

Chapter 2: An Overview of the Financial System

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This chapter provides an overview of the financial system in the US economy by describing the various types of financial markets, financial instruments, and financial institutions or intermediaries that exist.

The chapter begins with a general statement that clarifies what function financial markets and financial intermediaries have in the economy as a whole.

It then deals more specifically with:

The structure of financial markets and the ways in which different types of financial markets can be distinguished. Here, it discusses debt versus equity markets, primary versus secondary markets, exchanges versus over-the-counter markets, and money versus capital markets.

The various types of financial instruments, including both money market instruments and capital market instruments.

The special role played by financial intermediaries in the economy. Here, it describes how financial intermediaries take advantage of economies of scale to reduce transaction costs, how financial institutions assist in the process of risk sharing and diversification, and how financial institutions overcome the problems of adverse selection and more hazard.

The major types of financial intermediaries, including depository institutions (banks), contractual savings institutions, and investment intermediaries.

Repeatedly throughout this course, we'll be coming across references to the numerous types of financial markets, financial instruments, and financial institutions. As we go along, we can always refer back to this overview to recall how a particular type of financial instrument works or what a particular type of financial intermediary does.

1 Function of Financial Markets and Financial Intermediaries

Financial markets and financial intermediaries perform the function of channeling funds from agents who have saved funds and want to lend to agents who need funds and want to borrow.

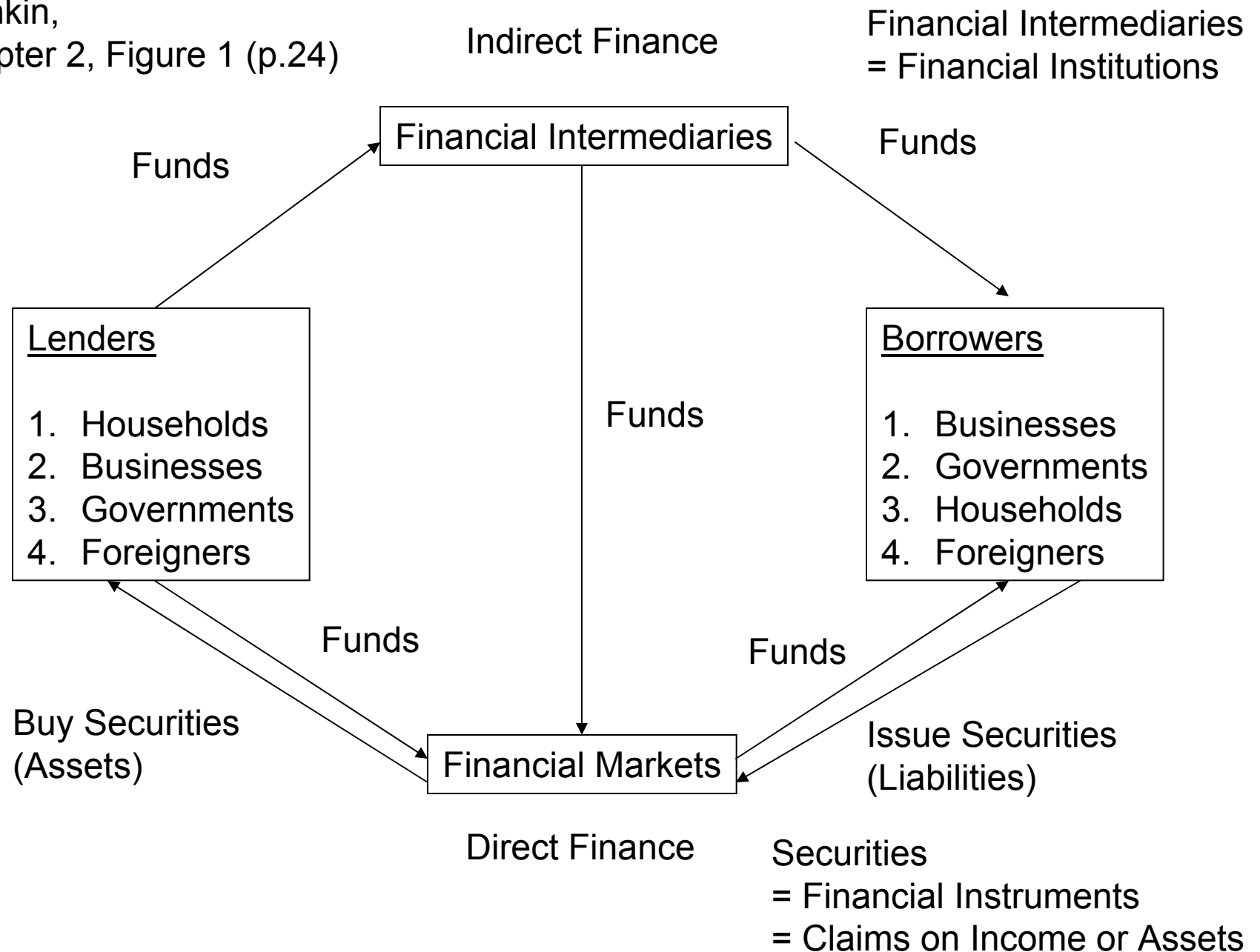
This function is illustrated quite nicely in Mishkin's figure 1 (p.24), which also serves conveniently to introduce us to a number of other concepts and terms.

