FN211
Overview of Financial System

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Preview

In this topic, 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

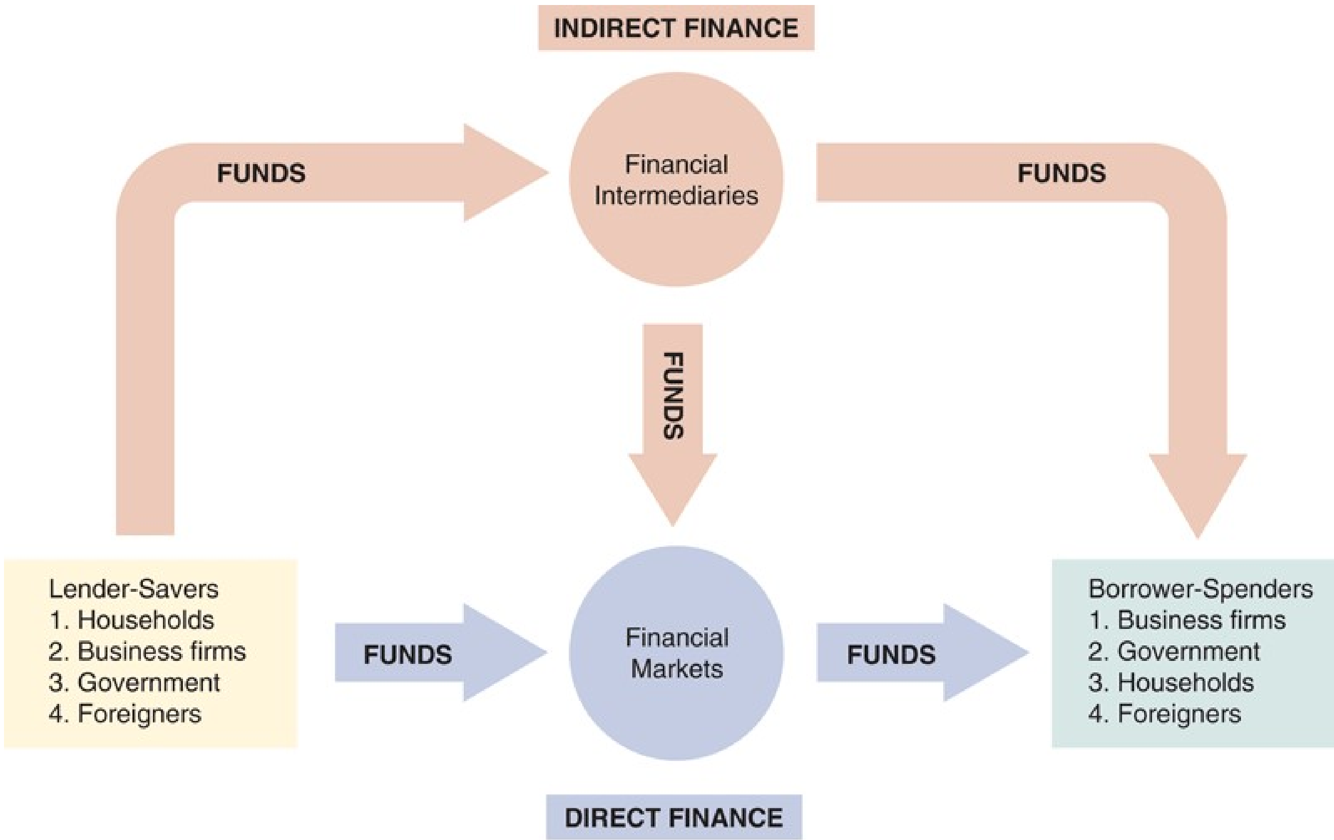
- Channels funds from person or business without investment opportunities (i.e., “Lender-Savers”) to one who has them (i.e., “Borrower-Spenders”)
- Improves economic efficiency

