Financial Spillovers from the Housing Market Shakeout

Robert E. Carpenter
Senior Financial Economist, Risk and Policy
Associate Professor of Economics, UMBC

THE FEDERAL RESERVE BANK OF RICHMOND
RICHMOND ▪ BALTIMORE ▪ CHARLOTTE

Disclaimer:

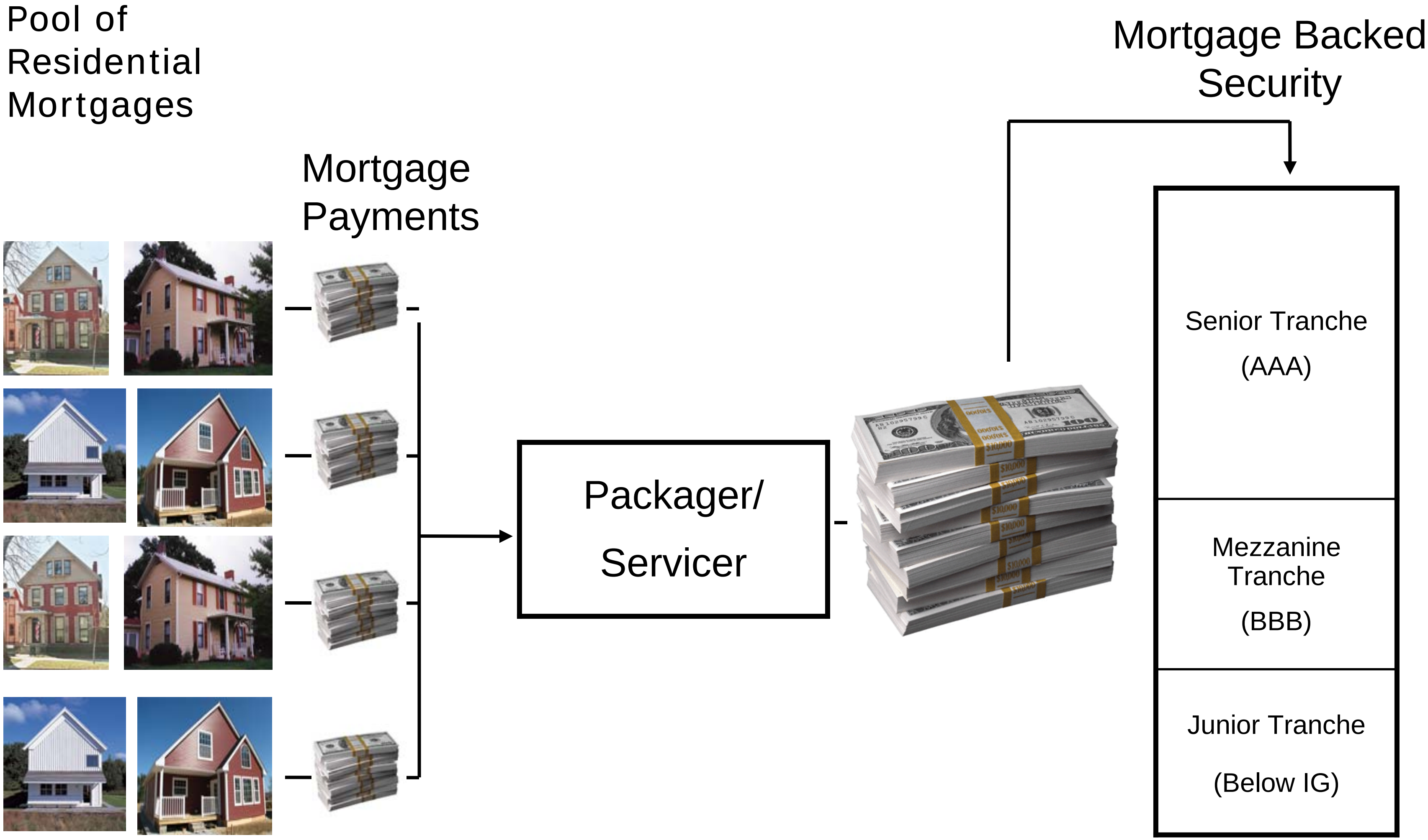
- The views and opinions expressed in the following presentations are those of the author.
- They do not represent an official position of the Federal Reserve Bank of Richmond or the Federal Reserve System.

