The Growth of a Shadow Banking System in Emerging Markets: Evidence from India

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Disclaimer! The views presented here are those of the authors and do NOT necessarily reflect the views of the IMF or IMF policy

Structure

I. What is Shadow Banking?
   - Shadow banking, as in US, advanced countries
   - Shadowy banking, as in emerging markets

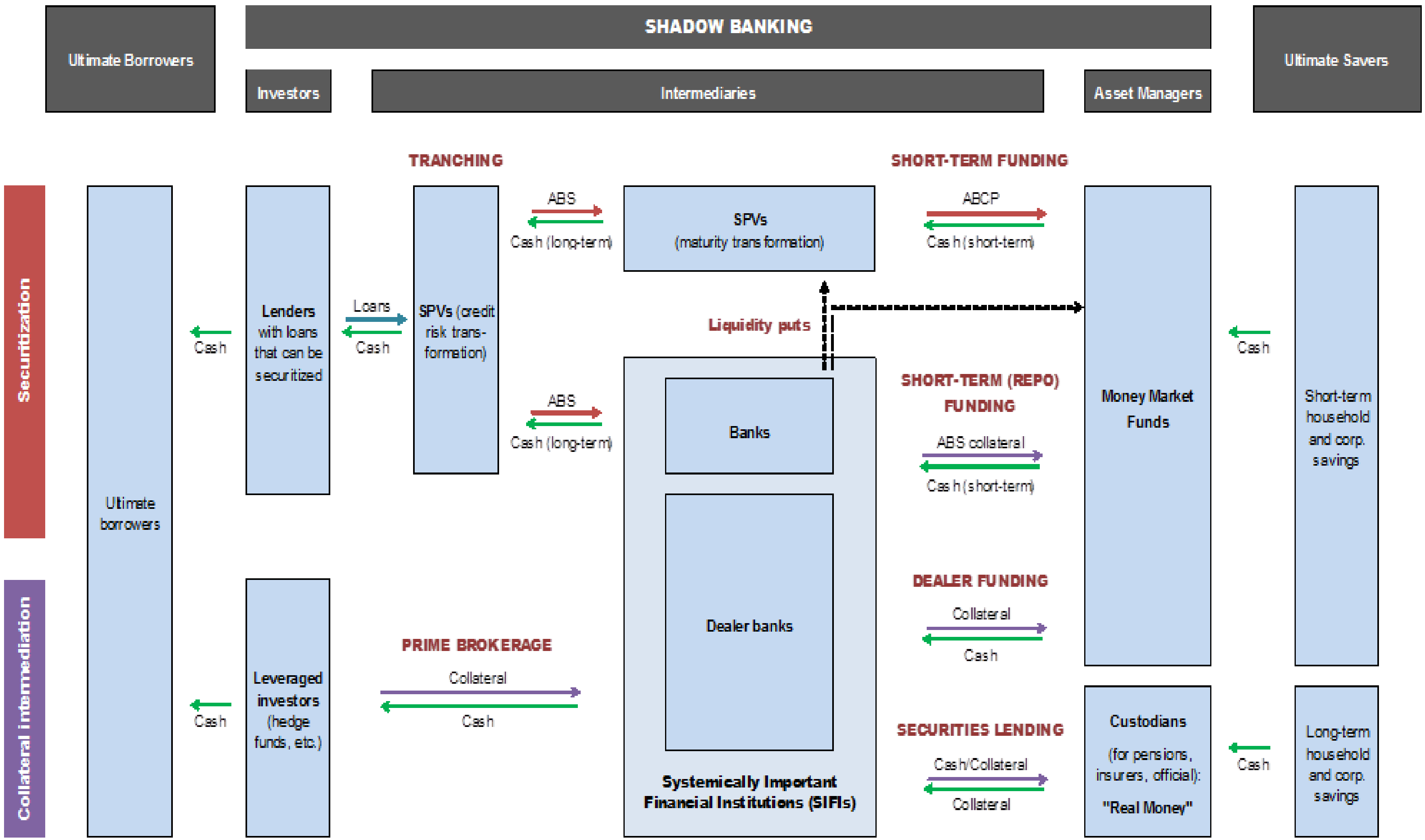
II. Comments on the paper
   - Overview, approach, conclusions
   - Experiment, setting
   - Data, Empirics

III. Policy lessons/implications
   - Observations

What is Shadow Banking?

