Chapter 2: Part B

An Overview of the Financial System...Continued

Mishkin notes with edits by L. Tesfatsion (Iowa State University)

Last Revised: 23 January 2011
Key Issues

- Forms of financial markets
- “Financial asset trades” versus “finance”
- Direct vs. indirect finance
- Common vs. preferred stock
- Globalization of financial markets
- Who regulates financial markets, and why?
Forms of Financial Markets Based on *Organization*

- Auctions, Exchanges & Over-the-Counter (OTC) Markets
  - Auction: U.S. Treasury bill auctions
  - Exchanges: NYSE, Chicago Board of Trade
  - OTC: Gov’t bond market (secondary), Foreign exchange, Fed funds, Nasdaq.
Forms of Financial Markets Based on Basic Type of Financial Asset Traded

- **Debt:** Contractual agreement by a borrower to pay the holder of the debt instrument specified payments at regular intervals until a specified date.
  
  *Examples:* Residential mortgages, Treasury bills

- **Equity:** Security that confers on the holder an ownership interest in the issuer.
  
  *Examples:* Common stock, preferred stock

- **Money/Foreign Exchange** (Mishkin Chpt 3)
  
  *Examples:* Euros, U.S. dollars
Two Basic Forms of Stock Shares

◆ **Common Stock**
  – Claim to a share of the net income (after expenses and taxes) and of the assets of a corporation.
  – Return comes in two forms: (1) capital gains (or losses) from stock price changes; (2) dividends (at discretion of corporation)

◆ **Preferred Stock**
  – Typically issued at a par value (e.g., $100) and pay a fixed dividend as % of par value
  – Claim against corp.’s cash flow *prior* to common stock claims but *after* bond holder claims
Forms of Financial Markets Based on Maturity of Financial Assets

- **Money Markets**
  - Money markets deal in short-term debt instruments (≤ 1 Yr)

- **Capital Markets**
  - Capital markets deal in equity (no maturity) and longer-term debt instruments (> 1 Yr).
Money Market Assets
(Shorter-Term Securities ≤ 1 Year)

- Treasury bills
- Negotiable Certificates of Deposit
- Commercial paper
- Banker’s acceptances
- Repurchase agreements
- Federal funds
- Eurocurrencies
Mishkin Table 2-1: Principal Money Market Instruments

<table>
<thead>
<tr>
<th>Type of Instrument</th>
<th>Amount Outstanding ($ billions, end of year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Treasury bills</td>
<td>216</td>
</tr>
<tr>
<td>Negotiable bank certificates of deposit</td>
<td>317</td>
</tr>
<tr>
<td>(large denominations)</td>
<td></td>
</tr>
<tr>
<td>Commercial paper</td>
<td>122</td>
</tr>
<tr>
<td>Federal funds and Security</td>
<td>64</td>
</tr>
<tr>
<td>repurchase agreements</td>
<td></td>
</tr>
</tbody>
</table>

Sources: Federal Reserve Flow of Funds Accounts; Federal Reserve Bulletin; Economic Report of the President.
Capital Market Assets
(Longer-Term Securities > 1 Year)

- Corporate Stocks (No Maturity)
- Residential Mortgages
- Corporate Bonds
- U.S. Government Securities
- U.S. Government Agency Securities
- Municipal Bonds (state, city, or local gov’t)
- Bank Commercial Loans
- Consumer Loans (e.g., car, appliances,...)
- Commercial and Farm Mortgages
## Mishkin Table 2-2: Principal Capital Market Instruments

<table>
<thead>
<tr>
<th>Type of Instrument</th>
<th>Amount Outstanding ($ billions, end of year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate stocks (market value)</td>
<td>1,601</td>
</tr>
<tr>
<td>Residential mortgages</td>
<td>1,106</td>
</tr>
<tr>
<td>Corporate bonds</td>
<td>366</td>
</tr>
<tr>
<td>U.S. government securities (marketable long-term)</td>
<td>407</td>
</tr>
<tr>
<td>U.S. government agency securities</td>
<td>193</td>
</tr>
<tr>
<td>State and local government bonds</td>
<td>310</td>
</tr>
<tr>
<td>Bank commercial loans</td>
<td>459</td>
</tr>
<tr>
<td>Consumer loans</td>
<td>355</td>
</tr>
<tr>
<td>Commercial and farm mortgages</td>
<td>352</td>
</tr>
</tbody>
</table>

Forms of Financial Markets Based on Issue Date of Traded Financial Assets

• **Primary Market**
  - *Newly-issued* securities (*asset creation*)
  - Popularly called “Initial Public Offerings” (IPOs)
  - *Example:* U.S. Treasury Bill Auctions

