How do financial crises come to life? The role of systemic risk

Associação Portuguesa de Bancos
Systemic risk: Too-important-to-ignore

João Santos
Federal Reserve Bank of New York

What is systemic risk?

"Systemic risks are developments or events that threaten the stability of the financial system as a whole and consequently the broader economy, not just that of one or two institutions."

Why should we care about systemic risk?

1. Early studies find that output losses during a banking crisis are, on average, in the range of 6%--8% of annual GDP.
2. More recent studies find that cumulative output losses during a banking crisis are, on average, 15%--20%, of annual GDP.

SOURCES OF SYSTEMIC RISK: PRE 2007-2008 FINANCIAL CRISIS VIEW

Historically, bank runs have been the key driver of systemic risk, but there are other sources

Sources of systemic risk:
Many banks failing at the same time

1. Depositors panic and run indiscriminately on their banks.
2. Shock that affects a large portion of banks' balance sheets.
3. Banks' incentives to choose correlated portfolios of assets creates the conditions for a joint failure.

Sources of systemic risk: A bank failure may lead to a banking crisis

1. It may release information about banks' financial condition or the nature of an aggregate shock, motivating depositors to update their beliefs and run on their banks.
2. It may propagate to other banks, for example via the interbank market, or the payments systems and lead to the collapse of the banking system.

The case of too-big-to-fail banks

- U.S. Comptroller of the Currency: “Had Continental failed and been treated in a way in which depositors and creditors were not made whole, we would have seen a national, if not an international financial crisis, the dimension of which were difficult to imagine.”

- Continental was the nation’s seventh-largest bank
- Average size of top-5 banks: $86 B
- Average size of top-10 banks: $63 B
- Average size of 11th through 20th largest banks: $19 B

Sources of systemic risk
Failure of a nonbank financial institution:

1. Disappearance of liquidity following the Russian default triggered a global “flight to quality” and contributed to the collapse of LTCM
2. Concern: Had the LTCM been allowed to fail, it could lead to a collapse in asset prices, forcing intermediaries to sell, leading to a further decline in asset prices. A widespread financial crisis could follow.

Sources of systemic risk
Collapse of the payments system

1. Failure of a payments system is automatically a financial crisis, to the extent that it renders member institutions unable to carry out their payments obligations.
2. Payments systems may fail because of
   - operational problems
   - failure of one of its key members

