**Why It Matters**

Wall Street is a narrow street that extends only seven blocks, from Broadway to the East River, in Manhattan, in New York City. It was named for a wall built by Dutch settlers in 1653 to repel an expected English invasion. As you probably know, some of the chief financial institutions in the United States—the New York Stock Exchange, the American Stock Exchange, investment banks, the Federal Reserve Bank, and commodity exchanges—are located here. As a result, “Wall Street” has become shorthand for investing, especially in stocks and bonds.

More and more people are buying stocks and bonds and want to know what futures and options are and how they work. Will this information be useful to you? Most likely it will. The day will come (if it hasn’t already) when you have some extra savings that you want to invest. Should you buy stocks or bonds? Are some stocks better than other stocks? What does the price of a bond have to do with interest rates? It will be important for you to know the answers to these questions and more.

In a nutshell, it is better for you to be informed about the markets you might want to invest in before you start investing. In this chapter you will begin to learn some investment basics.

Every day stock exchanges around the world process countless “buy” and “sell” transactions. This chapter will introduce you to the whys and hows of investing in stocks and bonds.
The following events occurred one day in August.

7:13 A.M. During breakfast with her husband Paul, Priscilla says, “I think we should put a little money into the stock market. I heard that the Dow went up by 279 points yesterday.” “Is that good?” her husband asks. “I think it is,” said Priscilla.

• What is the Dow?

8:34 A.M. Jack lives in Kansas. He is a wheat farmer, his father was a wheat farmer, and his grandfather was a wheat farmer. Things haven’t been going well for Jack in the last year or so. He has been losing money. He will harvest a big wheat crop in the next few months and is afraid that wheat prices may drop before he takes his wheat to market.

• How can Jack protect himself from a drop in the price of wheat?

10:56 A.M. As Karen watches the financial news, someone on the television says, “If he times his purchases correctly, he can make millions.” Karen wonders whether the investment types on television know something she doesn’t know. How can a person make millions, she wonders, just by timing purchases (what purchases?) correctly.

• Does timing matter?

5:42 P.M. Wilson rides a commuter train home after a busy day at work. The person in the seat next to him is reading the *Wall Street Journal*. Wilson turns to him and asks, “What do you think about what the market did today?” “It was quite unusual,” came the response.

• What does “the market” refer to?
Financial Markets

Everyone has heard of stocks and bonds. Everyone knows that stocks and bonds can be sold and purchased, but not everyone knows the economic purpose served by stocks and bonds.

Buying and selling stocks and bonds occurs in a financial market. Financial markets serve the purpose of channeling money from some people to other people. Suppose Jones saved $10,000 over two years and that Smith is just starting a new company. Smith needs some money to get the new company up and running. On the other hand, Jones would like to invest the savings and receive a return. Jones and Smith may not know each other; in fact, they may live on opposite ends of the country. What a financial market does, though, is bring these two people together. It allows Jones either to invest in Smith’s company or to lend Smith some money. For example, Jones might buy stock in Smith’s company or perhaps buy a bond that Smith’s company is issuing. In this chapter you will learn more about the ways in which people like Smith and Jones help each other through use of the financial markets.

What Are Stocks?

What does it mean when someone tells you that she owns 100 shares of a particular stock? For example, suppose Jane owns 100 shares of Yahoo! stock. It means that she is a part owner in Yahoo!, Inc., which is a global Internet media company that offers a network of World Wide Web programming. A stock is a claim on the assets of a corporation that gives the purchaser a share in the corporation. Jane, in this example, is not an owner in the sense that she can walk into Yahoo! headquarters (in Santa Clara, California) and start issuing orders. She cannot hire or fire anyone, and she cannot decide what the company will or will not do over the next few months or years. Still, she is an owner, and as an owner she can, if she wants, sell her ownership rights in Yahoo!. All she has to do is find a buyer for her 100 shares of stock. Most likely, she could do so in a matter of minutes, if not seconds.
QUESTION: If I buy shares of stock, do I have to hold on to them for any set period of time? Also, where can I buy shares of stock?

ANSWER: No, you can buy shares of stock at 10:12 in the morning and sell those shares five minutes later if you want to. As for buying stock, you can buy stock through a stock broker—in person, on the phone, or online. For example, many people today buy stocks from an online broker. They simply go online, open an account with an online broker, deposit funds into that account, and then buy and sell stock.

Where Is Stock Bought and Sold?

You know where groceries are bought and sold—at the grocery store. You know where clothes are bought and sold—at the clothing store. But where are stocks bought and sold?

Let’s go back in time to help answer the question. In 1792, 24 men met under a buttonwood tree on what is now Wall Street in New York City. They essentially bought and sold stock (for themselves and their customers) at this location. Someone might have said, “I want to sell 20 shares in company X. Are you willing to buy these shares at $2 a share?”

From this humble beginning came the New York Stock Exchange (NYSE). Every weekday (excluding holidays) men and women meet at the NYSE in New York City and buy and sell stock.

Suppose you own 100 shares of a stock listed on the NYSE. Do you have to go to the NYSE in New York to sell it? No, you would simply contact a stock broker (either over the phone, in person, or online) and he or she would convey your wishes to sell the stock to a person at the NYSE itself. That person at the NYSE would then execute your order.

In addition to the NYSE where stocks are bought and sold, other stock exchanges and markets also serve as a place to trade stocks and bonds, including the American Stock Exchange (AMEX) and the NASDAQ (pronounced NAZ-dak) stock market. NASDAQ stands for National Association of Securities Dealers Automated Quotations. Buying and selling stock on the NASDAQ does not take place the same way it takes place on the NYSE. Instead of the buying and selling occurring in one central location, NASDAQ is an electronic stock market with trades executed through a sophisticated computer and telecommunications network. The NYSE might in fact change to this kind of market in the near future. Instead of people meeting together in one location to buy and sell stock, they could simply do it electronically.

Increasingly, Americans are not only buying and selling stocks on U.S. stock exchanges and markets, but in foreign stock exchanges and markets too. For example, an American might buy a stock listed on the German Stock Exchange, the Montreal Stock Exchange, or the Swiss Exchange.

