Catastrophic Mortgage Insurance and the Reform of Fannie Mae and Freddie Mac

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Ψ The results in this paper are preliminary materials circulated to stimulate discussion and critical comment. The analysis and conclusions set forth are those of the authors and do not indicate concurrence by other members of the research staff or the Board of Governors.

Private Mortgage Securitization in the United States

- Tried several times since the 1880's
- A familiar recurring history…
  - Credit boom with lax underwriting standards
  - Shock that causes mortgage defaults to rise
  - Bondholders dump securities and head for the exit
  - Securitizers blamed for not looking out for bondholders
- Recent crisis is no exception

Experience with Private Mortgage Securitization
Raises Three Questions

1. **Why is mortgage securitization so fragile?**
2. **Would government provision of catastrophic insurance for mortgage-backed instruments improve financial stability?**
3. **Is there a potential role for Fannie Mae and Freddie Mac to provide government-backed insurance for financial instruments that are backed by mortgages?**

Why is Mortgage Securitization Fragile?
How the GSE Portfolios Created Failure

- Most GSE losses were associated with the credit guarantee, not the holding of securities in the portfolio
- But the GSE failure was created by an inability to roll-over debt
  - GSE senior debt holder is unsecured
  - Losses, whatever the source, wipe out capital
  - GSE debt holders "run" if substantial losses are likely, even from the credit guarantee
- GSE debt holders ran because credit losses and portfolio values were opaque, GSE capitalization was small, and they were unsecured

Why is Mortgage Securitization Fragile?

How the GSE Portfolios Created Failure…

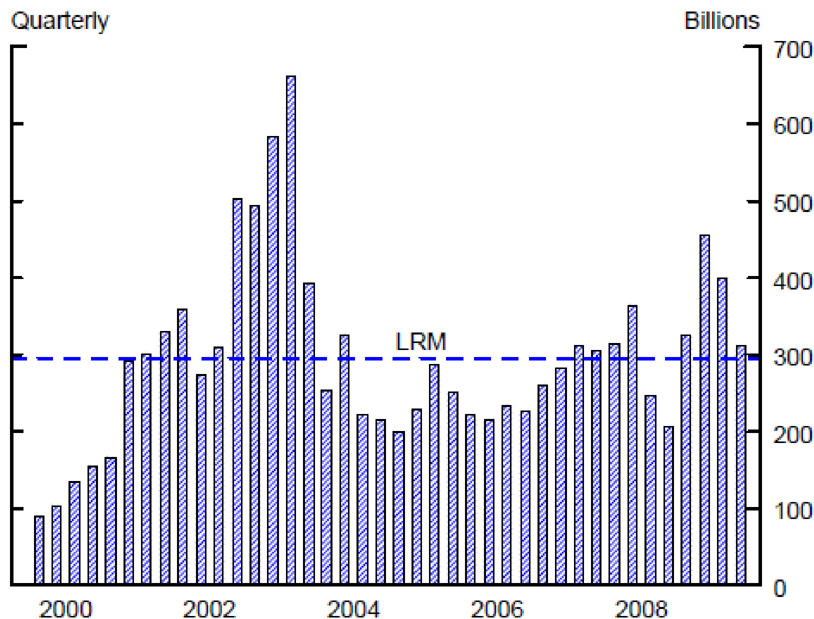
- No GSE portfolio implies no runs on GSEs

