SUERF Webinar Discussion 2023

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based on

Excess Reserves and Monetary Policy Tightening
(Fricke, Greppmair, Paludkiewicz)

The views presented in this paper do not necessarily reflect those of Deutsche Bundesbank or the Eurosystem.
Motivation: Abundant Reserves Meet Large Rate Hikes

![Graph showing reserves and deposit facility rate over time]

- Required reserves
- Reserves
- DFR

Fricke, Greppmair, Paludkiewicz (BBK)
Main Mechanism

- Bank balance-sheet channel (e.g. Bernanke, 2007):
  - Policy rate $\uparrow \rightarrow$ market value assets $\downarrow$
    1. $\rightarrow$ net worth $\downarrow$
    2. $\rightarrow$ credit supply $\downarrow$

- Recent hiking cycle with large reserves:
  - Policy rate $\uparrow \rightarrow$ market value non-reserve assets $\downarrow$
    1. $\rightarrow$ interest income $\uparrow \rightarrow$ net worth $\uparrow$
    2. $\rightarrow$ credit supply $\uparrow$
Methodology

- **Main dataset used:** AnaCredit
  - Loan-level data
  - Lender: Euro area banks
  - Borrower: Non-financial firms

- **Sample:** January 2022 until February 2023
  - 483 euro area banks (71% of total assets)
  - 3,315,611 firms
  - 43 mio bank-firm level observations

- **Main Empirical Specification:**
  \[
  \log(Credit_{b,f,t}) = \beta \times (RR_b) \times (DFR_t \geq 0) + Controls + FE + u_{b,f,t}
  \]
1. Net Worth
Net Worth (1/2): Stock Prices

Stock Price Index (Jul 2022=100)

Feb 2023  Nov 2022  Aug 2022  May 2022  Feb 2022

High RR=0
High RR=1

Fricke, Greppmair, Paludkiewicz (BBK)
Net Worth (2/2): (Net) Interest Income and Profits

- Net interest income: ↑
- Bank profitability (ROA): ↑
- Bank equity: ↑

→ Net worth of reserve-rich banks affected positively
2. Credit Supply
Aggregate Credit Volumes

→ Confirmed in regressions (controlling for i.a. credit demand)
Survey-Based Evidence

Excess liquidity over assets up to 10%
Excess liquidity over assets above 10%

Credit standards
Bank's liquidity position
Risk tolerance

Excess Reserves
November 2, 2023
Conclusion

- **Main findings:**
  - Reserve-rich banks’ credit supply less sensitive to MP tightening
  - (Credit supply effect stronger for *small and worse capitalized* banks)
  - (Directed towards *smaller* firms with *higher credit quality*)
  - Indicative evidence that the transmission might be weakened

- **Ongoing policy discussions on reserve remuneration:**
  - ECB meeting July 2023: no MR remuneration
  - Shrink balance sheet (BoE)
  - Increase MRR: De Grauwe and Ji (2023)
Additional Slides
Limited Deposit Passthrough
Figure 1: Aggregate Credit Volumes

Total Credit Volume - AnaCredit (All Firms)

- Low Reserves
- High Reserves
- Aggregate
Timing of Effect

![Graph showing the timing of effect with calendar quarters and corresponding RR coefficients.](image)
\[ \log(\text{Credit}_{b,f,t}) = \beta \times (RR_b) \times (DFR_t \geq 0) + X'_{b,t} \gamma + \alpha_{f,t} + \alpha_{b,f} + \alpha_{c,t} + u_{b,f,t} \]

<table>
<thead>
<tr>
<th>RR \times (DFR_t \geq 0)</th>
<th>All firms</th>
<th>Multiple bank firms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td></td>
<td>0.0049***</td>
<td>0.0050***</td>
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<tr>
<td></td>
<td>(5.01)</td>
<td>(5.29)</td>
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<td>adj. R2</td>
<td>0.9772</td>
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<tr>
<td>N</td>
<td>43,527,514</td>
<td>43,527,514</td>
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<tr>
<td>Controls</td>
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<td>Yes</td>
</tr>
<tr>
<td>Country (bank)-Time FE</td>
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<td>Yes</td>
</tr>
<tr>
<td>Country (firm)-Time FE</td>
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<td>–</td>
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<tr>
<td>Bank-Firm Fixed Effects</td>
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<td>Yes</td>
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<tr>
<td>Industry-Country-Size-Time FE</td>
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<tr>
<td>Firm-Time Fixed Effects</td>
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<td>No</td>
</tr>
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[Economic magnitude: 0.25% of 2022 euro area GDP.]