FINANCIAL STRESS, BANK SOLVENCY, AND REGULATORY SUPERVISION

Discussion

by

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OVERALL SUMMARY OF KEY INSIGHTS FROM PAPERS

- All three papers deal empirically with what happens when banks face financial stresses… and the role of government safety nets of various sorts in engendering the moral hazard that can lead to those stresses
- This is important both from a research standpoint and from a policy standpoint as we wrestle with the question of the ***socially optimal*** **design of safety nets and designations of banks that are informative about the extent of the safety net.**

HIGH LEVEL SUMMARY OF OVERALL RESULTS

- Many of our government "safety nets" in banking are driven by the dominant view in the banking literature that the major fragility problem in banking is **illiquidity**---liquidity shocks unrelated to individual bank fundamentals (or bank runs triggered by "sunspots") that inevitably cause bank failures that then generate financial crises through contagion.
- These papers collectively cast serious empirical doubt on that view…maybe even debunk?
- How?
- By showing that: (i) heightened insolvency concerns—rather than sunspot liquidity shocks—cause runs, (ii) **but runs do not typically lead to bank failures** as banks replace lost deposits through private funding even without government assistance, and (iii) yet the eagerness to offer governmental safety nets for emergency access to liquidity creates moral hazard…!

Papers	Research Question(s)	Main Results
1) **Cipriani et al ("Tracing Bank Failures in Real Time")**	(My Rendition): *What causes bank failures—illiquidity or insolvency? And when banks do face financial stresses, which of them experience a liquidity shock in the form of a run?*	• Bank runs are caused by declining fundamentals, but not all banks with impaired fundamentals suffer bank runs. • Bank runs do not always cause bank failures, even absent government intervention. • Banks with weaker capital positions are more likely to experience runs when their fundamentals decline

Papers	Research Question(s)	Main Results
2) **Agrawal et al ("Does Systematically Important Bank Status Affect Loan Performance?")**	• *When a bank is designated as a "systemically important bank", does it lead to moral hazard in lending?* ⇨	Yes, it does. Not because it changes the bank's lending policy, but because the bank's monitoring of the borrower declines.

Papers	Research Question(s)	Main Results
3) Kandrac and Schlusche (“Emergency Lending and Moral Hazard”)	• *Does giving banks access to emergency lending facilities generate moral hazard?*	• Yes. Banks with greater access to the Fed’s Bank Term Funding Program (BTFP) are less likely to expand access to different types of funding and boost funding preparedness.

COMMENTS ON INDIVIDUAL PAPERS

Cipriani, Eisenbach, Kovner: "Tracing Bank failures in Real Time"

Overall

- Very nice paper that examines 22 bank runs in March 2023. Documents that only 2 failed.
- Paper establishes numerous useful stylized facts that help us better understand how well our theories of bank runs, failures and contagion correspond with actual data.
- Related to important early work on tracing bank runs in real time by Iyer and Puri (AER) and others.

TRACING BANK RUNS IN REAL TIME

- **Research Question**: (none explicitly stated, so this is my attempt):

(A)What causes bank failures—illiquidity (via runs) or insolvency? And when banks do face financial stresses, which of them experience a liquidity shock in the form of a run?

OR

(B) Are bank runs driven by a small number of very large depositors or a large number of small depositors and why does this matter?

TRACING BANK RUNS IN REAL TIME

- My comments will assume A is the RQ. If not, paper would need to be discussed (and positioned) differently.

TRACING BANK RUNS IN REAL TIME

Main Results

(1) Not all banks with declining fundamentals suffer runs (or liquidity shocks). Far more than 22 banks experienced negative stock returns, but only 22 suffered runs.

(2) Paper shows that the runs were driven by weakening bank fundamentals that were detected by a small number of large (informed) depositors, in line with the theory of runs developed by Calomiris and Kahn (AER, 1991).

(3) Not all banks that suffer runs actually fail. Number of run banks > 10x number of failed banks. Direct contradiction of typical theory models in which a run is synonymous with bank failure.

TRACING BANK RUNS IN REAL TIME

- (4) When a bank is run, withdrawn deposits are transferred to other banks, typically large banks (assets> $250 billion) and thus with implicit TBTF protection. This argues against a generalized loss of trust in banking and thus contagion. **Consistent with runs typically being bank-specific events, as opposed to market-wide events (aggregate liquidity crunches) , as documented in earlier empirical work by Perignon, Thesmar and Vuillemey (JF, 2018) and Boyson, Helwege and Jindra (FM, 2014).**
- (5) **Banks with lower capital ratios and higher levels of uninsured depositors are more likely to be run.** Consistent with the original theory paper by Chari and Jagannathan (JF, 1988) on bank runs as unique equilibria triggered by declining fundamentals, not sunspots.

