



EUROPEAN CENTRAL BANK

EUROSYSTEM

Macroprudential policy in times of monetary policy normalisation and high inflation

Disclaimer: The views expressed are those of the presenter
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Outline

1. **Recap consensus on macroprudential (MapP) and monetary policy (MoP) interaction**
2. **Question: Would loosening MapP allow MoP to tighten more decisively?**
3. **Deriving the answer:** state dependent but currently “no”
 - A) **Revisit objective of macroprudential policy:** resilience via capital preservation
 - B) **Existing vulnerabilities:** high private sector indebtedness
 - C) **Impact of MoP tightening on financial vulnerabilities:** slow
 - D) **Interpretation of risk indicators with high inflation:** decline not necessarily equal to risk reduction
 - E) **The role of capital headroom:** currently ample in most banks/countries
4. **Conclusion:** Still time to further increase resilience in selected countries; in line with ESRB warning of 22 September.

1. Recap “consensus” on macroprudential (MapP) and monetary policy (MoP) interaction

- MoP can have effects on financial stability
- Financial stability necessary condition for price stability (in long run)
- MoP should take financial conditions and MapP stance and effectiveness into account
- Medium term focus of price stability objective would allow some MoP leaning (against the wind)
- Structural MoP leaning is suboptimal, as it often has too blunt effects
- MapP first line of defence against financial imbalances/vulnerabilities
- MoP “last line of defence” (D. Kohn, NY Fed conference, Friday 30.9.22) possibly when MapP inactive, ineffective or unavailable

2. How should MapP react in times of MoP normalisation and supply shock driven high inflation?

Conjecture from MoP/MapP consensus:

“In low interest rate / low inflation environment MapP tightening allows MoP to remain accommodative for longer.” (MaP deals with side effects of MoP)

What about reverse?

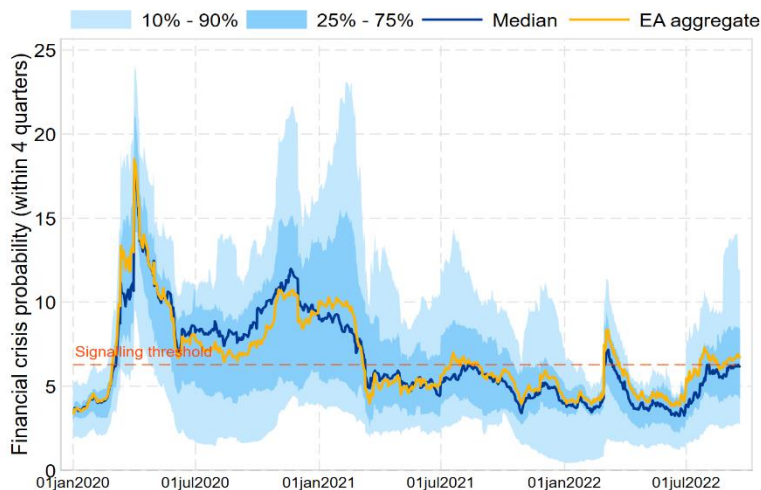
“In higher interest rate / high inflation environment MapP releases allow MoP to tighten more decisively” ? (MapP could prevent possible financial amplification effects should capital requirements or lending standards become binding as consequence of MoP tightening)

Answer: It depends and at current juncture: NO

Macrofinancial environment: late in the cycle => release of MapP?

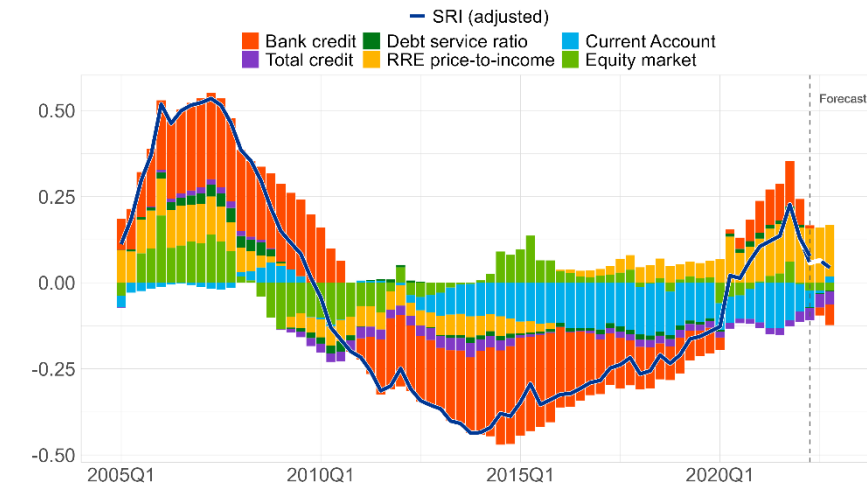
- Short term risks increasing with financial crisis probabilities breaching signalling threshold for some countries; increasing country dispersion:
- Systemic Risk Indicator (SRI) declined in the last two quarters (equity market and credit)
- Historical patterns show that the SRI tends to peak 4-6 quarters ahead of financial crises