The Dow Jones Industrial Average (DJIA)

You may have heard news commentators say, “The Dow fell 302 points on heavy trading.” They are talking about the Dow Jones Industrial Average. The Dow Jones Industrial Average (DJIA) first appeared on the scene more than 100 years ago, on
EXHIBIT 16-1  The 30 Stocks of the Dow Jones Industrial Average

<table>
<thead>
<tr>
<th>Stock Name</th>
<th>Company Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>3M Company</td>
<td>Intel Corporation</td>
</tr>
<tr>
<td>Alcoa Incorporated</td>
<td>International Business Machines</td>
</tr>
<tr>
<td>Altria Group, Inc.</td>
<td>Corporation</td>
</tr>
<tr>
<td>American Express</td>
<td>J. P. Morgan Chase and Company</td>
</tr>
<tr>
<td>American International Group, Inc.</td>
<td>Johnson &amp; Johnson</td>
</tr>
<tr>
<td>Boeing Company</td>
<td>McDonald’s Corporation</td>
</tr>
<tr>
<td>Caterpillar Incorporator</td>
<td>Merck &amp; Company, Inc.</td>
</tr>
<tr>
<td>Citigroup Incorporated</td>
<td>Microsoft Corporation</td>
</tr>
<tr>
<td>Coca-Cola Company</td>
<td>Pfizer Incorporated</td>
</tr>
<tr>
<td>DuPont</td>
<td>Procter &amp; Gamble Company</td>
</tr>
<tr>
<td>Exxon Mobil Corporation</td>
<td>SBC Communications Incorporated</td>
</tr>
<tr>
<td>General Electric Company</td>
<td>United Technologies Corporation</td>
</tr>
<tr>
<td>General Motors Corporation</td>
<td>Verizon Communications, Inc.</td>
</tr>
<tr>
<td>Hewlett-Packard Company</td>
<td>Wal-Mart Stores Incorporated</td>
</tr>
<tr>
<td>Home Depot Incorporated</td>
<td>Walt Disney Company</td>
</tr>
<tr>
<td>Honeywell International, Inc.</td>
<td></td>
</tr>
</tbody>
</table>

Why did Charles Dow create the Dow Jones Industrial Average? What purpose does it serve today?

May 26, 1896. It was devised by Charles H. Dow. Dow took 11 stocks, summed their prices on a particular day, and then divided by 11. The “average price” was the DJIA. (Some of the original companies included American Cotton Oil, Chicago Gas, National Lead, and U.S. Rubber.)

When Charles Dow first computed the DJIA, the stock market was not highly regarded in the United States. Prudent investors bought bonds, not stocks. Stocks were thought to be the area in which speculators and conniving Wall Street operators plied their trade. It was thought back then that Wall Streeters managed stock prices to make themselves better off at the expense of others. A lot of gossip surrounded what was and was not happening in the stock market.

Dow devised the DJIA to convey some information about what was actually happening in the stock market. Before the DJIA, people had a hard time figuring out whether the stock market, on average, was rising or falling. Instead, they only knew that a particular stock went up or down by so many cents or dollars. Dow decided to find an average price of a certain number of stocks (11) that he thought would largely mirror what was happening in the stock market as a whole. With this number, people could then have some sense of what the stock market was doing on any given day.

Today, the DJIA consists of 30 stocks, which are widely held by individuals and institutional investors. See Exhibit 16-1. This list can and does change from time to time, as determined by the editors of the Wall Street Journal.

You may think that the DJIA is computed by summing the prices of stocks and dividing by 30, but it is not quite that simple today. A special divisor is used to avoid distortions that can occur, such as companies splitting their stock shares. Exhibit 16-2 shows the Dow Jones Industrial Average during the period 1928 through June 2005.

In addition to the DJIA, other prominent stock indices (beside the Dow) are cited in the United States. A few include the NASDAQ Composite, the Standard & Poor’s 500, the Russell 2000, and the Wilshire 5000. Other prominent stock indices around the world include the Hang Seng (in Hong Kong), the Bovespa (Brazil), IPC (Mexico), BSE 30 (India), CAC 40 (France), and so on.

Different economic consulting firms attempt to find out what influences the Dow: What causes it to go up? What causes it to go down? According to many economists, the Dow is closely connected to changes in such things as consumer credit, business expectations, exports and imports, personal income, and the money supply. For example, increases in consumer credit are expected to push up the Dow, the thought being that when consumer credit rises, people will buy more goods and services, which is good for the companies that sell goods and services. When consumer credit falls, the reverse happens.
QUESTION: I own a few stocks as a result of some gifts I received from my grandparents. None are included in the Dow Jones Industrial Average. Does it affect me when the Dow goes up or down, even if I do not own any of the stocks that make up the DJIA?

ANSWER: It doesn’t affect you if we are looking at daily changes, but if we are talking about a long decline or a long rise in the DJIA, then it indirectly affects you. Many economists say that what happens in the stock market—or to the DJIA—is a sign of future economic events. In other words, if the DJIA goes down over time, it indicates that the economic future is somewhat depressed; if it goes up over time, it indicates that the economic future looks good. The economic future, good or bad, is something that does affect you. It affects prices you pay, how easy or hard it is to get a job, how large or small a raise in income you get, and so on.

How the Stock Market Works

Suppose a company wants to raise money so that it can invest in a new product or a new manufacturing technique. It can do one of three things to get the money. First, it can go to a bank and borrow the money. Second, it can borrow the money by issuing a bond (a promise to repay the borrowed money with interest; you will learn more about bonds later in the chapter). Third, it can sell or issue stock in the company, or put another way, it sells part of the company. Stocks are also called equity because the buyer of the stock has part ownership of the company.

When a company is initially formed, the owners set up a certain amount of stock, which is worth little. The owners of the company try to find people (usually friends and associates) who would be willing to buy the stock (on the hopes that one day it will be worth something). It would be nearly
impossible in these early days of the company for anyone who owned stock to sell it. For example, if Alvarez owned 100 shares of some new company that almost no one had heard of, hardly anyone would be willing to pay any money to buy the stock.

