

# FINANCIAL REGULATION: A FOCUS ON THE NON-BANK SECTOR

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# SHADOW BANKING: DEFINITIONS

Traditional banks perform financial intermediation with substantial maturity transformation. So do shadow banks (perhaps even more so).

- Activities: “credit, maturity, and liquidity transformation that takes place without direct and explicit access to public sources of liquidity or credit backstops.” [Poszar et al 2010]
- Broader definitions:
  - anything that encroaches on banks’ business.
  - any financial institution that is not prudentially supervised (private equity, MMMF...)

Not necessarily inconsistent...

Does not mean that shadow banks have no access to public liquidity:

- Indirectly: backstops (puts: contingent lines of credit, tail risk insurance)
- Unconventional policies in case of stress, for example
  - Commercial Paper Funding Facility (issuers of CP)
  - Primary Dealer Credit Facility (repo market)
  - Term Asset-Backed Securities Loan Facility (ABS)

# BREATHING SPACE OR REGULATORY EVASION?

*Comparative advantage view:* regulatory constraints stifle innovation, or in a milder form, reflect the preferences of certain groups of players.

*Regulatory arbitrage view:* regulatory arbitrage/cutting regulatory corners. Have their cake and eat it too (free of constraints in normal times, bailout if tail risk materializes). US in 2008. No level playing field?

*Behavioral view:* shadow banks exploit neglected risk.

[Gennaioli-Schleifer-Vishny *JoF* 2012, *JoF* 2013, *AER PP* 2015. Good news  $\Rightarrow$  overweighting of favorable scenario. Similarly when bad news occur: overreaction. Intermediaries create false substitutes for truly safe bonds]

## *Comparative advantage view*

Hanson-Schleifer-Stein-Vishny (*JFE* 2015) captures demand for safe assets (households willing to pay a premium for safe assets as in Stein *QJE* 2012). Latter are created in two ways:

- regulated sector: deposit insurance. Costly capital requirements.
- unregulated sector: early exit option and costly liquidation of assets.

Equilibrium: shadow banks hold relatively liquid assets.  
No analysis of optimal regulation, but some externality in unregulated sector (fire sales).

## *Regulatory arbitrage view*

Two possible subviews:

### (1) *Capital requirement evasion by retail banks*

[Acharya-Schnabl-Suarez *JFE* 2013]

Regulatory arbitrage: main motive behind setting up ABCP conduits (losses from conduits remained with banks). Very little risk transfer. Very little credit support (would have been considered on balance sheet). Corrected by Basle 3: back to balance sheet.

### (2) *Capital requirement “evasion” by shadow banks*

May face no CAR, yet receive assistance: see later.

# BACK TO BASICS: WHY SUPERVISE?

## (1) REPRESENTATION HYPOTHESIS

[Dewatripont-Tirole 1994]

- Small depositors cannot monitor BS and O-BS activities. Supervisor as representative of their interests (alignment of incentives through DIF, which then has dual role).
- Prevention of bank runs: can also be seen as depositor protection.

Strengths of argument

- explains regulation of small, non-systemic banks,
- unifies rationales for prudential supervision of institutions including when they are not really exposed to runs (insurance, pensions).

Weaknesses of argument

- LTCM? Investment banks in 2008?

## (2) CONTAGION & (3) FIRE SALES

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(2) Cross exposures

(3) Fire sales

Implications of (2) and (3): ring fenced regulated sector

- directly: no cross exposures, unrevocable lines of credit...
- indirectly: do not rely on assets that are held also by shadow banks for liquidity purposes (rather: LCR,... and if needed public liquidity).



## (1) Addressing contagion:

- Structural separation and ring-fencing
- Migration OTC toward exchanges

## (2) Regulating SIFIs; cat-and-mouse game.

- How do we know who is systemically important?  
[LTCM? AIG?]
- Supervisors already are understaffed to oversee retail institutions; besides, activities migrate toward less regulated segment.

## *Gut feeling:*

Insulate prudentially regulated entities (retail banks, insurance companies, pension funds) from counterparty risk: stop the SBC for unregulated entities!

