Money and Banking
ECON3303

Lecture 9: Financial Crises

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What is a Financial Crisis?

• A financial crisis occurs when there is a particularly large disruption to information flows in financial markets, with the result that financial frictions increase sharply and financial markets stop functioning.

• Asset Markets Effects on Balance Sheets
  – Stock market decline
    • Decreases net worth of corporations.
  – Unanticipated decline in the price level
    • Liabilities increase in real terms and net worth decreases.
  – Unanticipated decline in the value of the domestic currency
    • Increases debt denominated in foreign currencies and decreases net worth.
  – Asset write-downs.
Factors Causing Financial Crises

• Deterioration in Financial Institutions’ Balance Sheets
  – Decline in lending.

• Banking Crisis
  – Loss of information production and disintermediation.

• Increases in Uncertainty
  – Decrease in lending.
Factors Causing Financial Crises (cont’d)

• Increases in Interest Rates
  – Increases adverse selection problem
  – Increases need for external funds and therefore adverse selection and moral hazard.

• Government Fiscal Imbalances
  – Create fears of default on government debt.
  – Investors might pull their money out of the country.
Dynamics of Financial Crises in Advanced Economies

• Stage One: Initiation of Financial Crisis
  – Mismanagement of financial liberalization/innovation
  – Asset price boom and bust
  – Spikes in interest rates
  – Increase in uncertainty

• Stage two: Banking Crisis

• Stage three: Debt Deflation
Figure 1. Sequence of Events in Financial Crises in Advanced Economies
APPLICATION: The Great Depression

• How did a financial crisis unfold during the Great Depression and how it led to the worst economic downturn in U.S. history?

• This event was brought on by:
  – Stock market crash
  – Bank panics
  – Continuing decline in stock prices
  – Debt deflation
Figure 2. Stock Price Data During the Great Depression Period

[Graph showing stock prices from 1929 to 1940, indicating the stock market peak and a significant trough in December 1932 at 10% of the September 1929 peak value.]
Figure 3. Credit Spreads During the Great Depression

Uncertainty in financial markets increased the spread between corporate bonds and low-risk Treasury bonds.

• Causes:
  • Financial innovations emerge in the mortgage markets
    – Subprime and Alt-A mortgages
    – Mortgage-backed securities
    – Collateralized debt obligations (CDOs)
  • Housing price bubble forms
    – Increase in liquidity from cash flows surging to the United States
Application: The Global Financial Crisis of 2007 - 2009 (cont’d)

• Housing price bubble forms (cont’d)
  – Development of subprime mortgage market fueled housing demand and housing prices.

• Agency problems arise
  – “Originate to distribute” model is subject to principal (investor) agent (mortgage broker) problem.
  – Borrowers had little incentive to disclose information about their ability to pay
Application: The Global Financial Crisis of 2007 - 2009 (cont’d)

• Agency problems arise (cont’d)
  – Commercial and investment banks (as well as rating agencies) had weak incentives to assess the quality of securities

• Information problems surface

• Housing price bubble bursts
Application: The Global Financial Crisis of 2007 - 2009 (cont’d)

- Crisis spreads globally
  - Sign of the globalization of financial markets
  - TED spread (3 months interest rate on Eurodollar minus 3 months Treasury bills interest rate) increased from 40 basis points to almost 240 in August 2007.
Application: The Global Financial Crisis of 2007 - 2009 (cont’d)

• Banks’ balance sheets deteriorate
  – Write downs
  – Sell of assets and credit restriction

• High-profile firms fail
  – Bear Stearns (March 2008)
  – Fannie Mae and Freddie Mac (July 2008)
  – Lehman Brothers, Merrill Lynch, AIG, Reserve Primary Fund (mutual fund) and Washington Mutual (September 2008).
Application: The Global Financial Crisis of 2007 - 2009 (cont’d)

• Bailout package debated
  – House of Representatives voted down the $700 billion bailout package on September 29, 2008.
  – It passed on October 3.

• Recovery in sight?
  – Congress approved a $787 billion economic stimulus plan on February 13, 2009.
FYI Collateralized Debt Obligations (CDOs)

- The creation of a collateralized debt obligation involves a corporate entity called a *special purpose vehicle (SPV)* that buys a collection of assets such as corporate bonds and loans, commercial real estate bonds, and mortgage-backed securities.

