EUROPEAN CENTRAL BANK

EUROSYSTEM

May 2022
Financial Stability Review

25/05/2022

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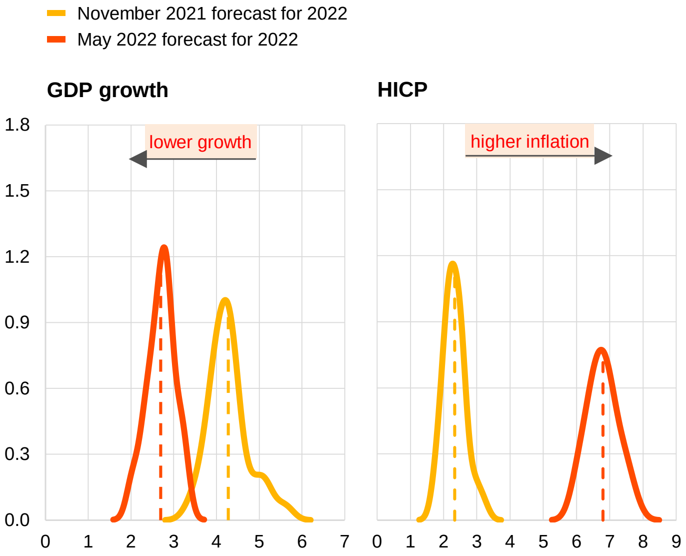
Financial stability conditions have deteriorated

- Impact of war in Ukraine expected to weaken growth and push up inflation, amplifying pre-existing vulnerabilities
- Volatile financial markets at risk of further corrections
- More heavily indebted sovereigns, firms and households could be tested by higher interest rates and cost pressures
- Bank profitability improved markedly in 2021 but faces new headwinds

Higher prices, exacerbated by the war, impairing the recovery and increasing risks

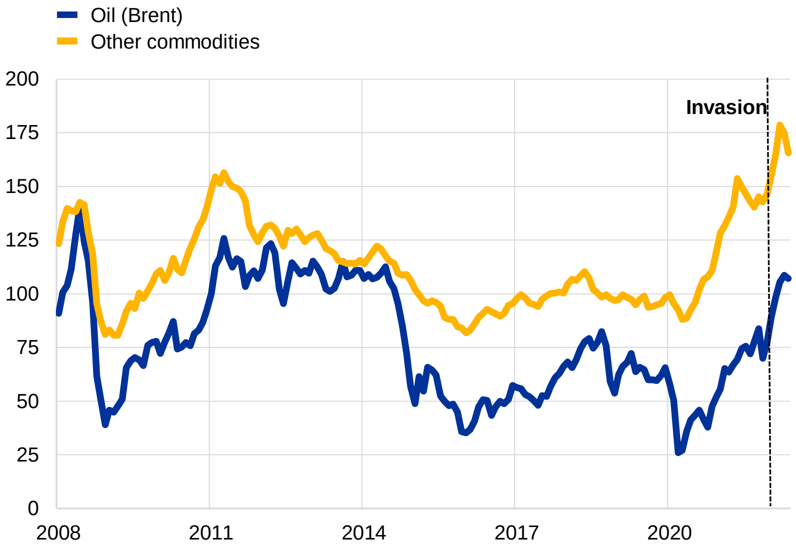
- The post-pandemic recovery is being tested by higher inflation and Russia's invasion of Ukraine
- High inflation and lower growth increasing financing costs and hindering debt servicing capacity

Distribution of 2022 real GDP growth and HICP inflation forecasts for the euro area
Probability density, percentages



Sources: Consensus Economics Inc. and ECB calculations.

