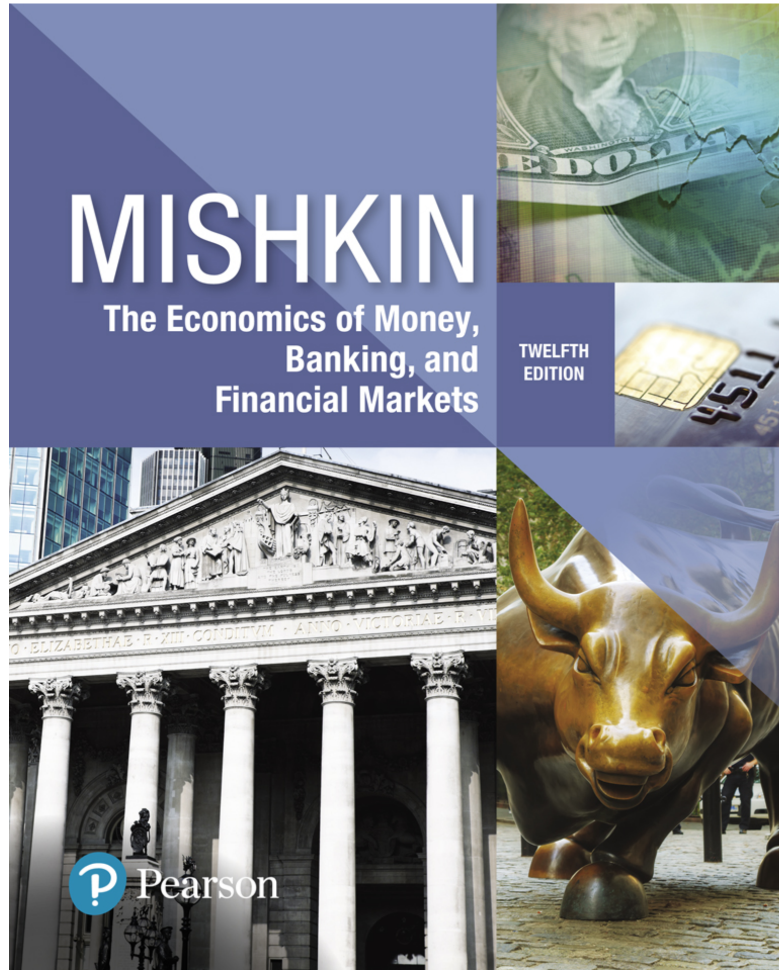
The Economics of Money, Banking, and Financial Markets

Twelfth Edition



Chapter 12

Financial Crises

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Preview (1 of 2)

- This chapter makes use of agency theory, the economic analysis of the effects of asymmetric information (adverse selection and moral hazard) on financial markets, to see why financial crises occur and why they have such devastating effects on the economy.
- It then applies our analysis to explain the course of events that led to a number of past financial crises, including the most recent global financial crisis.

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Preview (2 of 2)

- This chapter applies the asymmetric information theory of financial crises to investigate the cause of frequent and devastating financial crises in emerging market economies
- This analysis is then applied to the events surrounding the financial crises that took place in South Korea and Argentina in recent years and explore why these events caused such devastating contractions of economic activity.

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Learning Objectives

- Define the term “financial crisis.”
- Identify the key features of the three stages of a financial crisis.
- Describe the causes and consequences of the global financial crisis of 2007–2009.
- Summarize the changes to financial regulation that developed in response to the global financial crisis of 2007–2009.
- Identify the gaps in current financial regulation and how they might be addressed with future regulatory changes.

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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.

