EUROPEAN CENTRAL BANK

EUROSYSTEM

November 2022

Financial Stability Review

16 November 2022

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November 2022 Financial Stability Review

Financial stability conditions have deteriorated further since the May FSR

With monetary policy acting to rein in inflation, tighter financial conditions are exposing pre-existing vulnerabilities, including household and corporate sector indebtedness

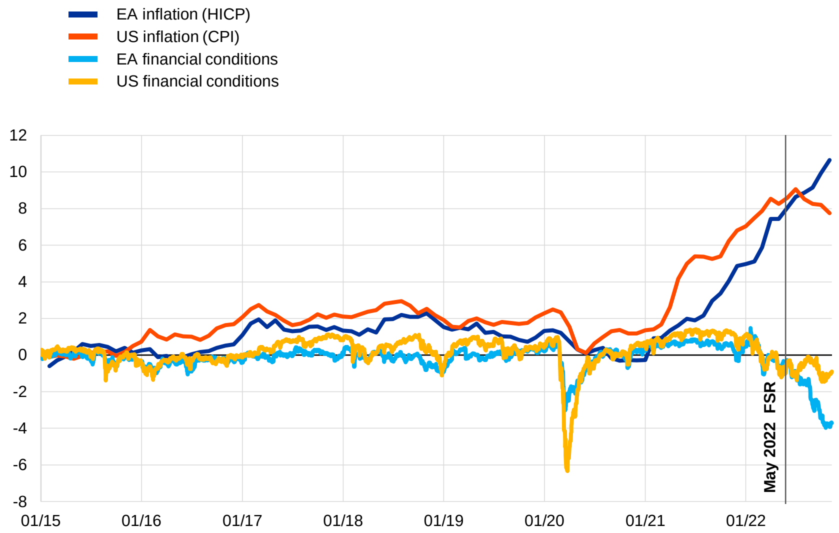
Risks of further financial asset repricing, together with elevated volatility and liquidity challenges, make disorderly adjustment involving non-banks more likely

Greater recession risk could expose sovereign vulnerabilities, especially if fiscal policies are unrestrained and untargeted, and, further ahead, banks may face asset quality challenges

Sustained inflation, tighter financial conditions and recession risks

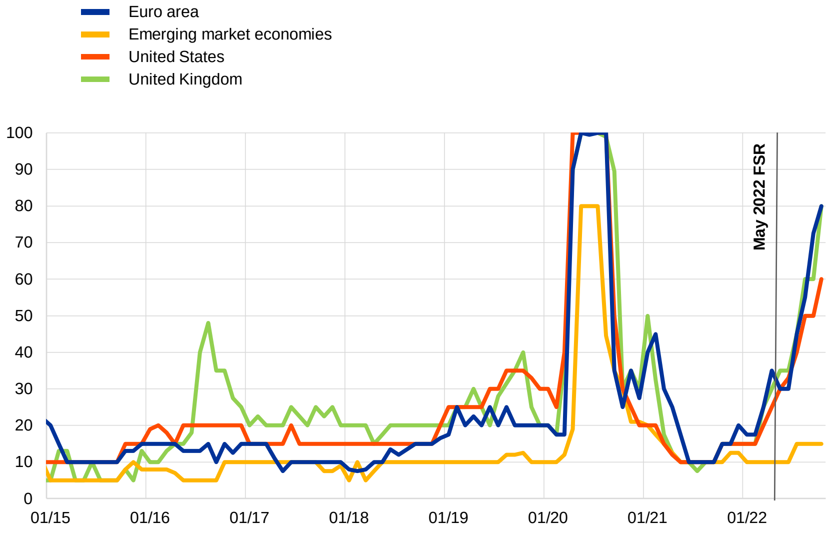
- Intensifying inflationary pressures prompted monetary authorities in advanced economies to respond
- Higher inflation, tighter financial conditions and high energy prices have raised recession fears

Consumer prices and financial conditions in the euro area and the United States
1 Jan. 2015-8 Nov. 2022, annual percentage changes, indices



Sources: Bloomberg Finance L.P. and Haver Analytics.

One-year ahead recession probabilities across select economies
Jan. 2015-Oct. 2022, percentages

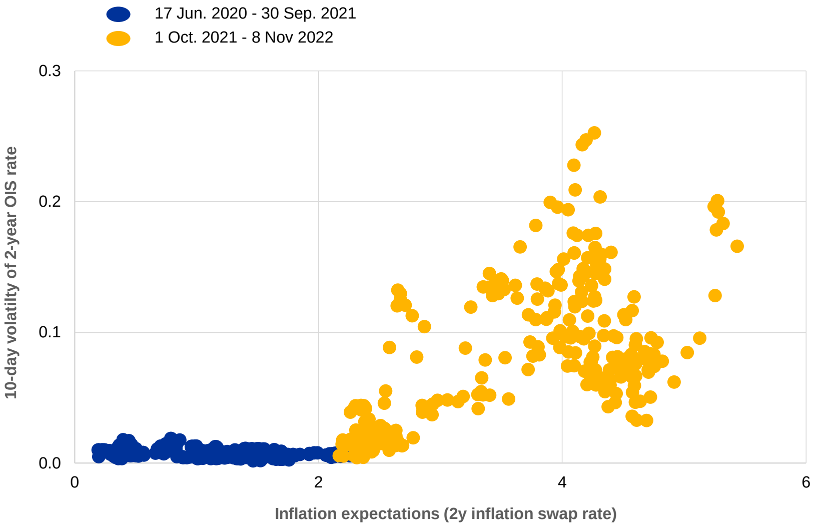


Sources: Bloomberg Finance L.P. and ECB calculations.