Oil and other commodity price developments
1 Jan. 2008-17 May 2022, USD, index: 2020 = 100

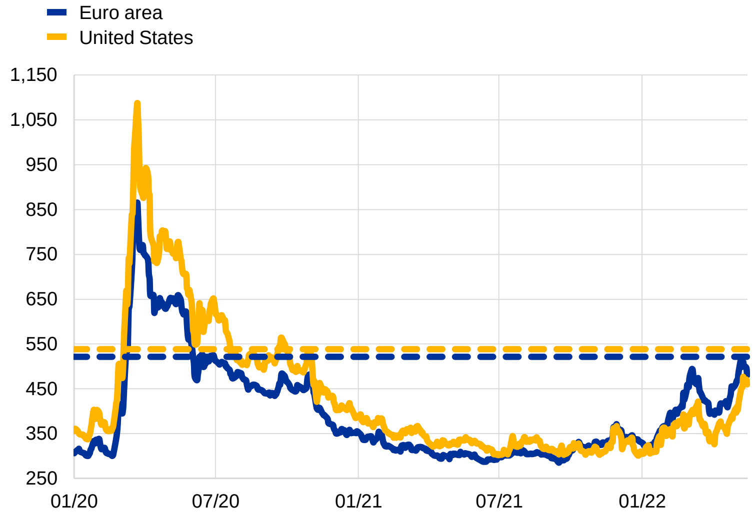


Sources: Refinitiv Datastream, ECB and ECB calculations.

Large but orderly reactions in markets, with some issues for derivatives markets

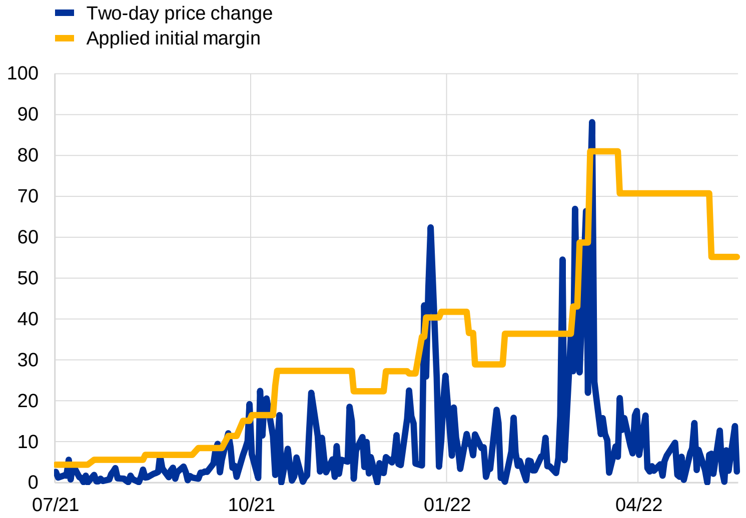
- The Russian invasion of Ukraine triggered a large but short-lived, broad-based market reaction
- Escalation of the conflict or faster monetary policy normalisation could trigger further market correction
- Surges of some commodity prices provoked liquidity issues in commodity derivatives markets

Euro area and US high-yield corporate bond spreads
1 Jan. 2020-17 May 2022, basis points



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

Natural gas futures two-day absolute price changes and applied initial margin
6 Jul. 2021-17 May 2022, €/MWh

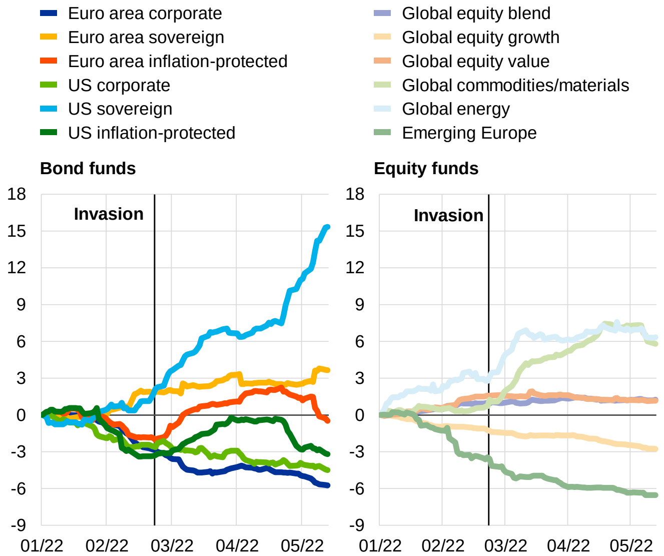


Sources: Bloomberg Finance L.P., ICE Clear Europe and ECB calculations.
Note: Applied initial margins are based on the scanning ranges published by ICE Clear Europe.

