Discussion of

Arbitrage Capital of Global Banks

by Alyssa Anderson, Wenxin Du, Bernd Schlusche

Capital and Liquidity Interaction in Banking

by Jonathan Acosta-Smithy, Guillaume Arnould, Kristoer Milonas, Quynh-Anh Vo

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General comment: Important topic, interesting evidence

- Allen and Gale (2017): "*with capital regulation there is a huge literature but little agreement on the optimal level of requirements. With liquidity regulation, we do not even know what to argue about*."

- The literature: mainly theoretical
  - Calomiris, Heider, and Hoerova (2015)
  - Diamond and Kashyap (2016)
  - Allen and Gale, (2017)
  - Carletti, Goldstein, and Leonello (2018)

- How does liquidity regulation work in reality?
  - Anderson, Du, and Schlusche (2020)
  - Acosta-Smithy, Arnould, Milonas, and Vo (2020)

Arbitrage Capital of Global Banks

by Alyssa Anderson, Wenxin Du, Bernd Schlusche

Summary of the Paper

Research question 2:

- Effect of MMF reform on global banks?
- Finding: reduction in their arbitrage positions, no effect on loan provision
- Contrast with Chernenko and Sunderam (2014), Ivashina et al. (2015) and Correa et al. (2016)

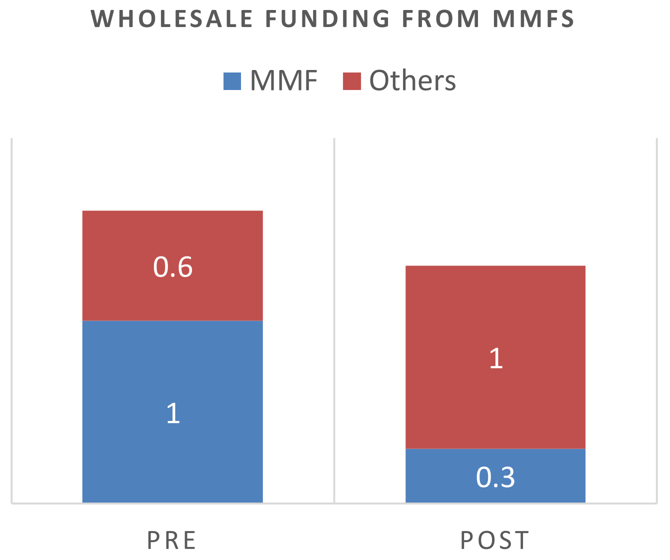
Research question 1:

- Liquidity regulation discourages maturity transformation with wholesale funding
- What do banks do with wholesale funding now?
- Finding: near risk-free arbitrage positions

Comment 1: Smoking gun for regulation

- "One key feature of the post-crisis liquidity regulations (e.g. LCR) is that they significantly discourage the use of short-term wholesale funding for liquidity and maturity transformation".
- Yet no direct evidence: liquidity regulation causes the transformation of the use of wholesale funding
- Alternative explanations: QE, negative rates
    - Explore cross-bank exposure to LCR (Sundaresan and Xiao, 2019)
- Money is fungible: not clear wholesale funding is used for arbitrage
    - Explore contemporaneous changes in the asset side and liability side

Comment 2: Large quantity impact vs. Muted price impact



Comment 2: Missing price impact

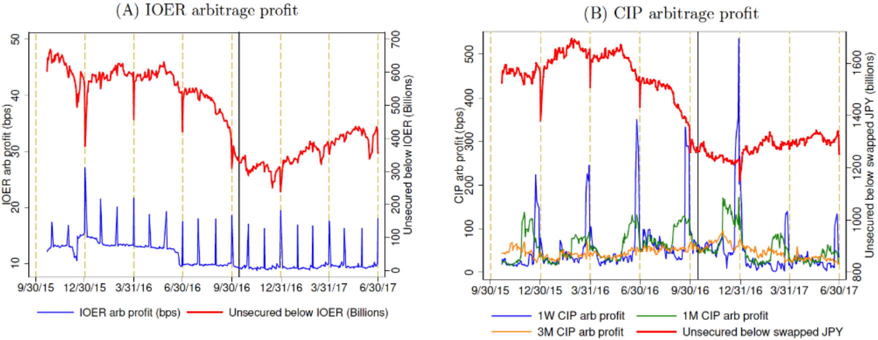


Figure 2: Volume-weighed average arbitrage profits

- Limit-to-arbitrage theory: lower arbitrage capital, larger violation of law of one price
- However, we see no such effect. Why?

