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Nobel Symposium
"Money and Banking"

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RIKSBANKENS JUBILEUMSFOND

THE SWEDISH FOUNDATION FOR HUMANITIES AND SOCIAL SCIENCES

The Regulation of Private Money Production

Gary Gorton, Yale and NBER

Why regulation?

- The goal of bank regulation is to reduce the likelihood of a financial crisis, a bank run.

Financial Crisis

- A "financial crisis" is an event in which households and firms no longer believe that bank debt (private money) is worth par – instead they want cash en masse: <u>A run on the banks</u>.
- But, banks do not have the cash, so insolvent. So, the banking <u>system</u> is insolvent.

Financial crises are not rare

- Financial Crises:
  - Have occurred in all market economies throughout history;
  - Occur in advanced economies and in emerging markets;
  - Occur in economies with or without central banks;
  - Occur in economies with and without deposit insurance;
  - Occur with different forms of bank debt.

Financial crises not rare

- Since 1970 there have been 147 systemic events around the world.
  - Of the 147 events, about 65% involved bank runs.

- Modern crises may appear to be idiosyncratic. Agents’ expectations cause them to wait for central bank or government intervention.


L.W. SCHWENK
DO
EUROPY
$22

Banks

- The output of a bank is short-term debt.
  - Diamond and Dybvig (1983): debt for consumption smoothing.
  - Gorton and Pennacchi (1990): debt for transactions without adverse selection.

- But, such debt is vulnerable to runs: financial crisis.

What is the problem with bank debt?

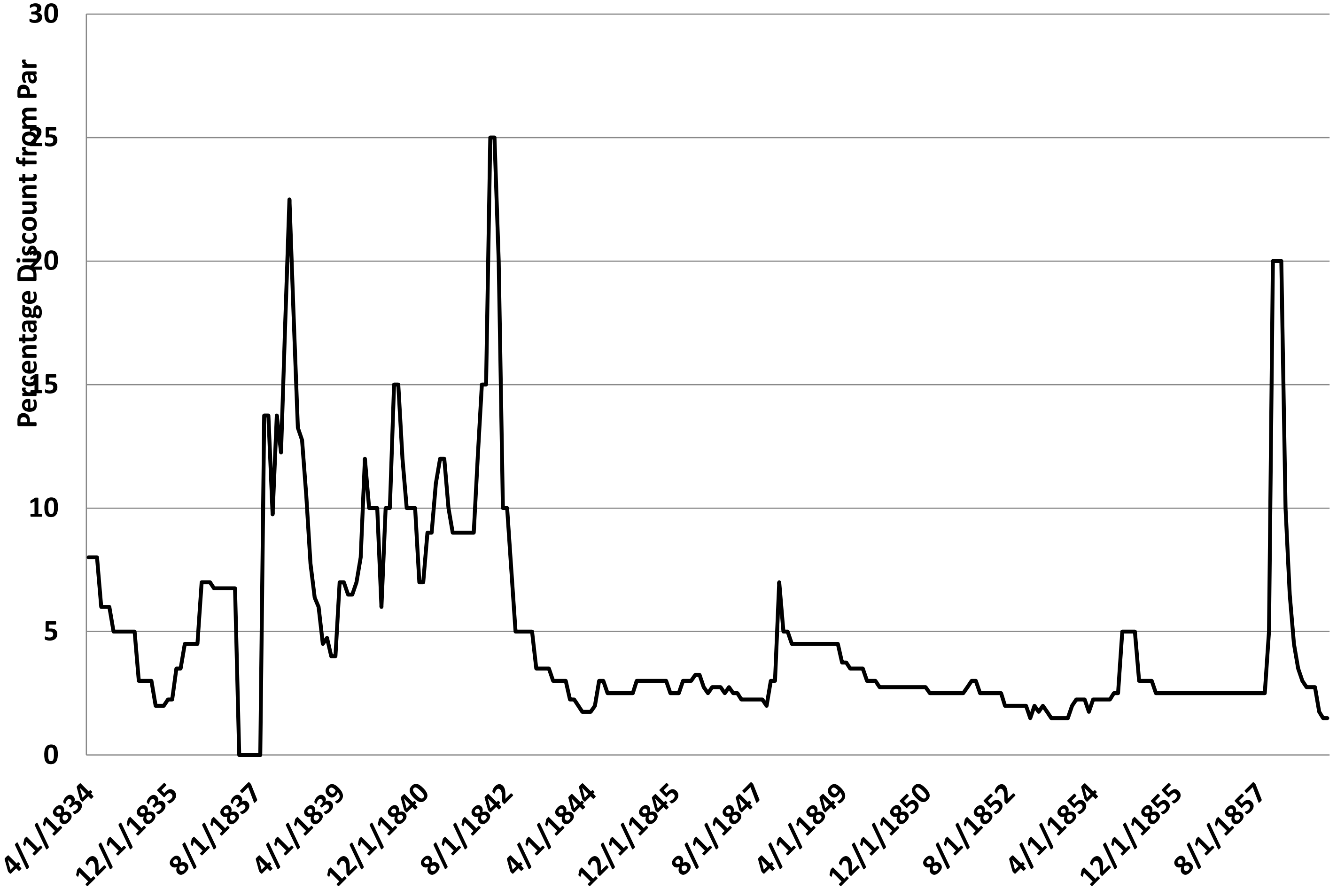
- Bank debt is produced to be information-insensitive.
  - It is not profitable for any agent to produce private information about the debt. And all agents know this.
  - In other words, <u>we do not want the price system to work</u>.

- When the price system works-→crisis.

- Why is this?


