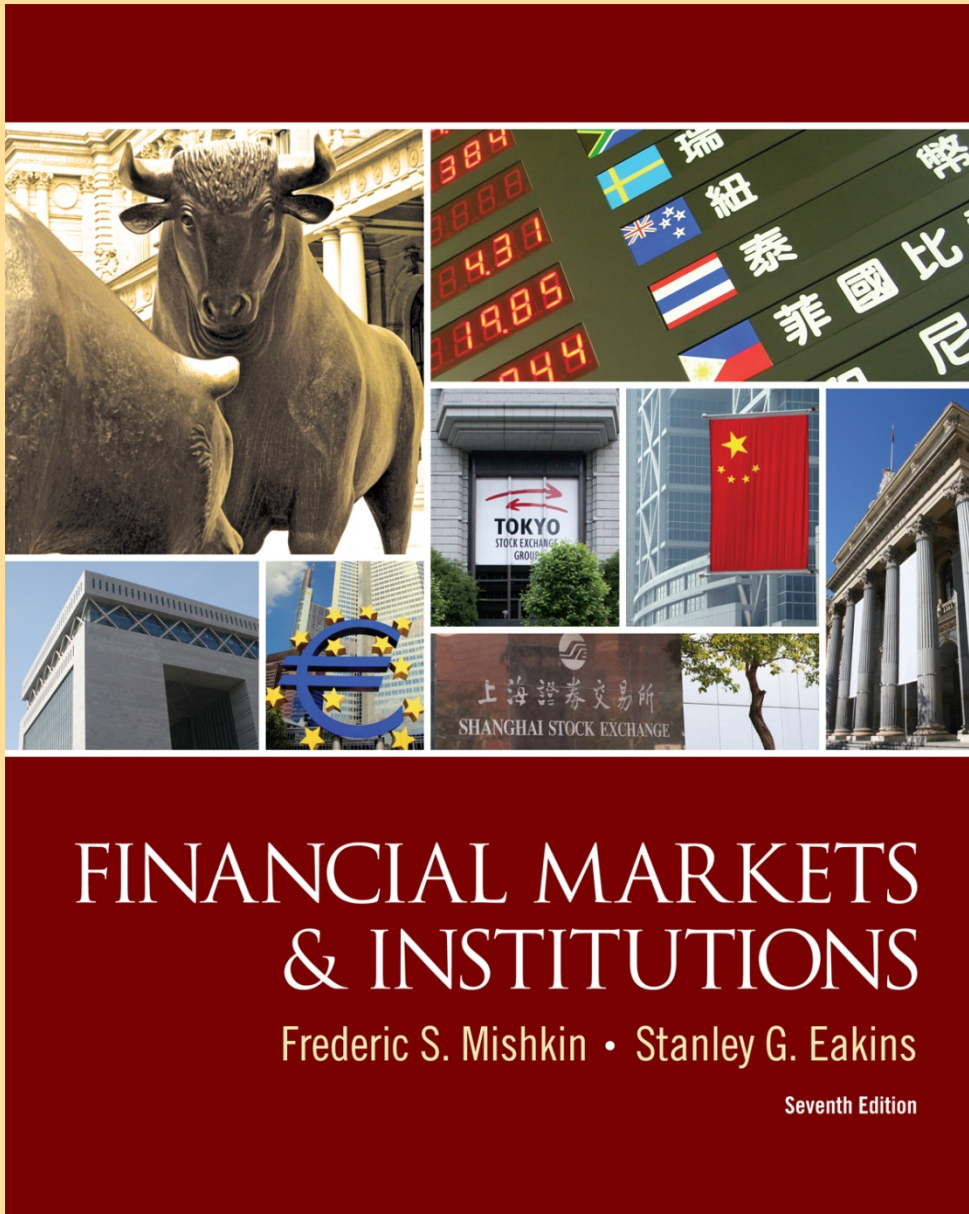


CHAPTER 2

Overview of the Financial System



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Chapter Preview

- Suppose you want to start a business manufacturing a household cleaning robot, but you have no funds.
- At the same time, Walter has money he wishes to invest for his retirement.
- If the two of you could get together, perhaps both of your needs can be met. But how does that happen?



