EUROPEAN CENTRAL BANK

EUROSYSTEM

May 2024
Financial Stability Review

SUERF

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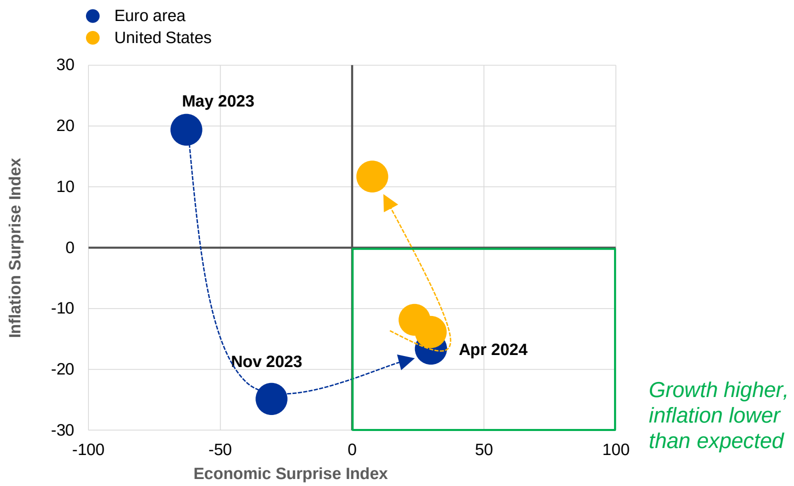
Context: Macro and geopolitical factors are driving the financial stability outlook

- Benign baseline trajectory for the economy, with expectations of a neutral configuration of policy rates ahead
- Heightened geopolitical risk together with elevated policy uncertainty raises the likelihood of tail events

Citi Economic and Inflation Surprise Indices

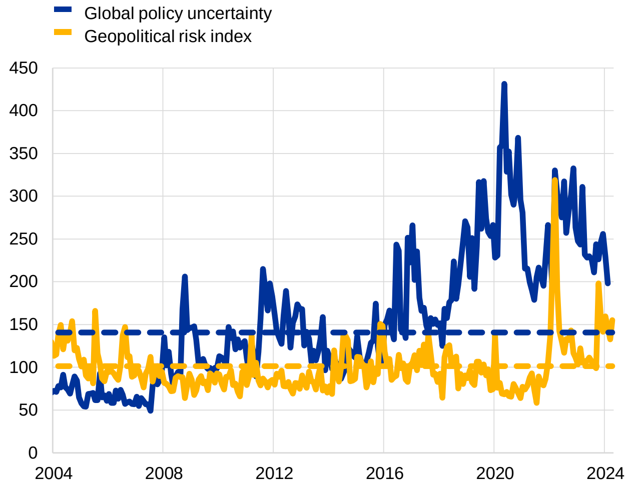
May 2023-Apr. 2024, indices



Sources: Bloomberg Finance L.P. Citi and ECB calculations.

Geopolitical risk and global policy uncertainty

Jan. 2004-Mar. 2024, indices



Sources: Caldara and Iacoviello (2022), Baker, Bloom and Davis (2016) and ECB calculations.

Notes: Dashed lines represent the long-term averages between January 1997 and March 2024

Euro area financial stability vulnerabilities have eased, but the outlook remains fragile

1. **A cohort of vulnerable households, corporates and sovereigns is being tested by rising debt service costs, while a property market downturn is challenging real estate firms.**

2. **Euro area banks have been a source of resilience, but low bank valuations suggest that challenges remain, notably related to asset quality, funding and revenues.**

3. **Pricing-for-perfection in financial markets and non-bank liquidity fragilities are creating the potential for outsized market reactions to adverse shocks.**

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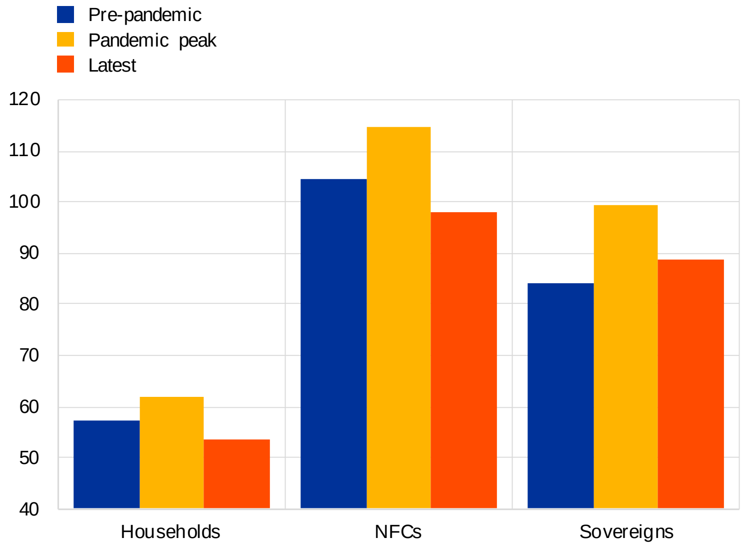
Vulnerable households, corporates and sovereigns tested by rising debt service costs

- On average, non-financial sectors have remained resilient and have seen their indebtedness decline, with only sovereign debt above pre-pandemic levels
- Debt service costs are likely to remain high and may continue creeping up, posing challenges for more heavily indebted households, firms and sovereigns

Household, corporate and sovereign indebtedness

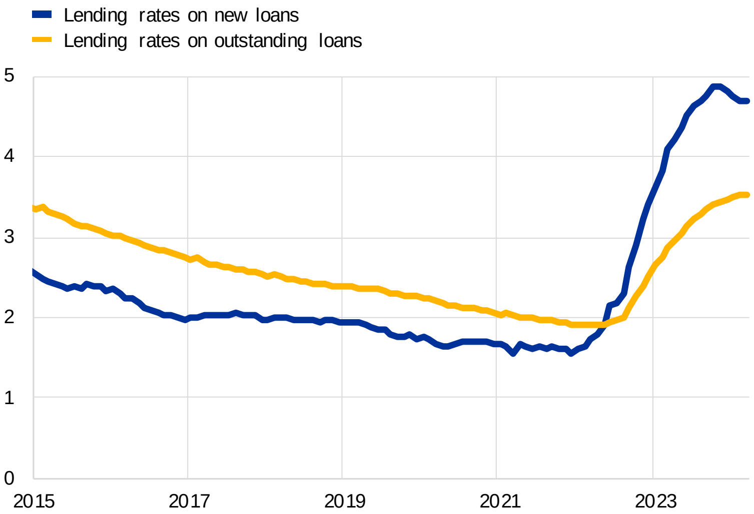
Percentages of GDP



Sources: Bloomberg Finance L.P. ECB (QSA) and ECB calculations.
Notes: Pre-pandemic: Q4 2019, pandemic peak: Q1 2021; latest: Q4 2023.
NFCs stands for non-financial corporations.