ONE
NEW YORK
BULL'S HEAD BANK
A
No
ONE
One
Dollar

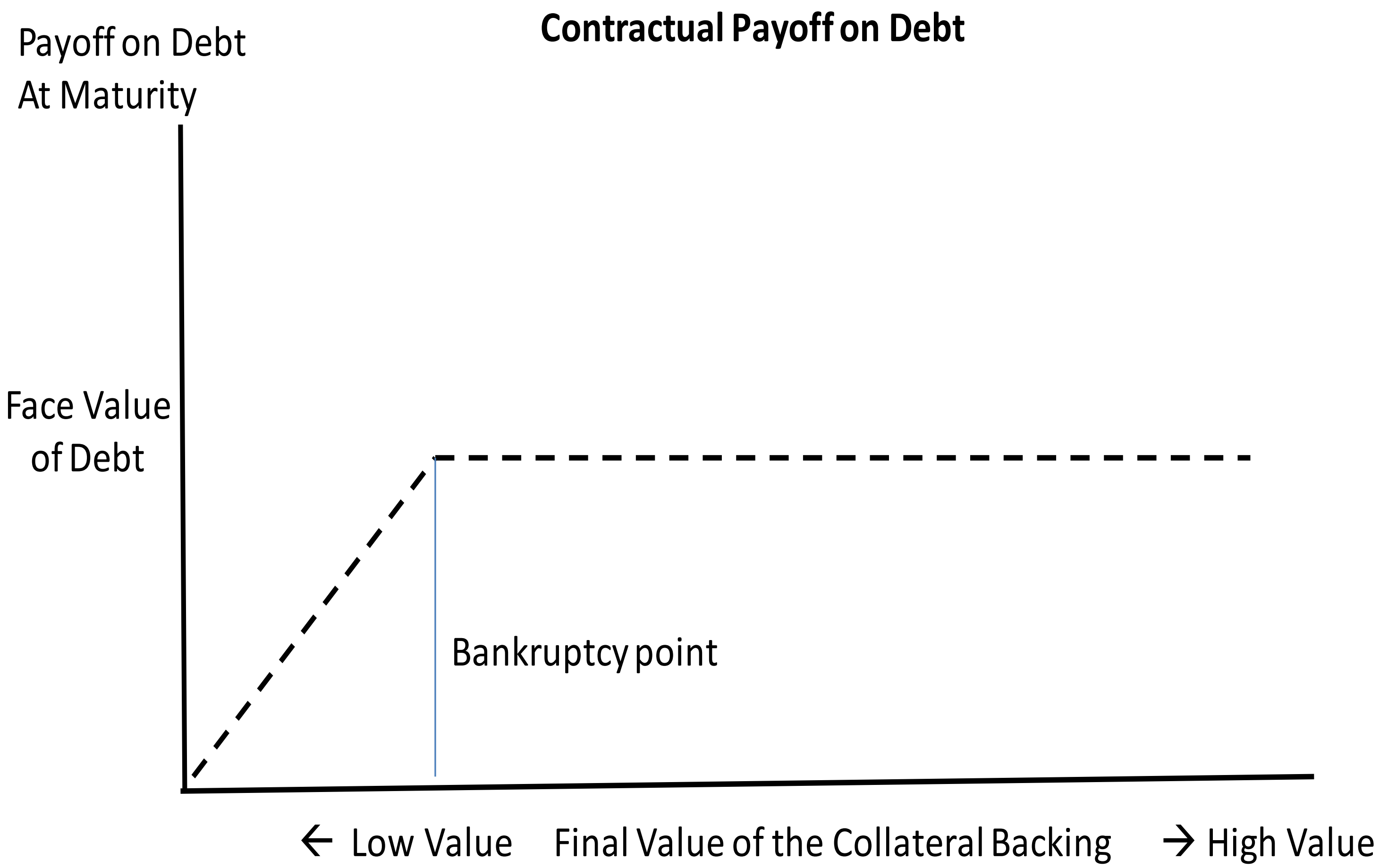
Planters Bank of Tennessee Note Discount in Philadelphia