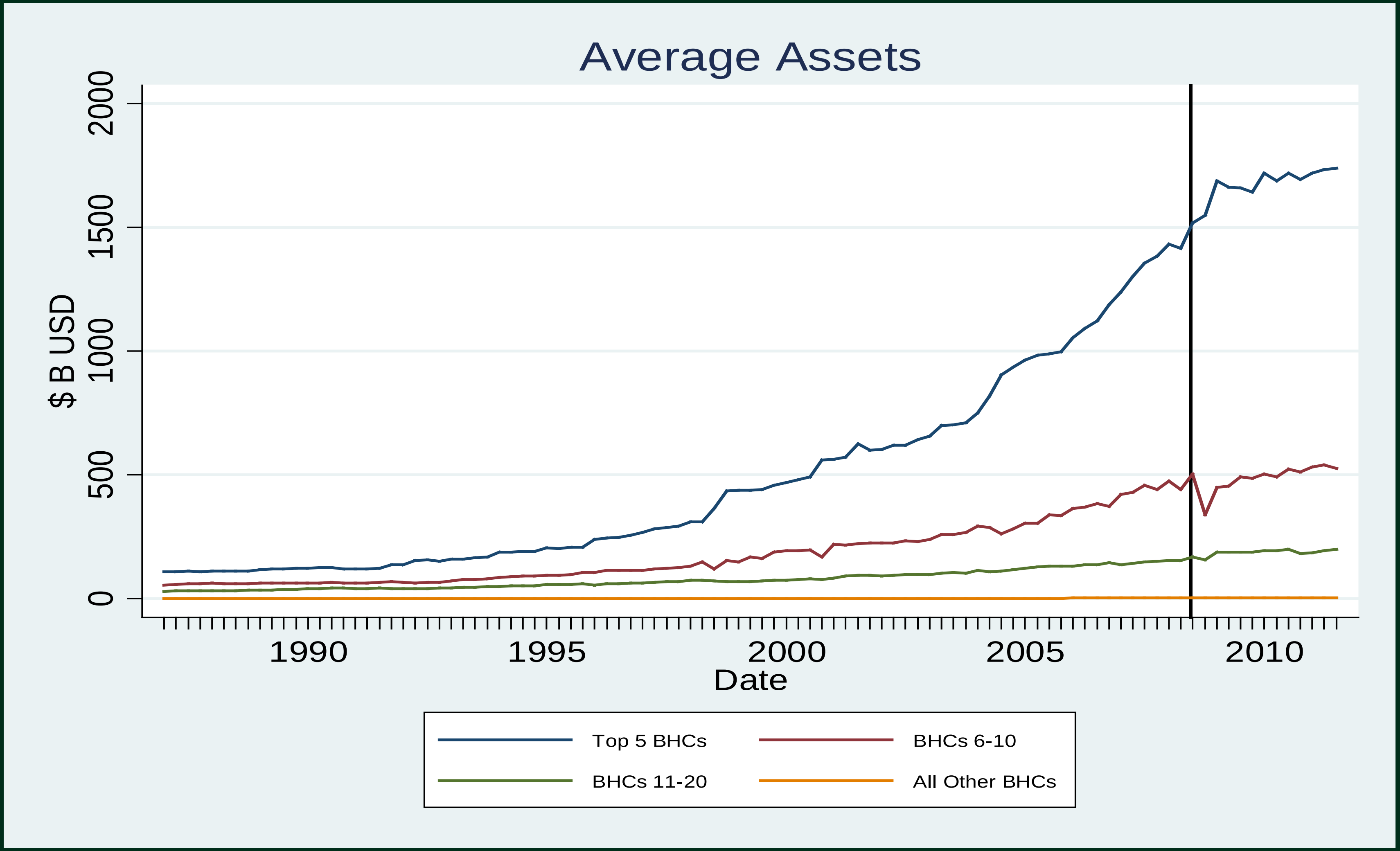
Sources of systemic risk
Collapse of the interbank market

1. Collapse of the interbank market will preclude banks from meeting their liquidity needs. Interbank market may collapse because:
    1. Asymmetry of information about the financial condition of banks may induce banks not to lend to each other.
    2. Concerns with possible future fire sales may lead banks to hoard liquidity instead of extending loans.