Lending rates to the euro area non-financial private sector

Jan. 2015-Mar. 2024, percentages

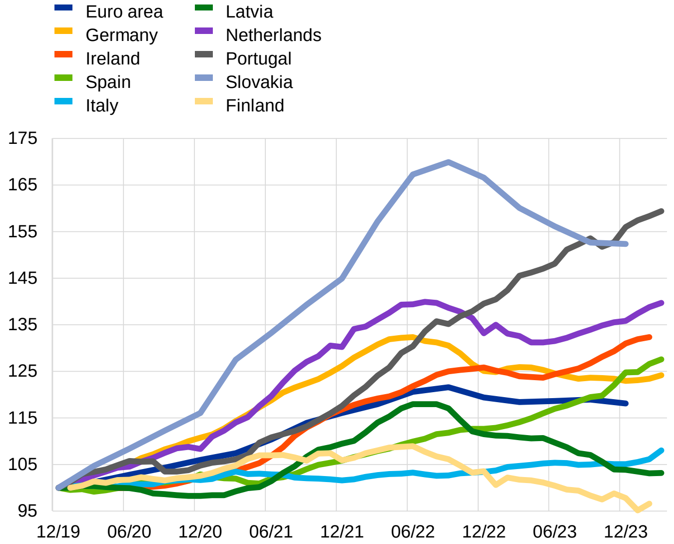


Sources: ECB (QSA, MFI, MIR) and ECB calculations.

- An orderly contraction of RRE prices has reduced tail risks, but significant downside risks likely to persist in some countries
- Banks expect demand for housing loans to increase as borrowing costs fall, but new loan origination remains subdued

RRE price dynamics in selected countries

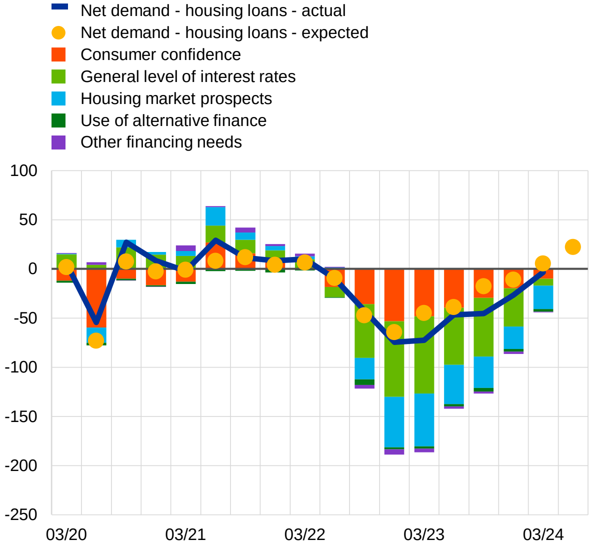
Dec. 2019-Mar. 2024, index: Dec. 2019 = 100



Sources: Eurostat, ECB, Europace, Immobiliare.it (Italy), Confidencial Imobiliário (Portugal, sourced from BIS), Arco Real Estate (Latvia), Národná banka Slovenska, Statistics Finland, Indominio.es (Spain), Central Statistics Office (Ireland), Statistics Netherlands and ECB calculations.

Changes in demand for mortgage loans in the euro area

Q1 2020-Q2 2024, net balances of survey responses

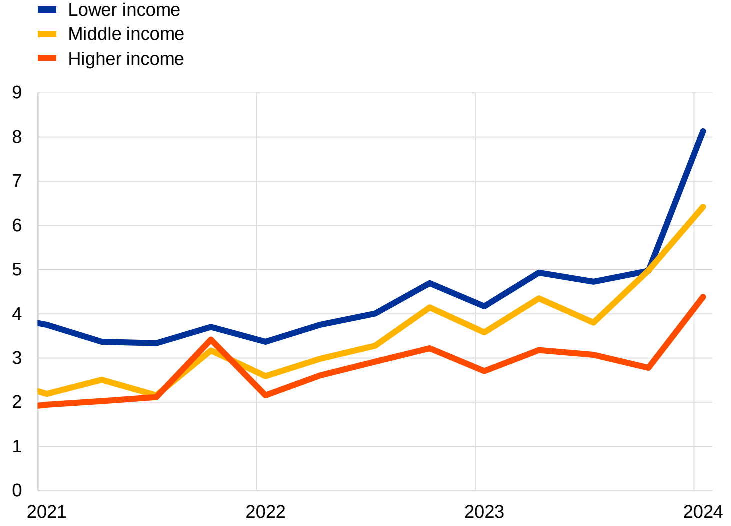


Sources: ECB (BLS) and ECB calculations.

