Discussion of:
The Optimal Supply of Central Bank Reserves under Uncertainty

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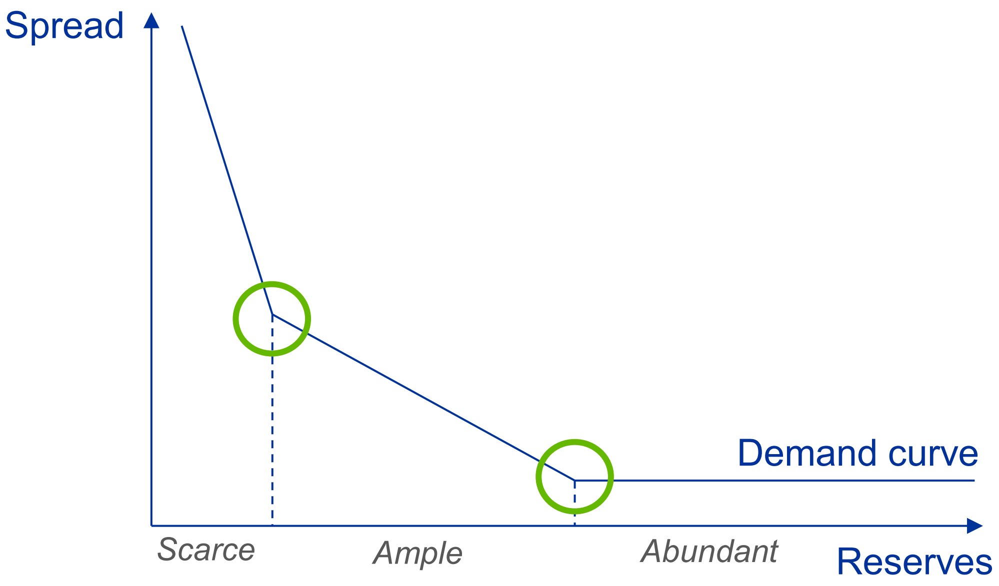
The paper in a nutshell

- **In a floor system, you want a level of reserves `high enough' to ensure interest rate control**
  - From 2024 ECB OFR: effectiveness
- **In parallel, target level of reserves may be influenced by considerations other than interest rate control**
  - From 2024 ECB OFR: robustness, flexibility, efficiency, open market economy, secondary objectives
  - In other words, central bank may target `**low enough**' reserves
- **But uncertainty changes the game: even if you target low reserves, the optimal supply of reserves may be higher**
  - Non-linearity of demand curve is key: depending on shape of demand, not all uncertainties are alike
- **This paper delivers all of the above, and in closed form!**
  - Key model features inspired by empirical regularities

$$\mathscr{L} = \min_X \frac{1}{2}\mathbb{E}\left[(S-\hat{S})^2 + \lambda(X-\hat{X})^2\right]$$



Three comments from the perspective of bank-based transmission in euro area

- ❑ Reserve supply matters from a monetary policy perspective beyond interest rate control

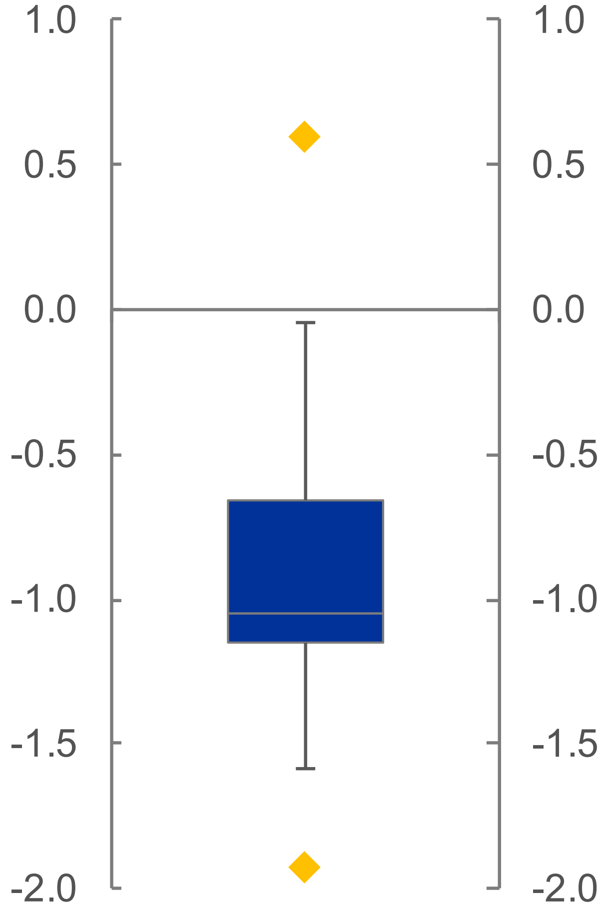
- ❑ Distinction between normal and stress times and the separation principle