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

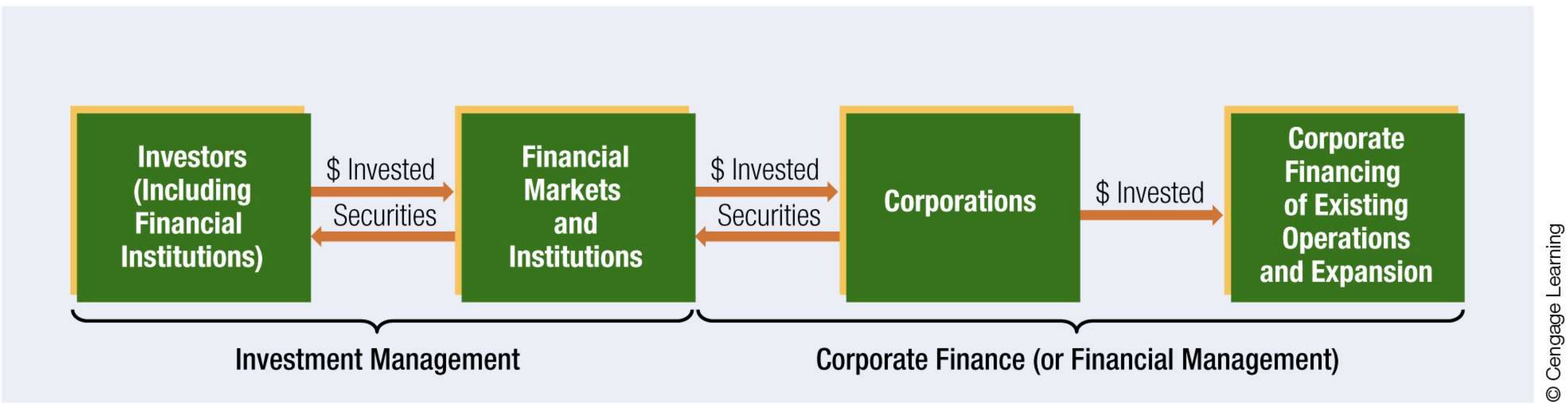
Flows of Funds Through the Financial System



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.

Source: Mishkin Figure 2.1

How Financial Markets Facilitate Corporate Finance and Investment Management



Source: Madura Exhibit 1.1

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 is 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

