

The Current Financial Crisis, Other Recent Crises, and the Role of Short-term Debt

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The Financial Crisis of 2007-08

- **What was the shock** that started it all?
 - House Prices
 - Incentives
 - Securitization
- Why a crisis?
 - Short-term debt
 - Losses cause rapid de-levering to avoid a run
- Why Short-Term Debt and threat of runs?
 - Incentives
- How is this Crisis Like All Others?

The Crisis: (What was the shock?)

- Losses in value of highly levered financial institutions.
- Credit losses due to bad mortgage loans and dropping collateral value (real estate prices)
- Role of securitization on mortgage originations (You will hear Amit Seru, next week)

Background for the shock: Intermediaries and Incentives

- Changes in the structure of securitization (**poor incentives**)
- Role of credit rating agencies (**poor incentives** plus incompetence)
- **Poor Incentives** within financial institutions (UBS example)

Rating Agencies, I-Banks Got it Wrong

- Benmelech and Dlugosz (2008) looks at CDO ratings by S&P (not mortgage backed)
 - A Portfolio of B+ average ratings gets 70% AAA rated tranches
 - Can explain ratings only with implausibly low default correlations and very high recovery rates given default.
- UBS: buy 2% default coverage of Super Senior sub-prime CDO makes it risk free!

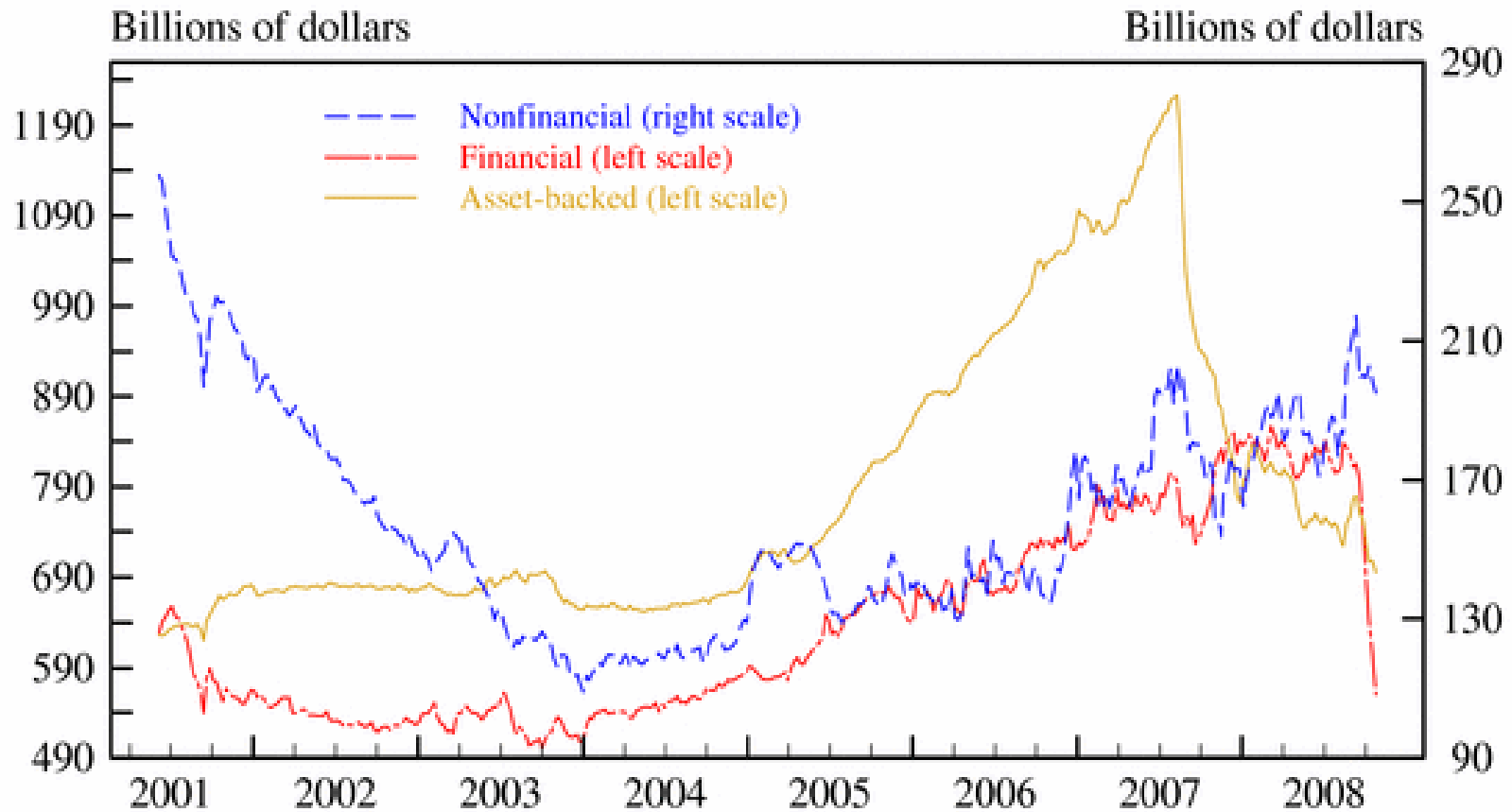
Large Subprime losses, but short-term leverage lead to the crisis