Comment 3: Heterogeneity across US and foreign banks

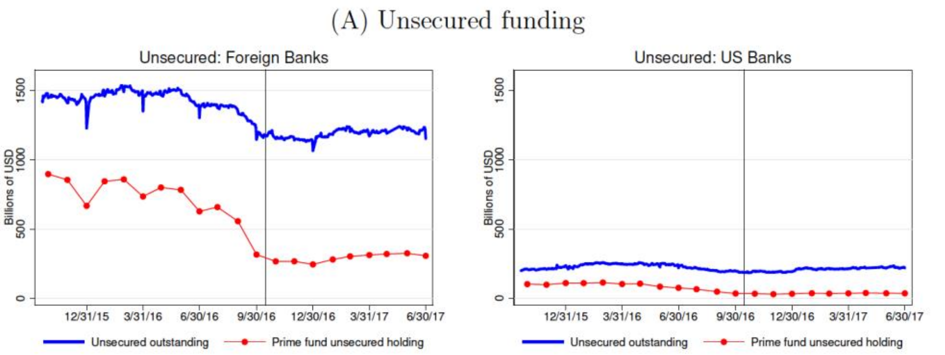


Figure 1: Wholesale funding outstanding and MMF holdings by region

- Foreign banks were more adversely affected. Why?

Other comments:

- Limit to arbitrage predicts that a higher **level** of arbitrage profits in the post period
- But the paper tests whether the **sensitivity** of arbitrage profits to arbitrage capital becomes higher in the post period

$$\Delta\pi_t^{IOER} = \alpha + \beta \Delta Y_t^{IOER} + \gamma Post_t + \delta Post_t \times \Delta Y_t^{IOER} + \epsilon_t.$$

- Two themes in one paper, consider separate into 2 papers

Conclusion

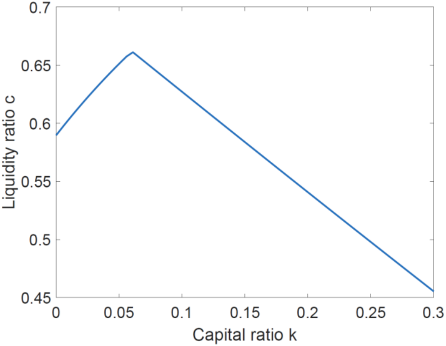
- An important question: how does MMF reform affects global banks?
- Interesting finding: no effect on lending to real economy, but less arbitrage
- Remaining questions to explore:
    - Caused by liquidity regulation? smoking gun
    - Why no price impact?
    - US banks vs. foreign banks

Capital and Liquidity Interaction in Banking

by Jonathan Acosta-Smithy, Guillaume Arnould,
Kristoer Milonas, Quynh-Anh Vo

Summary of the Paper

- Research question:
  - Does higher capital requirements lead to more or less liquidity transformation for banks?
- Finding



- Policy implications: simplify regulatory requirements for banks (regulate capital is enough)

Overall comment

- Important topic
    - New regulation may introduce new regulatory arbitrage
    - Implementation (LCR, NSFR) is nontrivial
    - Reporting is burdensome
    - What if we can achieve it with existing capital regulation?

- Suggestions:
    - Further sharpen the empirical evidence
    - Discuss quantitative implication

Comment 1: Rule out alternative explanations

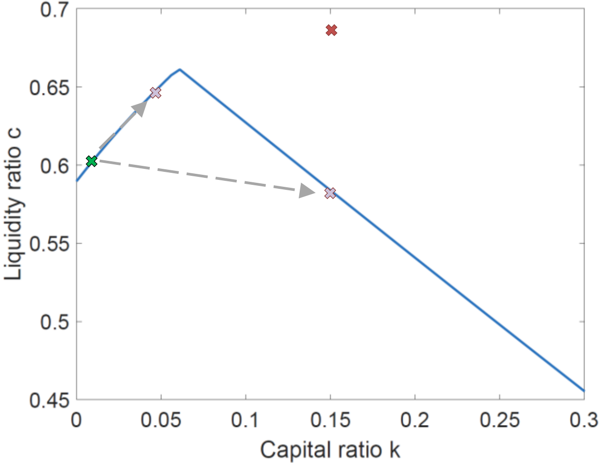
- Main finding: capital requirement increases liquidity holding

$$LiqMeasure_{i,t} = \beta_1 + \beta_2\ CapReqMeasure_{i,t} + \beta_3\ controls_{i,t-1} + u_i + time_t + \epsilon_{i,t} \quad (9)$$

- Alternative explanation: higher perceived risk
  - Regulator tightens capital regulation
  - Banks want to hold more liquidity

- Suggestion
  - Zoom in the short window with unexpected large capital requirements changes
  - The idea: the economic fundamental vary smoothly in a short window but capital requirement changes discretely

Comment 2: Policy implication



Comment 2: Policy implication

- Table 5: 1% capital requirement increases liquid assets by 0.6%.
- LCR increases US banks' holding HQLAs by 8% of the assets from 2012 to 2015 (Sundaresan and Xiao, 2019)
- This implies that capital requirement has to increase by 8/0.6=13%
- Table 4: when capital ratio is above 10%, increase in capital requirement leads to decrease in liquidity ratio
- This implies that it is impossible to use capital requirement to achieve the same level of liquidity requirement, as least in the U.S. setting!
- Other consideration: maybe feasible for banks which are subject to lower liquidity requirement

Conclusion

- Very interesting paper!
- The theoretical argument is convincing
    - Skin in the game vs risk substitution
- Interesting finding: when capital ratio is below 10%, an increase in capital requirement increases liquidity holding
- Remaining questions:
    - Rule out alternative stories to make the estimates more convincing
    - Whether it works depends on the magnitude of sensitivity