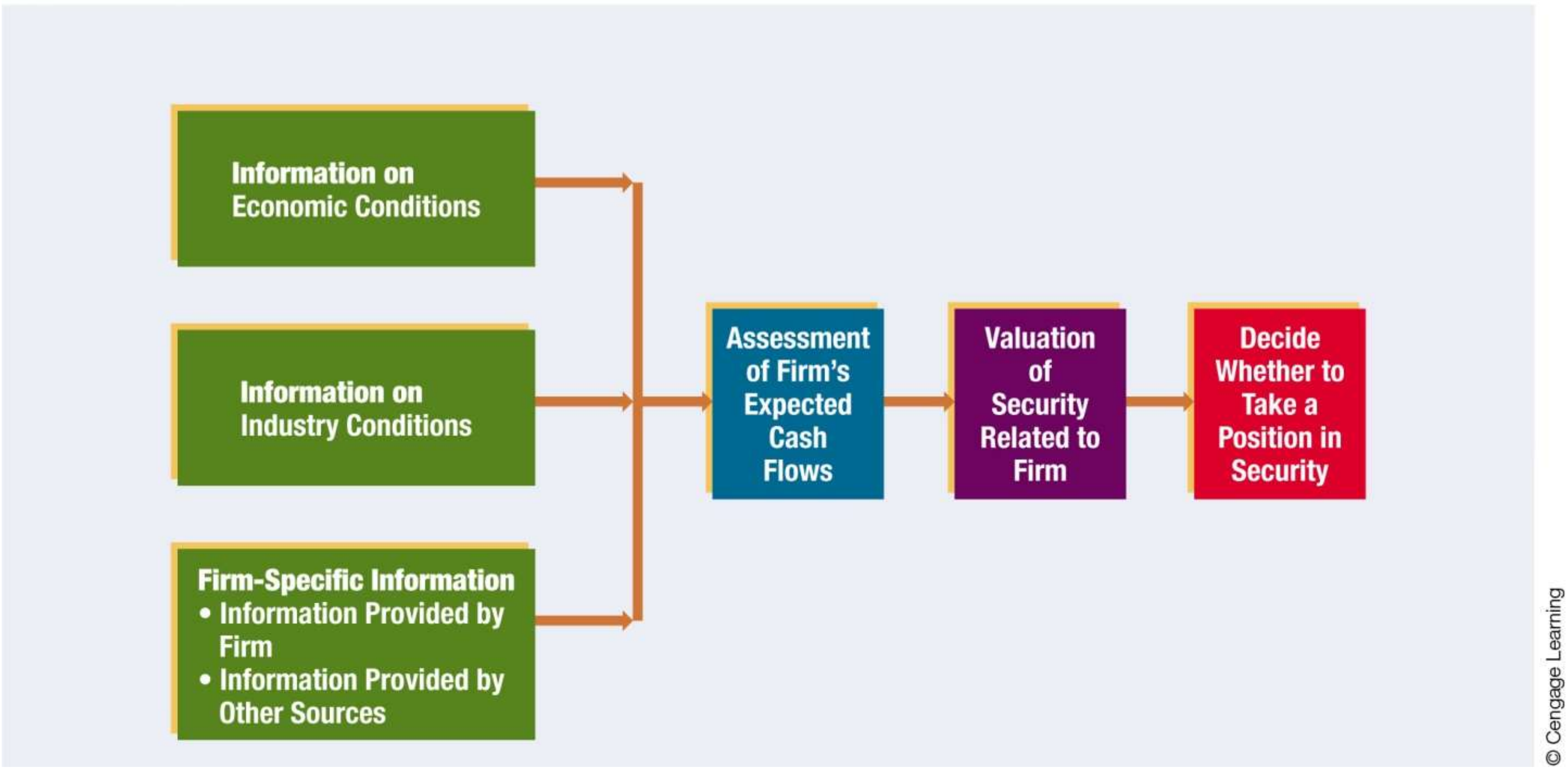
- Financial markets also improve the well-being of consumers, allowing them to time their purchases better

Structure of Financial Markets

1. Debt Markets
   - Short-Term (maturity < 1 year)
   - Long-Term (maturity > 10 year)
   - Intermediate term (maturity in-between)
   - Represented $38.2 trillion at the end of 2012

2. Equity Markets
   - Pay dividends, in theory forever
   - Represents an ownership claim in the firm
   - Total value of all U.S. equity was **$25.5 trillion in 2016**
   - **Total value of global listed stocks was $67 trillion in 2016**

Use of Information to Make Investment Decisions



Source: Madura Exhibit 1.2

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 from the secondary market, it serves 2 important functions:

1)

2)

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, Stock Exchange of Thailand)

