SVERIGES RIKSBANK

Discussion of “Bank Capital Regulation, Lending Channel and Business Cycles”

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Contribution

- Extends BGG with risky banks
- Finds that bank capital greatly enhances the dynamics over and above the BGG effect

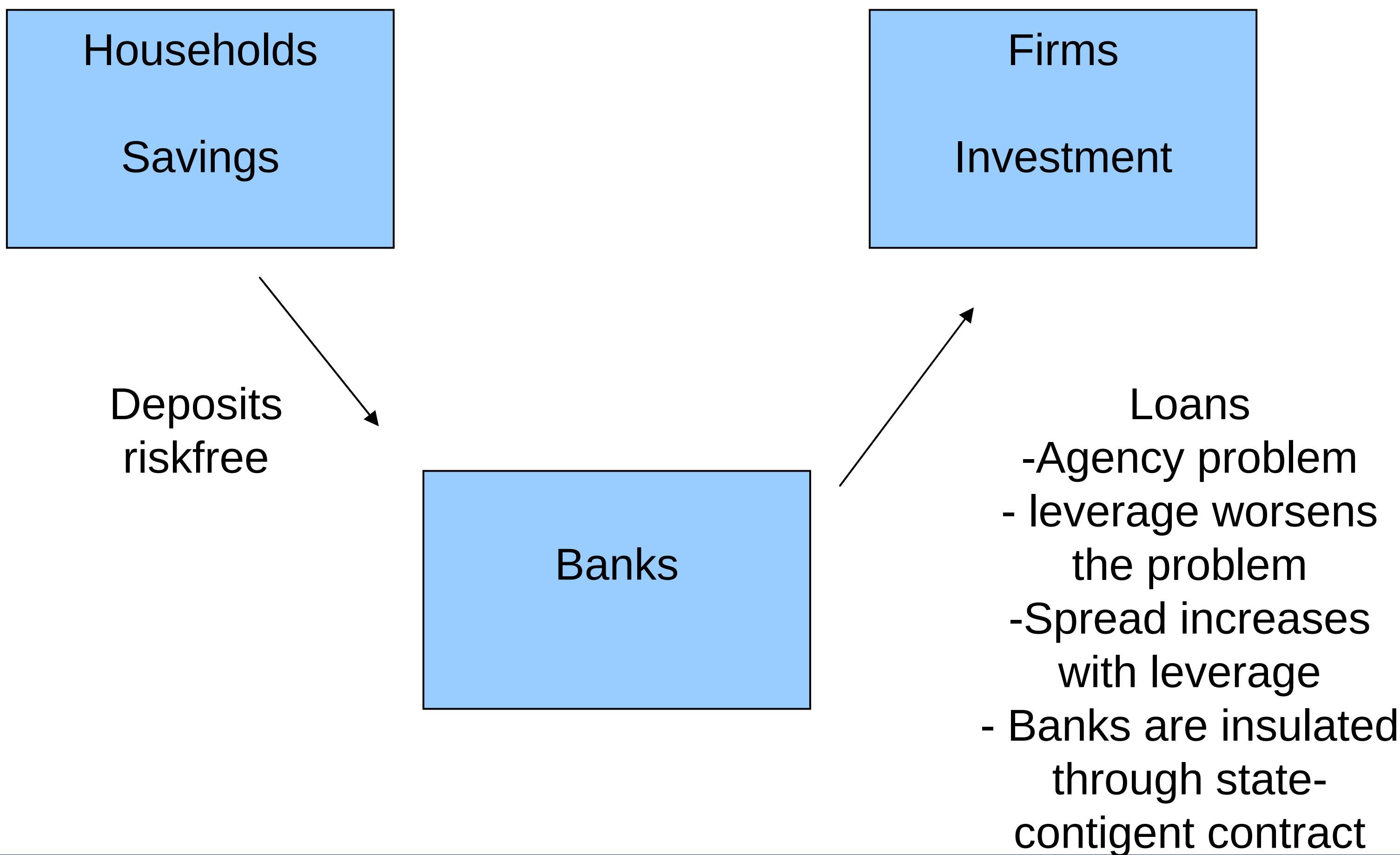
Context

- Recent financial crisis shows importance of frictions in financial markets for the macroeconomy
- Focus is on bank equity – supply side effect!
- Relevant: Banks are highly leveraged – destruction of bank equity may result in large cutbacks of loans
- Challange: **How to model macroimplications of credit-supply effect?**
- Praise: Paper takes a step in this direction

Recent literature

- Gertler and Karadi (2009)
  - Studies effects of central bank intervention in a framework with financial frictions of credit type: another agency problem on the bank side (credit diverion)
- Gerali, Neri, Sessa and Signoretti (2009)
  - Assume that bank equity is financed through retained earnings and a quadratic cost from deviating from an optimal target level of leverage.

