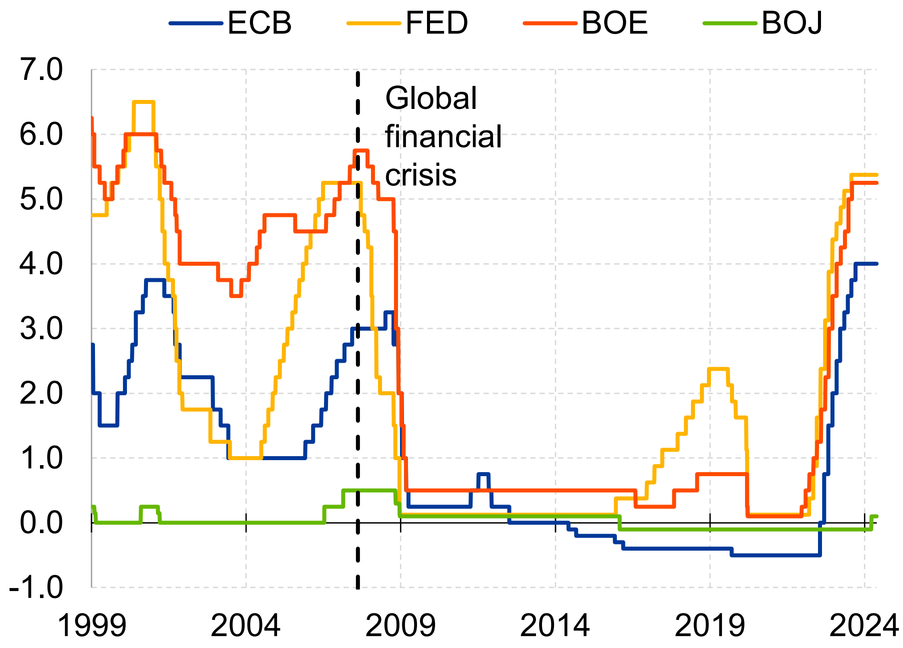
Structural decline in r* brought policy rates to the vicinity of the zero lower bound

Decomposition of the drivers of global r*
(percent)



Source: Cesa-Bianchi, A., Harrison, R., & Sajedi, R. (2023).

Key policy rates across major economies
(percent)

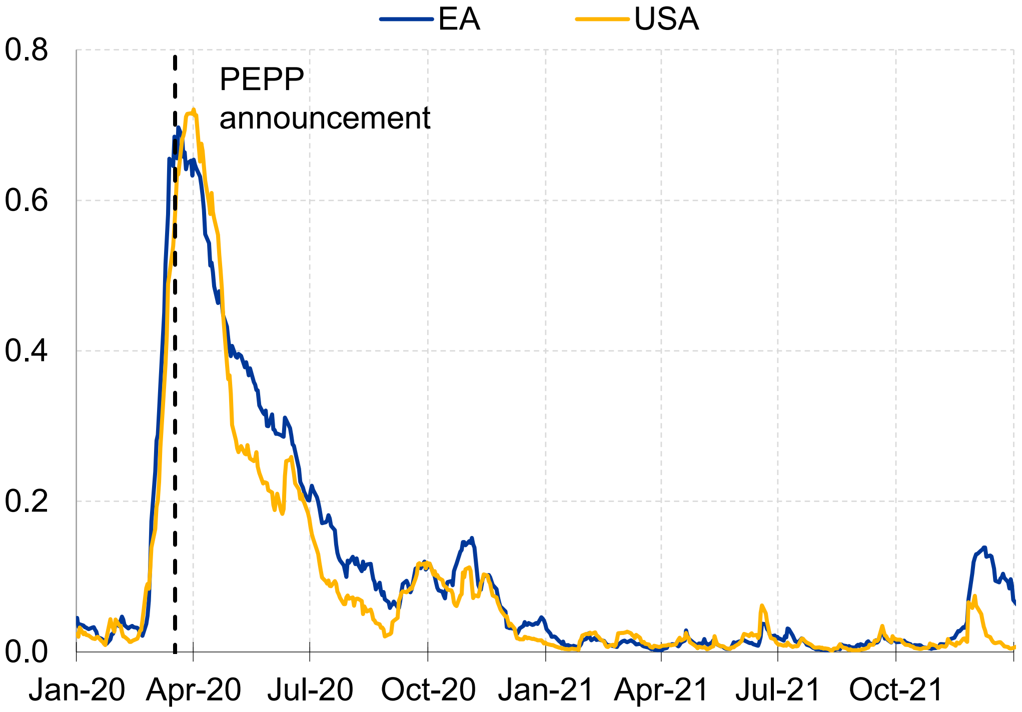


Source: Bloomberg.
Notes: Deposit Facility Rate, Federal Funds Target Rate (mid-point of range), Official Bank Rate and Unsecured Overnight Call Rate Expected are used for ECB, FED, BOE and BOJ, respectively.
Latest observation: 21 May 2024.