Volatile and less liquid markets increase risks of extreme adjustments

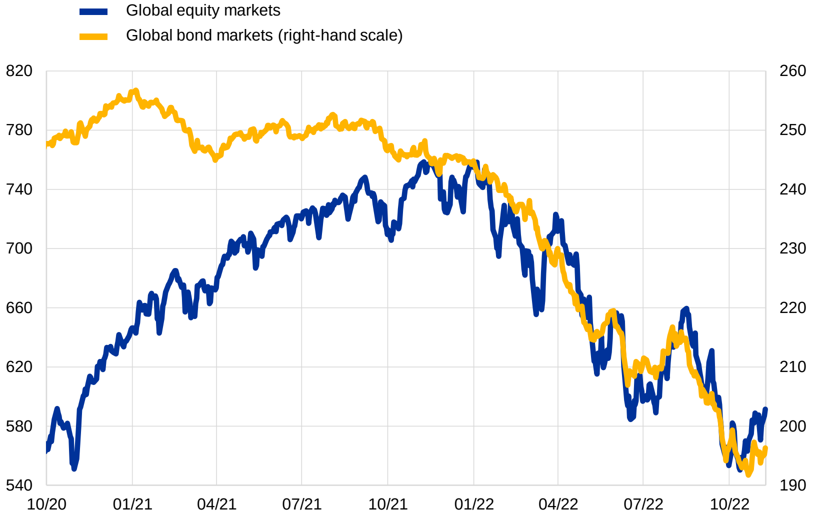
- Money and bond market volatility have increased markedly, in tandem with greater inflation uncertainty
- Notwithstanding marked and broad-based asset price corrections, valuations remain vulnerable to upside risks for inflation and interest rates

Realised euro area interest rate volatility versus inflation swap rate
17 Jun. 2020-8 Nov. 2022, y-axis: percentage points; x-axis: percentages



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

Global equity and bond market price indices
1 Oct. 2020-8 Nov. 2022, indices

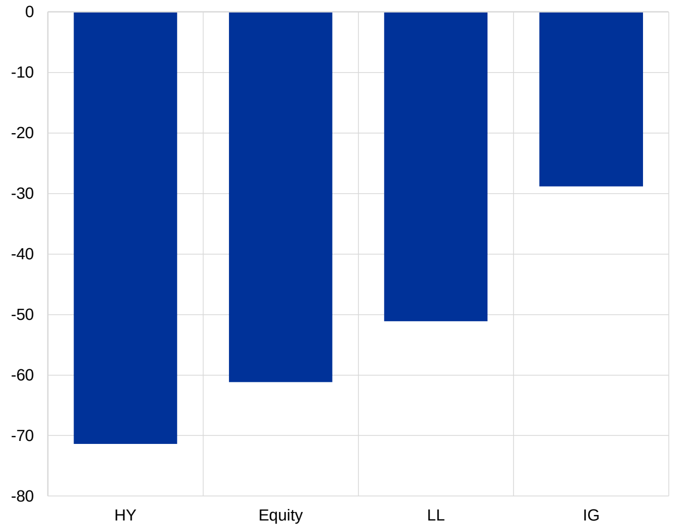


Source: Bloomberg Finance L.P.

Market stress could be amplified by lower market liquidity and margin calls

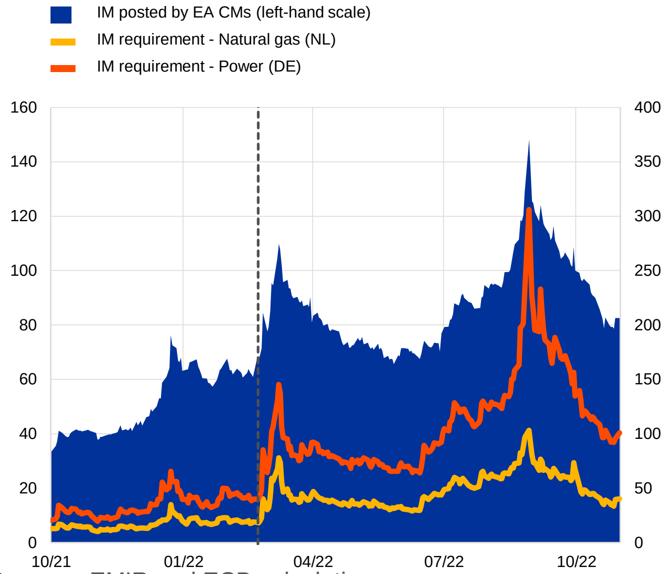
- Lower risk appetite is impairing market liquidity in corporate bond markets, especially for the high-yield segment
- Unexpected increases in margin requirements could revive dash for cash dynamics

2022 year-to-date gross issuance by euro area non-financial corporations
2017-22, percentage deviation from five-year average



Sources: Dealogic, S&P Global Market Intelligence, ECB (Statistical Data Warehouse) and ECB calculations.