 Vulnerable households, corporates and sovereigns tested by rising debt service costs

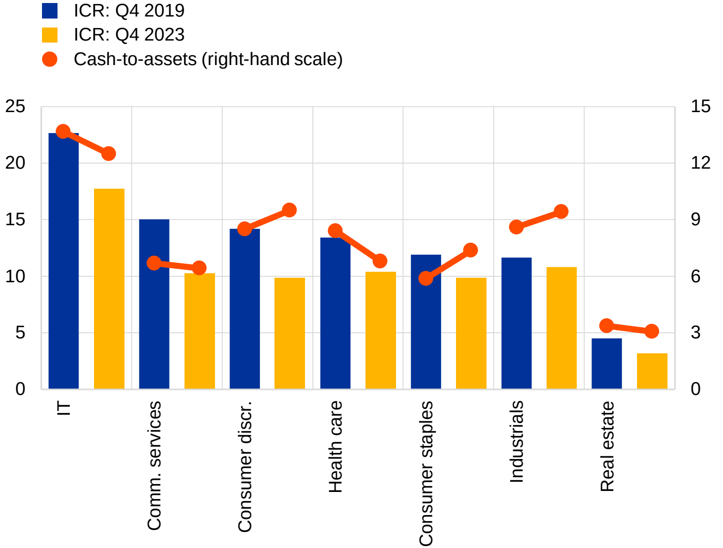
- A vulnerable cohort of households (with low income and/or debt contracted at floating rates) faces challenges
- Firms in interest-rate sensitive sectors are being tested by weaker revenues and higher debt service costs

Household expectations of payment difficulties in the next three months
Q1 2021-Q1 2024, percentage of consumers



Sources: ECB (CES) and ECB calculations.

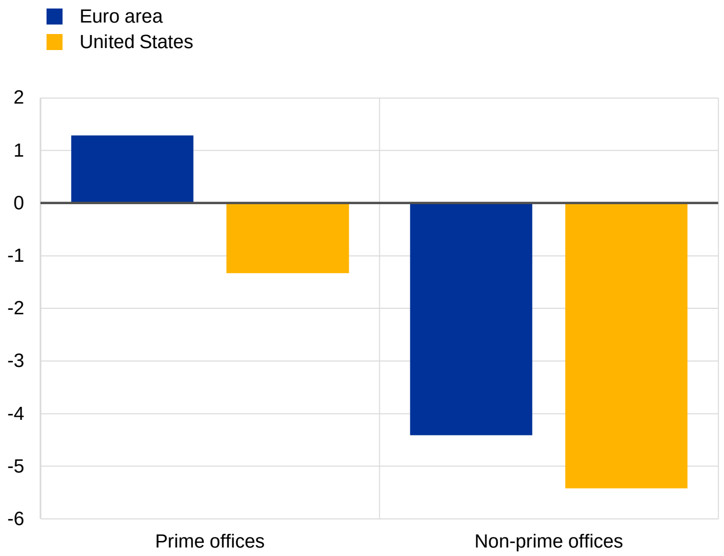
Median interest coverage ratio and cash buffers in selected sectors
Q4 2019 vs Q4 2023, percentages



Sources: S&P Global Market Intelligence and ECB calculations.

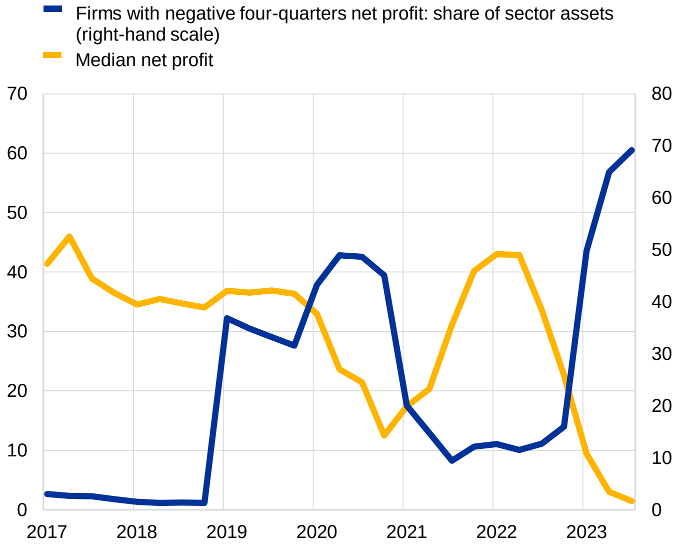
- The outlook for commercial real estate markets continues to deteriorate…
- …with real estate firms facing increasing profitability pressure

Rent growth expectations for the office market over the next 12 months
Q4 2023, percentages



Sources: RICS and ECB calculations.

Median net profit margin and share of firms with negative net profit in the real estate sector
Q1 2017-Q3 2023, percentages



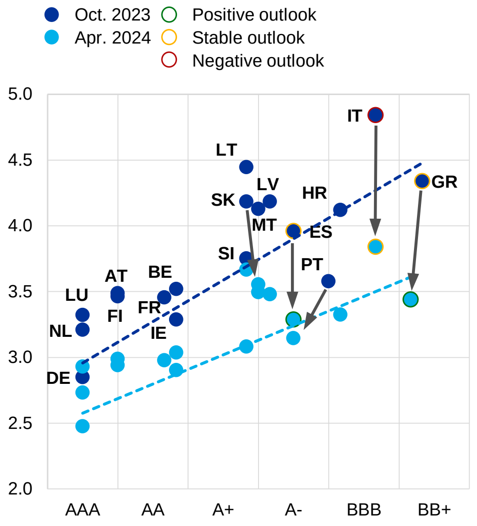
Sources: S&P Capital IQ and ECB calculations.

Vulnerable households, corporates and sovereigns tested by rising debt service costs

- The decline in sovereign debt-to-GDP ratios has been driven by the post-pandemic recovery in nominal GDP
- Low growth potential and a weak cyclically-adjusted primary balance implies that sovereign debt is likely to stabilise at higher than pre-pandemic levels, rendering sovereign finance more vulnerable to adverse shocks

Ten-year government bond yields and sovereign credit ratings

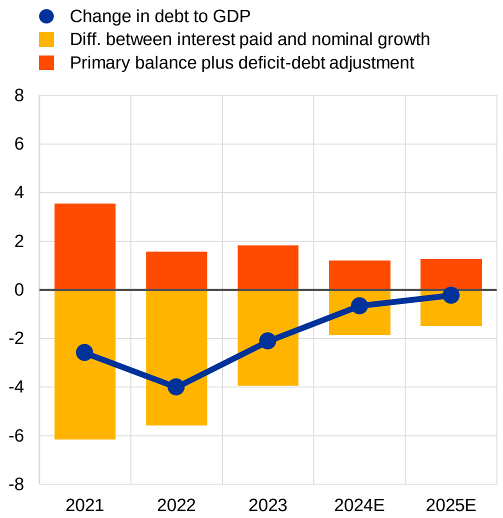
31 Oct. 2023, 30 Apr. 2024, percentages, ratings



Sources: Bloomberg Finance L.P., LSEG, S&P, Moody's, Fitch Ratings and ECB calculations.