TRACING BANK RUNS IN REAL TIME

- (5) When a bank is run, it copes by replacing lost deposits with borrowing from other sources, including other banks. This is possible as long as the bank is not insolvent. **IMPORTANT RESULT:** Not only consistent with earlier empirical evidence (e.g. Martin, Puri and Ufier (JF, forthcoming)), **but also consistent with Corporate Finance 101 that we teach business school undergrads.** Whenever I have discussed liquidity shocks like bank runs causing failure of otherwise healthy (solvent) banks, the standard question I get is: ***why does the basic principle of corporate finance—that a solvent firm (with positive NPV projects) should always be able to raise additional financing if it runs out of liquidity—not hold here?***
- Response: "Come on…This is banking! Things are different for banks (for all sorts of reasons---asymmetric info, moral hazard, fire sales, contagion, etc. etc.)!"

TRACING BANK RUNS IN REAL TIME

- Actually….this basic principle of Corporate Finance works! This paper shows that banks do not engage in asset fire sales or fail when hit with a liquidity shock---they replace lost deposits with additional borrowing.
- Perignon, Thesmar and Vuillemey (JF, 2018) showed that European banks that had high quality assets and adequate capital were able to get additional funding during the GFC.
- Baron, Verner and Xiong (QJE, 2020) documented that **solvency shocks lead to liquidity shocks, not vice versa!**

Assessment/Comments

1) The paper needs to explicitly articulate its research question (RQ).

2) Paper needs to do a better job of connecting with the relevant theories, most notably Chari and Jagannathan (JF,1988) and Calomiris and Kahn (AER, 1991).

3) Paper notes that *not* all bank runs can be explained based on declining fundamentals….this is fine, but then it jumps to the conclusion that this implies there is a sunspot aspect to runs.

4) No! It just means you do not have a perfect predictive model that maps fundaments into run probabilities. That is all! See more below…

ASSESSMENT/COMMENTS

- **Many reasons (besides sunspots) why the fundamentals chosen in this paper may not perfectly predict runs:**
- (i) **Unobserved attributes of large depositors** who withdraw (depositor propensity and stickiness). As the R. Merton and R. Thakor (JFI, 2019) theory points out, depositors are both customers and investors of banks, so their investment decisions (withdraw deposits or not) cannot be understood without understanding the value they attach to their customer relationship with the bank.
- (ii) **Differences in loan attributes**: relationship loans will be less liquid and hence more likely to be financed with stickier deposits (see theory on how banks strategically choose their liabilities to match the typers of loans they make-- relationship vs transaction loans-- in Song and Thakor (RFS, 2007)).
- (iii) ***Even for the same set of observable fundamentals,*** **trust** in the bank is a mediating variable in the depositors' decision of whether to withdraw or keep their funds in the bank. See the theory in R. Thakor and R. Merton ("Trust in Lending", forthcoming *Review of Economics and Statistics*). For empirical proxies of trust, see Liang, Zhang, Zhao and Zhao, " Disclosure Mandate, Trust and Asset Securitization", JFI, July 2025.

ASSESSMENT AND COMMENTS

- (iv) **Uninsured depositor perceptions of possible regulatory assistance** in case of bank failure (their political and regulatory connections).
- So, overall, a very interesting paper that can be improved … highly recommend reading it.

Agrawal, Kashyap , Mahapatro and Tantri: "Does Systemically Important Bank Status Affect Loan Performance?"

Overall

- Thought-provoking paper. RQ is: *does a bank being designated as a systemically important bank (SIB) affect how well its loans perform?*
- Based on data from India on SIB rollout by RBI in 2015.
- Paper argues that the answer to this question is theoretically unclear. Two competing theoretical arguments. On the one hand, the SIB designation comes with higher capital levels and more regulatory scrutiny, so banks should monitor more.

AGRAWAL ET AL PAPER

- On the other hand, SIB designation can undermine regulatory ability to commit to not bailing out the bank….so bank may perceive a stronger implicit safety net…..implies weaker monitoring incentives.
- Empirical analysis revolves around 3 major banks, one government owned and two private. They make 44% of all loans in India.

Main Results

- (1) Loan defaults by borrowers are higher after bank gets SIB designation, and defaults are higher among borrowers who are more difficult to monitor.
- (2) The main channel is not a change in bank lending policy, but rather a reduction in post-lending monitoring.
- (3) Bank monitoring appears to have value for borrowers, as the reduced monitoring after the SIB designation leads to poorer borrower performance.
- (4) Stock market reaction to announcement of increase in banks' non-performing assets shows that the SIB designation does not matter.
- (5) Evergreening of loans does not change due to SIB designation.