SOURCES OF SYSTEMIC RISK:
THE 2007-2008 FINANCIAL CRISIS

Deposit runs are still a source of systemic risk

Too-big-to-fail still a problem



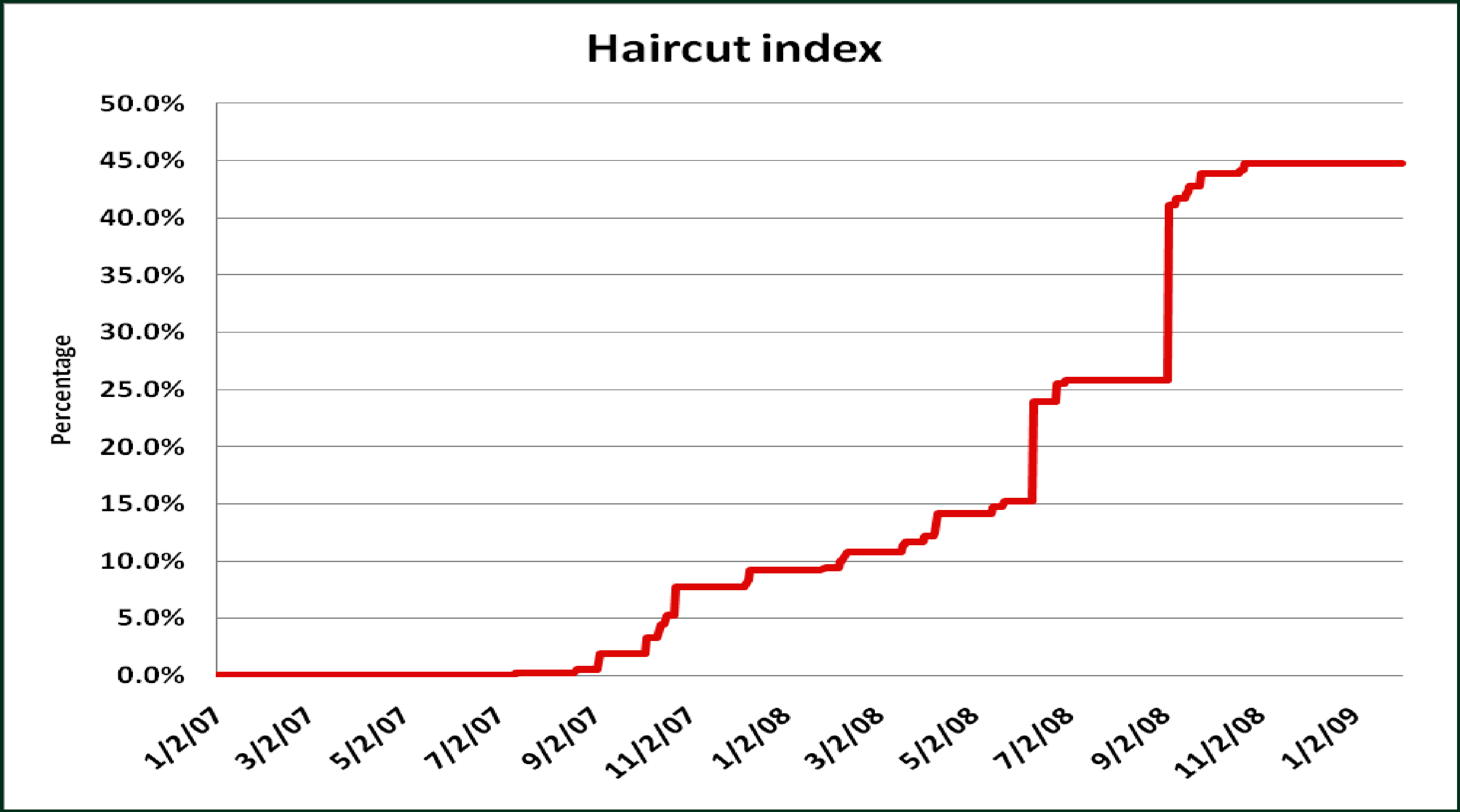
Systemic risk outside the banking sector: Inv. banks