- **Existing definitions**
  - FSB (2012): "credit intermediation involving entities and activities outside the regular banking system"
  - NY Fed (2010): Securitization
  - Singh (2011,12): Collateral services
- **Recent work (joint with Zoltan Pozsar, Lev Ratnovski, and Manmohan Singh) IMF SDN 12/12**
  - Bank-like activities: intermediation from savers to borrowers + risk transformation
  - Focus on two functions key at current conjecture: **safe assets/securitization; and collateral services**
  - Narrower than FSB but focused on issues with (arguably) largest current macro / systemic risks

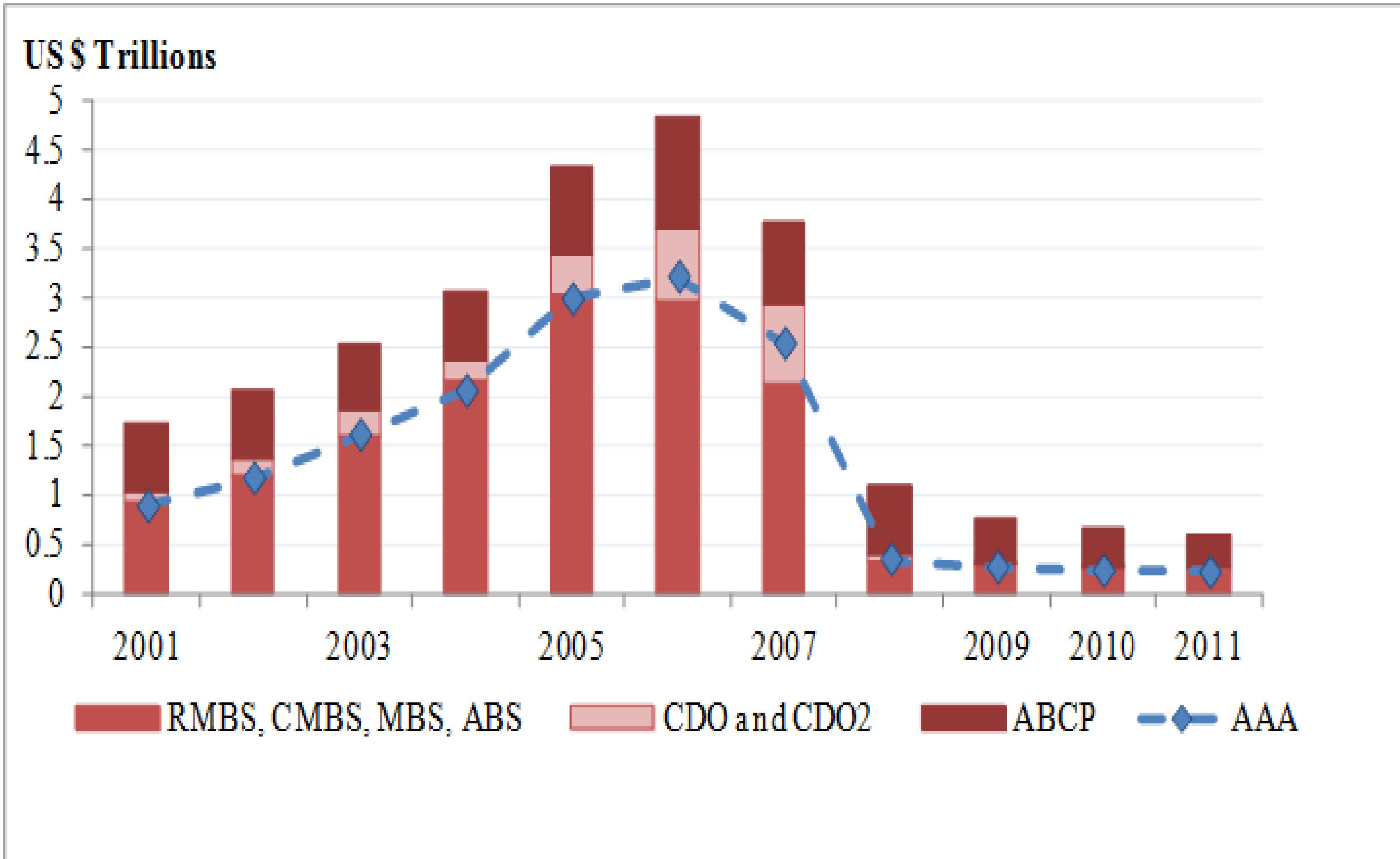
Putting Two Activities Together: Securitization & Collateral Services