Change in the euro area government debt-to-GDP ratio and its drivers

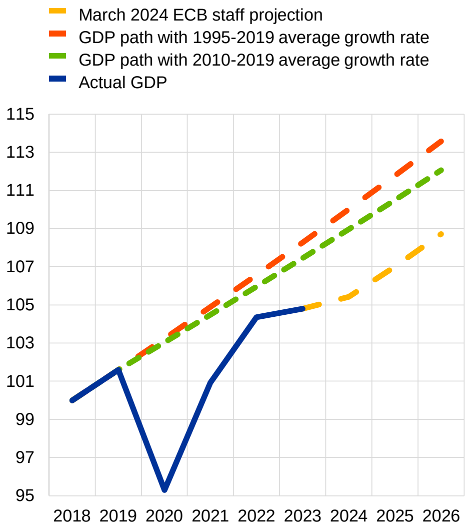
2021-25, percentages of GDP, ppt contributions



Sources: Eurostat and ECB (GFS) and ECB calculations.

Growth outlook in the euro area

2018=26, index: 2018 = 100



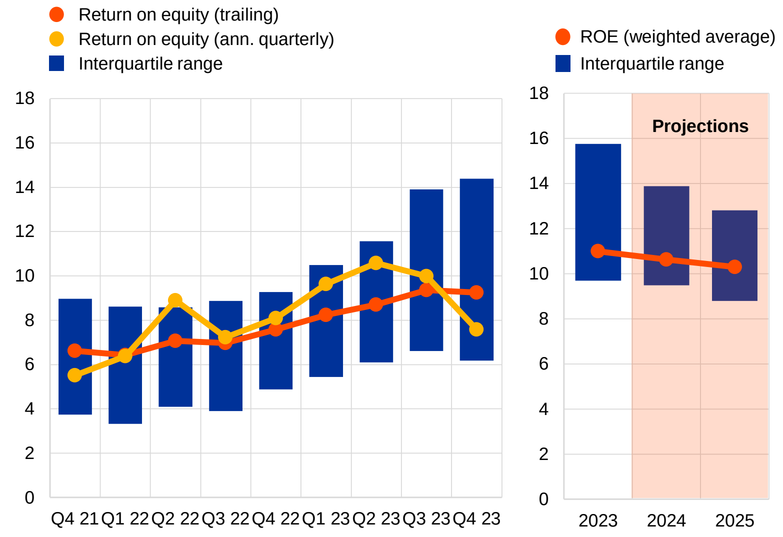
Sources: ECB staff macroeconomic projections and ECB calculations.

Theme 2: *Banks have remained resilient, but face headwinds from asset quality, funding and revenues*

- Bank profitability may have peaked, with expectations of a mild reduction in the medium-term
- Price-book valuations of euro area banks have improved, but they still remain well below those of international peers

ROE and ROE outlook based on analyst expectations

Q4 2021-Q4 2023, percentages

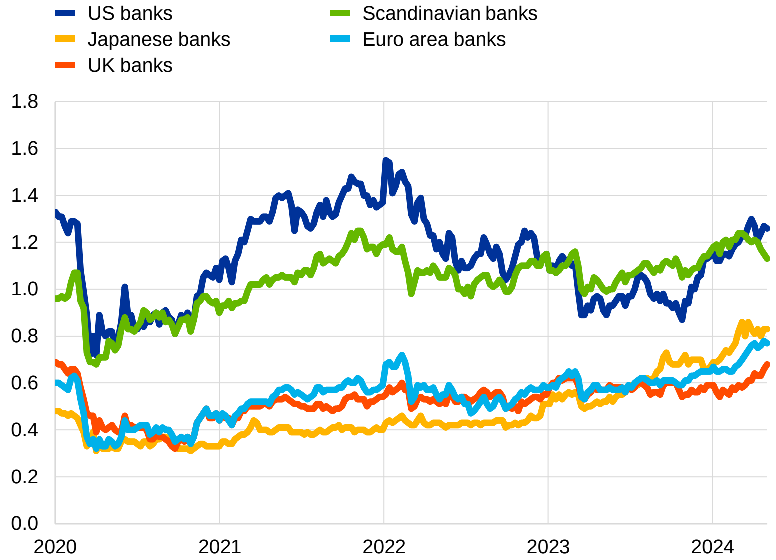


Sources: ECB (supervisory data), LSEG and ECB calculations.

Notes: The left graph is based on a balanced sample of 80 euro area significant institutions, while the right graph is based on the subset of listed significant institutions.

Price-to-book ratios of euro area banks and global peers

3 Jan. 2020-3 May 2024, ratio



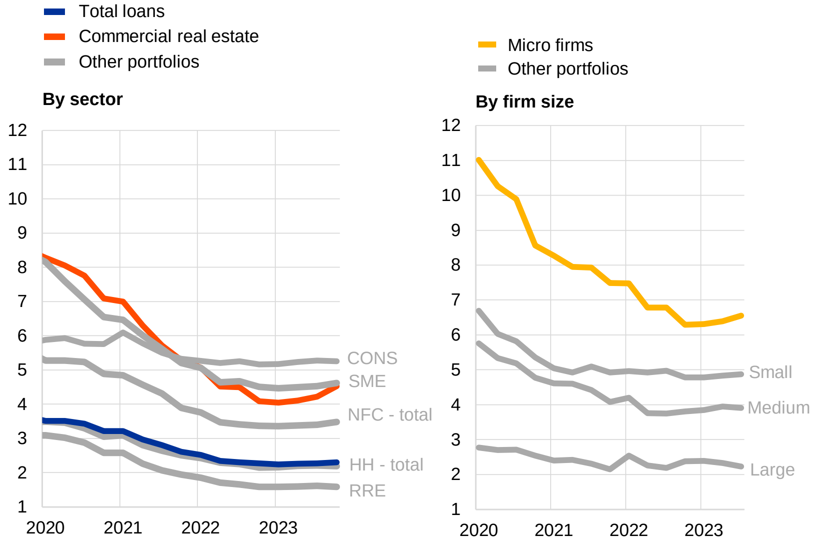
Sources: LSEG, Bloomberg Finance L.P. and ECB calculations.