Collapse of the interbank market still a possibility

Growing importance of non-deposit funding

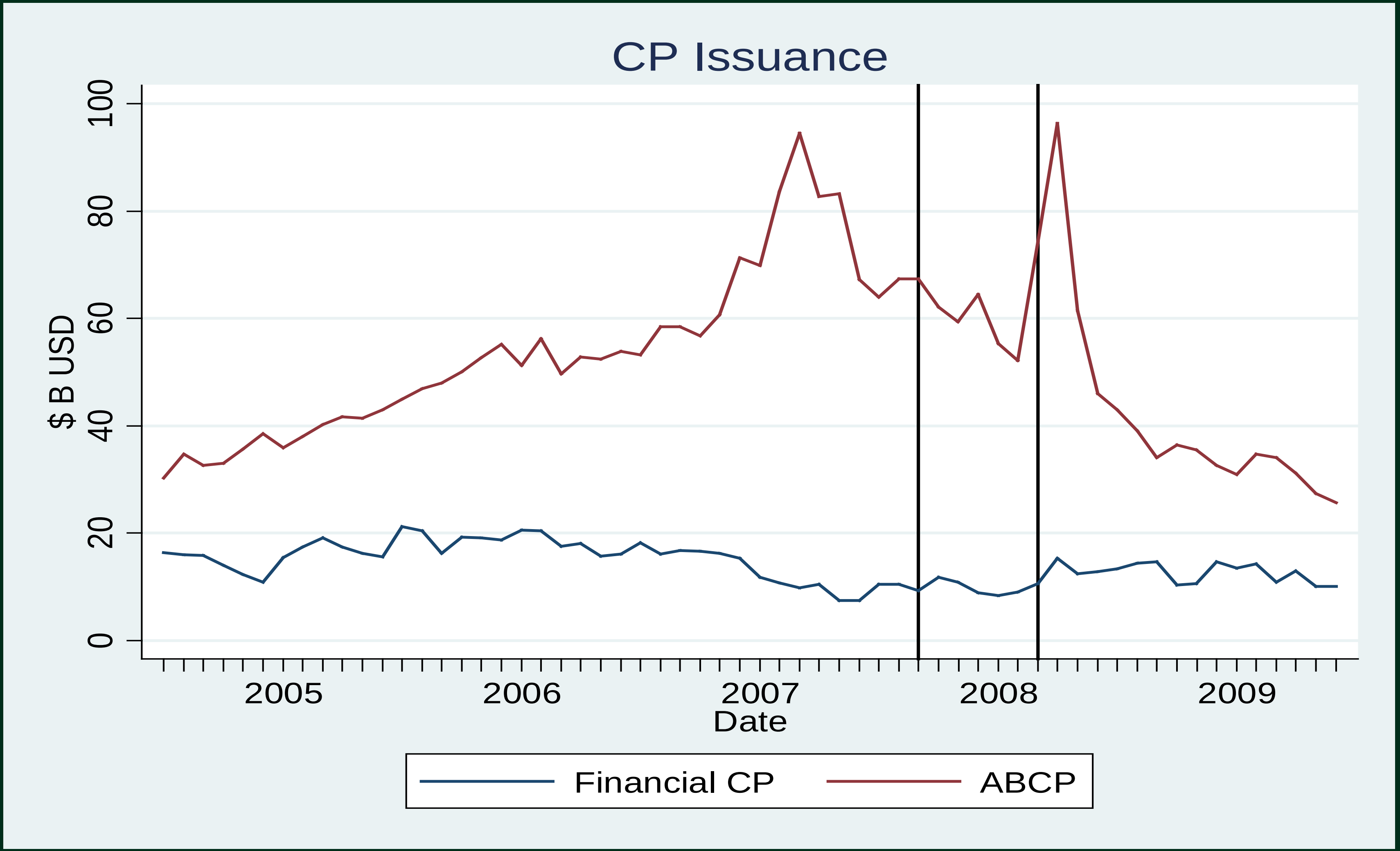
Decline in the importance of insured deposits