As the company grows, and needs more money, it may decide to offer its stock on the open market. In other words, it offers its stock to anyone who wants to buy it. By this time, the company may be better known, making people more willing to buy it. The company makes what is called an initial public offering (IPO) of its stock. The process is quite simple. Usually an investment bank sells the stock for the company for an initial price, say $10 a share. How do you find out about an IPO? They are announced in the Wall Street Journal.

When an IPO occurs for a stock, it is usually traded on a stock exchange or in an electronic stock market. Sometimes the stock that initially sold for $10 will rise in price and sometimes it will fall like a rock. It all depends on what people in the stock market think the company that initially issued the stock will do in the future.

If they think the company is destined for big earnings, the stock will likely rise in price. If they think the company is destined for losses, or only marginal earnings, the stock will likely fall in price. In a way, you can think of trading stock in much the same way you think about trading baseball cards, or paintings, or anything else. The price depends on the forces of supply and demand. If demand rises, and supply is constant, then the price of the stock will rise. If demand falls, and supply is constant, then the price of the stock will fall.

Sometimes people buy certain stocks because they hear that other people are buying the stock and because they think that the stock is “hot.” In other words, it is popular and everyone wants it. In the 1990s, some of the Internet stocks fit this description. Stocks such as Yahoo!, Amazon.com, and eBay were bought because people thought the Internet was the wave of the future and almost anything connected with the Internet was destined for great profit.

More often, though, people buy a particular stock if they think that the earnings of the company that initially issued the stock are likely to rise. After all, remember that a share of stock represents ownership in a company. The more profitable that company is expected to be, the more likely people are going to want to own that company, and therefore the greater the demand for the stock of that company.

EXAMPLE: Suppose William Welch started a company in 1895. Through the years, the company was passed down to family members. In 2005, the family members running the company want to expand it to two, three, or four times its current size. Where might they get the money for this expansion? One way is by selling shares in the company, that is, by issuing stock in the company. Once they issue shares in the company to the public, the company is no longer solely family owned. Now many of the public own part of it too.

People who work on Wall Street often use their own “language.” For “translations” of some of that language, see Exhibit 16-3 on page 436.
On Thursday, October 24, 1929, the New York Times ran a headline that read “Prices of Stocks Crash in Heavy Liquidation.” Elsewhere in the Times a headline read “Many Accounts Wiped Out.” These headlines referred to the stock market crash (sometimes simply called the Great Crash) that began on that October day in 1929 and continued on October 28 and 29.

In some historical accounts and in the minds of many members of the public, the stock market crash in 1929 was what caused the Great Depression that followed. However, this cause-and-effect assumption is not true, and it points out the post hoc ergo propter hoc logical fallacy. Post hoc ergo propter hoc is Latin for “After this, therefore as a result of this.” Stated differently, it means “That which comes before another must be its cause.” For example, if X comes before Y, then X is the cause of Y. This statement is not necessarily true.

Think of some simple examples. The teacher gives you a test before it rains, but the teacher’s giving you a test does not cause the rain. Similarly, just because the stock market crash came before the many years of the Great Depression does not necessarily mean that the stock market crash caused the Great Depression. In fact, most economists believe that both the stock market crash and the Great Depression (with such things as rising unemployment and falling incomes) were effects of the same causes. In other words, the same factors caused both the stock market crash and the Great Depression.

However, the stock market crash did change the psychological mindset of the people living in the late 1920s. Gone were the good times of the Roaring Twenties; a dark economic cloud seemed to descend. It is interesting how many people failed to see the dark economic cloud on the horizon. Irving Fisher, perhaps the best-known American economist of the day, said just a week before the crash, “Stock prices have reached what looks like a permanently high plateau. I expect to see the stock market a good deal higher than it is today within a few months.” Fisher ended up losing a fortune in the stock market crash.

Other people who did not see the crash coming were Myron Forbes, who was president of Pierce Arrow Motor Company, and E. H. H. Simmons, president of the New York Stock Exchange. Also, Winston Churchill, who until earlier that year had served for five years as the chancellor of the exchequer, an important financial position in Great Britain, was in America just a few weeks before the crash and had written to his wife telling her how well they were doing in the stock market. On October 24, 1929, when word got out that the stock market was crashing, thousands of people gathered on Wall Street to witness events. One of those people, Winston Churchill (who later became prime minister of Great Britain in 1940) watched from the visitors’ gallery of the New York Stock Exchange as his fortune disappeared on the trading floor below.

Predicting stock market movements is often difficult. Why do you think it is difficult?
Why Do People Buy Stock?

Millions of people, in countries all over the world, buy stock every day. Why do they do it? They do it based on a couple of reasons. Some people buy stocks for the dividends, which are payments made to stockholders based on a company’s profits.

**Example:** Suppose company X issued 1 million shares of stock purchased by different people. Each year the company tabulates its profit and loss, and when it earns a profit, it divides up much of the profit among the owners of the company as dividends. This year’s dividend might be $1 for each share of stock a person owns. So, if Florian owns 50,000 shares of stock, she will receive a dividend check for $50,000.

The other reason to buy stock is for the expected gain in its price. Stockholders can make money if they buy shares at a lower price and sell at a higher price.

**Example:** Kristor buys 100 shares of Microsoft stock today. He thinks that the company is going to do well and that a year from now he can sell the stock for as much as $50 more a share than he purchased it. In other words, he hopes to earn $5,000 on his stock purchase.

People also sell stock for many reasons. Smith might sell her 100 shares of IBM because she currently needs the money to help her son pay for college. She also might sell the stock in order to help put together a down payment for a house. Another common reason for selling stock is that the stockholder thinks that the stock is likely to soon go down in price. In other words, it is better today to sell at $25 a share than to sell one week from now at $18 a share.
QUESTION: Suppose I buy 100 shares of stock at a price of $40 a share. The stock goes down in price to $32. Shouldn’t I wait until the share price rises to $40 or higher before I sell it?

ANSWER: When it comes to stock, what goes down is not guaranteed to go up. In other words, even if the stock’s price has gone down by $8, it might go down more. You want to always look forward to the future (not backward to the past) when deciding whether to sell a stock. If you see reasons for the price to fall even farther, it is better to sell at $32 (and take a $8 per share loss) than to sell at $25 and take a bigger loss. If you believe the price will eventually rise, then you would want to hold on to the stock.