2 Structure of Financial Markets

2.1 Debt and Equity Markets

Debt instrument = a contractual agreement by the issuer of the instrument (the borrower) to pay the holder of the instrument (the lender) fixed dollar amounts (interest and

Mishkin,
Chapter 2, Figure 1 (p.24)



principal payments) at regular intervals until a specified date (maturity date) when a final payment is made.

Examples: Government and corporate bonds.

Maturity = number of years or months until the expiration date.

Short-term = maturity of less than one year.

Long-term = maturity of more than ten years.

Intermediate-term = maturity between one and ten years.

Equity = a contractual agreement representing claims to a share in the income and assets of a business.

Example: Corporate stock.

May pay regular dividends.

Have no maturity date; hence are considered long-term securities.

Since equity holders own the firm, they are entitled to elect members of the firm's board of directors and vote on major issues concerning how the firm is managed.

A key feature distinguishing equity from debt is that the equity holders are the residual claimants: the firm must make payments to its debt holders before making payments to its equity holders.

We can refer to this feature in identifying the major advantages and disadvantages of holding debt versus equity:

Advantage to holders of debt instruments:

Receive fixed payments, regardless of whether the borrower's income and assets become more or less valuable over time.

Disadvantage to holders of debt instruments:

Do not benefit from an increase in the value of the borrower's income or assets.

Advantage to holders of equities:

Receive larger payments when the business becomes more profitable or the value of its assets rises.

Disadvantage to holders of equities:

Receive smaller payments when the business becomes less profitable or the value of its assets falls.

Although more attention is given to the equity (stock) markets, the debt markets are actually much larger:

Value of all equities, US, end of 2002: \$11 trillion.

Value of all debt instruments, US, end of 2002: \$20 trillion.

2.2 Primary and Secondary Markets

Primary market = market in which newly-issued securities are sold to initial buyers by the corporation or government borrowing the funds.

Example: US Treasury issues a new US Government bond, and sells it to JP Morgan
Investment banks play an important role in many primary market transactions by underwriting securities: they guarantee a price for a corporation's securities and then sell those securities to the public.

Secondary market = market in which previously-issued securities are traded.

Example: JP Morgan sells the existing US government bond to Merrill Lynch.

Brokers and dealers play an important role in secondary markets:

Brokers = facilitate secondary-market transactions by matching buyers with sellers.

Dealers = facilitate secondary-market transactions by standing ready to buy and sell securities.

Note that the originally issuer or borrower receives funds only when its securities are first sold in the primary market; the issuer does not receive funds when its securities are traded in the secondary market.

Nevertheless, secondary markets perform two essential functions:

They allow the original buyers of securities to sell them before the maturity date, if necessary. That is, they make the securities more liquid.

They allow participants in the primary markets to make judgements about the value of newly-issued securities by looking at the prices of similar, existing securities that are traded in the secondary markets.

2.3 Exchanges and Over-the-Counter Markets

Exchange = buyers and sellers meet in a central location.

Example: New York Stock Exchange.

Over-the-Counter (OTC) Market = dealers at different locations trade via computer and telephone networks.

Examples: NASDAQ (National Association of Securities Dealers' Automated Quotation System); US Government bond market.

2.4 Money and Capital Markets

Money market = only short-term debt instruments are traded.

Capital market = intermediate-term debt, long-term debt, and equities traded.

