Chapter 1

The Investment Environment

McGraw-Hill/Irwin

Real Assets Versus Financial Assets

- Real Assets
  - Determine the productive capacity and net income of the economy
  - Examples: Land, buildings, machines, knowledge used to produce goods and services
- Financial Assets
  - Claims on real assets

Financial Assets

- Three types:

1. Fixed income or debt
2. Common stock or equity
3. Derivative securities

Fixed Income

- Payments fixed or determined by a formula
- Money market debt: short term, highly marketable, usually low credit risk
- Capital market debt: long term bonds, can be safe or risky

Common Stock and Derivatives

- Common Stock is equity or ownership in a corporation.
  - Payments to stockholders are not fixed, but depend on the success of the firm
- Derivatives
  - Value derives from prices of other securities, such as stocks and bonds
  - Used to transfer risk

Financial Markets and the Economy

- Information Role: Capital flows to companies with best prospects

- Consumption Timing: Use securities to store wealth and transfer consumption to the future

Financial Markets and the Economy (Ctd.)

- Allocation of Risk: Investors can select securities consistent with their tastes for risk

- Separation of Ownership and Management: With stability comes agency problems

Financial Markets and the Economy (Ctd.)

- Corporate Governance and Corporate Ethics
  - Accounting Scandals
    - Satyam (India), Olympus (Japan), Longtop Financial Technologies (China)
  - Auditors – watchdogs of the firms
    - Arthur Andersen (Enron)
  - Stock Analysts – optimistic research reports
  - Sarbanes-Oxley Act
    - Tighten the rules of corporate governance

The Investment Process

- Asset allocation
  - Choice among broad asset classes
- Security selection
  - Choice of which securities to hold *within* asset class
  - Security analysis to value securities and determine investment attractiveness

Markets are Competitive

- Risk-Return Trade-Off
- Efficient Markets
  - Active Management
    - Finding mispriced securities
    - Timing the market

Markets are Competitive (Ctd.)

- Passive Management
  - No attempt to find undervalued securities
  - No attempt to time the market
  - Holding a highly diversified portfolio

The Players

- Business Firms – net borrowers
- Households – net savers
- Governments – can be both borrowers and savers

The Players (Ctd.)

- Financial Intermediaries: Pool and invest funds
  - Investment Companies
  - Banks
  - Insurance companies
  - Credit unions

Universal Bank Activities

Investment Banking

- Underwrite new stock and bond issues
- Sell newly issued securities to public in the primary market
- Investors trade previously issued securities among themselves in the secondary markets

Commercial Banking

- Take deposits and make loans

Financial Crisis of 2008

- Antecedents of the Crisis:
  - "The Great Moderation": a time in which the U.S. had a stable economy with low interest rates and a tame business cycle with only mild recessions
  - Historic boom in housing market

Figure 1.3 The Case-Shiller Index of U.S. Housing Prices

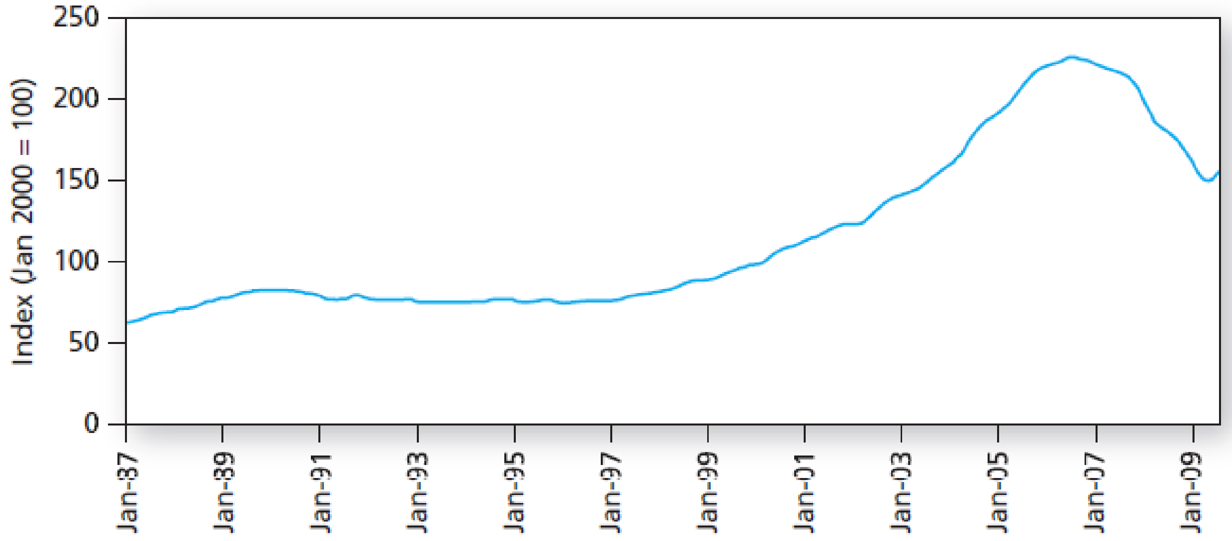

Figure 1.3 The Case-Shiller index of U.S. housing prices

Changes in Housing Finance

Old Way

- Local thrift institution made mortgage loans to homeowners
- Thrift’s major asset: a portfolio of long-term mortgage loans
- Thrift’s main liability: deposits
- “Originate to hold”