Asset purchases successfully reduced systemic stress at the beginning of the pandemic

Composite Indicator of Systemic Stress (CISS)

(0 = no stress, 1 = high stress)

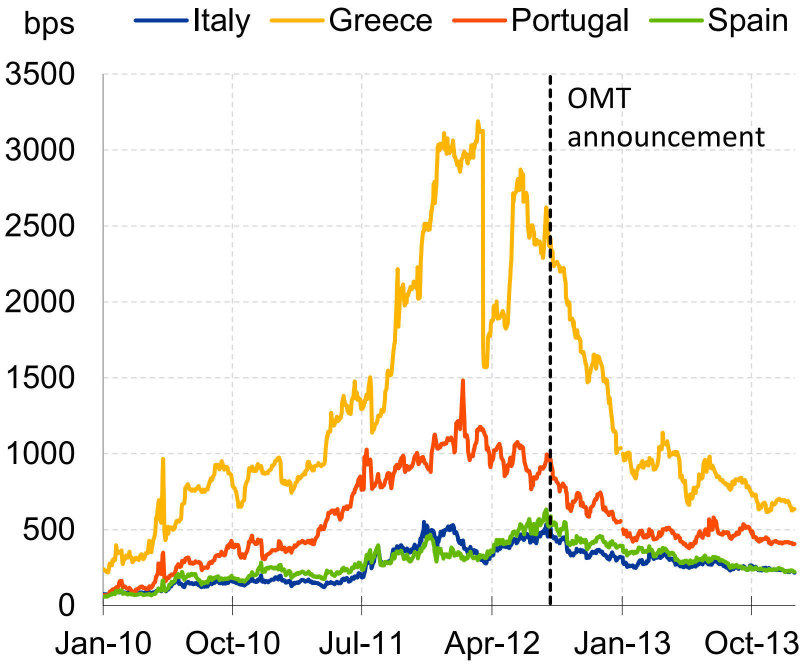


Source: ECB.
Observation period: January 2020 – December 2021.

Asset purchase announcements can be a powerful tool to stop belief-driven spirals

Spreads of selected 10-year bond yields over equivalent German Bund

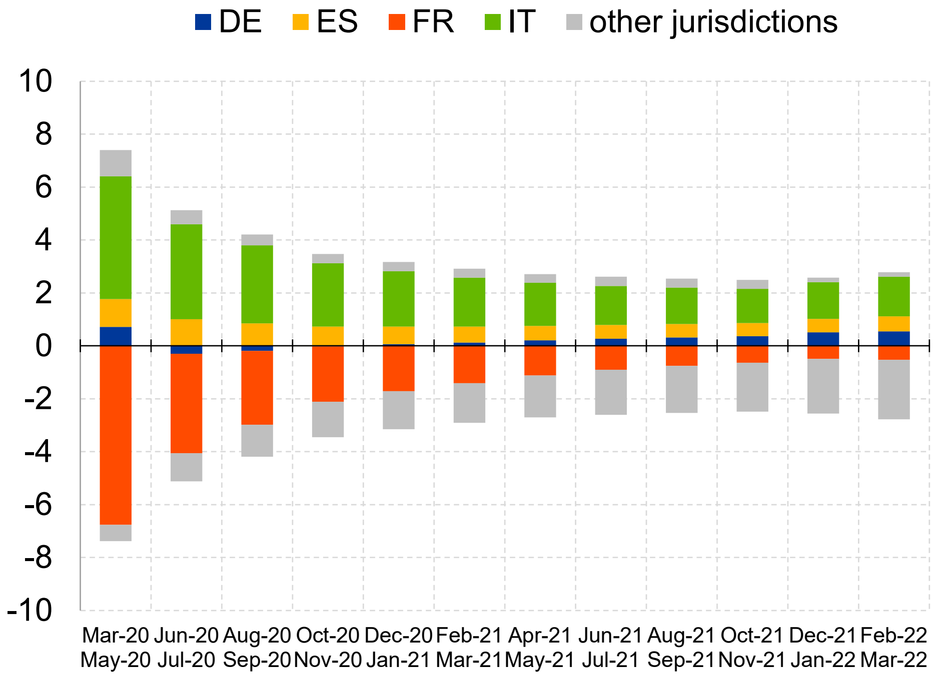
(basis points)



Source: Bloomberg.
Latest observation: December 2013.

