

Part 1

The Global Financial System in Perspective

Try to imagine living in a world in which there are no financial institutions, no financial markets, and no financial assets. In such a world, there would be no opportunity to borrow against future income to purchase a home or an automobile, or to finance an education. Nor would you be able to save some of your current income (and, thereby, accumulate wealth over time) to handle the future expenses of a growing family or retirement. Businesses could not come up with the resources needed to produce the goods and services you like to consume. There would be no way to acquire insurance against sickness and death. Even the simple act of buying food would become extremely difficult, requiring you to barter simply to survive.

The financial system has emerged to fill these and many other critical needs that require some separation in time between the use of resources (such as capital and labor), the production of goods and services, and the actual consumption of those goods and services desired. Financial markets and institutions deal with these issues to provide for the smooth functioning of modern economies, enabling resources to find their way to their most highly valued use. In so doing, the financial system can dramatically enhance the efficiency of the economy and raise our standard of living. However, our everyday reliance on the well-oiled, highly sophisticated financial markets can create a dependence on intelligently managed and well-regulated financial institutions. When this finely tuned financial marketplace malfunctions, as happened during the great credit crisis of 2007–2009 that spread throughout the world, the consequences can be catastrophic.

To set the stage for our study of the global financial system, Part 1 of *Financial Markets and Institutions* takes up essential topics: the linkage between financial and nonfinancial markets; the mechanism by which financial assets are created, valued, and traded; and the critical importance of public and private information in determining the value of a financial asset. We conclude Part 1 with a description of the causes and consequences of the great credit crisis of 2007–2009, which is likely to affect the financial system for years to come. The crisis was underpinned by the collapse of markets for an array of newly developed financial products that once seemed so promising as tools to manage risk and thus to provide extended benefits to a broad range of the public. In the end, the new products exacerbated risk as their tentacles spread throughout the world. As one of Wall Street's financial wizards who helped to create these innovative financial products was heard to quote Mae West: "I used to be Snow White. Then, I drifted."

Chapter 1

Functions and Roles of Financial Institutions and Markets in the Global Economy

Learning Objectives in This Chapter

- You will understand the functions performed and the roles played by the system of financial institutions and markets in the global economy and in our daily lives.
- You will discover how important financial institutions and markets, including the whole financial system, are to increasing our standard of living, generating new jobs, and building our savings to meet tomorrow's financial needs.

What's in This Chapter? Key Topics Outline

**How the System of Financial Institutions and Markets
Interfaces with the Economy**

The Importance of Savings and Investment

The Nature of Financial Claims in the Financial Markets

**Functions of Financial Institutions and Markets: Savings,
Wealth, Liquidity, Credit, Payments, Risk Protection,
and Pursuing Public Policy**

**Types of Financial Markets within the Global Financial
System**

Factors Tying All Financial Markets Together

The Dynamic Financial System: Key Emerging Trends

1.1 Introduction to the System of Financial Institutions and Markets

financial system

This book is devoted to the study of the **financial system**—the collection of markets, institutions, laws, regulations, and techniques through which bonds, stocks, and other securities are traded; interest rates are determined; and financial services are produced and delivered around the world. The financial system is one of the most important creations of modern society. *Its primary task is to move scarce loanable funds from those who save to those who borrow to buy goods and services and to make investments in new equipment and facilities so that the global economy can grow and increase the standard of living enjoyed by its citizens.* Without the global financial system and the loanable funds it supplies, each of us would lead a much less enjoyable existence.

The financial system determines both the cost and the quantity of funds available in the economy to pay for the thousands of goods and services we purchase daily. Equally important, what happens in this system has a powerful impact upon the health of the global economy. When funds become more costly and less available, spending for goods and services falls. As a result, unemployment rises and the economy's growth slows as businesses cut back production and lay off workers, as happened dramatically during the great credit crisis of 2007–2009. In contrast, when the cost of funds declines and loanable funds become more readily available, spending in the economy often increases, more jobs are created, and the economy's growth accelerates. In truth, the global financial system is an integral part of the global economic system. We cannot understand one of these systems without understanding the other.

1.2 The Global Economy and the System of Financial Institutions and Markets

Flows within the Global Economic System

To better understand the role played by the system of financial institutions and markets in our daily lives, we begin by examining its position within the global economy.

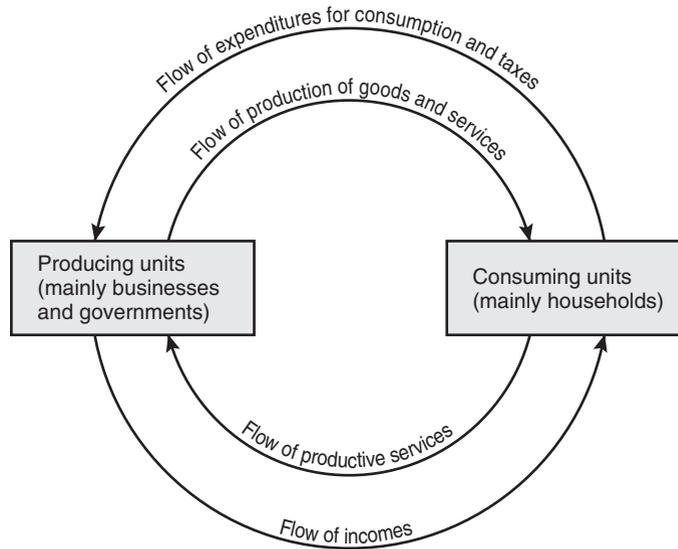
The basic function of the global economic system is to allocate scarce resources—land, labor, management skill, and capital—to their most highly valued use, producing the goods and services needed by society. The high standard of living most of us enjoy today depends on the ability of the global economy to turn out each day an enormous volume of food, shelter, and other essentials of modern living. This is an exceedingly complex task because scarce resources must be procured in just the right amounts to provide the raw materials of production and combined at just the right time with labor, management, and capital to generate the products and services demanded by consumers. In short, any economic system must combine inputs—land and other natural resources, labor and management skill, and capital equipment—to produce output—goods and services. The global economy generates a flow of production in return for a flow of payments.

We can depict the flows of payments and production within the global economic system as a *circular flow* between producing units (mainly businesses and governments) and consuming units (principally households). (See Exhibit 1.1.) In the modern economy, households provide labor, management skill, and natural resources to business firms and governments in return for income in the form of wages, salaries, and other payments. Most of the national income generated by the economy—which averaged more than \$12 trillion in 2009—is spent on consumption of goods and services.

Key URLs:
If you are interested in following the system of financial institutions and markets on a daily basis, consider following such sites as <http://money.cnn.com/markets>; www.ftbusiness.com; www.bloomberg.com; <http://online.wsj.com>; and www.dailyfinance.com.

EXHIBIT 1.1

Circular Flow of Income, Payments, and Production in the Global Economic System



The remainder—less than \$1.4 trillion of the \$12 trillion—is saved. The result of this spending is a flow of funds back to the producing units as income, which stimulates them to produce more goods and services by modernizing and expanding their production facilities. The circular flow of production and income is interdependent and never ending.

The Role of Markets in the Global Economic System

Most economies around the world rely principally upon *markets* to carry out this complex task of allocating scarce resources, making possible the production and sale of goods and services that are in demand by businesses and households. What is a **market**? It is an institution through which buyers and sellers meet to exchange goods, services, and productive resources. This exchange determines what goods and services will be produced and in what quantity.

The marketplace is *dynamic*. It must respond continuously not only to changes in consumers' tastes, but also to the introduction of new goods and services, often associated with new technology. For example, cell phones and DVDs are now part of our everyday lives, yet they barely existed a few years ago. How did the resources of the economy get redeployed to produce those new goods?

This shift in production was accomplished in the marketplace through changes in the *prices* of goods and services being offered. If the price of an item rises, for example, this stimulates business firms to produce and supply more of it to consumers. In the long run, new firms may enter the market to produce those goods and services experiencing increased demand and rising prices. A decline in price, on the other hand, usually leads to reduced production of a good or service, and in the long run some less-efficient suppliers may leave the marketplace.