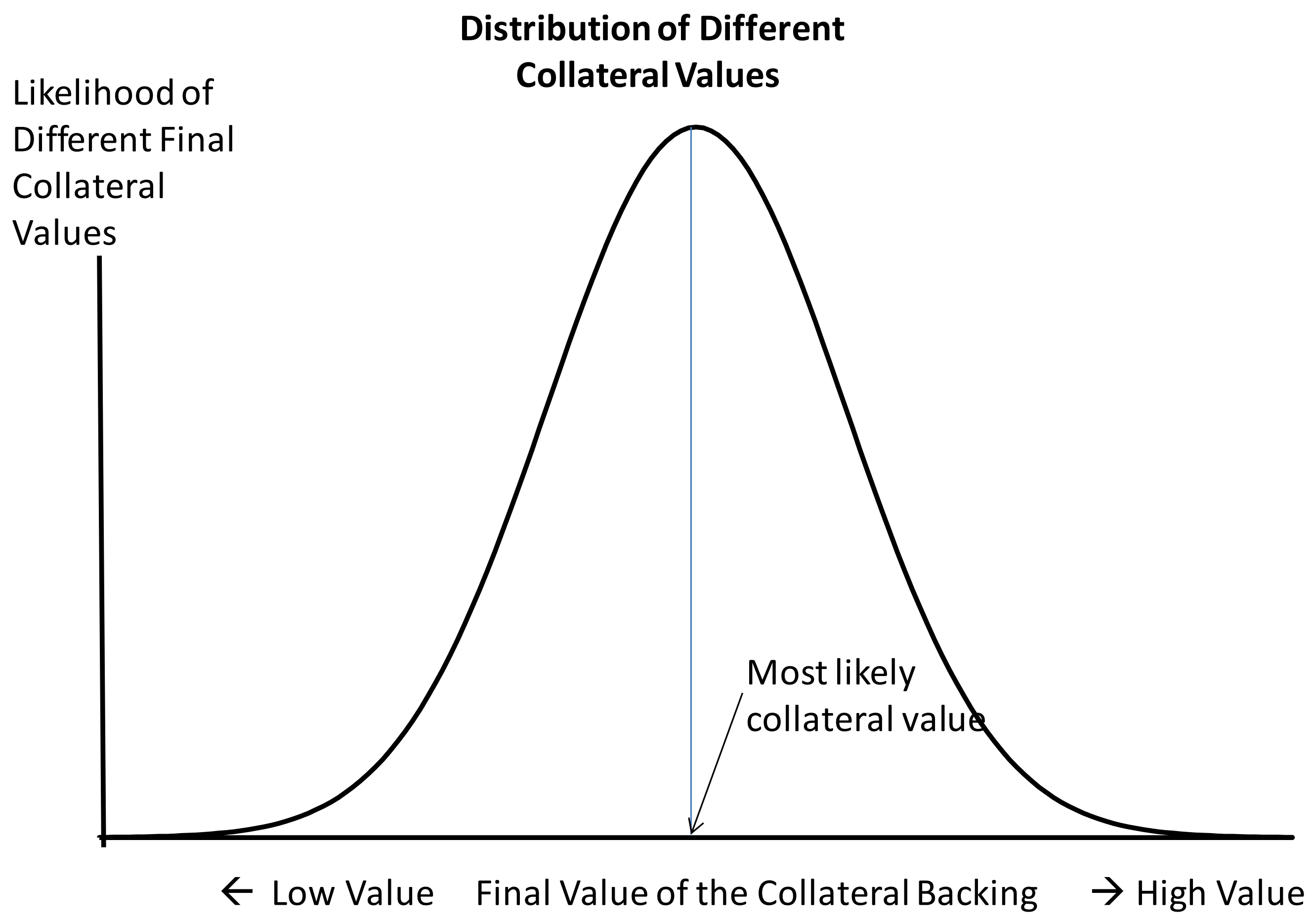


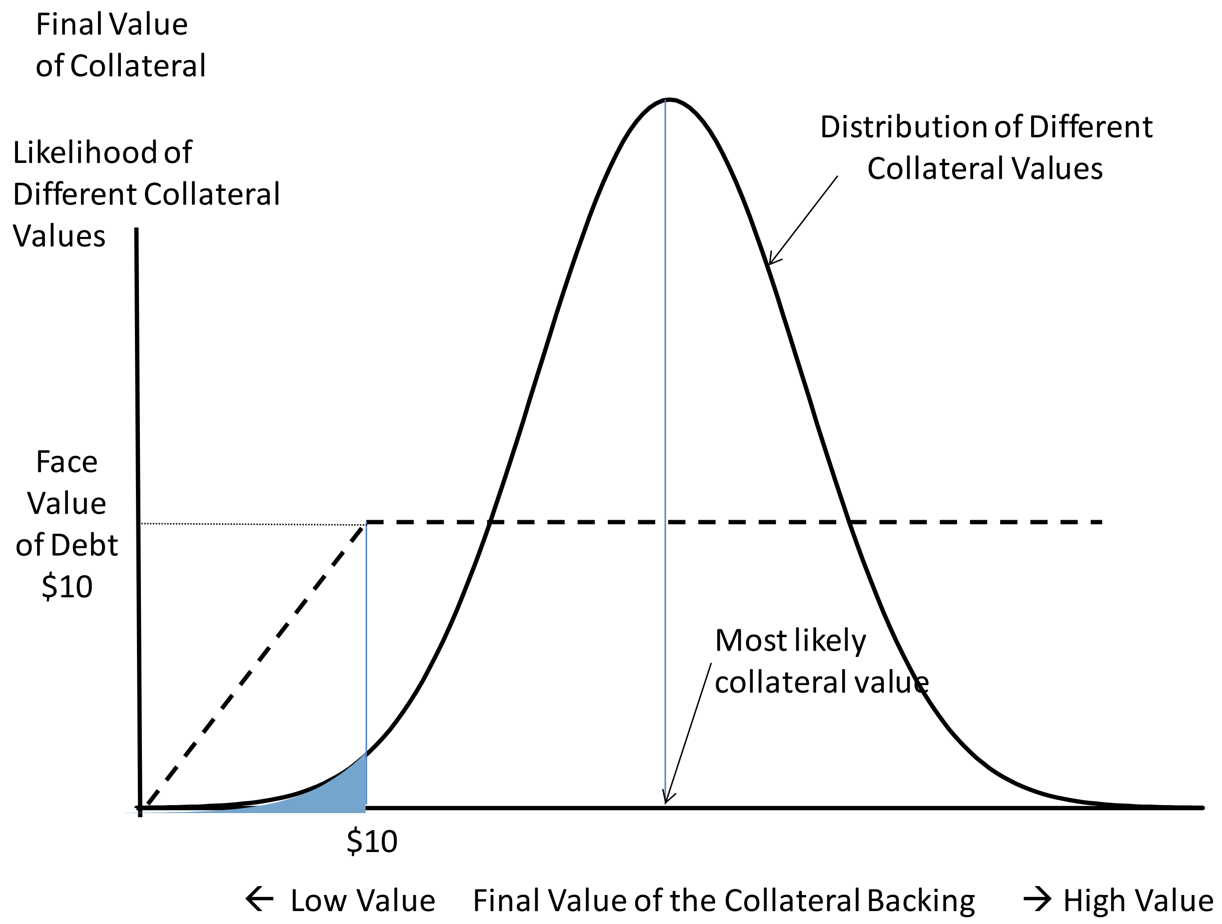
Source: Gorton and Weber.