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Dynamics of Financial Crises

- Stage One: Initiation of a Financial Crisis
  - Credit Boom and Bust: Mismanagement of financial liberalization/innovation leading to asset price boom and bust
  - Asset-price Boom and Bust
  - Increase in Uncertainty
- Stage two: Banking Crisis
- Stage three: Debt Deflation

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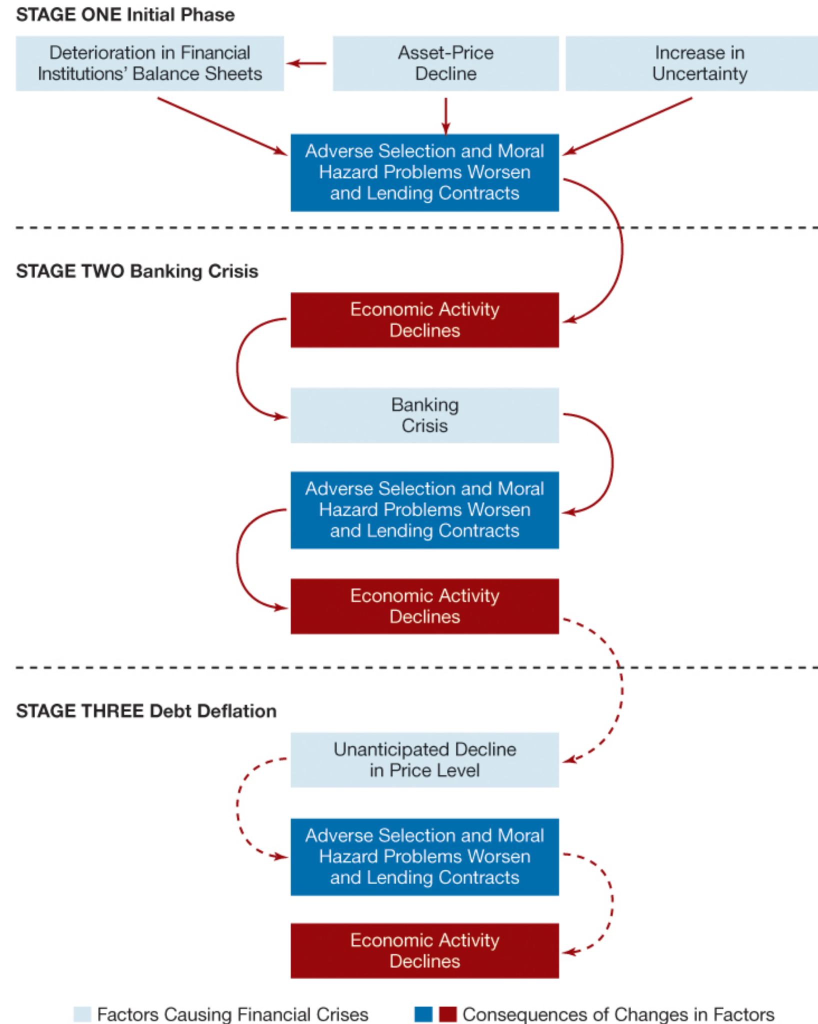
Figure 1 Sequence of Events in Financial Crises in Advanced Economies



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The Mother of All Financial Crises: 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