Chapter Preview

- As simple as this example is, it highlights the importance of financial markets and financial intermediaries in our economy.
- We need to acquire an understanding of their general structure and operation before we can appreciate their role in our economy.



Chapter Preview

In this chapter, we examine the role of the financial system in an advanced economy. We study the effects of financial markets and institutions on the economy, and look at their general structure and operations. Topics include:

- Function of Financial Markets
- Structure of Financial Markets
- Internationalization of Financial Markets
- Function of Financial Intermediaries: Indirect Finance
- Types of Financial Intermediaries
- Regulation of the Financial System



Function of Financial Markets

- Channels funds from person or business without investment opportunities (i.e., “Lender-Savers”) to one who has them (i.e., “Borrower-Spenders”)
- Improves economic efficiency



Financial Markets Funds Transferees

Lender-Savers

1. Households
2. Business firms
3. Government
4. Foreigners

Borrower-Spenders

1. Business firms
2. Government
3. Households
4. Foreigners



Segments of Financial Markets

1. Direct Finance

- Borrowers borrow directly from lenders in financial markets by selling financial instruments which are claims on the borrower's future income or assets

2. Indirect Finance

- Borrowers borrow indirectly from lenders via financial intermediaries (established to source both loanable funds and loan opportunities) by issuing financial instruments which are claims on the borrower's future income or assets