Initial margin posted by EA entities in the centrally cleared space on portfolios containing commodity derivatives
1 Oct. 2021-31 Oct. 2022, left-hand scale: € billions, daily stocks, right-hand scale: €/MWh

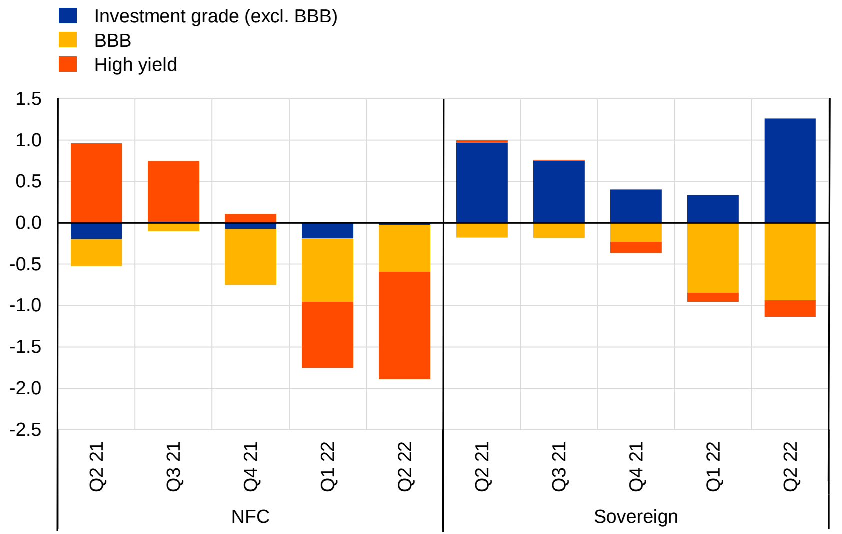


Sources: EMIR and ECB calculations.

Risk of feedback between non-banks and markets may be rising

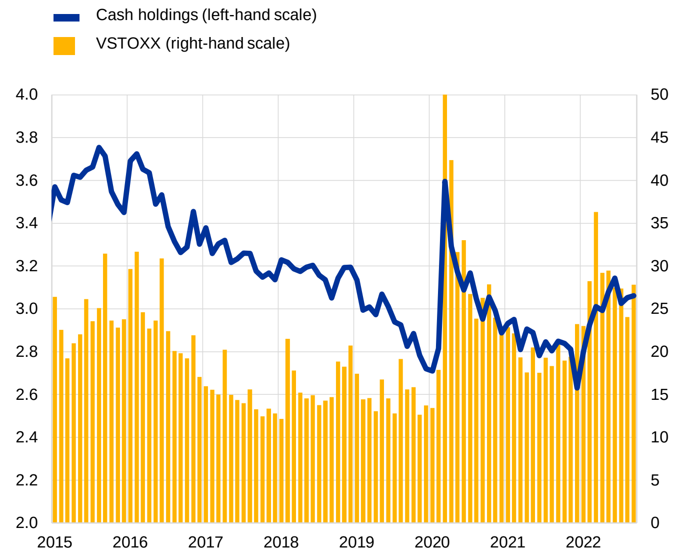
- Signs of de-risking by non-banks, but credit risks may resurface as economic conditions worsen
- Cash holdings of investment funds have risen since early 2022, but remain relatively low amid rising volatility

Transactions of euro area non-bank financial institutions by economic sector and credit rating bucket
Q2 2021-Q2 2022, percentages of bond portfolio holdings



Sources: ECB (Securities Holdings Statistics, Balance Sheet Items, Investment Funds Balance Sheet Statistics) and ECB calculations.

Cash holdings of euro area investment funds and VSTOXX
Jan. 2015-Sep. 2022, percentages of total assets, index



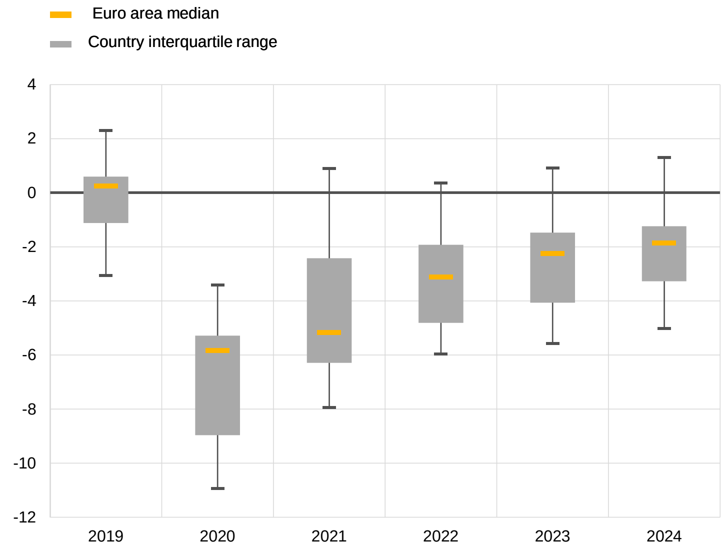
Sources: Sources: Bloomberg Finance L.P., Refinitiv, IVF and ECB (Balance Sheet Items)..