3 Financial Instruments

3.1 Money Market Instruments

The principal money market instruments are:

US Treasury Bills

Negotiable Bank Certificates of Deposit

Commercial Paper

Banker's Acceptances

Repurchase Agreements

Federal Funds

Eurodollars

All of these money market instruments are, by definition, short-term debt instruments, with maturities less than one year.

US Treasury Bills:

Issued by the US Government.

Currently issued with maturities of 1, 3, and 6 months.

Pay a fixed amount at maturity.

Make no regular interest payments, but sell at a discount.

Example: A Treasury bill that pays off \$1000 at maturity 6 months from now sells for \$950 today. The \$50 difference between the purchase price and the amount paid at maturity is the interest on the loan.

Trade on a very active secondary market.

Are the safest of all money market instruments, since it is very unlikely that the US Government will go bankrupt.

Negotiable Certificates of Deposit (CDs):

Issued by banks.

Make regular interest payments until maturity.

At maturity, return the original purchase price.

Large CDs, with value over \$100,000, trade on a secondary market.

“Negotiable” means that the CD trades on a secondary market.

Commercial Paper:

Short-term debt issued by corporations..

Make no interest payments, but sell at a discount.

Trade on a secondary market.

Banker's Acceptances:

Bank draft (like a check) issued by a firm and payable at some future date.

Stamped “accepted” by the firm's bank, which then guarantees that it will be paid.

Often arise in the process of international trade.

Make no interest payments, but sell at a discount.

Trade on a secondary market.

Repurchase Agreements:

Very short-term loans, often overnight, with Treasury bills as collateral, between a non-bank corporation as the lender and a bank as the borrower.

Non-bank corporation buys the Treasury bill from the bank.

Simultaneously, the bank agrees to repurchase the Treasury bill later at a slightly higher price.

The difference between the original price and the repurchase price is the interest.

Federal Funds:

Overnight loans between banks of deposits at the Federal Reserve.

Interest rate on these loans is called the federal funds rate.

Eurodollars:

US dollar deposits at foreign banks.

3.2 Capital Market Instruments

The principal capital market instruments are:

Corporate Stocks

Residential, Commercial, and Farm Mortgages

Corporate Bonds

US Government Securities (Intermediate and Long-Term)

State and Local Government (Municipal) Bonds

US Government Agency Bonds

Bank Commercial and Consumer Loans

All of these capital market instruments are, by definition, intermediate-term debt instruments, long-term debt instruments, or equities.

Corporate Stocks:

Equity claims to the income and assets of corporations.

Mortgages (Residential, Commercial, and Farm):

Loans to individuals and firms used to purchase land, houses, and other structures.

The land or structure then serves as collateral.

The mortgage market is the biggest debt market in the US.

Secondary markets for mortgages first developed in the 1970s and 1980s and are now quite large and active.

Corporate Bonds:

Intermediate and long-term debt issued by corporations.

Usually make regular interest payments twice per year.

Return a fixed amount (face value) at maturity.

US Government Securities:

Treasury Notes = Currently issued with maturities of 2, 5, and 10 years; hence intermediate-term debt.

Treasury Bonds = Before October 2001, issued with maturity of 30 years; hence long-term debt.

In October 2001, the US Treasury stopped issuing 30-year bonds, making the 10-year US Treasury note the US Government security with the longest maturity.

Make regular interest payments twice per year and return a fixed amount at maturity.

State and Local Government (Municipal) Bonds:

Intermediate and long-term debt issued by state and local governments.

Interest payments are exempt from federal income taxes, making municipal bonds especially attractive to some investors.

US Government Agency Bonds:

Somewhat like a combination between US Treasury bonds and notes and corporate bonds, but issued by US Government agencies (government-sponsored corporations).

Examples: Federal National Mortgage Association (FNMA, “Fannie Mae”) and Federal Home Loan Mortgage Corporation (FHLMC, “Freddie Mac”) sell bonds and use the proceeds to buy mortgages. Student Loan Marketing Association (SLMA, “Sallie Mae”) sells bonds and uses the proceeds to buy student loans.

Commercial and Consumer Loans:

Loans, originally made by banks, to businesses and households.

Secondary markets for these loans are only now just developing.

4 Role of Financial Intermediaries

We have now considered a wide variety of financial instruments that arise through the process of direct finance, in which the lender sells securities directly to the borrower.

Why does some borrowing and lending take place, instead, through indirect finance—that is, with the help of a financial intermediary?

Financial intermediaries play a number of special roles, and help solve a number of special problems, in the process of indirect finance.