- ❑ Empirical check: have large reserves available to banks weakened transmission of hikes?

Reserve supply matters for bank intermediation beyond interest rate control

Decline in reserves and lending behaviour

(%, for 1pp decline in excess liquidity/assets)



Sources: Acharya, Chauhan, Rajan, Steffen (2023 NBER WP), Altavilla, Rostagno, Schumacher (2025 ECB WP), Altavilla, Boucinha, Burlon, Giannetti, Schumacher (2025 JFE), Burlon, Ferrari, Kho,Tushteva (2025 ECB WP), Fricke, Greppmair, Paludkiewicz (2024 BuBa WP), Kandrac, Schlusche (2021 JMCB), Rodnyansky, Darmouni (2017 RFS), Diamond, Jiang Ma (2024 JFE), Kumhof, Salgado-Moreno (2024 BoE WP) and ECB calculations. Notes: Distribution of expected fall in lending to firms attributable to a 1 pp decline in the ratio of excess liquidity over assets.

- Paper suggests that cheap enough lending facilities cap spreads and reduce impact of uncertainty (w/o stigma), but...
- Central bank reserves matter for intermediation capacity (**quantity**)
  - Reserve availability (Altavilla Rostagno Schumacher 2025)
- The way in which central bank reserves are supplied matters (**quality**)
  - Non-borrowed/credit easing reserves vs borrowed reserves (Altavilla, Rostagno, Schumacher, 2025)
- The **distribution** of liquidity matters
  - Altavilla, Boucinha, Burlon, Giannetti, Schumacher (JFE 2025)

Does the distinction between normal and stress times matter?

- **The ‘separation principle’** **[before the Great Financial Crisis]**
  - Stance considerations and liquidity management should be seen as distinct and pursued with different tools
  - With ‘separation’ doctrine, rates could always be raised to tame inflation, while extraordinary liquidity conditions could be maintained—at any level of the policy rate—to safeguard financial stability.
  - Side effect: weakening potential synergies between policy instruments

- **From ‘separation’ to ‘combination’** **[after the Great Financial Crisis]**
  - Two factors contributed to rethinking the separation principle
    1. Intended policy in the face of persistent disinflation
    2. The state of the banking sector