Sovereigns more at risk from expansionary fiscal measures

- Governments face a return of fiscal constraints at the same time as demands for economic support rise
- Fragmentation risks in sovereign bond markets partly mitigated by policy action

Distribution of headline budget balances across euro area countries

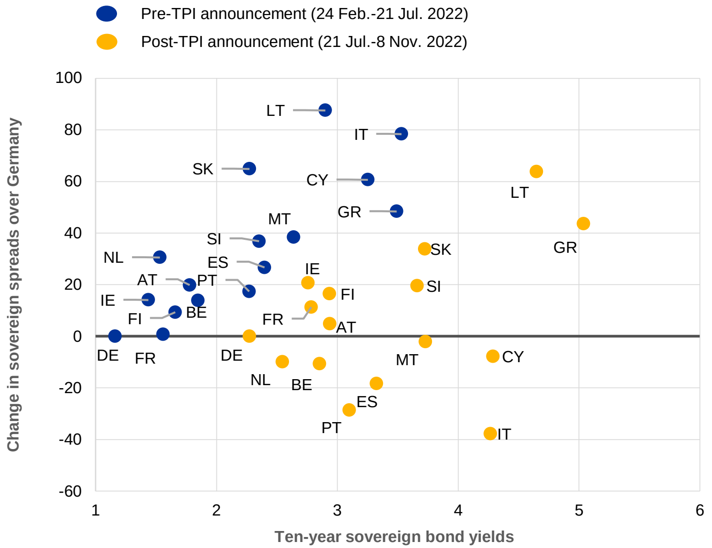
2019-24E, percentages of GDP



Source: IMF (Fiscal Monitor) and ECB calculations.

Ten-year government bond yields and changes in sovereign spreads over Germany

percentages, basis points

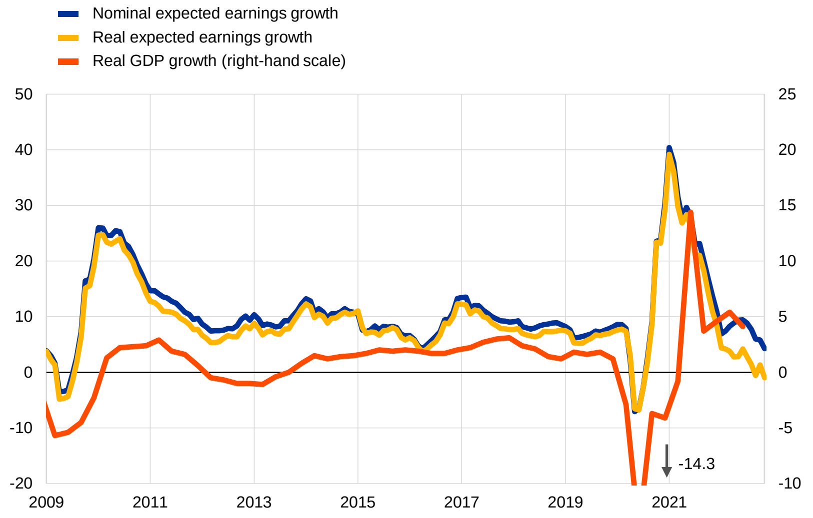


Sources: Refinitiv and ECB calculations.

Euro area non-financial corporations are facing renewed headwinds

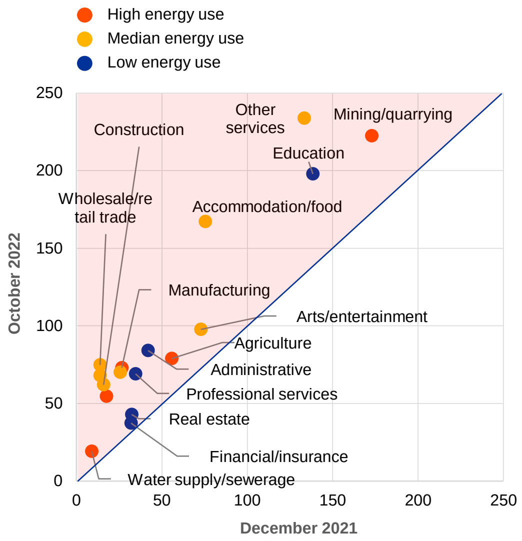
- Corporate earnings growth expectations have continued to decline
- Default risks rising for most economic sectors, especially for energy-intensive sectors

Real and nominal 12-months forward earnings expectations for the EURO STOXX and real GDP growth
Jan. 2008-Oct. 2022, annual percentage changes



Sources: Refinitiv and Haver Analytics.