Function of Financial Markets

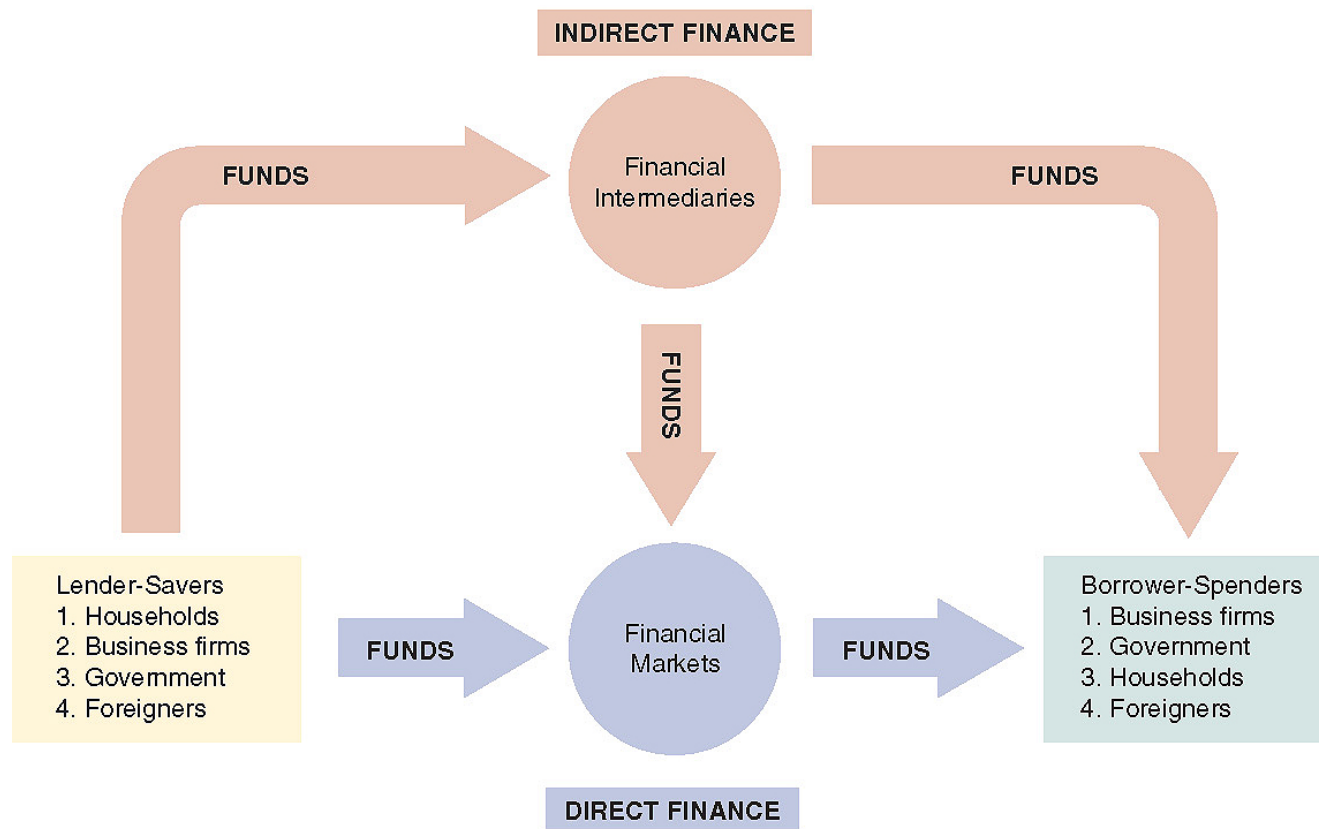


FIGURE 2.1 Flows of Funds Through the Financial System



Importance of Financial Markets

- This is important. For example, if you save \$1,000, but there are no financial markets, then you can earn no return on this—might as well put the money under your mattress.
- However, if a carpenter could use that money to buy a new saw (increasing her productivity), then she'd be willing to pay you some interest for the use of the funds.



Importance of Financial Markets

- Financial markets are critical for producing an efficient allocation of capital, allowing funds to move from people who lack productive investment opportunities to people who have them.
- Financial markets also improve the well-being of consumers, allowing them to time their purchases better.



Structure of Financial Markets

It helps to define financial markets along a variety of dimensions (not necessarily mutually exclusive). For starters, ...



Structure of Financial Markets

1. Debt Markets

- Short-Term (maturity < 1 year)
- Long-Term (maturity > 10 year)
- Intermediate term (maturity in-between)
- Represented \$52.4 trillion at the end of 2009.

2. Equity Markets

- Pay dividends, in theory forever
- Represents an ownership claim in the firm
- Total value of all U.S. equity was \$20.5 trillion at the end of 2009.



Structure of Financial Markets

1. Primary Market

- New security issues sold to initial buyers
- Typically involves an investment bank who underwrites the offering

2. Secondary Market

- Securities previously issued are bought and sold
- Examples include the NYSE and Nasdaq
- Involves both brokers and dealers (do you know the difference?)



Structure of Financial Markets

Even though firms don't get any money, per se, from the secondary market, it serves two important functions:

- Provide liquidity, making it easy to buy and sell the securities of the companies
- Establish a price for the securities



Structure of Financial Markets

We can further classify secondary markets as follows:

1. Exchanges

- Trades conducted in central locations (e.g., New York Stock Exchange, CBT)

2. Over-the-Counter Markets

- Dealers at different locations buy and sell
- Best example is the market for Treasury Securities

NYSE home page <http://www.nyse.com>



Classifications of Financial Markets

We can also further classify markets by the maturity of the securities:

1. Money Market: Short-Term
(maturity < 1 year)
2. Capital Market: Long-Term
(maturity > 1 year) plus equities



Internationalization of Financial Markets

The internationalization of markets is an important trend. The U.S. no longer dominates the world stage.

- International Bond Market & Eurobonds
 - Foreign bonds
 - Denominated in a foreign currency
 - Targeted at a foreign market
 - Eurobonds
 - Denominated in one currency, but sold in a different market
 - now larger than U.S. corporate bond market)
 - Over 80% of new bonds are Eurobonds.



Internationalization of Financial Markets

- Eurocurrency Market
 - Foreign currency deposited outside of home country
 - Eurodollars are U.S. dollars deposited, say, London.
 - Gives U.S. borrows an alternative source for dollars.
- World Stock Markets
 - U.S. stock markets are no longer always the largest— at one point, Japan's was larger



Internationalization of Financial Markets

As the next slide shows, the number of international stock market indexes is quite large. For many of us, the level of the Dow or the S&P 500 is known. How about the Nikkei 225? Or the FTSE 100? Do you know what countries these represent?

