Transactions Costs, Financial Crisis, and the Limits to Financial Market Decentralization

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Outline

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Was This Crisis Different?

- Financial crises are not new
  - 122 separate incidences of crises since 1800
- Historical character of financial crises
  - Mostly in developing countries (4/5 of sample)
  - Generally limited in impact (regional or asset class contagion)
  - Involving simple instruments and/or immature financial markets
- The 2007 subprime crisis occurred in the deepest, most mature market in the world's richest country, and spread across the world

How Did It Happen Here?

- Our thesis in this paper is that:
  - Transactions costs endogenous to the institutional framework of financial markets...
  - ...increased over time and amplified disconnects between fundamentals and prices...
  - ...which heightened financial fragility and ultimately erupted in crisis...
  - ...posing as a natural constraint to the extent of financial market decentralization

Understanding Whether Transactions Costs Were a Fundamental Cause of the Crisis

- Theoretical contribution
  - Development three-part model of: (a) Transactions costs endogenous to institutions; (b) Larger transactions costs component leads to more inflated bubble (and crisis); (c) Increases in transactions costs ultimately lower efficiency
- Analytical narratives
  - Financial innovation through complex instruments raise the transactions costs related to economic exchange in financial markets
  - Asymmetry in degregulation-regulation cycle in the United States which has meant a trend increase in transactions costs over time

Standing on the Shoulders of Giants

1. Transactions cost and institutions
    - Transactions costs $\Rightarrow$ Institutions (Constantinides 1986; Merton 1987, 1989)
    - Institutions $\Rightarrow$ Informational and agency costs (Akerlof & Romer 1993; Biais, Rochet & Woolley 2009; Shleifer & Vishny 1997)
2. Causes of the financial crisis
    - Complex financial innovations and securitization (Achrya & Richardson 2009; Brender & Pisani 2010; Rajan 2005)
    - Incentive issues due to informational asymmetries (Faber 2009; Ritholtz 2009; Sorkin 2009)
    - Changes in the institutional/regulatory environment (Calomiris 2009; Gerding 2010; Tymoigne 2009)

Complex Instruments Were Proximate, Not Fundamental

- Complex instruments neither necessary nor sufficient for a crisis (Japan 1992 & Asia 1996/97; Forex options market)
  - Complexity amplified shocks (Khandani & Lo 2007) and leverage propagated and further amplified shocks (Coval, Jurek & Stafford 2009)
  - Cannot explain containment in other crisis episodes (LTCM/Russia crisis 1998 & hedge-fund crisis 8/2007)
- Instruments are theoretically designed to disperse risk and hence has capacity to *reduce* transactions costs
  - Problem when risk not transferred but kept on bank balance sheets (Acharya & Schnabl 2009)
  - Risk models can be accurate if calibrated with appropriate data
- Unclear whether risks actually be mitigated to any useful extent (or even recognized *ex ante*)

Complex Instruments Raised Transactions Costs

- Complexity *per se* was not fundamental, but they raised informational and other transactions costs
    - Pervasive securitization introduced additional informational burdens between agent and principal
    - Even *recognized* moral hazard would remain embedded in toxic asset structure due to principal-agent disconnect
    - Securitization facilitated international asset sale, which introduced more distance and helped crisis diffusion
    - Models of financial instruments and risk management require unavailable or unattainable informational inputs

CDO with Distance Between Obligor, Originator, and Investor

Subprime mortgage loans

↓

Subprime mortgage bonds

Tranche	Share
AAA	80%
AA	11%
A	4%
BBB	3%
BB – Unrated	2%

AAA, AA, A → High-grade structured-finance CDO

BBB, BB – Unrated → Mezzanine structured-finance CDO

High-grade structured-finance CDO

Tranche	Share
Senior AAA	88%
Junior AAA	5%
AA	3%
A	2%
BBB	1%
Unrated	1%

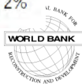
Mezzanine structured-finance CDO

Tranche	Share
Senior AAA	62%
Junior AAA	14%
AA	8%
A	6%
BBB	6%
Unrated	4%

AA, A → CDO-squared

CDO-squared

Tranche	Share
Senior AAA	60%
Junior AAA	27%
AA	4%
A	3%
BBB	3%
Unrated	2%



Beyond Regulatory and Government Failures

- Problems with regulatory failure argument
  - Deregulatory blueprint originated in 1981, and S&L crisis and Internet bubbles were very well contained
  - Many derivatives have been successfully traded in loosely regulated environments for extended periods without problem
  - Prudential oversight from both public and private regulatory bodies, so require concurrent failure of both
  - Why did self-regulation not work this time?

Institutional Changes Spurred Asymmetric Financial Innovation

1980	Depository Institutions Deregulation and Monetary Control Act	Abolishes caps that limited interest rates banks could charge on primary mortgages
1982	Garn-St. Germain Depository Institutions Act	Deregulation of S&L industry and end of New Deal restrictions on mortgage lending
1983	Second-level securitization introduced	First Boston and Salomon Brothers issue first collateralized mortgage obligation (CMO)
1985/86	Expansion of ABS beyond mortgages to commercial credit	Sperry Lease Finance Corporation issues first ABS for equipment leases
	Expansion of ABS to consumer credit	Marine Midland Bank issues Certificate for Automobile Receivables (CAR) for auto loans
		Bank One creates Certificate for Amortizing Revolving Debts (CARD) for credit card receivables
1987	Expansion of ABS to corporate securities	Drexel Burnham Lambert issues first collateralized debt obligation (CDO) for commercial bonds (CBO)
1988	Special purpose vehicles introduced	Citigroup invents SIVs for risk transfer off-balance sheets
1989	Expansion of CDOs to risky securities	Issuance of CDOs on high-yield corporate loans (CLO) and distressed bonds

Main Findings

- Offered a transactions-cost based view of financial markets and the recent financial crisis
- Elaborated on two of the primary elements: complex financial innovation raises transactions costs, and instrument innovation followed asymmetric interaction with institutions in the U.S.
- Considered alternative explanations for the financial crisis, setting global imbalances in an current account setting
- Policy lesson: Need more explicit recognition of limits that transactions costs can impose on financial markets, as well as the limits faced by regulation seeking to offset these costs