Expected default frequencies for euro area listed non-financial firms by NACE category
Dec. 2021, Oct. 2022, basis points

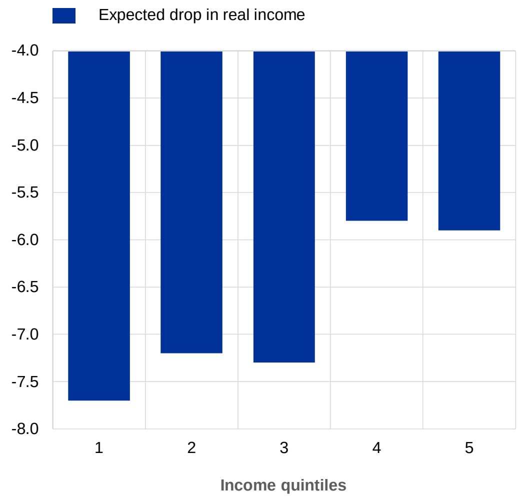


Sources: Refinitiv, Moody’s Analytics, Eurostat, OECD Trade in Value Added (TiVA) database (2018) and ECB calculations.

Household income being squeezed as housing market turns

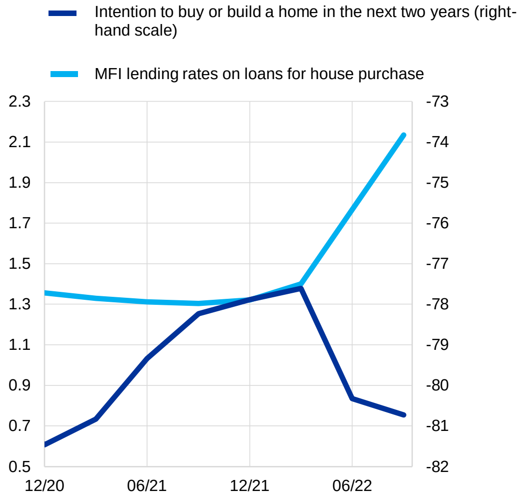
- Income squeeze/lower buffers may trigger debt-servicing problems, mainly for low-income households
- Signs of a turn in the real estate cycle may compound vulnerabilities of household incomes / balance sheets

Inferred household expectations of a drop in real income by income quintile
Sep. 2022, percentages



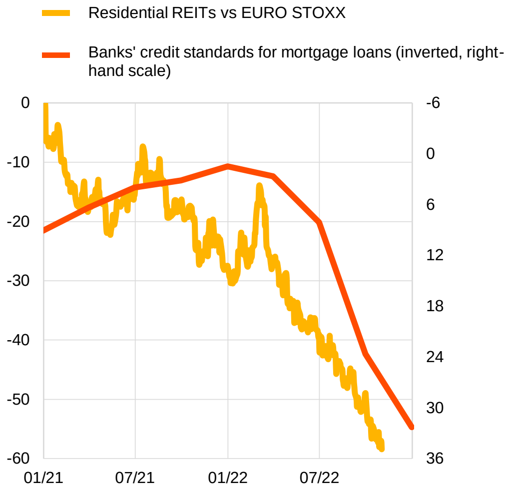
Sources: ECB (Consumer Expectations Survey) and ECB calculations

Intention to buy/build a home and lending interest rates for house purchase
Q4 2020-Q3 2022, left-hand scale: percentages, right-hand scale: net percentages



Sources: European Commission, ECB and ECB calculations.

Relative performance of residential REITs, and banks' expected credit standards for mortgage loans
Jan. 2021-Nov. 2022, left-hand scale: index, right-hand scale: net percentages



Sources: Bloomberg Finance L.P., Refinitiv and ECB (Bank Lending Survey).

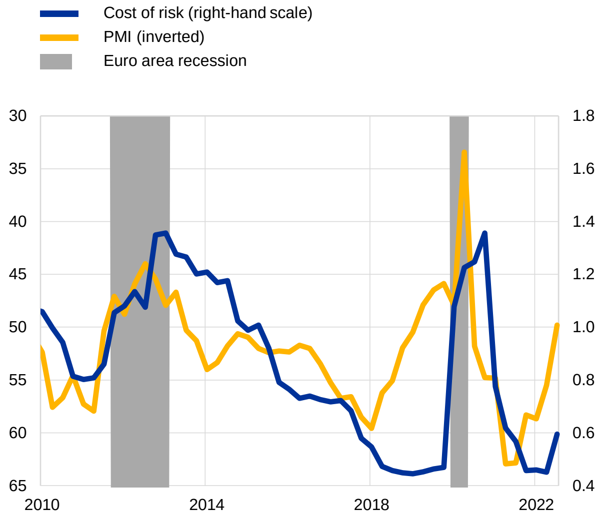
Banks enjoy tailwinds of higher rates but could face asset quality headwinds

- Analysts' bank ROE expectations remain robust given income benefits
- But cost of risk remains low given an economic outlook that raises risks for asset quality

Expected short-term interest rates and bank analysts' 2023 ROE expectations
1 May-8 Nov. 2022, percentages

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

Cost of risk of listed euro area banks and manufacturing PMI
Q1 2010-Q3 2022, left-hand scale: diffusion index, right-hand scale: percentages