Markets also distribute *income*. In a pure market system, the income of an individual or a business firm is determined solely by the contribution each makes to producing goods and services demanded by the marketplace. Markets reward superior productivity and sensitivity to consumer demands with increased profits, higher wages, and other economic benefits. Of course, in all economies, government policies also affect the distribution of income and the allocation of other economic benefits.

market

Types of Markets

There are essentially three *types of markets* at work within the global economic system: (1) factor markets, (2) product markets, and (3) financial markets (see Exhibit 1.2). In factor markets, consuming units sell their labor and other resources to those producing units offering the highest prices. The *factor markets* allocate factors of production—land, labor, managerial skills, and capital—and distribute income—wages, salaries, rental payments, and so on—to the owners of productive resources.

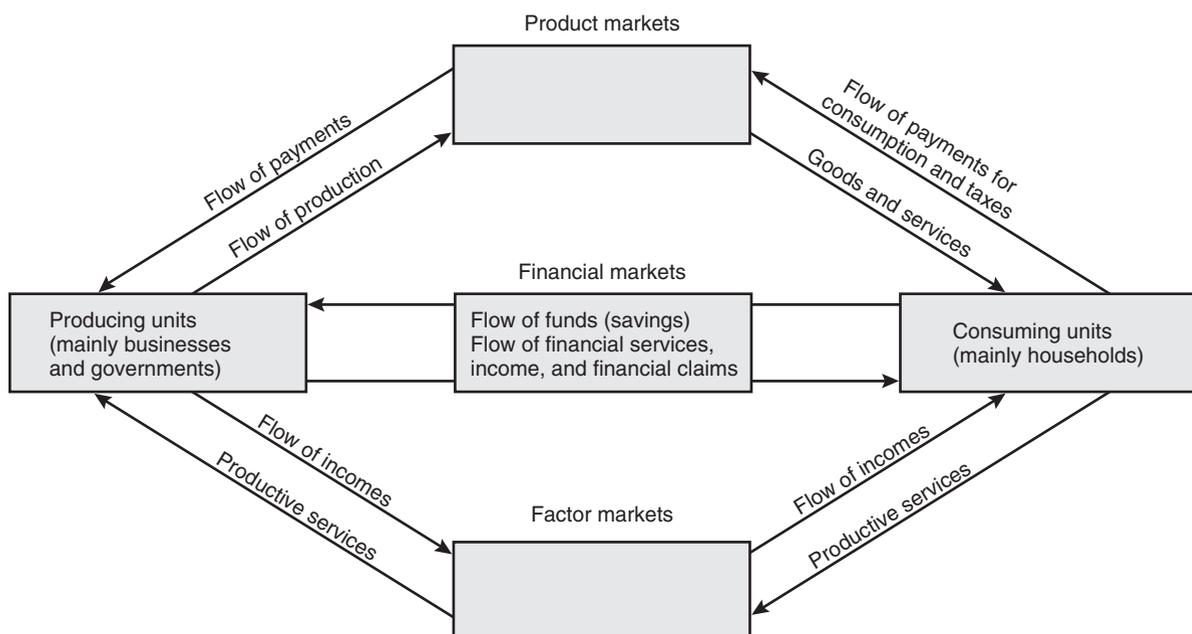
Consuming units use most of their income from factor markets to purchase goods and services in *product markets*. Food, shelter, automobiles, theater tickets, and clothing are among the many goods and services sold in product markets.

The Financial Markets and the Financial System: Channel for Savings and Investment

Of course, households' consumption of goods and services seldom matches their factor income. In most years a portion of after-tax income received by households is earmarked for *personal savings*. However, households will sometimes have zero or even negative savings, in which case they must have either sold off some of their assets and/or gone into debt to maintain their standard of living. For example, personal savings for 2008 averaged only \$115 billion, just one-fifth of total personal savings five years before. Historically, this relatively low level of personal savings could serve as a major impediment to the economy's ability to invest in updating and expanding its production facilities to support continued economic growth *if* households were the only source of savings in the economy. Fortunately, this is not the case. Businesses are also a major source of savings. For example, in 2009 U.S. corporations earned almost \$1.6 trillion on an annualized basis, of which about a third (or \$430 billion) was set aside (undistributed) for possible future needs as *business savings*.

EXHIBIT 1.2

Three Types of Markets—Product, Financial, and Factor Markets—in the Global Economic System



financial market

It is here that the third kind of market, the **financial market**, performs a vital function within the global economic system. The financial markets channel savings to those individuals and institutions needing more funds for spending than are provided by their current incomes. The financial markets are the heart of the global financial system, attracting and allocating savings and setting interest rates and the prices of financial assets (stocks, bonds, etc.).

savings

Nature of Savings The definition of **savings** differs depending on what type of unit in the economy is doing the saving. For households, savings are what is left from current income after current consumption expenditures and tax payments are made. In the business sector, savings include current earnings retained inside business firms after payment of taxes, stockholder dividends, and other cash expenses. Government savings arise when there is a surplus of current revenues over current expenditures in a government's budget.

investment

Nature of Investment Most of the funds set aside as savings flow through the global financial markets to support **investment** by business firms, governments, and households. Investment generally refers to the acquisition of capital goods, such as buildings and equipment, and the purchase of inventories of raw materials and goods to sell. The makeup of investment varies with the particular unit doing the investing. For a business firm, expenditures on *capital goods* (fixed assets, such as buildings and equipment) and *inventories* (consisting of raw materials and goods offered for sale) are investment expenditures. In contrast to businesses, for *households*, current accounting procedures in the United States stipulate that only the purchase of a home may be counted as an *investment*. All other household expenditures on durable goods (such as autos and furniture), as well as expenditures on nondurable goods (for example, food and fuel) and services (such as having your hair styled) are lumped together as *consumption spending* (i.e., expenditures on current account), rather than investment spending. Government spending to build and maintain public facilities (such as buildings, monuments, and highways) is another form of investment.

Modern economies require enormous amounts of investment to produce the goods and services demanded by consumers. Investment increases the productivity of labor and leads to a higher standard of living. However, investment often requires huge amounts of funds, far beyond the resources available to a single individual or institution. By selling financial claims (such as stocks and bonds) in the financial markets, large amounts of funds can be raised quickly from the pool of savings accumulated by households, businesses, and governments. The unit carrying out the investment then hopes to repay its loans from the financial marketplace by generating future income. Indeed, the money and capital markets make possible the *exchange of current income for future income* and the *transformation of savings into investment* so that production, employment, and income can grow, and living standards can improve.

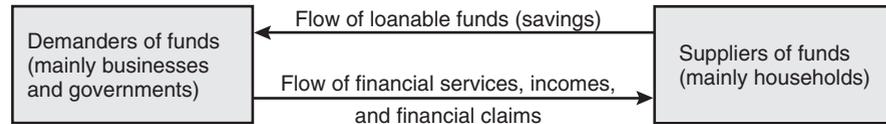
Those who supply funds to the financial markets receive only *promises* in return for the loan of their money. These promises are packaged in the form of attractive financial claims and financial services, such as stocks, bonds, deposits, and insurance policies. (See Exhibit 1.3.) *Financial claims* promise the supplier of funds a future flow of income in the form of dividends, interest, or other returns. But there is no guarantee the expected income will ever materialize. However, suppliers of funds to the financial system expect not only to recover their original funds but also to earn additional income as a reward for waiting and assuming risk.