Collapse of the repo market

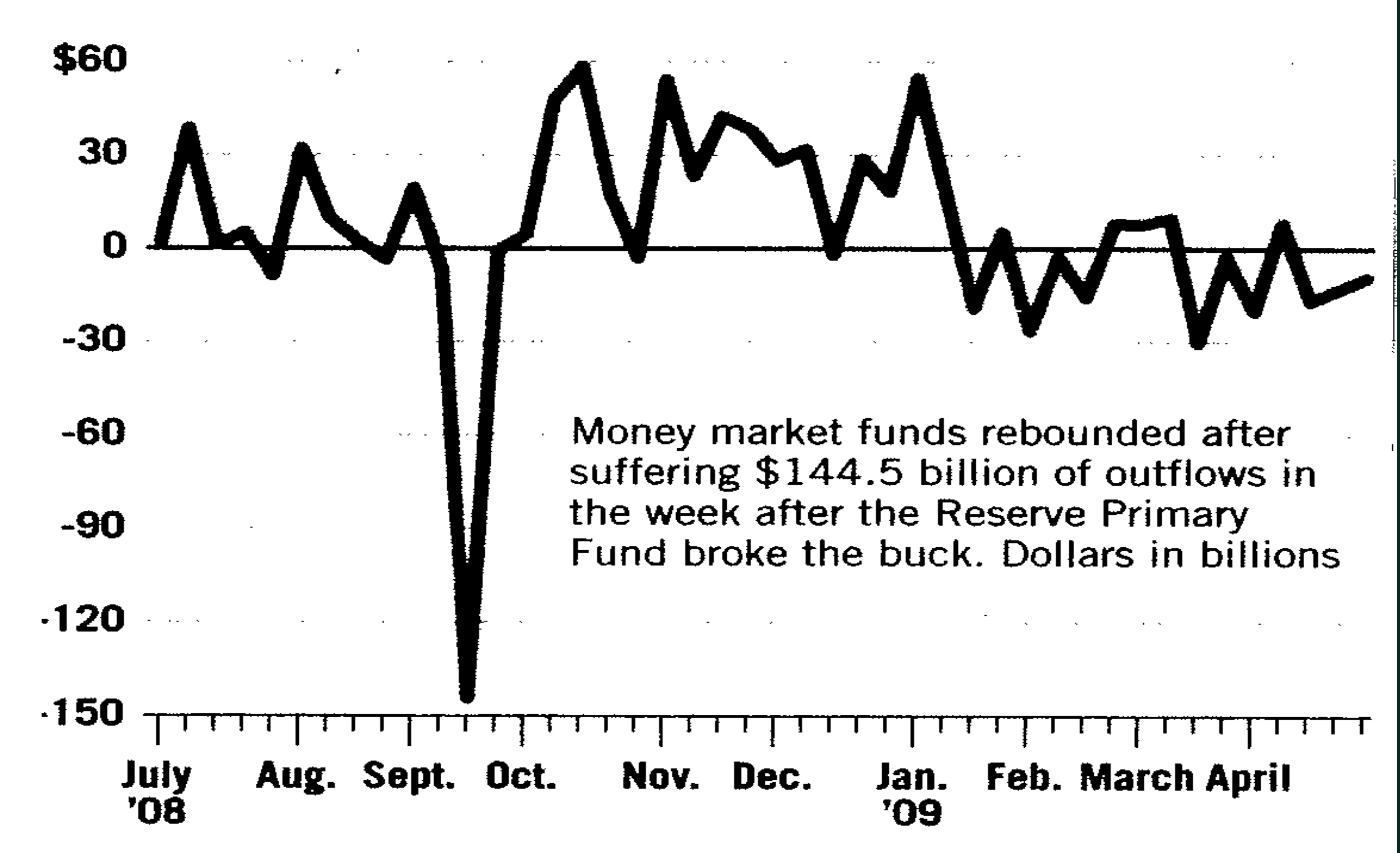


Source Gorton and Metric (2010) “Securitized banking and the run on Repo”