What is Economics (genuine need)? What is Arbitrage? What are Risks?

- **Securitization, safe assets**
  - Some regulatory arbitrage
  - Many risk management mistakes
  - SIV-sponsor/put structure: less important today
  - Tail risks (endogenous): may remain
- **Overall concerns**
  - Leverage and procyclicality of SB
  - Systemic risks latent in good times, ferocious under stress, leading to large shifts

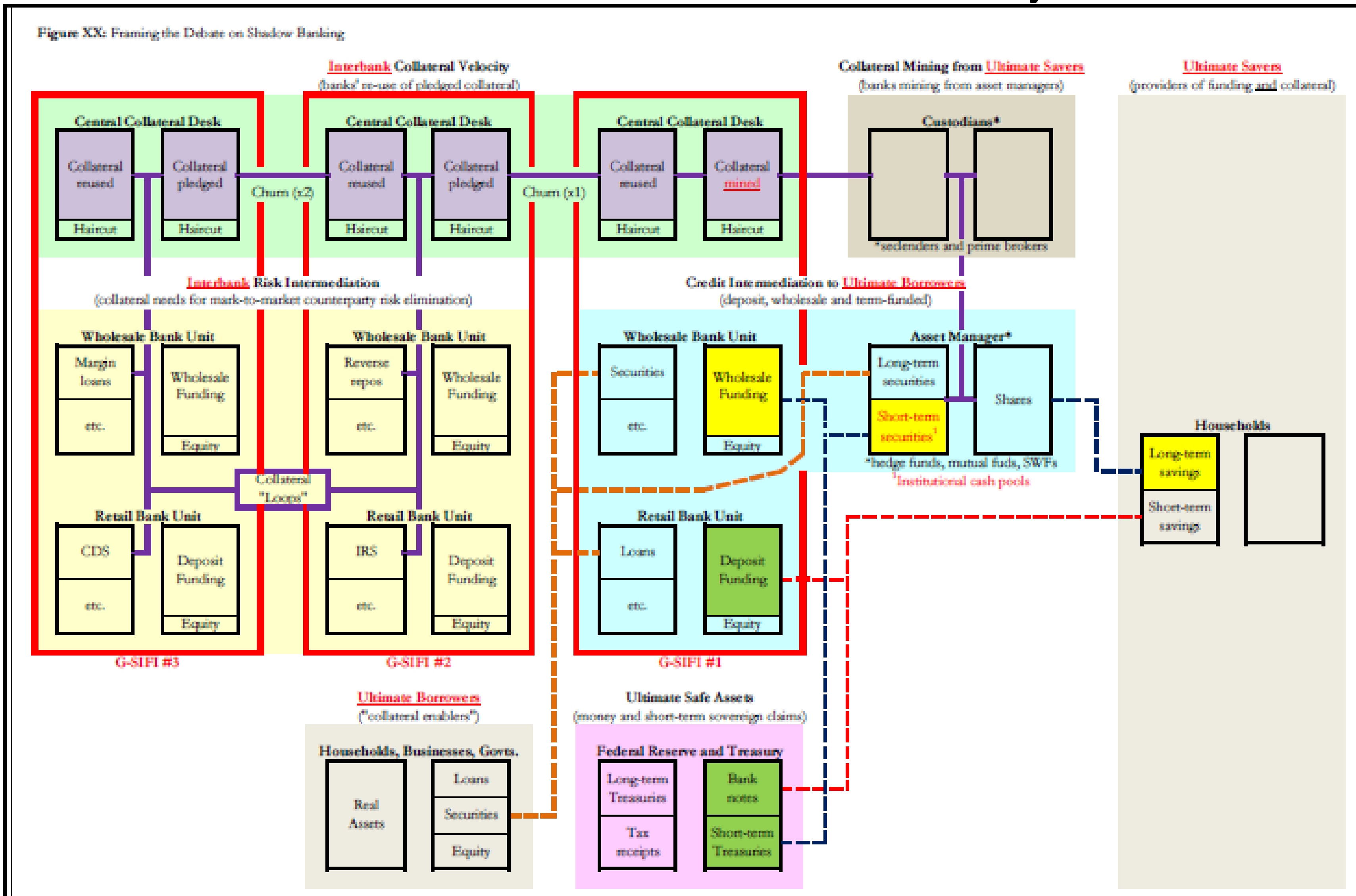
Rapid growth in “safe” assets, but followed by a collapse



