European Stability Mechanism

ESM APPROACH: A NEW ANALYTICAL TOOL TO MONITOR BANKS' ASSET QUALITY

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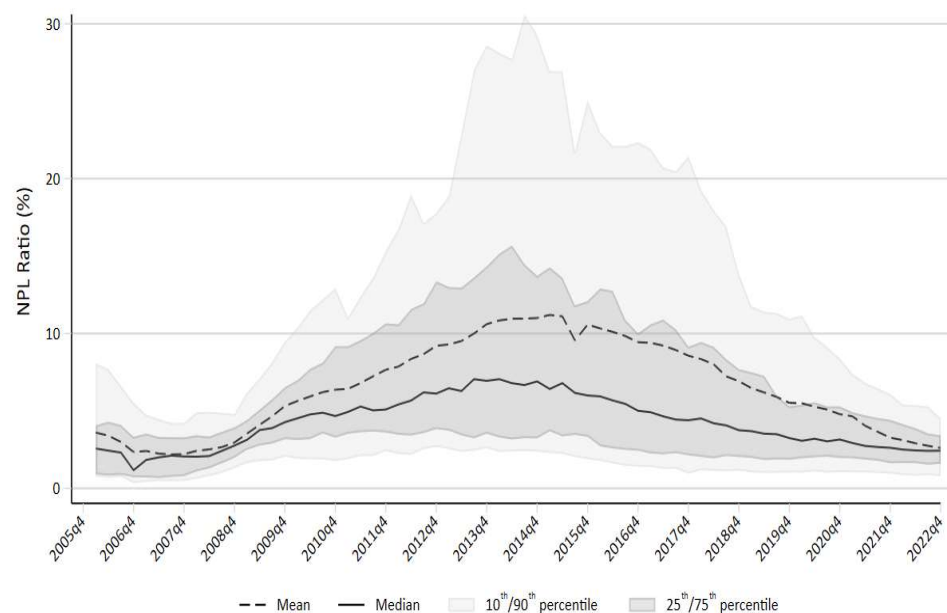
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HISTORICAL NPL DEVELOPMENTS IN THE EURO AREA

Source: ESM calculations based on Fitch Connect data for a sample of 101 euro area banks

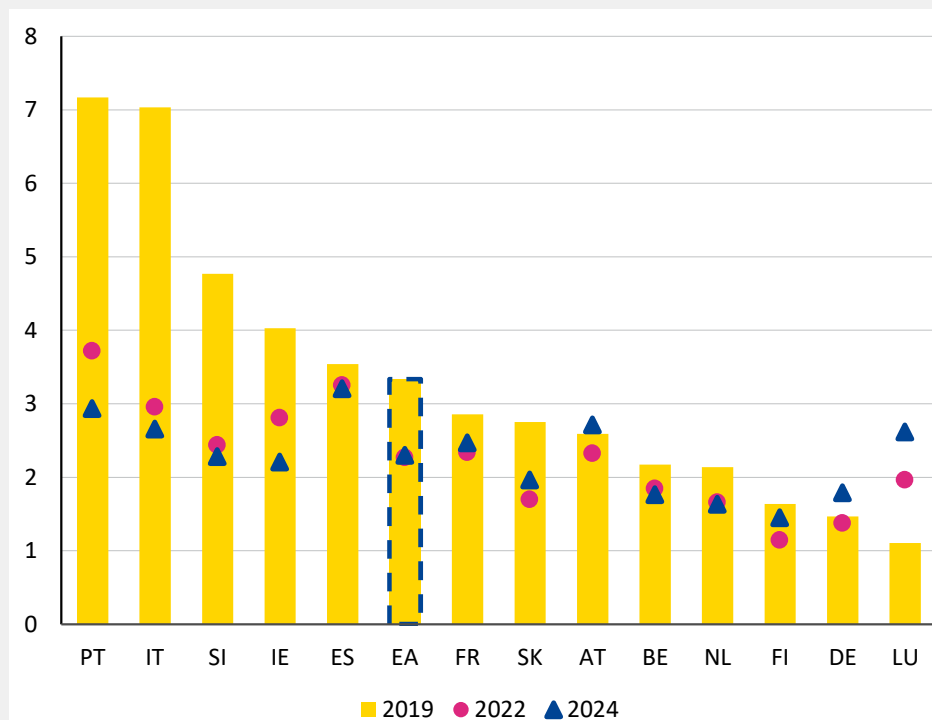**Historically large heterogeneity** across euro area banks' asset quality