Problems in the commercial paper market



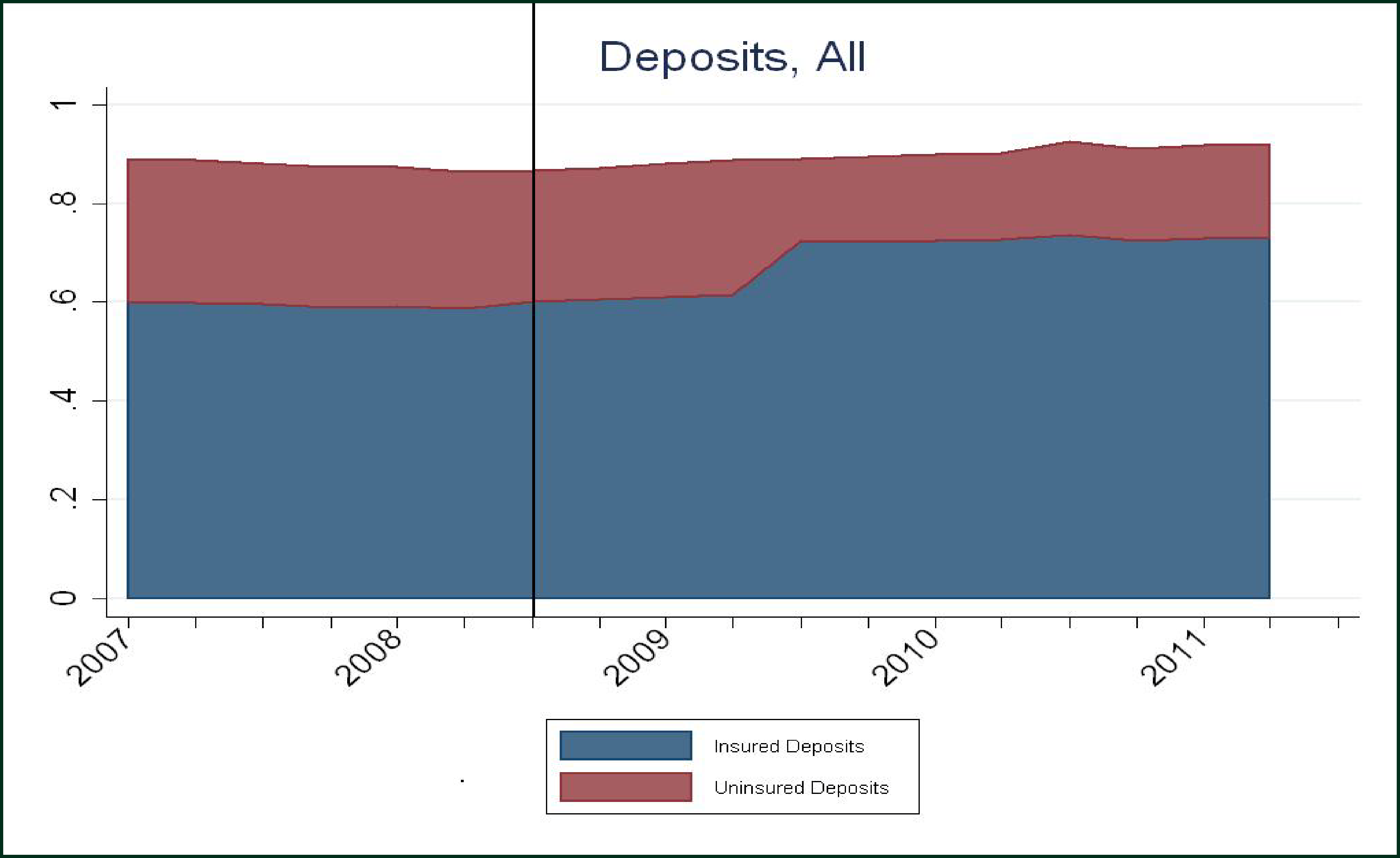
Problems with the MMFs



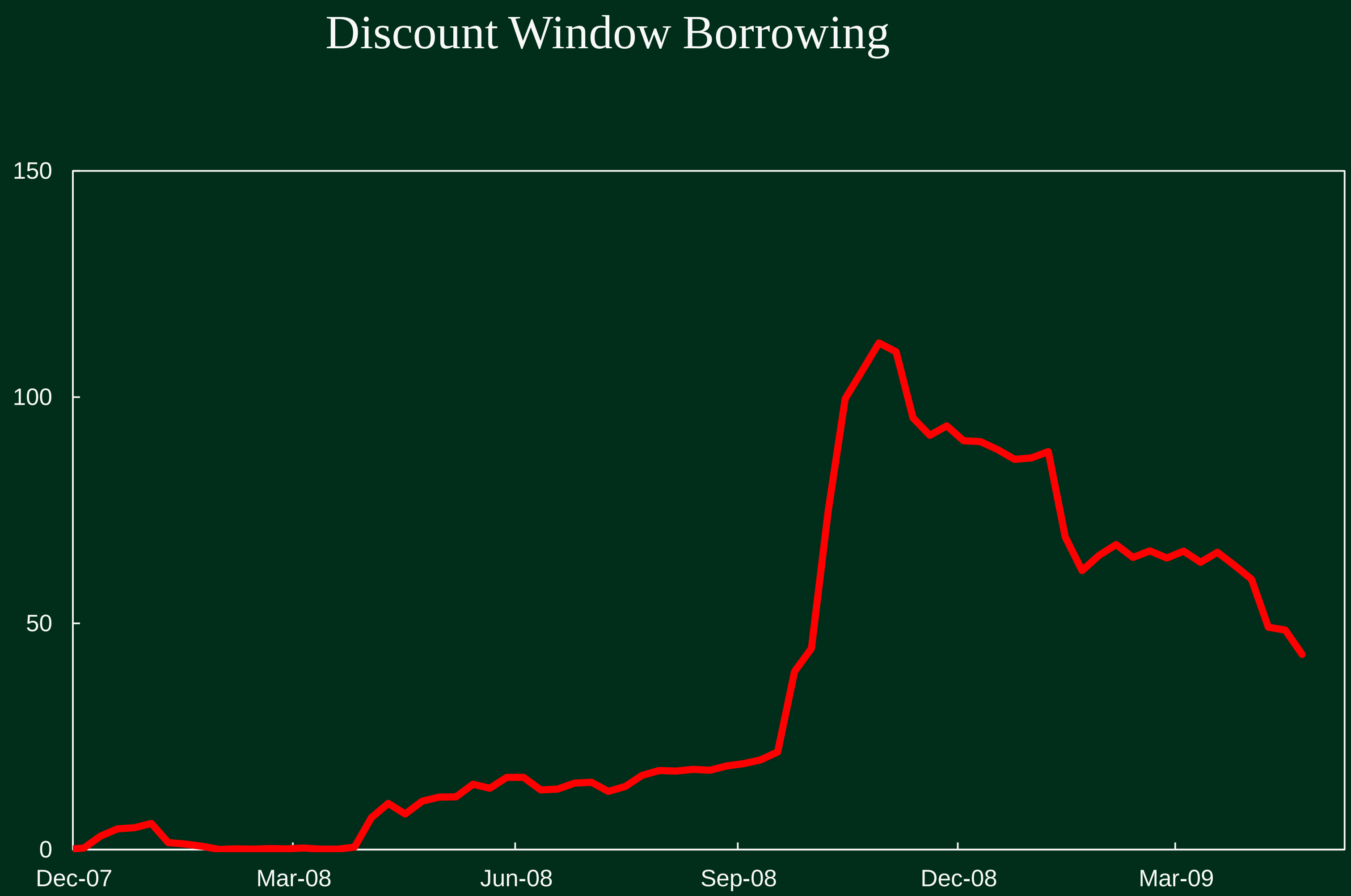
Summing up

1. Systemic risk comes from multiple sources
    - Some sources are within the banking sector
    - Other sources are outside the banking sector
2. Sources of systemic risk vary with the state of the economy and the conditions in the financial markets
3. Sources of systemic risk vary over time as result of
    - innovation
    - policies
    - structural changes

Some regulations "worked": Deposit insurance



Some regulations "worked": Lender of last resort



Source: Federal Reserve Board (Billions of dollars)

Some regulations did not meet their objectives

1. Limits to banks' exposures to borrowers or sectors of activity
2. Bank capital standards

How should society deal with systemic risk?

1. Should systemic risk be regulated or should the financial system be redesigned?
2. Which sources of systemic risk be regulated?
3. How can we design regulations that account for the fact that systemic risk drivers are continuously changing?