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

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

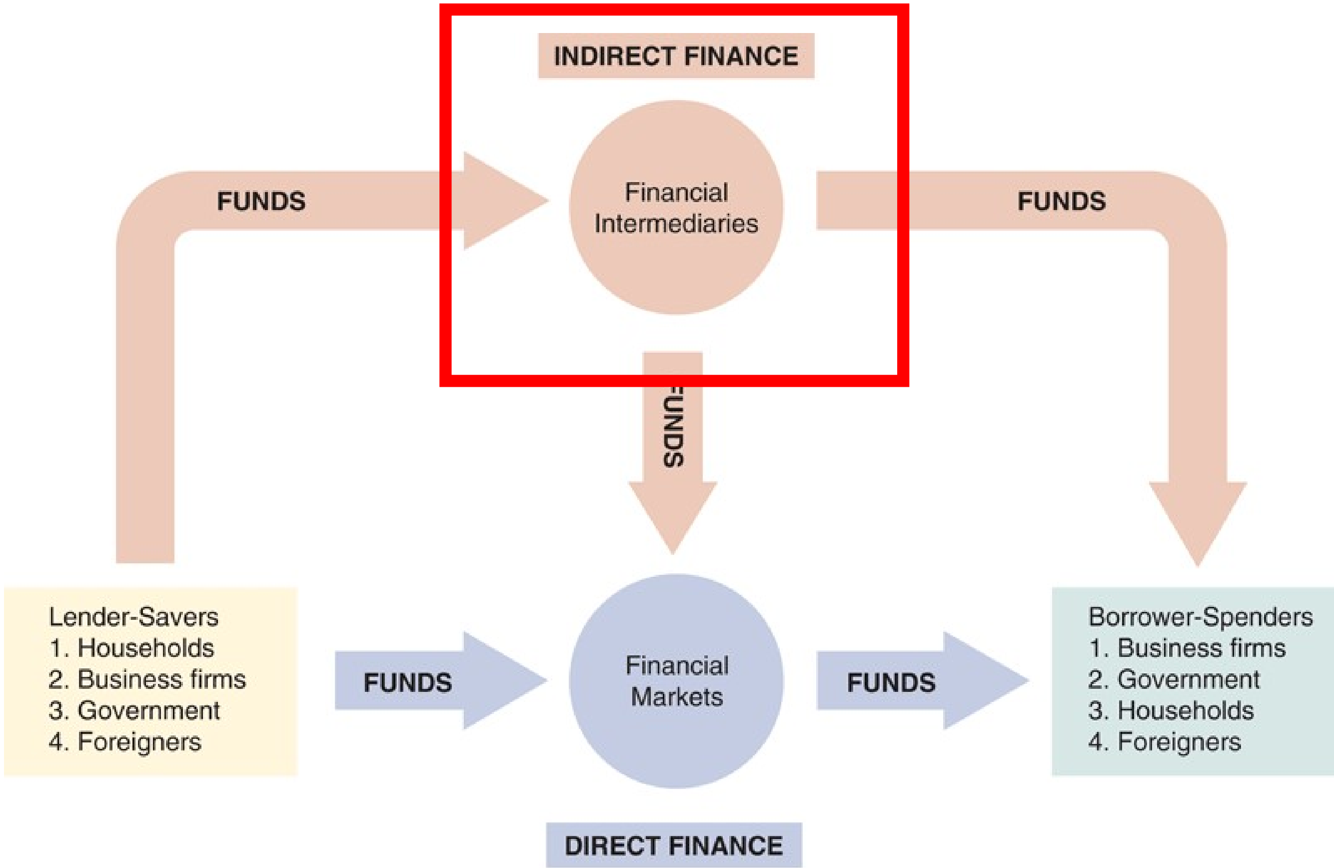
- International Bond Market & Eurobonds
  - Foreign bonds
    - Denominated in a foreign currency
    - Targeted at a foreign market
  - Eurobonds
    - Denominated in one currency, but sold in a different market
    - Now larger than U.S. corporate bond market
    - Over 80% of new bonds are Eurobonds

Internationalization of Financial Markets

- Eurocurrency Market
  - Foreign currency deposited outside of home country
  - Eurodollars are U.S. dollars deposited, say, in London
  - Gives U.S. borrows an alternative source for dollars

- World Stock Markets
  - U.S. stock markets are the largest one, with China and Japan following
  - Thailand is currently trading at No. 22 in global ranking (end of 2016)

Flows of Funds Through the Financial System



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Source: Mishkin Figure 2.1

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 **transaction costs, risk sharing, and asymmetric information**