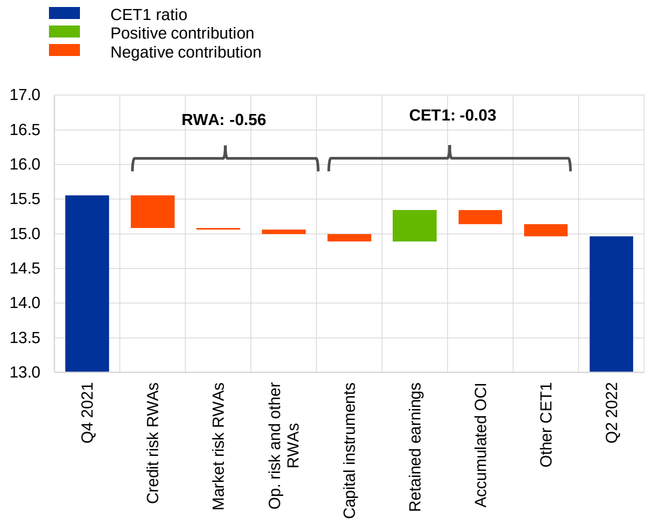
Sources: Bloomberg Finance L.P. and Refinitiv.

Banks’ resilience remains strong

- Solid capital (and liquidity) positions make banks’ resilience comparable to the pre-pandemic situation
- And, leverage ratios remain solid, even with a recent decline as regulatory exemptions expire

Changes in banks’ CET1 ratio and contributing factors

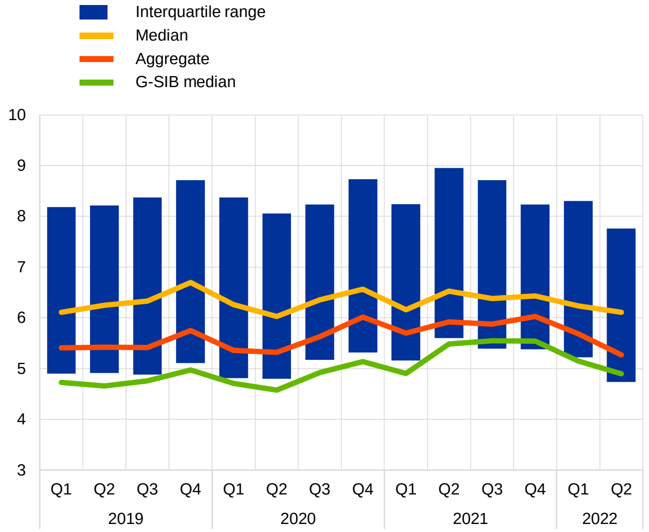
Q4 2021-Q2 2022, percentages, percentage points



Sources: ECB supervisory data and ECB calculations.

Euro area banks’ leverage ratios

Q1 2019-Q2 2022, percentages

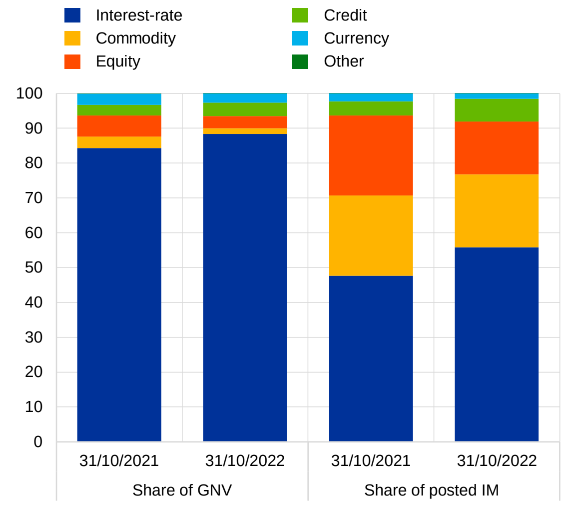


Source: ECB supervisory data.

Special Feature: Financial stability risks from energy derivatives markets

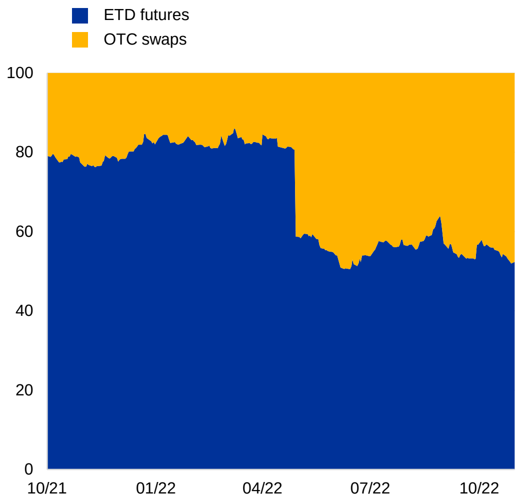
- Recent energy price dynamics increased margin requirements on energy derivatives.
- The liquidity pressure led market participants to cope with the increased liquidity needs differently

Asset class breakdown of gross notional value and initial margin posted for derivative positions held by euro area entities
31 Oct. 2021-31 Oct. 2022, percentages