Cumulated deviations from ECB capital key for public sector assets under the PEPP

(percentage point)

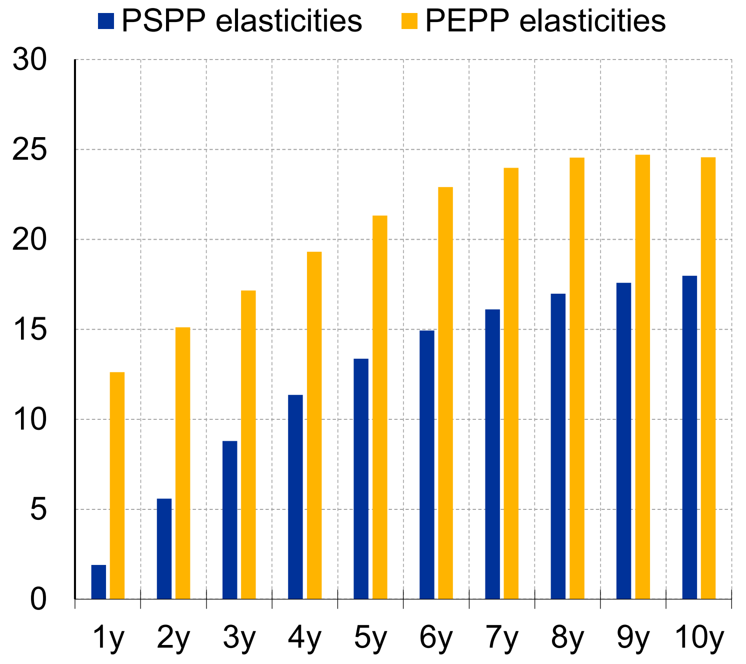


Source: ECB website, ECB calculations.
Notes: Capital key deviations for public sector purchases calculated in bi-monthly stock terms.
Latest observation: March 2022.

Effects of asset purchases smaller outside crises periods, requiring larger purchases

PSPP and PEPP yield elasticities to sovereign bond purchases

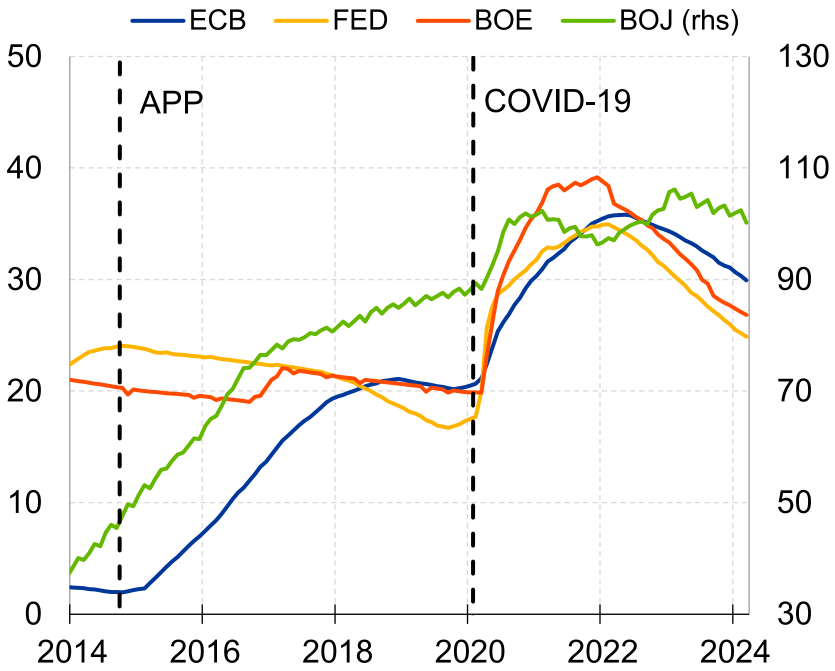
(bps per €500 bn of sovereign bond purchases in the euro area)



Source: ECB calculations.
Notes: PSPP elasticities are based on Eser et al. (2019) informed by the March PEPP envelope. PEPP elasticities are derived from a recalibrated version of Eser et al. (2019) so that the model-implied yield reactions to the March PEPP announcement match two-day yield changes observed after 18 March 2020. Elasticities refer to GDP-weighted zero-coupon yields of the four largest euro area jurisdictions (i.e. Germany, Spain, France and Italy) in response to €500 billion of sovereign bond purchases in the euro area. No reinvestment assumed.