Non-banks resilient to the shock of war, but underlying risks remain a concern

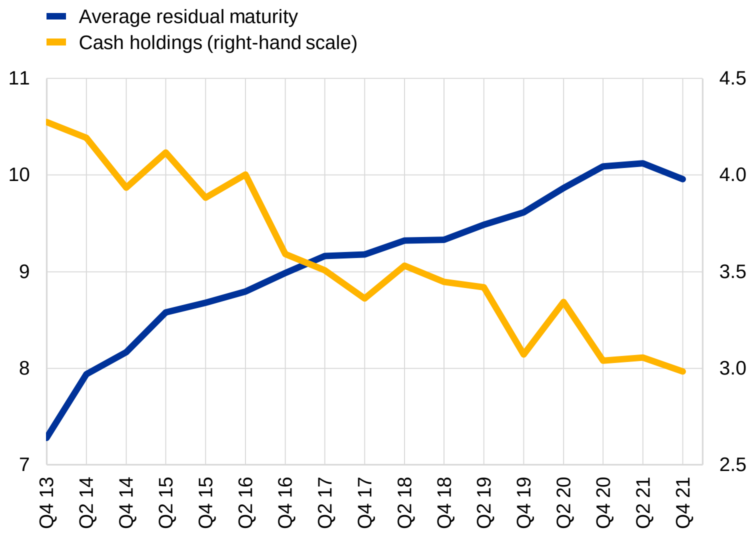
- Investment funds in several sectors experienced contained outflows during the recent turmoil
- But euro area funds are vulnerable to further market corrections given high duration, credit and liquidity risk

Euro area bond and equity fund flows
1 Jan. 2022-17 May 2022, cumulative daily flows as a percentage of total net assets



Source: EPFR Global.

Investment fund duration and liquidity risk
Q4 2013-Q4 2021, left-hand scale: years, right-hand scale: percentages of total assets

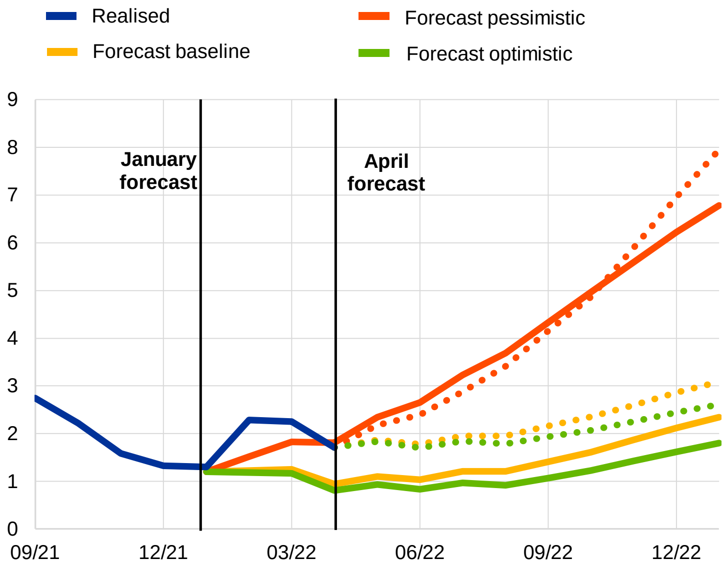


Sources: ECB (Investment Funds Balance Sheet Statistics and Securities Holding Statistics) and ECB calculations.