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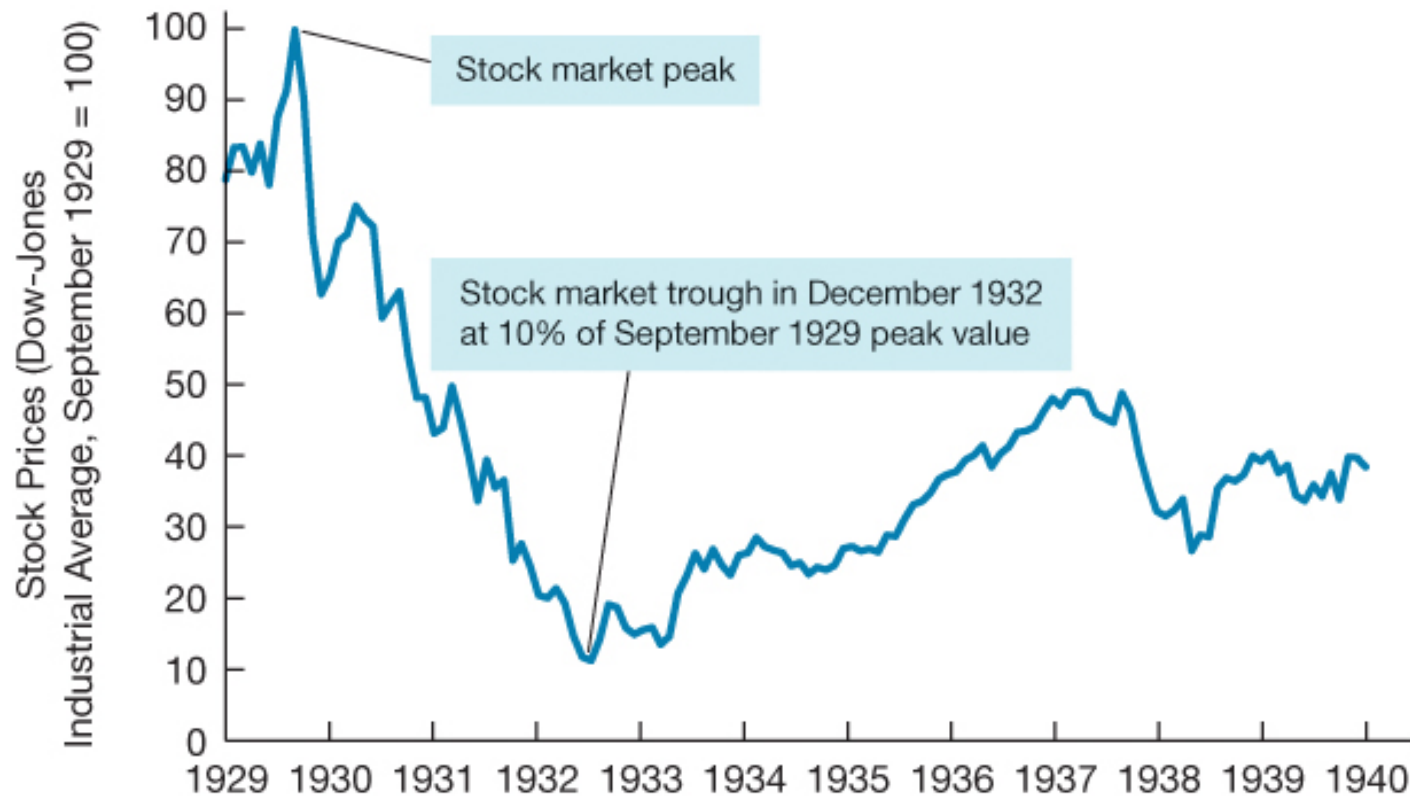
Figure 2 Stock Price Data During the Great Depression Period



Source: Dow-Jones Industrial Average (DJIA). Global Financial Data: http://www.globalfinancialdata.com/index_tabs.php?action=detailedinfo&id=1165.