How to Buy and Sell Stock

Buying and selling stock is relatively easy. You can buy or sell stock through a full-service stock brokerage firm, a discount broker, or an online broker. With all varieties of brokers, you usually open an account by depositing a certain dollar amount into it, most commonly between $1,000 and $2,500. Once you open an account, you can begin to trade (buy and sell stock).

With a full-service broker, you may call up on the phone and ask your broker to recommend some good stock. Your broker, usually called an account representative, might say that you should buy X, Y, or Z stock. You may ask why these stocks are good ones to buy. He may say that the research department in the firm has looked closely at these stocks and believes they are headed for good times. The analyst’s reasons could be based on the current economic situation in the country, the level of exports, the new technology that is coming to market, and so on.

If you do not require help to buy stocks, you can go either to a discount broker or to an online broker. You can call up a discount broker the same way you called up a full-service broker and tell the broker that you want to buy or sell so many shares of a given stock. The broker will simply execute the trade for you. He or she is not there to offer any advice.

The same process can be undertaken online. You go to your broker’s Web site, log in by entering your username and password, and then buy or sell stock. You may submit an order to buy 100 shares of stock X. Your online broker will register your buy request and then note when it has been executed. Your account, easily visible online, will show how much cash you have in it, how many shares of a particular stock you hold, and so on.

Deciding Which Stocks to Buy

You can use various methods to decide which stocks to purchase. The first way is to simply buy shares of stock that you think are going to rise in price. So you might buy 50 shares of Microsoft, 100 shares of General Electric, and 500 shares of Disney.
Mutual Funds

Another way is to invest in a stock mutual fund, which is collection of stocks. The fund is managed by a fund manager who works for a mutual fund company. For example, Smith may operate mutual fund Z at mutual fund company Z. If you put, say, $10,000 in mutual fund Z, you are in effect buying the stocks in that fund. Let’s say that fund consists of stocks A, B, C, W, and X at the current time. The fund manager may, on any given day, buy more of A and sell some of B, or sell all of C and add stock D to the fund portfolio.

It is up to the fund manager to do what he or she thinks is best to maximize the overall returns from the fund. As a buyer of the fund, you put your money in the fund manager’s hands. Mutual fund companies often advertise the records of their fund managers. They might say, “Our fund managers have the best record on Wall Street. Invest with us and get the highest returns you can.” You may be prompted to put your money in the hands of the “experts” because you feel they know better than you what stocks to buy and sell and when to do each.

Buying the Market

You could use another strategy, though, and buy the stocks that make up a stock index. An index is basically a portfolio of stocks that represent a particular market or a portion of it, used to measure changes in a market or an economy. Earlier, we discussed the DJIA. The DJIA is a stock index. It gives us information on the performance of the 30 stocks that make up the Dow. Another index is the Standard & Poor’s 500. This index is a broad index of stock market activity because it is made up of 500 of the largest U.S. companies. Another broad-based stock index is the Wilshire 5000, which consists of the stocks of about 6,500 firms.

A particularly easy way to get a composite type of fund is to buy what are called “Spyders.” The term Spyders, or SPDRs, which stands for “Standard & Poor’s Depository Receipts,” are securities representing ownership in the SPDR Trust. The SPDR Trust buys the stocks that make up the Standard & Poor’s (S&P) 500 index. Spyders are traded under the symbol SPY. When this book was being written, Spyders were selling for about $120 a share. Spyders cost one-tenth of the S&P index (total of the share prices of the stocks in the S&P). For example, if the S&P index is 1,200, then a Spyder will sell for $120.

When you buy Spyders, you are buying the stock of 500 companies. Because you are buying the stock of so many companies, you are said to be “buying the market.”

EXAMPLE: Jack decides to “buy the market” instead of buying a few individual stocks. He checks on the current price of Spyders. He sees the current price is $120.16 per share. He decides to buy 100 shares, for a total price of $12,016. His online broker charges him a small commission for this stock purchase.

A Student Asks

QUESTION: Is it a good idea to buy stock?

ANSWER: A lot depends on such factors as your age (are you at the beginning of your work career or near the end), your income, and how much you can afford to invest in the stock market. There is no guarantee that stock that you buy will go up in price. However, generally it is the case that stock prices increase over the long run.
Let’s say that you just inherited some money and decide that you would like to buy some stock. What’s your investment strategy?

- You could pick and buy certain individual stocks yourself.
- You could buy shares in a mutual fund. You would invest your money in a fund created by the so-called Wall Street experts.
- A third option would be to buy a stock index fund, such as the 30 stocks that make up the DJIA, or the 500 stocks that make up the Standard & Poor’s 500.

Most people think stock mutual funds do better than the stock index funds because the experts pick the stocks that make up the funds. These experts make it their business to study stocks day and night. Right?

Enter Burton Malkiel, a professor of financial economics at Princeton University. He has shown that a person who invested $10,000 in 1969 in the Standard & Poor’s 500 stock index fund (which is not managed by the experts) would have seen its value increase to $310,000 by mid-1984. But the person who invested $10,000 in 1969 in the average actively managed fund would have seen its value increase to $170,000, or $140,000 less than the stock index fund.

Many rigorous studies confirm Malkiel’s results. For now, though, consider a rather informal study done by editors at Forbes magazine. They would pin the stock market page of the newspaper to the back of an office door and throw darts at it. Then they would invest “play money” in each of the stocks the dart hit. At the same time, they would invest the same amount of “play money” in the stock picks of some of the best-known stock pickers on Wall Street. At the end of the year, they would check to see which group of stocks (dart-picked or expert-picked) did better. Over the years, few highly trained professionals did as well as the darts.

To understand why throwing darts will often beat the experts, consider the stocks of two companies, IBM and Ford. Suppose that on a given day each stock sells for $100 a share. Then one day IBM announces a major breakthrough in computer technology. On the same day, Ford has to recall one of its best-selling cars. In other words, the IBM news is good and the Ford news is bad.

What will happen to each company’s stock? No doubt IBM stock will be bid up in price and Ford stock will be bid down in price. At the end of the day, IBM will sell for more than $100 and Ford will be selling for less than $100. The prices of the two stocks will keep adjusting until it is no better to buy IBM stock than Ford stock. In the end it will be no better to buy Ford at the lower price than IBM at the higher price.