1-year-ahead financial crisis probability



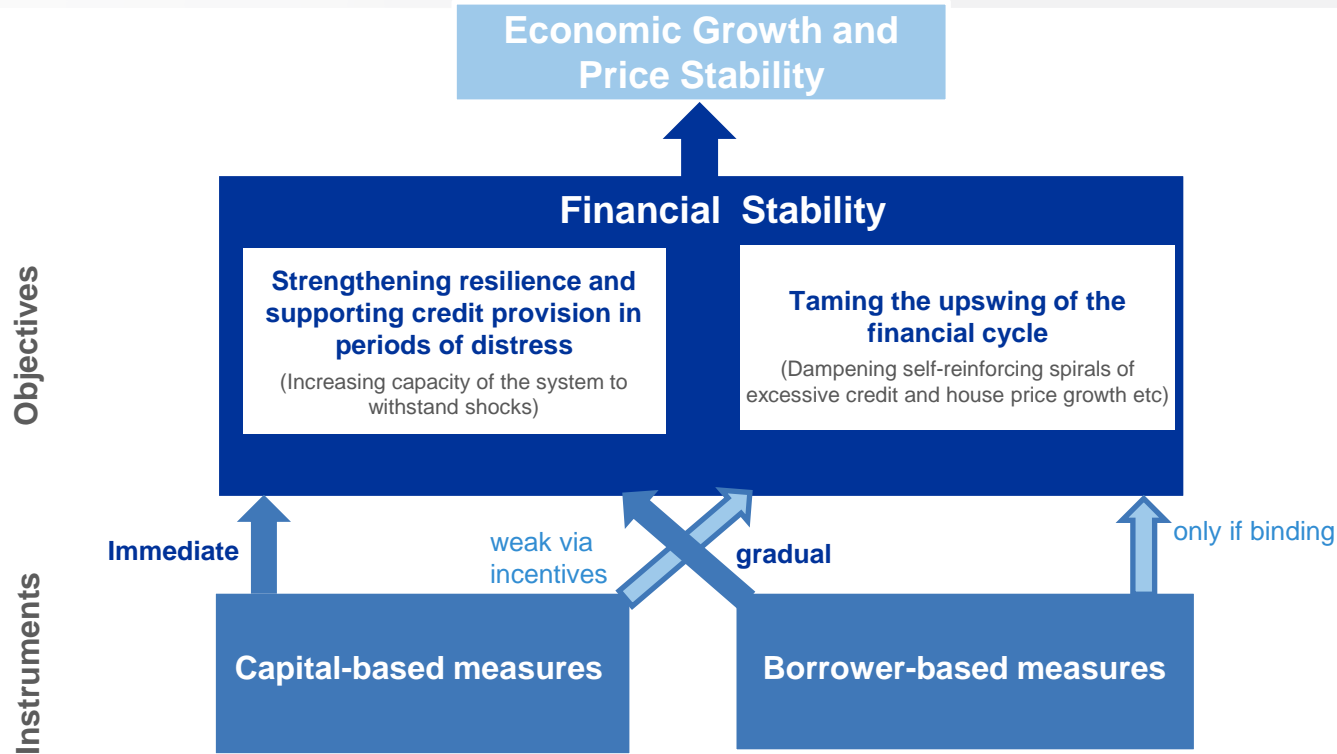
Sources: ECB and ECB calculations

Euro area SRI decomposition and forecast



Last observation date (excluding forecast): 2022 Q2

3A) Revisiting the objectives of macroprudential policy: Focus on resilience



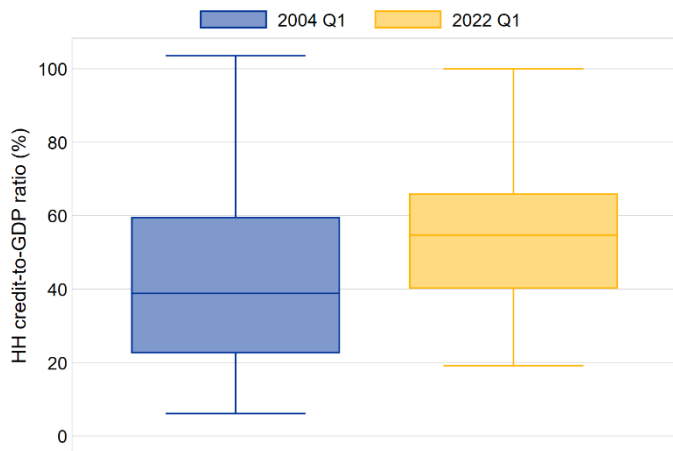
3A) Revisiting the objectives of macroprudential policy: Focus on resilience

- Resilience objective argues **for late(r) release when losses start materialising** (also evidence that releases expected to be lasting can be effective in supporting lending to constrained banks; see Couaillier et al, ECB WP No 2720, Sept. 2022; but banks on average not constrained now)
- Resilience objective stresses importance of **preserving capital** in the banks (relevant today: Market prediction of 70% average payout ratio in Europe 22/23)

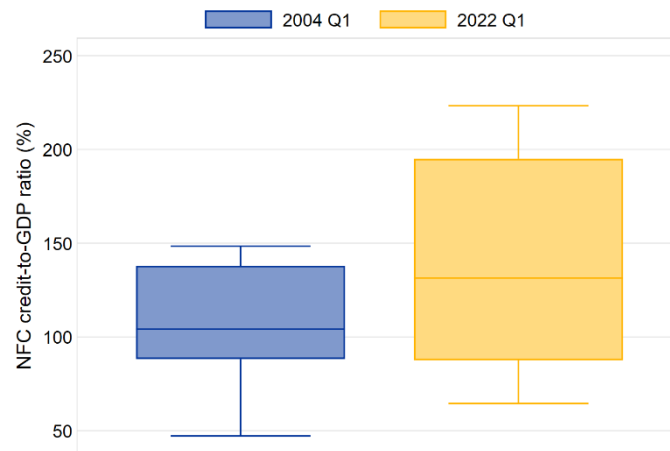
3B) Higher household and firm indebtedness represent stock vulnerabilities in a number of euro area countries

- Several countries experienced rise in their HH and/or NFC debt ratios in the last two decades.
- Increases sufficiently widespread to be seen in euro area averages

Household credit-to-GDP ratio across countries



NFC credit-to-GDP ratio across countries



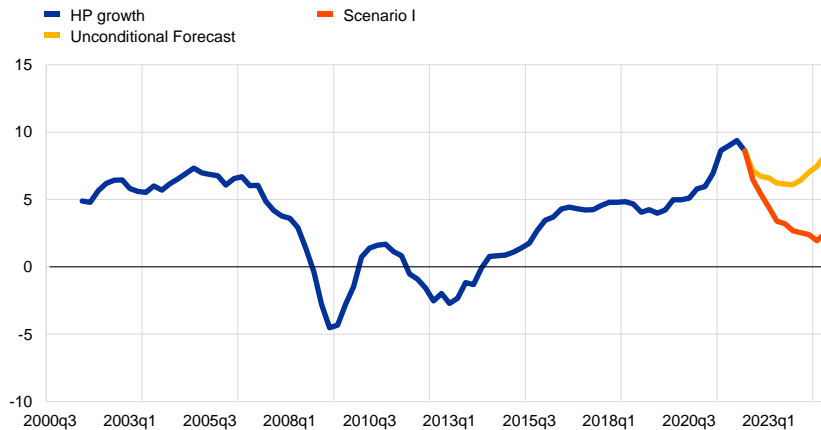
Sources: QSA, ECB calculations.

