A Theory of Bank Liquidity Requirements

Lev Ratnovski
International Monetary Fund

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“A Theory of Bank Liquidity Requirements”
by Calomiris-Heider-Hoerova

Discussion by
Lev Ratnovski
IMF

The views in this presentation do not necessarily represent those of the IMF
Reserve Requirements

- Reserves for refinancing risk (Basel LCR)
  - Covers outflows for a period
  - Protects from temporary funding disruptions

- Credit risk: Capital
  - A buffer (absorbs losses)
  - Skin in the game (internalizes losses) → Incentives

- Reserves for credit risk?
  - Cash removes risk from portfolio → Incentives
  - Unlike capital, observable
Model

- \[ E + D = L + C \]
- \[ Y*L + C - D > B*L \]
- \[ B<Y \quad B>Y-1 \]

Cash and incentives:
- Given \( E \) and \( D \), investing in \( C \) reduces \( L \)

Cash is negative debt:
- Given \( E \) and \( C \), less \( D \) reduces \( L \)
Model

- \( E + D = L + C \)
- \( Y \times L + C - D > B \times L \) \( \Rightarrow \) \( (Y-1) \times L + E > B \times L \)

Regulation:

- \( \frac{E}{L} > B - (Y-1) \)
- \( \frac{(C-D)}{L} > (B-Y) \)

Net cash equivalent to equity
Net Cash vs Reserve Reqs

Consider
- Two banks with same E and L
  - C=1 D=5
  - C=0 D=4

SAME:
- Slack in lending
- Effect of withdrawals
- Reaction to losses

Gross cash? = Reserves, C
- Adjusting debt is costly
- Debt fixed, cash more observable than L
- Acharya-Mehran-Thakor: “Scylla and Charybdis”
- Acharya-Almeida-Campello: “Is cash negative debt?”

\[
E + D = L + C \\
Y*L + C - D > B*L \\
(Y-1)*L + E > B*L
\]
Big idea: Reserves are Verifiable

- Similar to capital, Cash reduces downside $\rightarrow$ improves incentives

- Unlike capital, Cash is verifiable Can manipulate E/L not C/L

- How to design a cash requirement?
  Not sure net cash helps: $\frac{(C-D)}{L} > \frac{(B-Y)}{L}$

- Gross cash requirements
  - Still need equity to absorb losses
  - And need to limit debt to prevent borrowing to store cash

- Model / Calibration
Summary

- Net cash and equity *may be* equivalent
- Cash requirements can improve incentives
- Great, since re hard to manipulate!
- To design, need another theory