- Subprime mortgage: 15% of US\$ 10tr = US\$ 1.5tr
- Say: 50 % default, only recoup 50%
- Total loss: US\$ 375bn, incl. Alt-A say, US\$ 500bn
- 2% change in 2007 stock market > US\$ 500bn
- **Amplifying mechanism needed!**
 - Even if losses were US\$1.5tr.

The Crisis Involves many Interrelated Issues

- New and Old Forms of Intermediation
 - Commercial Banks, SIVs, CDOs, I-Banks
- It started as and continues to be a short-term debt crisis
 - Asset Backed Commercial Paper (with backup lines of credit)
 - Short-term demandable customer claims on Bear Stearns
 - Short-term debt of other banks and I banks.

US Commercial Paper Outstanding



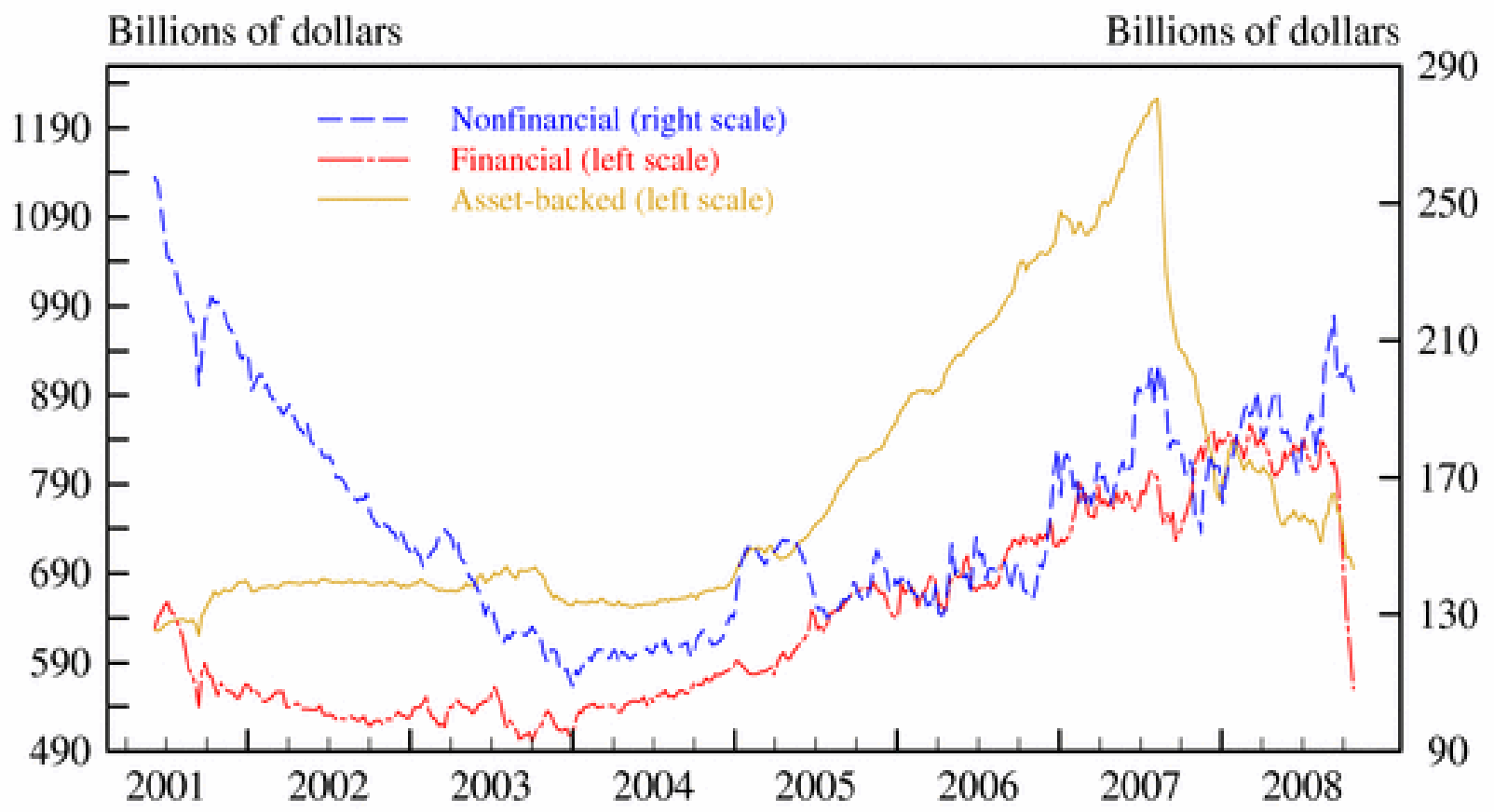
Short-term debt

- Runs if any significant chance of future losses.
- This can be self-fulfilling if assets are illiquid.
 - Runs cause and are caused by liquidity problems
 - Diamond-Dybvig [1983]
- The threat of runs can be a source of discipline to banks/ I banks , ex ante.
 - Diamond-Rajan [2001]
- Short-term debt helps limit poor incentives, by triggering runs if capital gets low.

Two way link between Insolvency and Illiquidity

- Runs make financial crises be very rapid and contagious once capital is low or panic sets in.
- Banks that have low capital fear runs and dump assets for less than they are worth now.
- Banks that are experiencing runs **MUST** dump assets.

US Commercial Paper Outstanding: A Funding Crisis



Two way link between Insolvency and Illiquidity

- This two way link is studied in the model of Diamond-Rajan [2005].
- Low asset prices make banks insolvent and make it hard to compete for funds from depositors or in the interbank market.

Rapid De-levering: Fire sale prices

- When I Banks, Banks and even “margin called” hedge funds must sell assets rapidly, they can depress the price if asset is illiquid.