4.1 Transaction Costs and Economies of Scale

Transaction costs = the time and money spent in carrying out financial transactions.

Financial intermediaries help reduce transaction costs by taking advantage of economies of scale.

Example: a bank can use the same loan contract again and again, thereby reducing the costs of making each individual loan.

4.2 Risk Sharing and Diversification

Risk = uncertainty about the returns investors will receive on any particular asset.

By purchasing a large number of different assets issued by a wide range of borrowers, financial intermediaries use diversification to help with risk sharing.

Example: by lending to a large number of different businesses, a bank might see a few of its loans go bad; but most of the loans will be repaid, making the overall return less risky.

Here, again, the bank is taking advantage of economies of scale, since it would be difficult for a smaller investor to make a large number of loans.

4.3 Adverse Selection and Moral Hazard

Financial intermediaries also use their expertise to screen out bad credit risks and monitor borrowers.

They thereby help solve two problems related to imperfect information in financial markets.

Adverse Selection = refers to the problem that arises before a loan is made because borrowers who are bad credit risks tend to be those who most actively seek out loans.

Financial intermediaries can help solve this problem by gathering information about potential borrowers and screening out bad credit risks.

Moral Hazard = refers to the problem that arises after a loan is made because borrowers may use their funds irresponsibly.

Financial intermediaries can help solve this problem by monitoring borrowers' activities.

5 Types of Financial Intermediaries

The main types of financial intermediaries are listed in Mishkin's Table 1 (p.35):

Depository Institutions (Banks):

Commercial Banks

Savings and Loan Associations

Mutual Savings Banks

Credit Unions

Contractual Savings Institutions

Life Insurance Companies

Fire and Casualty Insurance Companies

Pension Funds

Investment Intermediaries

Finance Companies

Mutual Funds

Money Market Mutual Funds

5.1 Depository Institutions (Banks)

Depository institutions as a group:

Accept (issue) deposits, which then become their liabilities.

Make loans, which then become their assets.

Commercial Banks:

Sources of funds (liabilities): issue deposits

Checking deposits = provide check-writing privileges.

Savings deposits = do not provide check-writing privileges, but allow funds to be withdrawn at any time.

Time deposits = require that funds be deposited for a fixed period of time, with penalty for early withdrawal.

Uses of funds (assets): make commercial, consumer, and mortgage loans, buy US Government and municipal bonds.

Savings and Loan Associations (S&Ls):

Sources of funds: issue deposits.

Uses of funds: make loans, mainly mortgage loans.

Mutual Savings Banks:

Like S&Ls, but structured as “mutuals,” meaning that the depositors own the bank.

Sources of funds: issue deposits.

Uses of funds: make loans, mainly mortgage loans.

Credit Unions:

Set up to serve small groups: union members, employees of a particular firm, etc.

Sources of funds: issue deposits

Uses of funds: make loans, mainly consumer loans.

Collectively, savings and loan associations, mutual savings banks, and credit unions are called thrift institutions.

The distinctions between commercial banks and thrift institutions are mainly historical and have blurred over the years.

Example: before 1980, thrift institutions were not permitted to issue checking deposits. S&Ls and mutual savings banks were not allowed to make consumer loans, and credit unions were not allowed to make mortgage loans.

5.1.1 Contractual Savings Institutions

Contractual savings institutions as a group:

Acquire funds at periodic, or regular, intervals on a contractual basis.

Life Insurance Companies:

Sources of funds: collect premiums from policies.

Uses of funds: buy corporate bonds and mortgages, some stocks.

Fire and Casualty Insurance Companies:

Sources of funds: collect premiums from policies.

Uses of funds: buy US Government and municipal bonds, corporate stocks and bonds.

Pension Funds:

Sources of funds: collect contributions from employers and employees.

Uses of funds: buy corporate stocks and bonds.

5.2 Investment Companies

Finance Companies:

Sources of funds: sell commercial paper, stocks, bonds.

Uses of funds: make consumer and business loans.

Example: Ford Motor Credit sells commercial paper and bonds and uses the proceeds to make loans to people who buy Ford cars and trucks.

Mutual Funds:

Mutual funds allow individual investors to pool their resources and thereby hold a more diversified portfolio of assets with lower transaction costs.

Sources of funds: sells shares to individuals.

Uses of funds: buy stocks and bonds.

Money Market Mutual Funds:

Sources of funds: sell shares to individuals.

Uses of funds: buy money market instruments.