As long as stock prices adjust quickly—and evidence indicates that they do—then no stock will be better than or worse than any other stock. If all stocks are alike once their prices have adjusted to good and bad news, then even a monkey throwing darts can pick stocks as well as Wall Street experts.

You can test this yourself. Pick 10 stocks using the dart method. Invest $100 play money in each stock. Next, go online and search for “top stock picks.” Invest $100 play money in the same number of top picks as dart-picked stocks. Compare the results.

If stock pickers can do no better (and sometimes worse) than throwing darts at the stock market page, then why do you think some people still pay the experts to pick stocks for them?
For example, suppose we look at the S&P Index during the period 1926–2004. The data here show a 70 percent likelihood of earning a positive investment return over a one-year period, but an 86.5 percent chance of a positive investment return if you held the stocks in the index over a five-year period. The probability of a positive return went up to 97.1 percent if you held the stocks for 10 years. In other words, the longer you hold stocks in the stock market, the more likely you will earn a positive return.

How to Read the Stock Market Page

Suppose you purchased some stock and now you want to find out how it is doing. Is it rising or falling in price? Is it paying a dividend? How many shares were traded today?

One of the places you can find the answers to these questions, and more, is the newspaper. Turn to the stock market page in the newspaper. (Keep in mind that many newspapers are online.) You will see something similar to what you see in Exhibit 16-4. The descriptions that follow focus on the last stock (in bold type) as an example.

• 52W high. This column provides the high price of the stock during the past year or past 52 weeks. For our example stock, you see the number “51.25,” which is $51.25.

• 52W low. This column provides the low price of the stock during the past 52 weeks. For our example stock, you see the number “27.69,” which is $27.69.

• Stock. In this column you see “Rockwell,” which is either an abbreviation of the name of the company or the full name of the company whose stock you are studying. The company here is Rockwell Automation Incorporated.

• Ticker. In this column you see “ROK,” which is the stock or ticker symbol for Rockwell Automation Incorporated.

• Div. In this column, the number, in this case “1.02,” indicates that the last annual dividend per share of stock was $1.02. For example, a person who owned 5,000 shares of Rockwell Automation stock would have received $1.02 per share or $5,100 in dividends. (If this space is blank, then the company does not currently pay out dividends.)

• Yield %. The yield of a stock is the dividend divided by the closing price. The closing price of the stock (shown in one of the later columns) is 47.54, or $47.54. If we divide the dividend ($1.02) by the closing price ($47.54), we get a yield of 2.1 percent. A higher yield is better, all other things being the same.

Yield = Dividend per share/Closing price per share

The closing price of the stock (shown in one of the later columns) is 47.54, or $47.54. If we divide the dividend ($1.02) by the closing price ($47.54), we get a yield of 2.1 percent. A higher yield is better, all other things being the same.

• P/E. The PE ratio, or price-earnings ratio, is obtained by taking the latest closing price per share and dividing it by the latest available net earnings per share. In other words,
PE = Closing price per share/Net earnings per share

A stock with a PE ratio of 14.5, like the one here, means that the stock is selling for a share price that is 14.5 times its earnings per share. What does this number tell us about the stock? Let’s suppose that most stocks have a PE ratio of 14.5. In comparison, let’s say stock X has a PE ratio of 50. What would make stock X have a PE ratio so much higher than most stocks? A high PE ratio usually indicates that people believe the stock will experience higher than average growth in earnings. Whether they are right remains to be seen.

- **Vol 00s.** Volume in the hundreds, or 6412 here, translates to 641,200. In other words, 641,200 shares of this stock were traded (bought and sold) on this particular day.

- **High.** This number, 47.99, stands for the high price the stock traded for on this particular day, which translates to $47.99 for this stock.

- **Low.** This number is the low price the stock traded for on this particular day. The number is 47.00 and translates to $47.00.

- **Close.** The number here—47.54, or $47.54—is the share price of the stock when trading stopped this particular day.

- **Net chg.** Net change is the difference between the current closing price and the previous day’s closing price. The number here is +0.24, which translates to $0.24, meaning that the price of the stock on this particular day closed 24 cents higher than it did the day before.

---

**Wall Street is the only place that people ride to in a Rolls Royce to get advice from those who take the subway.”

—Warren Buffett

---

### Defining Terms

1. Define:
   - a. investment bank
   - b. dividend

### Review Facts and Concepts

2. What information did Charles Dow convey with the Dow Jones Industrial Average?
3. What does it mean to “buy the market”?

### Critical Thinking

5. Suppose that for 500 stocks, the share price of each stock rises on Monday. Does everyone in the stock market believe that stocks are headed even higher, since no one would buy a stock if he or she thought share prices were headed lower?

### Applying Economic Concepts

6. Which of the two stocks has a bigger gap between its closing price and net earnings per share: Stock A with a PE ratio of 17 or Stock B with a PE ratio of 45?
What Is a Bond?

Suppose a company in St. Louis wants to build a new factory. How can it get the money to build the factory? You will recall that companies use three principal ways to raise money. First, they can go to a bank and take out a loan. Second, they can issue stock or, in other words, sell ownership rights in the company. Third, they can issue bonds. A bond is simply an IOU, or a promise to pay. Typically, bonds are issued by companies, governments, or government agencies. In each case, the purpose of issuing a bond is to borrow money. The issuer of a bond is a borrower. The person who buys the bond is a lender.

QUESTION: I don’t quite understand how a person who buys something (like a bond) can be called a lender. I thought that when you lend money to someone you just turn over money to that person and he or she pays you back later.

**ANSWER:** Suppose a friend asks to borrow $10, and tells you that he will pay you back $11 next month if you lend him the $10 today. You say okay and hand over $10. Now suppose your friend takes out a piece of paper, and writes the following on it: “I owe the person who returns this piece of paper one month from today a total of $11.” Then he signs his name and gives the piece of paper to you. For all practical purposes, that piece of paper is a bond (an IOU statement) and you, by purchasing the IOU, have become a lender.

The Components of a Bond

The three major components of a bond are face (par) value, maturity date, and coupon rate.