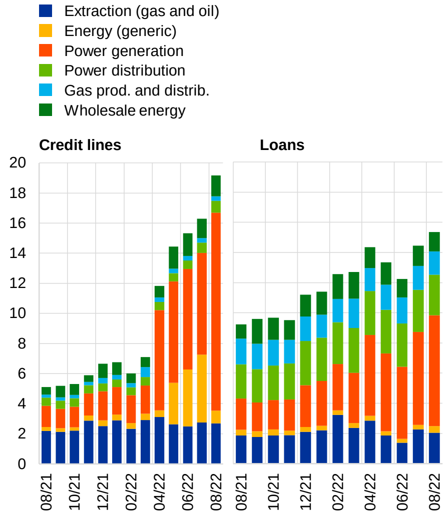
Sources: EMIR data and ECB staff calculations.

Gross exposures of energy sector firms in energy derivatives broken down by ETD and OTC, only natural gas futures and swaps
1 Oct. 2021-31 Oct. 2022, percentages of gross notional exposure



Sources: EMIR data and authors' calculations.

Credit lines and loans granted to firms trading energy derivatives
Aug. 2021-Aug. 2022, € billions

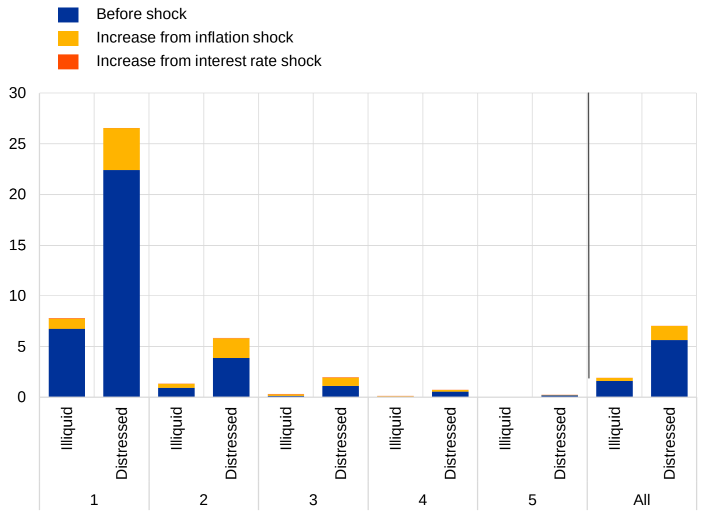


Sources: AnaCredit data, RIAD data and ECB calculations.

Special Feature: Household inequality and financial stability

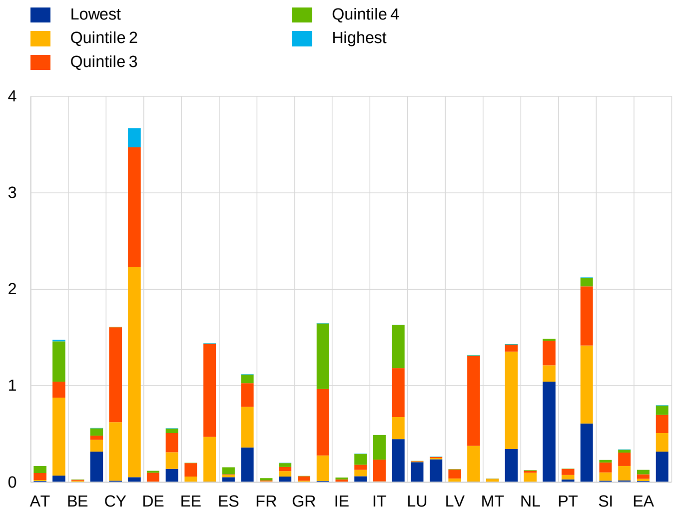
- Lower-income households could be disproportionately squeezed by inflation and to a lesser extent by higher interest rates from the end of 2022 onwards
- But household debt is mostly attributable to higher-income households, with some degree of heterogeneity across countries and loan types, partly mitigating the risks to banks

Estimated share of illiquid and distressed households per income quintile
Q1 2022 vs year-end 2022 simulation, percentage shares of number of households



Sources: HFCS and ECB staff calculations.

Estimated percentage point changes in NPL ratio after shock (illiquid vs distressed households)
simulation as of year-end 2022, percentages

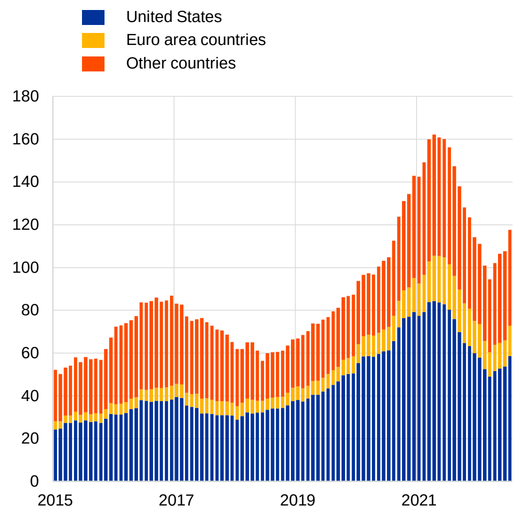


Sources: HFCS, ECB supervisory data and ECB staff calculations.