"I THOUGHT WE WERE JUST BUYING A HOUSE!"

What I'll cover this evening

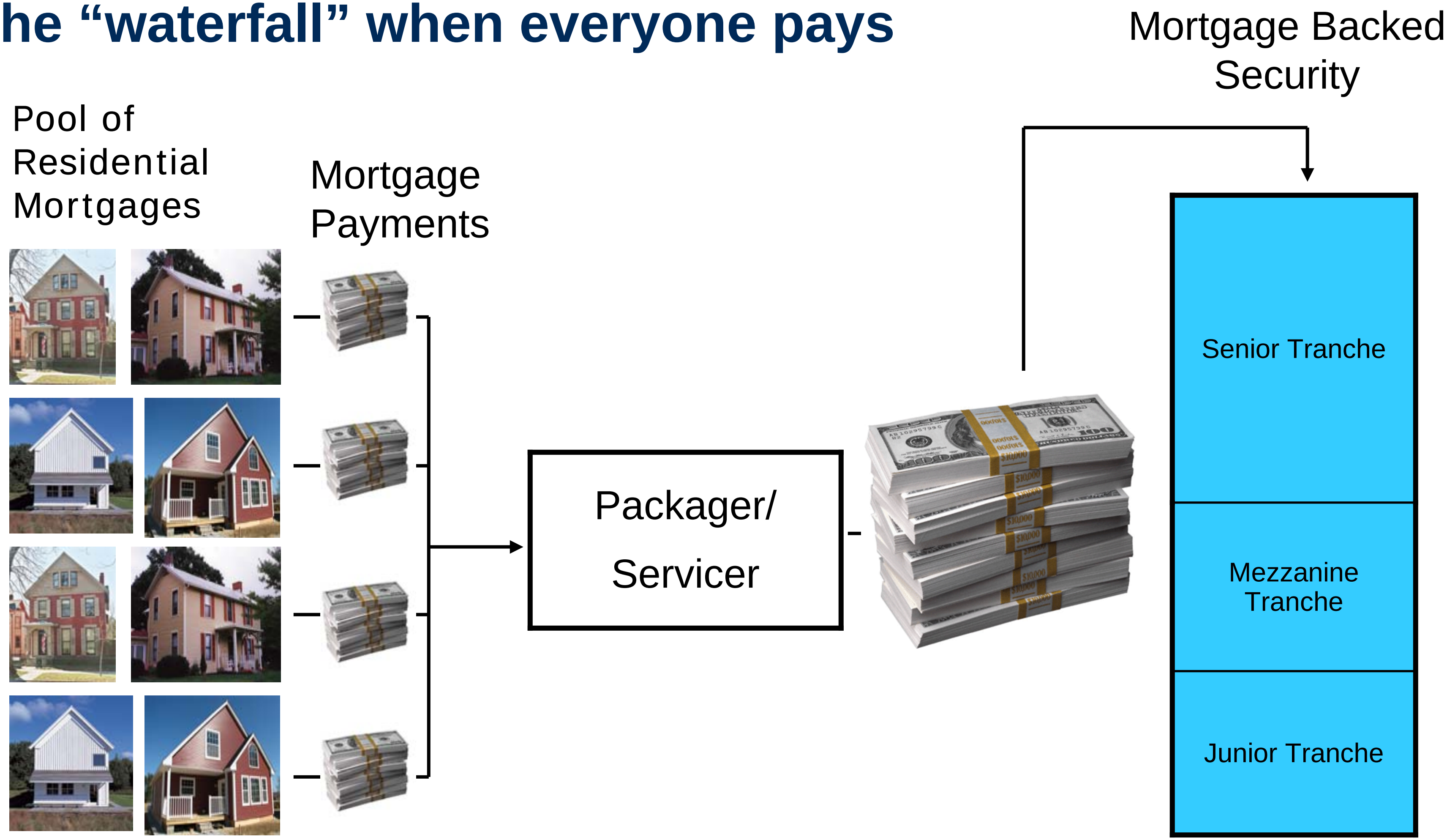
- How & why conditions in mortgage markets have deteriorated
- How home mortgages are used to construct different kinds of financial assets
- How increasing defaults on mortgages affect the value of those assets (and caused the problems in *mortgage* markets to spread to *financial* markets
- How the crisis spread through the financial system & the global markets
- Where we are now, including the problems some of the big institutions suffered, and a fast overview of the policy responses and how they work