“In the use of money, everyone is a trader; those [who] are little suited to explore the mechanism of trade are obliged to make use of money, and are no way qualified to ascertain the solidity of different banks whose paper is in circulation; accordingly we find that . . . laborers, and mechanics of all descriptions, are often severe sufferers by the failure of country banks . . . “ Ricardo (1876, p. 409)

Intuition for Dang, Gorton, Holmström (2015)

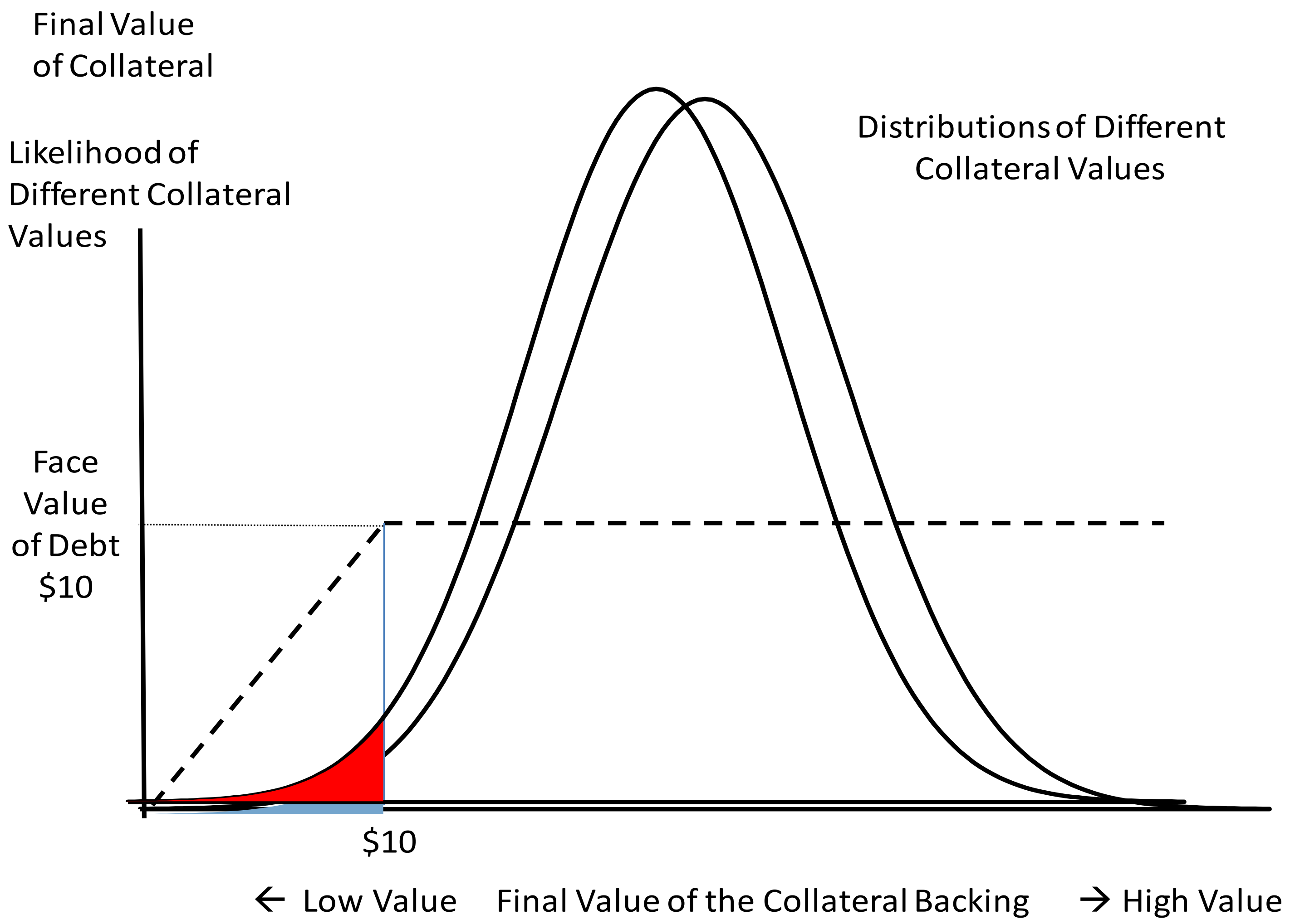


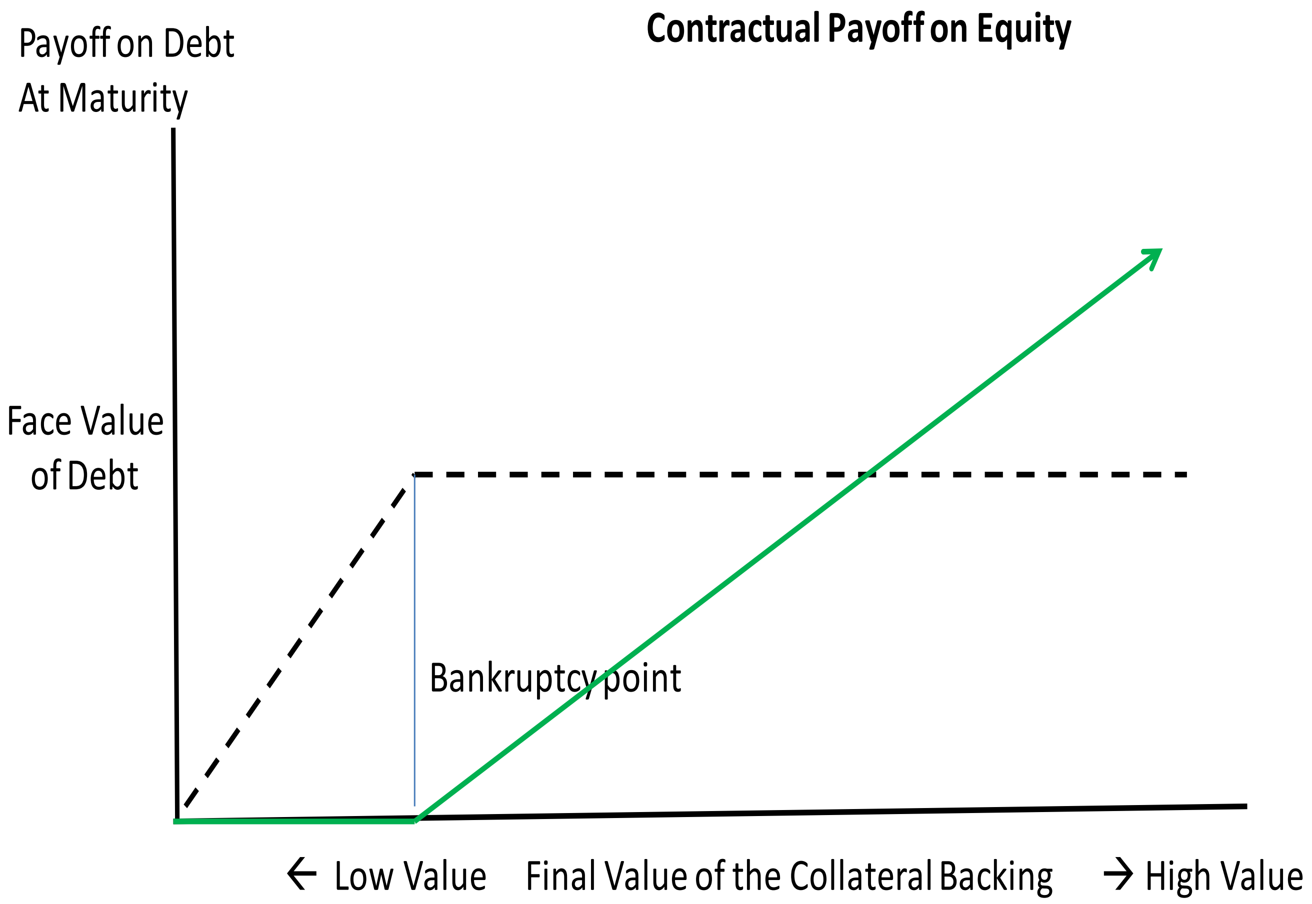

Distribution of Different
Collateral Values
Likelihood of
Different Final
Collateral
Values
Most likely
collateral value
← Low Value
Final Value of the Collateral Backing
→ High Value



Final Value
of Collateral
Likelihood of
Different Collateral
Values
Distribution of Different
Collateral Values
Face
Value
of Debt
$10
Most likely
collateral value
$10
← Low Value
Final Value of the Collateral Backing
→ High Value