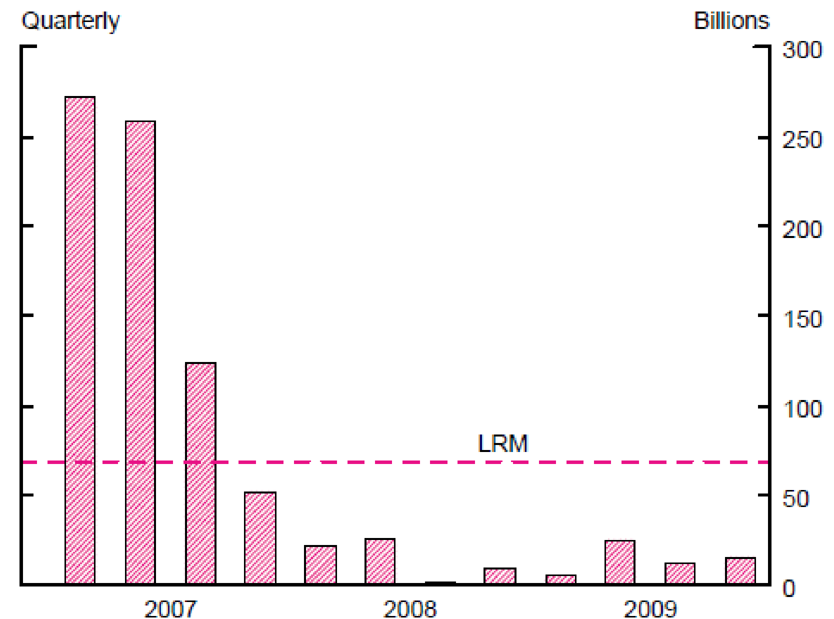
- Agency MBS holders did not run
  - GSEs are only servicers and guarantors of MBS principle and interest
  - If GSE guarantees comes into question, the MBS investors have underlying collateral
  - If capitalization of GSE is inadequate to cover "double default," then MBS price falls in secondary market
  - But not a run that makes it impossible to rollover unsecured debt in a very short-timeframe

- Suggests that government guarantee for MBS is only needed to cover catastrophic risk to maintain a secondary mortgage market

Why is Mortgage Securitization Fragile?

Two different outcomes during the financial crisis: MBS Issuance Agency (left-panel) and Non-agency (right-panel)





Why is Mortgage Securitization Fragile?

Liquidity and Fragility are Two Sides of the Same Coin

- Our analysis of loan market equilibriums suggests that the additional liquidity of securitization may or may not lower mortgage rates, but it comes at a cost
- Liquidity is created by bringing guarantee-sensitive investors into the market for securities
- A guarantee-sensitive investor desires an investment that is free of credit risk but with a yield that is above those on sovereign debt

Why is Mortgage Securitization Fragile?

Guarantee-sensitive Investors will "Cut and Run" at the First Sign of Trouble

- Guarantee-sensitive investors do not engage in due diligence with regard to the value of the collateral underlying mortgage-backed securities
- Guaranteed-sensitive investors rely on selling assets quickly rather than undertaking due diligence to protect the value of their investments
- Thus, "liquidity" creates the potential for significant market disruption if guarantee-sensitive investors doubt the credit quality of the asset-backed bonds
- Such "liquidity" can suddenly dry up when the implicit government guarantee comes into doubt
- Generally, these runs occur only during extreme financial market disruptions (so-called "tail-risk")

Does Catastrophic Mortgage Insurance Help?
Only if the Insurance is Offered by the Government

- Private sector insurance finds it difficult to match a smooth flow of annual premium receipts to a highly non-smooth flow of annual payouts
- High correlation of home prices with global price indexes suggests insurance payouts are hard to diversify (a systemic risk)
- Private insurers cannot offer sufficient guarantees during a crisis — must cap losses to survive
- Private insurance unlikely to be sufficient to attract guarantee-sensitive investors and thus might create a far less liquid secondary market
- Government has the power of taxation
  - Does not have to rely on reserves and/or access to liquid capital.
  - No more "runs"

Does Catastrophic Mortgage Insurance Help?