Function of Financial Intermediaries: Indirect Finance

1 Transaction Costs

1. Financial intermediaries make profits by reducing transactions costs
2. Reduce transaction 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 savings accounts and yet still convert them into goods and services whenever necessary

Function of Financial Intermediaries: Indirect Finance

The Importance of Financial Intermediaries Relative to Securities Markets in global 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 vs. equity does differ by country

Function of Financial Intermediaries: Indirect Finance

2 FIs 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
- Financial intermediaries also help by providing the means for individuals and businesses to **diversify** their asset holdings

Function of Financial Intermediaries: Indirect Finance

3 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

3.1 Adverse Selection

1. Before transaction occurs
2. Potential borrowers most likely to produce adverse outcome are ones most likely ___________
3. Similar problems occur with insurance where

   ____

Asymmetric Information

3.2 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 ________

   ____

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

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 ______________

- 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!

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, and 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: Mishkin Table 2.1

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

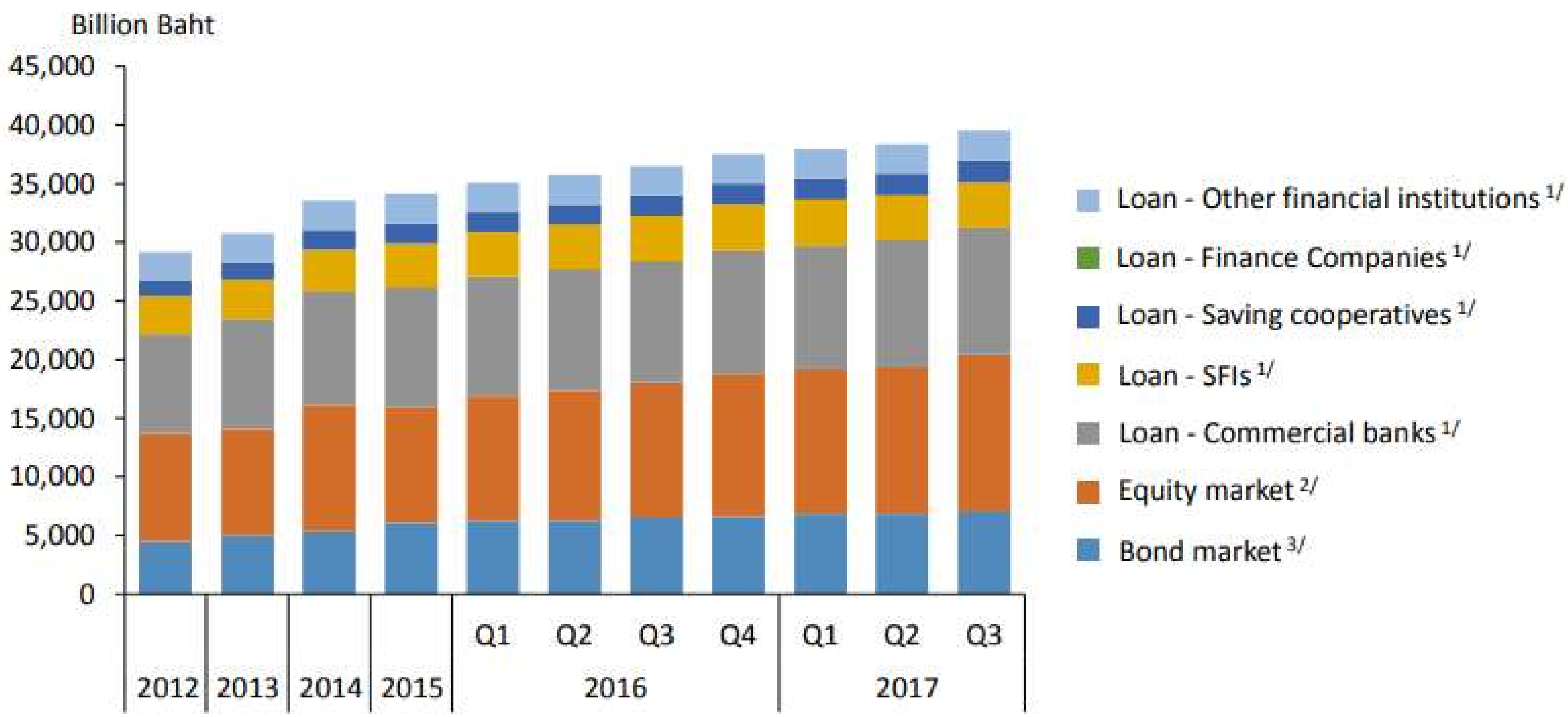
Principal Financial Intermediaries and Value of Their Assets