Internationalization of Financial Markets

FOLLOWING THE FINANCIAL NEWS



Foreign Stock Market Indexes

Foreign stock market indexes are published daily in the Wall Street Journal in the "Money and Investing" section of the paper.

International Stock Indexes

Region/Country	Index	Close	Net chg	LATEST % chg	YTD % chg
World	The Global Dow	1804.04	-26.17	-1.43	-9.1
	DJ Global Index	213.73	-3.70	-1.70	-5.8
	DJ Global ex U.S.	180.48	-4.71	-2.54	-10.2
	MSCI EAFE*	1374.39	-33.83	-2.40	-13.1
Americas	DJ Americas	295.30	-2.82	-0.95	-0.4
Brazil	Sao Paulo Bovespa	59689.32	-1151.76	-1.89	-13.0
Canada	S&P/TSX Comp	11665.77	-98.74	-0.84	-0.7
Mexico	IPC All-Share	30992.76	-143.59	-0.46	-3.5
Venezuela	Caracas General	61899.59	363.01	0.59	12.4
Europe	Stoxx Europe 600	243.71	-7.59	-3.02	-3.7
Euro zone	Euro Stoxx	250.45	-7.31	-2.84	-8.9
Belgium	Bel-20	2432.85	-52.39	-2.11	-3.1
France	CAC 40	3511.67	-105.65	-2.92	-10.8
Germany	DAX	5988.67	-167.26	-2.72	0.5
Israel	Tel Aviv	1131.26	...	Closed	-1.2
Italy	FTSE MIB	19612.66	-701.55	-3.45	-15.6
Netherlands	AEX	321.45	-9.55	-2.89	-4.1
Spain	IBEX 35	9376.5	-251.10	-2.61	-21.5
Sweden	SX All Share	305.17	-9.36	-2.98	1.9
Switzerland	Swiss Market	6374.43	-96.41	-1.49	-2.6
U.K.	FTSE 100	5158.08	-149.26	-2.81	-4.7
Asia-Pacific	DJ Asia-Pacific	118.10	-1.77	-1.48	-4.0
Australia	S&P/ASX 200	4387.10	-83.65	-1.87	-9.9
China	Shanghai Composite	2587.81	-6.98	-0.27	-21.0
Hong Kong	Hang Seng	19578.98	-365.96	-1.83	-10.5
India	Bombay Sensex	16408.49	-467.27	-2.77	-6.0
Japan	Nikkei Stock Avg	10186.84	-55.80	-0.54	-3.4
Singapore	Straits Times	2774.54	-69.81	-2.45	-4.2
South Korea	Kospi	1630.08	-13.16	-0.80	-3.1
Taiwan	Weighted	7559.16	-26.14	-0.34	-7.7

* Europe, Australia, Far East, U.S.-dollar terms Sources: Thomson Reuters; WSJ Market Data Group

The first two columns identify the region/country and the market index; for example, the colored entry is for the DAX index for Germany. The third column, "CLOSE," gives the closing value of the index, which was 5988.67 for the DAX on May 20, 2010. The "NET CHG" column indicates the change in the index from the previous trading day, -167.26, and the "% CHG" column indicates the percentage change in the index, -2.72. The next column indicates the year-to-date percentage change of the index (0.5%).

Source: Wall Street Journal, May 20, 2010, p. C2. THE WALL STREET JOURNAL. Copyright 2010 by DOW JONES & COMPANY, INC. Reproduced with permission of DOW JONES & COMPANY, INC. via Copyright Clearance Center.



Global perspective Relative Decline of U.S. Capital Markets

- The U.S. has lost its dominance in many industries: auto and consumer electronics to name a few.
- A similar trend appears at work for U.S. financial markets, as London and Hong Kong compete. Indeed, many U.S. firms use these markets over the U.S.



Global perspective Relative Decline of U.S. Capital Markets

Why?