Monetary policy bond portfolios

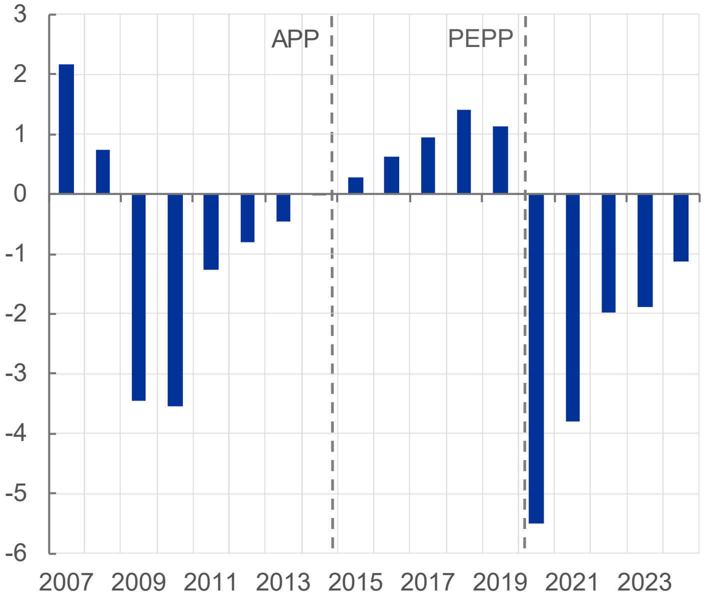
(% of GDP)



Source: Bloomberg, Haver, ECB calculation.
Notes: FED includes securities held under the SOMA portfolio; BoE includes gilts and corporate bonds; BoJ includes government securities, corporate bonds and commercial paper; ECB includes government securities, corporate bonds, commercial paper, covered bonds and asset-backed securities.
Latest observation: 2024 Q1.

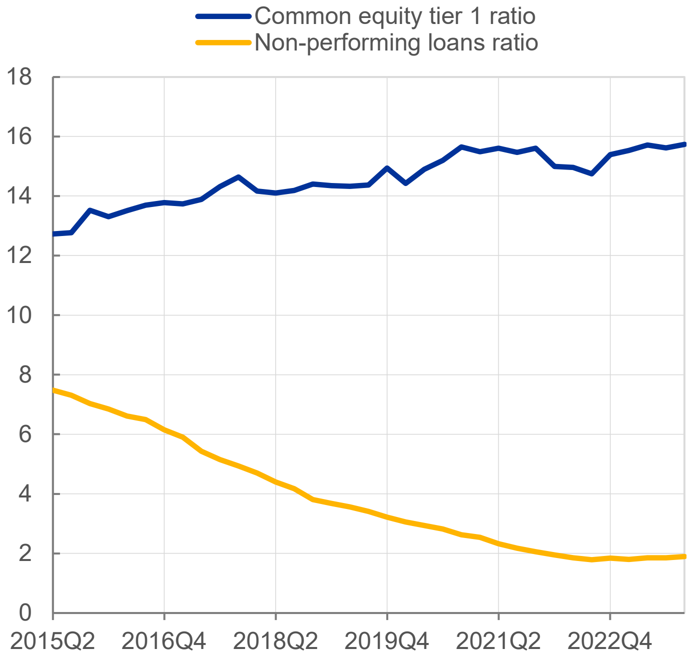
QE was launched at times of balance sheet repair by governments and banks

Aggregated euro area primary fiscal balance
(% GDP)



Sources: European Commission Ameco Spring 2024.
Note: Grey vertical lines denote the start of the year in which the programmes began.
Latest observation: 2024.

Common equity tier 1 and non-performing loans ratios
(%)