- Vickers: one step in this direction: limited exposure to own investment bank; must be true of external, unregulated players as well.
- need to go faster in migration toward use of centralized exchanges (with prudential supervision of exchanges).

*Trilogy:*

- 1. Fragile & politically sensitive clients**
  - retail depositors;
  - SMEs that borrow from bank and hoard liquidity there
- 2. Safe-asset creation through access to public money**
  - Discount window, LOLR, bailouts, DI: targeted liquidity
- 3. Prudential supervision**

Not a coincidence!

*Objective:* shed light on this trilogy

*Ingredients of the theory*

- (1) State is benevolent, but (a) *lacks commitment*  
(b) *has limited supervisory capability*  
(cat-and-mouse idea)

*Implications:*

- there will be action outside regulated sphere
- temptation of migration: have one's cake and eat it too
- state must make it incentive compatible to remain in regulated sphere.

*Remark:* Here shadow banking is an unavoidable nuisance. More positive view of shadow banking could result from supervisory imperfections (limited supervisory capability, career concerns, capture) together with emergence of reputable shadow intermediaries.

(2) State cannot refrain from bailing out fragile agents (depositors, SMEs), actually brings value in the process. But demands *quid pro quo*

- supervision (LCR, CAR) and deposit insurance
- cheap deposits and liquidity support.

(3) *Optimal mix to create safe assets*

- LCR/solvency
- access to public liquidity

Limits on safe assets in economy, government's comparative advantage: creation and tail risk insurance

[Holmström-Tirole 1998]

(4) *Regulation is constrained by the treat of migration*

When does regulation remain effective?

# FRAMEWORK (SKETCH)

(1) *(One-sector) building block*. 3 periods, payoffs realized at date 2

*Date 0 (investment stage)*

(Representative) bank

- invests  $i$  in illiquid assets (loans to SMEs), that pay off at date 2
- hoards costly liquid assets with value  $\ell$  at date 1 (safe, no prop trading)

*Date-1 (potential liquidity need)*

Two possible macroeconomic states:

- BAU: no need to reinject
- liquidity needs (1 for 1): if bank reinjects  $j \leq i$ , continue on scale  $j$ .

$$j = \frac{\ell + x}{k}$$

$x$ : liquidity support from state

$k$ : leverage (depends on pledgeability of date-2 income)

## Liquidity support

### (a) Non commitment

State values  $j$  at  $\beta_j$ , has cost of funds  $C(x) \Rightarrow$  willing to supply up to  $x^{nc}$ :

$$C'(x^{nc}) = \frac{\beta}{k} \quad (\text{and so } \ell^{nc} = ki^{nc} - x^{nc})$$

“nc”: non commitment

### (b) Commitment

$$0 < x^c < x^{nc}$$

First inequality: benefit of publicly supplied liquidity

Second inequality suggests instrument: LCR/NSFR (force banks to hoard  $\ell^c = ki^c - x^c$ )

## (2) *Adding migration toward shadow banking*

- Suppose LCR at  $\ell^c$ . Shadow banks have access to bailouts as well. Shadow banks hoard no liquidity ( $x^c < x^{nc} \Rightarrow$  state is resilient/ has free bailout capability) and make higher profit than regulated banks.
- Incentive compatibility.

At constrained optimum, LCR satisfies

$$\ell^c > \ell \geq \ell^{nc}$$

$\ell > \ell^{nc}$  if

- either small probability  $p$  that shadow banks are not bailed out
- or risk averse depositors + DI



### (3) *Adding special depositors*

- very risk averse
- demand a low rate of return

Quid-pro-quo:

- regulated banks benefit from cheap deposit manna: carrot
- state guarantees these deposits

## (1) *Nuisance power of shadow banks*

Here linked to its directly attracting sensitive stakeholders (retail investors, SMEs); could of course be indirect (interconnectness).

- regulated sector ring fenced
- no fire sales externalities (regulated banks' liquidity provided by hoarding of safe assets and by state liquidity support, not resale of illiquid assets)

## (2) *Fragility of regulatory scheme*

- SMEs: hard to bail out SMEs without rescuing shadow banks
- retail investors: in principle, could dissociate and bail out only retail investors. Is this feasible?

Strategic complementarities in migration of fragile stakeholders.