Key URL:

To learn more about savings and investment see www.bankrate.com

Key URLs:

Information about savings and investment options in the money and capital markets may be found at such popular Web sites as www.businessweek.com; www.forbes.com; www.fortune.com; www.kiplinger.com; and www.smartmoney.com

EXHIBIT 1.3**The Global
Financial System**

The role of the financial markets in channeling savings into investment is absolutely essential to the health of the economy. Indeed, countries with better-developed financial systems tend to grow faster. However, if households set aside savings and those funds are not returned to the spending stream through investment by businesses and governments, the economy will begin to contract. The amount of income paid out by business firms and governments will *not* be matched by funds paid back to those same sectors by households. As a result, income payments will decline, leading, in turn, to reduced consumption spending. The public's standard of living will fall. Moreover, with less spending, the need for labor will be curtailed, resulting in fewer jobs and rising unemployment.

QUESTIONS TO HELP YOU STUDY

1. Why is it important for us to understand how the global system of financial institutions and markets works?
2. What are the principal links between the financial system and the economy? Why is each important to the other?
3. What are the principal functions or roles of the global financial system? How do financial institutions and markets fulfill those roles or functions?
4. What exactly is *savings*? *Investment*? Are these terms often misused by people on the street? Why do you think this happens?
5. How and why are savings and investment important determinants of economic growth? Do they impact our standard of living? How?

1.3 Economic Functions Performed by the Global System of Financial Institutions and Markets

The great importance of the financial system in our daily lives can be illustrated by reviewing the different functions it performs. The global financial system has *seven* basic economic functions that create a need for the money and capital markets.

Savings Function

The global system of financial markets and institutions provides a *conduit for the public's savings*. Bonds, stocks, and other financial claims produced and sold in financial markets by financial institutions provide a profitable, relatively low-risk outlet for the public's savings. By acquiring these financial assets, households may choose to forego consumption today to increase their consumption opportunities in the future. In the process, this flow of savings through the financial markets into investment allows the economy to increase production while raising productivity, thereby usually increasing the world's standard of living. In contrast, when savings decline, investment and living standards begin to fall in those nations where savings are in short supply.

Wealth Function

While current savings represent a *flow* of funds, accumulated savings built up over time represent a *stock* of assets we often refer to as *wealth*. For those businesses and individuals choosing to save, the financial instruments sold by financial institutions in financial markets provide an excellent way to *store wealth* (i.e., preserve the value of assets we hold) until funds are needed for spending. Although we might choose to store our wealth in “things” (e.g., automobiles), such items are subject to depreciation and often carry great risk of loss. However, bonds, stocks, and other financial instruments do *not* wear out over time and usually generate income; moreover, their risk of loss often is much less than for many other forms of stored wealth.

wealth

Incidentally, what specifically is **wealth**? For any individual, business firm, or government, wealth is the sum of the values of all assets we hold at any point in time. Thus, our wealth at the moment equals the combined value of the automobiles, homes, clothing, and hundreds or thousands of other assets we have managed to accumulate and hold up to the present day. Households also accumulate debt, or liabilities, such as mortgages, credit card debt, and bank loans. Therefore, a true measure of a household’s wealth is its **net worth**, or its assets minus its liabilities. For most of the twentieth and twenty-first centuries household net worth soared as stocks and home values surged upward, reaching almost \$65 trillion in mid-2007. However, during the early stages of the great credit crisis of 2007–2009, household net worth fell dramatically as house prices, mortgage-related financial instruments, and stock prices collapsed. By the end of 2008, household net worth stood at a little over \$50 trillion.

net worth

Our wealth is built up over time (unless we make bad decisions and squander it away!) by a combination of current savings plus income earned from all our previously accumulated wealth. The increase (or decrease) in the total wealth we own in the current time period equals our current savings plus the value of all previously accumulated wealth multiplied by the average rate of return on all previously accumulated wealth. For example, suppose our wealth (accumulated assets) at the end of the previous period was \$1,000. In the current time period we manage to save an additional \$50 and also earn an average rate of return on our previously accumulated wealth of 10 percent or \$100 (that is, $\$1,000 \times 0.10$). Then our wealth will increase from \$1,000 in the previous period to \$1,150 in the current period (that is, $\$1,000 + \$50 + \$100$).

financial wealth

The portion of wealth held by society in the form of stocks, bonds, and other financial assets—that is, **financial wealth**—is created by the system of financial institutions and markets. The volume of financial wealth is huge and, until recently, grew nearly every year. For example, in 2009, \$67 trillion in securities, deposits, and other financial assets were held by domestic nonfinancial businesses, households, and governments in the United States, while foreign investors held nearly \$17 trillion in financial instruments issued inside the United States during the same year. Individuals and families (households) alone held just over \$40 trillion in stocks, bonds, and other financial assets.

net financial wealth

If we subtract total debts owed by U.S. nonfinancial businesses, households, and governments, which amounted to \$45 trillion in 2009, we obtain what is called **net financial wealth**. The total *net* financial wealth (Financial assets – Debts) held by U.S. individuals and nonfinancial institutions was almost \$21 trillion in 2009.

Wealth holdings represent *stored purchasing power* that will be used in future periods as income to finance purchases of goods and services and to increase society’s standard of living. Therefore, income is generated from the wealth function of the global financial system. Income emerges from the average rate of return that our current wealth holdings (including any marketable skills—*human capital*—we have) generate for us times the amount of our current wealth. For example, if our wealth totals \$1,000 at the

moment and yields an average rate of return of 10 percent, we can expect our current wealth holdings to generate \$100 in income in the current period. In turn, wealth-created income leads to *both* increased consumption spending and to new savings, resulting in a higher standard of living for those who hold wealth in income-generating forms.

Liquidity Function

liquidity

For wealth stored in financial instruments, the global financial marketplace provides a means of converting those instruments into cash with little risk of loss. The world's financial institutions and markets provide **liquidity** (immediately spendable cash) for savers who hold financial instruments but are in need of money. In modern societies, *money* consists mainly of currency and spendable deposits held in banks, credit unions, and other depository institutions, amounting to just over \$1.6 trillion in 2009, and is the only financial instrument possessing *perfect liquidity*. Money can be spent as it is without the necessity of converting it into some other form. However, money generally earns the lowest rate of return of all assets, and its purchasing power is seriously eroded by inflation. That is why savers generally minimize their holdings of money and hold other, higher-yielding financial instruments until they really need spendable funds. Of course, money is not the only means of making purchases of goods and services. In many lesser-developed economies, simple bartering—exchanging one good or service for another—performs many of the same services that money provides in a developed economy.

Credit Function

credit

In addition to providing liquidity and facilitating the flow of savings into investment to build wealth, the global financial markets furnish **credit** to finance current consumption and investment spending by pledging future income, thus reducing spending opportunities in the future. It thus represents the flipside of savings. Credit consists of a loan of funds in return for a promise of future payment. Consumers need credit to purchase a home, buy groceries, repair the family automobile, and retire outstanding debts. Businesses draw on their lines of credit to stock their shelves with inventory, construct new buildings, meet payrolls, and grant dividends to their stockholders. State, local, and federal governments borrow to construct buildings and other public facilities and to cover daily cash expenses until tax revenues flow in.

The volume of credit extended by financial institutions and markets today is huge. In the United States alone total credit funds raised in U.S. financial markets in 2007 amounted to almost \$4.5 trillion—nearly triple the amount raised only a decade earlier. Growth of the economy, inflation, and the tax deductibility of some interest payments all appear to have fueled this rapid growth in credit usage by households, businesses, and governments. However, since the great credit crisis of 2007–2009, there has been a sharp curtailment in the provision of credit. For example, in 2008, the total volume of credit in the U.S. economy fell to a little more than \$2.6 trillion, but this is still markedly higher than a decade ago.

Video Connections:
To discover a bit more on how our payments system is changing see, for example, www.eccho.org/check21_video.php and <http://videos.howstuffworks.com/multivu/1848-western-union-video.htm>

Payments Function

The global system of financial institutions and markets also provides *a mechanism for making payments for purchases of goods and services*. Certain financial assets—including *currency*, *noninterest-bearing checking accounts (referred to as demand deposits)*, and *interest-bearing checking accounts (often referred to as negotiable order of withdrawal or NOW accounts)*—still serve as popular mediums of exchange in making payments all over the globe.