• **Secondary Market**
  - *Previously sold* securities (*no asset creation*)
  - Provides liquidity for financial asset owners
  - *Example:* New York Stock Exchange
“Financial Asset Trade” vs. “Finance”

• Financial Asset Trade

  – **ANY** purchase/sale of financial assets
  – In particular, the financial assets can be existing or newly issued

  – **Example 1:** I sell an IBM share to you for $126

  – **Example 2:** I borrow $126 from you. Specifically, I issue to you a contract ("IOU") with the following terms: if you pay me $126 now, in return I promise to pay you $126+$3 (principal plus interest) one month from now.
“Finance” is the creation of borrowed funds, hence a financial obligation

• **Direct Finance:**

  - Borrowers obtain borrowed funds directly from lenders in *primary* financial markets by selling them *newly-issued* securities

• **Indirect Finance:**

  - Borrowers obtain borrowed funds from FIs by signing *newly-created* loan contracts (“IOUs”)
Mishkin Fig. 2-1: Two Types of Finance --- Indirect vs. Direct

**INDIRECT FINANCE**

- FUNDS
  - Lender-Savers
    1. Households
    2. Business firms
    3. Government
    4. Foreigners

- Financial Intermediaries

**DIRECT FINANCE**

- FUNDS
  - Borrower-Spenders
    1. Business firms
    2. Government
    3. Households
    4. Foreigners

- FUNDS
  - Primary Financial Markets
Direct Finance Assets

• **Newly Issued Debt**
  - Short-term < 1 year
  - Intermediate-term (Between 1 and 10 years)
  - Long-term > 10 years

• **Newly Issued Equity**
  - No maturity (“long”)
  - Residual claimant (the claims of bond holders come before equity holders in case of bankruptcy)
  - Benefits come from dividends and/or capital gains
Advantages of Indirect Finance (Financing through FIs)

• Lower transaction costs (time and money spent in carrying out financial transactions).
  – Economies of scale
  – Liquidity services

• Reduce the exposure of lenders to risk
  – Risk sharing (asset transformation)
  – Diversification
### Table 3  Primary Assets and Liabilities of Financial Intermediaries

<table>
<thead>
<tr>
<th>Type of Intermediary</th>
<th>Primary Liabilities (Sources of Funds)</th>
<th>Primary Assets (Uses of Funds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depository institutions (banks)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial banks</td>
<td>Deposits</td>
<td>Business and consumer loans, mortgages, U.S. government securities and municipal bonds</td>
</tr>
<tr>
<td>Savings and loan associations</td>
<td>Deposits</td>
<td>Mortgages</td>
</tr>
<tr>
<td>Mutual savings banks</td>
<td>Deposits</td>
<td>Mortgages</td>
</tr>
<tr>
<td>Credit unions</td>
<td>Deposits</td>
<td>Consumer loans</td>
</tr>
<tr>
<td>Contractual savings institutions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life insurance companies</td>
<td>Premiums from policies</td>
<td>Corporate bonds and mortgages</td>
</tr>
<tr>
<td>Fire and casualty insurance companies</td>
<td>Premiums from policies</td>
<td>Municipal bonds, corporate bonds and stock, U.S. government securities</td>
</tr>
<tr>
<td>Pension funds, government retirement funds</td>
<td>Employer and employee contributions</td>
<td>Corporate bonds and stock</td>
</tr>
<tr>
<td>Investment intermediaries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finance companies</td>
<td>Commercial paper, stocks, bonds</td>
<td>Consumer and business loans</td>
</tr>
<tr>
<td>Mutual funds</td>
<td>Shares</td>
<td>Stocks, bonds</td>
</tr>
<tr>
<td>Money market mutual funds</td>
<td>Shares</td>
<td>Money market instruments</td>
</tr>
</tbody>
</table>
Financial Assets Exchanged in International Financial Markets

- **Foreign Bonds**: Sold in a foreign country and denominated in that country’s currency

- **Eurobond**: Bond denominated in a currency other than that of the country in which it is sold

- **Eurocurrencies**: Currencies deposited in banks outside the currency-issuing country
  - **Example: Eurodollars**: U.S. dollars deposited in foreign banks outside U.S. or in foreign branches of U.S. banks

- **Equity (World Stock Markets)**
Information Problems in Financial Markets

• Asymmetric Information:

Buyers & sellers have different information

- Before Transaction (“Adverse Selection”)
  
  Example: Whom should I lend to?