- The SPV separates the payment streams (cash flows) from these assets into buckets that are referred to as tranches.
Collateralized Debt Obligations (CDOs) (cont’d)

• The highest rated tranches, referred to as super senior tranches are the ones that are paid off first and so have the least risk

• The lowest tranche of the CDO is the equity tranche and this is the first set of cash flows that are not paid out if the underlying assets go into default and stop making payments. This tranche has the highest risk and is often not traded
Figure 4. Housing Prices and the Financial Crisis of 2007–2009

By 2009, housing prices had fallen by over 30%.
Inside the Fed Was the Fed to Blame for the Housing Price Bubble?

- Some economists have argued that the low rate interest policies of the Federal Reserve in the 2003–2006 period caused the housing price bubble.

- Taylor argues that the low federal funds rate led to low mortgage rates that stimulated housing demand and encouraged the issuance of subprime mortgages, both of which led to rising housing prices and a bubble.
Inside the Fed Was the Fed to Blame for the Housing Price Bubble? (cont’d)

• Federal Reserve Chairman Ben Bernanke countered this argument, saying the culprits were the proliferation of new mortgage products that lowered mortgage payments, a relaxation of lending standards that brought more buyers into the housing market, and capital inflows from emerging market countries.

• The debate over whether monetary policy was to blame for the housing price bubble continues to this day.
Figure 5. Stock Prices and the Financial Crisis of 2007–2009
Figure 6. Credit Spreads and the 2007–2009 Financial Crisis
Dynamics of Financial Crises in Emerging Market Economies

• Stage one: Initiation of Financial Crisis.
  – Path one: mismanagement of financial liberalization/globalization:
    • Weak supervision and lack of expertise leads to a lending boom.
    • Domestic banks borrow from foreign banks.
    • Fixed exchange rates give a sense of lower risk.
    • Banks play a more important role in emerging market economies, since securities markets are not well developed yet.
Dynamics of Financial Crises in Emerging Market Economies (cont’d)

– Path two: severe fiscal imbalances:
  • Governments in need of funds sometimes force banks to buy government debt.
  • When government debt loses value, banks lose and their net worth decreases.

– Additional factors:
  • Increase in interest rates (from abroad)
  • Asset price decrease
  • Uncertainty linked to unstable political systems
Dynamics of Financial Crises in Emerging Market Economies (cont’d)

• Stage two: currency crisis
  – Deterioration of bank balance sheets triggers currency crises:
    • Government cannot raise interest rates (doing so forces banks into insolvency)...
    • ... and speculators expect a devaluation.
  – How severe fiscal imbalances triggers currency crises:
    • Foreign and domestic investors sell the domestic currency.
Dynamics of Financial Crises in Emerging Market Economies (cont’d)

• Stage three: Full-Fledged Financial Crisis:
  – The debt burden in terms of domestic currency increases (net worth decreases).
  – Increase in expected and actual inflation reduces firms’ cash flow.
  – Banks are more likely to fail:
    • Individuals are less able to pay off their debts (value of assets fall).
    • Debt denominated in foreign currency increases (value of liabilities increase).
Figure 7. Sequence of Events in Emerging Market Financial Crises

• Mexico: Financial liberalization in the early 1990s:
  – Lending boom, coupled with weak supervision and lack of expertise.
  – Banks accumulated losses and their net worth declined.
• Rise in interest rates abroad.
• Uncertainty increased (political instability).
• Domestic currency devaluated on December 20, 1994.
• Rise in actual and expected inflation.

• East Asia: Financial liberalization in the early 1990s:
  – Lending boom, coupled with weak supervision and lack of expertise.
  – Banks accumulated losses and their net worth declined.

• Uncertainty increased (stock market declines and failure of prominent firms).

• Domestic currencies devaluated by 1997.

• Rise in actual and expected inflation.

• Argentina: Government coerced banks to absorb large amounts of debt due to fiscal imbalances.
• Rise in interest rates abroad.
• Uncertainty increased (ongoing recession).
• Domestic currency devaluated on January 6, 2002.
• Rise in actual and expected inflation.