1. New technology in foreign exchanges
2. 9-11 made U.S. regulations tighter
3. Greater risk of lawsuit in the U.S.
4. Sarbanes-Oxley has increased the cost of being a U.S.-listed public company



Function of Financial Intermediaries: Indirect Finance

We now turn our attention to the top part of Figure 2.1—indirect finance.

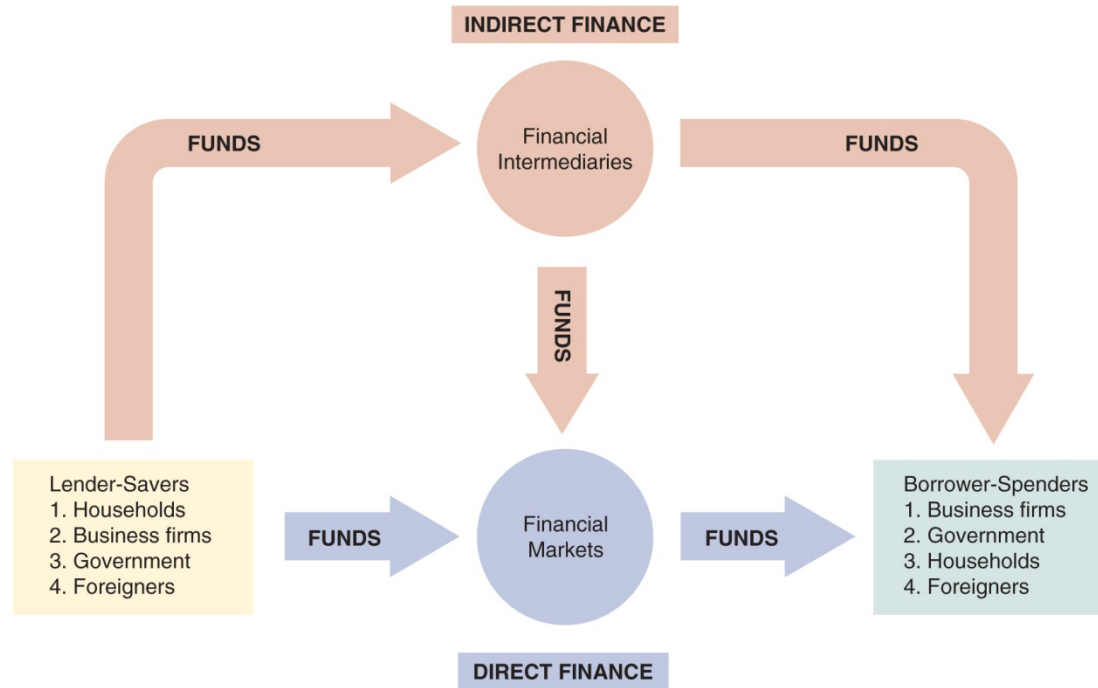


FIGURE 2.1 Flows of Funds Through the Financial System



Function of Financial Intermediaries: Indirect Finance

Instead of savers lending/investing directly with borrowers, a financial intermediary (such as a bank) plays as the middleman:

- the intermediary obtains funds from savers
- the intermediary then makes loans/investments with borrowers



Function of Financial Intermediaries: Indirect Finance

- This process, called financial intermediation, is actually the primary means of moving funds from lenders to borrowers.
- More important source of finance than securities markets (such as stocks)
- Needed because of transactions costs, risk sharing, and asymmetric information



Function of Financial Intermediaries: Indirect Finance

- Transactions Costs
 1. Financial intermediaries make profits by reducing transactions costs
 2. Reduce transactions costs by developing expertise and taking advantage of economies of scale



Function of Financial Intermediaries: Indirect Finance

- A financial intermediary's low transaction costs mean that it can provide its customers with **liquidity services**, services that make it easier for customers to conduct transactions
 1. Banks provide depositors with checking accounts that enable them to pay their bills easily
 2. Depositors can earn interest on checking and savings accounts and yet still convert them into goods and services whenever necessary



Global Perspective

- Studies show that firms in the U.S., Canada, the U.K., and other developed nations usually obtain funds from financial intermediaries, not directly from capital markets.
- In Germany and Japan, financing from financial intermediaries exceeds capital market financing 10-fold.
- However, the relative use of bonds versus equity does differ by country.