Notes: NFC credit includes loans, debt securities, trade credit, and pension liabilities. Coloured ranges represent the interquartile range. Whiskers represent upper and lower adjacent values.

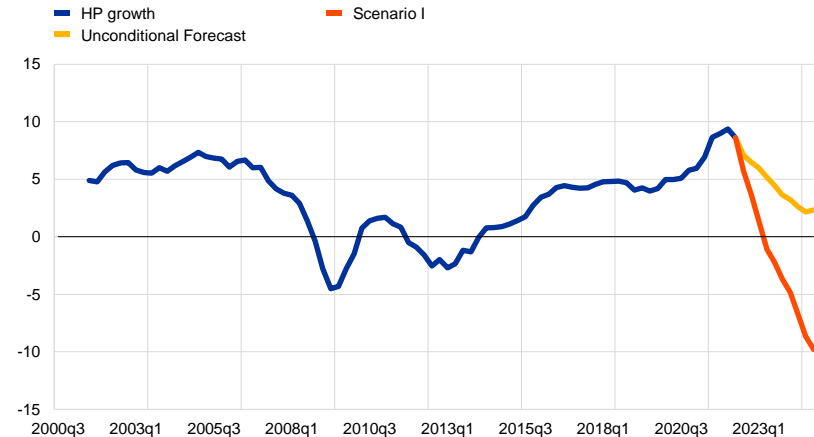
3C) Forecast of house price growth conditional to different monetary policy paths - and model specification

- Real house prices growth is expected to moderate under both policy scenarios considered (3x0.75 scenario I and 1x0.75 in unconditional forecast).
- When taking into account CPI inflation separately, price growth turns negative under the severe tightening scenario and after about 1 year in the forecast horizon

Nominal house price growth – model without CPI



Nominal house price growth – model with CPI



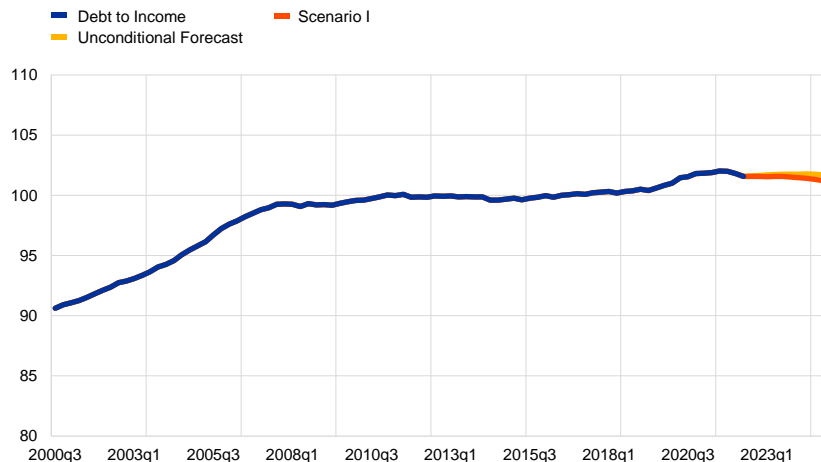
Note: Conditional and unconditional forecast based on housing BVAR of order 2...

Source: De Nora, Lo Duca, Rusnak, mimeo 2022

3C) RRE-related indebtedness expected to remain at high levels in the near term

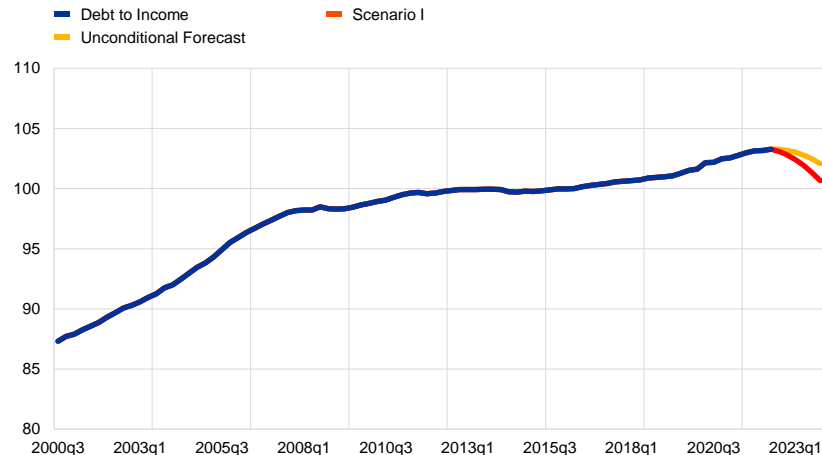
- Mortgage debt to income ratio are expected to decline slowly only in explicit inflation specification, otherwise not at all
- Income declining less than mortgage debt in CPI model

Debt to income ratio – model without CPI



Note: Conditional and unconditional forecast based on housing BVAR of order 2.