Securitization in a nutshell



Mortgages are pooled & create a set of mortgage backed securities (MBS). MBS are bonds. Mortgage payments become interest payments to bondholders

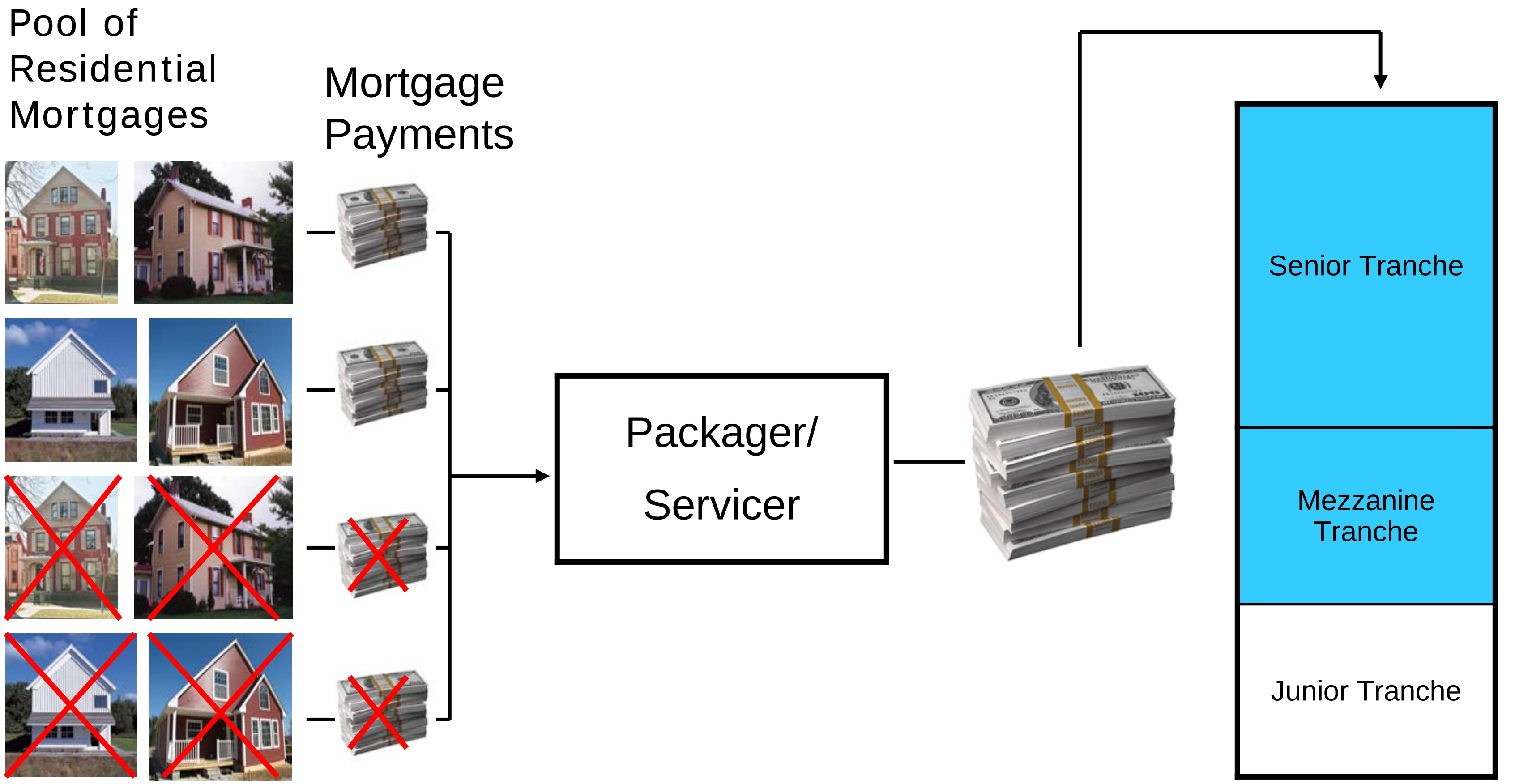
The “waterfall” when everyone pays



Senior bonds (with the highest credit rating) must be fully paid before subordinate bonds get anything. Called a “cash waterfall.”

