The Financial System

- Money → Discussed in the last class
- Financial Instruments
- Financial Markets
- Financial Intermediaries
- Monitoring Bodies

Importance of the Financial System

- Efficient allocation of capital
  - Financing productive opportunities
- Well-being of the consumer
  - Allowing intertemporal adjustments
- Volumes
  - 2005 US GDP (current dollars) ≈ 13 trillion
  - 2005 value of debts and equities ≈ 59 trillion
- International experience
  - Break down of financial system → Crisis
Overview: Today’s Discussion

- Financial instruments
  - Types of financial instruments
- Financial Markets
  - Functions and structure of financial markets
  - Different kind of financial markets
- Financial intermediaries
  - Functions of financial intermediaries
- Regulations in financial markets
  - Reasons for regulations
  - Regulatory bodies

Financial Instruments (FIs) or Securities

- Debt Instrument (bond/mortgage)
  - Fixed payment at regular interval
  - Maturity (when final payment made):
    - Short term, Intermediate term, Long term
- Equity: share in net income and assets
  - Example: common stock
  - Dividends
  - Voting rights
  - Advantages and disadvantages
    - Stake in profitability
    - Residual claimant
- Debt market much bigger than Equity market
Examples of Financial Instruments

- Used primarily as store of value
  - Bank loans
  - Bonds
  - Home mortgages
  - Stocks
  - Asset backed securities
- Used primarily to transfer risk
  - Insurance contracts
  - Futures contracts
  - Options

Function of Financial System: Buying and Selling of Securities (FIs)
Direct Finance: Financial Markets
Categories of Financial Markets

- Whether selling new or old FIs
  - Primary markets *versus* secondary markets
- Whether centralized exchange or not (applies to secondary markets)
  - Organized exchange *versus* over-the-counter markets
- Maturity of securities traded
  - Money markets *versus* capital markets

Primary versus Secondary Markets

- Primary Market
  - New security issues sold to initial buyers
  - Underwriting: Investment bank
- Secondary Market
  - Securities previously issued are bought and sold
  - Importance of secondary markets
    - Liquidity of secondary market affects scope of the primary market
    - Price of the secondary market affects price in the primary market
Centralized Exchange versus Over-the-counter Markets

Pertains to Secondary Markets

- Centralized Exchanges
  - Central physical location (NYSE)
- Over-the-counter (OTC) Markets
  - Decentralized markets where dealers stand ready to buy and sell securities electronically (US government bond market)

Money Markets versus Capital Markets

- Money markets
  - Short-terms securities (ex: US treasury bills)
  - More widely traded → more liquid
  - Less price fluctuation → safer
  - Active traders: banks and corporations
- Capital Markets
  - Intermediate and long-term securities (ex: equities)
  - Greater price fluctuations
  - Active traders: Insurance companies, pension funds
Internationalization of Financial Markets

- International Bond Market
  - Now larger than U.S. corporate bond market

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

- A more integrated world economy
  - Foreigners provide funds for US corporations and the government

Note: Three Different Things

- **Euro**: the currency adopted in Europe after monetary union in 2002
- **Eurobond**: bond denominated in a currency other than that of the country in which it is sold
  - e.g. Bond denominated in Sterling, sold in the U.S.
  - *Foreign bonds* are denominated in currency of the country where it is sold
- **Eurocurrencies**: foreign currencies deposited in banks outside the home country
  - e.g.: Eurodollar Market – U.S. dollars deposited in foreign banks outside the U.S. (or in foreign branches of the US banks)
Financial Intermediaries

- Indirect finance
- More important source of finance than securities market
- Reduces transaction costs and provides liquidity services
- Allows risk sharing
- Reduces asymmetric information problems, e.g.,
  - adverse selection
  - moral hazard

Transaction Costs and Liquidity Services

- Financial intermediaries make profits by reducing transactions costs
- Reduce transactions costs by developing expertise and taking advantage of economies of scale
- Provides liquidity services such as bill payment
Risk Sharing

- Create and sell assets with low risk characteristics and then use the funds to buy assets with more risk (aka asset transformation)
- Also lower risk by helping people to diversify portfolios

Asymmetric Information

Financial intermediaries reduce adverse selection and moral hazard problems, enabling them to make profits.

- Adverse Selection
  - Before transaction occurs
  - Potential borrowers most likely to produce adverse outcomes are ones most likely to seek loans and be selected
- Moral Hazard
  - After transaction occurs
  - Hazard that borrower has incentives to engage in undesirable (immoral) activities making it more likely that won’t pay loan back
Regulation

- The Financial system is the most heavily regulated sector in the US.
- Why regulate
  - To reduce adverse selection and moral hazard increase (*created at intermediation*)
    → measures to make information available to investors
    → better functioning of the financial system
  - Reduce investor risks
    → measures to protect the investor
    → prevent *financial panic* (e.g. ‘bank run’)

Regulations

- Restrictions on entry
- Disclosure: SEC forces corporations to disclose information
- Restrictions on assets and activities
- Deposit insurance
- Limits on competition
  - Spatial competition: Restriction on opening of branches
  - Price competition: Restrictions on interest rates
# Financial Intermediaries

## Table 1 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.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>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>Premiums from policies</td>
<td>Corporate bonds and mortgages</td>
</tr>
<tr>
<td>Life insurance companies</td>
<td>Premiums from policies</td>
<td>Municipal bonds, corporate bonds and stock, U.S.</td>
</tr>
<tr>
<td>Fire and casualty insurance companies</td>
<td>Employer and employee contributions</td>
<td>government securities</td>
</tr>
<tr>
<td>Pension funds, government retirement funds</td>
<td></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 2 Principal Financial Intermediaries and Value of Their Assets

<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>Depository institutions (banks)</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>1,507</td>
</tr>
<tr>
<td>Credit unions</td>
<td>18</td>
<td>67</td>
<td>215</td>
<td>643</td>
</tr>
<tr>
<td>Contractual savings institutions</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>333</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>Investment intermediaries</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>40</td>
<td>54</td>
<td>4,969</td>
</tr>
<tr>
<td>Money market mutual funds</td>
<td>0</td>
<td>76</td>
<td>408</td>
<td>1,912</td>
</tr>
</tbody>
</table>

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</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>
</tr>
</tbody>
</table>

Recap: Financial System

- Efficient allocation of resources
  - Across agents in the economy
  - Over time (intertemporal)

- Importance for the economy
  - Short run: better functioning of the economy
  - Long run: growth of the economy
Recap: Five Core Principles

- Time has value
- Risk requires compensation
- Information is the basis for decisions
- Markets set prices and allocates resources
- Stability improves welfare

Recap: Money

- To use for payment of goods and services and repayment of loans
- Money is a stock concept
- Functions of money
  - medium of exchange → lower transaction costs and promotes specialization and division of labor
  - unit of account → comparison, simplify price system
  - store of value → the most liquid store of value
- Money and macroeconomy
  - Related to macro indicators: business cycle, price level, interest rates
  - Provide a policy tool for the Fed
Recap: Rest of the Financial System

- Financial Instruments or Securities
  - Debt instruments and equities
  - Debt market bigger

- Financial markets → direct finance
  - Primary vs secondary markets
  - Centralized vs OTC
  - Money market vs Capital market
  - International financial markets: greater economic integration

- Financial Intermediaries → indirect finance
  - Reduce transaction costs and provide services
  - Risk sharing
  - Reduce asymmetric information problems such as ‘Adverse selection’ and ‘Moral hazard’

- Regulatory Body
  - Reduce asymmetric information problem at intermediation
  - Protect the investor
  - Not all regulatory ideas are good