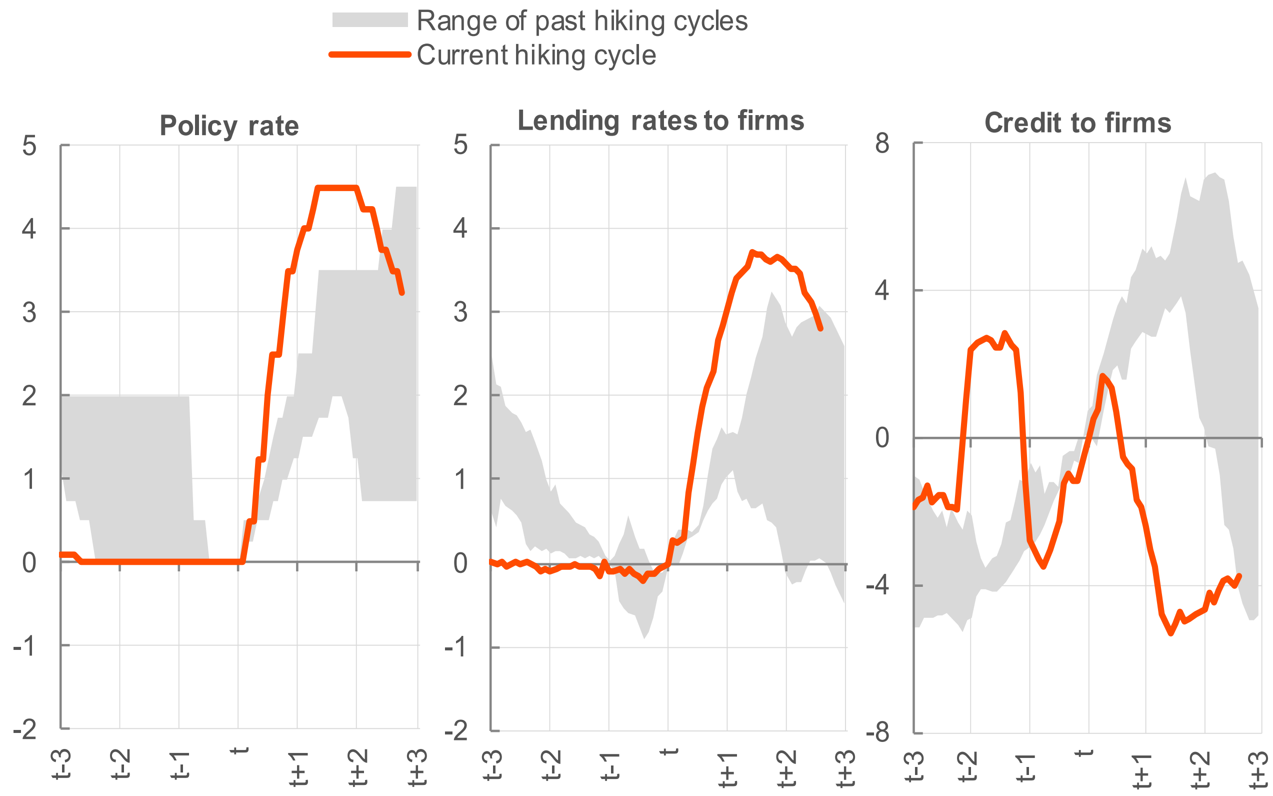
Source: Rostagno M., C. Altavilla, G. Carboni, W. Lemke, R. Motto, A. Saint Guilhem, J. Yiangou (2021) Monetary Policy in Times of Crisis: A Tale of Two Decades of the European Central Bank, *Oxford University Press*

- **Does uncertainty make the case for combination stronger?**

Empirical check: large reserves did not seem to weaken transmission of hikes

Monetary policy transmission across hiking cycles

(x-axis: years; y-axis: cumulative changes in p.p. for rates, credit growth in deviation from the start of the cycle (t) in p.p. for total credit to firms)



Sources: Lane (2024). Notes: The ECB relevant policy rate is the Lombard rate up to December 1998, the MRO up to May 2014 and the DFR thereafter. Total credit are loans and debt securities. MFI loans are adjusted for sales and securitisation and cash pooling. Starting months correspond to the month immediately preceding the first hike or explicit announcement of the hike of the cycle. Hiking cycles considered those starting in: January 1989, October 1999, November 2005 and May 2022. Latest observation: December 2024.

- ❑ Paper is genuinely conservative: central bank targets low reserves to avoid side effects, but...

- ❑ **During recent tightening, presumption that large reserves weaken transmission of policy rate hikes**
  - Forceful communication on rotation in marginal policy instrument from purchases to interest rates
  - Perceived risk of instruments sending conflicting messages and weaken intended policy stance

- ❑ **All of this did not happen!**
  - Strong transmission at all stages of chain
  - In particular, large contraction in loans
  - If anything, large reserves shielded banks from potential financial amplification (2023 SVB/regional US banks turmoil, Acharya et al 2023)

Summing up

- **Elegant paper making an important, policy-relevant, consequential point**

- **Open questions**

  - Role of lending facilities to be evaluated in light of stigma and consequences for bank intermediation
  - Later stages of transmission suggest that ‘optimal’ reserves lie above those that ensure rate control
  - Call for a rethink of the relation between optimal reserves and uncertainty comes from:
    - *Recent turmoils (September 2019, September 2022, March 2023),*
    - *Current juncture (historically high uncertainty, disconnect between market and news)*
    - *Increasing role of non-banks, especially those beyond the scope of prudential authorities*