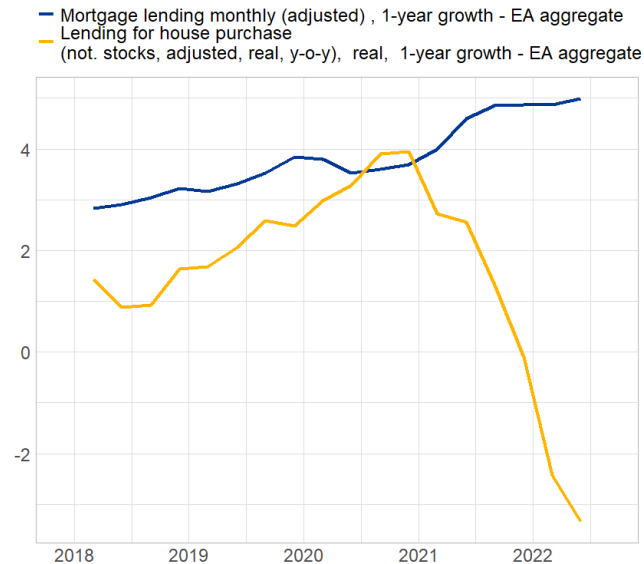
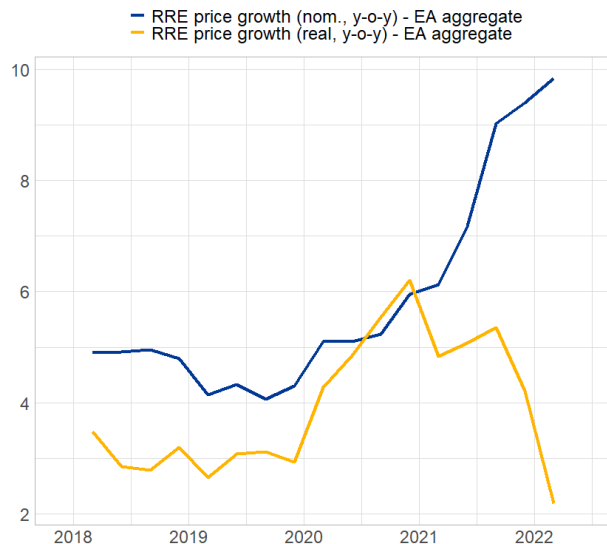
Debt to income ratio – model with CPI



3D) Nominal and real RRE prices and lending in euro area

- RRE nominal prices in Q1 2022 were very strong – but scoreboard indicators (not shown) based on real indicators declined substantially due to inflation
- From risk perspective, deflating would be most appropriate at rate of nominal disposable income growth; interest is in debt service capacity

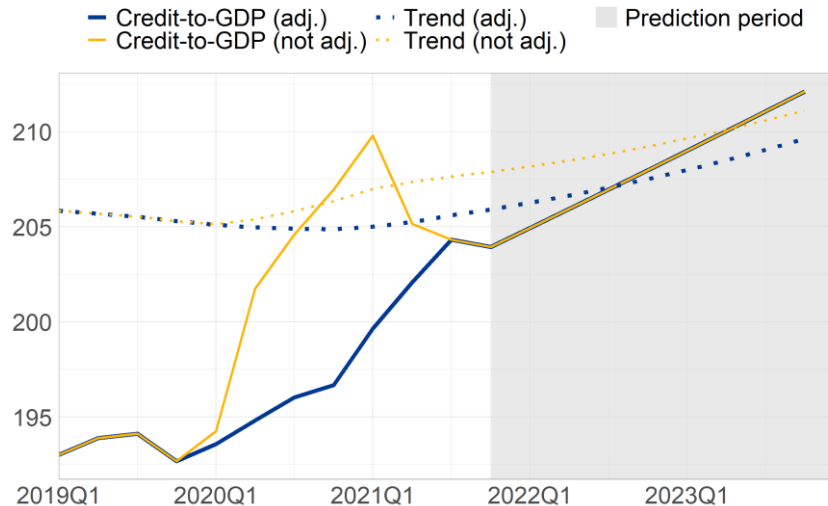
RRE prices and mortgage lending nominal and real
(percentage)



3D) Cyclical risk measures not adjusted for covid shock will lead to biased risk signals even after full recovery of nominal GDP

- Even after the GDP recovers and adjusted and unadjusted ratios coincide, unadjusted credit indicators will be biased due to the persistence of transformations used (trend, lagged value)
- The impact of GDP-adjustment will be relevant even in the coming years; unadjusted credit gaps and CCI levels will be lower than adjusted ones (0.25 CCI => 80bps CCyB)

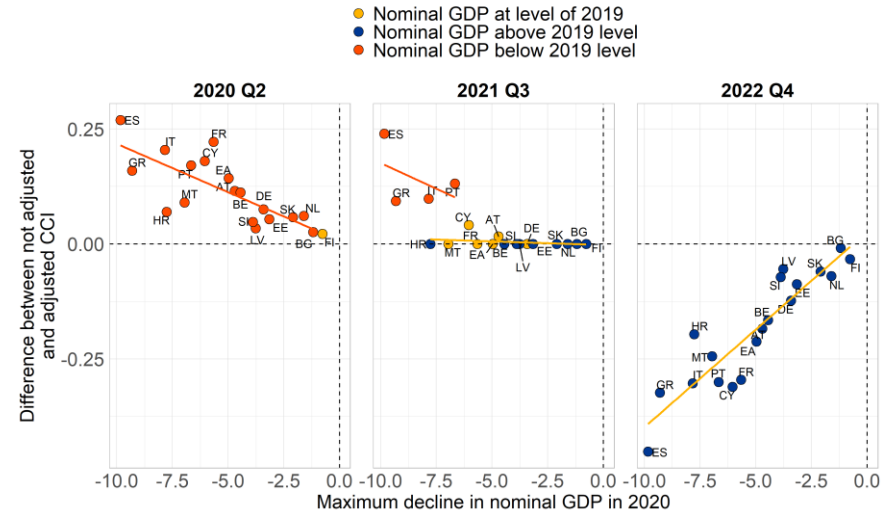
Euro area Credit-to-GDP ratio and estimated trend
(credit assumed to grow 0.5pp per quarter more than NGDP)



Sources: ECB and ECB calculations.

Note: Nominal GDP forecast based on March 2022 ECB staff projections, credit assumed to grow 0.5pp faster than nominal GDP each quarter. For CCI forecasts, components other than bank credit to GDP are kept constant.