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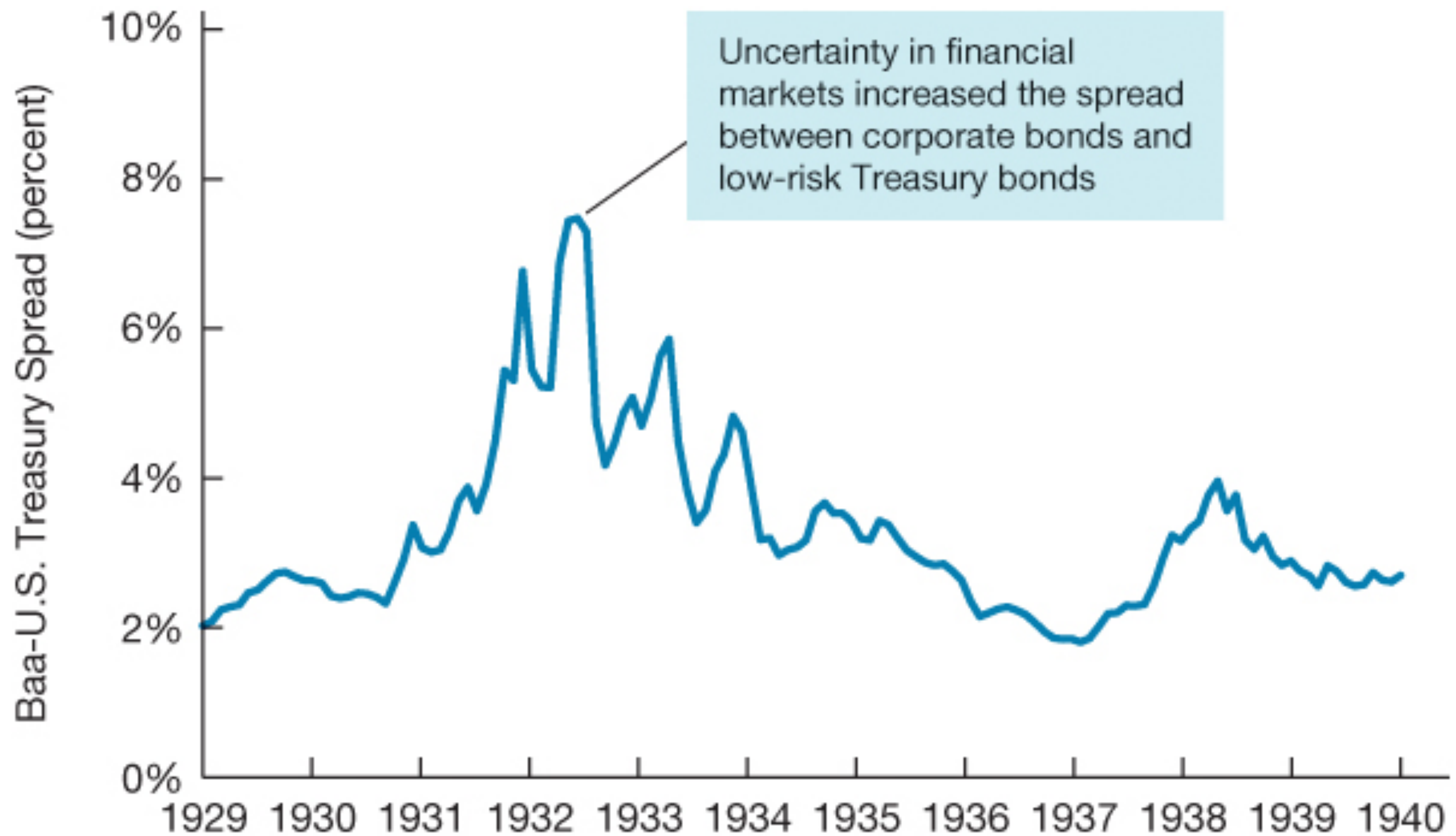
Figure 3 Credit Spreads During the Great Depression



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The Global Financial Crisis of 2007–2009

- Causes of the 2007–2009 Financial Crisis:
  - Financial innovations emerge in the mortgage markets
    - Subprime mortgage
    - Mortgage-backed securities
    - Collateralized debt obligations (CDOs)
  - Housing price bubble forms
    - Increase in liquidity from cash flows surging to the United States
    - Development of subprime mortgage market fueled housing demand and housing prices

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The Global Financial Crisis of 2007–2009

- Causes (cont'd):
  - 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
    - 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

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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.

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FYI Collateralized Debt Obligations (CDOs)

- 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.

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The Global Financial Crisis of 2007–2009

- Effects of the 2007–2009 Financial Crisis
  - After a sustained boom, housing prices began a long decline beginning in 2006.
  - The decline in housing prices contributed to a rise in defaults on mortgages and a deterioration in the balance sheet of financial institutions.
  - This development in turn caused a run on the shadow banking system.