Banks have remained resilient, but face headwinds from asset quality, funding and revenues

- Commercial real estate loans, consumer credit and loans to micro firms all showing signs of lower asset quality
- Income on floating rate assets could become a headwind, with expectations of market reference rates falling

NPL ratios by sector and corporate NPL ratios by firm size

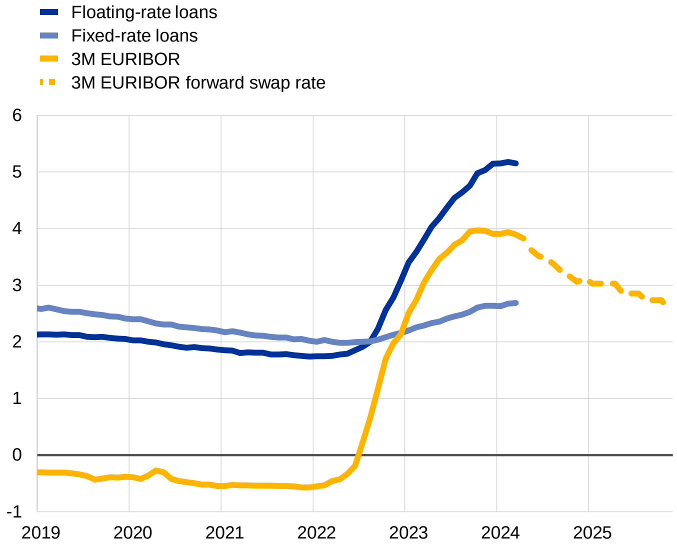
Q1 2020-Q4 2023, percentages



Sources: ECB (AnaCredit, supervisory data).

Lending rates on loans to the non-financial private sector

Jan. 2019-Nov. 2025, percentages



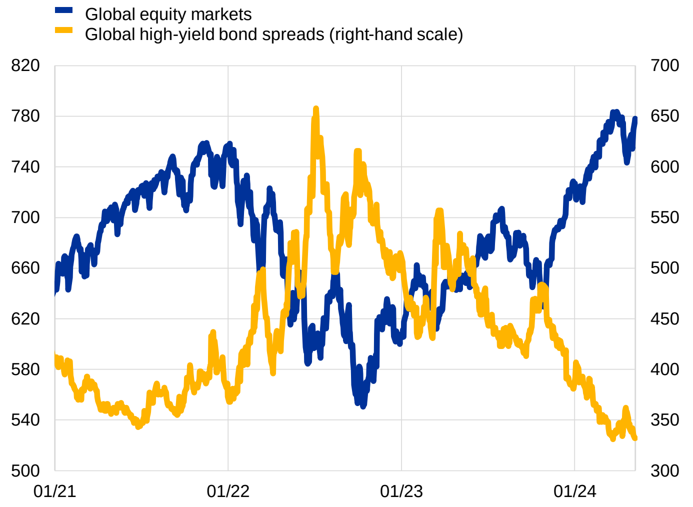
Sources: Bloomberg Finance L.P., ECB (MIR, BSI, AnaCredit) and ECB calculations.

Risk of outsized financial market reactions to disappointing news

- Stock markets close to record highs, while high-yield corporate bond spreads near record lows
- Financial risk-taking has returned, with the riskiest assets outperforming by a wide margin

Global equity markets and high-yield corporate bond spreads

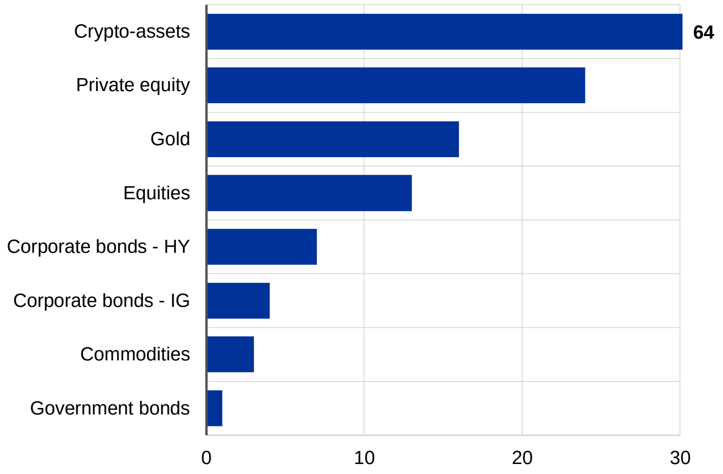
1 Jan. 2021-7 May 2024, index, basis points



Source: Bloomberg Finance L.P.

Global asset class performance since the previous FSR was published

22 Nov. 2023-7 May 2024, percentages



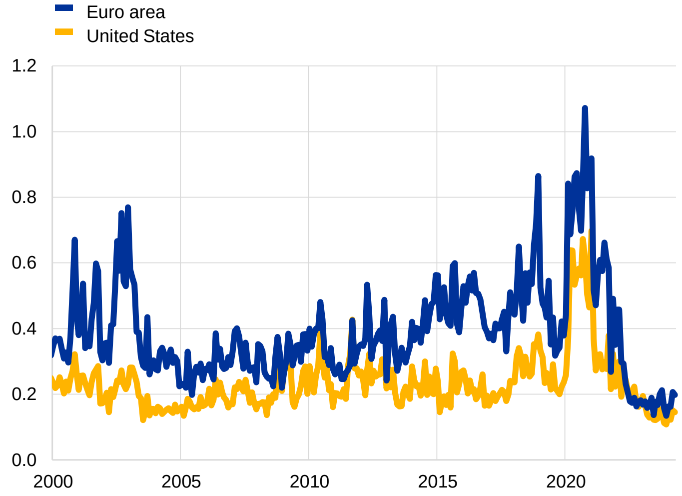
Sources: Bloomberg Finance L.P. and ECB calculations.