BGG


Households
Savings
Firms
Investment
Deposits
riskfree
Banks
Loans
-Agency problem
- leverage worsens
the problem
-Spread increases
with leverage
- Banks are insulated
through state-
contigent contract

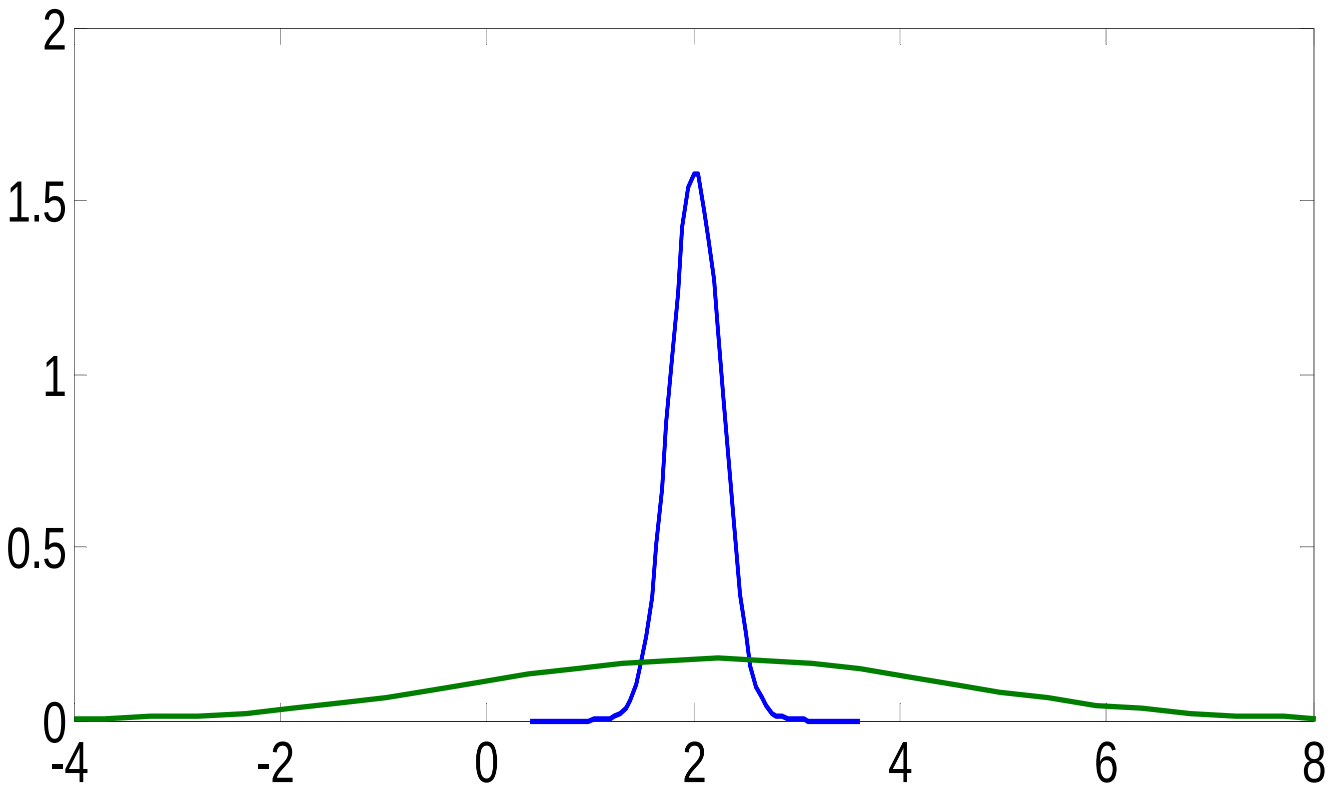
The financial contract

- BGG: bank find state-contingent break-even rate. Result: zero profit for banks and rate that survivors pay is a function of realized aggregate shocks.
- CMR: like BGG but no indexation to inflation. Result: zero bank profit, but redistribution between households and entrepreneurs depending on inflation
- Zang: Not state contingent at all: banks takes full hit to their capital when economy worse than expected.

The financial contract: risk exposure

	Household	Banks	Entrepreneurs
BGG	None	None	All
CMR	Inflation risk	None	Inflation risk
Zang	All (for their equity investment)	All	All

Ex-post vs. ex-ante returns



The financial contract (cont.)

- Zang: Implemented by replicating BGG calculations with expected values in place of ex-post values
- Q: But should not banks maximize risk-adjusted profits? In that case:
  - bank default risk would enter
  - Bank leverage would matter
  - risk-premium related to taking on aggregate risk.

Zang

Households

Savings

Firms

Investment

Deposits
Equity

Liquidity preference-> spread
Bank default risk
Related to leverage

Banks

Loans
Same as BGG BUT:
Banks are not insultated!

Key issue: how to model bank equity

- Deposits in the utility function, with increasing marginal utility
- Households split their savings between bank equity and deposits

$$\frac{d_t^{1+\varphi}}{1+\varphi}$$

Q: Bank equity

- Evolution of capital is said to consist of three part: old equity, gain/loss from loans and wages to bankers
- Q: What about households? They were investing in either bank equity or deposits?
- Is it that the increasing utility of deposits drives the endogenous equity investment to zero?
- Related: Q: Is bank capital unit root? (cf. IR functions)

Bank default

- Banks are assumed to default when their ex post capital falls short of regualtion
- Two issues:
  - Banks can keep equity fixed and reduce their loan portfolio to boost the ratio - this is what we worry about right now
  - Bank can keep loan stock fixed and issue more equity
- (or both…) More plausible: bank default when capital hits zero – otherwise regulation is pointless.

Bank equity premium

- Seems to me is driven by the liquidity preference, with only an indirect role for default risk.
- If households are risk-averse, they should value the banks income prospects through the SDF – and here the capital position should play a role…
- The reason why BGG was still correct: no risk in banks – optimal when entrepreneurs are risk neutral and households are not.

Financial shock: t-time?

- RBC vs. NK: the latter lit. puts a t just below every parameter
- It would be nice to see the effect in your case!
- What was the origin of the current crisis? In this framework it can only be technology or monetary policy…

Someone (2010)?