What is Economics (genuine need)? What is Arbitrage? What are Risks?

- **Collateral services**
  - Genuine demand. Key: efficiency of services
  - Puts through broker-dealers, deposit banks
    - Qualified financial contracts status for derivatives, repos
    - Tri-party repo presents different systemic risks
- **Overall concerns**
  - Leverage and procyclicality
    - Collateral supply, "velocity" determine secured lending (similar to bank multipliers in monetary transmission)
  - Systemic risks

Collateral intermediation involves banks with risks to safety net



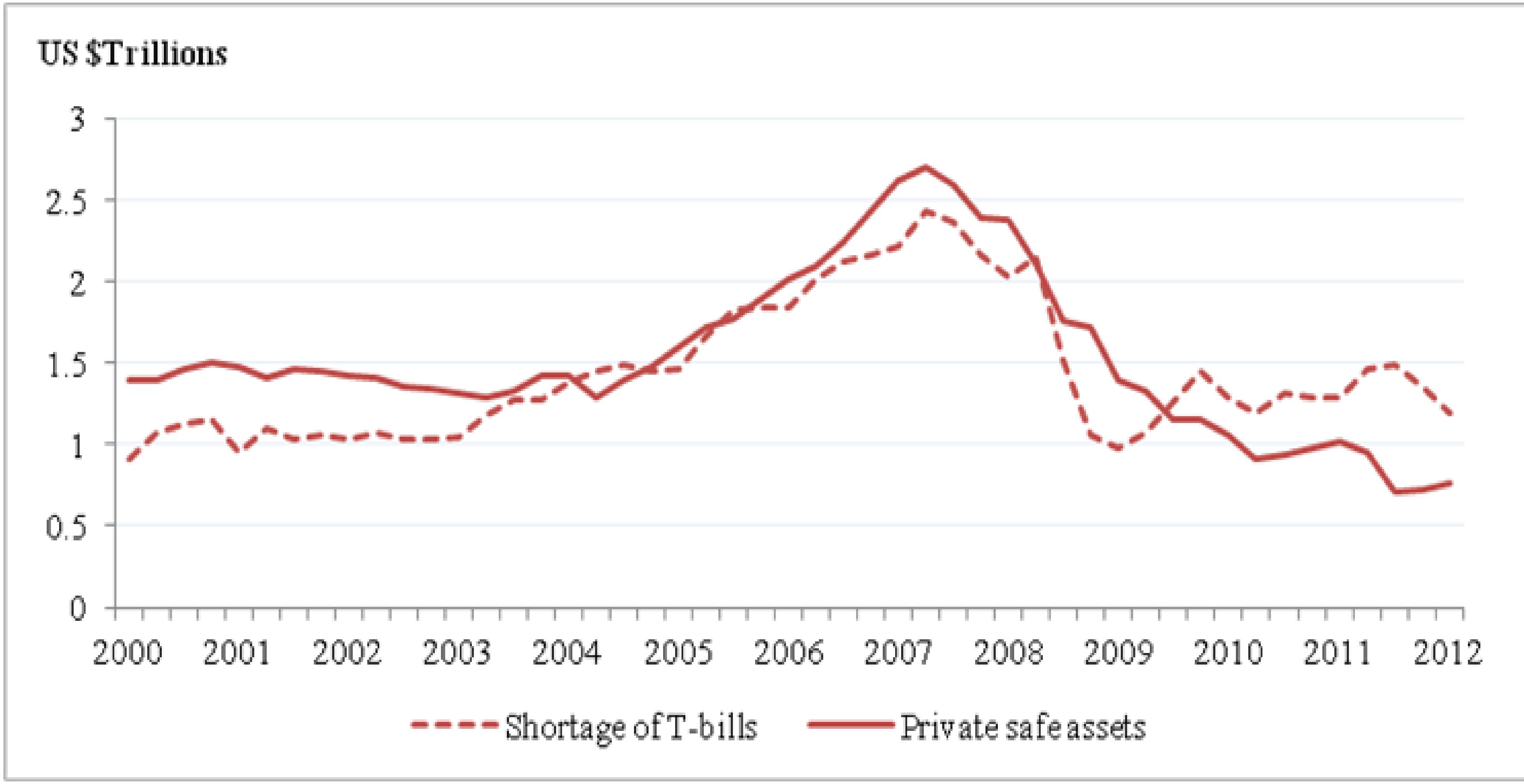
FSB Shadow Banking Policy Agenda

1. Banks’ interactions with shadow banking entities
2. Money market funds
3. Other shadow banking entities
4. Securitization
5. Securities lending and repos

Other Policy Issues in SB

1. **Regulating shadow banking entities**
   – Evident gaps (MMFs, dealer banks), but optimal policy not clear, and controversial (in US)
2. **"Demand-side": expanding supply of gov't debt**
   – Advocated by some (even when prices adjust, still externalities), but controversial
3. **Macro / systemic risk: procyclicality, monetary policy**
   – New, to be explored more, e.g., what is non-M2 world
     - Leverage, externalities over cycle, procyclicality (Adrian-Shin)
     - Role of collateral (shortages, haircuts, etc.) in monetary policy

SB Filled the Vacuum of Short-term Government Guaranteed Debt



Sources: CapitalIQ; Risk Management Association; Investment Company Institute; *The Economist*; U.S. Treasury, Treasury International Capital (TIC) System; and U.S. *Flow of Funds*.