Signs of renewed risks for the corporate sector

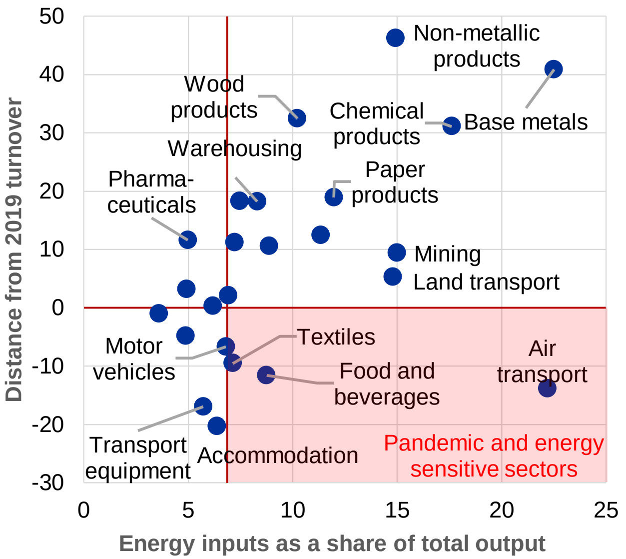
- Euro area firms under pressure as input prices soar and the economic outlook clouds
- Impact likely to vary across sectors, with some pandemic-strained sectors also heavily energy-reliant

European speculative-grade 12-month trailing default rates
Sep. 2021-Feb. 2023E, percentages



Sources: Moody's Analytics, ECB and ECB calculations.
Note: Solid lines represent European speculative-grade default rates forecast by Moody's Analytics as at January 2022 and dotted lines as at April 2022.

Corporate turnover relative to pre-pandemic and energy use by industrial sector
x-axis: 2019, percentages, y-axis: difference 2019/21, index: 2019 = 100

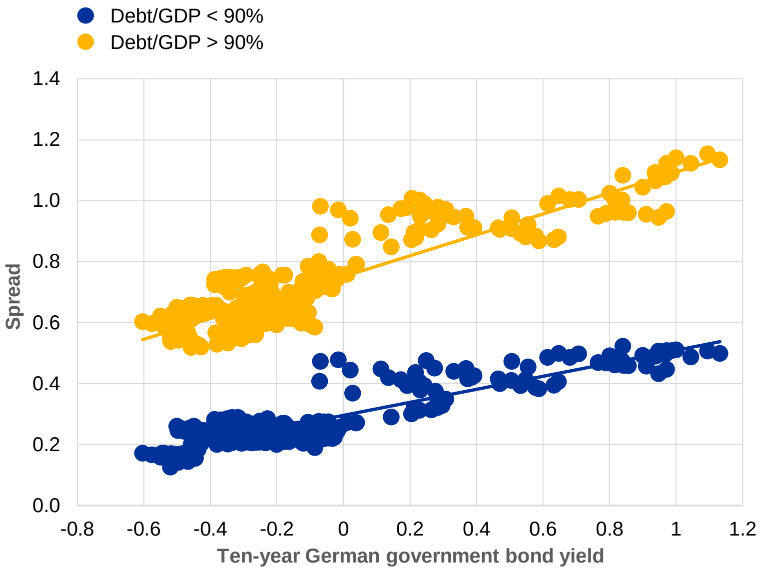


Sources: OECD Trade in Value Added (TiVA) database, Eurostat and ECB calculations.

Sovereigns challenged by a weaker recovery and tighter financial conditions

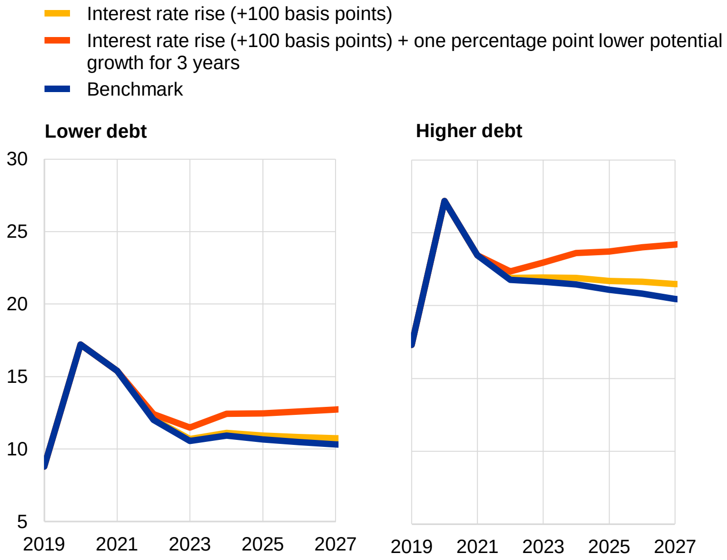
- Euro area sovereigns transition from pandemic support to tackling the fallout from the war
- At the same time, higher interest rates may cause refinancing risk for highly indebted sovereigns