Function of Financial Intermediaries: Indirect Finance

- Another benefit made possible by the FI's low transaction costs is that they can help reduce the exposure of investors to risk, through a process known as **risk sharing**
 - FIs create and sell assets with lesser risk to one party in order to buy assets with greater risk from another party
 - This process is referred to as **asset transformation**, because in a sense risky assets are turned into safer assets for investors



Function of Financial Intermediaries: Indirect Finance

- Financial intermediaries also help by providing the means for individuals and businesses to **diversify** their asset holdings.
- Low transaction costs allow them to buy a range of assets, pool them, and then sell rights to the diversified pool to individuals.



Function of Financial Intermediaries: Indirect Finance

- Another reason FIs exist is to reduce the impact of **asymmetric information**.
- One party lacks crucial information about another party, impacting decision-making.
- We usually discuss this problem along two fronts: adverse selection and moral hazard.



Function of Financial Intermediaries: Indirect Finance

- Adverse Selection
 1. Before transaction occurs
 2. Potential borrowers most likely to produce adverse outcome are ones most likely to seek a loan
 3. Similar problems occur with insurance where unhealthy people want their known medical problems covered



Asymmetric Information: Adverse Selection and Moral Hazard

- Moral Hazard
 1. After transaction occurs
 2. Hazard that borrower has incentives to engage in undesirable (immoral) activities making it more likely that won't pay loan back
 3. Again, with insurance, people may engage in risky activities only after being insured
 4. Another view is a **conflict of interest**



Asymmetric Information: Adverse Selection and Moral Hazard

Financial intermediaries reduce adverse selection and moral hazard problems, enabling them to make profits. How they do this is covered in many of the chapters to come.



Types of Financial Intermediaries

TABLE 2.1 Primary Assets and Liabilities of Financial Intermediaries

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

Source: Federal Reserve Flow of Funds Accounts: www.federalreserve.gov/releases/Z1/.



Types of Financial Intermediaries

TABLE 2.2 Principal Financial Intermediaries and Value of Their Assets

Type of Intermediary	Value of Assets (\$ billions, end of year)			
	1980	1990	2000	2009
Depository institutions (banks)				
Commercial banks	1,481	3,334	6,469	10,045
Savings and loan associations and mutual savings banks	792	1,365	1,218	1,253
Credit unions	67	215	441	884
Contractual savings institutions				
Life insurance companies	464	1,367	3,136	4,818
Fire and casualty insurance companies	182	533	862	1,360
Pension funds (private)	504	1,629	4,355	5,456
State and local government retirement funds	197	737	2,293	2,673
Investment intermediaries				
Finance companies	205	610	1,140	1,690
Mutual funds	70	654	4,435	7,002
Money market mutual funds	76	498	1,812	3,269

Source: Federal Reserve Flow of Funds Accounts: www.federalreserve.gov/releases/Z1/.



Types of Financial Intermediaries

- Depository Institutions (Banks): accept deposits and make loans. These include commercial banks and thrifts.
- Commercial banks (7,500 currently)
 - Raise funds primarily by issuing checkable, savings, and time deposits which are used to make commercial, consumer and mortgage loans
 - Collectively, these banks comprise the largest financial intermediary and have the most diversified asset portfolios



Types of Financial Intermediaries

- Thrifts: S&Ls & Mutual Savings Banks (1,300) and Credit Unions (9,500)
 - Raise funds primarily by issuing savings, time, and checkable deposits which are most often used to make mortgage and consumer loans, with commercial loans also becoming more prevalent at S&Ls and Mutual Savings Banks
 - Mutual savings banks and credit unions issue deposits as shares and are owned collectively by their depositors, most of which at credit unions belong to a particular group, e.g., a company's workers



Contractual Savings Institutions (CSIs)