Notes: Shortage of T-bills is calculated by subtracting from the volume of cash pools the volume of short-term, government-guaranteed securities (the sum of T-bills, Treasury notes with a remaining maturity of less than one year, and agency discount notes) not held by foreign official accounts. Private safe assets are the sum of the volume of structured money market instruments and repo-based wholesale funding.

Collateral Stock and Velocity can be Procyclical

- Collateral Re-use is large, factor 2-3. But can be procyclical
- And volume can decline
- Sources of Pledged Collateral, Volume and Velocity of

Year	Sources		Volume of secured operations	Velocity
	Hedge funds	Others		
2007	1.7	1.7	10.0	3.0
2010	1.3	1.1	5.8	2.4
2011	1.3	1.05	6.1	2.5

Shadow banking in India: setting (as I understand)

- NBFIs (NFBCs) in India: mixed intermediary
  - Some can take deposits (odd?), some not
  - Engage in some general, non-specialized, credit
  - Subject to capital adequacy requirements
- On aggregate deposit-taking still quite small
  - (<2%), hard to argue they are systemic (risks)
  - And non-deposit taking need not be systemic
- As such, appear more shadowy than shadow
  - Do not satisfy “potential adverse real effects”

Goal of the paper

- Questions
  - Is growth of NBFIs shadow banking (as US/above)?
  - Or is it shadowy banking, to avoid regulation?
  - Or “normal/good” to complete markets?
- Study, also using a natural experiment
  - Examine NBFC funding/credit, also over crisis
  - Differentiate by type (ownership) of lenders & NBFCs
- Learn overall
  - Probably: NBFCs complete markets, maybe as banks restricted, but still sub-optimal (?)