On September 11, 2001, the United States experienced one of the most devastating tragedies in its history when hijackers took control of four commercial airliners and crashed two of the four into the World Trade Center in New York City and one into the Pentagon in Washington, D.C. More than 3,000 people lost their lives.

The assault on the World Trade Center was an attack on a key trading center within the financial system—a place where major dealers in securities, large banks, and other financial-service institutions served clients around the globe. When the trade center collapsed, several financial firms faced severe disruption, losing their communications links and suffering death or serious injury to their employees.

Still, the flexibility and resilience of financial institutions and markets in adjusting to this terrible tragedy proved to be remarkable. Within a handful of days the New York Stock Exchange was reopened and major security, banking, and insurance firms found new space from which to serve their customers.

Of course, even with the remarkable “bounce back” of the financial system from terror, significant

damages to the economy and to financial institutions and markets were felt. Lenders and investors became more concerned about *risk*. Stock prices around the globe fell for a time as investors sold riskier securities and fled into government bonds and insured bank deposits. Insurance companies braced for an unprecedented volume of financial claims related to deaths and destruction. Layoffs of workers rose and business sales fell.

These tragic events remind us of several key points. First, the economy and the financial sector are intimately connected to each other—an external shock that affects one affects the other. Second, though vast in size and scope the financial institutions and markets are surprisingly fragile and need the support of governments and the confidence of the public to operate efficiently and perform their essential functions. Third, the financial marketplace is now unquestionably global rather than belonging to a single nation—significant events in any nation, either good or bad, quickly spread around the world and eventually affect all markets.

Also high on the payments list and growing rapidly are debit and credit cards issued by banks, credit unions, and retail stores. In the case of *debit cards*, a customer pays immediately for purchases by electronically debiting his or her account in a depository institution. On the other hand, in the case of *credit cards* the customer receives instant access to short-term credit when contracting for purchases of goods and services. Lately the use of debit cards has been growing much faster than that of credit cards as a means of payment as people try to reduce their debt and increase their savings.

Also on the rise are *stored-value cards* that many workers now receive on payday instead of a payroll check; *direct deposits* in which funds are transferred electronically from the payor’s account to the account of the payee (now representing close to two-thirds of all payments to employees in the United States); *ATM cards* that give the holder access to cash machines and the ability to check account balances and transfer funds to cover any payments due; *contactless payment devices* that communicate purchases and payments through radio frequencies without physical contact; *electronic bill presentment* in which a purchaser is issued a bill online and can make payments online at the purchaser’s convenience; and *preauthorized debits*, permitting a customer to authorize automatic funds transfers from his or her account on a specific date each month to pay recurring bills (including payments due on home mortgages, auto loans, and utility bills).

If present trends continue, electronic means of payment, including *computer terminals in homes, offices, and stores* and *digital cash* (accessed by an encoded plastic card) eventually may completely replace checks and other pieces of paper as the principal means of paying in the future. Indeed, electronic means of payment are growing rapidly today (especially in Europe), while checks and other paper-based means of payment are declining in volume (particularly in the United States).

Risk Protection Function

Key URLs:
For further exploration of the many risks often present in the financial system and markets, see, for example, www.standardandpoors.com; www.moodys.com; and www.cmegroup.com

Financial institutions and markets offer businesses, consumers, and governments *protection against life, health, property, and income risks*. This is accomplished, first of all, by the sale of insurance policies. Policies marketed by life insurance companies indemnify a family against possible loss of income following the death of a loved one. Property-casualty insurers protect their policyholders against an incredibly wide array of personal and property risks, ranging from ill health and storm damage to negligence on the highways. In addition to making possible the sale of insurance policies, the money and capital markets have been used by businesses and consumers to “self-insure” against risk; that is, wealth is built up as protection against future losses.

The financial system permits individuals and institutions to engage in both *risk sharing* and *risk reduction*. Risk sharing occurs when an individual or institution transfers risk exposure to someone willing to accept that risk (such as an insurance company), while risk reduction usually takes place when we diversify our wealth across a wide variety of different assets so our overall losses are likely to be more limited.

Overall, the risk protection business is huge. In the United States, for example, life insurance and pension fund reserves to protect individuals and families against loss due to death and old age tallied just over \$13 trillion in 2009.

Policy Function

Finally, in recent decades, the financial markets have been *the principal channel through which government has carried out its policy of attempting to stabilize the economy and avoid inflation*. By manipulating interest rates and the availability of credit, government can affect the borrowing and spending plans of the public, impacting the growth of jobs, production, and prices. As we will see later on, this task of economic stabilization has been given largely to central banks, such as the Federal Reserve System in the United States, the Bank of England, the Bank of Japan, and the new European Central Bank (the ECB).

QUESTIONS TO HELP YOU STUDY

6. What seven vital *functions* does the financial system of money and capital markets perform?
7. Why is each function of the financial system important to households, businesses, and governments? What kinds of lives would we be living today if there were no financial system or no financial markets?
8. What exactly do we mean by the term *wealth*? How does it differ from *net worth*? Why is it important?
9. What is *net financial wealth*? What does it reveal about each of us?
10. Can you explain what factors determine the current volume of financial wealth and net financial wealth each of us has?

1.4 Types of Financial Markets within the Global Financial System

The global financial system fulfills its various roles mainly through *markets* where financial claims and financial services are traded (though in some lesser-developed economies government dictation and even barter are used). These markets may be viewed as

channels through which moves a vast flow of loanable funds that is continually being drawn upon by demanders of funds and continually being replenished by suppliers of funds.

The Money Market versus the Capital Market

The flow of funds around the world may be divided into different segments, depending on the characteristics of financial claims being traded and the needs of different investors. One of the most important divisions in the financial system is between the *money market* and the *capital market*.

money market

The **money market** is designed for making short-term loans. It is the institution through which individuals and institutions with *temporary* surpluses of funds meet the needs of borrowers who have *temporary* funds shortages (deficits). Thus, the money market enables economic units to manage their liquidity positions. By convention, a security or loan maturing within one year or less is considered to be a money market instrument. One of the principal functions of the money market is to finance the working capital needs of corporations and to provide governments with short-term funds in lieu of tax collections. The money market also supplies funds for speculative buying of securities and commodities.

capital market

In contrast, the **capital market** is designed to finance long-term investments by businesses, governments, and households. Trading of funds in the capital market makes possible the construction of factories, highways, schools, and homes. Financial instruments in the capital market have original maturities of *more than one year* and range in size from small loans to multibillion dollar credits.

Who are the principal suppliers and demanders of funds in the money market and the capital market? In the money market, commercial banks are the most important institutional supplier of funds (lender) to both business firms and governments. Nonfinancial business corporations with temporary cash surpluses also provide substantial short-term funds to the money market. On the demand-for-funds side, the largest borrower in the U.S. money market is the Treasury Department, which borrows billions of dollars weekly. Other governments around the world are often among the leading borrowers in their own domestic money markets. The largest and best-known corporations and securities dealers are also active borrowers in money markets around the world. Because of the large size and strong financial standing of these well-known money market borrowers and lenders, money market instruments are considered to be high-quality, “near money” IOUs.

In contrast, the principal suppliers and demanders of funds in the capital market are usually more varied than those in the money market. Families and individuals, for example, tap the capital market when they borrow to finance a new home. Governments rely on the capital market for funds to build schools and highways and provide essential services to the public. The most important borrowers in the capital market are businesses of all sizes that issue long-term debt instruments representing claims against their future revenues to cover the purchase of equipment and construction of new facilities. Ranged against these many borrowers in the capital market are financial institutions, such as insurance companies, mutual funds, security dealers, private equity and hedge funds, and pension funds, which supply the bulk of capital market funds.