The **face value**, or **par value**, of a bond is the total amount the issuer of the bond will repay to the buyer of the bond. For example, suppose Dawson buys a bond from company Z. Let’s say that the face value of the bond is $10,000. It follows that company Z
promises to pay Dawson $10,000 at some point in the future.

The maturity date is the day when the issuer of the bond must pay the buyer of the bond the face value of the bond. For example, suppose Dawson buys a bond with a face value of $10,000 that matures on December 31, 2015. On that date, he receives $10,000 from the issuer of the bond.

The coupon rate is the percentage of the face value that the bondholder receives each year until the bond matures. For example, suppose Dawson buys a bond with a face value of $10,000 that matures in 5 years and has a coupon rate of 10 percent. He receives a coupon payment of $1,000 each year for 5 years.

**Example:** Jackie buys a bond with a face value of $100,000 and a coupon rate of 7 percent. The maturity date of the bond is 10 years from today. Each year, for the next 10 years, Jackie receives 7 percent of $100,000 from the issuer of the bond. This amounts to $7,000 a year for each of 10 years. In the tenth year, she also receives $100,000 from the issuer of the bond. With respect to this bond, the maturity date is 10 years, the coupon rate is 7 percent, and the face value is $100,000.

**Bond Ratings**

Bonds are rated or evaluated. The more likely the bond issuer will pay the face value of the bond at maturity and will meet all scheduled coupon payments, the higher the bond’s rating. Two of the best known ratings are Standard & Poor’s, and Moody’s. A bond rating of AAA from Standard & Poor’s or a rating of Aaa from Moody’s is the highest rating possible. A bond with this rating is one of the most secure bonds you can buy; the bond issuer is almost certain to pay the face value of the bond at maturity and meet all scheduled coupon payments.

Bonds rated in the B to D category are lower-quality bonds than those rated in the A category. In fact, if a bond is rated in the C category it may be in default (the issuer of the bond cannot pay off the bond) and if it is rated in the D category, it is definitely in default.

**A Student Asks**

**Question:** Suppose I want to buy a bond issued by some corporation. Would I buy the bond from the corporation itself or from someone else (say, for example, from a person who had purchased a bond from the corporation at an earlier time)?

**Answer:** If the corporation is currently issuing (selling) bonds, you could buy the bond from the corporation. You would purchase them through a broker who is finding buyers for the bonds the corporation wants to sell. If the corporation is not currently issuing bonds, you could buy the bond from someone who purchased and still holds the bond bought from the corporation at an earlier date.

Primary market and secondary market are the terms that apply here. If you are buying a bond that is newly issued, you are buying it in the primary market; if you are buying a bond from someone who currently owns the bond, you are buying it in the secondary market. By far, most bond and stock purchases occur in the secondary market.

**Coupon Rate**

The percentage of the face value that the bondholder receives each year until the bond matures.

An effective, practical way for young people to begin saving and investing is to buy U.S. savings bonds. Issued by the U.S. government, these bonds can be purchased in smaller, more affordable denominations than most other bonds.
The price that a person pays for a bond depends on market conditions. The greater the demand for the bond relative to the supply, the higher the price. The price is important because it determines the yield that the bondholder receives on the bond.

Let’s suppose that Sonya is currently the owner of a bond with a face value of $1,000 and a coupon rate of 5 percent. She decides to sell this bond to Joshua for $950. Now we know that the coupon payment on this bond will be 5 percent of $1,000 each year, or $50. In other words, Joshua can expect to receive $50 each year. However, the yield on the bond is the coupon payment divided by the price paid for the bond.

\[ \text{Yield} = \frac{\text{Annual coupon payment}}{\text{Price paid for the bond}} \]

In this example it is $50/$950, or 5.26 percent. For the bond buyer, higher yield is better. (Sometimes, in everyday language, people talk about the yield on the bond as being the same as the interest rate. For example, someone might ask “What is the yield on that bond?” when they are actually referring to the interest rate.)

Now suppose that Joshua paid $1,100 for the bond instead of $950. In this case the yield would be $50/$1,100, or 4.54 percent. In other words, as the price paid for the bond rises, the yield declines.

When are the coupon rate and yield the same? Obviously they are the same when the price paid for the bond equals the face value. For example, consider a bond with a face value of $1,000 and a coupon rate of 5 percent. If the bond is purchased for $1,000, then the yield ($50/$1,000), which is 5 percent, is equal to the coupon rate.

Example: Robin buys a bond with the face value of $10,000 for $9,000. The coupon rate on the bond is 4 percent. Because the coupon rate is 4 percent, Robin receives 4 percent of $10,000 (the face value of the bond), or $400, each year through the time when the bond matures. Because Robin bought the bond for a price lower than the face value, the bond’s yield will be higher than the coupon rate. To find the yield, we divide the annual coupon payment of $400 by the price of the bond ($9,000), giving us a yield of 4.4 percent.

A Student Asks

**Question:** Can a bond issuer set the coupon rate at anything he or she wants? If so, why wouldn’t the bond issuer always set the coupon rate at something like 1 percent?

**Answer:** The answer has to do with competition. Suppose company A needs to borrow $1 million and decides to issue $10,000 bonds. The only way anyone would be willing to buy one of these bonds (lend the company $10,000) would be if the company promised the buyers a rate of return comparable to the interest rate they could get if they simply put the money in a savings account. In other words, the company has to set the...
You might think that economists would do pretty well in the stock market compared to the average person. After all, their job is to understand how markets work and to study key economic indicators.

So how do you explain a May 11, 2005, Los Angeles Times article titled “Experts Are at a Loss on Investing”? The article looked at the investments of four economists—all Nobel Prize winners in Economics. Not one of them said that he invests the way he should invest, and none of them seemed to be getting rich through their investments. In other words, often a big difference separates knowing what to do from doing it.

Harry M. Markowitz won the Nobel Prize in Economics in 1990. He won the prize for his work in financial economics; he is known as the father of “modern portfolio theory,” the main idea being that people should diversify their investments.

Did Markowitz follow his own advice? Not really. Most of his life he put half of his money in a stock fund and the other half in a conservative, low-interest investment. Markowitz, age 77 at the time, says, “In retrospect, it would have been better to have been more in stocks when I was younger.”