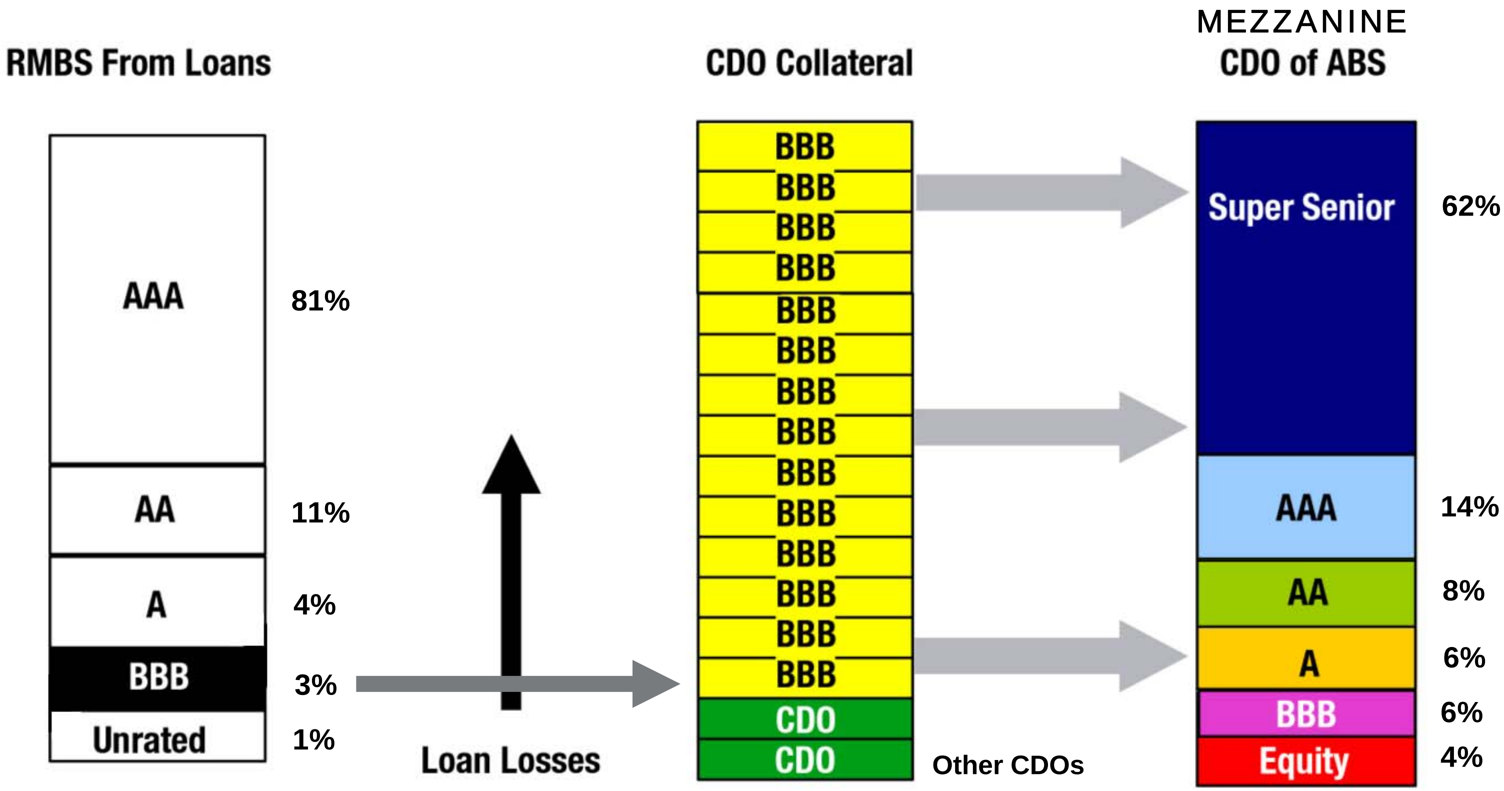
When some properties default

Mortgage Backed Security



When properties default, less cash goes into the top of the waterfall. Losses felt first at the bottom of the waterfall & work upwards.