Theme 3: *Risk of outsized financial market reactions to disappointing news*

- Implied volatility in equity markets is low both in absolute terms and relative to interest rate markets, which…
- …could lead to a substantial compression of risk premia, incentivizing additional risk-taking

Implied volatility in equity markets relative to interest rate markets

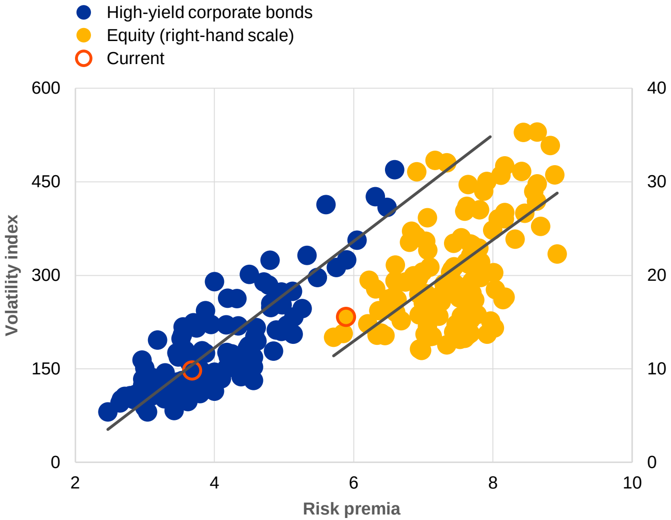
Jan. 2000-Apr. 2024, ratio



Sources: Bloomberg Finance L.P. and ECB calculations.

Risk premia versus implied volatility indices for euro area risky assets

Mar. 2014-Apr. 2024, percentages



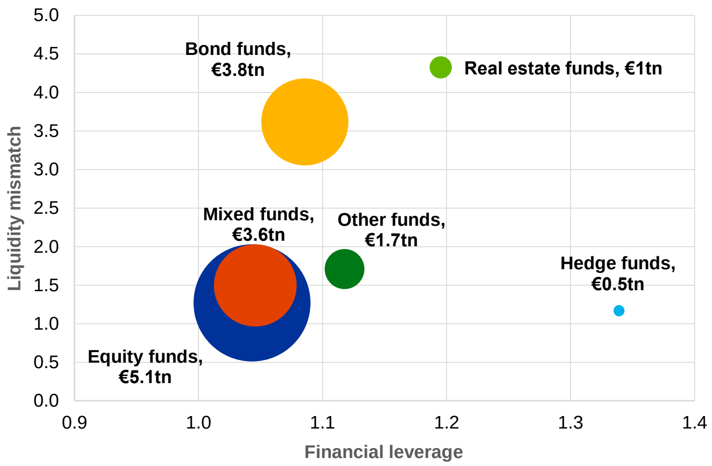
Sources: Bloomberg Finance L.P. and ECB calculations.

Risk of outsized financial market reactions to disappointing news

- Non-banks with liquidity fragilities could amplify market corrections and transmit stress to the wider financial system

Liquidity mismatch and leverage among euro area investment funds

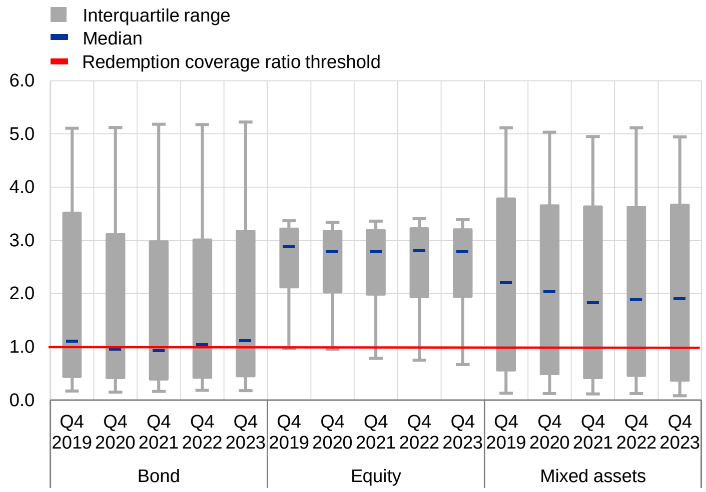
Q4 2023, ratios, bubble size: total assets, € trillions



Sources: ECB (IVF) and ECB calculations.

Redemption coverage ratios by type of euro area investment fund

Q4 2019-Q4 2023, ratio



Sources: ECB (IVF), LSEG Lipper IM and ECB calculations.

Notes: The RCR is obtained by dividing the value of fund-level HQLA stock by net outflows experienced in a severe but plausible scenario lasting 30 days.

Against this background, macroprudential policy can…

Preserve banking sector resilience and enhance the macroprudential framework for banks

Maintain existing capital buffers and borrower-based measures to ensure resilience

Further **enhance macroprudential space** in the medium term

Continue to make the **regulatory framework for banks** more effective

A strong capital markets union requires a solid institutional and policy framework for non-banks

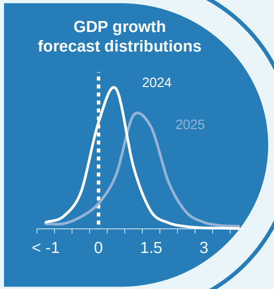
EU-wide supervision and a macroprudential framework for non-banks is key for financial stability

Implementing FSB recommendations in the EU should be a top priority

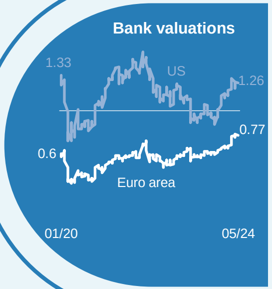
A stable and resilient NBFI sector would support **the broader objectives of the capital markets union**

Risks to the economic outlook may threaten private sector debt service

- Economic and geopolitical uncertainty ahead
- Financing conditions remain tight for firms
- Rising share of vulnerable households
- Outlook for commercial real estate remains fragile



