

Comments on Gertler and Kiyotaki: Banking, Liquidity and Bank runs in an Infinite Horizon Economy

BFI conference 5/10/2012

Douglas W. Diamond

University of Chicago Booth School and NBER



The University of Chicago Booth School of Business

Overall Evaluation: A simple success

- A highly stylized first step integration of Diamond-Dybvig (DD) style runs into a dynamic real financial accelerator model.
- Dynamic paths for marginal product of capital, scale of the banking sector, deposit interest rates, net worth, and “fire sales.”
- Effects on real quantities of asset holdings outside banks come from production (marginal product of capital) in a way that generalizes liquidation in DD to decreasing returns to scale.

Macro vs. Micro Perspectives

- Macro: Aggregate, Dynamic, Potentially Quantitative, Relatively standard models.
- Micro: Contracting (why), Channels of Casualty, Plausibly of the **Direction** of effects, highlight the logic of outside interventions (if any).
- Most of the issues analyzed here have been analyzed and studied in work from the microeconomic perspective.
- Some **directions** of effects differ there.

How does the model work?

- A “one θ ” model (banks aggregated together with firms): non-household sector can pledge a fraction of output to households with deposits.
- Bank net worth finances the fraction $(1 - \theta)$, and low net worth constrains the quantity of deposits and the scale of banks.
- If banks lose net worth, they shrink and must liquidate projects so they can be held directly by households and liquidation is inefficient and DRS. Generates “fire sale pricing.”

How does the model work?

- Possible fire sale liquidation can produce multiple equilibria (one is a run) when net worth is somewhat low (\rightarrow negative if all liquidated).
- Pure insolvency (net worth of zero without a run) is ruled out in example parameters.
- All runs are totally unanticipated (deposits are valued as risk free and liquid).
- Household “deposits in advance” constraint lowers deposit rates when their quantity shrinks.

Household demand for liquidity=deposits in advance

- Household member emergency expenditures deliver a “deposits in advance constraint” for a variable fraction of household expenditure
- Puts a wedge between required deposits rates and required returns on households’ holdings of liquidated real capital.
- Diamond-Rajan (AER, 2006) on money and deposits, but in a nominal model. Price level effects become important.

What does the model deliver?

- Runs produce inefficient liquidation, eliminating all banks and liquid assets (permanently in current draft).
- This makes low net worth periods very hazardous.
- Deposits in advance constraint makes deposit rates fall during low net worth periods (recessions) absent (unanticipated) runs.
 - This enhances net worth of banks

No issues of changes in aggregate liquidity

- No fire “sales,” just inefficient liquidation to put assets outside the banking sector (no liquidity constraint on buyers of asset, no excess returns to buyers during fire sale). (No Allen-Gale effects).
- It is good that liquidation has real effects, but some effect of liquidity on pricing may be needed to fit the data.

What could reverse or have different dynamics?

- Anticipated runs could be very different.
- Deposits may need to offer higher returns when risky and offering less liquidity.
- Fear of falling ***actual fire sale prices*** (not from inefficient liquidation) offer buyers future excess returns.

Two θ model and loan demand

- Rampini and Viswanathan(2012) have a “two θ model” where firms can pledge a fraction θ without a bank and an additional θ_I to a bank.
- Both firm and bank net worth matter for bank loan supply *and demand*, and direct bond issues (but they have no liquidation or runs).
- Bank lending and bond issues can go in opposite directions and spreads can differ (see Adrian, Colla and Shin [4:50 PM today, 2012]).

What might be quantitatively better

- In GK, all runs are 0-1, no partial runs:
- Full coordination in panic (common sunspot)
- Alternative is anticipated runs using global games with asymmetric information with some partial runs.
- The parameter γ (fraction known to consider running) captures some of this, but only via determining the state of nature when a small run will bring down the system.

Interventions (more micro please!)

- Outside Capital requirements are scale limits: just →shrink.
- Outside Capital is infinitely costly here.
- Deposit insurance is great if just panic.
- Lender of last resort is just deposit insurance here iff LLR can lend ONLY during panics.
- Once pure insolvency is possible not clear what is the role of government (unless it can manage assets or deliver OLG transfers).
- No discipline issues as in Diamond Rajan.

Summary

- Rigorous and simple model, well worth working calibrating more fully to see if it can be a quantitative success.
- For quantitative purposes, probably need:
 - Dynamics of anticipated runs
 - Partial runs
 - Explicit consideration of aggregate liquidity
 - Direct bond issues