

Chapter 8

Money, Banking, Saving, and Investing

How should you spend, save, and invest your money?

■ 8.1 Introduction

If you had a paperclip to trade, what do you think you could get for it? If your answer is not much, think again. Kyle MacDonald, an unemployed 25-year-old from Montreal, Canada, traded one red paperclip for a house. Well, actually he started with the paperclip, and 14 trades later he ended up with a house.

How did he do it? MacDonald posted each of his trade offers online using a popular trading site and his own Web site. His purpose was clear from the start. “I’m going to make a continuous chain of ‘up trades’ until I get a house,” he wrote on July 12, 2005.

MacDonald promised to go anywhere to make a trade. While visiting Vancouver, British Columbia, he traded the red paperclip for a pen shaped like a fish, and then he went to Seattle, Washington, for a sculpted doorknob. He traveled to Massachusetts for a camping stove, California for a generator, and New York for supplies to throw a party.

The next trade, for a snowmobile, really got things rolling. The trader was a well-known radio and television personality in Quebec. Soon the national media in Canada and the United States were running stories about the “paperclip guy.”

The trades then came fairly quickly—a trip to a town in British Columbia, a van, a recording contract, and a year’s free rent of a house in Phoenix, Arizona.

People spend, save, and invest their money in various ways.

Speaking of Economics

bank

A business whose main purpose is to receive deposits and make loans.

assets

Anything owned to which a market value can be assigned.

credit card

A card authorizing the user to buy goods and services with funds borrowed from the bank, store, or other business that issued the card.

debit card

A card authorizing the user to access his or her own funds on deposit in a bank account. A debit card can be used to buy goods and services or to withdraw money directly from an account.

saving

Setting aside a portion of income for use in the future.

interest

A periodic payment for the use of borrowed funds. When calculated as a simple percentage of the amount borrowed, this payment is also known as simple interest.

principal

The amount of money borrowed, or the amount of money still owed on a loan, apart from the interest.

investing

Using money with the intention of making a financial gain.

diversification

A method of lowering risk by investing in a wide variety of financial assets.

MacDonald was nearing his goal. In the next few months, he “up traded” an afternoon with rock star Alice Cooper for a fancy motorized snow globe, the globe for a movie role, and the movie role for—yes—a house. Through barter, with no exchange of money, MacDonald had turned a red paperclip into a house in one year’s time.

Kyle MacDonald’s triumph proved that barter is alive and well in our market economy, but did it also show that money is obsolete? It did not. If anything, MacDonald showed how much we need money—even to accomplish a wildly successful series of barter. Throughout his adventure in bartering, MacDonald relied on money to meet his everyday wants and needs. He used money to pay for his food, clothing, shelter, phone calls, and airplane trips across the continent. Money made his bartering adventure possible.

MacDonald spent money chasing his dream. That was his choice. You have also probably made choices about what to do with your hard-earned cash. Those choices will only become more complicated as you take on more responsibility for supporting yourself. This chapter may help make that transition easier by giving you some insight into how you might choose to spend, save, and invest your money.



Starting with a red paperclip, Kyle MacDonald traded his way up to this house. “It’s ‘official,’” he wrote on his Web site. “I traded one movie role for one house with the town of Kipling Saskatchewan on July 12, 2006.”

8.2 What Makes Money . . . Money?

Kyle MacDonald managed to get the house he wanted using barter. To do this, he relied on a coincidence of wants. People wanted what he had, and he wanted what they had. MacDonald also relied on the publicity his adventure generated. Media stories of the “paperclip guy” brought him lots of eager traders.

Of course, MacDonald could have used money to buy a house. With money, you don’t need coincidence or publicity to get the things you want. Producers gladly accept money in return for goods and services. When economists define money, they focus on that acceptability. Money, they say, is anything that is generally accepted as a means of payment. Economists further describe money according to its main functions and characteristics.

Money Has Three Basic Functions

Money is obviously useful to us in our economic lives. In fact, it is hard to imagine living without it. Money functions in three key ways: as a medium of exchange, as a standard of value, and as a store of value.

Medium of exchange. Money is a medium, or means, of exchange. It enables us to carry out trade and commerce easily, much more easily than through barter. For example, rather than trying to find someone willing to take, say, a dozen pairs of flip-flops in trade for a new backpack, you can just hand a store clerk a quantity of dollars—the established medium of exchange in the United States. U.S. dollars are this country’s **legal tender**—they must be accepted as money for purchases and as payment for a debt.

Standard of value. Money also serves as a standard of value. It allows us to measure and compare the value of all kinds of goods and services using one scale. If we had no standard of value, it would be much harder to compare prices. For example, imagine seeing advertisements from two stores. One advertises a backpack for sale for nine pairs of flip-flops. The other has the same backpack advertised for five T-shirts. Without a common standard of value, how would you know which backpack costs more?

Store of value. Something is a store of value if it holds its value over time. A banana would be a poor store of value because it spoils quickly. A rotten banana has

Key Concept

Purchasing Power

Purchasing power is the value of a unit of money, such as a dollar, measured in terms of what it can buy. Ideally, a dollar in your pocket today will have the same purchasing power a year or more from now. In reality, slowly rising prices tend to erode purchasing power over time. You can see this erosion of purchasing power by examining how much gasoline a dollar would buy over time.



lost much or all of its original value. Money, however, holds its value over time.

Put another way, money maintains its purchasing power over time. **Purchasing power** refers to the quantity of goods and services that can be bought with a particular sum of money. The \$5 you have in your pocket today will buy \$5 worth of goods or services now and for some time into the future. This stability allows you to hold on to your money, knowing you can spend it just as well tomorrow as today.

Although money stores value very well, it is not a perfect store of value because prices tend to rise over time. For example, your \$5 will always get you \$5 worth of pencils. However, the number of pencils you can get for that price may decrease over time.

Money Has Six Main Characteristics

For money to perform its three primary functions well, whatever people use as money should exhibit the six characteristics listed below. As you read about these characteristics, think about how well they apply to a substance that was once widely used as money: salt.

Acceptability. The most important characteristic of money is acceptability. In order for you to buy something, the seller must be willing to accept what you offer as payment. In the same way, when you sell your services—your labor—you must be willing to accept what your employer offers as payment, or wages, in exchange.

In ancient times, traders throughout the Mediterranean region accepted salt as a medium of exchange. Roman soldiers received, as part of their wages, an allotment of salt known as a *salarium*. From that Latin term comes the English word *salary*.

Scarcity. Whatever is used as money needs to be scarce enough to be valued by buyers and sellers. Throughout history, many cultures have used gold or silver as a medium of exchange. The relative scarcity of these metals adds to their value. If gold and silver were as common as sand, these metals would cease to be used as money.

In ancient times, salt was scarce in many parts of the world. Yet the demand for salt was great. People seasoned and preserved foods with salt and used it in religious ceremonies. Scarcity, coupled with high demand, made salt a valued commodity.

Portability. To be convenient as a medium of exchange, money must be portable. People must be able to carry it with them easily.

Salt is portable—to some extent. But imagine lugging several large bags of salt with you to the mall. And think about the mess you might make paying for a pair of jeans with three cups of salt. By today's standards, salt fails the portability test.

Durability. If money is to serve as a store of value, it must be durable. Moreover, any medium of exchange must be able to withstand the physical wear and tear of being continually transferred from person to person.

Salt can last a long time, but only if kept dry. Think how you would feel if a rainstorm dissolved and washed away your fortune. Salt fails the durability test.

Divisibility. To be useful as a medium of exchange, money must be easy to divide into smaller amounts. To understand why, imagine an economy that uses glass bowls as its medium of exchange. Buyers in that economy would be unable to buy anything worth less than one bowl, because the seller would be unable to provide change. Shards of broken glass would be too hazardous to use as change for something worth just half of a bowl.