Divisions of the Money and Capital Markets

The money market and the capital market may be further subdivided into smaller markets, each important to selected groups of demanders and suppliers of funds. Within the money market, for example, is the huge *Treasury bill* market. Treasury

FINANCIAL DEVELOPMENTS

The Financial System of Money and Capital Markets Viewed as a Supplier of Financial Services to the Public

The financial system performs the economic functions described in this section by providing financial services to the public. Therefore, it can be viewed as a collection of financial-service firms (FSFs) that produce and sell those financial services most in demand by the public. Among the financial services most widely sought by the public and distributed by financial institutions and markets are:

- *Payments services*, providing payments accounts against which the customer can write checks, wire funds, or use encoded cards or cell phones to pay for purchases of goods and services.
- *Thrift services*, providing attractive financial instruments with adequate safety and yield to encourage people, businesses, and governments to save for their future financial needs.
- *Insurance services*, providing protection from loss of income or property in the event of death, disability, negligence, or other adverse developments.
- *Credit services*, providing loanable funds to supplement current income through borrowing to sustain current living standards.
- *Hedging services*, providing protection against loss due to unfavorable movements in market prices or interest rates through such devices as futures, options, and other hedging instruments.
- *Agency services*, acting on behalf of a customer in managing retirement funds or other property (as a bank trust department or security dealer might do).

Key URL:

An interesting source of information on ongoing trends in financial services and the financial marketplace is *The Economist* from London at www.economist.com

bills—short-term IOUs issued by many governments around the world—are a relatively safe and popular investment medium for financial institutions, corporations of all sizes, and wealthy individuals.

Somewhat larger in volume is the market for *certificates of deposit* (CDs) issued by banks and other depository institutions to raise funds to carry on their lending activities. Two other important money market instruments that arise from large corporations borrowing money are *bankers acceptances* and *commercial paper*. In another corner of the money market, *federal funds*—the reserve balances of banks plus other immediately transferable moneys—are traded daily in huge volume. Another segment of this market reaches out to encompass suppliers and demanders of short-term funds in Europe, Asia, and the Middle East. This is the vast, largely unregulated *Eurocurrency market*, in which deposits denominated in the world's major trading currencies—for example, the dollar and the euro—are loaned to corporations and governments around the globe.

The capital market, too, is divided into several sectors, each having special characteristics. For example, one of the largest segments of the capital market is devoted to residential and commercial *mortgage loans* to support the building of homes and business structures, such as factories and shopping centers. In the United States, state and local governments sell their *tax-exempt (municipal) bonds* in another sector of the capital market. Households borrow using *consumer loans* to make purchases ranging from automobiles to home appliances. There is also an international capital market for borrowing by large corporations represented by *Eurobonds*.

Probably the best-known segment of the capital market is the market for *corporate stock* represented by the major exchanges, such as the New York Stock Exchange (NYSE) and the Tokyo Exchange, and a vast over-the-counter (OTC) market, including electronic stock trading over the Internet. No matter where it is sold, however, each share of stock (equity) represents a certificate of ownership in a corporation, entitling the holder to receive any dividends paid out of current company earnings and

to lay claim to any residual value left in the firm's assets after all its obligations are met. Businesses also sell a huge quantity of *corporate bonds* in the capital market each year to raise long-term funds. These securities, unlike shares of stock, are pure IOUs, evidencing a debt owed by the issuing company. Each of these financial instruments will be examined in detail in the chapters that lie ahead.

Open versus Negotiated Markets

open markets

negotiated markets

Key URLs:

For interesting and often useful information about corporate stocks and bonds, see such sites as <http://finance.yahoo.com>; <http://online.wsj.com>; www.leadfusion.com; and www.bloomberg.com

Another distinction between markets in the global financial system focuses on **open markets** versus **negotiated markets**. For example, some corporate bonds are sold in the open market to the highest bidder and are bought and sold any number of times before they mature and are paid off. In contrast, in the negotiated market securities generally are sold to one or a few buyers under private contract.

An individual who goes to his or her local banker to secure a loan for new furniture enters the negotiated market for personal loans. In contrast, the market for corporate stocks includes the major stock exchanges, which represent the open market. Operating at the same time, however, is the negotiated market for stock, in which a corporation may sell its entire stock issue to a handful of buyers.

Primary versus Secondary Markets

primary markets

secondary markets

The global financial markets also may be divided into **primary markets** and **secondary markets**. The primary market is for trading *new* securities. Its principal function is raising financial capital to support new investment in buildings, equipment, and inventories. You engage in a primary-market transaction when you purchase shares of stock just issued by a company or borrow money through a new mortgage to purchase a home.

In contrast, the secondary market deals in securities previously issued. Its chief function is to provide *liquidity* to security investors—that is, provide an avenue for converting existing financial instruments into cash. If you sell shares of stock or bonds you have been holding for some time to a friend or call a broker to place an order for shares currently being traded on the American, London, or Tokyo stock exchanges, you are participating in a secondary-market transaction.

The volume of trading in the secondary market is far larger than in the primary market. However, the secondary market does *not* support new investment. Nevertheless, the primary and secondary markets are closely intertwined. For example, a rise in security prices in the secondary market usually leads to a similar rise in prices on primary-market securities, and vice versa. This happens because many investors readily switch from one market to another in response to differences in price or yield.

Spot versus Futures, Forward, and Option Markets

We may also distinguish between *spot markets*, *futures* or *forward markets*, and *option markets*. A spot market is one in which assets are traded for immediate delivery (usually within one or two business days). If you pick up the telephone and instruct your broker to purchase Telecon Corporation stock at today's price, this is a spot market transaction. You expect to acquire ownership of Telecon shares today.

A *futures* or *forward market*, on the other hand, is designed to trade contracts calling for the *future delivery* of financial instruments. For example, you may call your broker and ask to purchase a contract calling for delivery to you of \$1 million in government bonds six months from today. The purpose of such a contract would be to shift risk to

Key URLs:

For further discussion of the importance of savings see www.bankrate.com and www.frbsf.org/publications/economics/letter/2002/el2002-09.html

Saving by individuals, businesses, and governments is vital to the support of *investment* since these savings are used to purchase new equipment and new facilities so the economy can grow and citizens can enjoy a rising standard of living. Unfortunately, for many decades the United States (along with Australia, New Zealand, and selected other nations) displayed one of the lowest personal savings rates by individuals and families on the planet. For example, the U.S. average savings rate has been well below average savings rates in Germany, Great Britain, France, Italy, South Korea, and Japan. In fact, the American personal savings rate actually turned *negative* in 2005 and 2006, mirroring the abysmal personal savings rate recorded during the infamous Great Depression of the 1930s.

We are not entirely sure why this occurred. One explanation may be that while older generations remember the Great Depression and are more conservative in their consumption behavior, younger consumers have lived through periods of sustained prosperity that has encouraged more aggressive spending at the expense of saving. In addition, in recent years, prior to the great credit crisis of 2007–2009, the value of homes and the stock market—the two principal sources of household wealth—rose dramatically, making households feel wealthier with less pressure to save for tomorrow.

Another factor may have been the U.S. government's Social Security and Medicare programs, which promise workers a minimal level of retirement income, thus reducing the apparent need for maintaining a reservoir

of personal savings. Moreover, bouts of inflation in the prices of goods and services stimulated more personal spending and further discouraged savings, as the meager returns on conventional savings instruments (such as deposits in banks and credit unions) looked increasingly less attractive. Indeed, interest rates on savings were among the lowest in history. Nevertheless, the relatively low savings rate had the downside of seeming to predict a low future volume of investment by firms, and hence a reduced capacity to produce goods and services in the future. Living standards could suffer, growing more slowly or even declining.

Then, a remarkable reversal of savings patterns occurred beginning in 2007. The onset of the worst economic downturn since the Great Depression seems to have awakened households to the need to avoid prolonged periods of profligate spending. High unemployment and the wealth destruction that accompanied the bursting of the housing bubble and the collapse of the stock market encouraged much more conservative spending habits. Households began saving and reducing their debts. By 2007 and 2008, personal saving as a percentage of disposable (or after-tax) personal income rose to nearly 4 percent from the 1 to 2 percent that prevailed months before. Perhaps the recession of 2007–2009 had a modest silver lining, encouraging households to work more diligently on building their personal savings for “rainy days” and to be a little more leery of asset bubbles such as those that occurred in the housing market and the stock market in the recent past.

some individual or institution willing to bear that risk by agreeing upon a delivery price today rather than waiting six months when government bonds might cost a lot more.