- This occurs even more if a run on them is underway.

Dynamics: The prospect of a future fire sale stops current trade

- If the fire sale may come soon, buyers will not be willing to pay what they think is the “long-run” value of an asset.
- Sellers will seek to hold on to the asset, and sell other more liquid assets, hoping they will not be run and forced to sell the assets.
- No trade until we learn if “super bargain” fire sale will occur.

Stopping Contagious Bank Failures due to a Dynamic Fire Sale

- Paulson plan to buy assets intended to stop this, removing the fear of future fire sales from depressing **current and future** illiquid asset prices.
- Recapitalizing banks, to stop runs and fire sales will work even better per dollar injected.
- Avoid fire sales, present and future, allowing distressed buyers to know that the bargain will not become even bigger.

The current crisis is like all others

- Financial crises are everywhere and always due to problems of short-term debt (and to the reasons why short-term debt is needed).
- The trick is to find the short-term debt.
- Find the first come- first served element that causes runs.

Find the first come- first served: “Find the Short-term debt”

- East Asia, 1997: short term foreign debt
- LTCM/ Russia 1998: Margin loans
- Stock Market Crash/ Reversal 1987.
 - Delays in order processing prevented real time orders and information
- Bank runs in 1930's.
 - Demand deposits.

The current crisis is like all others

- Financial crises are everywhere and always due to problems of short-term debt (and to the reasons why short-term debt is needed).
- The trick is to find the short-term debt (sometimes it is well hidden).

Lessons/ Questions for the Future

- How to provide better incentives?
- Is there “too much” short term debt?
- Is regulation the answer?
 - Regulation of what?