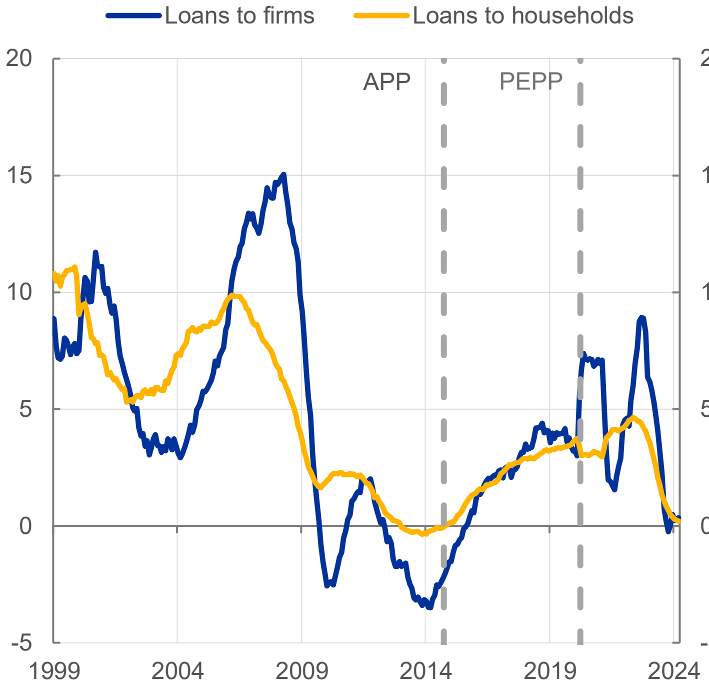


Source: ECB Supervisory Reporting.
Notes: The sample consists of significant institutions under the supervision of the ECB.
Latest observation: 2023 Q4.

Impact of asset purchases on credit growth and inflation is highly state-dependent

Bank lending to firms and households

(annual percentage changes)



Source: ECB (BSI).
Notes: Loans are adjusted by sales, securitisation and cash pooling activities.
Grey vertical lines denote the date on which the programmes began.
Latest observation: April 2024.

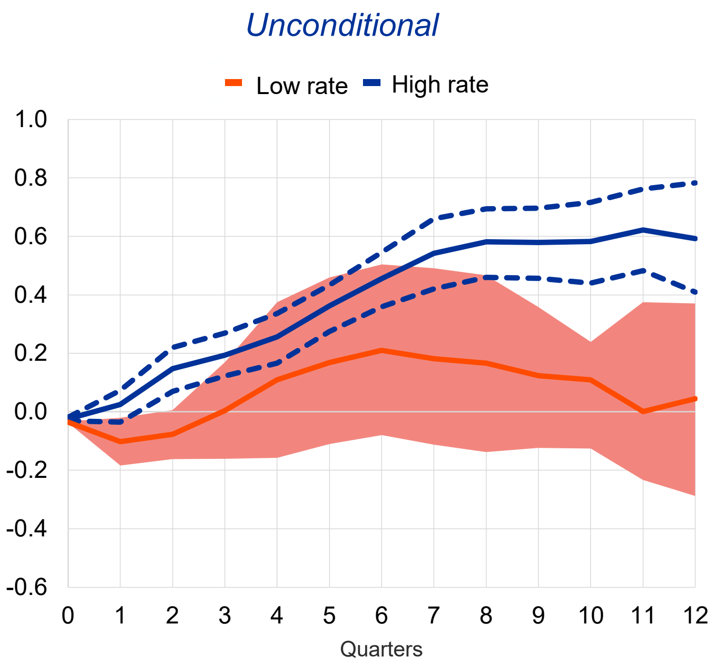
HICP excluding food and energy

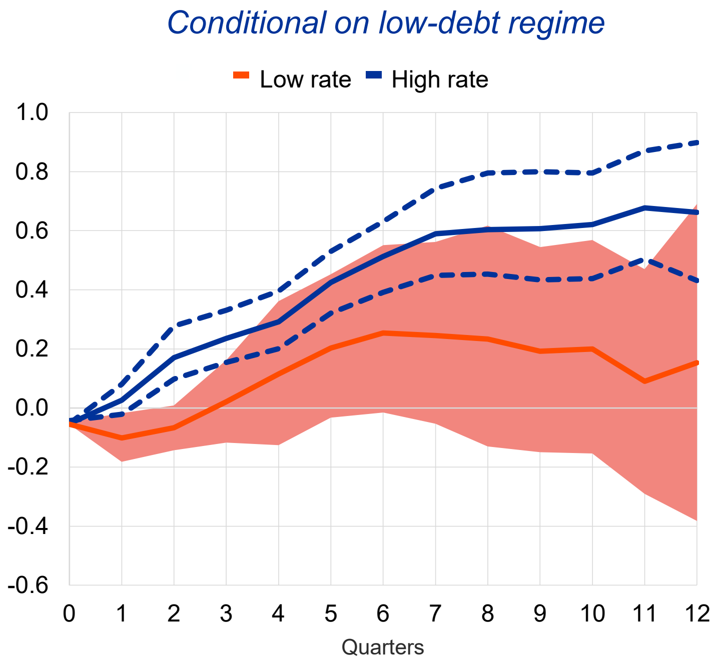
(annual percentage changes)

Source: Eurostat.
Notes: Grey vertical lines denote the start of the year in which the programmes began.
Latest observation: April 2024.