New Way

- Securitization: Fannie Mae and Freddie Mac bought mortgage loans and bundled them into large pools
- Mortgage-backed securities are tradable claims against the underlying mortgage pool
- “Originate to distribute”

Figure 1.4 Cash Flows in a Mortgage Pass-Through Security

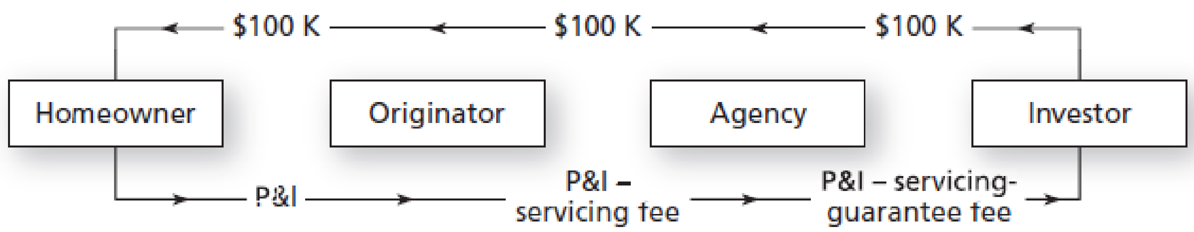

Figure 1.4 Cash flows in a mortgage pass-through security

Changes in Housing Finance (Ctd.)

- At first, Fannie Mae and Freddie Mac securitized conforming mortgages, which were lower risk and properly documented.
- Later, private firms began securitizing nonconforming “subprime” loans with higher default risk.
  - Little due diligence
  - Placed higher default risk on investors
  - Greater use of ARMs and “piggyback” loans

Mortgage Derivatives

- Collateralized debt obligations (CDOs)
  - Mortgage pool divided into slices or tranches to concentrate default risk
  - Senior tranches: Lower risk, highest rating
  - Junior tranches: High risk, low or junk rating

Mortgage Derivatives

- Problem: Ratings were wrong! Risk was much higher than anticipated, even for the senior tranches

Why was Credit Risk Underestimated?

- No one expected the entire housing market to collapse all at once
- Geographic diversification did not reduce risk as much as anticipated
- Agency problems with rating agencies
- Credit Default Swaps (CDS) did not reduce risk as anticipated

Credit Default Swap (CDS)

- A CDS is an insurance contract against the default of the borrower
- Investors bought sub-prime loans and used CDS to insure their safety

Credit Default Swap (CDS)

- Some big swap issuers did not have enough capital to back their CDS when the market collapsed.

- Consequence: CDO insurance failed

Rise of Systemic Risk

- Systemic Risk: a potential breakdown of the financial system in which problems in one market spill over and disrupt others.
  - One default may set off a chain of further defaults
  - Waves of selling may occur in a downward spiral as asset prices drop
  - Potential contagion from institution to institution, and from market to market

Rise of Systemic Risk (Ctd.)

- Banks had a mismatch between the maturity and liquidity of their assets and liabilities.
  - Liabilities were short and liquid
  - Assets were long and illiquid
  - Constant need to refinance the asset portfolio
- Banks were very highly levered, giving them almost no margin of safety.

Rise of Systemic Risk (Ctd.)

- Investors relied too much on “credit enhancement” through structured products like CDS
- CDS traded mostly “over the counter”, so less transparent, no posted margin requirements
- Opaque linkages between financial instruments and institutions

The Shoe Drops

- 2000-2006: Sharp increase in housing prices caused many investors to believe that continually rising home prices would bail out poorly performing loans
- 2004: Interest rates began rising
- 2006: Home prices peaked

The Shoe Drops

- 2007: Housing defaults and losses on mortgage-backed securities surged
- 2007: Bear Stearns announces trouble at its subprime mortgage–related hedge funds

The Shoe Drops

- 2008: Troubled firms include Bear Stearns, Fannie Mae, Freddie Mac, Merrill Lynch, Lehman Brothers, and AIG
  - Money market breaks down
  - Credit markets freeze up
  - Federal bailout to stabilize financial system

Systemic Risk and the Real Economy

- Add liquidity to reduce insolvency risk and break a vicious circle of valuation risk/counterparty risk/liquidity risk
- Increase transparency of structured products like CDS contracts
- Change incentives to discourage excessive risk-taking and to reduce agency problems at rating agencies