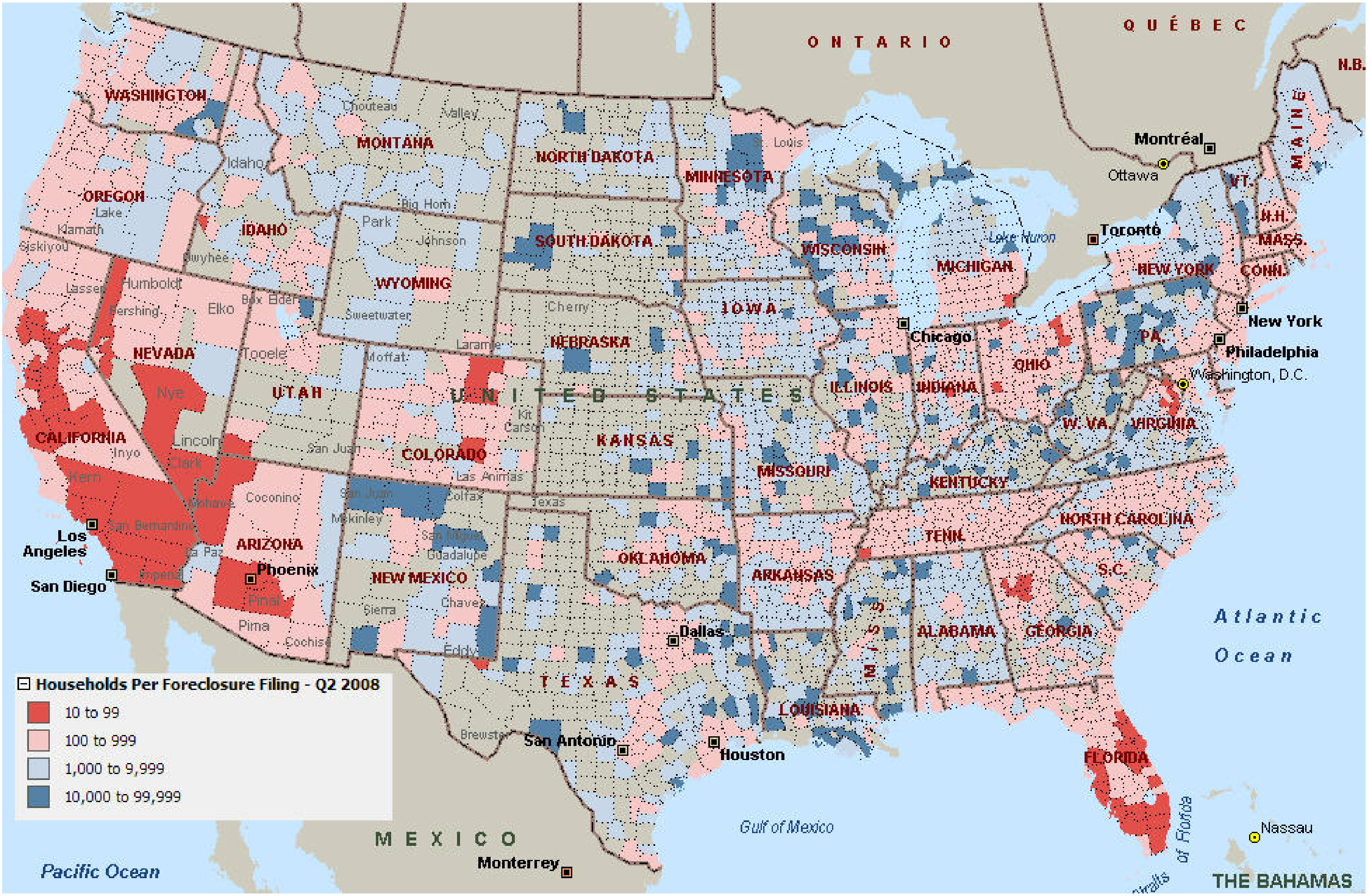
CDOs (Collateralized Debt Obligations) in a nutshell



Sources: Intex and Citi.