Assessment/Comments

Very nice paper. Empirical analysis is carefully done and convincing for the most part. Specific suggestions for improvement:

(1) Paper relies on Diamond (1984) for the theory behind the monitoring hypothesis. However, that paper focuses on ex post costly verification of borrower cash flows by the bank (auditing). The monitoring here is closer to the theories of bank monitoring by Holmstrom and Tirole (QJE ,1997) and Mehran and Thakor (RFS, 2011). In both these papers, bank monitoring improves borrower performance (in contrast to Diamond (1984)), which is what this paper documents.

(2) Results (4) and (5) are basically ”non-results”---the SIB designation made no difference. It seems like a stretch to argue that these support the reduced monitoring hypothesis (on the basis of the assertion that they ae inconsistent with the “loss recognition” hypothesis).

ASSESSMENT/COMMENTS

- (3) Paper finds that defaults by firms are not strategic in the sense that firms are becoming less healthy due to reduced bank monitoring. I find it really puzzling that better capitalized banks would monitor less (goes totally against previous theories as well as empirical evidence, especially Mehran and Thakor (2011)). Alternative explanations/channels?
- One possibility that the paper should examine is the extent to which the bank's SIB designation affects the ***borrower's behavior***. Suppose these borrowers believe more strongly that the bank's SIB designation makes it more likely that they (these *borrowing firms)* will get government bailout assistance upon failure if they are associated with a SIB. Then they are more likely to increase leverage and perhaps take more risk in ways that bank monitoring may not detect and prevent (as in Holmstrom and Tirole (1997) where bank monitoring resolves

some moral hazard, but not all, and it takes sufficient borrower equity capital (in conjunction with bank monitoring) for the borrower to make an efficient project choice.

So, this theoretical argument suggests that one should examine the banks' borrowers carefully. Yakshup Chopra's WP ("Firms' Corporate Governance, Capital Structure Flexibility, and Bank Capital", U of Miami) uses Indian data and shows that when corporate governance improves at firms, they choose more equity, and their overall performance improves. Flip side is that if borrowers are reducing equity, governance gets worse and so do investment decisions.

So, overall, this is a very interesting paper with an intriguing result, but it needs to be more convincing by looking at what happens to borrowers.

KANDRAC AND SCHLUSCHE, " EMERGENCY LENDING AND MORAL HAZARD"

- In 2023, banks were given access to the Fed's Bank Term Funding Program (BTFP) to provide emergency liquidity to banks faced with a liquidity shock.
- RQ: *does giving banks access to this liquidity facility generate moral hazard?*

Main Results

1) Banks with more access to the BTFP were less likely to expand access to different types of funding and boost contingency funding preparedness.
2) Banks with less access to the BTFP increased their access to private funding markets by issuing more time deposits, increasing brokered deposits and wholesale funding, and relying more on reciprocal deposits.
3) Banks hit with liquidity shocks did not engage in fire sales of loans or other bank-originated assets. Rather, if they sold assets, it was their security holdings.

ASSESSMENT /COMMENTS

- Paper shows that the real problem in banking is insolvency, not illiquidity….and yet there are consequences when the regulatory focus is on the "wrong" problem. It engenders moral hazard.
- My view (based in part on this paper) is that a better solution is to design a permanent institution that captures the key elements of the CPP under TARP that recapitalized over 200 banks and rid the system of a large number of potentially insolvent/undercapitalized institutions.
- One of those elements was that the US Treasury had the option to place up to 2 directors on the bank's board if it missed 6 dividend payments on the government's senior cumulative PS.
- Mucke, Pelizzon. Pezone and Thakor, "The Carrot and the Stick: Bank Bailouts and the Disciplining Role of Board Appointments", ***AEJ Economic Policy***, 2024 document the powerful incentive effect of this on attenuating moral hazard.

ASSESSMENT/COMMENTS

- So…a very interesting paper with nice institutional detail and carefully executed empirical analysis. Well worth a read.

FINAL REMARKS: SO, WHAT DO WE LEARN OVERALL?

- Bank failures are caused mainly by insolvency problems, not liquidity shocks. Heightened perceptions of insolvency trigger liquidity shocks.
- Bank runs (liquidity shocks) often (typically?) do not cause failures or fire sales, as banks raise (private) funding to replace lost deposits. One exception: bank is truly insolvent.
- Emergency liquidity provision facilities (to help banks cope with liquidity shocks) by the government/central bank trigger moral hazard. Banks reduce preparedness to cope with these shocks.
- Designation of a bank as "systemically important" triggers moral hazard (as it may expand implicit guarantees or perceptions of them) as banks reduce borrower monitoring.