A Financial Crisis: Loss of Confidence

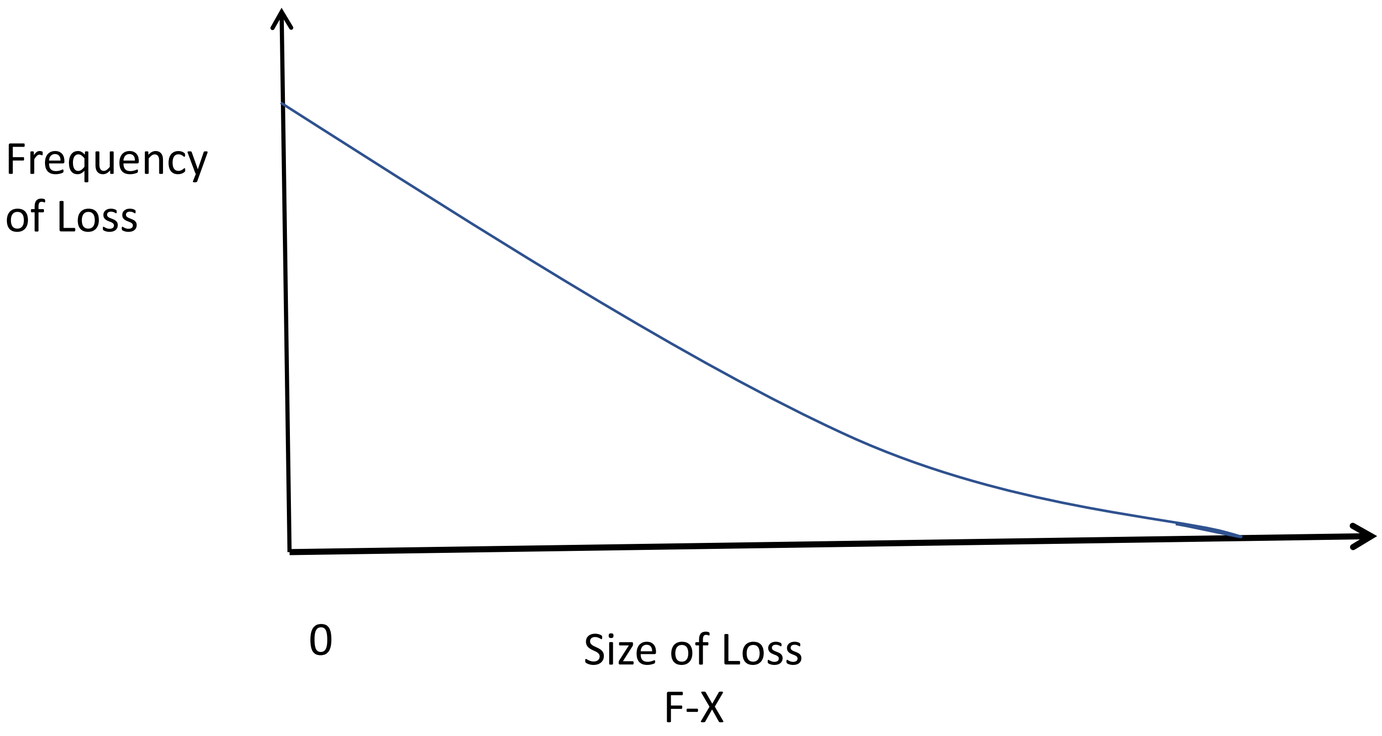


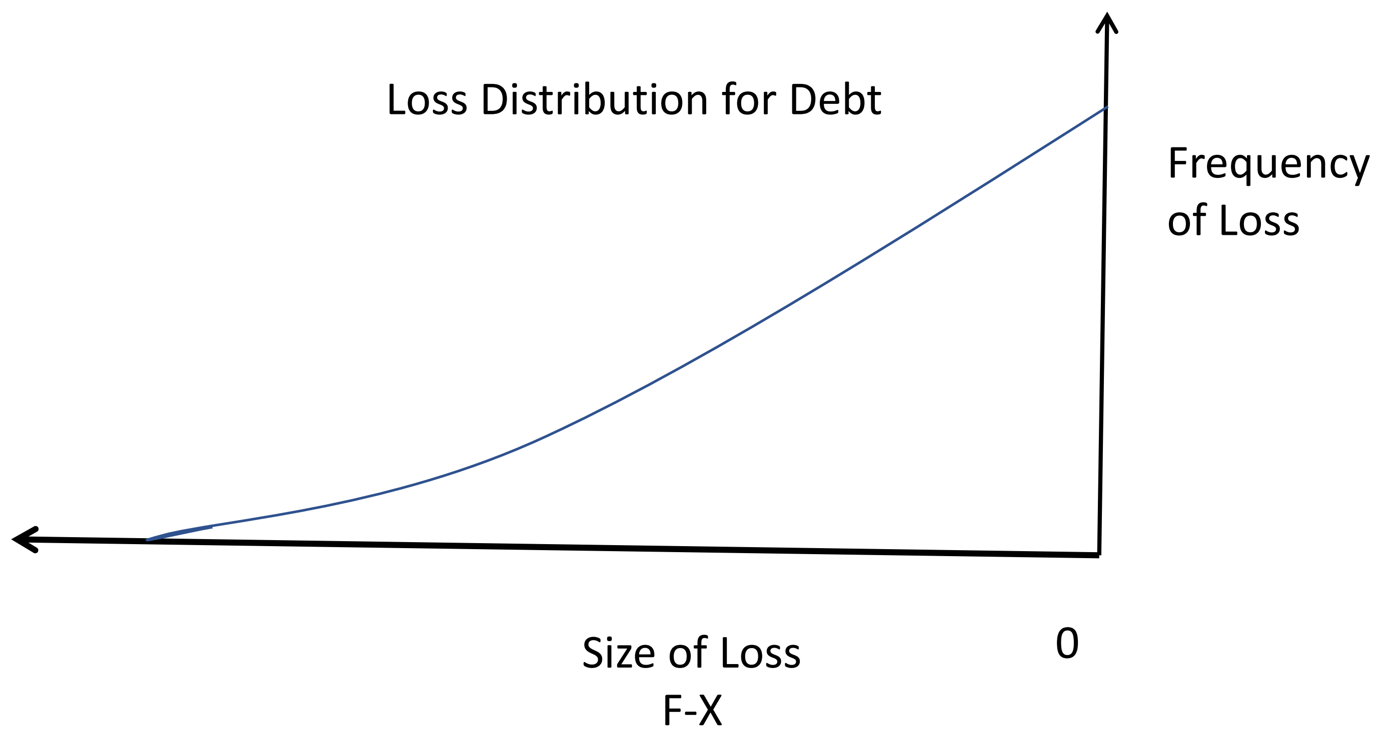

Contractual Payoff on Equity
Payoff on Debt
At Maturity
Face Value
of Debt
Bankruptcy point