George Akerlof, who won the Nobel Prize in Economics in 2001, invested most of his money in money market accounts, which tend to have relatively low interest rate returns (but are safe). Akerlof, when confronted with this fact, said, “I know it’s utterly stupid.”

Clive Granger, who won the Nobel Prize in Economics in 2003, was asked about his investments. He said, “I would rather spend my time enjoying my income than bothering about investments.”

Daniel Kahneman, who won the Nobel Prize in Economics in 2002, said the following about his investments: “I think very little about my retirement savings, because I know that thinking could make me poorer or more miserable or both.”

The actions of our four Nobel Prize winners also point out something else. As we said once before, many people think that economics is simply about money and money matters. It is not. It is about utility and happiness and making oneself better off. Each of our four Nobel Prize winners might not have been doing the best thing for his wallet, but certainly each knew it and continued on the same path anyway. In other words, each was willing to sacrifice some money in order to live a preferred lifestyle.

What is the lesson for you? Should you care nothing about your investments and hope that your financial future will take care of itself? Or should you spend time regularly watching, researching, and evaluating various investments that either you have made or plan to make? Neither extreme is too sensible. It is not a matter of either one or the other. It is possible to learn enough about investments to protect yourself from the financial uncertainties of the future, but not spend so much time worrying about the future that you don’t enjoy the present.

Sometimes people choose not to learn about various investments because they think what they need to learn is too difficult to understand. A person might say, “Learning about stocks and bonds, and put options, and other such things is just beyond me.” What do you think?
coupon rate in such a way that it can attract people to its bonds. If people are earning, say, 5 percent, on their savings account, they will not lend money to the company unless the company pays a coupon rate of at least 5 percent. In short, the coupon rate is set at a competitive level and not at just any level the company wants to set it.

Types of Bonds

As stated earlier, bonds are typically issued by companies, governments, and government agencies. This section briefly describes some of the many types of bonds that these entities issue.

Corporate Bonds A corporate bond is issued by a private corporation. It is typical to find a corporate bond with a $10,000 face value. Corporate bonds may sell for a price above or below face value depending on current supply and demand conditions for the bond.

The interest that corporate bonds pay is fully taxable.

Municipal Bonds Municipal bonds are issued by state and local governments. States may issue bonds to help pay for a new highway. Local governments may issue bonds to finance a civic auditorium or a sports stadium. Many people purchase municipal bonds because the interest paid on the bonds is not subject to federal taxes.

Treasury Bills, Notes, and Bonds When the federal government wants to borrow funds, it can issue Treasury bills (T-bills), notes, or bonds. The only difference between bills, notes, and bonds is their time to maturity. Although called by different names, all are bonds. Treasury bills mature in 13, 26, or 52 weeks. Treasury notes mature in 2 to 10 years, and Treasury bonds mature in 10 to 30 years. Treasury bills, notes, and bonds are considered safe investments because it is unlikely that the federal government will default on its bond obligations. After all, the federal government has the power to tax to pay off bondholders.

Inflation-Indexed Treasury Bonds In 1997, the federal government began to issue inflation-indexed bonds. The first indexed bonds issued matured in 10 years and were available at face values as small as $1,000. The difference between an inflation-indexed Treasury bond and a Treasury bond that is not indexed is that an inflation-indexed Treasury bond guarantees the purchaser a certain real rate of return, but a nonindexed Treasury bond does not. For example, suppose you purchase an inflation-indexed, 10-year, $1,000 bond that pays 4 percent coupon rate. If no inflation occurs, the annual interest payment will be $40. On the other hand, if the inflation rate is, say, 3 percent, the government will “mark up” the value of the bond by 3 percent—from $1,000 to $1,030. Then it will pay 4 percent on this higher dollar amount. So instead of paying $40 each year, it pays $41.20. By increasing the monetary value of the security by the rate of inflation, the government guarantees the bondholder a real return of 4 percent.

If one of these traders was buying bonds for you, what information do you think he would need to have about the bonds being considered for purchase?
How to Read the Bond Market Page

If you turn to the bond market page of the newspaper, you can find information about the different types of bonds. If you want to invest in bonds, you will need to know how to read the information that relates to both corporate bonds and Treasury bonds. First let’s look at corporate bonds.

Corporate Bonds

Not all publications will present corporate bond information in exactly the same format. The format we show you here is most common.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PacBell 6 5/8</td>
<td>34</td>
<td>6.7</td>
<td>115</td>
<td>99 1/2</td>
</tr>
</tbody>
</table>

In the first column you find three pieces of information. The first is the abbreviation for the company that issued the bond. Here you see “PacBell,” which stands for Pacific Bell, the telecommunications company. Next to that you see “6 5/8,” which indicates the coupon rate of the bond. Next you see “34,” the year the bond matures, which in this case it is 2034.

In the second column you find the current yield. (We showed how to compute the yield on a bond earlier.) This current yield means that if the bond is purchased today (hence the word current), it will provide a yield of 6.7 percent.

In the third column you find the volume of sales in dollars for a particular day. The number here is 115, so the dollar volume today is $115,000.

The fourth column indicates the closing price for the bond on this particular day: 99 1/2. Bond prices are quoted in points and fractions; each point is $10. Thus, 99 1/2 is $999.50 ($99.5 x 10 = $999.50).

In the fifth column we see the net change for the day. The “−3/4” means the price on this day was $7.50 lower than it was the day before.

Treasury Bonds

Not all publications present Treasury bond information in exactly the same format. The following format is common.

<table>
<thead>
<tr>
<th>Rate</th>
<th>Maturity</th>
<th>Bid</th>
<th>Ask</th>
<th>Chg</th>
<th>Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 3/4</td>
<td>Feb. 09</td>
<td>105:12</td>
<td>105:14</td>
<td>−1</td>
<td>5.50</td>
</tr>
</tbody>
</table>

At City Hall in New York City the city government might decide that the city needs a new football stadium and that the best way to finance construction of the stadium would be to sell bonds. What do we call the type of bonds that the city would sell?
In the first column we find the coupon rate of the bond. This Treasury bond pays 7 3/4 percent of the face value of the bond in annual interest payments.