A bag of salt, on the other hand, can be split into ever-smaller amounts. This ease of divisibility once made salt a useful medium of exchange.

Uniformity. A dollar is a dollar is a dollar. We take for granted that each dollar bill is the same as the next. Why is such uniformity important? Consider an economy in which pumpkins are the chosen medium of exchange. Pumpkins come in all sizes and weights. Could a large pumpkin be exchanged for more goods than a small pumpkin? How would producers and consumers agree on the value of any one pumpkin?

Like dollar bills, all salt is pretty much the same. Thus salt passes the uniformity test, as it does the tests of acceptability, scarcity, divisibility, and—for ancient traders—portability. Historically, salt had most of the characteristics of a useful medium of exchange.

A Brief History of Money

Gold, silver, and salt have all served as money at some time in history, and so have shells, cattle, beads, furs, and tobacco. Economists categorize all of these items of exchange as **commodity money**. A commodity—a good that has value in trade—becomes commodity money when it is used as a medium of exchange. The value of commodity money is about the same as the value of the commodity it consists of.

Commodity money was used for thousands of years, all over the world. Of all the many commodities used as money, precious metals such as gold and silver were historically preferred over other forms of commodity money. These metals had all the useful characteristics of money, since they were scarce, portable, durable, divisible, and, best of all, acceptable. In the form of bars and coins, these metals could even be made uniform.

Key Concept

The Six Characteristics of Money

Economists have identified six characteristics that allow money to serve as a medium of exchange, a standard of value, and a store of value. The most important of the six is acceptability. If people won't accept something as money, then it's not money. Some forms of money exhibit the six characteristics better than others.



Rice in Japan



Wampum belt in North America



Spanish pieces of eight



Modern-day euro

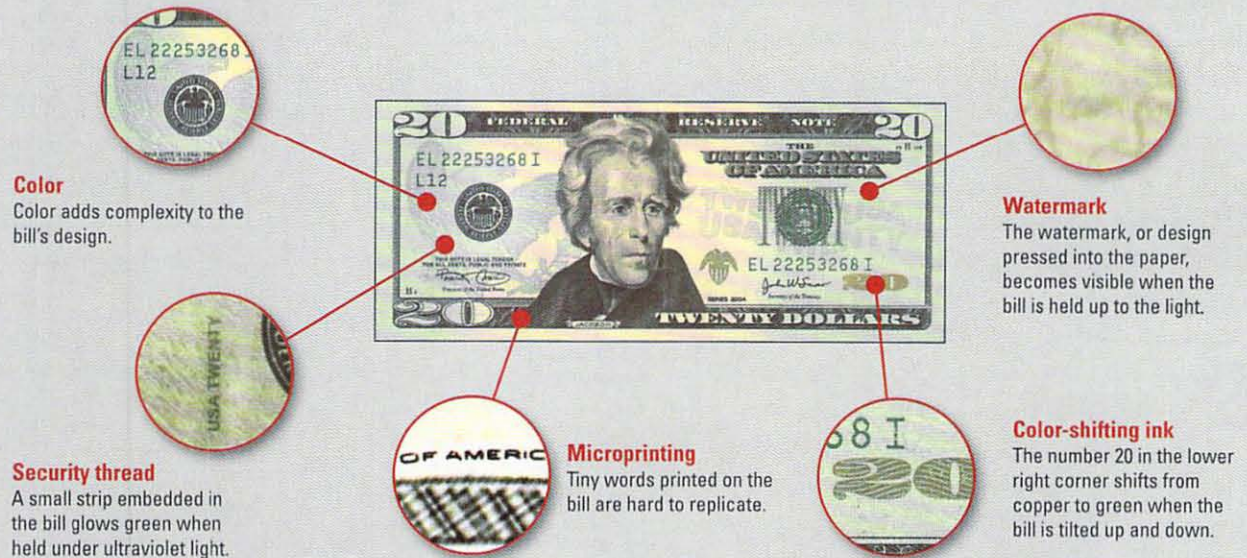
Acceptability Scarcity Portability Durability Divisibility Uniformity



Figure 8.2

Safeguarding U.S. Currency

In the 1990s, the Treasury Department began redesigning U.S. currency to make it harder for counterfeiters to create fake bills. The redesigned \$20 bill went into circulation in 2003. Which aspect of the redesign do you think would be the most difficult for a counterfeiter to copy?



As trade flourished in Europe during the Renaissance, wealthy merchants and nobles needed safe places to store their gold and silver bars and coins. In the larger cities, private banks arose to meet this need. A **bank** is a business that receives deposits and makes loans. A **loan** is a transaction in which a lender gives money to a borrower, who agrees to repay the money at some point in the future.

These early banks accepted depositors' precious metals and in return gave the depositors elaborate paper receipts known as **banknotes**. The banks promised to exchange these banknotes for gold or silver "on demand"—that is, whenever the holder asked for such an exchange.

Economists call banknotes given in exchange for gold and silver **commodity-backed money**, or representative money. The notes had minimal value in and of themselves. One could not eat them, wear them, or otherwise consume them. As commodity-backed money, they had value only as a medium of exchange.

These banknotes were the forerunners of modern printed money issued by governments. However, there is a big difference between the two. Paper money today is no longer backed by gold, silver, or

any other commodity. It has value only because it is generally accepted as a means of payment.

That acceptance comes in part because governments declare that the paper notes they issue *are* money. You can read this declaration, for example, on any bill issued by the U.S. government:

This note is legal tender for all debts, public and private.

In the past, such government decrees were known as **fiats**. Thus paper money issued without the backing of gold or silver came to be known as **fiat money**.

U.S. dollars may not be backed by gold or silver, but they are backed by the full faith and credit of the U.S. government. As long as consumers believe they can purchase goods and services with dollars, people will continue to use dollars as a medium of exchange.

What Counts as Money Today

When people nowadays think of money, they most often think of cash, in the form of paper bills or metal coins. Together, bills and coins circulating throughout the economy are known as **currency**.

Currency, however, is only part of a nation's **money supply**, or the total amount of money in the economy. What else counts as money? The answer depends on the kinds of **assets** economists choose to count as money in addition to currency.

The most common measure of money used by economists today is known as M1. Besides coins and bills, **M1** includes **liquid assets** that can be used as cash or can easily be converted into cash.

Currency makes up about half of the M1 money supply. Most of the rest consists of what economists call **checkable deposits**, or deposits in bank checking accounts. Depositors can write checks on these accounts to pay bills or make purchases. A **check** is a signed form instructing a bank to pay a specified sum of money to the person named on it. Checks themselves are not considered money, but the deposits they access are.

Traveler's checks are also included in the M1 money supply. Travelers buy these checks, usually from a bank, and then use the checks like cash to pay for goods and services. The M1 money supply, then, is made up of currency, checkable deposits, and traveler's checks.



Which of these is money? Using the M1 definition, only currency, deposits in checking accounts, and traveler's checks are liquid enough to qualify as money. Credit cards, checks, and debit cards can be used to access cash, but are not themselves money.

What about money deposited in savings accounts? Savings account deposits are considered **near-money**. Although savings account funds can usually be transferred to a checking account fairly easily, they are not used directly to buy things. For example, you cannot go into a store with your savings account statement and buy a pair of shoes. Because people's savings are not as liquid as cash, economists put them into a second category known as the M2 money supply. **M2** consists of M1 plus money saved in various kinds of accounts or funds.

You *can* buy a pair of shoes with a **credit card**. But even though people sometimes call their credit cards "plastic money," economists do not regard credit cards as a form of money.

