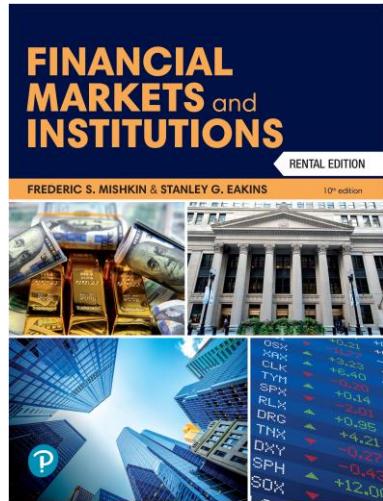


Financial Markets and Institutions

Tenth Edition



Chapter 2

Overview of the Financial System

Chapter Preview (1 of 3)

- 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 (2 of 3)

- 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 (3 of 3)

- 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

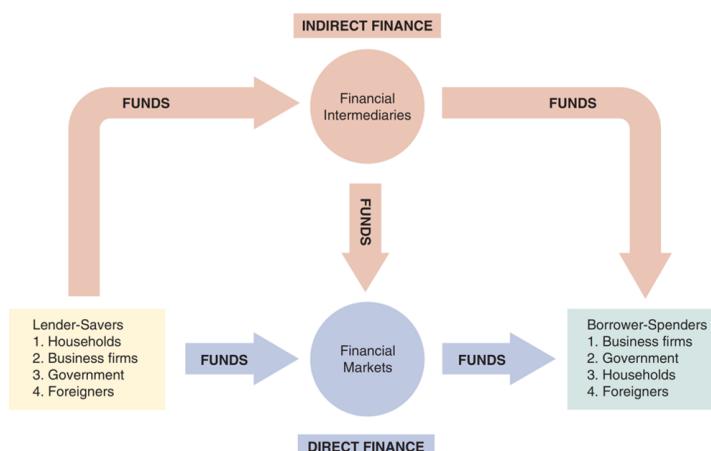
- Borrowers borrow directly from lenders in financial markets by selling financial instruments which are claims on the borrower's future income or assets

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

Figure 2.1

Flows of Funds Through the Financial System



Importance of Financial Markets (1 of 2)

- 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 is willing to pay you some interest for the use of the funds.

Importance of Financial Markets (2 of 2)

- 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 (1 of 5)

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

Structure of Financial Markets (2 of 5)

1. Debt Markets

- Short-term (maturity < 1 year)
- Long-term (maturity > 10 year)
- Intermediate term (maturity in-between)
- Represented \$39.7 trillion at the end of 2015.

2. Equity Markets

- Pay dividends, in theory forever
- Represents an ownership claim in the firm
- Total value of all U.S. equity was \$35.7 trillion at the end of 2015.

Structure of Financial Markets (3 of 5)

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 (4 of 5)

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

- Provides liquidity, making it easy to buy and sell the securities of the companies
- Establishes a price for the securities (useful for company valuation)

Structure of Financial Markets (5 of 5)

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

Classifications of Financial Markets

We can also 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 (no maturity)

Internationalization of Financial Markets (1 of 4)

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 (2 of 4)

- Eurocurrency Market
 - Foreign currency deposited outside of home country
 - Eurodollars are U.S. dollars deposited, say, London.
 - Gives U.S. borrowers 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 (3 of 4)

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 (4 of 4)

> Following the Financial News

Foreign Stock Market Indexes

Foreign stock market indexes are published daily in newspapers and Internet sites such as <http://www.finance.yahoo.com/>.

The most important of these stock market indices are:

Dow Jones Industrial Average (DJIA) An index of the 30 largest publicly traded corporations in the United States maintained by the Dow Jones Corporation.

S&P 500 An index of 500 of the largest companies traded in the United States maintained by Standard & Poor's.

Nasdaq Composite An index for all the stocks that trade on the Nasdaq stock market, where most of the technology stocks in the United States are traded.

FTSE 100 An index of the 100 most highly capitalized UK companies listed on the London Stock Exchange.

DAX An index of the 30 largest German companies trading on the Frankfurt Stock Exchange.

CAC 40 An index of the largest 40 French companies traded on Euronext Paris.

Hang Seng An index of the largest companies traded on the Hong Kong stock markets.

Strait Times An index of the largest 30 companies traded on the Singapore Exchange.

Global Perspective: Relative Decline of U.S. Capital Markets (1 of 2)

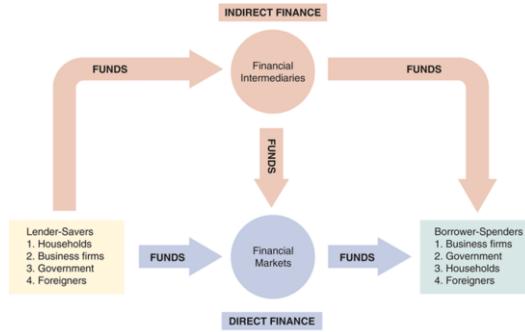
- The U.S. has lost its dominance in many industries: automobiles and consumer electronics, to name a few.
- A similar trend appears at work for U.S. financial markets, as London and Hong Kong compete. Indeed, many U.S. firms use these markets over the U.S.

Global Perspective: Relative Decline of U.S. Capital Markets (2 of 2)

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

The Top Part of Figure 2.1—Indirect Finance



The arrows show that funds flow from lender-savers to borrower-spenders via two routes: **direct finance**, in which borrowers borrow funds directly from financial markets by selling securities, and **indirect finance**, in which a financial intermediary borrows funds from lender-savers and then uses these funds to make loans to borrower-spenders.