Monetary policy may face diminishing returns when interest rates are low

Impulse response of real GDP to a 100 basis point expansionary monetary policy shock



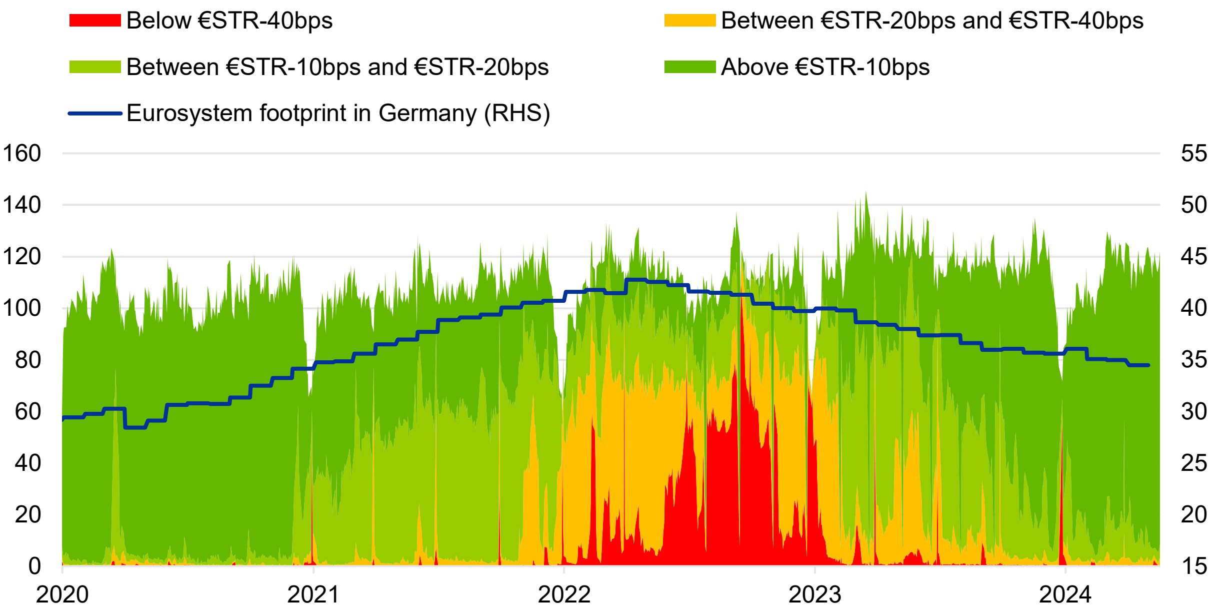


Source: Ahmed et al. (2024), "Losing traction? The real effects of monetary policy when interest rates are low", *Journal of International Money and Finance*, Vol 141.
Notes: Error bands are 90% confidence intervals based on Driscoll and Kraay (1998) standard errors. For more details, please see Ahmed et al. (2024).

Large Eurosystem footprint can lead to collateral scarcity and impair market functioning

Volume of repos against German government bonds by rate bracket and Eurosystem footprint

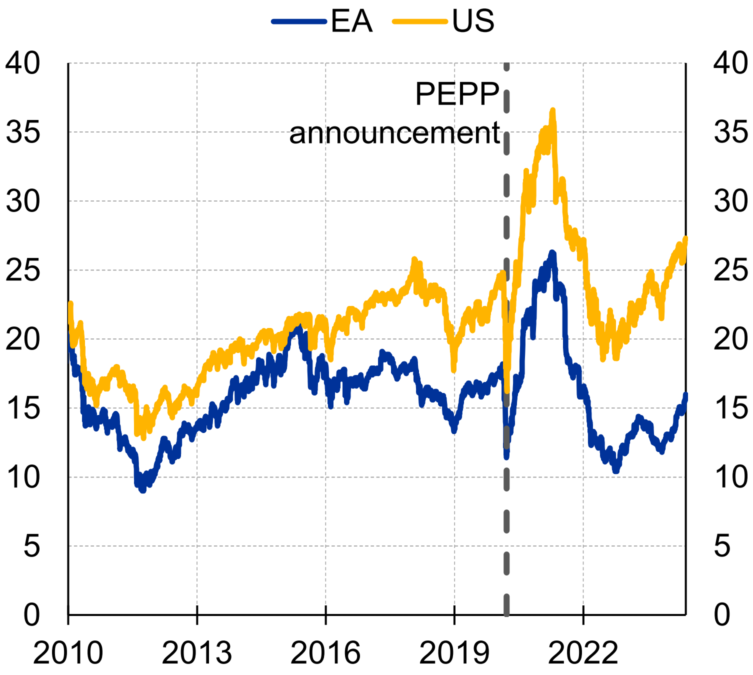
(LHS: EUR billion; RHS: %)