Type of Intermediary	Value of Assets ($ billions, end of year) 1980	1990	2000	2012
Depository institutions (banks)				
Commercial banks	1,481	3,334	6,469	11,343
Savings and loan associations and mutual savings banks	792	1,365	1,218	918
Credit unions	67	215	441	905
Contractual savings institutions				
Life insurance companies	464	1,367	3,136	5,999
Fire and casualty insurance companies	182	533	862	1,443
Pension funds (private)	504	1,629	4,355	6,584
State and local government retirement funds	197	737	2,293	3,047
Investment intermediaries				
Finance companies	205	610	1,140	1,533
Mutual funds	70	654	4,435	9,284
Money market mutual funds	76	498	1,812	2,650

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

Source: Mishkin Table 2.2

1. Thai financial system: Types of funding



[1/] Loans given to households and non-financial corporations.

[2/] Market values of equities listed in SET and mai, excluding equities issued by issuers in the financial sector.

[3/] Par values of bonds issued in Thailand, excluding bonds issued by issuers in the financial sector and non-residents.

Source: BOT Financial Stability Report 2017

2. Financial institutions system: Number and asset size of major financial institutions

Types of financial institutions	2017 Q3 P	
	Number	% of total assets of financial institutions
Depository corporations		
Commercial banks	30	45.80
Specialized financial institutions (SFIs)	6	15.36
Savings cooperatives 1/	1,433	6.38
Finance companies	2	0.04
Money market mutual funds (MMFs)	39	0.66
Other financial corporations		
Mutual funds (excluding MMFs)	1,406	11.41
Insurance companies	84	8.98
Leasing companies	859	1.83
Credit card, personal loan and nano finance companies under regulation 3/4/	38	2.28
Provident funds	395	2.58
Government pension fund	1	2.04
Asset management companies	45	0.73
Securities companies	49	0.98
Agricultural cooperatives 2/	3,523	0.58
Pawnshops	629	0.20
Secondary martgage corporation (SMC)	1	0.02
Thai credit guarantee corporation (TCG)	1	0.12

Types of Financial Intermediaries

- Depository Institutions (Banks): accept deposits and make loans. These include commercial banks and thrifts

- Commercial banks
  - 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

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 (or P&C insurance or non-life insurance)** 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