- After Transaction (“Moral Hazard”)
  
  Example: Have I lent to honest people?
Adverse Selection in Markets

- A problem that arises **BEFORE** a transaction occurs

- **Example:** Used-car dealer has difficulty assessing the quality of the cars it wishes to purchase
  
  - Dealer offers to purchase used cars at a price equal to **AVERAGE** (expected) quality based on NADA Guide appraisals
  
  - **HIGH**-quality sellers **EXIT** the market
  
  - **LOW**-quality sellers **ENTER** the market
  
  ➡️ Average quality of used cars brought to the dealer’s car lot by sellers **DECREASES**
Adverse Selection ... Another Example

• A U.S. banker has difficulty assessing the quality (default risk) of applicants for residential mortgages
  – Banker offers mortgages at an interest rate tailored for AVERAGE default risk in U.S.
  – HIGH-quality borrowers EXIT applicant pool
  – LOW-quality borrowers ENTER applicant pool

  ➔ Average default risk of the banker’s pool of mortgage applicants INCREASES
Moral Hazard in Markets

- A problem that arises **AFTER** a transaction

**Example:**

- A new Ames fire insurance company offers 100% coverage to households against fire loss.

- The company sets its insurance premiums to cover its expected losses based on the past frequency of household fires in Ames.

- Anticipated result?
Moral Hazard...Another Example

- A problem can arise for a lender **AFTER** a lending agreement takes place
  - The borrower changes his behavior in ways that increase the risk to the lender that the borrower will default
  - The lender is not able to fully observe the borrower’s behavioral change
  - The original loan interest rate no longer compensates the lender for his risk
Illustrations...Continued

• An investment advisory firm advertises job openings under the following terms:

  – A salary will be paid that is **HIGHER** than the industry average;

  – All correspondence of employees will be subject to **RANDOM AUDIT**;

  – any employee caught giving incorrect advice will be **FIRED**.

  – Possible results of this job policy?
Fed announces it will act as “lender of last resort” to any bank running into problems due to rapid deposit withdrawals.

- Fed charges each bank a flat annual rate of 2% for covered deposits

- Program participation by banks is voluntary

- Possible effects of this policy?

- Would making program mandatory help?
FIs Can Reduce Information Problems

◆ **Adverse Selection:** Avoid servicing of risky borrowers
  
  ─ Gather information about potential borrowers

◆ **Moral Hazard:** Ensure borrower will not engage in activities that will prevent him/her from repaying the loan.
  
  ─ Sign a contract with restrictive covenants.
Why Regulate the Financial Financial System?
(Main Topic of Mishkin Chapter 11)

- Increase information to investors
  - SEC disclosure/reporting requirements
  - Reduce adverse selection and moral hazard

- Ensure soundness of financial system
  - Avoid panics
  - Entry restrictions, info reporting, risk reduction, insurance provision, branching restrictions,…

- Improve the control of monetary policy
Examples of Regulations on FIs

- Restrictions on entry (chartering process)
- Required disclosure of information (SEC)
- Restrictions on assets and activities (controls on risky asset holdings – Basel II)
- Deposit insurance (avoid bank runs)
- Limits on competition (mostly in the past)
  - Limits on branching
  - Restrictions on interest rates
Table 5  Principal Regulatory Agencies of the U.S. Financial System – Lots of Them!

<table>
<thead>
<tr>
<th>Agency</th>
<th>Type of Financial Institutions</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Securities and Exchange Commission (SEC)</td>
<td>Organized exchanges and financial markets</td>
<td>Requires disclosure of information, restricts insider trading</td>
</tr>
<tr>
<td>Commodities Futures Trading Commission (CFTC)</td>
<td>Futures market exchanges</td>
<td>Regulates procedures for trading in futures markets</td>
</tr>
<tr>
<td>Office of the Comptroller of the Currency</td>
<td>Federally chartered commercial banks</td>
<td>Charters and examines the books of federally chartered commercial banks and imposes restrictions on assets they can hold</td>
</tr>
<tr>
<td>National Credit Union Administration (NCUA)</td>
<td>Federally chartered credit unions</td>
<td>Charters and examines the books of federally chartered credit unions and imposes restrictions on assets they can hold</td>
</tr>
<tr>
<td>State banking and insurance commissions</td>
<td>State-chartered depository institutions</td>
<td>Charter and examine the books of state-chartered banks and insurance companies, impose restrictions on assets they can hold, and impose restrictions on branching</td>
</tr>
<tr>
<td>Federal Deposit Insurance Corporation (FDIC)</td>
<td>Commercial banks, mutual savings banks, savings and loan associations</td>
<td>Provides insurance of up to $100,000 (temporarily $250,000) for each depositor at a bank, examines the books of insured banks, and imposes restrictions on assets they can hold</td>
</tr>
<tr>
<td>Federal Reserve System</td>
<td>All depository institutions</td>
<td>Examines the books of commercial banks that are members of the system, sets reserve requirements for all banks</td>
</tr>
<tr>
<td>Office of Thrift Supervision</td>
<td>Savings and loan associations</td>
<td>Examines the books of savings and loan associations, imposes restrictions on assets they can hold</td>
</tr>
</tbody>
</table>