CDOs were heavy investors in mortgage backed securities. Geographic diversification of mortgages inside the CDO usually reduces risk

Foreclosures spread across much of the country



Source: Realtytrac

Investors in CDOs & MBS were pressured

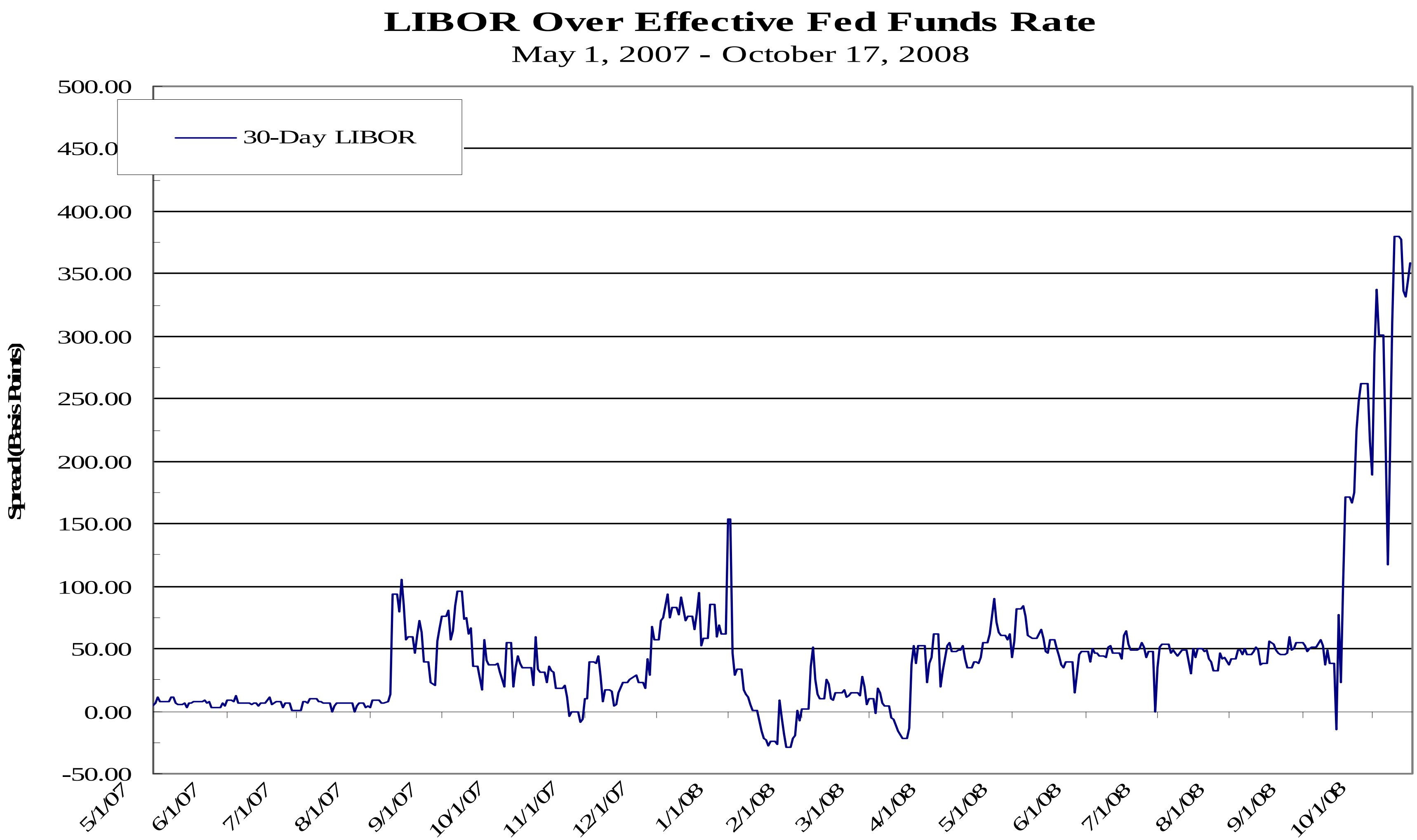
- As the value of their underlying mortgage collateral deteriorated, owners of CDOs and MBS suffered losses
- Who were (some of) the buyers?
  - Banks, both domestic and foreign (roughly $521.8 billion in reported losses to date)

