

1998

Incentive Problems

Securitization
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Lehman Brothers
AIG
Bank Failures
\$700 Billion Bailout
Monetary Policy: I

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The Future

Basel III

Historical Backdrop to the 2007/08 Liquidity Crunch

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August 17, 1998 Russian Government restructured debt.
Relatively minor event that shook foundations of finance.

Long Term Capital Management: Hedge Fund:

- ▶ Beginning of 1998: \$5 Billion in Equity, \$129 Billion in Assets, \$1.25 Trillion Notional Principal in Swaps (off Balance Sheet).
- ▶ In August, Russian event induces “bank run.”
- ▶ In September, the Federal Reserve Bank of New York organized a bailout with major creditors.
- ▶ **Why?**

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Between 2002 and 2007, there was a 70% increase in junk bonds outstanding. Most of this funded private equity deals (and buy-outs).

- ▶ \$686 billion *equity* invested in 2007.
- ▶ Equity provided by institutions seeking high returns in a low interest rate environment.
- ▶ Debt provided by insurance companies and banks.

Unprecedented spike in housing prices in 2006.

Securitization

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- ▶ Basic idea: Pool assets
 - ▶ Identical Ex-Ante
 - ▶ Tranches: Sort on Ex-Post Risk
- ▶ Example: I make 100 identical loans:
 - ▶ Equity Tranche: First 15 defaults.
 - ▶ AAA Tranche: No losses until 16th default.

Securitization -2-

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Note that this creates the right incentives *if* I keep the equity pool. This design was extremely popular for many reasons:

- ▶ Natural supply of AAA credit extremely small (relative to demand).
- ▶ Return to equity tranche is high (attractive in low interest rate environment).

Problems:

- ▶ If I sell the equity tranche: Incentive Failure.
- ▶ Ratings Agency: Enablers.

Additional Incentive Distortions

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- ▶ In late 90s Investment Banks went public.
- ▶ Annual Pay so high creates distortions.

Local Warning Signs

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In August, 2007, First Magnus, a Tucson company, files for Chapter 11 Bankruptcy.

- ▶ Bursting of “Housing Bubble.”
- ▶ Beginning of a long wave of credit-related problems.

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The first major casualty: Bear Stearns.

- ▶ March 14, 2008: Federal Reserve Bank of New York arranges emergency loan from JP Morgan-Chase, who within days announced a purchase of Bear.
- ▶ Fed issued non-recourse loan to JP Morgan-Chase for \$29 Billion
- ▶ SEC Chair Cox attributed the collapse of Bear to a failure of confidence—not capital.

Why did the Fed bail out Bear?

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- ▶ This was the first non-bank failure in the current environment. The Fed is not a regulator of the Investment Banks. It lacked information.
- ▶ As the first non-bank failure, the Fed lacked a policy context.

The Fed acted:

- ▶ Created a new lending facility for investment banks.
- ▶ Review the role of Chapter 11 in preventing a run on investment banks.

Fannie and Freddie

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On September 8, the US Treasury placed the GSEs Fannie Mae and Freddie Mac under conservatorship.

- ▶ Despite link to federal government and special role, they had transformed into investment banks.
- ▶ Lax regulation.
- ▶ \$5 Trillion in combined assets.

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- ▶ On September 15, 2008, Lehman Brothers filed for Chapter 11 bankruptcy. This is the largest bankruptcy in US history. (\$639 Billion –previous record: Worldcom \$104 Billion).
- ▶ On September 16, 2008, Barclays plc purchased sanitized Lehman operations.

Lehman Brothers: Fallout

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The failure of Lehman Brothers changed the risk landscape. *Liquidity* risk becomes more important than traditional risk sources. Counterparty risk rises to surface (hitherto: largely ignored).

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- ▶ AIG valued sub-prime mortgages on its books more highly than Lehman.
- ▶ AIG big insurer of subprime paper (Credit Default Swaps). (\$57 Billion worth.)
- ▶ Facing a downgrade which would have forced AIG into default and contagion effects through the CDS market would have been far ranging.
- ▶ On September 16, 2008, the Federal Reserve implemented a rescue package for up to \$85 Billion. In exchange the Fed got warrants for 80% of AIG stock.
- ▶ Another \$67 Billion added in November, 2008.
- ▶ March 2009: AIG announces \$62 Billion loss for Q4 2008. Treasury announces additional \$30 Billion in Aid.

FDIC Success!

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Over this past year, there have been an extraordinary number of bank failures. These have been contained through the FDIC.

Including Washington Mutual, on September 25, 2008, the largest bank failure in history, \$307 Billion in assets.

No more free-standing investment banks:

- ▶ Bank of America acquiring Merrill Lynch.
- ▶ On September 21, Goldman-Sachs and Morgan Stanley received Federal Reserve approval to become bank holding companies.

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On September 19, the US Treasury announces a \$50 Billion Guaranty Program for Money Market Funds (under the auspices of the 1934 Gold Reserve Act, which established the Exchange Stabilization Fund).

On September 19, Treasury Secretary Hank Paulson and Fed Chairman, Ben Bernanke, asked Congress for authority to set up a CMO Czar to remove the bad assets from balance sheets of financial institutions.

Big Problem here: Information revelation.

In light of the above, natural question is: Aren't the horses already out of the barn?

Answer: Hedge Funds and Insurance Companies!

0% Interest Rates.

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On December 16, Fed's Open Market Committee sets the target Federal Funds Rate to 0 to 0.25%.

On December 19, US Treasury authorizes loans of \$13.4 billion to General Motors and \$4 billion to Chrysler from TARP.

On December 29, US Treasury announces it will purchase \$5 billion in equity from GMAC.

FED Balance Sheet

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March 18, 2009, FOMC authorizes purchase of \$1.25 trillion of agency mortgage-backed securities and increase purchase of agency securities to \$200 billion.
Also start of *Quantitative Easing*. Fed's Assets peak at \$2.1 trillion in June 2010. Regular purchases continue to this day.

Broad Scope

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Recommendations:

- ▶ Minimum Bank equity: 7%.
- ▶ Introduction of a Leverage Ratio.
- ▶ Counter-cyclical Capital Buffers.
- ▶ Limit Counterparty exposure.
- ▶ Short and medium-term quantitative liquidity ratios.