To see why, consider what the term *credit* means. **Credit** is an arrangement that allows a person to buy something now with borrowed money and pay for it later or over time. Each purchase with a credit card creates a loan that the user must pay back to the bank, store, or other business that issued the card. The credit card is a convenient means for taking out such a loan—so convenient that since 2003, credit card purchases have outnumbered those made with checks or cash. But the card itself is not money.

You can also buy shoes with a **debit card**, which allows you to access the money in your bank account. Used at a store, a debit card electronically transfers funds from your account to the store's account. Although it is a handy tool for accessing money, a debit card, like a check, is not itself considered part of the money supply.

■ 8.3 How Does the Banking System Work?

What do you notice when you enter a bank? Perhaps you pass an automated teller machine in the lobby. ATMs can dispense cash, accept deposits, and make transfers from one account to another. You may see desks and offices on the main floor. There are probably bank tellers behind a counter ready to assist you. Beyond the counter, there may be a large vault for storing money and other valuables.

The process seems fairly straightforward. Money comes in, and money goes out. The bank keeps track of every penny. But what goes on behind the scenes? How does your bank fit into the whole banking system?

The Elements of the Banking System

Banks are **financial institutions**—firms that deal mainly with money, as opposed to goods and services. Like all financial institutions, a bank must have a charter, or agreement, from the state or federal government that spells out how it will operate and how it will be regulated.

There are several kinds of banks, including commercial banks, savings and loans, mutual savings banks, and credit unions. Historically commercial banks served business and industry. The others focused on consumers, encouraging them to embrace the idea of **saving**—putting money aside for later use. Today the differences between the various types of banks have almost vanished. All banks work with businesses and consumers, and all offer the same basic kinds of services.

Banks Offer a Range of Services

Banks serve consumers in a variety of ways. They cash checks, issue credit cards, change foreign currency into dollars and vice versa, and provide safe-deposit boxes for storing valuables. Banks also offer the convenience of electronic banking through ATMs, debit cards, direct deposit of paychecks, and automatic payment of bills. Many banks also provide services on the Internet so that customers can monitor their accounts, pay bills, and transfer money from one account to another.

A bank's main function, however, is to serve as a **financial intermediary**—an institution that brings together sellers and buyers in financial markets. The sellers and buyers that banks bring together are savers and borrowers. Banks help transfer assets from one to the other. Specifically, banks receive deposits from savers and make loans to borrowers, which are the two main services that banks deliver.

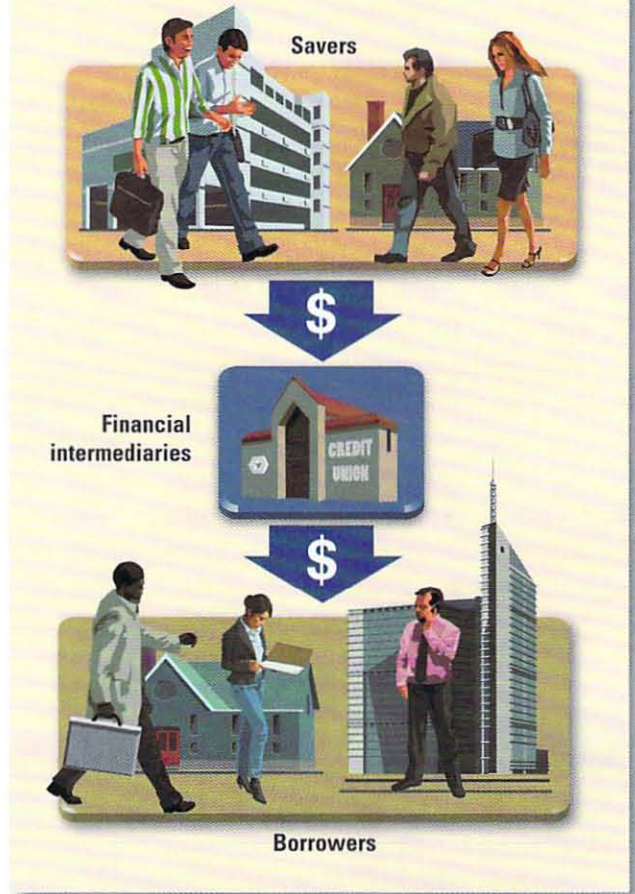
Banks Receive Customers' Deposits

A time-tested way to save money is to deposit it in a bank. Banks offer three kinds of deposits: checkable deposits, savings deposits, and time deposits. Each bank has its own rules about when savers can withdraw deposited money. As a result, accounts vary in their **liquidity**, or the ease with which they can be converted into cash. They also vary in their return, or the amount of earnings they generate.

Key Concept

Financial Intermediaries

A financial intermediary is a “middleman” that brings together savers who have surplus money to loan and borrowers who have a need for that money. Banks, credit unions, and savings and loan associations all act as financial intermediaries.



Checkable deposits. A checkable deposit is an amount of money placed in a checking account. Checkable deposits are highly liquid. That is, they can easily and quickly be converted into cash. You can withdraw money deposited in a checking account on demand, any time you wish. This withdrawal once called for writing a check, but today most checking accounts can be accessed electronically using the Internet, a debit card, or an ATM.

Money in a checking account, however, earns little or no interest. **Interest** is money paid periodically in return for the use of borrowed funds. Checkable deposits, then, provide safety and liquidity, but not much in the way of earnings.

Savings deposits. Money deposited in a savings account earns more interest than checkable deposits, although the return is still low. Funds can be held for any length of time, and the entire deposited amount can be withdrawn on demand.

Savings deposits are only slightly less liquid than checkable deposits. Savers usually make withdrawals from savings accounts by using ATMs or by presenting withdrawal slips to bank tellers.

Time deposits. Savers who want higher returns can put their money into certificates of deposit (CDs). The trade-off for these higher returns is lower liquidity. CDs, also known as time deposits, tie up cash for a set period of time—typically several months or longer. If you take your money out of a CD before the end date, you will pay a penalty that amounts to a percentage of the interest you would have earned.

Why are people willing to trust their money to banks? The main reason is safety. The **risk**, or chance of losing money, is very low with any bank deposit, thanks to the Federal Deposit Insurance Corporation. Congress established this federal agency in 1933 to help stabilize the banking system during the Great Depression. Today, nearly all bank deposits are insured by the FDIC for up to \$100,000 per

depositor. Should a bank fail, the FDIC guarantees that depositors will get their money back up to that amount.

Banks Make Loans to Borrowers

Banks use the money deposited by savers to make loans to other customers. Bank loans come in three forms: commercial loans, consumer loans, and mortgage loans.