Top 10 Institutions	Writedowns ($ Billions)
Citigroup Inc.	55.1
Merrill Lynch & Co.	52.2
UBS AG	44.2
HSBC Holdings	27.4
Wachovia	22.7
Bank of America	21.2
Morgan Stanley	15.7
Washington Mutual	14.8
J.P. Morgan Chase	14.3
Lehman Bros.	13.8

Source: Bloomberg

The crisis spread abroad

- Uncertainty in US financial markets led some institutions to retreat from providing funds to European money markets.
- Put pressure on European financial institutions and lending markets.
  - London Interbank Offer Rate (LIBOR) is a short term international benchmark interest rate.
  - LIBOR rose relative to US short term rates (Fed Funds)
  - It spiked again when the troubles with Lehman Brothers and AIG were announced
  - It spiked again when US commercial paper markets seized

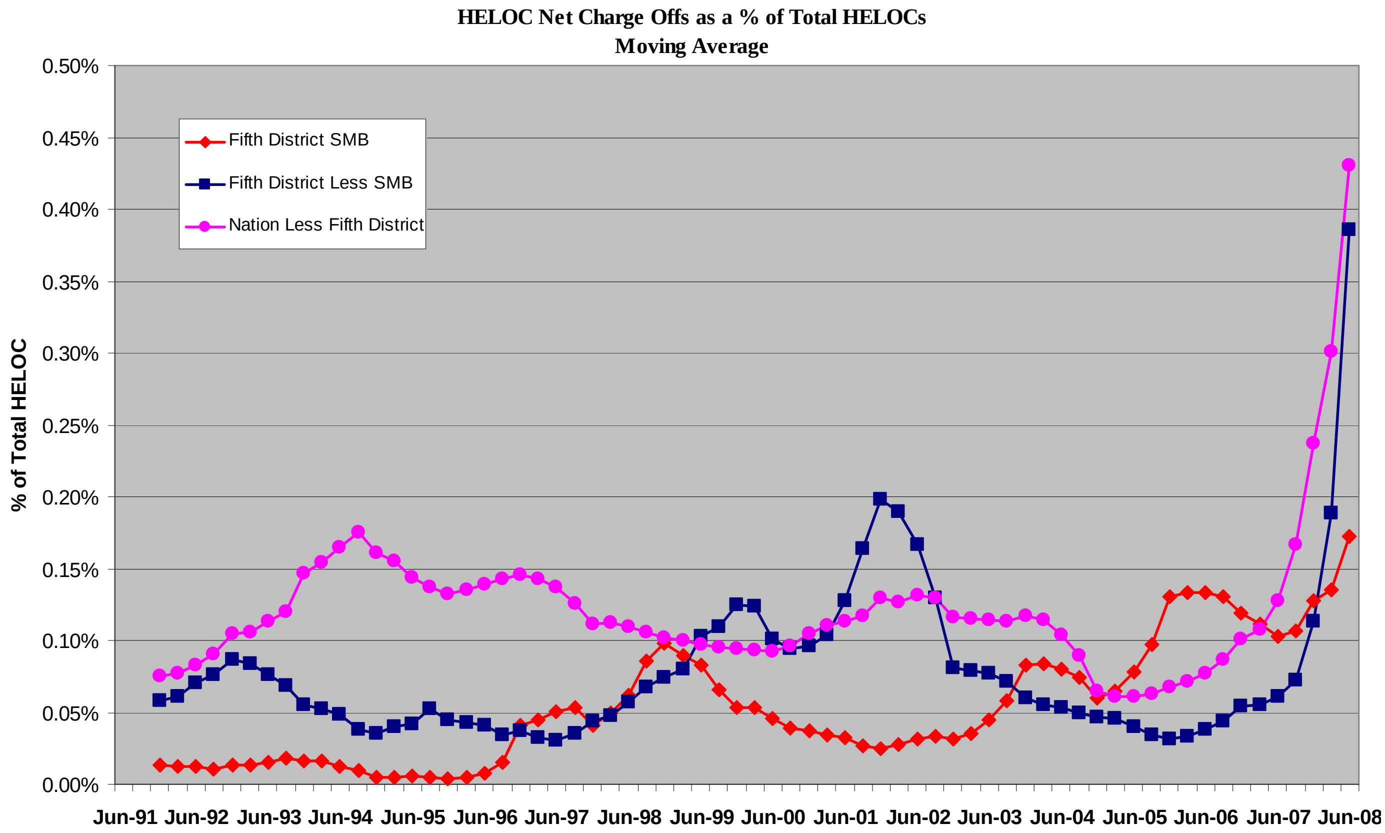


Source: Federal Reserve, Bloomberg

Elevated spreads mean international money markets are pressured. You care because US adjustable rate debt is often tied to LIBOR

Banks in the Fifth District haven't escaped unscathed

Figure 1



Asset quality is deteriorating. Charge offs and delinquencies for all major loan categories are the highest since the early 1990's Home equity lines of credit charge offs are on the rise

Where are we now?

- Valuation of mortgage related assets is uncertain
  - Home prices are still falling. Down over 15%, many suggest prices will fall further
- When assets values are hard to determine, they become illiquid (hard to trade & exchange for cash)
- Liquidity can put extreme pressure on financial institutions. “How do I meet my obligations if my assets are illiquid?”
- Design of many new policies is to improve liquidity

Big institutions that suffered crises

- Bear Stearns-defunct-(now part of JP Morgan, partial support)
  - Big player in MBS. Losses, closure, of two hedge funds in July 07 was one of several key points in the crisis
- Fannie/Freddie in conservatorship
- Lehman Brothers-bankrupt. From 2004-2007 fast growth in mortgage-related with little additional equity (added lots of leverage)
