Why Regulate Shadow Banking?

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Bank Capital Requirements

- 2010 Dodd-Frank Act did not mandate specific levels for banks' capital requirements – left it to Basel Committee on Banking Supervision

- September 2010 – Basel III:
  - minimum equity capital set at 7% of assets
  - counter-cyclical buffer of up to 2.5% of assets imposed by regulators during "good times"

- "Basel III is much tougher than Basel II…implies the bankers' incentive to game the system is even greater than before…" (*Financial Times*, 9/21/2010)

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Financial Crisis and Banking

- Financial crisis triggered by "systemic event" – increase in subprime mortgage defaults
- Caused bank run in "shadow-banking" sector – forced rescues (Bear Stearns) and bankruptcies (Lehman Brothers)
- Pre-1930s, bank runs occurred when depositors sought to withdraw cash *en masse*
- Collapse of liquidity in recent crisis due to run on repurchase market - rise in price of "haircuts" and cessation of "repo" lending on certain collateral

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Shadow Banking

- **Issuance of short-term money market instruments (repo) based on asset backed securities (ABS)**
- **Players: broker-dealers, structured investment vehicles, and money market mutual funds (MMMFs)**
- **2010 – liabilities of $16 trillion**
- **Evolved over past 40 years due to:**
  - **competition – MMMFs and junk bonds**
  - **regulatory change – repeal of Glass-Steagall Act**
  - **innovation – derivatives and securitization**

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Shadow Banking

Investors (MMMFs)

$

Shares

Retail Investors

ABS

$

Collateral

$

Securitization through SPVs

Repo Agreements

Loans

$

Banks

Loans

$

Borrowers

Key:
ABS = asset-backed securities
MMMFs = money market mutual funds
SPVs = Special Purpose Vehicles

Source: Gorton and Metrick (2010)

Repo Agreements

- With cap on deposit insurance, large institutions have no access to safe short-term investments
- In repo market, Bear Stearns sells assets (collateral) to Fidelity for $Xm, and buys assets back at $Ym, where (Y-X)/X is "repo rate" – investor keeps collateral if bank defaults on promise to repurchase
- Amount investor deposits with bank typically less than value of asset, i.e., there is a "haircut"

<u>Example</u>: Bank sells asset worth $2m for $1.6m, and repurchases at $1.76m, "repo rate" = 10%, and "haircut" = 20%

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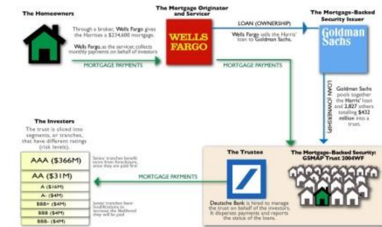
Securitization



- **Loan originators can sell claims to cash flows**
- **Multiple loans "pooled", and assembled off-balance sheet in a trust - Special Purpose Vehicle**
- **Pool of loans "tranched" – designation of classes of claimants on cash-flows, i.e., AAA through to BBB**

  Example: 100 loans in pool, BBB tranche loses money if 1 loan not repaid, AAA tranche only loses if all 100 loans not repaid
- **ABS sold to capital market to finance purchase of cash flows from originator or used as collateral in repo agreements**

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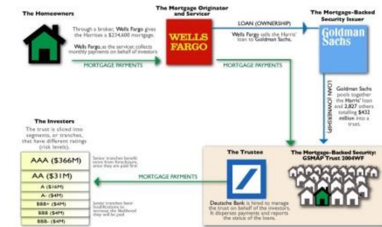
Why Securitization?



- **Benign Story:**

  Securitization spreads risks across wider range of investors – lowers lending costs

  Also, if securitization done properly, senior tranches of ABS relatively easy for non-specialized investors to evaluate – expands buyer-base

- **"Regulatory Arbitrage" Story:**

  Rules on bank capital requirements, i.e., 1988 Basel I provisions, avoided via off-balance-sheet vehicles

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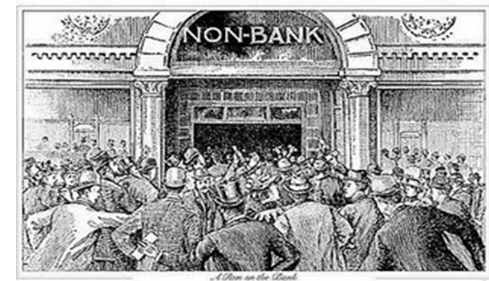
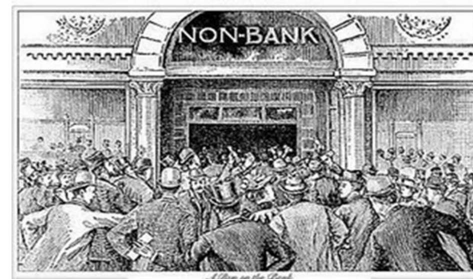
The Run on Repo



- 2007, investors became concerned about quality of ABS and began to pull back on short-term lending – causing run on repo, with sharp increase in haircuts
- If borrower has $1 billion of ABS, and haircuts rise from 2% to 50%, equivalent to deposits falling from $980 to $500 million
- Borrowers forced to liquidate ABS, depressing prices via “fire-sale” effect, reducing value as collateral, and causing further pullback in short-term lending
- Liquidity crisis eventually backstopped by Federal Reserve after Lehman’s collapse

The Run on Repo



Average Repo Haircut on Structured Debt

Percentage

50
45
40
35
30
25
20
15
10
5
0

1/2/2007 3/2/2007 5/2/2007 7/2/2007 9/2/2007 11/2/2007 1/2/2008 3/2/2008 5/2/2008 7/2/2008 9/2/2008 11/2/2008 1/2/2009

Source: Gorton (2009)

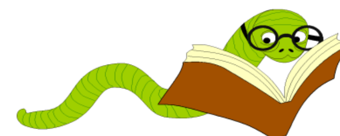
Shadow Banking Regulation

- Shadow banking ought to be regulated as it is new form of banking with same vulnerabilities as traditional banking

- What might regulation consist of?
  - the "Good": independent of market conditions, minimum haircuts should be charged
  - the "Bad": expansion of federal safety nets
  - the "Maybe": limiting creation of "pseudo-riskless" securities

* Stein (2010)

Relevant Citations



(i) Gary Gorton (May 2009), "Slapped in the Face by the Invisible Hand and the Panic of 2009"
http://www.frbatlanta.org/news/CONFEREN/09fmc/gorton.pdf

(ii) Gary Gorton and Andrew Metrick (September 2010), "Regulating the Shadow Banking System"
http://www.brookings.edu/~/media/Files/Programs/ES/BPEA/2010_fall_bpea_papers/2010fall_gorton.pdf

(iii) Jerome Stein (May 2010), "Securitization, Shadow banking, and Financial Fragility"
http://www.economics.harvard.edu/faculty/stein/files/SecuritizationShadowBankingAndFragilityRevised.pdf

Thank you

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