- All CSIs acquire funds from clients at periodic intervals on a contractual basis and have fairly predictable future payout requirements.
 - **Life Insurance Companies** receive funds from policy premiums, can invest in less liquid corporate securities and mortgages, since actual benefit pay outs are close to those predicted by actuarial analysis
 - **Fire and Casualty Insurance Companies** receive funds from policy premiums, must invest most in liquid government and corporate securities, since loss events are harder to predict



Contractual Savings Institutions (CSIs)

- All CSIs acquire funds from clients at periodic intervals on a contractual basis and have fairly predictable future payout requirements.
 - **Pension and Government Retirement Funds** hosted by corporations and state and local governments acquire funds through employee and employer payroll contributions, invest in corporate securities, and provide retirement income via annuities



Types of Financial Intermediaries

- **Finance Companies** sell commercial paper (a short-term debt instrument) and issue bonds and stocks to raise funds to lend to consumers to buy durable goods, and to small businesses for operations
- **Mutual Funds** acquire funds by selling shares to individual investors (many of whose shares are held in retirement accounts) and use the proceeds to purchase large, diversified portfolios of stocks and bonds



Types of Financial Intermediaries

- **Money Market Mutual Funds** acquire funds by selling checkable deposit-like shares to individual investors and use the proceeds to purchase highly liquid and safe short-term money market instruments
- **Investment Banks** advise companies on securities to issue, underwriting security offerings, offer M&A assistance, and act as dealers in security markets.



Regulatory Agencies

TABLE 2.3 Principal Regulatory Agencies of the U.S. Financial System

Regulatory Agency	Subject of Regulation	Nature of Regulations
Securities and Exchange Commission (SEC)	Organized exchanges and financial markets	Requires disclosure of information, restricts insider trading
Commodities Futures Trading Commission (CFTC)	Futures market exchanges	Regulates procedures for trading in futures markets
Office of the Comptroller of the Currency	Federally chartered commercial banks	Charters and examines the books of federally chartered commercial banks and imposes restrictions on assets they can hold
National Credit Union Administration (NCUA)	Federally chartered credit unions	Charters and examines the books of federally chartered credit unions and imposes restrictions on assets they can hold



Regulatory Agencies (cont.)

State banking and insurance commissions	State-chartered depository institutions	Charter and examine the books of state-chartered banks and insurance companies, impose restrictions on assets they can hold, and impose restrictions on branching
Federal Deposit Insurance Corporation (FDIC)	Commercial banks, mutual savings banks, savings and loan associations	Provides insurance of up to \$250,000 for each depositor at a bank, examines the books of insured banks, and imposes restrictions on assets they can hold
Federal Reserve System	All depository institutions	Examines the books of commercial banks that are members of the system, sets reserve requirements for all banks
Office of Thrift Supervision	Savings and loan associations	Examines the books of savings and loan associations, imposes restrictions on assets they can hold



Regulation of Financial Markets

Main Reasons for Regulation

1. Increase Information to Investors
2. Ensure the Soundness of Financial Intermediaries



Regulation Reason: Increase Investor Information

- Asymmetric information in financial markets means that investors may be subject to adverse selection and moral hazard problems that may hinder the efficient operation of financial markets and may also keep investors away from financial markets
- The Securities and Exchange Commission (SEC) requires corporations issuing securities to disclose certain information about their sales, assets, and earnings to the public and restricts trading by the largest stockholders (known as insiders) in the corporation

SEC home page <http://www.sec.gov>



Regulation Reason: Increase Investor Information

- Such government regulation can reduce adverse selection and moral hazard problems in financial markets and increase their efficiency by increasing the amount of information available to investors. Indeed, the SEC has been particularly active recently in pursuing illegal insider trading.

SEC home page <http://www.sec.gov>



Regulation Reason: Ensure Soundness of Financial Intermediaries

- Providers of funds to financial intermediaries may not be able to assess whether the institutions holding their funds are sound or not.
- If they have doubts about the overall health of financial intermediaries, they may want to pull their funds out of both sound and unsound institutions, with the possible outcome of a financial panic.
- Such panics produces large losses for the public and causes serious damage to the economy.