Cyberattacks could pose a systemic risk to the financial system

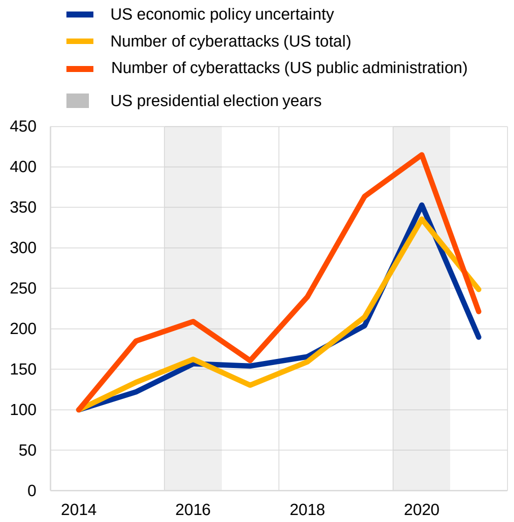
- Cyberattacks and interest in cyber risks have risen markedly over recent years
- Among the drivers, economic policy uncertainty partly explains the frequency of cyberattacks
- The bulk of costs related to cyberattacks are concentrated in a few sectors

Number of publicly disclosed global cyberattacks over time
Jan. 2015-Aug. 2022, 12-month moving average



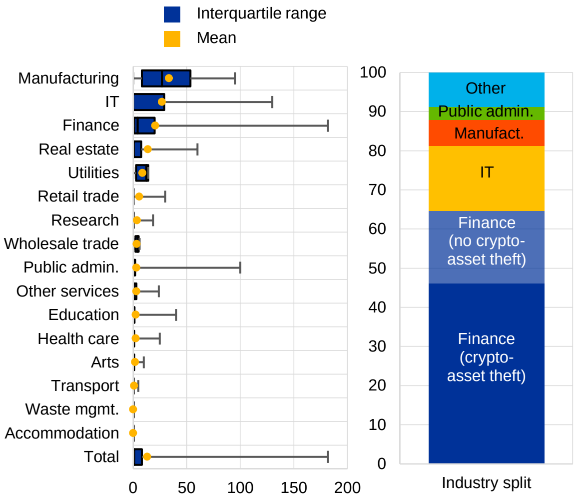
Source: University of Maryland CISSM Cyber Attacks Database.

Economic policy uncertainty and number of cyberattacks in the United States
2014-21, index: 2014 = 100



Sources: University of Maryland CISSM Cyber Attacks Database, policyuncertainty.com and ECB calculations.

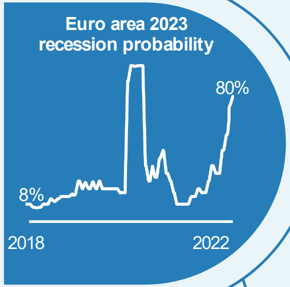
Cost distribution of individual cyberattacks and split of total costs by industrial sector
2014-22, USD millions, percentages

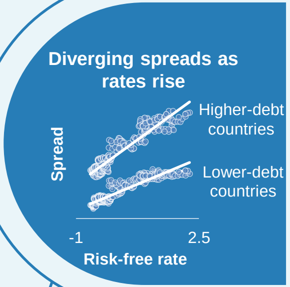


Sources: University of Maryland CISSM Cyber Attacks Database and ECB calculations.

High inflation and low growth expose firm, household and sovereign vulnerabilities

- High inflation dampens economic activity
- Risk of house price correction
- High input costs weigh on firms' sentiment
- Energy crisis prompts fiscal pressures



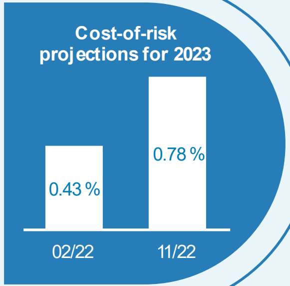


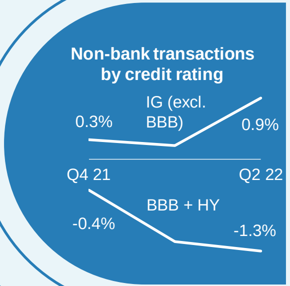
Volatile financial markets more prone to disorderly adjustments

- Higher interest rate volatility
- Corporate bonds priced for downturn
- Less liquid bond markets
- Falling issuance of risky assets

Bank asset quality concerns rise amid growing recession risks

- Higher rates support profitability
- Increase in underperforming loans
- Upward pressure on provisioning
- Further rise in bond funding costs





High credit, duration and liquidity risk in non-banks despite rebalancing

- Rising credit risk in corporate exposures
- Less capacity for corporate financing
- Funds may amplify market dynamics
- Non-life insurers face inflation challenges

On the back of active prudential policy in recent years, the euro area banking system is resilient and well-placed to face higher risks.

Targeted macroprudential policy action, regulatory reform and faithful implementation of Basel III can enhance resilience further.

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