Sources: MMSR, Eurosystem, ECB calculations.
Notes: Footprint measured as a share of Eurosystem's German central and regional government bond holdings and mobilised collateral (adjusted for government bonds lent back to the market via the Eurosystem's Securities Lending against cash arrangement) compared to nominal amount outstanding. Specialness of repo market is displayed as volumes per rate bucket in EUR billion. Specialness of repo market is displayed as volumes per rate bucket in EUR billion.
Last observation: 17 May 2024 (specialness of repo market); 30 April 2024 (Eurosystem footprint).

QE has likely contributed to compression of risk premia

P/E ratio for euro area and US total market
(ratio)



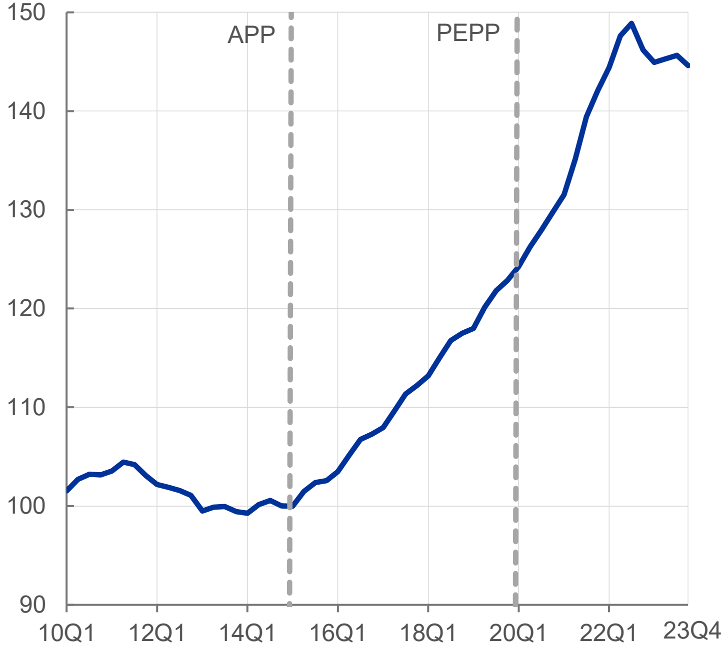
Sources: LSEG and ECB calculations.
Latest observation: 21 May 2024.

Spread of 10-year euro area GDP-weighted sovereign yield over OIS
(percentage points)

Source: Bloomberg and ECB calculations.
Last observation: 21 May 2024.

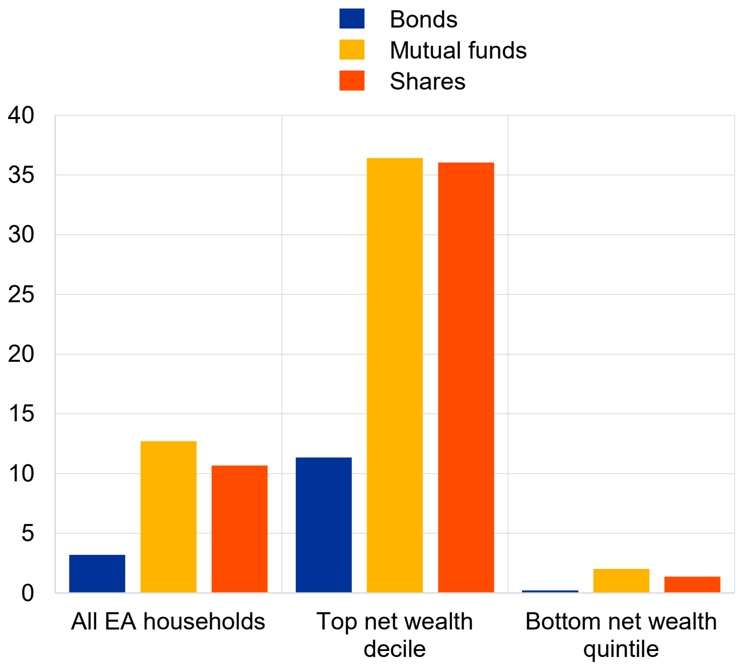
Portfolio rebalancing can lead to overvaluations and rising wealth inequality

Residential property prices in the euro area
(index 2015 Q1 = 100)



Source: Eurostat and ECB staff calculations.
Notes: Grey vertical lines denote the start of the year in which the programmes began.
Latest observations: 2023Q4.