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The Global Financial Crisis of 2007–2009

(4 of 8)

- 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.

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The Global Financial Crisis of 2007–2009

- Deterioration of financial institutions' balance sheets:
  - 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)

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The Global Financial Crisis of 2007–2009

- Bailout package debated
  - House of Representatives voted down the $700 billion bailout package on September 29, 2008.
  - It passed on October 3, 2008.
  - Congress approved a $787 billion economic stimulus plan on February 13, 2009.

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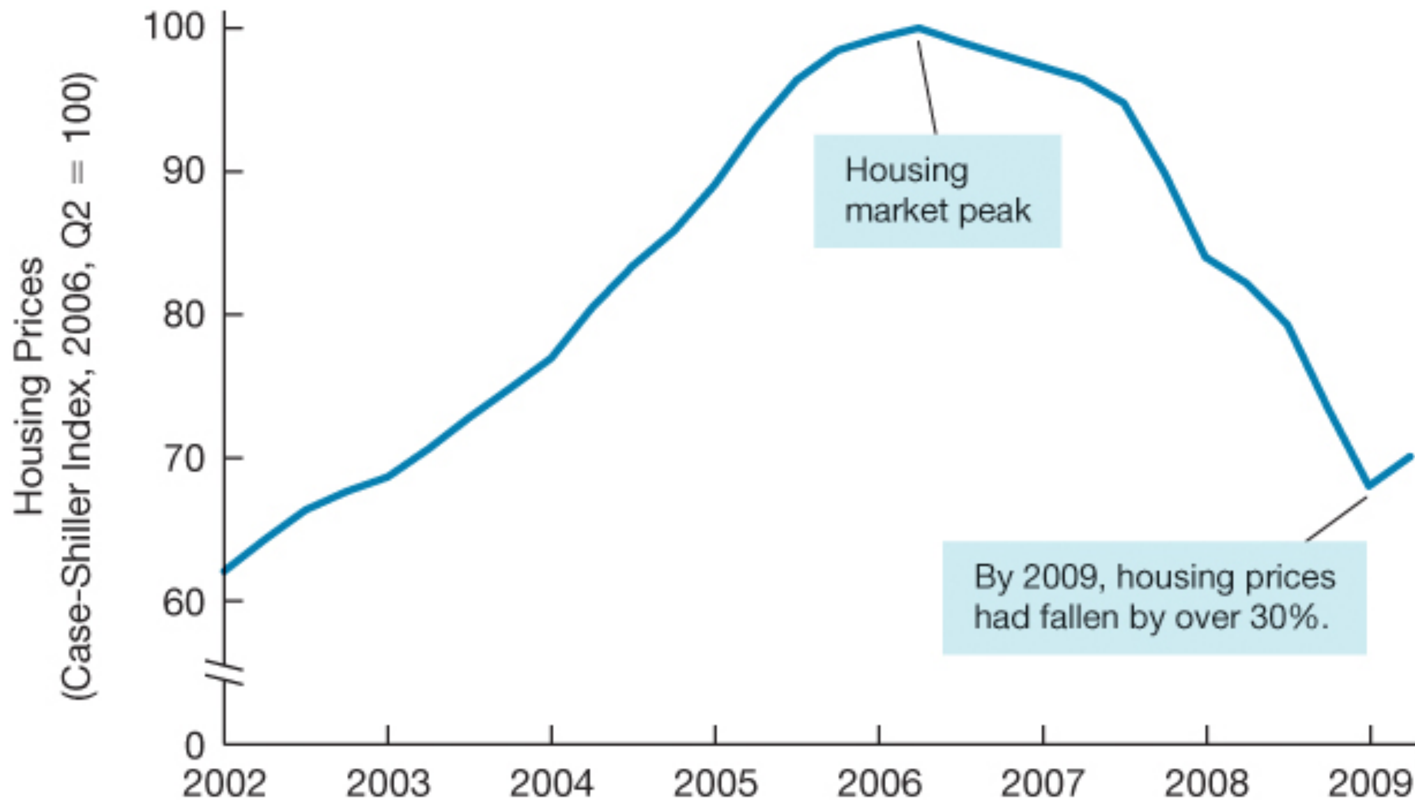
Figure 4 Housing Prices and the Financial Crisis of 2007–2009



Source: Case-Shiller U.S. National Composite House Price Index from Federal Reserve Bank of St. Louis FRED database: http://research.stlouisfed.org/fred2/.