Euro area sovereign spreads versus risk-free rate
1 Jan. 2021-17 May 2022, y-axis: government bond spread over Germany; GDP weighted by indebtedness buckets of debt/GDP



Sources: European Commission, Eurostat, Bloomberg Finance L.P. and ECB.

Impact of an interest rate and GDP shock on sovereign gross financing needs
2019-27, percentages of GDP

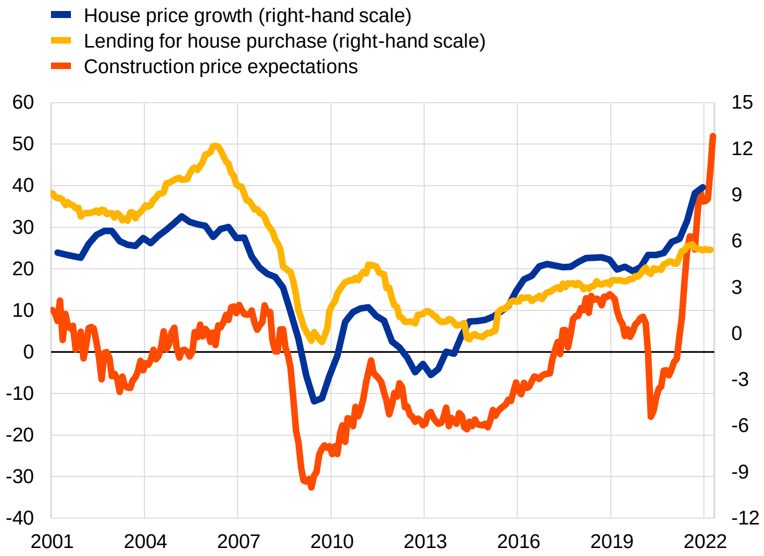


Sources: ECB and ECB calculations.

Pressure on household finances increases risks via residential real estate

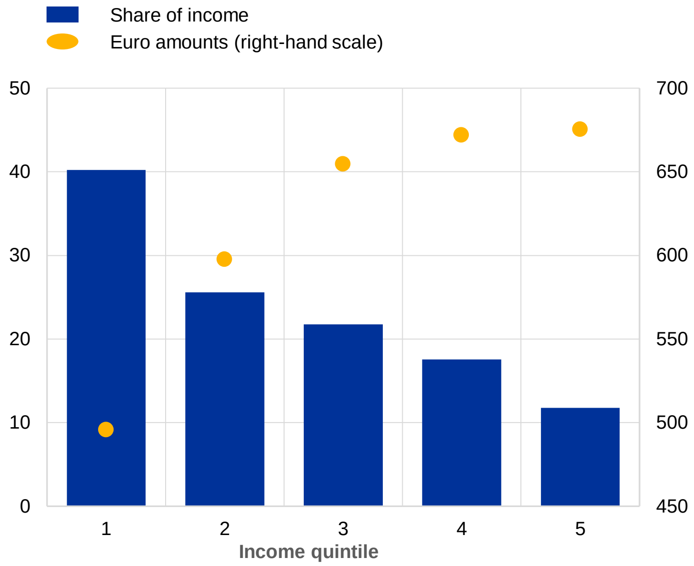
- House price inflation at 20-year highs, amid elevated mortgage lending growth
- Mortgage debt vulnerabilities amplified by impact of higher household costs on debt servicing capacity

House price and mortgage lending growth, and construction price expectations
Jan. 2001-Apr. 2022, left-hand scale: index, right-hand scale: percentages



Sources: Eurostat and ECB calculations.