Empirical Findings

- When priority lending is large, banks fund affiliated NBFCs more and NBFCs lend less
  →NBFCs limits/reduce impact of priority rules
- Bank credit and affiliated (?) credit substitute
  – But more so when less sub-urban branches
  → try to overcome impact of branching rules
- More term deposits, less to NBFC
  → Commercial banks prefer keep long, less short-term to NBFC → wholesale funding behavior? Or matching the funding to the shorter-term assets of NBFCs?

Crisis: strengthens results

- Crisis (as an experiment) meant some banks lost deposits, but SIB gained
- As tied to specific lenders (?), some classes of NBFCs slowed growth more as funding was pulled back, also relative to banks ("run" on NBFCs)
- Suggests also NBFCs do "complete market"
- Issue is whether these NBFCs also faced less demand (as crisis affected specific classes of borrowers)
  - Crisis came with sharp slow-down in economy
- Identification otherwise (again) in question

What is Ideal? Micro-Level Data

- Firm/household borrows from bank <u>or</u> NBFC
- Controlling for demand conditions (profits, creditworthiness), how is choice affected by dimension of modes of supply?
- To identify “normal” vs. other factors. E.g.:
  - As funding cheaper/longer → choose bank
  - As bank network more limited → choose NBFC
  - As product regulation less onerous → choose NBFC
- Do not have ideal data, but still could use (complement):
  - Firm surveys which say what (?) on forms of supply
  - Corporate data, e.g., were stock prices of listed firms affected by crisis differently given funding structures?

Here Severe Data Limitations

- Aggregate data on NBFCs
  - Split by type: finance and investment companies
  - Systematically important and deposit-taking
- Aggregate data on commercial banks
  - Spilt by commercial, state-owned, foreign banks
  - Data on balance sheets, branches, priority, NPL
- Merged Panel, quarterly data, Q2:2006-Q2:2011
- No individual NBFCs or link with some banks

- Obviously some severe data limitations!

My Comments

1. Clarify data use in regressions/text
   – Clarify individual bank vs. aggregate LHS/RHS
2. Tease out more differences among NBFIs
   – Besides type and branches, small vs. large, also:
   – (degree) of connection; regional (?); sectoral focus?
3. Consider other RHS to study outcomes
   – Efficiency of NBFCs vs. banks in intermediating
     - Do NPLs vary, NBFCs relative to banks, among NBFI-type, size, etc.? With crisis, test to show market completeness (or not)
   – Cost structures: NBFCs funding rates? lending rates?

Policy lessons

- Less about shadow or shadowy banking, more about incomplete reforms, phases of deregulation and limited institutions. Lessons
- Deregulate more
  – Surely on branch network, little risks
  – Also probably on lending, products?
  – Adopt more universal/integrated banking model
    - Allows for efficient financial services provision in group
    - For many NBFI/NBFC-products does not raise systemic risks
  – Raise/revisit systemic risk cutoff for NBFCs, if at all

Policy lessons

- Regulate differently NBFCs (to extent needed)
  - Allow priority lending to be met by any FI in group
  - Capital adequacy requirements -> market discipline
  - Liquidity: encourage true NBFIs to depend more on market, less on banks/whole-sale funding
- Improve institutional infrastructure (more)
  - Better information: to allow wider provision of credit
  - Better resolution: to avoid spillovers/risks from NBFCs
  - Better data availability: for market discipline and to study more/better