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Figure 5 Stock Prices and the Financial Crisis of 2007–2009

Source: Dow-Jones Industrial Average (DJIA). Global Financial Data: http://www.globalfinancialdata.com/index_tabs.php?action=detailedinfo&id=1165.

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Inside the Fed: Was the Fed to Blame for the Housing Price Bubble? (1 of 2)

- 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.

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Inside the Fed: Was the Fed to Blame for the Housing Price Bubble? (2 of 2)

- 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.

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Global: The European Sovereign Debt Crisis

- The increase in budget deficits that followed the financial crash of 2007–2009 led to fears of government defaults and a surge in interest rates.
- The sovereign debt debt, which began in Greece, moved on to Ireland, Portugal, Spain, and Italy.
- The stresses created by this and related events continue to threaten the viability of the Euro.

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The Global Financial Crisis of 2007–2009

- Height of the 2007–2009 Financial Crisis
  - The stock market crash gathered pace in the fall of 2008, with the week beginning October 6, 2008, showing the worst weekly decline in U.S. history.
  - Surging interest rates faced by borrowers led to sharp declines in consumer spending and investment.
  - The unemployment rate shot up, going over the 10% level in late 2009 in the midst of the "Great Recession, the worst economic contraction in the United States since World War II.

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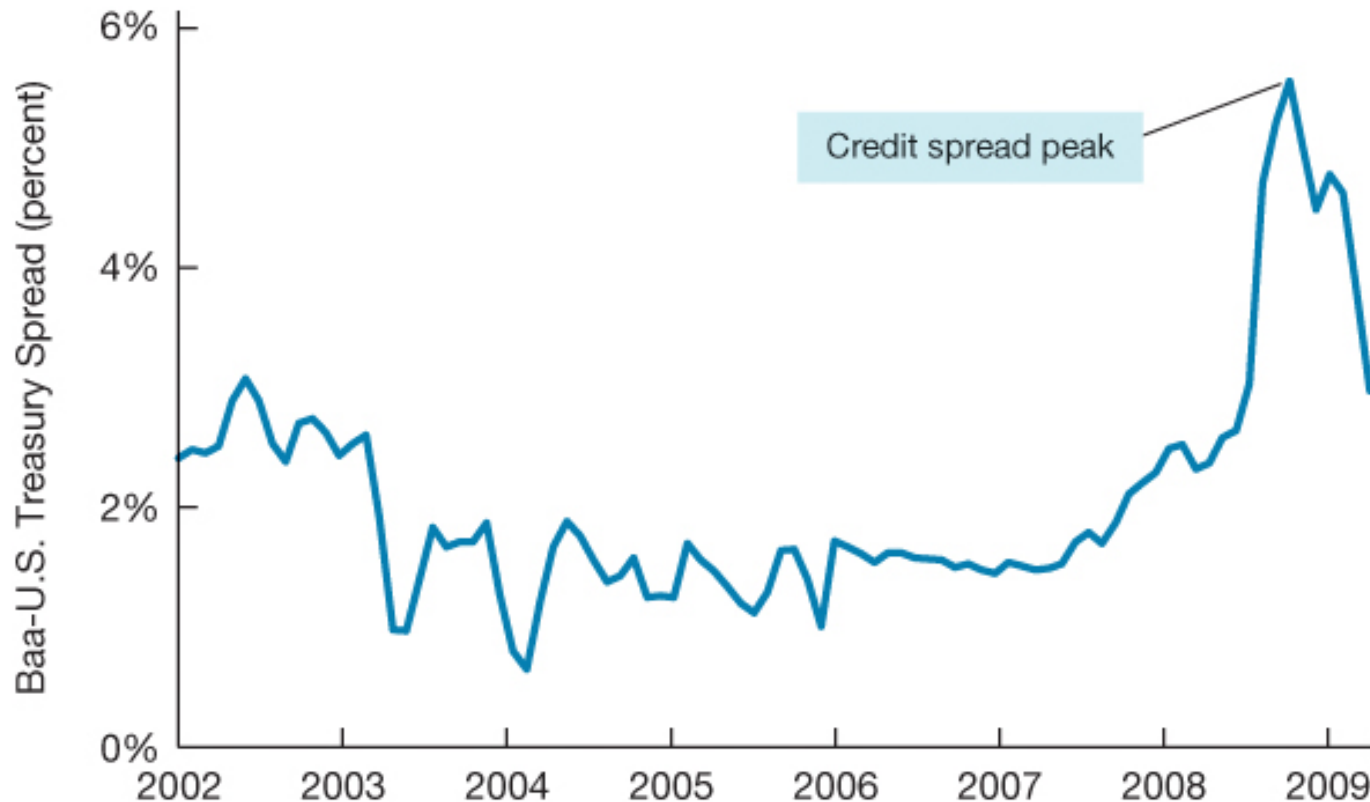
Figure 6 Credit Spreads and the 2007–2009 Financial Crisis