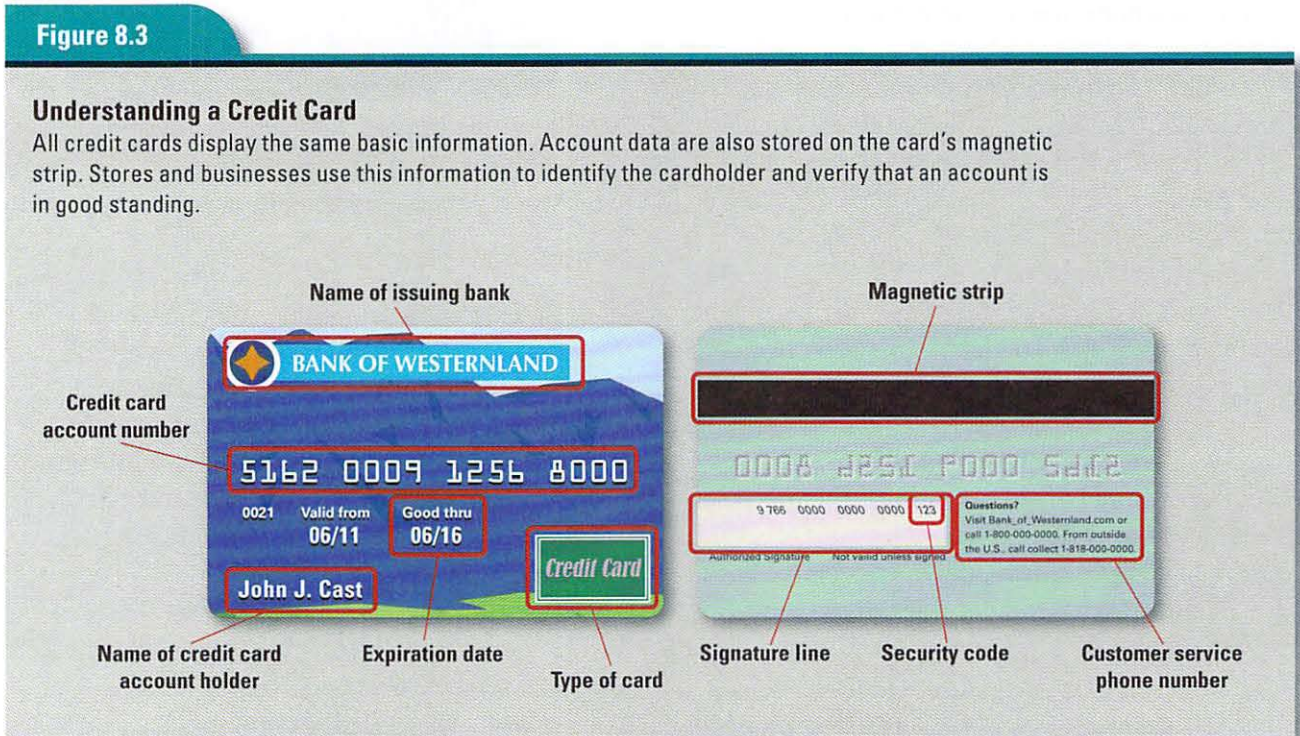
Commercial loans. Businesses often take out **commercial loans** to buy machinery, equipment, and materials or to pay labor costs. Before making such a loan, banks consider the firm’s financial condition and borrowing history as well as the general state of the economy.

Consumer loans. Individual borrowers take out **consumer loans** to make major purchases such as a new car or boat. These loans are often called **installment loans**, because most are paid back in equal monthly installments, or payments. Before making a consumer loan, the bank looks at the individual’s **credit history**. This is a history of the person’s past borrowing along with his or her record of repaying loans on time and in full.

Figure 8.3

Understanding a Credit Card

All credit cards display the same basic information. Account data are also stored on the card’s magnetic strip. Stores and businesses use this information to identify the cardholder and verify that an account is in good standing.



Individuals can take out loans to buy smaller items by making their purchases with a credit card. Using a credit card is easy—so easy that many people charge more than they can afford. Those who cannot pay off their credit card bills each month are charged interest on their unpaid balances by the bank that issued the card. Interest rates for credit card debt are generally much higher than for other kinds of loans. For many cardholders, the result of overcharging is an ever-increasing pile of debt.

Mortgage loans. Banks also offer longer-term loans to consumers and businesses in the form of mortgages. A **mortgage** is a loan used to buy a house, an office building, land, or other real estate. The term of a mortgage typically ranges from 15 to 30 years.

As with any loan, a mortgage is part **principal**—the amount of money actually borrowed—and part interest on the principal. You might be surprised at the total cost of paying off a home mortgage. A house purchased for \$220,000 with a traditional 30-year mortgage at a fixed interest rate of 5 percent per year, and paid in monthly installments, could end up costing the buyer more than \$400,000 by the time the loan is paid off.

How Banks Make a Profit

In their role as financial intermediaries, banks channel funds from savers to borrowers by taking money deposited into various accounts and using it to make loans. In the process, banks profit by charging more interest on loans than they pay on deposits. For borrowers, interest represents the cost of using someone else's money. For savers, interest represents payment for letting someone else use their money.

How, you might wonder, can a bank lend out depositors' money and still promise to return that money to its depositors on demand? The answer is that banks do not lend out all the money they take in. They are required by law to keep a certain fraction of it in reserve to cover depositors' withdrawals from their accounts. For example, suppose you deposit \$1,000 into a checking account. Your bank may be required to keep one-tenth, or \$100, in reserve. That would leave \$900 for the bank to lend out and charge interest on.

This system—whereby banks keep a fraction of deposits in reserve and make loans with the rest—is known as **fractional reserve banking**. The system



This family bought a new home with the help of a long-term bank loan called a mortgage. Homebuyers who take out mortgages must pay back the principal, or amount borrowed, as well as interest on the principal. Over the course of several years, interest can add considerably to the overall cost of a home purchase.

keeps enough money available for withdrawals while allowing banks to profit from the rest. The fraction that banks are required to keep on hand is set by the Federal Reserve System, which was established in 1913 to oversee the banking system.

The Federal Reserve: Our Nation's Central Bank

The Federal Reserve System, commonly known as the Fed, is the central bank of the United States. A central bank does not serve individual consumers and businesses, and making a profit is not one of its goals. The Fed's customers are the nation's thousands of banks, and its goals involve keeping the entire banking system stable and healthy. The Fed provides several important financial services.

Holding reserves. The Fed requires each bank to keep a fraction of its deposits in reserve. Some of that reserve takes the form of currency in the bank's vault, and some goes into an account set up for the bank at the Fed. In this way, the Fed serves as a bank for banks.

Providing cash and loans. When a bank needs cash to meet withdrawal demands, the Fed supplies it from the bank's account. The Fed also lends money to banks when they run short of funds.

Clearing checks. If you write a check to a store and the store deposits the check into its account with a different bank, the Fed takes care of transferring funds from your bank to the store's bank. This process is known as **check clearing**. The Fed clears billions of checks each year.

Linking banks electronically. The Federal Reserve and nearly all of the nation's banks are linked electronically. Using this electronic network, banks can quickly transfer funds from one financial institution to another.

The Fed Manages the Banking System

The Federal Reserve does more than provide services. The Fed also manages the banking system to ensure that banks operate according to sound financial principles.

Another important job of the Fed is to control the nation's money supply. It does this in part by

setting reserve requirements, the minimum fraction of deposits that banks must keep in their own vaults or at the Federal Reserve. The Fed also issues Federal Reserve notes, the paper currency we know as dollars. Through all of its activities the Fed aims to provide liquidity—to make sure consumers and businesses have ready access to money.

The Fed's structure aids in the task of managing the banking system. A seven-member Board of Governors oversees the Federal Reserve System from its headquarters in Washington, D.C. From there, it formulates Fed policies related to the money supply and sets reserve requirements.

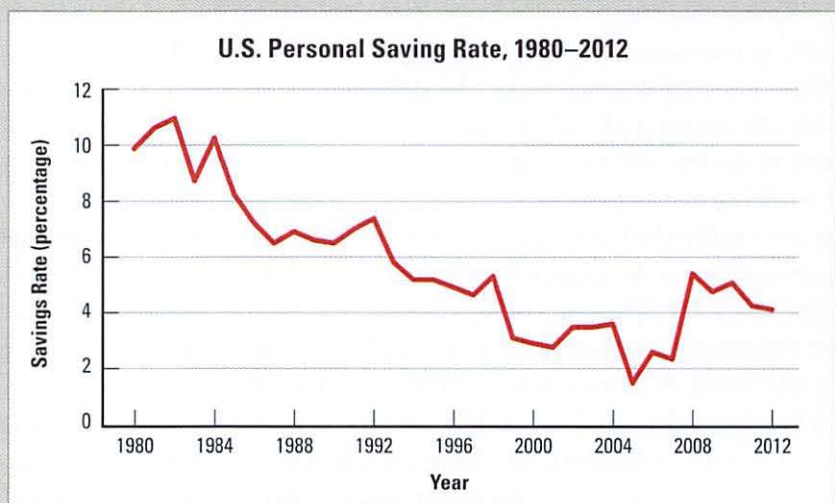
Twelve regional Federal Reserve Banks carry out many of the system's day-to-day activities. Each Reserve Bank provides financial services to its region's banks and supervises their operations. Reserve Banks also feed economic information about their regions to the Board of Governors.

