Lecture 5

Notes on the Current Crisis

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June 2009
Real GDP growth
Figure 1: Selected Corporate Bond Spreads

NOTE: The black line depicts the average credit spread for our sample of 5,269 senior unsecured corporate bonds; the red line depicts the average credit spread associated with very long maturity corporate bonds issued by firms with low to medium probability of default (see text for details); and the blue line depicts the standard Baa credit spread, measured relative to the 10-year Treasury yield. The shaded vertical bars denote NBER-dated recessions.
Three Aspects of the Current Crisis

1. Disruption of Financial Intermediation

2. Unconventional Monetary and Fiscal Interventions in Credit Markets

3. Antiquated Regulation and the Need for Regulatory Reform
Disruption of Financial Intermediation

- From the late 1980s, Remarkable Rise in Highly-leveraged Securitized Lending (i.e. the Shadow Banking System)
Disruption of Financial Intermediation (con’t)

- Factors underlying this increase:
  - Basel capital standards
  - Relaxation of credit standards
  - Low interest rates
  - Complacency about risk due to Great Moderation
Disruption of Financial Intermediation (con’t)

"You can’t tell who is naked until you drain the swimming pool."

(Warren Buffett)
Disruption of Financial Intermediation (con’t)

- Sub-prime defaults in August 2007 expose the weakness of the system
- Difficult to value many securitized assets: exposed to falling housing prices
- Term lending in money and interbank markets begins to dry up
- Global deleveraging process begins $\Rightarrow$ losses from asset firesales that fuel further losses
- Culminates in Lehmann Brothers collapse
Securitized Lending Collapse Post-Lehman

2008 ABS issuance - $159.8 bln

Source: DB Global Markets Research
Disruption of Financial Intermediation (con’t)

Transmission to Real Economy:

- Deleveraging leads to increasing credit spreads.

- Distress spread broadly as commercial banks come under stress
  - Banks have some direct exposure to sub-prime loans
  - Banks absorb some of the decline off-balance sheet assets.
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Financial Conditions: Butterfly Charts (1 of 2)

**Target Fed Funds Rate**

**Real Fed Funds Rate**

**Conforming 30yr Fixed Rate Mortgage**

**Spread: 30yr Tsy & Conforming 30yr FRM**

**Jumbo Mortgage Rate**

**Spread: 30yr Tsy & Jumbo Mortgage Rate**

1990-91 recession: 1990m7 (peak) to 1991m3 (trough)
2001 recession: 2001m3 (peak) to 2001m11 (trough)
Monthly charts using last daily data where available
1990-91 recession: 1990m7 peak (blue vertical line) to 1991m3 trough (purple vertical line)
2001 recession: 2001m3 peak (purple vertical line) to 2001m11 trough (red vertical line)
Monthly charts using last daily data where available
United States: Prices

Total CPI

Total PCE

Core CPI

Core PCE

Michigan Inflation Expectations (median)

Breakeven Inflation

12-month change
3-month change (AR)

United States: Prices

Next 5 to 10 years
1-year ahead

Barclays 5yr/5yr
Macro Adv 5yr/5yr
Macro Adv 10yr/10yr
Disruption of Financial Intermediation (con’t)

Implications for research:

- Existing literature (BGG, CMR, etc.) focuses on capital market constraints faced by non-financial firms and households
  - Intermediaries are simply veils.
Disruption of Financial Intermediation (con’t)

On the one hand:

- Financial Accerelator mechanism extends naturally to financial institutions.
  - Motivates capital constraints on the ability to obtain funds

- Also provides way to think about how the wave of sub-prime defaults disrupted financial intermediation
  - Especially given the high leverage of these firms.
Disruption of Financial Intermediation (con’t)

On the other hand:

- Need to do more than re-label non-financial firms as financial:

- Financial Firms exhibit a much higher degree of leverage and a much shorter maturity structure of debt.

- It is this feature that made the system so vulnerable to a housing pricing collapse. (Contrast with the equity price collapse of 2000-2001.)

- Understanding how such a high degree of leverage could emerge is an important policy question.

- Primitive Features of Financial Institutions vs. Moral Hazard from Government Protection
Disruption of Financial Intermediation (con’t)

- Related Issue: Not only did the average amount of intermediary capital decline precipitously, the degree uncertainty over asset values skyrocketed.

- This increase in uncertainty had the effect of further tightening balance sheet constraints.

- Not only a first moment effect on intermediation from the contraction in intermediary capital, there was as well second moment effect from the rise in uncertainty over the value of this capital. ("Toxic Assets")

- The paper by Christiano et. al. gets at this, but clearly much more work needs to be done.
Unconventional Monetary and Fiscal Interventions in Credit Markets.

Unconventional vs. Conventional Monetary Policy

**Conventional:** The central bank adjusts the short term rate to affect the market structure of interest rates.

**Unconventional:** The central bank lends directly in private credit markets.

Section 13.3 of the Federal Reserve Act: "In unusual and exigent circumstances.. the Federal Reserve may lend directly to private borrowers to the extent it judges the loans to be adequately secured."
Unconventional Monetary and Fiscal Interventions in Credit Markets.

- Fed’s expansion of its balance sheet to directly channel credit to the private sector:
  Injection of equity capital into the banking system by Treasury
  Along with expansion of various guarantees by the Treasury and the FDIC.

- Need to expand models so that we can offer advice on these kinds policies.
Unconventional Monetary and Fiscal Interventions in Credit Markets.

- Gertler and Karadi (2009): These policies reflect a vary natural response to the disruption of financial intermediation that this crisis has featured.

- Unlike private intermediaries, the Fed is not balanced sheet constrained (or at least not yet.).

- As a lender of last resort, Fed should directly lend in markets where private intermediaries are constrained due to financial distress but credit risks are moderate.

- The evidence suggests that these kinds of policies have had some success in reducing credit spreads.
Unconventional Monetary and Fiscal Interventions in Credit Markets (con’t).

Additional Issues

- Asset Purchases vs. Equity Injections:

- Inflation Risks From Fed Balance Sheet Operations?
  - Vastly overblown, in my view
Japanese money and prices

Source: Bank of Japan, IMF
Inadequate Regulatory Structure and Regulatory Re-Design

• Emergence of the highly leveraged shadow banking system was facilitated by the existing regulatory structure.

• Now an across the board consensus for regulatory re-design.

• Research should contribute to this endeavor.

• Should build models where we can not only stress the banking system, but also stress test the overall macroeconomy.
Inadequate Regulatory Structure and Regulatory Re-Design (con’t)

• Need to better understand the moral hazard consequences of different types of regulatory design.

• We have developed an impressive machinery to study credibility issues in policymaking but have mostly applied this machinery to the inflation bias problem.

• Time to shift to studying the consequences of different types of financial regulatory design.

Now have an impressive literature on the optimal inflation target:

• I look forward when we attack the problem of optimal financial regulatory design with the same degree of energy.