Finally, *options markets* also offer investors in the money and capital markets an opportunity to reduce risk. These markets make possible the trading of contracts that give an investor the right to either buy designated securities from or sell designated securities to the writer of the option at a guaranteed price at any time during the life of the contract. Options make it possible to lock in prices of assets no matter which way those prices move before the options expire. In future chapters we will see more clearly how and why such transactions take place when we explore the financial futures and options markets.

1.5 Factors Tying All Financial Markets Together

Each corner of the financial system represents a market segment with its own special characteristics. Each segment is insulated from the others to some degree by investor preferences and by rules and regulations. Yet when interest rates and security prices

change in one corner of the financial system, *all* the financial markets likely will be affected eventually. This implies that, even though the financial system is split up into many different markets, there are forces at work to tie all financial markets together.

Credit, the Common Commodity

One unifying factor is the fact that the basic commodity being traded in most financial markets is *credit*. Borrowers can switch from one credit market to another, seeking the most favorable credit terms wherever they can be found. It is not uncommon, for example, for an oil company to finance the construction of a drilling rig through short-term loans from the money market when interest rates in the capital market are unusually high, but to seek long-term financing of the project later on when capital market conditions are more favorable. The shifting of borrowers between markets helps to weld the parts of the financial system together and to bring credit costs in different markets into balance with one another.

Speculation and Arbitrage

speculators

Another unifying element is profit seeking. **Speculators** are continually on the lookout for opportunities to profit from their forecasts of future market developments. The speculator in the financial marketplace gambles that security prices or interest rates will move in a direction resulting in quick gains due to his or her ability to outguess the market's collective judgment. Speculators perform an important function in the markets by leveling out asset prices, buying those they believe are underpriced and selling those thought to be overpriced.

arbitrage

Key URL:

For an overview of the concept of *arbitrage*, see especially www.finpipe.com/derivglossary.htm

Still another unifying force in the financial markets comes from investors who watch for profitable opportunities to **arbitrage** funds—moving funds from one market to another whenever the prices of assets in different markets appear to be out of line with each other. *Arbitrageurs* buy assets in markets where assets seem to be undervalued and sell in those markets where assets appear to be overvalued. They help to maintain *consistent prices between markets*, aiding other buyers in finding the best prices with minimal effort.

1.6 The Dynamic Financial System

There is an old saying: “You cannot step into the same river twice, for rivers are ever flowing onward.” That statement can be applied to the global system of financial institutions and markets—it is rapidly changing into a *new* financial system powered by *innovation*, as new financial services and instruments continually appear to attract customers. Major trends are under way to convert smaller national financial systems into an integrated global system, at work 24 hours a day to attract savings, extend credit, and fulfill other vital roles. Satellites, computers, and other automated systems now tie together financial-service trading centers as widely dispersed as London, New York, Tokyo, Singapore, and Sydney. This process of integrating financial systems globally has been aided by gradual deregulation of financial institutions and services on the part of leading industrialized nations (such as the United States, China, Japan, and members of the European Economic Union). Many of these countries have been working to “harmonize” their regulations so that financial-service firms operate under similar rules no matter where they are located. Industrial

Unethical behavior—the violation of a written or unwritten moral code—surfaces almost everywhere in our world, including the global system of financial institutions and markets. In fact, when financial firms and markets are depressed with falling profits and declining asset prices, scandals and criminal activities often appear in droves. Such was certainly the case during the great credit crisis of 2007–2009, when many banks and other financial-service providers failed, thousands of jobs were lost, corporate earnings frequently evaporated, and many customers discovered their investments were depleted in the hands of unscrupulous market traders. Public trust, so vital to the efficient functioning of the financial system, was virtually erased.

Certainly the most prominent recent example was the Madoff scandal—a massive Ponzi scheme in which money contributed by newly attracted investors was used to pay off what was owed to previous investors, thus keeping the scheme growing. Ultimately, Madoff's clients, who numbered in the thousands, posted more than \$65 billion in investment losses. Some participants in this scheme apparently committed suicide or fled after investigations were launched by federal and state authorities. Some of the world's biggest charities lost their financial support and scores of individuals lost their retirement funds. Lawsuits proliferated as irate investors sought to recover at least a fraction of what they thought they were owed. In 2009 Bernard Madoff, then in his seventies, was sentenced in federal court to 150 years in prison (the most permitted by law) and subjected to a court order to make restitution to individuals and institutions in the amount of \$170 billion. All this was punishment for the largest investor fraud ever committed by an individual in the history of the world.

In financial markets that are troubled, secrecy about financial transactions often clouds the public's

understanding of what is happening. Key information is often withheld. Besides the huge Madoff Ponzi scheme, another example is the thousands of mortgage lenders who made exorbitant claims about the benefits of cheaper home mortgages and granted loans to home buyers that the latter could not afford. These fraudulent and misleading loan transactions often included home loans bearing initially low "teaser" rates (such as 1 to 4 percent) that subsequently were raised much higher, well beyond any raises home buyers received from their employers. There were also numerous "interest only" home loans that allowed borrowers to postpone repayment of loan principal for several years. Unfortunately, many mortgage lenders failed to explain to their borrowing customers the adverse long-run effects of changing loan terms, particularly if loan rates rose and housing values declined.

Even some of the world's largest financial institutions fell victim to a lack of information and understanding regarding the high risk of subprime (low-quality) home mortgages and of packaged loans that emerged from pooling thousands of risky mortgage loan transactions. Established decades ago, towering financial institutions such as investment bankers Bear Stearns and Lehman Brothers bought into many of these packaged mortgage deals and soon found themselves overwhelmed with illiquid, nearly worthless assets that could be sold only for a fraction of their original cost. Misleading information about risk allowed a few unscrupulous traders to take advantage of the many who misunderstood what they had gotten themselves into. Many financial firms either failed, as was the case of Lehman Brothers, or were bought out for pennies on the dollar by larger, better-focused institutions (as was the case when leading New York banker JPMorgan Chase bought Bear Stearns). Public confidence in the financial sector nearly disappeared for a time.

Key URLs:
Working in the financial institutions and markets sector can be an exciting career. For jobs information see especially www.careers-in-finance.com/cb.htm or www.bai.org/careers/listings.aspx

and various nonfinancial companies (such as Walmart, GE, and Toyota) are invading the financial-services field in growing numbers, tying the performance of the economy ever more closely to the performance of the financial marketplace. The results have been increasingly intense competition for customers, the development of many new financial services, and a wave of mergers among financial firms, many of which extend beyond national boundaries. One of the purposes of this book is to help you understand why these global trends are occurring and what they are likely to mean for all of us in the future.

QUESTIONS TO HELP YOU STUDY

11. Can you distinguish between the following institutions?
 - Money market versus capital market*
 - Open market versus negotiated market*
 - Primary market versus secondary market*
 - Spot market versus forward or futures market*
12. If we follow financial institutions and markets around the world each day, it soon becomes apparent that interest rates and asset prices in different markets tend to move together, albeit with leads and lags. Why do you think this is so?
13. What are some of the forces that appear to tie all financial institutions and markets together and often result in common movements in prices and interest rates across the whole financial system?
14. What is meant by the term *dynamic financial system*? What trends appear to be reshaping the system of financial institutions and markets?

1.7 The Plan of This Book

This text is divided into eight parts, each devoted to a particular segment of the global system of financial institutions and markets. Part 1 provides an overview of the global financial system—its role in the world’s economy and basic characteristics. The vital processes of saving and investing and lending and borrowing are described. Part 1 also surveys the principal sources of information available today on the workings of the worldwide financial marketplace. Finally, the fourth and last chapter of Part 1 provides an overview of the great credit crisis of 2007–2009—its causes, dimensions, and proposed remedies.