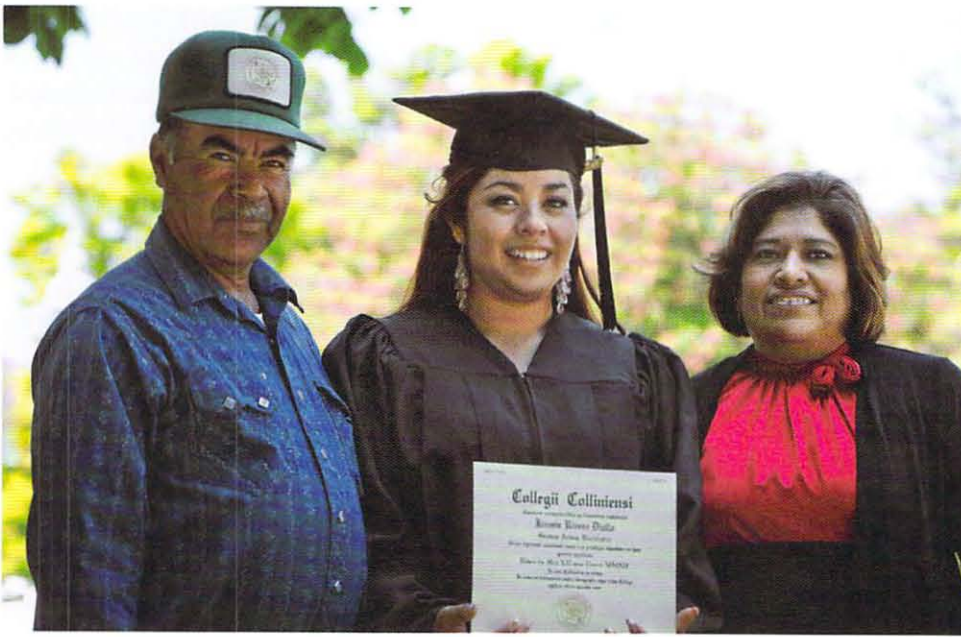
About 40 percent of the banks in the United States are members of the Federal Reserve System. Members include all national banks—commercial banks chartered by the federal government—and many state-chartered banks. All commercial banks, whether Fed members or not, enjoy the same privileges when it comes to borrowing from the Fed and must follow the Fed's regulations. And when the Fed takes steps to adjust the money supply, all banks feel the effects.

Figure 8.4A

Tracking the U.S. Saving Rate

Americans aren't saving the way they used to. As this graph shows, the percentage of income that we put into savings has dropped in recent years. And yet saving for the future is vitally important—both to individuals and the economy.





This family is celebrating a major event: the graduation of one of its members from college. A college education is an important but costly goal for many young people. Colleges often help students reach that goal by offering loans and scholarships. But they usually expect parents—and their children—to cover some costs as well. Saving for college is one way to avoid having to pay off large student loans after graduation.

■ 8.4 How Is Saving Important to the Economy—And to You?

Thirty years ago, Americans saved more of their incomes than they do today. Economists know this by measuring Americans' **personal saving rate**—the proportion of a household's income that its members save each year.

Figure 8.4A shows that in the early 1980s, the personal savings rate often topped 10 percent. By 2013, it had fallen to about 4 percent. That means the average American household is setting aside almost none of its income for the proverbial rainy day. Should we be concerned about our general lack of thrift? Does the future-consequences-count principle matter when it comes to saving?

Saving Helps the Economy Grow

The money you and others set aside in savings accounts, retirement plans, and other forms of saving is not just important to you personally. It also contributes to the nation's overall economic growth.

How does this work? Personal savings provide funds that banks can lend to businesses for expansion—what economists call investment in capital goods. When businesses invest in capital goods, the economy grows. For example, suppose a company borrows money to build a new factory. The new factory

increases the company's output. More goods are produced and sold, creating growth in the economy.

Building a factory also generates growth indirectly. It provides revenue to a host of other producers, from construction companies to equipment suppliers. Those producers can then launch their own expansions. A new factory also creates jobs. The workers' wages flow to local businesses. Wages also flow into the bank accounts of the workers themselves. Banks use these deposits to start another round of lending and even more economic growth.

Saving Can Help You Reach Important Goals

To most Americans, the idea of saving money is less exciting than the idea of spending it. As our personal saving rate suggests, we are a nation of consumers. Saving part of one's income, however, does not mean never consuming it. In fact, some economists define saving as "consuming less now in order to consume more in the future."

We all have goals for the future. Perhaps your goal is to become a lawyer, an engineer, or a teacher. To do that you will need a college degree. Maybe your goal is to buy your own car or house. Maybe you dream of traveling the world or starting a business. Whatever your goal, it is likely to require money. Setting aside a portion of your income now to cover later expenses is saving for the future.

Saving Can Help You Weather Hard Times

Do you know anyone who lived through the Great Depression? That person could tell you about hard times—businesses ruined, homes and life savings lost, few jobs, and little hope. The Depression affected nearly everyone in the United States to some degree.

Even when the economy is strong overall, financial misfortune can strike at any time—when a company lays off workers, when a business fails, or when a family gets hit with huge medical bills. Such events often come unexpectedly. Unless you are ready, you could find yourself facing real financial hardship.

To be prepared for a financial emergency, experts advise building up a “rainy-day fund”—an easily accessible stockpile of savings. Most advisers say your fund should contain at least six months’ worth of salary. Others suggest that \$2,000 to \$3,000 is enough as long as you also have insurance to cover catastrophes. All experts agree, however, that a rainy-day fund should be used only for real emergencies. As financial adviser David Bach observes,

The reason most people don't have any emergency money in the bank is that they have what they think is an emergency every month . . . A real emergency is something that threatens your survival, not just your desire to be comfortable.

—David Bach, *The Automatic Millionaire*, 2004

Saving Can Help You Fund Your Retirement

Have you ever considered what you will live on when you retire? At this point in your life, that question must seem like a remote concern. “First,” you might answer, “let me finish my education and choose a career.”

Retirement is indeed a long way off. But in just a few years you will likely be working full time—earning, spending, and, if you are wise, saving. If you are really looking ahead, you will be saving for your eventual retirement.

Americans today are living longer than ever before. Many people starting careers today will live for 20 or more years after they stop earning a paycheck. To maintain even a modest lifestyle during those years will take a lot of money. The earlier you begin accumulating that money, the more you will have when the time comes to retire.

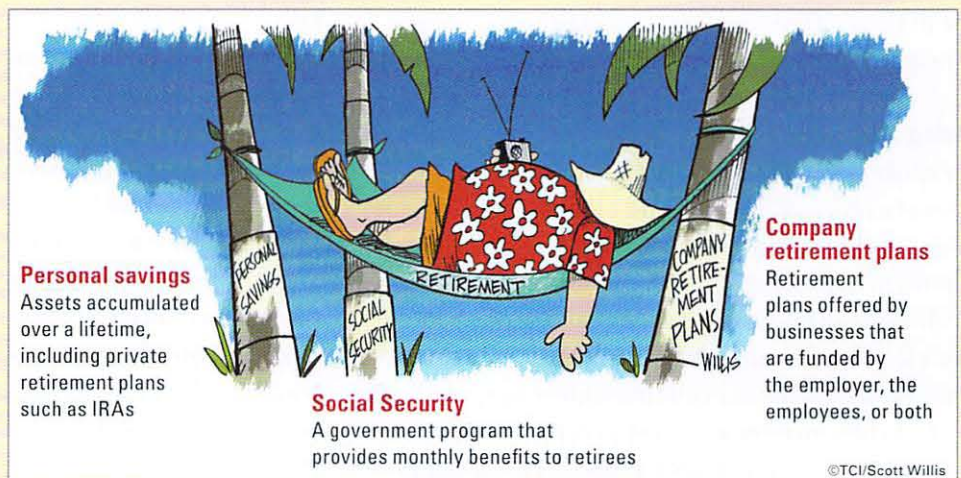
Most retired people support themselves using three sources of money, making retirement something like a three-legged stool. The three “legs” are Social Security, company retirement plans, and personal savings.