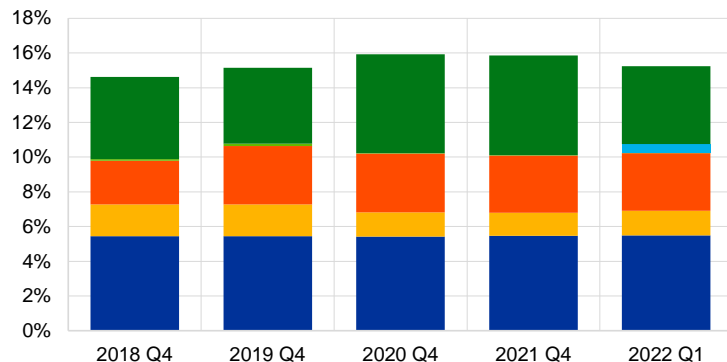
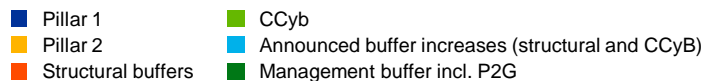
Difference of non-adjusted and adjusted CCI and the decline of nominal GDP in 2020 across countries



3E) Banks have ample capital headroom and so far increasing profitability

- Ample capital headroom suggests that **banking conditions are still conducive to increasing macroprudential capital buffers** without inducing credit supply constraints
- **Growth in net interest income (NII)** supports bank profitability while the deterioration in the macroeconomic outlook poses downside risks

CET1 ratio in the EA Percentages of RWA

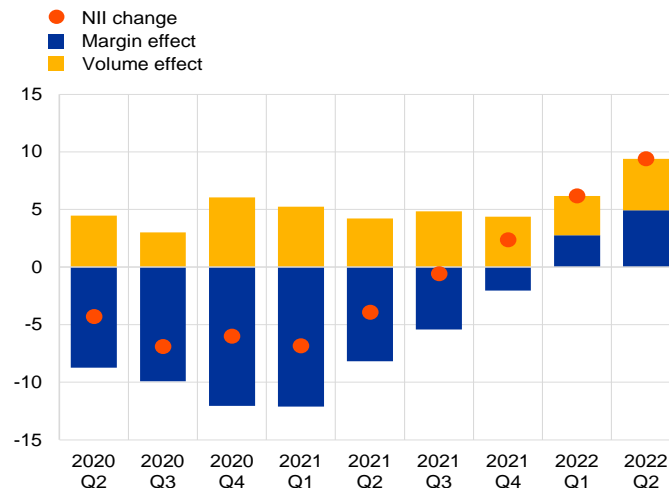


Source: ECB and ECB calculations.

Note: Based on an unbalanced sample of 3052 SSM banks.

Announced buffer increases are computed based on CCyB, SyRB, sSyRB, and O-SII/G-SII rate increases announced and notified by national authorities and applied to current end relevant exposures.

Decomposition of changes in euro area banks' NII Percentages, p.p. contributions



Sources: Bloomberg and ECB calculations.

4. Conclusion: Would loosening MapP allow MoP to tighten more decisively in high inflation environment?

In general depends on A-E. Currently the answer is “no”

A) Revisit objectives of macroprudential policy: resilience via capital preservation most important; distributions might be large despite financial cycle turning

B) Existing vulnerabilities: high private sector indebtedness; inflation argument partly misleading

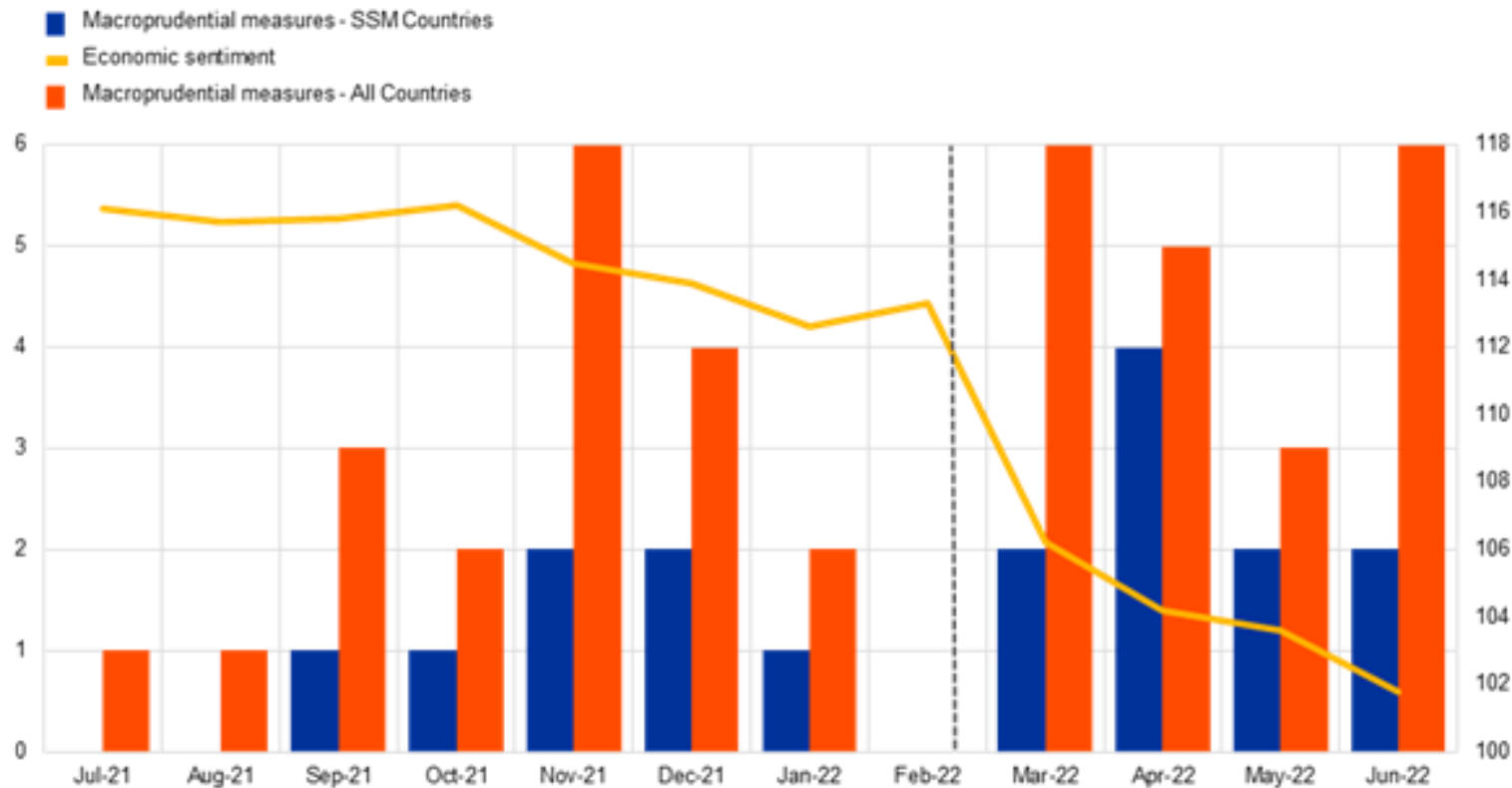
C) Impact of MoP tightening on financial vulnerabilities: slow; stock vulnerabilities take time to diminish; also effect on “denominators”; prices fall but valuations less

D) Interpretation of risk indicators with high inflation: deflated by CPI not necessarily equal to risk reduction; growth of sustainable rate of disposable income or core inflation; GDP declines in 2020 another pitfall

E) The role of capital headroom: currently ample in most EA banks; tightening possible, release ineffective

Still time to further increase resilience in selected countries; in line with ESRB warning of 22 September.