  - Leverage works both ways. Big losses lead counterparties to pull back, forcing a liquidity crisis. Failed to find a strategic partner to inject capital
- AIG-(support)
  - Heavily involved in credit default swap market. Belief that failure would cause a systemic crisis. Govt injection of over $100b
- Wachovia-(now part of Wells Fargo)
  - Big losses on subprime and Golden West pay-option ARM portfolio. Deposit outflows plus counterparty problems
- WaMu-(now part of JP Morgan) big losses on mortgage-related assets

New policy developments

- The “TARP” Treasury authorized to buy $700b in troubled assets
  - Mortgage assets originated before 3/14/08, others if Fed agrees.
  - Required to price purchases to minimize taxpayer costs & maximize economic benefits of the program
  - Limits golden parachutes & exec pay for participating firms
  - Also, Treasury to take direct equity stake in banks (adds capital)
- FDIC coverage expanded to $250,000 until at least 12/31 next year
  - Also guaranteeing senior debt and non interest bearing transactions accounts.
- Fed can pay interest on reserves 3 years earlier than planned
- Many money market mutual fund assets guaranteed
- Fed starting a funding facility to serve as a “liquidity backstop” for commercial paper (the “CPFF”)
- MMIFF-Liquidity facility for money market funds. Buys CD’s, CP

Other policies that add liquidity

- Well known
  - Open market operations (fed funds target now 1.50%)
  - Discount window and new “Term Discount Window”
    - Term window loan period up to 90 days
  - Securities Lending Facility and new “Term Securities Lending Facility”
    - TSLF has expanded collateral list, longer lending period
- Newer
  - Term Auction Facility
  - Primary Dealer Credit Facility
  - ABCP Money Market Liquidity Facility
  - Foreign Exchange Swap Facility (has been used before)

THE FEDERAL RESERVE BANK OF RICHMOND

RICHMOND ■ BALTIMORE ■ CHARLOTTE