Social Security. Social Security is a government program that provides cash payments to retired workers. It is funded by taxes paid by workers and their employers. Social Security is a pay-as-you-go plan. This means that the Social Security taxes you pay each year are not saved for your future retirement. Instead, this money is paid out in benefits to current retirees.

Key Concept

Funding Retirement

This cartoon illustrates the three main sources of retirement income for most Americans. Having all three in place when you stop working is your best guarantee of a well-funded retirement.



Company retirement plans. At one time, most large companies offered pension plans to their employees. A pension plan is a retirement plan to which the employer makes contributions for the future benefit of its employees.

Today the most common company retirement plan is the 401(k) plan. This plan gets its name from section 401(k) of the Internal Revenue Code—the main body of our nation’s tax laws. In a 401(k) plan, employees have money automatically taken out of their paychecks and put into retirement investment accounts. Employers may also contribute to the plan by matching all or part of an employee’s contribution.

One benefit of a 401(k) plan is that participants may subtract their contributions from their taxable income when they file their tax returns. The effect is to lower the amount of income tax they are required to pay. Financial experts encourage all employees to put money into a 401(k) if their employer offers such a plan.

Personal savings. The third source of retirement funds is personal savings. Such savings may include a variety of financial assets, including private retirement plans—plans that are *not* employer-sponsored.

An Individual Retirement Account is a private retirement plan sponsored by the federal government. Anyone who earns income can put money into an IRA. To encourage Americans to do so, the government has built tax advantages into IRA plans. Depending on the type of plan they choose, participants may either deduct the amount of their IRA contributions from their taxable incomes or take money out of their accounts tax free when they retire. For this reason IRAs are often referred to as tax-sheltered savings accounts.

IRAs, pensions, and other retirement plans come in many forms, each with its own set of rules. These rules govern such things as the amount you can contribute each year, how the account is taxed, and when you can begin to withdraw money from the account. Retirement savers should choose the plan that best suits their circumstances and meets their long-term goals.

Creating a Budget with Saving in Mind

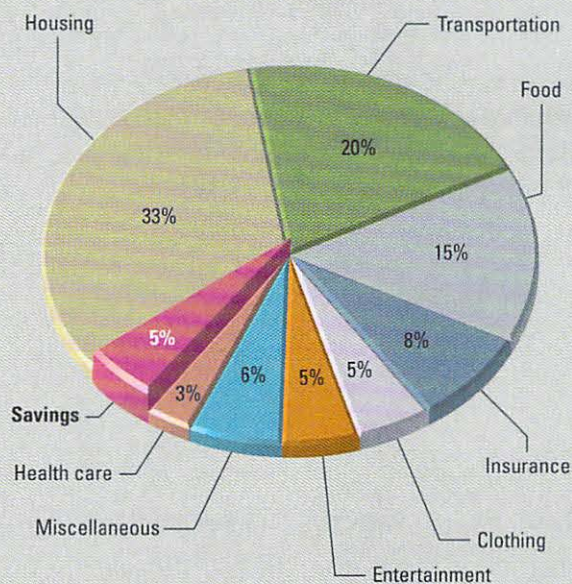
A **budget** is a plan for spending and saving, based on one’s income and estimated expenses. It covers a specific time period, typically a month or year. For those who really want to take control of their

Figure 8.4B

Creating a Budget

A budget is a plan that specifies how a person’s income will be allocated over a period of time. This budget reflects the saving and spending priorities of a young person who has completed school and joined the workforce.

Typical Budget for Young Working Adult



day-to-day finances, making a budget is essential.

The first step in creating a budget is to estimate your monthly income and expenses. This means keeping track of all income as well as all expenditures for a month. Figure 8.4B shows a typical budget for a young adult. It includes a mortgage or rent payment, a car loan payment or transportation expenses, as well as food, clothing, and other items.

When most people construct a budget, they make the mistake of calculating only the cost of goods and services consumed. They subtract those expenses from their income, and what is left—if anything—goes toward savings.

To become a successful saver, however, saving needs to be an entry in your budget right from the beginning—perhaps even your first budget item. Setting aside money each month as savings might be difficult, but the effort will be well worth it. Nothing could be more important to your financial future.

■ 8.5 How Do Americans Invest Their Savings?

Learning how to save money for future use is an important first step in reaching your long-term goals. But saving alone is not enough. You will also need to learn how to invest the money you save.

Investing involves using the money you have saved to earn even more money.

Investing Offers Rewards—And Poses Risks

People invest money in everything from rare coins to real estate because they expect a favorable financial return in the future. If you decide to invest in a college education, for example, you probably expect that your investment will improve your job prospects and future income. Likewise, when people invest in an old coin or a home, they assume that someday it will be worth more than they paid for it.

The same holds true when people invest their savings in financial securities. **Securities** are investments that give their holders the right to receive some form of return, or profit. The two most common kinds of securities are stocks and bonds. People who invest in securities count on getting back the amount they invested plus interest or some other form of return on their investment. That return is their reward for making the investment.

Not all investments, however, turn out as people hope and expect. Nearly every kind of investment involves some sort of risk. The price of rare coins or houses, for example, can go down as well as up.

In general, there is a strong relationship between risk and reward. The higher the potential reward an investment offers, the higher the risk of losses rather than gains. In choosing what to invest in, therefore, it is important to weigh the various risks against the potential rewards.

Investment Basics: The Power of Compounding

You need not take great risks to ensure a safe return on your investments—if you are patient. You can invest your money conservatively and let the passage of time increase its value. The trick is to take advantage of the power of compounding.

Compounding refers to the ability of an investment to generate earnings that can be reinvested to earn still more earnings. Banks make this happen

when they offer to pay depositors compound interest, rather than simple interest, on their savings.

Compound interest is interest paid not only on the original amount deposited in the savings account, but also on all interest earned by those savings.

Compounding works like this. Suppose that on your 20th birthday you were to deposit \$1,000 in a savings account that pays 4 percent compound interest once a year. In one year's time, you would earn \$40 in interest (\$1,000 multiplied by 0.04). Rather than take your \$40 out of the account to spend, you leave it there to compound. The account now contains \$1,040.

The next year, your savings account would earn 4 percent on \$1,040—your original deposit plus the interest already accumulated. In that second year, you would earn \$41.60 in interest, bringing the total in your account to \$1,081.60.

In reality, many banks compound interest on a daily rather than annual basis. That means you earn interest today on the interest the bank paid you yesterday. In the example above, the result of daily compounding would be to raise the rate of return on your savings to more than 4 percent. **Rate of return** is a measure of the change in the value of an investment over time. It is usually expressed as a percentage of value gained or lost in a year.

Doubling Your Money: The Rule of 72

Suppose, now, you left your savings in the bank to compound year after year. In time, you would double your investment. But how long would this take? To find out, you could use the **rule of 72**. This rule says to divide the number 72 by the annual rate of return on the investment. The answer is the number of years it will take to double the original investment.

