The Subprime Turmoil: What’s Old, What’s New, and What’s Next

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Historical Approach: Summary

• If you look at subprime crisis through the lens of historical real estate related banking crises, is it surprising or old hat?

Origins
• Largely old hat. Loose money (low real rates) and housing subsidies delivered via leverage.
• New element: Huge buy-side agency problem.

Propagation
• What’s old? Liquidity-shocked credit spreads and quantity rationing in money markets.
• What’s new?
  – Capital raising, reflecting bank structure and deregulation.
  – Aggressive government intervention.
  – Protracted uncertainty about incidence of losses, reflecting nature of subprime assets and their securitization.
What Happened?

• Imprudent lending, underpricing and overrating of mortgage risks. (expected loss of 4%, then 6% for subprime as late as 2006 led to excessive leverage, huge offerings even after problems were visible in mid 2006.

• Subprime credit collapse is part of a broader international over-investment problem (Iceland, Landesbanken).

• Securitization complexity has made it difficult to detect the incidence of losses. Subprime MBS is structured with extreme complexity, and that is just the first layer of securitization.

• MBS => CDO => LSS => ABCP

• ABCP and SIVs => Banks, MMMF, IBs

• Large and opaque credit default swap market amplified shocks as financial institutions failed.
What Happened? (Cont’d)

• Credit spreads show large liquidity shock effects (Schwarz 2008).
• Quantitative adjustment is also important in money markets (ABCP, repos, Libor, now nonfinancial CP).
• Collapse of confidence in mortgage securitization, but not others (until recently).
• Whole US financial system has been transformed (Fannie and Freddie in conservatorship, standalone IBs gone, massive bank consolidation).
(60+ day delinquencies, in percent of balance)

- Subprime
- AR-A
Figure 1: Annual Cash CDO Issuance
Figure 10: Commercial Paper Rates, LIBOR, and Mortgage Rates

- Jumbo Mortgage Rate
- Conforming Mortgage Rate
- US LIBOR, 1-Month
- US LIBOR, 3-Month
- 30-Day AA Financial Commercial Paper Interest Rate
- 30-Day AA Nonfinancial Commercial Paper Interest Rate
Figure 12: LIBOR, Treasury Bill, and Fed Funds Rates

- Red line: US LIBOR, 3-Month
- Pink line: US LIBOR, 1-Month
- Dark blue line: US LIBOR, Overnight
- Light blue line: Federal funds effective rate
- Purple line: 1-Month Treasury
Figure 13: Overnight Libor-Fed Funds Spread
Figure 9: Commercial Paper Outstanding (Weekly, Seasonally Adjusted)

Trillion $

Asset-backed Commercial Paper

Financial Commercial Paper

Nonfinancial Commercial Paper
Why did this happen?

- Like other housing collapses, loose money (magnified by Greenspan conundrum) and government subsidies of borrowing (Fannie Mae and Freddie Mac, and other elements) promoted excessive risk taking.
- Buy side agency problem. Structure of fees quite important (not enough “skin in the game”).
- Ineffective prudential regulation failed to stop the excessive risk taking, and encouraged problems through various distortions (anti-notching proposal, prudential regulation of securitization, outsourcing to ratings agencies.).
- Ratings agencies did serve the agents of investors (which is what they are supposed to do, but regs distorted what investors wanted).
- Canard of “deregulation”: Latent flaws in regulation and agency were long present, but were triggered by three factors: (1) loose money, (2) political shifts that pushed Fannie and Freddie into making markets for subprime, and (3) particular historical circumstances that gave “plausible deniability” to low loss projections.
  - (The “plausible deniability” equilibrium: First peak of subprime foreclosure rate over six years ago! Losses were small, given rising home prices. Extrapolated into PD and LGD assumptions (idiotic), which allowed high leverage, high growth.)
Percent of Mortgages

- All Mortgages: Foreclosure Inventory (pre-1998)
- All Mortgages: Payments Past Due 90 Days (pre-1998)
- All Mortgages: Foreclosures Started (pre-1998)
- Subprime Mortgages: Foreclosure Inventory (post-1998)
- Subprime Mortgages: Payments Past Due 90 Days (post-1998)
- Subprime Mortgages: Foreclosures Started (post-1998)
- Prime Mortgages: Foreclosure Inventory (post-1998)
- Prime Mortgages: Payments Past Due 90 Days (post-1998)
- Prime Mortgages: Foreclosures Started (post-1998)
On the one hand...