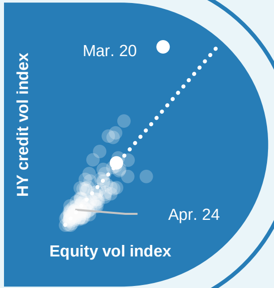
Euro area banks face headwinds from weaker asset quality, lower revenues and cost of funding



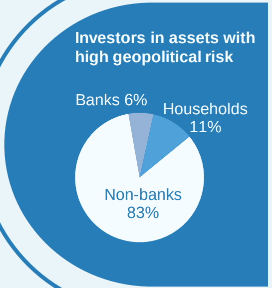
- Market valuations of banks remain subdued
- Deteriorating commercial real estate asset quality
- Rollover of bank funding at higher interest rates
- Lower income from variable-rate loans expected

Low risk pricing can mask vulnerabilities and lead to excessive risk taking

- Lower volatility supports tighter spreads
- Total bond funding costs might rise further
- "AI rally" raises concentration risk
- Markets price in higher geopolitical risk



Non-banks remain vulnerable to shocks amid low liquidity buffers



- Rising concentration risk in equity portfolios
- Persistent liquidity mismatches in funds
- Risk of losses on real estate exposures
- Uncertain profitability outlook for insurers

The euro area banking system is resilient and well-placed to face higher risks thanks to active prudential policy in recent years.

Enhanced macroprudential policy space, regulatory reform and faithful implementation of the final parts of Basel III can help to ensure durable resilience.

Structural vulnerabilities in non-banks continue to require a comprehensive policy response.

Background slides

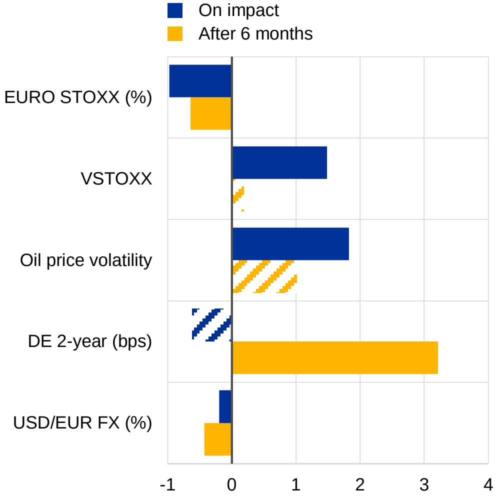
Geopolitical risk as a trigger for outsized market correction

- Materialisation of geopolitical risk can result in substantial increases in volatility and ignite risk aversion
- Flight-to-safety flows away from funds with riskier investment strategies could result in fire-sales
- Weakly capitalised and less-profitable banks tend to be more strongly affected by rising geopolitical risk

Responses of financial variables to an increase in geopolitical risk by 1 standard deviation

Equity market, volatility, sovereign bond spreads and foreign exchange

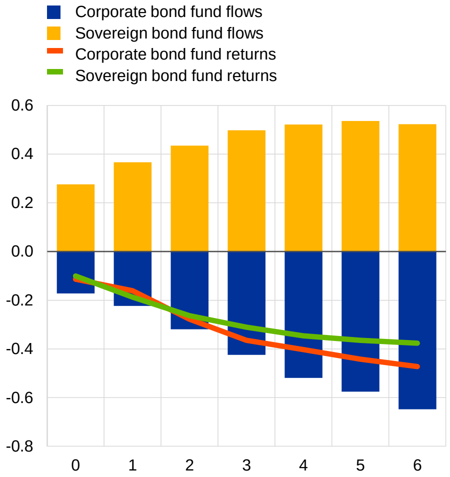
Jan. 2001 – Dec. 2023, percentages, indices, basis points



Sources: Bloomberg Finance L.P., ECB and ECB calculations.

Euro area domiciled bond fund flows

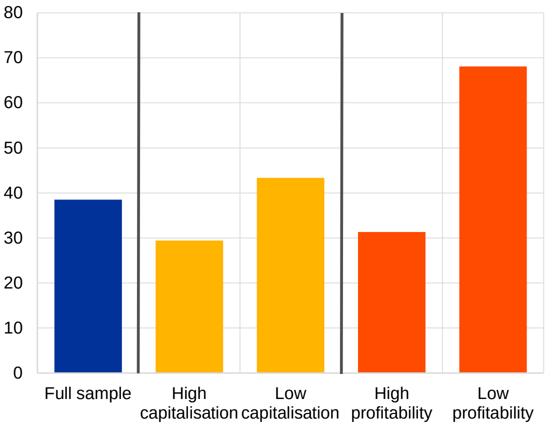
Nov. 2003 – Dec. 2023, y-axis: percent of AuM, x-axis: months after shock



Sources: ECB (SHS, CSDB), EPFR Global and ECB calculations.

Euro area banks' CDS spreads

Q1 2015 – Q3 2023, indices

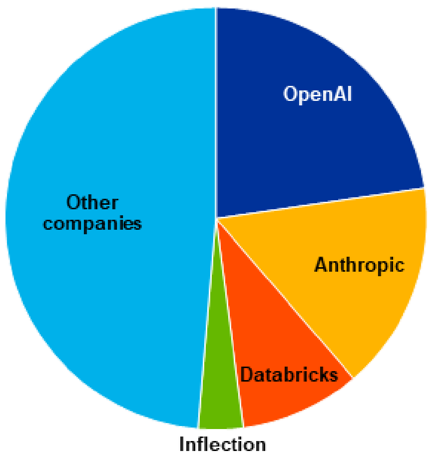


Sources: ECB (ICP, MNA, RTD, GFS, supervisory data), Bloomberg Finance L.P., DataStream, S&P Dow Jones Indices LLC and/or its affiliates, Caldara and Iacoviello, Ahir et al. and ECB staff calculations.