Using the rule of 72, you calculate that at a 4 percent annual rate of return, it would take 18 years for the \$1,000 in your savings account to double to \$2,000. In another 18 years, the account would double again to \$4,000. By the time you reached the age of 74, your investment of \$1,000 would have doubled yet again to \$8,000. You would not have done a thing, yet you would have accumulated 8 times your original investment.

Now consider what you would have at age 74 had you earned only simple interest on your account. Your \$1,000 deposit would have earned \$40 a year for 54 years, or a total of \$2,160 in interest payments.

Key Concept

Compounding and the Rule of 72

Compounding involves the reinvestment of returns from an asset to earn still higher returns. The rule of 72 tells how long it will take to double an investment through compounding. As the illustration shows, the higher the expected rate of return, the faster your investment will double.

72 ÷



Added to your original \$1,000, your account would total \$3,160. That is much less than the \$8,000 you would have earned by compounding.

Compounding works not only for savings accounts, but for other kinds of investments as well. By reinvesting your earnings year after year, your investments can grow surprisingly fast.

FDIC-Insured Savings and Government Bonds: The Safest Investments

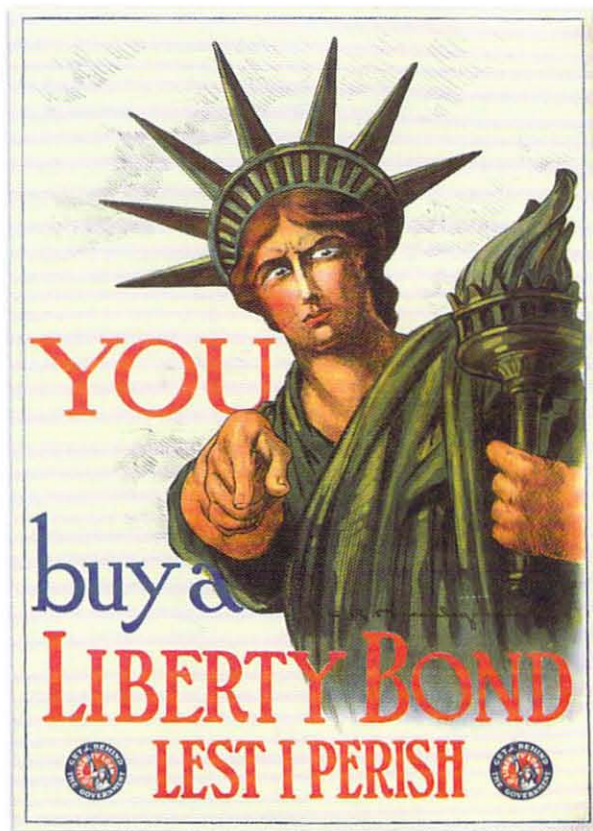
Fifty years ago, average Americans had relatively few ways to invest their savings. The \$1,000 that you just turned into \$8,000 would probably have been invested in a bank savings account. A savings account is still not a bad choice today, especially for people with a very low tolerance for risk. Bank deposits insured by the FDIC are among the safest investments you can make. Even if the bank loses all your savings, the FDIC—backed by the resources of the federal government—will reimburse you up to \$100,000.

Those who are reluctant to risk their savings might also choose to invest in government bonds. A **bond** is a loan in which the borrower promises to pay the lender a fixed rate of interest over the term of the loan and then repay the principal at the end of the term, or date of maturity.

When you buy a bond, you are lending money to the issuer of the bond. You might think of a bond as an IOU that pays interest. The business of issuing and buying bonds takes place in the bond market.

When the federal government needs to borrow money, it issues bonds. Known as U.S. Treasury

bonds, they are the safest bonds a person can invest in, because the government can print money or raise taxes if needed to pay back the loan at maturity. Treasury bond terms range from 10 to 30 years.



Government bonds are a safe investment. A bond is like an IOU with interest. It declares that the government will repay the amount of the bond at a certain rate of interest on a specific date. Bonds have sometimes been used to raise money during wartime, as this poster from World War I shows.

The federal government also borrows money by issuing Treasury bills and Treasury notes, which have shorter terms than Treasury bonds. Treasury bonds, bills, and notes all offer fairly low **yields**, or interest rates, but they are considered risk free.

State and local governments also issue bonds to raise funds for public projects such as the building of schools, bridges, and highways. Known as **municipal bonds**, these securities are viewed as a bit riskier than Treasury bonds. They attract investors, however, because the interest earned on municipal bonds is exempt from federal income taxes. Nor is the interest taxed by the state in which the bond was issued.

Corporate Bonds: Moderate Risk for More Return

Like governments, corporations borrow money by selling bonds. Because corporations can, and do, go out of business, **corporate bonds** are riskier to invest in than government bonds. Should the corporation issuing the bond fail, the bondholders could lose

some or all of their investments. Because of this higher risk, investors expect a higher rate of return on corporate bonds than on government bonds.

The risk of buying a corporate bond varies according to the financial health of the corporation that issues it. To help investors assess that risk, rating companies examine bond issuers to evaluate their ability to repay their loans.

High-quality corporate bonds are classified as investment grade. The ratings on these bonds range from AAA to BBB. Investment-grade bonds do not offer investors high returns, but the risk of the borrower failing to repay the loan is relatively low. For this reason, many people feel fairly safe investing in these top-rated bonds.

Lower-quality bonds are classified high-yield or **junk bonds**. The ratings on these bonds range from BB to C. As the name *high-yield* suggests, these bonds offer higher potential returns in exchange for a moderately higher risk that the company might fail.

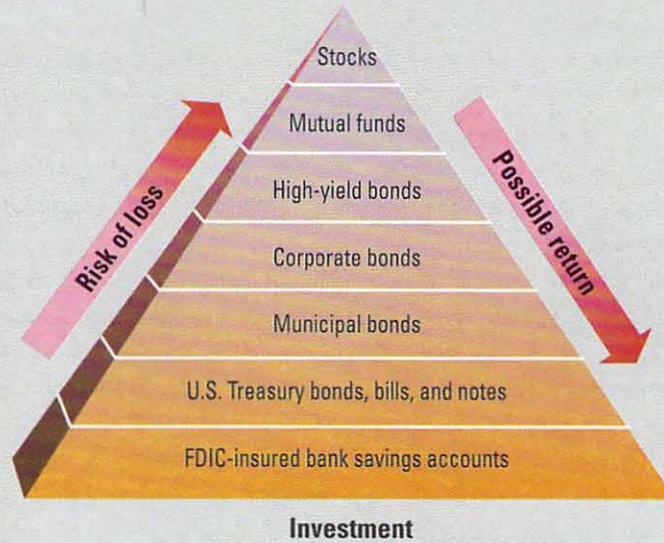
Trading in the stock market takes place at a number of stock exchanges in major cities throughout the world. The oldest organized U.S. stock exchange is the New York Stock Exchange, shown here.



Figure 8.5A

Comparing Investment Risks and Returns

There is a positive relationship between risk and return in financial investments. The higher the risk that an investment might lose money, the greater the possible return demanded by investors. Without the incentive of a higher return, investors would have no reason to take their money out of safe bank accounts to invest in riskier bonds or stocks.



Stocks: Historically the Highest Returns

Bonds are debt-related securities. **Stocks**, in contrast, are securities that represent ownership in a business. When a company issues shares of stock, it is not borrowing money. Rather, it is selling ownership rights. The investors who buy the company's stock become its **shareholders**. These shareholders own the company.

As part owners of a company, shareholders have the right to receive a portion of the firm's profits. That portion of profits is known as a **dividend**. Investors usually receive dividends in the form of a dollar amount for each share owned. To take advantage of the power of compounding, investors often choose to reinvest dividends, using them to buy additional shares of the company stock. The more shares an investor holds, the more dividends he or she receives.