Other Benefits Associated with Government-backed Catastrophic Insurance for Mortgage Instruments

- **Explicit, rather than implicit, guarantees lowers the competitive advantage of size**
  - Government would provide catastrophic insurance on equal terms to all originators
  - Government insurer would substitute the (limited) market oversight by guarantee-sensitive investors with government risk management and oversight
  - Would encourage guarantee-sensitive investors to be involved in financing a wide variety of mortgage-backed instruments, rather than focusing on products originated by institutions perceived as implicitly backed by the government

Does Catastrophic Mortgage Insurance Help?

Other Benefits Associated with Government-backed Catastrophic Insurance for Mortgage Instruments…

- **Long-maturity debt issuance and hedging is facilitated**
  - Instruments absent of credit risk are more easily hedged against interest rate risk
- **Greater flexibility to respond in a financial crisis**
  - It may be less costly to de-lever a financial institution that uses guaranteed liabilities to fund illiquid loans
  - May provide Fed with more options to deal with a liquidity crisis

A Potential Role for Fannie Mae and Freddie Mac?

Providing Catastrophic Mortgage Insurance

- **Government bears the "tail risk" associated with a systemic shock**
  - Should manage this risk like an insurer
  - Would mitigate disruptions during a financial crisis if managed *ex ante*
- **Could be Structured like FDIC**
  - For two mortgage-backed instruments: MBS and covered bonds
  - Explicit risk-based insurance premiums charged to mortgage originators
  - Insurance reserve fund maintained
  - Insures only against very extreme financial disruptions (e.g. catastrophic risks)
- **Provides possible role for Fannie Mae or Freddie Mac**

A Potential Role for Fannie Mae and Freddie Mac?

The GSEs Already Provide Such Insurance

- Use current GSE mortgage securitization process with tighter underwriting standards
- Move from current requirements (borrowers with a good credit history and the equivalent of an 80 percent loan-to-value ratio) to tighter requirements (e.g. borrowers with the equivalent to a 60 percent loan-to-value ratio)
- Greatly expands private market participation in secondary mortgage market: Private market would be responsible for covering the "first loss" position
- The provision of catastrophic insurance would afford the government a tool to manage its risk associated with a severe housing downturn (e.g., it could monitor emerging risks)

A Potential Role for Fannie Mae and Freddie Mac?

Is More than a Government Insurer Needed?

- If the government is restricted to only being a catastrophic risk insurer…
  - Government will still effectively set conforming underwriting standards (like Fannie Mae and Freddie Mac do now)
  - Others insure against the first losses (i.e., before government backing kicks in)
    - Homeowner's down-payment
    - PMI companies
    - Self-insurance by banks (reps and warranties)
    - Private entities that issue junior bonds
  - Will the TBA market function?
    - Government insurance is the key to a functioning TBA market
    - As long as guarantee is credible, the TBA market would be largely unchanged

A Potential Role for Fannie Mae and Freddie Mac?

The Mechanics of Running the Government Insurer

- **Accumulated information on mortgage default**
- **Credit-modeling expertise, securitization know-how and REO infrastructure**
- **Could implement a reasonable pricing rule that provides liquidity to the primary market, assures that markets are stable during financial turmoil, and limit the role of the government**