Artificial intelligence (AI): benefits and risks for financial stability

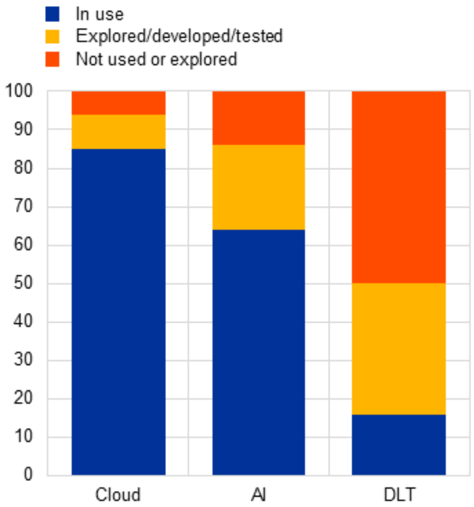
- Risk implications of AI for individual firms can have system-wide effects if technological penetration is high and deployed AI systems are too similar due to limited number of providers (“supplier concentration”)
- (Possible future) financial stability risks could include: (i) stronger herding behaviour; (ii) high market concentration and too-big-to-fail externalities, and; (iii) operational and cyber risk

Share of total private equity and venture capital raised by AI start-ups
Dec. 2023, shares



Sources: PitchBook Data Inc.

Adoption rates of innovative technologies by banks (excluding generative AI)
Q3 2022, percentages



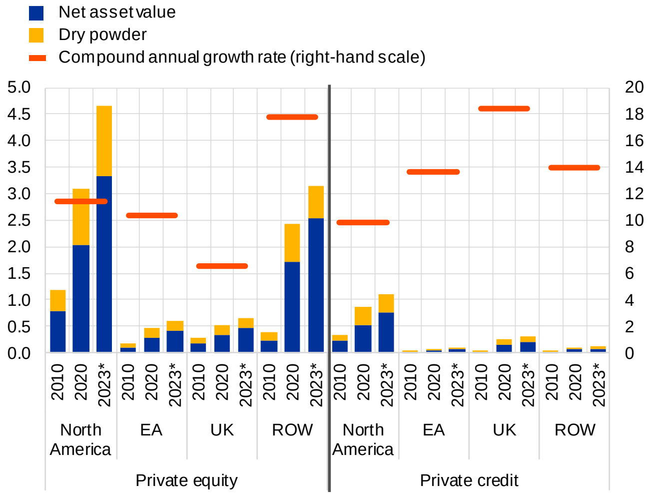
Sources: ECB.
Notes: “Cloud” comprises migration/IT optimisation and data platforms using software-as-a-service (SaaS) solutions; AI comprises chatbots, credit scoring and algorithmic trading; DLT (distributed ledger technology) comprises trade finance (smart contracts) and settlements including custody of crypto assets, tokenisation of traditional financial instruments.

Special Feature C: *Financial stability implications of private markets*

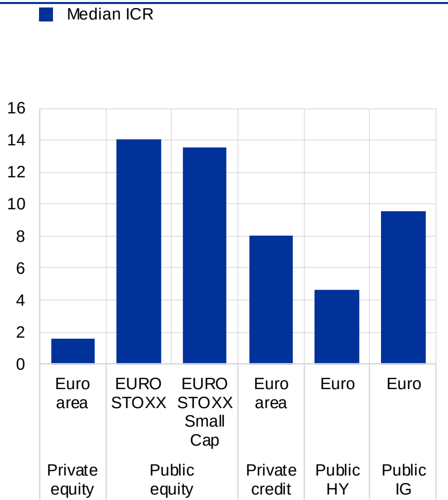
- Euro area private markets have grown rapidly in recent years, providing benefits to the real economy
- Financial stability risks appear contained for now, but concerns relate to the markets' opacity and resilience, especially in a higher interest rate environment:

  (**i**) mark-to-model valuations could conceal potential losses; (**ii**) adverse shocks might lead to increased default rates

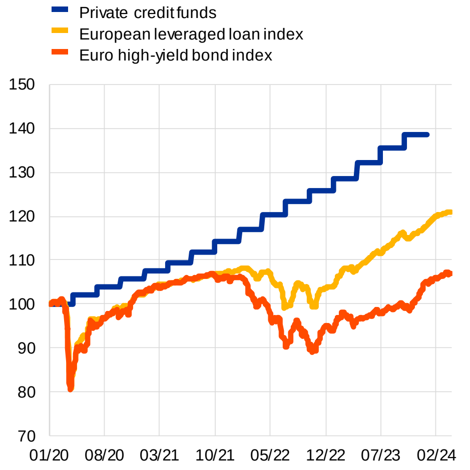
Private market funds' AUM, by fund location and fund type
2010, 2020, 2023, lhs: € trillions, rhs: percentages



Median interest coverage ratio for PE and PC-backed firms, and firms in PE and bond indices
Q2 2023, EBITDA/interest expenses



Performance of EA-domiciled PC funds vs public debt indices
Q1 2020-Q1 2024, indices



Sources: Pitchbook and ECB calculations.
Notes: AUM = assets under management; EA = Euro area; ROW = rest of the world; PE = private equity; PC = private credit. Left chart: Private equity includes venture capital funds. *2023 refers to Q3 2023. Fund location is defined as where the fund management team is located. The red line shows the compounded annual growth rate of assets under management between 2010 and Q3 2023 for funds split by location and fund type. Middle chart; ICR stands for interest coverage ratio; HY stands for high-yield debt; IG stands for investment-grade debt. The ICR of euro public HY is based on median ICRs of companies with bonds in the ICE BofA Euro High Yield Index. The ICR of euro public IG is based on companies with bonds in the ICE BofA Euro Corporate Index. Euro area private equity ICR is based on a sample of 7,093 euro area firms, while Euro area private credit ICR is based on 388 euro area firms. Most private credit-backed firms are also publicly listed, but there is little overlap between private credit and private equity-backed companies in the considered sample. The sample includes firms with any available ICRs between Q2 2022 and Q2 2023.Left chart: the performance of private credit funds is calculated as quarterly compounded median internal rates of return. The European leveraged loan index corresponds to the Morningstar European Leveraged Loan TR EUR Index. The euro high-yield bond index corresponds to the ICE BofA Euro High Yield Index. All indices are indexed to 100 as of 2 January 2020.