← Low Value
Final Value of the Collateral Backing
→ High Value

Debt and Info

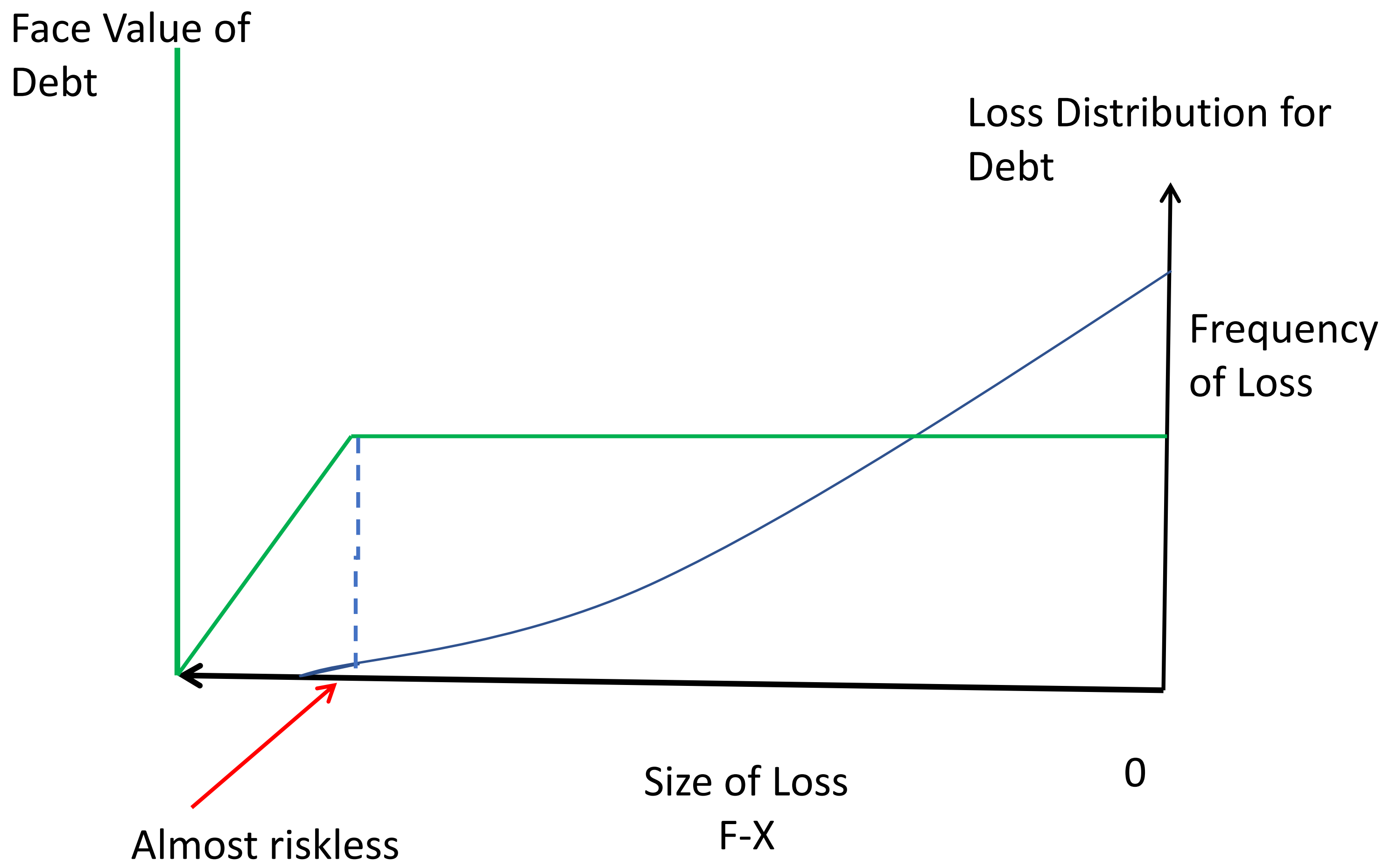
- Cut cash flows by seniority—
- →cuts information!
- That's the point of debt.