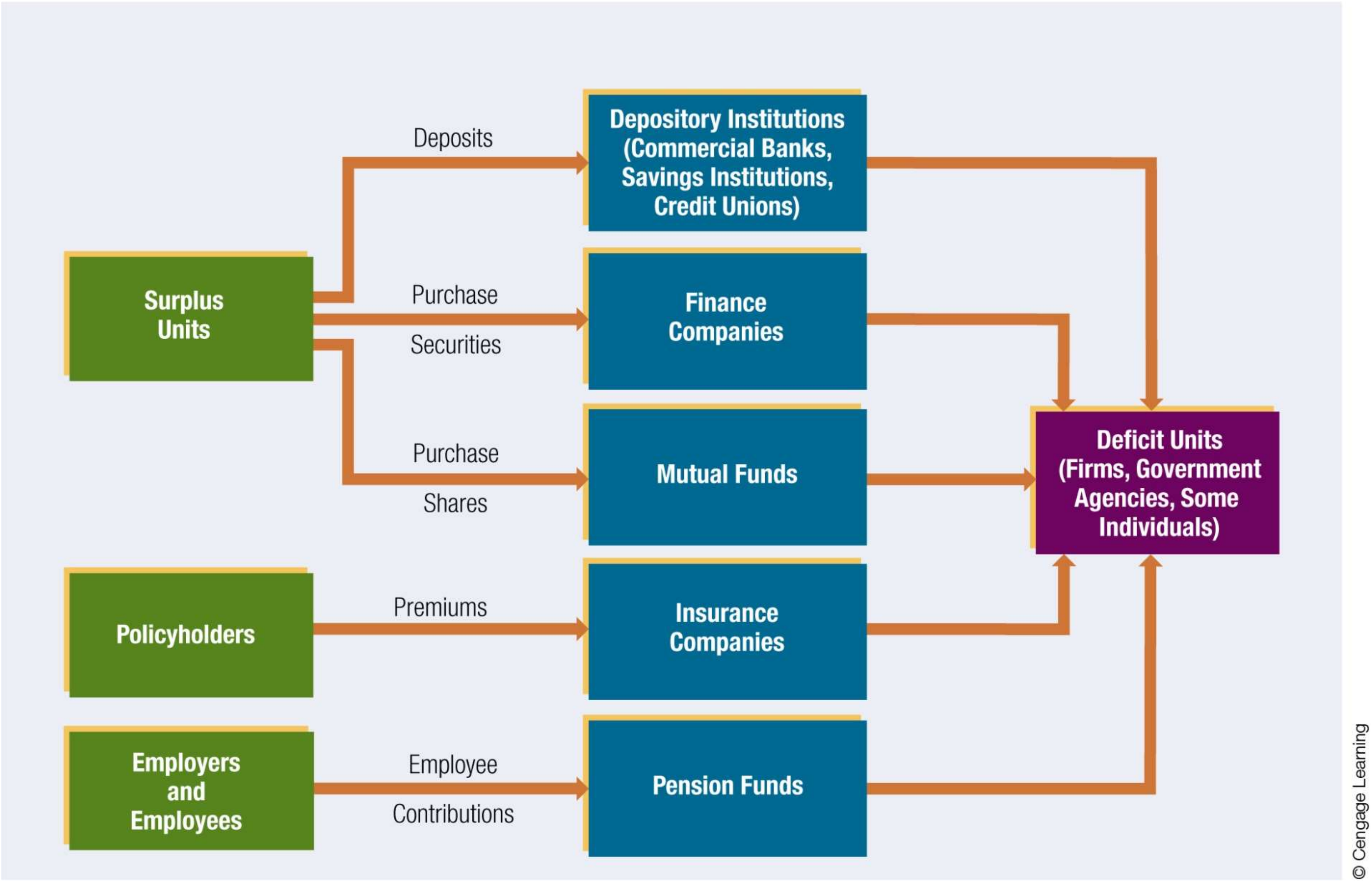
- **Mutual Funds** acquire funds by selling shares to individual investors (many of whose shares are held in retirement accounts) and use the proceeds to purchase large, diversified portfolios of stocks and bonds