! **Peak at €1tn.** Gross Non-Performing Loans (NPLs) reaching 8% of total loans after Great Financial Crisis and European sovereign debt crisis

Now historical low and limited heterogeneity. In 2024, average NPL ratio at 2.3% thanks to regulatory interventions and significant balance sheet clean-ups

RECENT EURO AREA BANKS' ASSET QUALITY TRENDS

Diverging trends across euro area member states. Recent NPL decreases in high-level countries and increases in countries with low-level of NPLs pre-pandemic

Sectoral concentration. Recent increases concentrated in some vulnerable sectors of the corporate book, *e.g.* commercial real estate

Source: ESM calculations based on European Banking Authority Risk Dashboard

MONITORING BANKS' ASSET QUALITY: METHODOLOGY

Enhancing Crisis Preparedness

Focus on evolution of **bank asset quality** during crisis

New tool to assess forward-looking development of NPLs

(*Asset-Quality-at-Risk*)

Simplified version used in **Early Warning System** and **crisis simulation** exercises

Methodology in line with **stress testing** literature and **Growth-at-Risk** approach

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MONITORING BANKS' ASSET QUALITY: METHODOLOGY

Sample

101 euro area banks under Single Supervisory Mechanism

Data sources

Quarterly data (2005-2022) from Fitch Connect (bank-level data) and Haver (macro-financial data)

Two-step estimation procedure

- **Step 1 (dynamic panel quantile regression)**
  NPL ratio linked to its macro-financial drivers (*GDP, unemployment, inflation, residential house prices, 10-year sovereign yield*) and bank-specific characteristics (*size, Return-on-Equity, loan growth, coverage ratio, leverage ratio*)

- **Step 2 (probability density function estimation)**
  Estimate complete distribution of future NPL ratios conditional on step-1 state of macro-financial environment

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ASSET-QUALITY-AT-RISK FRAMEWORK: EXAMPLES

Bank with sizable exposure to vulnerable sectors
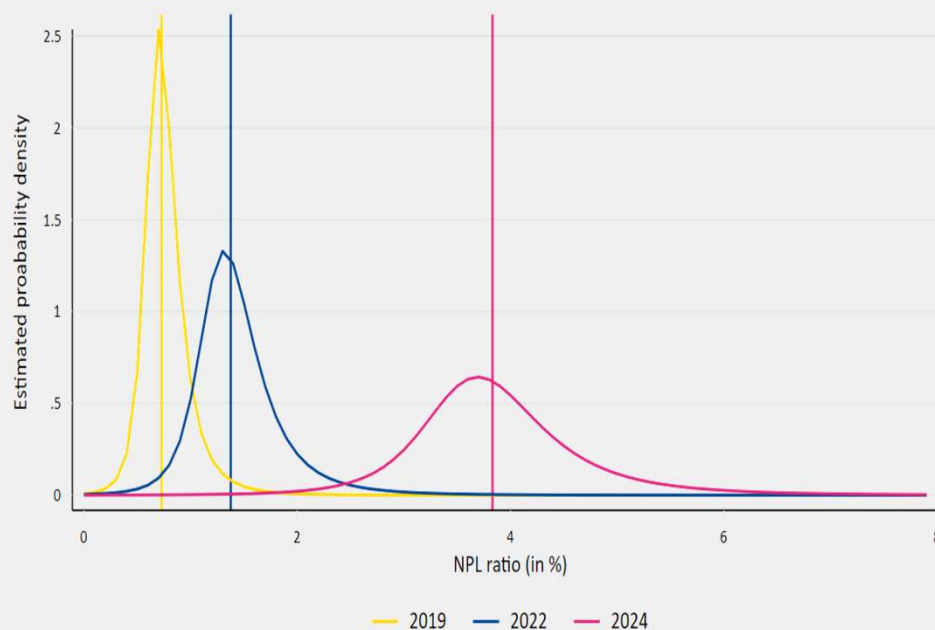
Source: ESM calculations
Notes: The vertical lines represent the NPL ratios reported by the bank in the three considered periods, while the bell curves are the estimated probability density functions, indicating the likelihood of different NPL ratios in the next quarter.