- We are in the middle of a panic, but...this is not 1989-91.
  - Banking system condition was otherwise in pretty good shape.
  - Banks are much better diversified (due to deregulation), and shocks are not as concentrated in banks this time.
  - Shock was of moderate size (in US, $1 trillion aggregate loss) and banks have raised over $450 billion in new private capital, which is unprecedented (predictably in preferred as well as common), as well as new public capital injections.
  - Large losses are being recognized quickly, and loans are being reintermediated quickly (banks are absorbing securitizations on the balance sheet).
  - Liquidity risks of ABCP and SIVs now probably contained.
  - Fed and Treasury are responding aggressively to failures and Libor spread problem, in interventions, in fed funds rate cuts and in unprecedented discount window operations.
  - Corporate balance sheets are strong (dividend tax cut) and there is lots of financial slack and corporate liquidity, so firms can substitute for bank credit (once panic subsides).
  - House price decline has been exaggerated by Case-Shiller, as have effects on house prices of foreclosures that keep growing.
Figure 18: Commercial and Industrial Loans

- All Commercial Banks
- Weekly Reporting Large Domestic Commercial Banks

Graph showing the trend of commercial and industrial loans from 1/4/2006 to 8/27/2008.
Figure 15: Corporate Leverage

Gross Corporate Leverage
Net Corporate Leverage
Figure 3: OFHEO HPI
Disaggregated by Case-Shiller Coverage

Index: 2000Q1 = 100

States with Full Coverage
States with Partial Coverage
States with No Coverage
Cumulative change:
- Baseline: -0.44%
- Foreclosure shock: -4.67%
- Extreme shock: -5.47%
Figure 7: Distribution of Total House Price Changes between 2007Q2 and 2009Q4

Extreme Foreclosure Shock
Figure 8: Residential Investment by Household Sector Relative to GDP
On the other hand…

• Recession began in June, still no clear loss recognition (*unprecedented* in historical experience).
• Consumers are falling out of bed, as credit crunch deepens.
• Losses are spreading outside US, and could begin to affect US financial institutions from abroad, too (especially Citibank), if global trade and finance even look fragile.
• Risks from Obama presidency in an environment of rising unemployment and falling consumption:
  – China bashing and trade collapse (China fiscal, reform costs)
  – high wage policies (union voting, min. wage, strikers)
  – limited political will to help banks (Gerard speech)
  – destructive financial regulation, micromanagement
  – continued reliance on failed Basel system
  – bringing back the GSEs
  – tax effects on growth (2% cumulative shortfall by 2012)
• Note parallels to one-two punch of 1933-1936.
IMF Policy Panel

• What was implicit intervention rule in US and how did it change?
• In light of previous discussion of sources of crisis, what short-term policies should be followed?
• What long-term regulatory reforms should be implemented?
Can one make sense of policy?

- Phase I: Initial shock, widening spreads and ABCP problems met by monetary policy responses.
- Phase II: March-September 18 2008, bottom falls out (Bear, F&F, etc.). Intervention rule: punishment and ring fencing.
- Phase III: First comprehensive approach.
- Phase IV: Post-November 13 approach.
Short-Term Responses Evaluated

Crisis Management

- **Fed policy:** Appropriately aggressive, involves many new facilities, targeting of money markets, etc.
- **New asset purchase plan is flawed:** Pricing problem, mgt. problem, little bang for buck.
- **Preferred stock injections:** Used in 1930s in US, in Finland in 1990s. Seniority protects taxpayers and crowds in private offerings of common (if implemented properly). It has not been implemented properly (warrants, common stock dividends because of stigma nonsense).
- **Foreclosure relief:** Taxpayer proportional loss sharing.
- **Target mortgage market:** For healthy mortgages, refinance at low rates. Guarantee minimum price.
- **Prevent Collapse of Global Trade:** This has immediate benefits for US financial markets and institutions, as well as benefits to global output and trade going forward.
Regulatory Policy

- Large consensus among academics on need to combine market information with reg/sup process (Calomiris and Powell on Argentina, Shadow Cmts.)
- Main Motive: Political economy agency problem must be taken into account explicitly:
  - Regs do not come from optimization models, but rather from political process in which politicians are agents for citizens. **Deposit insurance is suboptimally generous (very large literature).** Politicians will fight economic objectives that limit bailouts.
  - Basel is a political process designed to permit banks to avoid discipline (**regulators are often captured**).
  - Supervisors and regulators write and enforce rules acting as agents for citizens, subject to particular incentive distortions. **They will often miss problems (low talent or effort) or choose to underreport problems (incentives from bosses).**
  - Regulatory and supervisory rules have to be politically robust, as well as economically sensible.
Regulatory Policy (cont’d)

• **Bank regulatory response:** (a) get rid of reliance on ratings and models; bureaucratic fixes will not work, (b) incorporate real market discipline via a minimum sub debt requirement (carefully crafted) rather than ratings and models (skin in the game is essential), (c) raise and substantially vary over the cycle minimum capital ratio on a phased in basis. (Note Kashyap-Rajan-Stein agency problem of setting level in normal times too high).

(Note ideas on how to use spreads, and evidence on usefulness of sub debt rule: Fed study 1999, Barth-Caprio-Levine, Dermirguc-Kunt and Calomiris-Powell and others work on debt market discipline; Segoviano work on CDS spreads.)

• **Reform OTC disclosure and accounting:** This would encourage more exchange based trading, which would help transparency and risk management.

• **Wind Down GSEs:** Fannie / Freddie should be credibly privatized. FHLBs risk also high ($51 billion of Countrywide’s $100 billion in assets), possible asset stripping of FDIC.

• **Macro Prudential Regulation:** Spain’s and Colombia’s examples.