Macroprudential tightening since Feb. 2022....view seems to be shared more broadly...despite (or because of) deteriorating economic sentiment



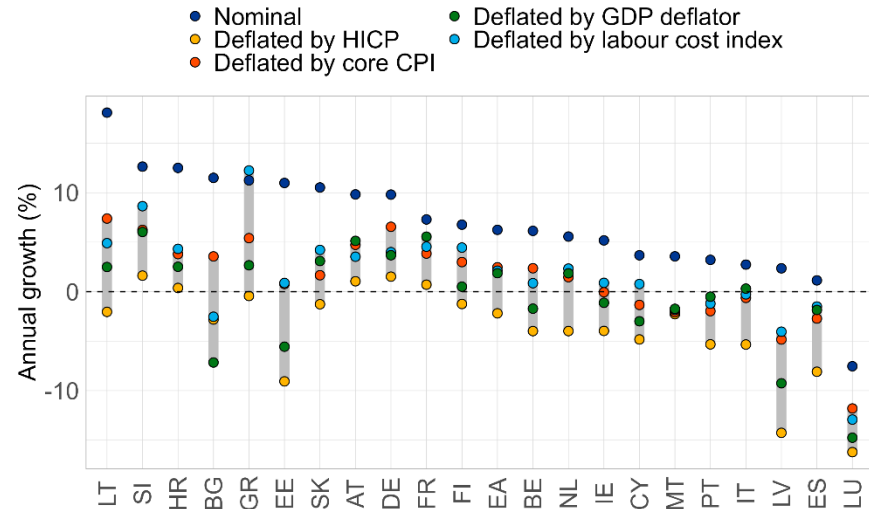
Background slides

3D) Lending developments – nominal and real

- Huge difference between real lending growth rates computed with HICP (mainly negative now) or labour cost index or core CPI (still robust for several countries)

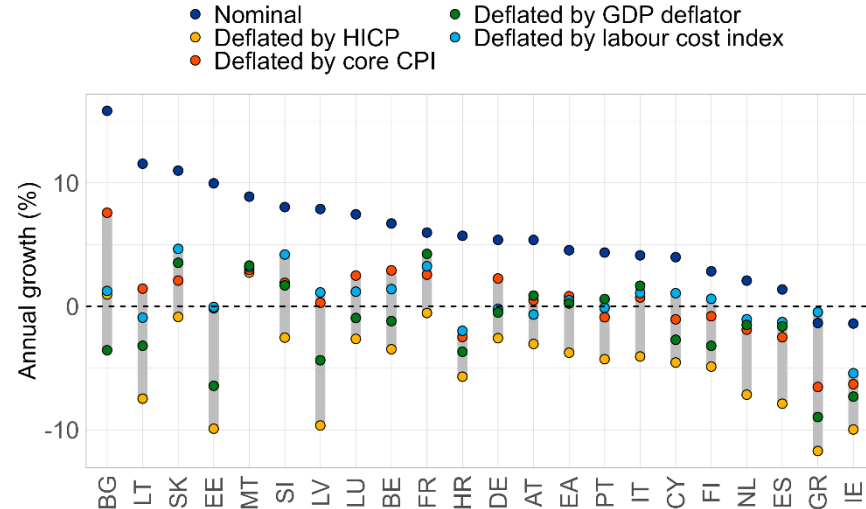
Annual NFC lending growth

(2022 Q2, nominal and real - various deflators)



Annual HH lending growth

(2022 Q2, nominal and real - various deflators)

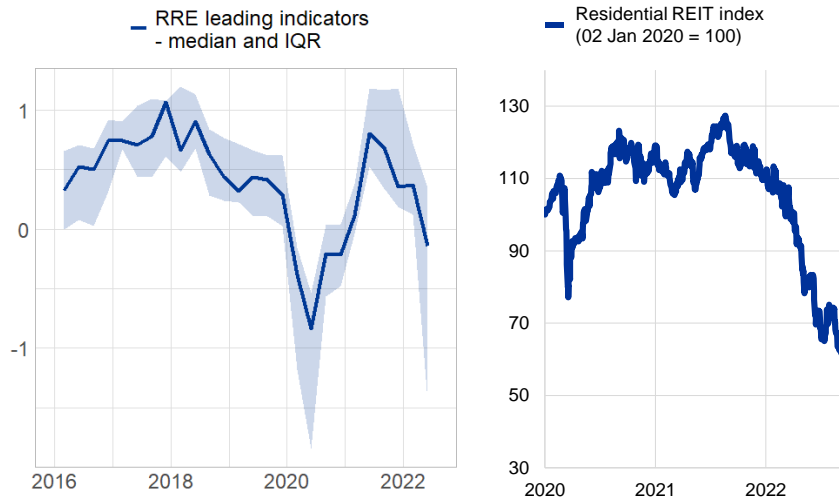


Sources: ECB and ECB calculations

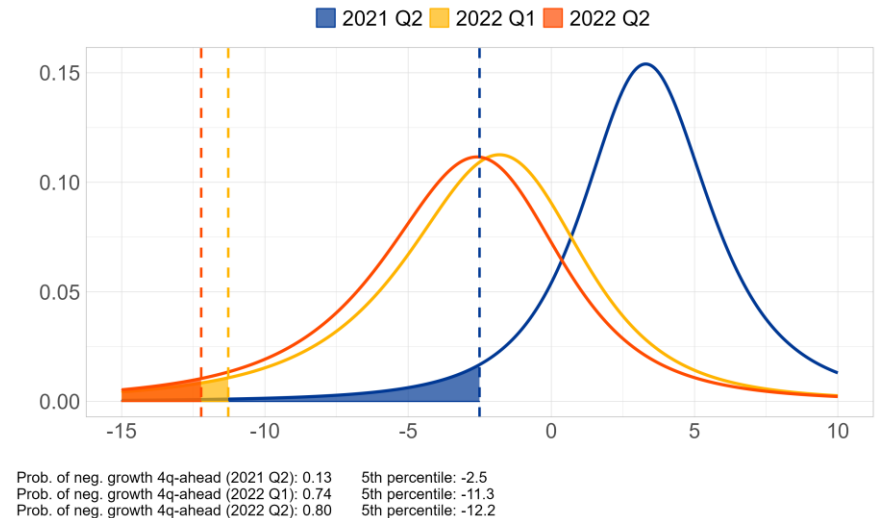
The RRE cycle appears to be at a turning point