Asset quality deterioration over time.
NPL ratio from 0.7% in 2019 to 3.8% in 2024 (vertical life shifting rightwards)

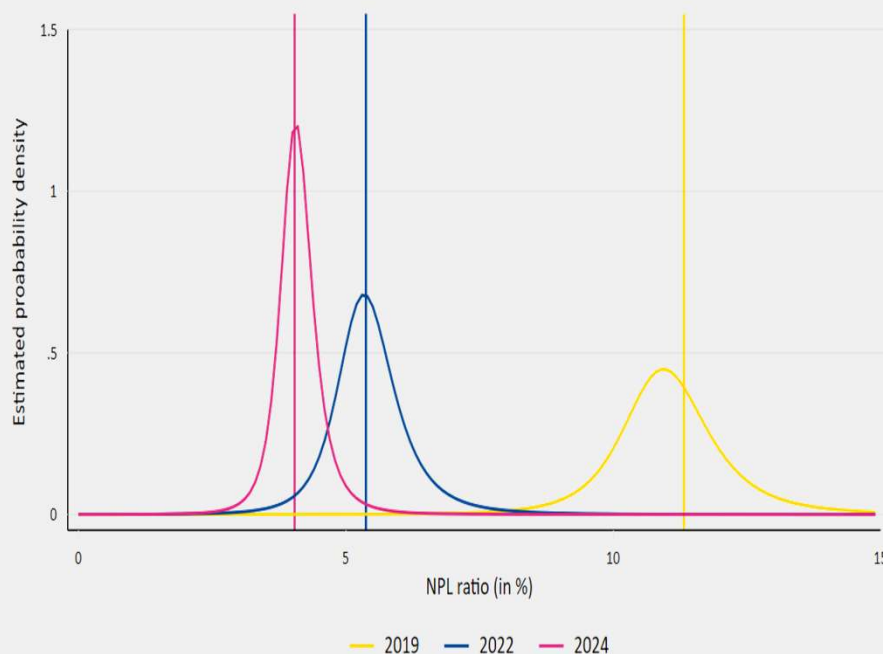**NPL increases more likely in short-term.**
Probability density curve also shifting to the right

Built up of risk over time.
Growing uncertainty of the estimates

ASSET-QUALITY-AT-RISK FRAMEWORK: EXAMPLES

Bank with significant balance sheet clean-up

Source: ESM calculations
Notes: The vertical lines represent the NPL ratios reported by the bank in the three considered periods, while the bell curves are the estimated probability density functions, indicating the likelihood of different NPL ratios in the next quarter.

Asset quality improving over time. NPL ratio from 11.3% in 2019 to 4% in 2024 (vertical line shifting to the left)

NPL decreases more likely in short-term. Probability density curve also shifting to the left

Uncertainty of estimate reduce over time. Forecasted NPL ratio more predictable

REFLECTIONS ON POSSIBLE ENHANCEMENTS OF THE TOOL

More **sectoral dimension** (mortgage vs small-medium enterprises NPLs)

Aggregation at country level for systemic perspective

Methodology applied to **other banks' metrics** with similar characteristics

SOME USEFUL REFERENCES

- Predicting trouble: a new analytical tool to monitor bank asset quality (ESM blog, 2025)

- Asset-Quality-at-Risk (ESM Working Paper Series, 2025 No.69)

- Completing NPL reduction in Europe (ESM Discussion Paper Series/6, 2019)

- Non-performing loans (NPLs): a critical stock-take (EUI-FSB online seminar, 2020)

- Securitisation from a financial stability perspective (Presentation to the PCS Symposium on Securitisation, 2024)

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