Traditional Banks, Shadow Banks, and Financial Stability

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Defining Shadow Banking

- Financial Stability Board (FSB), see www.financialstabilityboard.org
  - Main source of regulatory guidance on shadow banking.
  - Recently proposed a variety of steps G20 countries should consider, particularly with regard to repos, money market funds, and securitization.

- FSB Definition for Shadow Banking:
  Credit intermediation involving entities and activities outside of the regular banking system.

- FSB approach encourages:
  - Monitoring of shadow banking systems.
  - "Capturing" traditional banking interactions with shadow banking interactions (e.g. by limiting large exposures).

- Most relevant FSB objective for this talk:
  Mitigate the spill-over effect between regular banking and the shadow banking system.

- What are the costs and benefits of mitigation? How and why should it be done? What is the economic value of traditional banks and shadow bank?

What Creates Shadow Banking?

- **Pooling and tranching cash flows from loans to create safe assets** for investors worldwide; it overcomes adverse selection problems associated with using debt issued by banks as this safe asset (Gorton and Pennachi, 1990).
- **Regulatory arbitrage** of capital standards (Acharya and Richardson, 2009).
- **Maturity transformation**, which can result in investor "runs" (Gorton and Metric, 2010).
- A result of **capital market investors who mispriced tail risk**, allowing financial intermediaries to expand their balance sheets through securitization (Gennaioli, Shleifer and Vishny, 2013).
- All these views could hold simultaneously; policy implications differ.

A Related Literature: "Traditional" Banks vs. Capital Markets or "Transaction-only" Banks

- Traditional relationship -banking is needed because
  - **Insurance** – banks more likely to lend to borrowers during bad economic times.
  - **Monitoring** – banks more likely to lend to borrowers who are opaque to the market.
  - **Screening** – banks more likely to lend to borrowers based on soft information.
  - **Learning** – banks more likely to lend to borrowers because of learning over time.

- Result of banks facing increased capital markets competition (Boot and Thakor, 2000).
  - An overall reduction in relationship lending; loss of good borrowers.
  - Higher quality borrowers benefit most from capital competition.
  - We get similar results with very different model.

- It is difficult for a bank to appropriate all the benefits from relationship banking (Cetorelli and Peretto , 2012; Thakor, 2011; Dong and Guo, 2011).

- Empirical focus of literature is on whether banks can "lock-in" borrower relationships; the results are mixed (Fernando *et.al*, 2012; Bharath *et.al,* 2009; Dass and Massa, 2009; Orgua, 2009).

Why is Our Work on Shadow Banking Different?

- Focus on loan origination: Traditional banks *originate* core deposits and relationship loans. We believe loan origination is key to economic growth.

- Focus on technology: Traditional banks create relationship loans.
  - Relationship loans bundle financing with management assistance.
  - The technology for relationship loans has substantial fixed costs.

- Focus on competition: Traditional banks are "cream-skimmed" by shadow banks.

- Focus on current actions by government: Government supports traditional banks by lowering marginal funding costs.
  - Traditional banks are the source of primary-market loan origination.
  - Government involvement creates moral hazard problems.

- Policy implications of analysis:
  1. To maximize social welfare, government should focus on lowering the fixed costs of loan origination, and on equating the marginal funding costs faced by traditional and shadow banks.
  2. Government regulations and programs should target benefits toward ***loan origination*** and away from ***loan financing***.

A Model of Traditional Banking

- Loans are needed by borrowers for two periods.

- A competitive traditional banking sector originates the loan in the first period.

- All loans in the first period are relationship loans, with two components: A loan payment and an up-front investment in the relationship with the borrower.
  - The relationship investment increases the wealth of the borrower.
  - Banks must carry the fixed costs of providing a relationship loan over two periods.

- Borrowers are of different relationship types. A borrower's relationship type is unknown in the first period.
  - Most borrowers will need a relationship with the bank in the second period.
  - Some borrowers will not need a banking relationship. These borrowers can use a shadow bank.

Optimal Borrower Contracts without Shadow Banking

- Borrowers value both the income created by the project financed by the bank and the wealth created from their relationship with the bank.
  - Borrowers do not know how much of a relationship with the bank they will need in the second period. That is, borrowers do not know their type.

- The optimal contract equates the marginal return of bank financing and bank relationship investment across both time periods and across services.

- Without the presence of shadow banks, traditional banks would provide long-term, fixed-payment contracts, which would maximize expected borrower surplus.

Shadow Banks

- Shadow banks "cream skim" loans from traditional banks in the second period.