Regulation Reason: Ensure Soundness of Financial Intermediaries (cont.)

- To protect the public and the economy from financial panics, the government has implemented six types of regulations:
 - Restrictions on Entry
 - Disclosure
 - Restrictions on Assets and Activities
 - Deposit Insurance
 - Limits on Competition
 - Restrictions on Interest Rates



Regulation: Restriction on Entry

- Restrictions on Entry
 - Regulators have created very tight regulations as to who is allowed to set up a financial intermediary
 - Individuals or groups that want to establish a financial intermediary, such as a bank or an insurance company, must obtain a charter from the state or the federal government
 - Only if they are upstanding citizens with impeccable credentials and a large amount of initial funds will they be given a charter.



Regulation: Disclosure

- Disclosure Requirements
- There are stringent reporting requirements for financial intermediaries
 - Their bookkeeping must follow certain strict principles,
 - Their books are subject to periodic inspection,
 - They must make certain information available to the public.



Regulation: Restriction on Assets and Activities

- There are restrictions on what financial intermediaries are allowed to do and what assets they can hold
- Before you put your funds into a bank or some other such institution, you would want to know that your funds are safe and that the bank or other financial intermediary will be able to meet its obligations to you



Regulation: Restriction on Assets and Activities

- One way of doing this is to restrict the financial intermediary from engaging in certain risky activities
- Another way is to restrict financial intermediaries from holding certain risky assets, or at least from holding a greater quantity of these risky assets than is prudent



Regulation: Deposit Insurance

- The government can insure people depositors to a financial intermediary from any financial loss if the financial intermediary should fail
- The Federal Deposit Insurance Corporation (FDIC) insures each depositor at a commercial bank or mutual savings bank up to a loss of \$250,000 per account.



Regulation: Deposit Insurance

- Similar government agencies exist for other depository institutions:
 - The National Credit Union Share Insurance Fund (NCUSIF) provides insurance for credit unions



Regulation: Limits on Competition

- Although the evidence that unbridled competition among financial intermediaries promotes failures that will harm the public is extremely weak, it has not stopped the state and federal governments from imposing many restrictive regulations
- In the past, banks were not allowed to open up branches in other states, and in some states banks were restricted from opening additional locations



Regulation: Restrictions on Interest Rates

- Competition has also been inhibited by regulations that impose restrictions on interest rates that can be paid on deposits
- These regulations were instituted because of the widespread belief that unrestricted interest-rate competition helped encourage bank failures during the Great Depression
- Later evidence does not seem to support this view, and restrictions on interest rates have been abolished



Regulation Reason: Improve Monetary Control

- Because banks play a very important role in determining the supply of money (which in turn affects many aspects of the economy), much regulation of these financial intermediaries is intended to improve control over the money supply
- One such regulation is **reserve requirements**, which make it obligatory for all depository institutions to keep a certain fraction of their deposits in accounts with the Federal Reserve System (the Fed), the central bank in the United States
- Reserve requirements help the Fed exercise more precise control over the money supply



Financial Regulation Abroad

- Those countries with similar economic systems also implement financial regulation consistent with the U.S. model: Japan, Canada, and Western Europe
 - Financial reporting for corporations is required
 - Financial intermediaries are heavily regulated
- However, U.S. banks are more regulated along dimensions of branching and services than their foreign counterparts.



Chapter Summary

- **Function of Financial Markets:** We examined the flow of funds through the financial system and the role of intermediaries in this process.
- **Structure of Financial Markets:** We examined market structure from several perspectives, including types of instruments, purpose, organization, and time horizon.



Chapter Summary (cont.)

- Internationalization of Financial Markets: We briefly examined how debt and equity markets have expanded in the international setting.
- Function of Financial Intermediaries: We examined the roles of intermediaries in reducing transaction costs, sharing risk, and reducing information problems.



Chapter Summary (cont.)

- Types of Financial Intermediaries: We outlined the numerous types of financial intermediaries to be further examined in later chapters.
- Regulation of the Financial System: We outlined some of the agencies charged with the oversight of various institutions and markets.