- Various leading indicators of the RRE market point to a cooling down
- RRE prices-at-risk model shows an increase in the risk of a downward correction in house prices

RRE leading indicators (LHS: standardized value; RHS: index)



1-year-ahead euro area RRE-at-risk



Sources: ECB and ECB calculations

Note: Left panel: Shaded area denotes interquartile range of various leading indicators (standardized). Leading indicators include 1) 2) BLS actual and expected lending standards on house purchase loans (inverted) 3) 4) BLS actual and expected demand for house purchase loans 5) BLS housing market prospects 6) consumer confidence 7) services confidence 8) PMI composite 9) PMI residential construction 10) economic sentiment 11) unemployment expectations (inverted) 12) construction survey price expectations 13) intention to buy a house

Empirical approach - Housing BVAR model

- **Model:** Bayesian VAR, Euro Area aggregate, 2 lags (Normal-Wishart prior, optimized hyperparameters), sample 2000 Q1 – 2021 Q3, log-levels (except interest rates)

- **Endogenous Variables:**

1. Real RRE prices
2. Real lending for house purchase
3. Lending rate on new loans for house purchase
4. Shadow rate (average of Wu and Krippner estimates*)
5. Real residential investment
6. Real disposable income



Derived RRE vulnerability indicators:

- Price-to-income ratio
- Debt-to-income ratio

- **Identification of structural shocks:**

	Housing Supply shock	Housing Preference shock	Income shock	Mortgage Supply shock	Monetary Policy shock	Inflation/AS
Residential Investment	-	0		0	0	
House Prices	+	+		+	+	
Mortgage Loans		+		+	+	
Lending Rate		+		-	-	
Shadow rate	0	0	0	0	-	
Disposable Income	0	0	+	0	0	-
CPI			+		0	+

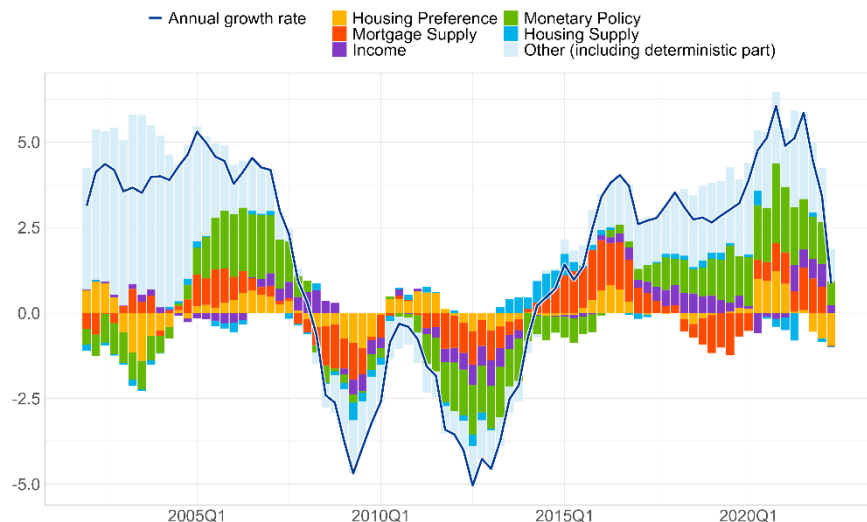
Source: ECB

Note: shocks are imposed only on impact

BVAR model (De Nora, Lo Duca, Rusnak, mimeo 2022) to identify drivers of house price (RRE) growth – Scenario for model simulation of vulnerabilities

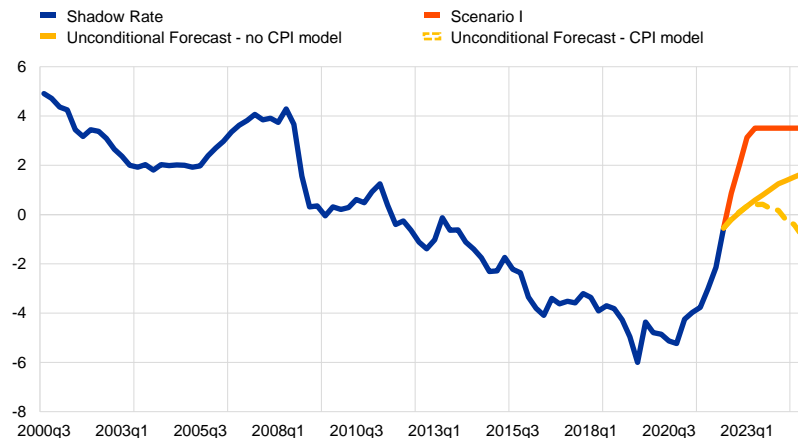
- Monetary policy, mortgage supply, housing preferences and supply and income shocks were drivers of real RRE price growth while vulnerabilities were building up.
- Some simulations under different policy scenarios (severe tightening: 3 increases by +75bps each beyond those already implemented; unconditional forecasts with real model and real model including inflation rate)

Historical decomposition annual real RRE price growth



Note: Left: Contributions as a share of identified shocks (without deterministic component or numerical discrepancy).