Monthly income spent on energy and food
Q1 2022, left-hand scale: percentages, right-hand scale: €)

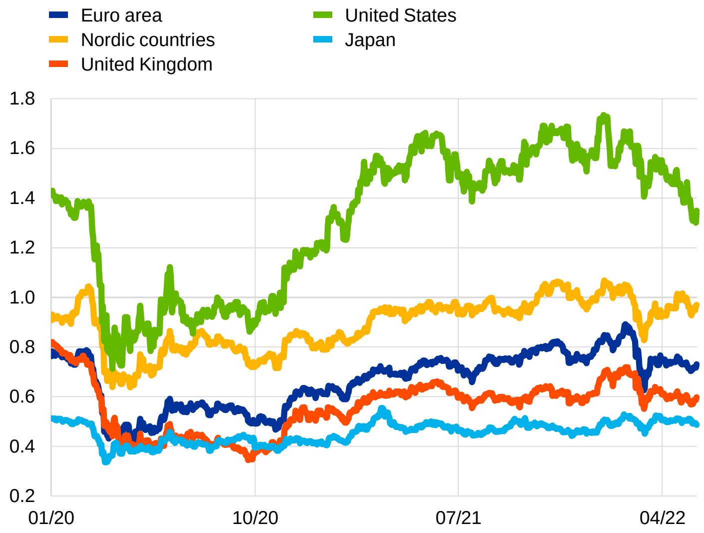


Sources: Eurostat, ECB (Consumer Expectations Survey) and ECB calculations.

Banks' profitability prospects weaken again as asset quality concerns resurface

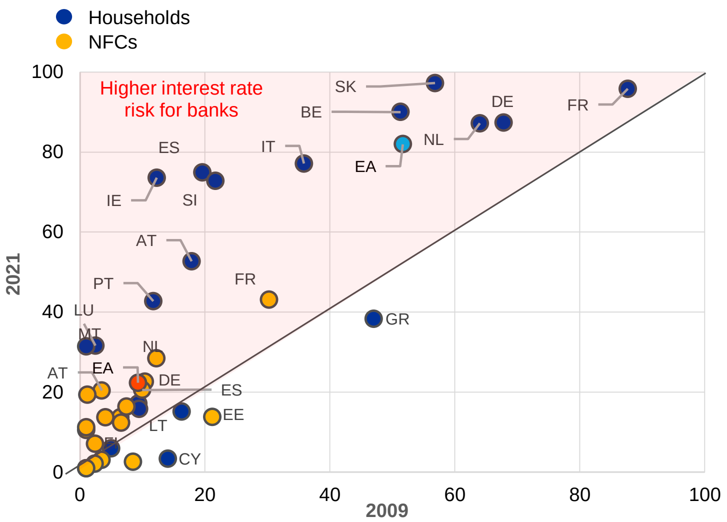
- Bank valuation and profitability projections for 2022 revised down as credit risks rise after invasion
- Rising interest rates should support banks in near term. In medium term, benefits are less clear-cut given banks' increased interest rate risk

Price-to-book ratios of global listed banks
1 Jan. 2020-17 May 2022, ratio



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

Fixed-rate lending to euro area households and firms
2009, 2021, percentages of total new lending

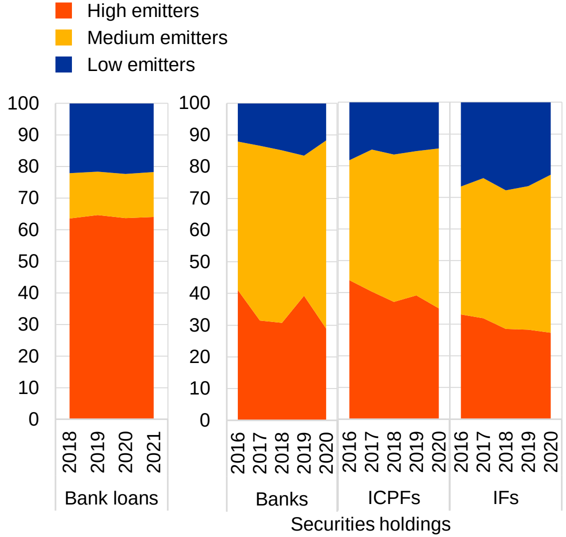


Sources: ECB and ECB calculations.