Part 2 examines forces that shape interest rates and the prices of financial instruments. Because the rate of interest is the key price in the financial system, this section begins in Chapter 5, with a presentation encompassing a variety of views about how interest rates are determined. Subsequent chapters address such important topics as the measurement of interest rates and financial asset prices, yield curves and duration, and the impact of inflation, the risk of default, and taxes, among other factors, on interest rates and asset prices. Part 2 concludes with a review of methods for hedging against interest rate and asset price changes, including swaps, futures, and options.

Part 3 draws our attention to the money market—its principal financial institutions and instruments—and to a government institution that often dominates the tone of the money market—the central bank. Chapters in this section examine the characteristics of Treasury bills, federal funds, repurchase agreements, certificates of deposit, commercial paper, federal agency securities, bankers acceptances, and Eurocurrency deposits. Part 3 also presents a thorough examination of the many roles and functions of a central bank within the financial system, including an in-depth look at the history, organizational structure, and policy tools of the Federal Reserve System as well as the policy tools used by other central banks around the world. Part 3 concludes with a review of the goals and targets for implementing central bank monetary policy.

In Part 4, the spotlight turns to private financial institutions—commercial banks, credit unions, savings associations, money market funds, insurance companies, pension funds, mutual funds, investment banks, and other financial-service firms. The reader is presented with an overview of their characteristics, regulation, current problems, and management tools designed to deal with those problems.

Part 5 turns to the key roles that governments and businesses play within the global capital markets. The opening chapter of this section explores the fiscal and debt management policies of the U.S. government, followed by an overview of state and local government borrowing, spending, and taxation. Chapter 19 takes up the topic of business borrowing, including the pricing and marketing of corporate bonds and asset-backed securities, while Chapter 20 tackles the many facets of the volatile corporate stock market.

Part 6 examines the highly important roles that households (individuals and families) perform within the global financial system. In particular, Chapter 21 looks at the types of consumer debt and savings instruments available today and reviews current laws that protect the financial-services consumer. Chapter 22 closes this section with an overview of the residential mortgage market—one of the largest of all financial markets. It explores the array of different types of home loans that have appeared in recent years and how this huge market has wrestled first with rapid growth and then with awesome retreat.

Part 7 focuses upon the international financial system. Topics covered include international trade and a nation's balance of payments, the markets for foreign currencies, hedging against currency risk, and international banking.

Finally, Part 8 centers on a concluding chapter devoted to the future of the financial system. It examines important changes going on within our global financial marketplace and how these economic, demographic, and regulatory changes continue to reshape what financial markets and institutions will probably look like in the years and decades ahead.

Throughout this text there is a strong emphasis on the innovative character of modern financial institutions and markets. A veritable explosion of new services and trading techniques has occurred in recent years. Moreover, the current pace of innovation in financial services may eventually climb skyward again under the combined pressure of competition and rising costs. As we will see in the pages that follow, the forces of innovation, competition, consolidation, cost, and other factors are profoundly reshaping the structure and daily operations of our whole system of institutions and markets today. Even more important, however, are recent systemic changes flowing out of a global marketplace that clearly is in trouble and is struggling to mend itself and rise yet again.

Summary of the Chapter's Main Points

The opening chapter of *Financial Institutions and Markets* presents us with an introduction to the global financial system in which institutions and markets play central roles. It also highlights the principal institutions that shape the character and functioning of the world's financial marketplace.

- The *system of financial institutions and markets* produces and distributes financial services to the public. Among its most important services is a supply of *credit* that allows businesses, households, and governments to invest and acquire assets they need to carry on daily economic activity. The financial system of money and capital markets determines both the amount and cost of credit available. In turn, the supply and cost of credit affect the health and growth of the global economy and our own economic welfare.
- Credit and other financial services are offered for sale in the institution we call a *market*. Markets price and allocate resources that are scarce relative to demand.

- Another key role played by markets operating within the financial system is to generate an adequate volume of *savings* (i.e., funds left over after current consumption spending by households and earnings retained by businesses) and to transform those savings into an adequate volume of *investment* (i.e., the purchase of capital goods and the buildup of inventories of goods to sell). Investment generates new products and services and creates new jobs and new businesses, resulting in faster economic growth and a higher standard of living. By determining interest rates within the financial system, financial institutions and markets help to bring the volume of savings generated by the public into balance with the volume of investment in new plant and equipment and in inventories of goods and resources available for sale.
- One important way to view the system of financial institutions and markets is by examining its seven key functions or roles in meeting the financial-service needs of individuals and institutions, including generating and allocating savings, stimulating the accumulation of wealth, providing liquidity for spending, providing a mechanism for making payments, supplying credit to aid in the purchase of goods and services, providing risk-protection services, and supplying a channel for government policy in helping achieve the nation's economic goals (including maximum employment, low inflation, and sustainable economic growth).
- The markets that comprise the financial system may be classified in several different ways, including *money markets*, supplying short-term loans (credit) of less than a year, and *capital markets*, supplying long-term loans (credit) lasting longer than a year. There are also *open markets* where anyone may participate as buyer or seller versus *negotiated markets* where only a few bidders seek to trade assets. There are *primary* versus *secondary* markets; in the former, *new* financial instruments are traded in contrast to the latter where existing instruments are exchanged. Additional types of financial markets that make up the global financial system include markets that deal in the immediate purchase or sale of goods or services, called *spot markets*, and those that promise future delivery, known as *futures*, *forward*, or *option markets*.
- While many different segments make up the system of financial institutions and markets around the globe, these institutions and markets share the common purpose of supplying credit to answer global demands for borrowed funds and encourage saving to make investment (and, therefore, economic growth) possible. Funds flow easily and, for the most part, smoothly from one segment of the financial marketplace to another, spurred by such forces as *arbitrage* and *speculation*. For example, *arbitrage* causes credit, savings, and investment to flow toward those segments of the financial system that offer the most favorable returns, helping to price resources more consistently and to eliminate price disparities for the same goods and services. Prices are also brought into balance from market to market by the force of *speculation*, which seeks out underpriced and overpriced services and assets.
- The system of financial institutions and markets is rapidly becoming a new financial system due to the dynamic trends sweeping through it. Among the most prominent trends are service innovation, improvements in communications technology, and increasingly intense competition to find and hold new customers.

Key Terms Appearing in This Chapter

financial system, 3	credit, 9
market, 4	money market, 12
financial market, 6	capital market, 12
savings, 6	open markets, 14
investment, 6	negotiated markets, 14
wealth, 8	primary markets, 14
net worth, 8	secondary markets, 14
financial wealth, 8	speculators, 16
net financial wealth, 8	arbitrage, 16
liquidity, 9	

Problems and Issues

1. Identify which of the following statements is correct and which is false. If the statement is false, identify the error and correct the statement.
 - a. The change in a household's wealth over a quarter is its income minus its expenses plus interest earned on its wealth held at the beginning of the period.
 - b. The market value of a household's home is equal to the equity that the household has in the home and is therefore part of the household's net worth.
 - c. The saving and wealth functions performed by the financial markets enable households to increase current consumption at the expense of future consumption.
2. Which of the following economic functions that financial markets perform would be best represented by the following properties of U.S. Treasury bills: (i) the fact they retain their value over time and (ii) their ability to be sold on short notice at their true market value?
 - a. Liquidity and risk protection
 - b. Wealth and liquidity
 - c. Policy and wealth
 - d. Risk protection and policy
3. John Jacobs looks over his balance sheet from the beginning of the month. He observes that his assets include: (i) a market value of \$120,000 for his home; (ii) \$25,000 in corporate stock; (iii) a Treasury bill with a face value of \$1,000 to be received at the end of the month, for which the current market value was \$983; (iv) a bank deposit account of \$6,000; and (v) some miscellaneous items that he values at \$35,000. His only outstanding liability is the mortgage on his house, which has a balance totaling \$40,000. It is now the end of the month and he just received his \$6,000 salary, along with the income from the maturing T-bill and interest on his bank deposits, which were paying an annualized interest rate of 2 percent ($\frac{2}{12}$ percent per month). His mortgage payment was \$1,500, of which \$500 would go toward the principal. His other expenses for the month came to \$4,000. He had planned to make an additional house payment

for the month, all of which would go to paying down the principal on the loan. However, his daughter is in college and wants to go to the Bahamas for spring break. The expense of her trip would be an additional \$1,800.