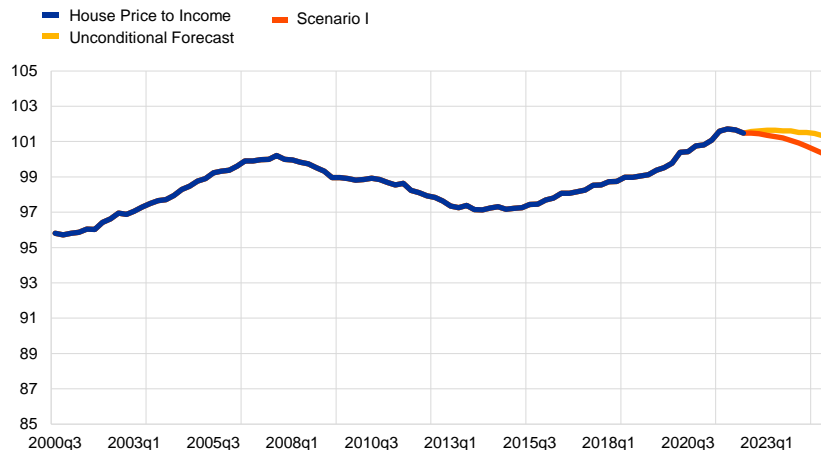
Shadow rate paths



3C) RRE price to income ratio predicted to decline slowly in strong tightening scenario – more so with inflation explicitly considered

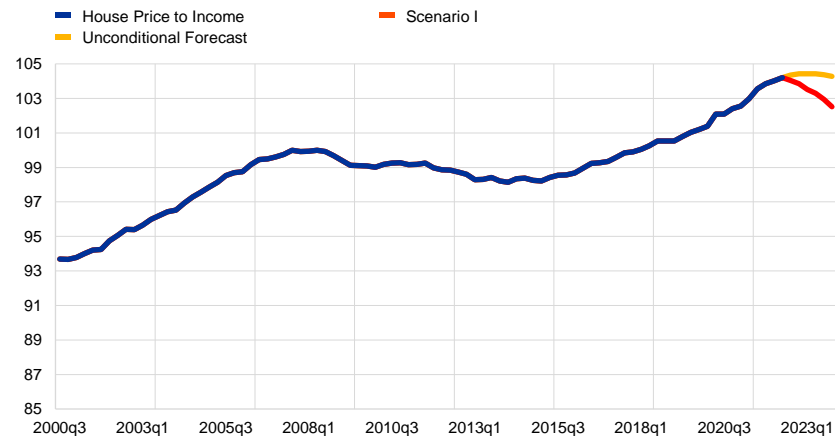
- House price to income ratio is set to remain at high levels in historical comparison
- Only a very severe monetary tightening would reduce price to income, (prices declining more than income)

Price to income ratio – model without CPI



Note: Conditional and unconditional forecast based on housing BVAR of order 2. Conditions for the conditional forecasts are assumed to be driven by monetary policy shock.

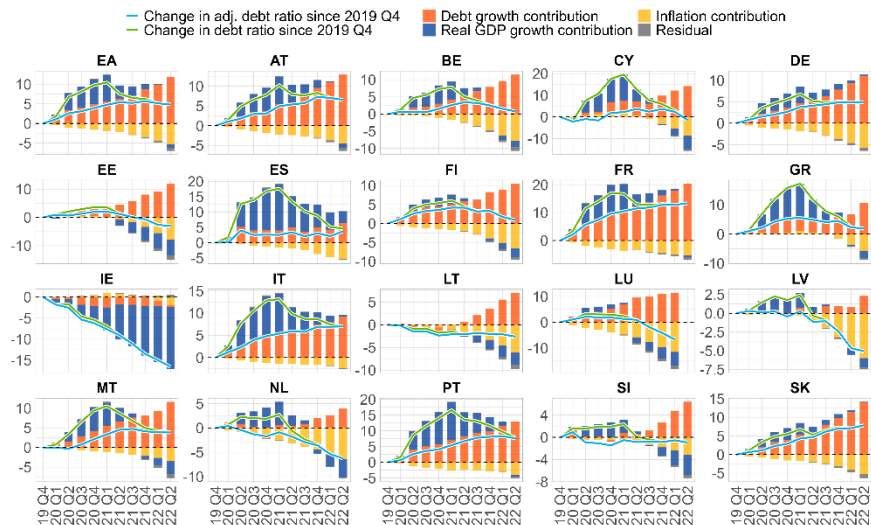
Price to income ratio – model with CPI



Indebtedness

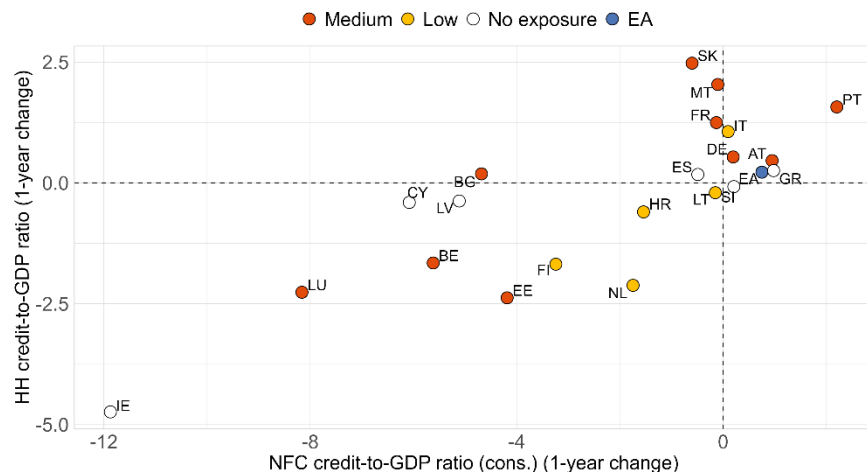
- **Strong nominal GDP developments** driven by increase in inflation counteract private debt accumulation resulting in stable or declining bank-credit-to-GDP ratio
- Increases in indebtedness driven mainly by HHs in the last 4 quarters

Change in bank credit to GDP ratio since 2019Q4 and its drivers (percentage points, not. stock, adj.)



Sources: ECB and ECB calculations
Note: Inflation contribution is based on the GDP deflator.

1-year change in NFC and HH indebtedness (Percentage points)



Last observation:
NFC credit-to-GDP ratio (cons.) (1-year change) - 2022 Q1
HH credit-to-GDP ratio (1-year change) - 2022 Q1