Loss Distribution for Debt




Loss Distribution for Debt
Frequency
of Loss
Size of Loss
F-X
0

Maximal Info-Insensitivity: Debt-on-Debt



Implications: Bank Secrecy

- Banks are surrounded by secrecy (Dang, Gorton, Holmström, Ordoñez (2017)).
  - High cost to produce info.
  - Bank assets hard to value, e.g., home mortgages , small business loans.
- ABS/MBS opaque.

Regulation

- Two approaches:

  - Require high-quality collateral (don’t worry about the short-term debt).

  - Insure the short-term debt (don’t worry about the collateral).

Collateral

- UK Peel’s Act 1844: back (most) BoE notes with gold.
- US free bank notes (1837-1863): had to be backed by state bonds
  - State bonds risky; still had panics
- US national bank notes (1863-1914): backed by U.S. Treasuries
  - Under-issuance of national bank notes; deposits grew; panics now with respect to deposits
- BIS Liquidity Coverage Ratio

Insurance

- NY Safety Fund (1829): Collapsed in the Panic of 1837.
- Five other states adopted insurance prior to the Civil War. Not successful.
- Following the Panic of 1907, eight states adopted insurance, but all eventually collapsed.
- In the U.S. insurance from the Banking Act of 1933 was successful----but form of banks and short-term debt changed.

Insurance

- Since WWII many countries have adopted deposit insurance.
- Results from panel data: insurance increases the probability of crisis.

- But these results depend on the “events method” for dating crises.
- Boyd et al using different dating find that the prob of crisis is not predicted by the presence of insurance.

Charter value and Entry Restrictions

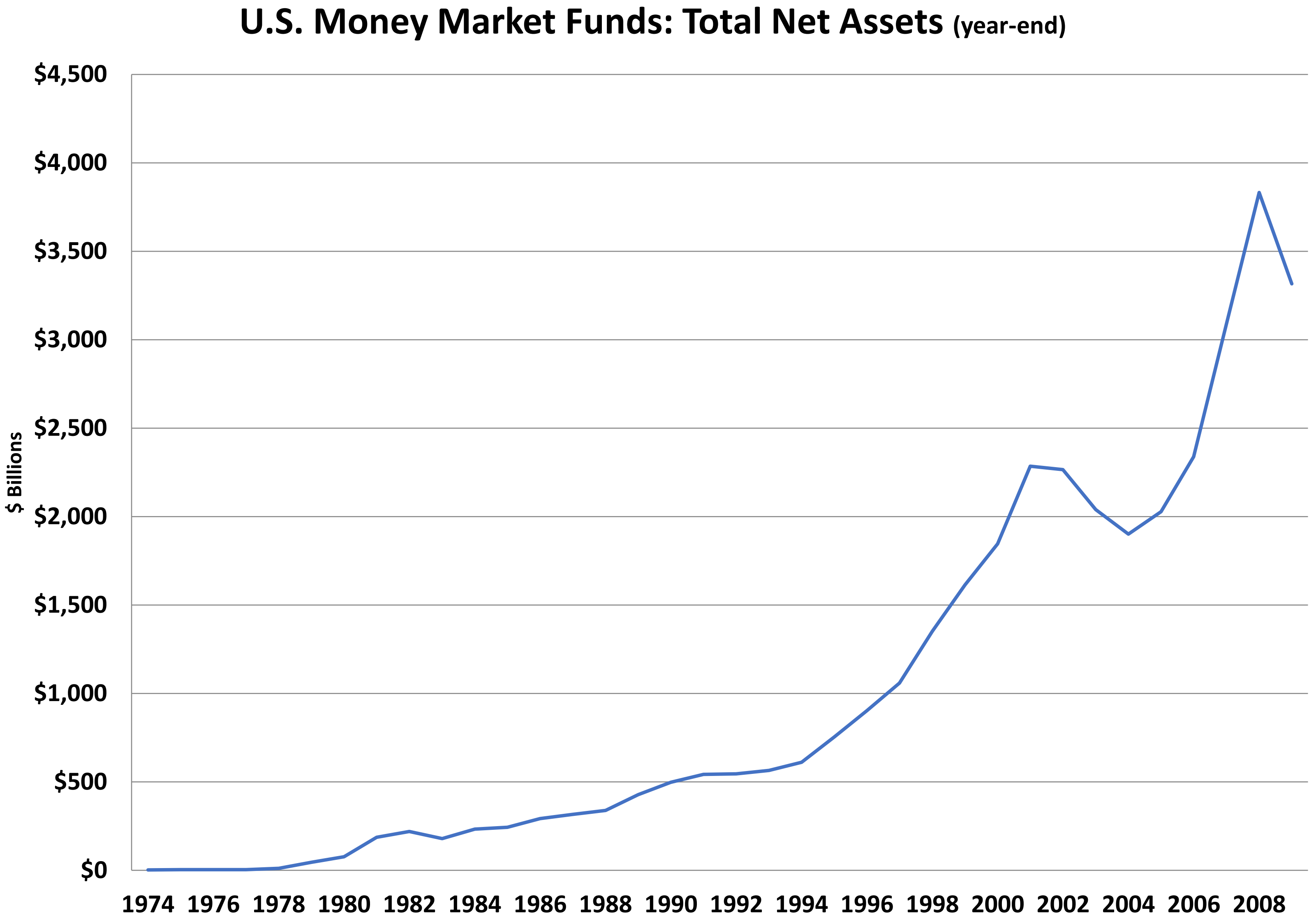
- Entry into banking limited; and nonbanks legally prevented from issuing short-term debt.
- Entry restrictions create charter value, the PV of monopoly rents.
- Charter value creates an incentive for banks to follow the rules.