Function of Financial Intermediaries: Indirect Finance (1 of 8)

- 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 (2 of 8)

- 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 (3 of 8)

- 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 (4 of 8)

- 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: The Importance of Financial Intermediaries Relative to Securities Markets

- 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 (5 of 8)

- 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 (6 of 8)

- 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 (7 of 8)

- 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 (8 of 8)

- 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 (1 of 2)

- 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 (2 of 2)

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

Economies of Scope and Conflicts of Interest

- FIs are able to lower the production cost of information by using the information for multiple services: bank accounts, loans, auto insurance, retirement savings, etc. This is called **economies of scope**.
- But, providing multiple services may lead to **conflicts of interest**, perhaps causing one area of the FI to hide or conceal information from another area (or the economy as a whole). This may actually make financial markets less efficient!

Table 2.1 (1 of 3)

Primary Assets and Liabilities of Financial Intermediaries

Depository institutions (banks)

Type of Intermediary	Primary Liabilities (Sources of Funds)	Primary Assets (Uses of Funds)
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

Table 2.1 (2 of 3)

Primary Assets and Liabilities of Financial Intermediaries

Contractual savings institutions

Type of Intermediary	Primary Liabilities (Sources of Funds)	Primary Assets (Uses of Funds)
Life insurance companies	Premiums from policies	Corporate bonds and mortgages
Fire and casualty insurance companies	Premiums from policies	Municipal bonds, corporate bonds and stock, and U.S. government securities
Pension funds, government retirement funds	Employer and employee contributions	Corporate bonds and stock

Table 2.1 (3 of 3)

Primary Assets and Liabilities of Financial Intermediaries

Investment intermediaries

Type of Intermediary	Primary Liabilities (Sources of Funds)	Primary Assets (Uses of Funds)
Finance companies	Commercial paper, stocks, bonds	Consumer and business loans
Mutual funds	Shares	Stocks, bonds
Money market mutual funds	Shares	Money market instruments
Hedge funds	Partnership participation	Stocks, bonds, loans, foreign currencies, and many other assets

Table 2.2

Principal Financial Intermediaries and Value of Their Assets

Type of Intermediary	Value of Assets (\$ billions, end of year)			
	2000	2010	2020	2021
Depository institutions (banks)				
Commercial banks, savings and loans, and mutual savings banks	7,687	15,580	21,644	23,587
Credit unions	441	912	1,823	2,041
Contractual savings institutions				
Life insurance companies	3,136	5,176	9,420	9,863
Fire and casualty insurance companies	862	1,242	2,879	3,100
Pension funds (private)	4,355	4,527	12,035	13,169
State and local government retirement funds	2,293	2,661	9,513	9,818
Investment intermediaries				
Finance companies	1,140	1,439	1,607	1,671
Mutual funds	4,435	7,935	19,563	22,209
Money market mutual funds	1,812	2,755	4,766	5,206

Source: Federal Reserve Flow of Funds Accounts:

<https://www.federalreserve.gov/releases/z1/> , Tables L110, L114, L115, L116, L118, L120, L121, L122, L127.



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Types of Financial Intermediaries (1 of 2)

- **Depository Institutions (Banks):** accept deposits and make loans. These include commercial banks and thrifts.
- **Commercial banks (about 5,000 at end of 2015)**
 - 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



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Types of Financial Intermediaries (2 of 2)

- Thrifts: S&Ls & Mutual Savings Banks and Credit Unions (around 900 of each)
 - 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) (1 of 2)

- 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) (2 of 2)

- 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 (1 of 3)

- **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 (2 of 3)

- **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.
- **Hedge Funds** are a type of mutual fund requiring large investments (\$100,000 or more), long holding periods, and are subject to few regulations. These funds invest across almost all asset classes.

Types of Financial Intermediaries (3 of 3)

- **Investment Banks** advise companies on securities to issue, underwriting security offerings, offer M&A assistance, and act as dealers in security markets.

Table 2.3 (1 of 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 and thrift institutions	Charters and examines the books of federally chartered commercial banks and thrift institutions; imposes restrictions on assets they can hold

Table 2.3 (2 of 3)

Principal Regulatory Agencies of the U.S. Financial System

Regulatory Agency	Subject of Regulation	Nature of Regulations
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
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

Table 2.3 (3 of 3)

Principal Regulatory Agencies of the U.S. Financial System

Regulatory Agency	Subject of Regulation	Nature of Regulations
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

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 (1 of 2)

- 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.

Regulation Reason: Increase Investor Information (2 of 2)

- 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.

Regulation Reason: Ensure Soundness of Financial Intermediaries (1 of 2)

- Providers of funds (depositors, like you) 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, which can lead to a financial panic.
- Such panics produce large losses for the public and causes serious damage to the economy.

Regulation Reason: Ensure Soundness of Financial Intermediaries (2 of 2)

- 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 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

- 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 (1 of 2)

- 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 similar institution, you want to know that your funds are safe and that the financial intermediary will be able to meet its obligations to you.

Regulation: Restriction on Assets and Activities (2 of 2)

- 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 (1 of 2)

- The government can insure people's deposits 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 (2 of 2)

- 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

- Evidence is weak showing that competition among financial intermediaries promotes failures that will harm the public. However, such evidence has not stopped the state and federal governments from imposing many restrictive regulations.
- In the past, banks were not allowed to open 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 did not 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), regulation of these financial intermediaries is intended to improve control over the money supply
- One example 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 (1 of 3)

- 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 (2 of 3)

- 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 (3 of 3)

- 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.

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