Source: Dow-Jones Industrial Average (DJIA). Global Financial Data: http://www.globalfinancialdata.com/index_tabs.php?action=detailedinfo&id=1165.

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The Global Financial Crisis of 2007–2009

- Government Intervention and the Recovery
  - Due to government and central bank intervention, the Great Recession was far smaller in magnitude than the Great Depression.
  - The Troubled Asset Relief Program (TARP), the most important provision of the Bush administrations' Emergency Economic Stabilization Act passed in October 2008, authorized the Treasury to spend $700 billion purchasing subprime mortgage assets from troubled financial institutions or to inject capital into these institutions.

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Response of Financial Regulation

- Macroprudential versus microprudential supervision
- Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010
  - Consumer protection
  - Annual stress tests
  - Resolution authority
  - Systemic risk regulation
  - Volcker Rule
  - Derivatives

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Too-Big-to-Fail and Future Regulation

- Three approaches to solving the too-big-to-fail problem have been suggested:
  - Break up large financial institutions
  - Higher capital requirements
  - Leave it to Dodd-Frank

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Issues for Future Regulation

- Consumer Protection
- Resolution Authority
- Compensation in the financial sector
- Volcker Rule
- Derivatives Trading
- Government-sponsored enterprises (GSEs)
- Credit-rating Agencies
- The danger of overregulation

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Web Chapter 1:

Financial Crises in Emerging Market Economies

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Dynamics of Financial Crisis in Emerging Market Economies (1 of 4)

- Stage one: Initial Phase
  - Path A: Credit Boom and Bust
    - Weak supervision and lack of expertise lead 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.

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Dynamics of Financial Crisis in Emerging Market Economies (2 of 4)

- Stage one: Initial Phase
  - Path B: 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

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Dynamics of Financial Crisis in Emerging Market Economies (3 of 4)

- 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.
  - Severe fiscal imbalances triggers currency crises:
    - Foreign and domestic investors sell the domestic currency.

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Dynamics of Financial Crisis in Emerging Market Economies (4 of 4)

- 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).