Financial institutions need to step-up transition to a greener economy

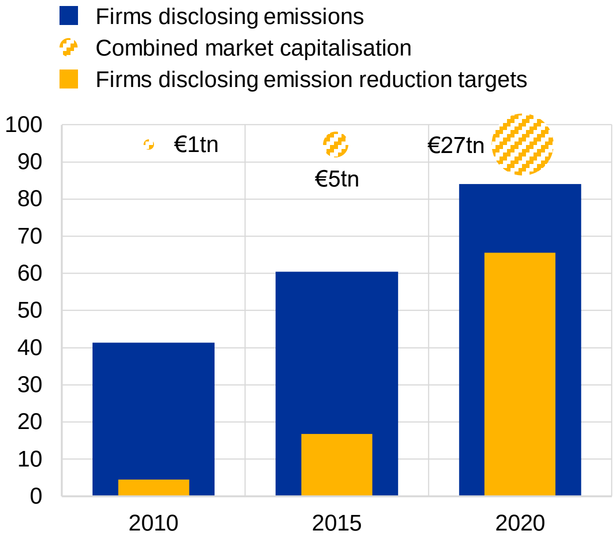
- Banks and non-banks alike need to decrease the carbon footprint of their portfolios.
- Green financial markets continue to deepen, but greenwashing risks warrant monitoring

Euro area banks' credit exposures to, and securities holdings of, high and low emitters
2018-21, 2016-20, percentages of total exposures and securities holdings



Sources: Urgentem, ECB (AnaCredit), Bureau van Dijk – Orbis database and ECB calculations.

Disclosure of NFC greenhouse gas (GHG) emission data by type of emitter
2010-20, share of listed NFCs disclosing GHG emissions and emission-reduction targets; share of audited disclosures

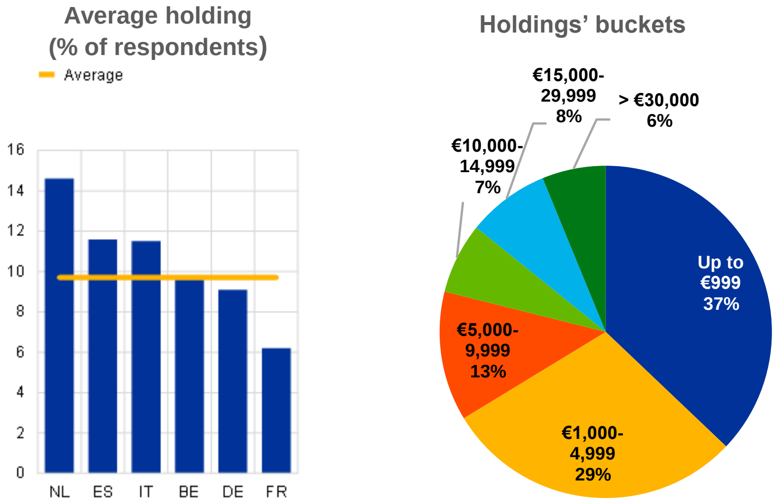


Sources: Urgentem, Refinitiv and ECB calculations.