Share of households owning bonds, mutual funds and shares
(% of households)

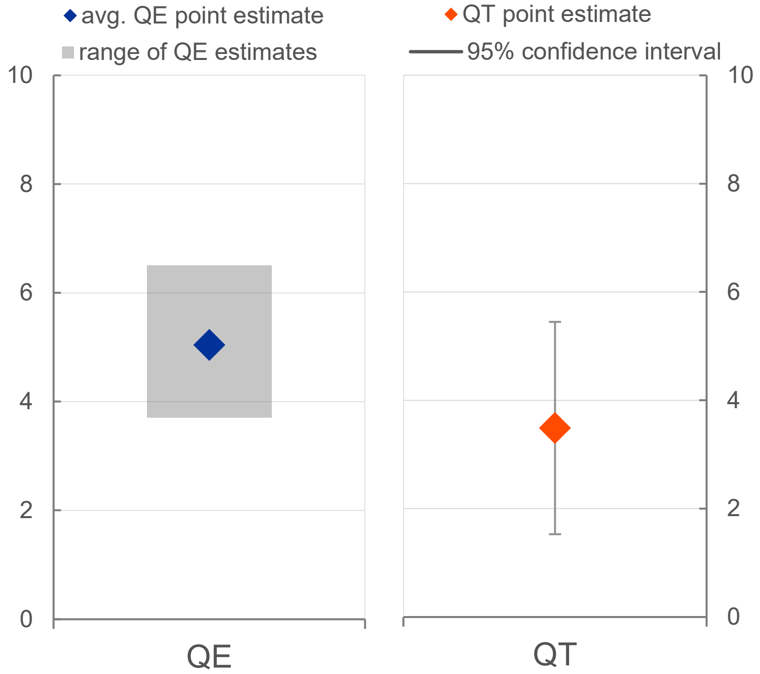


Source: Household Finance and Consumption Survey, wave 2021.

Slow pace of QT may explain small impact on bond yields due to prevailing stock effect

Bond risk premium impact from a €100bn change in ECB bond holdings: QE vs QT

(basis points)

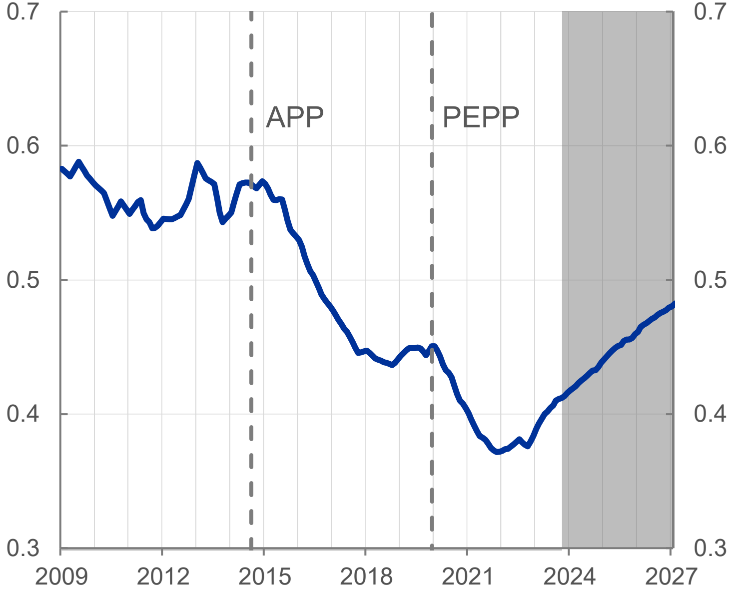


Sources: SMA and ECB calculations.

Notes: The left panel depicts estimates based on QE experience, as reported by Altavilla et al. (2021), Bulligan and Delle Monache (2018), Eser et al. (2023), De Santis (2020), and Rostagno et al. (2021). The right panel depicts the expected effect on the term premium on a 10-year Bund resulting from an expected €100bn decrease in the Eurosystem's bond holdings (at the two year-ahead horizon). Results are based on individual SMA responses from December 2022 until December 2023.

Euro area bond free float

(% of total outstanding)



Source: ECB.

Notes: Free float is calculated as the share of public bonds held by price-sensitive investors on the total universe. Dashed lines indicate the start of Asset Purchase Programme and Pandemic Emergency Purchase Programme. Grey area indicates projected values. Last historical date is 2023Q4.

Thank you very much for your attention!