While many profitable companies pay dividends on their stock, many others do not. Instead they invest their profits back into the company to help it grow. Investors who buy non-dividend-paying stocks assume that the price of the stock will rise as the company grows in size, making their shares worth more over time.

Historically, stocks have offered investors a higher rate of return than bonds. Figure 8.5A shows the real rate of return generated by stocks over several decades. The **real rate of return** is the annual percentage return adjusted for the effects of inflation.

During some periods, stock prices have marched fairly steadily upward. These happy times for stock investors are known as **bull markets**. At other times, stock prices have dropped just as steadily downward. These painful periods for investors are known as **bear markets**.

Since 1899, bull markets have outnumbered and outlasted bear markets. However, past performance is no guarantee of future returns from stocks. Stock prices are variable. Even stable, well-managed companies can have bad years and see their stock prices plunge. Investors who want the higher returns that can be had by investing in stocks must also be willing to accept the higher risks.

Investing in the Stock Market

The most common way to buy and sell stocks is through a securities brokerage. A **brokerage** is a company that buys and sells stocks and bonds for investors. Brokerages employ **stockbrokers** to help investors make and carry out investment decisions.

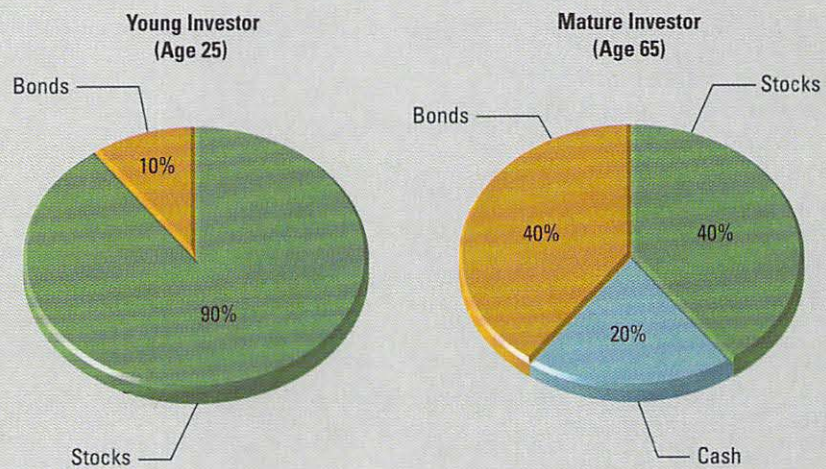
The actual buying and selling of stocks and bonds takes place in a **stock market**. The most famous stock market in the United States is the New York Stock Exchange. It is located on Wall Street in New York City. The NYSE handles the exchange of more than 2 billion shares of stock, on average, every trading day.

Figure 8.5B

Deciding How to Allocate Your Assets

These graphs show how two investors might allocate their assets. The investors have the same goal—a comfortable retirement—but are at very different stages of life. The older investor is ready to retire now and can't afford much risk. The younger investor has 40 years to accumulate assets for retirement and can therefore afford a higher level of risk. An investor's actual asset allocation would depend not just on age, but also on the person's financial goals and risk tolerance.

Possible Asset Allocation



To many Americans, the New York Stock Exchange is the stock market. But another exchange, the NASDAQ, also handles billions of shares per day. Many high-tech stocks are traded on the NASDAQ.

The Securities and Exchange Commission, a federal agency established during the Great Depression, regulates the stock market. An important part of the SEC's mission is to make sure all investors have access to the same financial information about firms issuing stock. Firms provide such information in a legal document known as a **prospectus**. A prospectus allows investors to make informed decisions about whether to buy or sell a firm's stock.

Investing in Mutual Funds

Many Americans lack the time or interest to research which stocks or bonds to buy on their own. Instead, they invest in stock or bond mutual funds. A **mutual fund** is a collection of securities chosen and managed by a group of professional fund managers. Shares in a mutual fund can be bought and sold much like shares of stock.

Mutual funds are popular with investors as a way of achieving **diversification**. Diversification simply means investing in a wide variety of financial assets. Investing in many stocks or bonds reduces the risk that a poor performance by any one asset will wipe out your savings.

Every mutual fund is designed to achieve certain financial goals. Those goals vary from fund to fund, as do the risks and potential rewards. Stock funds typically emphasize growth and income from rising stock prices and dividends. Bond funds offer income at a lower risk than stock funds. Money market mutual funds behave much like bank savings accounts. They pay higher interest rates than most banks but are not insured by the FDIC. With some 10,000 mutual funds available, there is something for nearly every investor.

How can an investor tell how well a mutual fund is doing? One way is to compare the fund's performance against a broad market index. A **market index** measures changes in the value of a group of stocks, bonds, or other investments from a specific starting point.

The most often quoted stock index, the Dow Jones Industrial Average, was begun in 1896. The DJIA tracks the stock prices of 30 large U.S. corporations. The Standard & Poor's 500 stock index dates back to 1957. The S&P 500 tracks the stock prices of 500 large firms traded on the stock exchange. Other indexes track different groups of securities such as foreign stocks and bonds.

Indexes tell investors how well the market for a class of stocks or bonds is doing as a whole. If a mutual fund consistently fails to match the overall returns of its market, investors may want to question how well that fund is being managed.

Spreading the Risk Through Asset Allocation

You may have heard the proverb “Don’t put all your eggs in one basket.” That old saying applies to today’s investors. Financial planners warn their clients not to invest all their savings in just stocks, just bonds, or any other single type of investment. The risk of that one investment losing money is simply too great. Instead, they advise following an approach to diversification known as asset allocation.

Asset allocation involves dividing the assets in a person’s portfolio among different types of investment. The goal is to reduce the risk of investing while still earning good returns. Stocks, bonds, and cash are the three main asset categories. Cash here refers to assets that have fairly high liquidity, including savings deposits, CDs, and money market mutual funds.

Asset-allocation decisions are personal. They depend on an investor’s age, risk tolerance, and financial goals. A young person saving for retirement, for example, can afford to risk more than a retired person. If one asset loses money, a young person has far more time to recover than a retiree who depends on personal savings for income. Figure 8.5B shows possible asset allocations for two people with the same goal—a comfortable retirement—but at very different stages in their lives.

Ultimately it is up to you to decide how to spend, save, and invest your money. In making these decisions, the key to success is information. The better informed you are in money matters, the more likely you will be to make decisions that will enable you to live well today while still saving and investing for the future.

Summary

Money serves many functions in a modern economy. People spend money to meet their daily needs. They also save and invest money to meet their future goals.

What makes money . . . money? Money serves as a medium of exchange, a standard of value, and a store of value. To fulfill these functions well, what we use as money should have six characteristics: acceptability, scarcity, portability, durability, divisibility, and uniformity. Over time, money has evolved from commodity money to commodity-backed money to fiat money. Our money supply today, known as M1, is made up of currency, checkable deposits, and traveler’s checks.

How does the banking system work? As financial intermediaries, banks receive deposits and turn them into loans. Banks make a profit by charging borrowers more interest than they pay to depositors. The Federal Reserve determines the fraction of deposits that banks must keep in reserve. The Fed also provides services to banks, oversees and regulates banks, and controls the money supply.

Why is saving important to the economy—and to you? Savings provide money for loans that help businesses and the economy grow. Personal saving can also help you reach important financial goals, weather hard times, and fund your retirement. Creating a budget that includes regular saving can help you gain control of your finances.

How do Americans invest their savings? Americans invest in a variety of financial assets, including savings accounts, government bonds, corporate bonds, stocks, and mutual funds. Each has its own level of risk and expected reward. Diversifying to balance risk and reward in a portfolio can be accomplished through asset allocation.