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

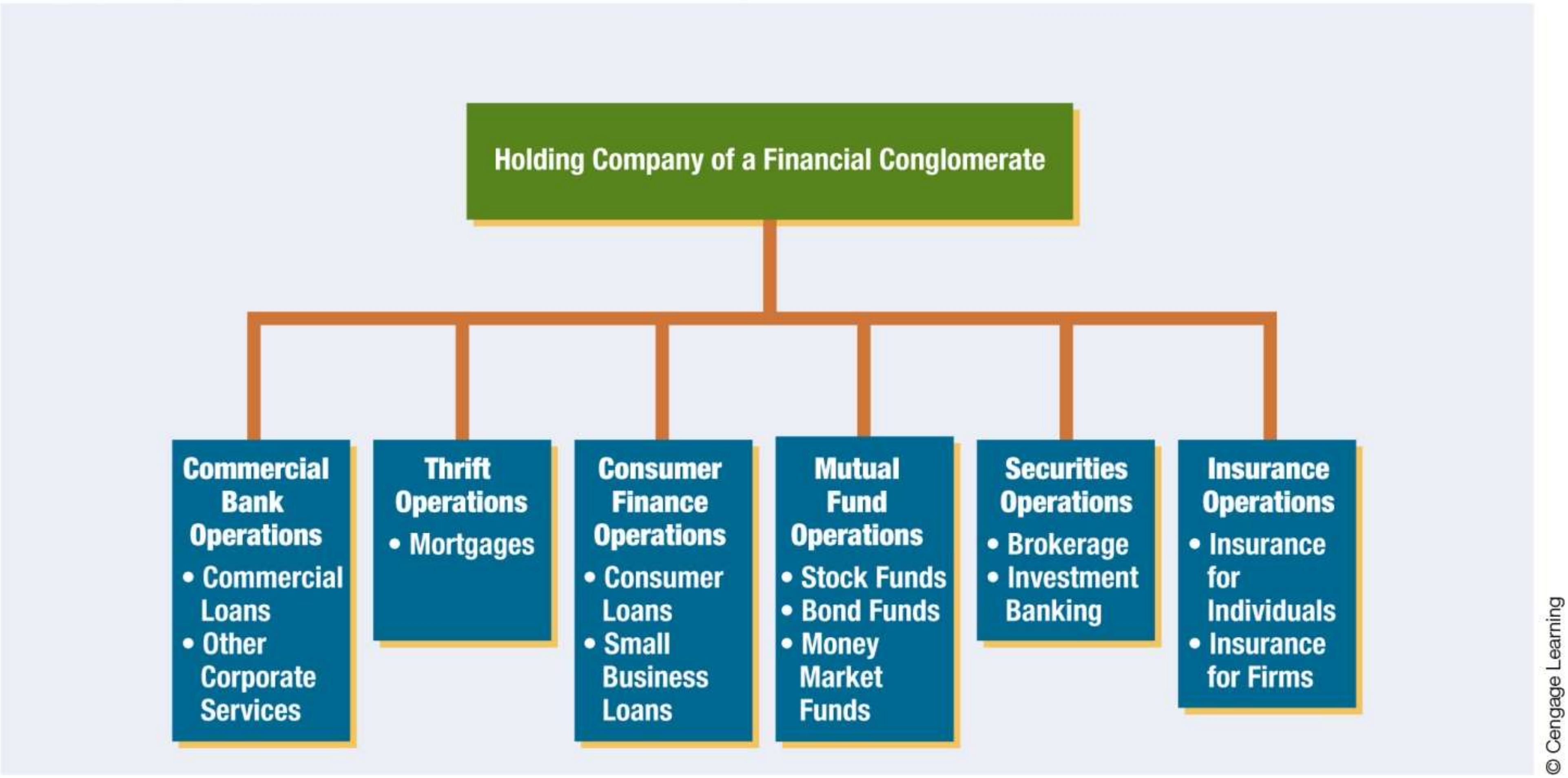
- **Investment Banks** advise companies on securities to issue, underwriting security offerings, offer M&A assistance, and act as dealers in security markets

Comparison of Roles among Financial Institutions



Source: Madura Exhibit 1.3

Organizational Structure of a Financial Conglomerate



Source: Madura Exhibit 1.5

Regulation of Financial Markets

Main Reasons for Regulation

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

1 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

1 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

2 Ensure Soundness of Financial Intermediaries

- Providers of funds (depositors) 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 produces large losses for the public and causes serious damage to the economy

2 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
  - Restrictions on Interest Rates