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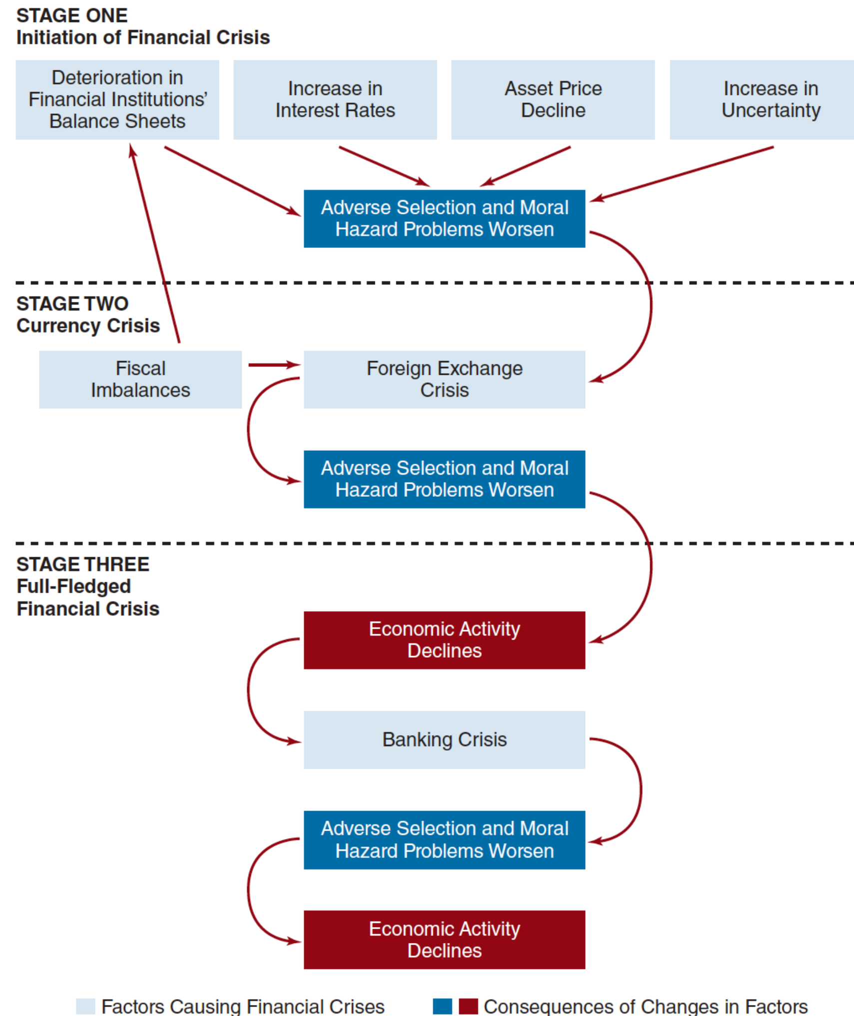
Figure 7 Sequence of Events in Emerging Market Financial Crises



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Application: Crisis in South Korea, 1997–98

- Financial liberalization and globalization mismanaged
- Perversion of the financial liberalization and globalization process: chaebols and the South Korean crisis
- Stock market decline and failure of firms increase uncertainty
- Adverse selection and moral hazard problems worsen, and the economy contracts

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Application: Crisis in South Korea, 1997–98

- Currency crisis ensues
- Final stage: currency crisis triggers full-fledged financial crisis
- Recovery commences

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Application: The Argentine Financial Crisis, 2001–2002

- Severe fiscal imbalances
- Adverse selection and moral hazard problems worsen
- Bank panic begins
- Currency crisis ensues
- Currency crisis triggers full-fledged financial crisis
- Recovery begins

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Global: When an Advanced Economy Is Like an Emerging Market Economy: The Icelandic Financial Crisis of 2008

- The financial crisis and economic contraction in Iceland that started in 2008 followed the script of a financial crisis in an emerging market economy, even though Iceland is a wealthy nation.
- Financial liberalization led to rising stock market values and currency mismatch.
- Foreign capital fled the country as a severe recession developed.

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Preventing Emerging Market Financial Crises

- Beef up prudential regulation and supervision of banks
- Encourage disclosure and market-based discipline
- Limit currency mismatch
- Sequence financial liberalization

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