- But trouble identifying “banks” and bank money.

Demand Deposits not Understood

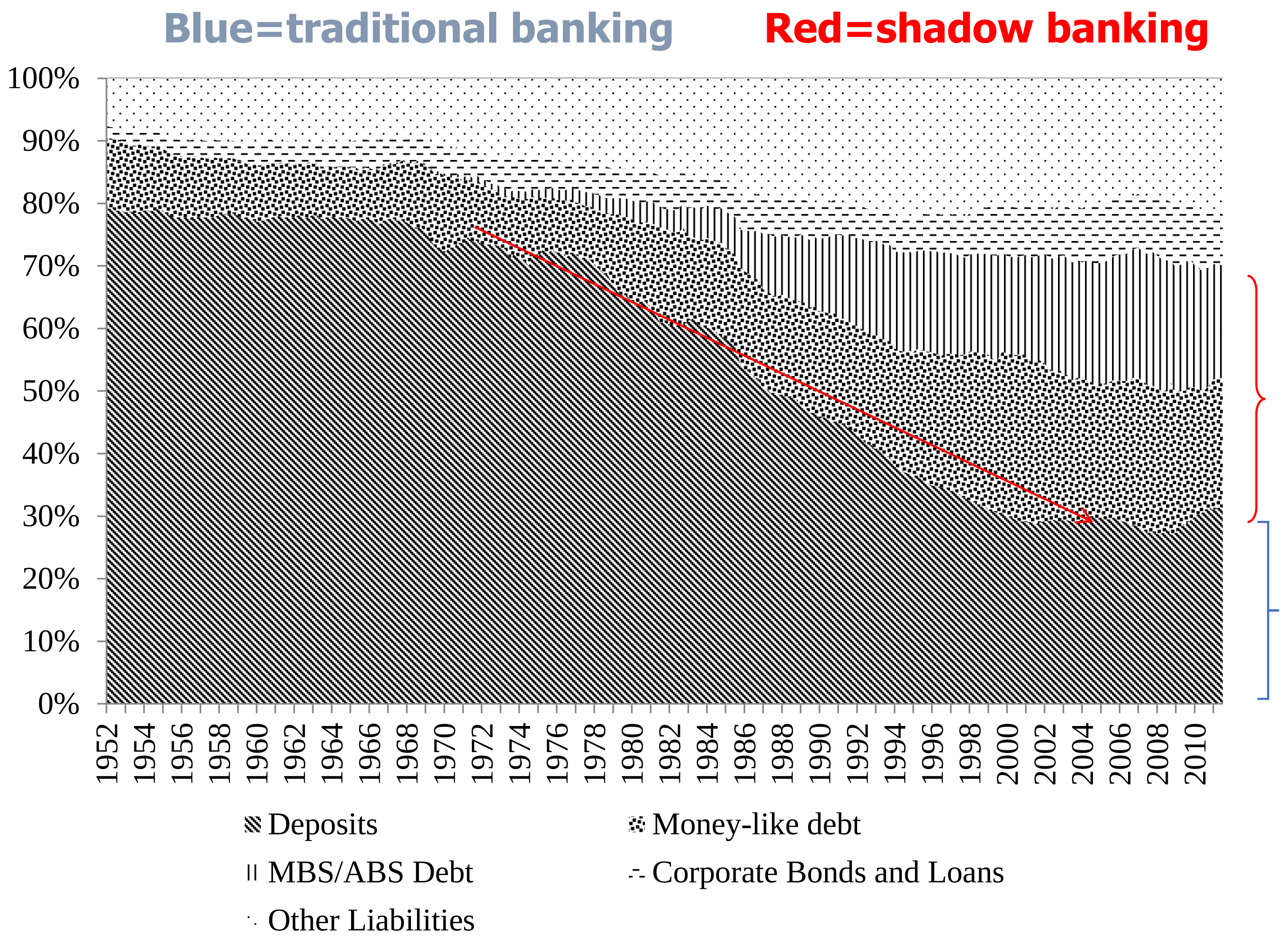
- Bray Hammond (1957), in his Pulitzer Prize-winning book Banks and Politics in America, wrote: “. . . the importance of deposits was not realized by most American economists . . . till after 1900” (p. 80).

Money Market Funds not considered Banks until Lehman



Privately-Produced Safe Debt as % of Total Privately-Produced Safe Debt

Shadow Banking Not identified



Gorton, Lewellen, Metrick (2012)

Final Thoughts

- History suggests that financial crises are inevitable because the system is constantly transforming, with new forms of short-term debt.

- The Panic of 2007-2008 showed how the system can morph. But, over a longer time horizon than we usually think in terms of.

- We need a lot more research to be able to address:
  - Why did the U.S. have no crisis during 1934-2007?
  - What forms of regulation work?
  - What is optimal regulation?
  - Is there a tradeoff between regulation that avoids crises and economic growth?