Re-assessing financial stability risks from (unbacked) crypto-assets

- Innovations and the rising involvement of institutional investors have increased the interconnectedness of crypto markets with the wider financial system
- Risks could be amplified by the use of leverage and availability of crypto-based derivatives

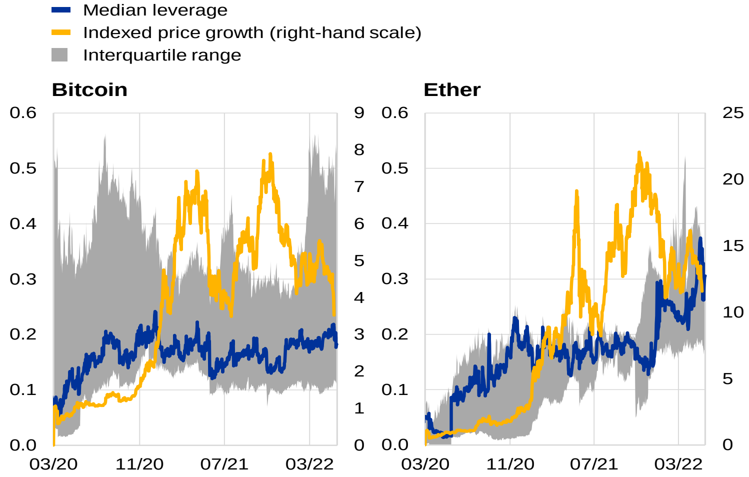
Retail holdings of crypto-assets in selected euro area countries
November 2021



Sources: ECB Consumer Expectation Survey (CES).

Note: Experimental CES questions regarding crypto-assets

Leverage estimates and indexed price growth of Bitcoin and Ether
May 2020- May 2022, Index 15 May 2020=1.



Sources: Glassnode, and ECB calculations.
Note: : Estimated leverage ratio shows (exchanges' open interest) / (coin reserve of the exchange).

Appropriate policy action to address medium-term vulnerabilities

Timing of macroprudential policies is conditioned by the war in Ukraine and economic headwinds

- Benefits of building resilience to address medium-term vulnerabilities
- Timing and pace of action can be adjusted for country-specific economic conditions

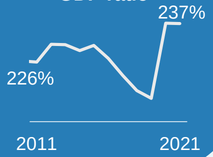
Support medium term resilience through regulatory enhancement

- Augment the framework for banks inter alia by creating macroprudential space and improving the functioning of the buffer framework
- Comprehensively address risks from liquidity mismatch and leverage in the non-bank financial sector as well as those related to margining practices

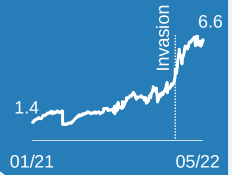
Rising inflation and lower growth put pressure on vulnerable borrowers

- Inflation spikes as outlook deteriorates
- House prices face correction risk
- Rising input costs weigh on corporate margins
- Ukraine war may challenge fiscal positions

Non-financial private and sovereign debt-to-GDP ratio



Euro area one-year inflation swap rate



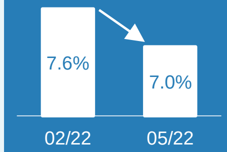
Markets vulnerable as rates adjust to inflation and growth weakens

- Higher-for-longer energy prices
- Corporate spreads widen as risks grow
- Financial fragmentation could emerge
- Interest rate volatility increases

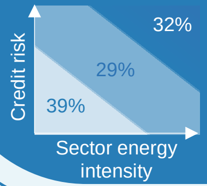
Renewed bank asset quality and profitability concerns

- Re-emerging credit risks
- Possible tightening of credit standards
- Higher bond funding costs
- Rising cyber risks

Analysts' 2022 ROE forecasts



Holdings of NFC bonds



Non-banks face duration risk amid low liquidity and uncertain credit risk outlook

- Valuation losses from rising rates
- Fund outflows may trigger forced sales
- Increase in illiquid holdings of insurers
- Exposures from synthetic leverage

Macroprudential authorities should continue to address building vulnerabilities, adjusting the type of measure, pace and timing for economic conditions in order to avoid procyclicality.

Having macroprudential space and effective buffers using the whole range of macroprudential instruments would help support medium-term resilience.

Risks arising from liquidity mismatches, leverage and margining practices in the non-bank financial sector need to be tackled comprehensively.