- Shadow banks do not originate loans, but can provide financing for loans in the second period using market-based sources of funds.

- Shadow banks do not invest in relationships; they only evaluate the value of collateral using publicly available sources of information.

- Shadow banks are also competitive entities.

Optimal Borrower Behavior with Shadow Banks

- In the second period — the period when a borrower's need for a bank relationship is revealed — a shadow bank can offer a competitive contract to the borrowers with no need for a relationship.
- Some borrowers will benefit from refinancing their loan with a shadow bank because the shadow bank carries no overhead for originating loans.
- Traditional banks will have to take the switching to shadow banks by some borrowers (i.e., refinancing) into account.
  - Traditional banks will downsize their loan origination technology.
  - Loan originations will fall and social welfare will decline.

The Social Cost of Shadow Banking

- ***Actuarially fair long-term contracts are less likely to be offered.***
  - Traditional banks are more likely to offer variable rate contracts, where the loan payment differs across periods.

- Borrowers that don't need a relationship increase their wealth, whereas borrowers with a need for bank relationships lose out.

- ***All new borrowers pay more up-front to get their loans originated.***

  - ***The implied social welfare loss from shadow banking may be large because there are fewer loan originations for new borrowers.***

  - ***Financing successful new borrowers expands the economy, whereas cheap refinancings of existing loans simply redistributes wealth.***

Government Efforts to Re-establish the Profitability of Relationship Banking

- A desire to increase loan originations and re-establish stable long-term bank-relationship contracts may be the "flip-side" of government-backed funding advantages that are often provided to traditional banks.

  - Fannie Mae, Freddie Mac, and the FHA are designed to lower traditional bank funding costs to increase mortgage lending. Student loan and Small Business Administration programs are designed to lower traditional bank funding costs to increase student lending and small business lending, respectively.

  - In addition, these government programs also may make extending longer-term credit easier, particularly under adverse economic environments.

Government Program May Raise Moral Hazard Concerns

- There may be significant moral hazard problems associated with government programs offered to support the banking industry.
    - The need for greater bank supervision and regulation is often justified by the need to offset the effects of this moral hazard.
    - Targeting government benefits toward traditional banking, particularly the origination of new borrower relationships, may raise benefits from government programs and lessen moral hazard concerns.
    - Equating the regulatory treatment of similar risks across traditional banks and shadow banks may lessen the need to have special government programs for traditional banks.

Policy Consequences?

- Most relevant FSB objective for this talk: ***Mitigate the spill-over effect between regular banking and the shadow banking system.***

- Three groups of "banks"
  1. Traditional relationship banks;
  2. Mixed strategy banks, which combine traditional relationship banking and shadow banking; and
  3. Shadow banks

- ***What is the important distinction between traditional banks and shadow banks?***
  - **Traditional banks** promote loan originations and support relationship lending
  - **Shadow banks** refinance existing lending contracts

- Some traditional banks may embed shadow banks within the organizational structure; the key is whether the entity originates loans that build new borrower relationships.

How to Most Efficiently Promote Loan Relationships and Create New Borrowers?

- Our theory suggests that social welfare might be increased if the fixed costs of traditional relationship banking is lowered.
  - Use capital or tax requirements?
    Perhaps differentiate banks using a multi-factor approach?
  - Equal regulatory treatment of similar assets and risks across traditional banks and shadow banks.

- Could distinguish relationship activities to differentiate among traditional and shadow banks using:
  1. longer maturity liabilities,
  2. longer maturity assets,
  3. relationship-based assets, and
  4. extent of investment in credit analysis.

- Develop new data and measures related to new loan originations and to relationship banking.

- Very consistent with Basel III approach to capital.

Questions to Consider…

- Would the odds of financial stability be increased with more relationship loans and the associated longer-term contracts that would be created? There is a strong presumption within the political system that this is true. Our theory also suggests it is possible.

- Would targeting government benefits to traditional banks—based on the extent of their relationship lending and their amount of their longer-term loan contracts—limit the extent of moral hazard problems in banking?

- Is there any underlying economic value associated with shadow banks? How does one measure the offsetting benefits? Perhaps shadow banks may make safe assets more available to investors, but at the same time they diminish the ultimate source of new loans that act as collateral for shadow banking itself? How can traditional banks capture the benefits of creating relationships?

- Finally, are some types of capital markets activities maybe similar to relationship banking (e.g. long-term debt underwriting)?
  Should these capital market activities also be encouraged?