A Potential Role for Fannie Mae and Freddie Mac?
A Suggested Pricing Rule

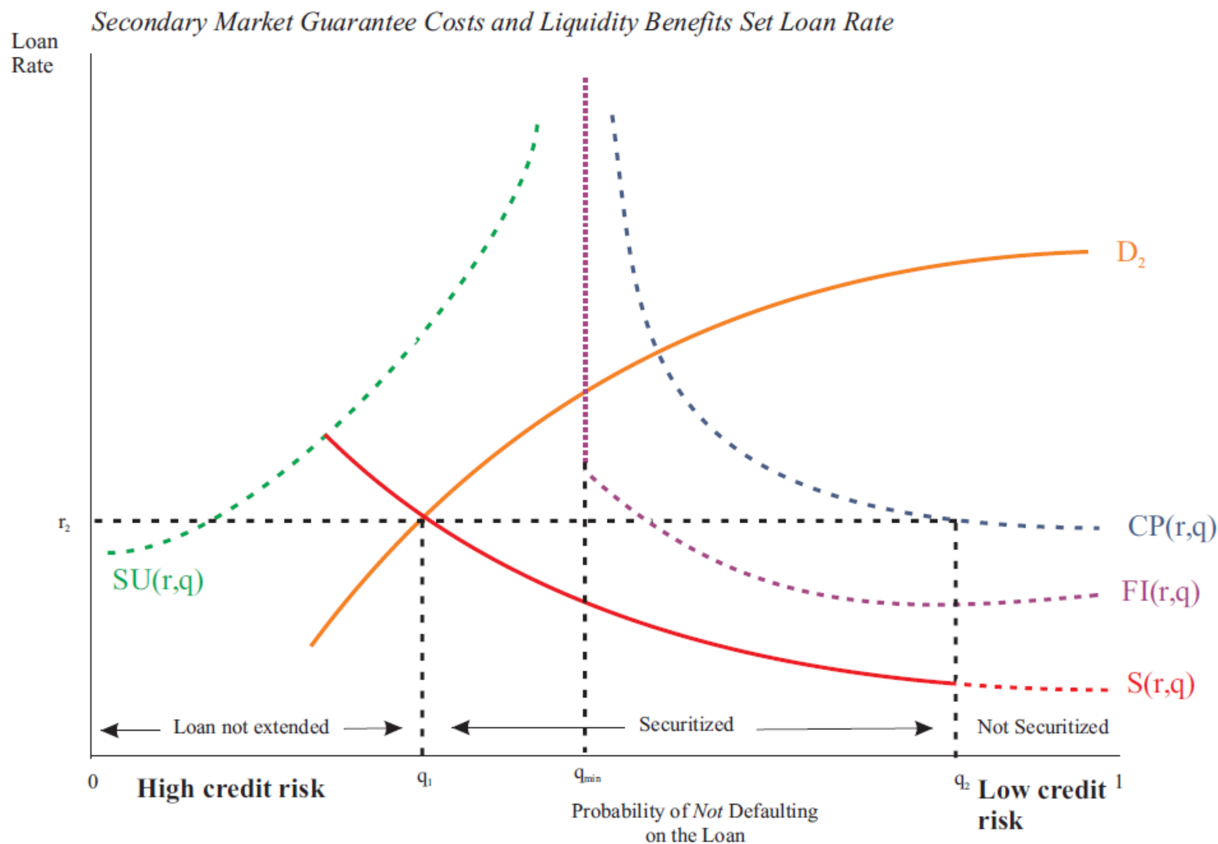
- **The fee for the government guarantee (i.e., the g-fee) is set so that during good economic times, a typical nationwide, profitable, well-capitalized and well-diversified bank is indifferent between securitizing the mortgage using government-backed insurance and holding the mortgage**
  - Good times are defined as non-recession periods
  - Even during good times, many banks will likely securitize mortgages some of the time
  - Mortgage bankers/brokers would likely securitize
  - Securitization would likely increase when there is increased financial volatility or an economic downturn

Conclusion of Analysis:

Advantages of Government-Provided Catastrophic Insurance for Mortgage-backed Instruments

- Explicit government guarantee fosters financial stability and ensures that mortgages are available in all market conditions
- Ensures that similar risks for assets held across all financial institutions (big and small) are treated similarly (mitigates too-big-to-fail, TBTF)
- Makes funding of longer-term assets by financial institutions easier
- Provides guarantee-sensitive investors with a diversity of assets to purchase and removes their search for implicit government backing

Equilibrium Loan Rates with Guarantee-Sensitive Investors: Funding Risk of Whole Loans has No Effect Because Marginal Loan is Securitized



Brookings: Restructuring the US Residential Market
Hancock and Passmore: Catastrophic Mortgage Insurance and the Reform of Fannie Mae and Freddie Mac