- a. Would he be able to make the additional house payment and fund his daughter's trip without reducing his account balance in the bank deposit account?
 - b. What would his net worth be if he funded his daughter's trip and made the additional mortgage payment?
 - c. What would his net worth be if he did not fund his daughter's trip and made the additional mortgage payment?
 - d. Would his net worth change if he decided to fund the trip, but did not make the additional mortgage payment? Explain.
4. George Wintle purchased a new home valued at \$200,000. He paid a 20 percent initial down payment. He looked at his balance sheet to determine what his cash flow would be for the month. His new mortgage payment was \$1,200, of which only \$100 would go toward the principal in the first month. He had a bank deposit account of \$3,500, which he had set aside for a short vacation. He also owned \$3,000 in corporate stock. His income for the month was \$5,000, but he anticipated receiving a sales bonus of \$1,500. He estimated his usual monthly expenses, other than his mortgage, to be \$3,500.
- a. If his estimates are all accurate, would he have any additional income left over at the end of the month that he could add to the money he had set aside for his upcoming vacation?
 - b. If he failed to receive the sales bonus, would he have to sell stock to keep from drawing down his bank deposit account and having to curtail his vacation?
5. Megan Morgan recently graduated from college and was just hired at a large retail firm for \$36,000 per year. She estimates her personal belongings to be worth \$7,800. She has school loans of \$10,000 that will require her to make monthly payments of \$125 for the next 10 years. She rents an apartment for \$550 per month and estimates that she will have monthly expenses for utilities, phone, cable, and so forth of \$150. She needs a car and has a small noninterest-bearing bank account of \$2,000. She could either buy a used car for \$1,600 or take out a loan for \$10,000 for a new compact. The new loan would require a down payment of \$2,000 and five years of monthly payments of \$350. Her parents are willing to give her \$1,000 for graduation, which she could apply to the purchase of a car. Megan estimates that \$1,600 per month in discretionary income would be comfortable for her to live on.
- a. What was her net worth when she graduated?
 - b. How much discretionary income would she have each month if she bought the new car? Would it be feasible for her to save \$250 per month and make all her payments?
 - c. What would her discretionary income be after the first month if she bought the used car? Could she now save that \$250 per month?
6. Classify the market in which each of the following financial transactions takes place as: (i) money versus capital, (ii) primary versus secondary, (iii) open versus negotiated, or (iv) spot versus futures or forward.
- a. A contract to receive wheat three months from today.
 - b. The purchase of a share of IBM on the New York Stock Exchange.

- c. A six-month CD purchased from your bank.
 - d. A newly issued three-month Treasury bill purchased at the government's weekly auction.
 - e. You open a bank savings account.
 - f. You write a check to purchase for cash.
7. At the end of the calendar year, a firm has total financial assets amounting to \$4.32 billion, while its total liabilities are \$3.58 billion. What is the firm's net financial wealth? If the firm saved \$50 million over the previous year, representing the amount by which its financial assets rose relative to its liabilities, and it had begun the year with \$3.72 billion in total financial assets, how much did it earn on its previously accumulated assets?
 8. One definition of pure arbitrage is to combine a series of investments with a series of debts such that the net dollar investment is zero, no risk is taken, and a profit is made. How does this concept of pure arbitrage differ from pure speculation? Do you think that arbitrage opportunities can really exist? If so, do you think the opportunities for pure arbitrage would be long-lived? Please explain.

Web-Based Problems

1. Your text defines the wealth of a business firm as the sum of all its assets. To determine its *net* wealth (or total equity) you have to subtract the firm's liabilities from its assets. Net wealth is the value of the firm and should be reflected in its market capitalization (or stock price times the number of shares outstanding). Firms in different industries will require different amounts of wealth to create the same market value (or market capitalization). In this problem you are asked to compare the wealth (total assets), net wealth (assets less liabilities), and market capitalization of a large firm in each of the following industries: Financial Services (Citigroup, ticker symbol C); Manufacturing (Caterpillar, CAT); and High Tech (Microsoft, MSFT). Using the financial resources of the World Wide Web, key in each firm's ticker symbol and find its most recent balance sheet and market capitalization. Are you surprised by how different these firms are in terms of the dollar value of assets required to create \$1 of market value?
2. A large share of household wealth is held in the form of corporate stock. How much wealth does the entire stock market represent? To find an approximate answer, go to the Web site for Wilshire Associates at www.wilshire.com and click Indexes from the menu. Locate the information that explains how the Wilshire 5000 Index is constructed. This index is weighted by the market capitalization of the firms included in it, such that if you add the right amount of zeros to the index, you obtain the total value of all the firms represented in the index. Why is this number a good approximation to the entire U.S. stock market? Now obtain a chart for the index. How much stock market wealth has been created or destroyed over the past 12 months? Determine how much stock market wealth was created or lost *per person* in the United States over this period. (Hint: You can find the U.S. population at

www.census.gov/main/www/popclock.html.) Compare this with the average after-tax annual income *per person* in the United States. Use the disposable personal income figure that can be found under “Selected NIPA Tables: Table 2.1” at www.bea.gov/national/nipaweb/index.asp to make the comparison.

3. One of the world’s most important financial markets we will study throughout this book is the market for U.S. Treasury securities. It is important because it is one of the few default-free, highly liquid debt instruments available anywhere in the financial marketplace. To determine the size of this market go to the Treasury Department’s Web site at www.treasurydirect.gov and find the *Monthly Statement of the Public Debt (MSPD)*. How much debt does the U.S. government owe *per person* in the United States? (See Web-Based Problem 2 on how to find the U.S. population figure.) How much of this debt is held by the public and how much by government agencies? Only a portion of this debt—termed “marketable”—is traded daily in the system of financial institutions and markets. The remainder is held by the buyer until it matures. How much of this public debt is “marketable”?

Selected References to Explore

1. Emmons, William R. “Wealth Gains Don’t Offset Decline in Savings,” *The Regional Economist*, Federal Reserve Bank of St. Louis, July 2006, pp. 10–11.
2. Garner, S. Alan. “Should the Decline in the Personal Saving Rate Be a Cause for Concern?” *Economic Review*, Federal Reserve Bank of Kansas City, Second Quarter 2006, pp. 5–28.
3. Kliesen, Kevin L. “Families Digging Deeper into Debt,” *The Regional Economist*, Federal Reserve Bank of St. Louis, July 2006, pp. 12–13.
4. Lansing, Kevin J. “Spendthrift Nation,” *FRBSF Economic Letter*, Federal Reserve Bank of San Francisco, November 10, 2005, pp. 1–3.
5. Nakamura, Leonard. “The Mismeasured Personal Savings Rate Is Still Useful: Using Real Time Data to Improve Forecasting,” *Business Review*, Federal Reserve Bank of Philadelphia, Fourth Quarter 2008, pp. 9–20.
6. Poole, William, and David C. Wheelock. “The Real Population Problem: Too Few Working, Too Many Retired,” *The Regional Economist*, Federal Reserve Bank of St. Louis, April 2005, pp. 5–9.
7. Steindel, Charles. “How Worrisome Is a Negative Saving Rate?” *Current Issues in Economics and Finance*, Federal Reserve Bank of New York, May 2007, pp. 1–7.
8. Yellen, Janet L. “The Mortgage Meltdown, Financial Markets, and the Economy,” *FRBSF Economic Letter*, Federal Reserve Bank of San Francisco, November 7, 2008, pp. 1–7.