Material for Lecture 2 & 3

Lecture 2 & 3 will use the following transparencies, plus Figure 1 and Tables 1 – 5 of Chapter 2 of the textbook.

Overview of the Financial System

1. The Functions of the Financial System
2. Financial Markets
3. Financial Intermediaries
4. Regulation
Function of Financial Markets

**INDIRECT FINANCE**

**Funds**

Financial Intermediaries

**Funds**

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

**DIRECT FINANCE**

Financial Markets

**Funds**

Borrower-Spenders:
1. Business firms
2. Government
3. Households
4. Foreigners
Function of Financial Intermediaries

Risk Sharing

1. Create and sell assets with low risk characteristics and then use the funds to buy assets with more risk (also called asset transformation).

2. Also lower risk by helping people to diversify portfolios
Functions of the Financial System

Financial Markets and Institutions

- Allow individuals to shift funds
  - across time periods
  - across situations (example: insurance)

- Allow society to transfer funds between lenders and borrowers
  - for better timing of consumption
  - to facilitate production

Classifying Financial Markets

- Debt v. Equity Markets
- Money v. Capital Markets
- Primary v. Secondary Markets
- Exchanges v. Over-the-Counter (OTC) Markets
- Liquid v. Illiquid Markets
Bonds

- Security: any claim on issuer’s future income or wealth

- Bond: security that promises to make payments periodically for a specified period of time (up to maturity)

- Sold at a per unit price

Bonds

- ‘Interest rate’ on bond is what can be earned by investing one dollar in bond; can be calculated from bond price

- Failure to make promised payment may trigger bankruptcy

- Many types of bond exist -> many interest rates
  - maturity (-> term structure)
  - bankruptcy risk -> bond ratings, “junk bonds”
Stocks

- Share: security that represents a claim on the earnings and assets of a corporation
- Sold at a per unit price
- Often makes periodic payments ( dividends); no maturity date

Stocks

- Equity holders are ‘residual claimants’
- Equity holders often have voting rights
- Stock prices fluctuate substantially over time
The Money Market

- Much more private money market instruments than public ones

- Many money market instruments issued and held by intermediaries; households almost never directly participate in the money market

- “Globalization”

The Capital Market

- Government is largest borrower in long term debt market

- Households and intermediaries (pension funds, mutual funds) hold capital market instruments

- Banks’ importance as lenders has declined, especially for lending to businesses
Exchanges and OTC Markets

- Exchange: buyers and sellers of securities meet in central locations
- OTC: dealers trade independently, but efficient information flows make it very competitive
- Government bond market: OTC

Primary and Secondary Markets

- Primary market
  - new issues
  - through investment banks
- Secondary market
  - resale
  - through brokers
Internationalization of Financial Markets

International Bond Market
  1. Foreign bonds
  2. Eurobonds
Now larger than U.S. corporate bond market

World Stock Markets
  U.S. stock markets are no longer always the largest: Japan sometimes larger

Why Intermediaries

- Transactions Costs

- Asymmetric Information
  - Adverse Selection (Asym. Info before transaction)
  - Moral Hazard (Asym. Info after transaction)
## 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>
## Size of Financial Intermediaries

<table>
<thead>
<tr>
<th>Type of Intermediary</th>
<th>1970</th>
<th>1980</th>
<th>1990</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Depository institutions (banks)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial banks</td>
<td>517</td>
<td>1,481</td>
<td>3,334</td>
<td>6,141</td>
</tr>
<tr>
<td>Savings and loan associations and mutual savings banks</td>
<td>250</td>
<td>792</td>
<td>1,365</td>
<td>1,597</td>
</tr>
<tr>
<td>Credit unions</td>
<td>18</td>
<td>67</td>
<td>215</td>
<td>643</td>
</tr>
<tr>
<td><strong>Contractual savings institutions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life insurance companies</td>
<td>201</td>
<td>464</td>
<td>1,367</td>
<td>3,969</td>
</tr>
<tr>
<td>Fire and casualty insurance companies</td>
<td>50</td>
<td>182</td>
<td>533</td>
<td>1,116</td>
</tr>
<tr>
<td>Pension funds (private)</td>
<td>112</td>
<td>504</td>
<td>1,629</td>
<td>4,330</td>
</tr>
<tr>
<td>State and local government retirement funds</td>
<td>60</td>
<td>197</td>
<td>737</td>
<td>2,046</td>
</tr>
<tr>
<td><strong>Investment intermediaries</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finance companies</td>
<td>64</td>
<td>205</td>
<td>610</td>
<td>1,385</td>
</tr>
<tr>
<td>Mutual funds</td>
<td>47</td>
<td>70</td>
<td>654</td>
<td>4,969</td>
</tr>
<tr>
<td>Money market mutual funds</td>
<td>0</td>
<td>76</td>
<td>498</td>
<td>1,912</td>
</tr>
</tbody>
</table>

Transactions Costs

- Financial intermediaries make profits by reducing transactions costs
- Reduce transactions costs by developing expertise and taking advantage of economies of scale

Adverse Selection

Example 1: The Used Car Market
- Quality of car unknown *before* it is bought
- Price will reflect average quality in pool
- Sellers of bad cars get a good deal
- Sellers of good cars get a bad deal
- Some sellers of good cars might withdraw
- ‘Adverse selection’ of cars remaining in the pool

Solution: car dealer
Adverse Selection

Example 2: The Loan Market

- Expected income (\(\rightarrow\) ability to repay) of borrower unknown before loan is made
- Loan rate will reflect average quality in pool
- Low income borrowers get good deal
- High income borrowers get bad deal

Adverse Selection: The Loan Market

- Some high income borrowers will not borrow
- ‘Adverse selection’ of borrowers remains
- Market may break down
- One Solution: Bank
  - Checks up on borrowers
  - Develops reputation for repaying
Moral Hazard

Example 3: The Fire Insurance Market

- Insurance company cannot control how careful homeowner is
- Insured homeowner more ‘reckless’ than uninsured
- Premium must go up
- Homeowners end up not buying insurance

Solution: e.g. government regulation

Moral Hazard

Example 4: The Stock Market

- Shareholders cannot control whether manager undertakes useful projects or his own ‘pet projects’
- Managers with access to lot of funds will misuse it
- Investors reluctant to provide funds
Moral Hazard: The Stock Market

- Firm ends up not getting funded, useful projects not undertaken

One Solution: Bank

- Owns many shares or provides loan
- Therefore has power over manager, can prevent misuse

So who should borrow from intermediaries?

- Borrowers about whom there is a lot of asymmetric information
- Small, young firms, households
Regulation of Financial Markets

Two Main Reasons for Regulation

1. Increase information to investors
   A. Decreases adverse selection and moral hazard problems
   B. SEC forces corporations to disclose information

2. Ensuring the soundness of financial intermediaries
   A. Prevents financial panics
   B. Chartering, reporting requirements, restrictions on assets and activities, deposit insurance, and anti-competitive measures
# Regulatory Agencies

<table>
<thead>
<tr>
<th>Regulatory Agency</th>
<th>Subject of Regulation</th>
<th>Nature of Regulations</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>Charters and examines the books of state-chartered banks and insurance companies, imposes restrictions on assets they can hold, and imposes restrictions on branching</td>
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## Regulatory Agencies

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<tbody>
<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 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>
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<td>State banking and insurance commissions</td>
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