In the second column we learn when the bond matures. This Treasury bond matures in February 2009.

In the third column we learn how much the buyer is willing to pay for the bond (the price you will receive if you sell it). The number here is 105:12. The number before the colon is multiplied by 10, and the number after the colon stands for 32nds of $10. Therefore, first multiply 105 × $10, which gives you $1,050. Then, since 12/32 is 0.375, multiply 0.375 times $10, giving you $3.75. Add the $3.75 to $1,050 to get $1,053.75.

The fourth column indicates how much the seller is asking for the bond. In other words, it is the price you will pay to the seller if you buy the bond. In this case, it is $1,054.37.

In the fifth column the change in the price of the bond from the previous trading day is quoted in 32nds. It follows then that a –1 means that the price of the bond fell by 1/32nd of $10 or approximately 32 cents from the previous day.

Finally, yield, which is based on the ask price, is the return a person who buys the bond today (at the ask price) and holds it to maturity will realize. For this bond, the yield is 5.50 percent.

Risk and Return

We discussed stocks in the first section of this chapter and bonds in the second. The common denominator between both these sections is that people buy stocks or bonds for the return. Simply stated, they buy stocks and bonds in the hope that they will “make money.”

We need to keep in mind that stocks and bonds often come with different risk and return factors. For example, it might be much riskier to buy stock in a new company than it is to buy a Treasury bond issued by the U.S. Treasury. You can be fairly sure that the U.S. Treasury is going to pay off that bond; after all, the U.S. government has the ability to tax people. However, you can’t be so sure you’ll have a positive return on the stock you buy in the new company. You might buy the stock for $10 one day, and three days later it falls to $1 and stays at that price (or thereabouts) for 10 years.

Back in Chapter 1 you encountered a well-known principle in economics: There is no such thing as a free lunch. Applied to stocks and bonds (or any investment), it means that you never get something for nothing. In short, higher returns come with higher risks and lower returns come with lower risks. Treasury bonds, for example, will often pay (relatively) low returns because they are so safe (risk-free).
What Would Life Be Like Without Financial Markets?

In Section 1, you learned that the purpose of a financial market (such as the stock or bond market) is to channel money from some people to others. Now you have a better idea of how this process happens. People with saved funds might buy stock in a company that wants the money to buy a piece of machinery or a new plant. Similarly, people with saved funds might buy bonds (and therefore lend money) from a company that wants to borrow the money to buy a piece of machinery or a new plant.

To see just how important financial markets are, imagine a world without them. Suppose that in this world you are a person with a great idea for a new product. The only problem is that it is almost impossible for you to save enough money (on your current salary) to develop, produce, and sell the new product. In a world without financial markets, you have nowhere to turn. You can’t issue stock in your new company because no stock market provides a place of trade. You can’t borrow the funds because no bond market provides a place of exchange. So, your good idea is never acted upon. Society never gets the new product.

In a world of financial markets, though, the people with the good ideas can be matched up with the people who saved funds that they would like to invest. As a result, society ends up with more goods and services than otherwise would be the case.

Defining Terms
1. Define:
   - a. face value of a bond
   - b. coupon rate of a bond
   - c. yield

Review Facts and Concepts
2. a. Is an issuer of a bond a lender or borrower?
   b. Is a buyer of a bond a lender or borrower?

3. If the face value of a bond is $10,000 and the annual coupon payment is $600, then what is the coupon rate?
4. If the annual coupon payment is $500 and the price paid for the bond is $9,544, then what is the yield?

Critical Thinking
5. “If you can predict interest rates, then you can earn a fortune buying and selling bonds.” Do you agree or disagree? Explain your answer.

Applying Economic Concepts
6. Why might a person purchase an inflation-indexed Treasury bond?
Futures

Myers is a miller. He buys wheat from the wheat farmer, turns the wheat into flour, and then sells the flour to the baker. Obviously he wants to earn a profit for what he does. But how much, if any, profit he earns depends on the price at which he can buy the wheat, and the price at which he can sell the flour.

Now suppose Myers enters into a contract with a baker. Myers promises to deliver to the baker 1,000 pounds of flour in six months. At the current wheat price, $3 a bushel, Myers knows he can earn a profit on his deal with the baker. But he doesn’t need the wheat now; he needs it in about 6 months. What will the price of wheat be then? If it is, say, $2 a bushel, then Myers will earn more profit on the deal with the baker. But if it is, say, $4 a bushel, then he will lose money on the deal. Myers’s problem is that he doesn’t know what a bushel of wheat will sell for in six months.

Myers decides to enter into a futures contract. A futures contract is a contract in which the seller agrees to provide a particular good (in this case, wheat) to the buyer on a specified future date at an agreed-upon price. For example, Myers might buy bushels of wheat now, for a price of $3 a bushel, to be delivered to him in six months.

Who would enter into a futures contract with Myers? A likely possibility would be a speculator, someone who buys and sells commodities to profit from changes in the market. A speculator assumes risk in the hope of making a gain.

Suppose Smith, a speculator, believes that the price of wheat six months from now is going to be lower than it is today. She may look at things this way: “The price of wheat today is $3 a bushel. I think the price of wheat in six months will be close to $2 a bushel. Why not promise the miller that I will deliver him as much wheat as he wants in six months if, in return, he agrees today to pay me $3 a bushel for it? Then, in six months, I will buy the wheat for $2 a bushel, sell it to the miller for $3 a bushel, and earn myself $1 profit per bushel.”

Myers, the miller, and Smith, the speculator, enter into a futures contract. Myers agrees to buy 200 bushels of wheat for delivery in six months; Smith agrees to sell 200 bushels of wheat to Myers for delivery in six months.
What does each person get out of the deal? Myers, the miller, gets peace of mind. He knows that he will be able to buy the wheat at a price that will let him earn a profit on his deal with the baker. Smith takes a chance, which she is willing to take, for the chance of earning a profit.

**Example:** Wilson is a farmer, who grows primarily corn. The current price of corn is $2.34 a bushel. Wilson doesn’t have any corn to sell right now, but she will in two months. She hopes that between now and then, the price of corn won’t fall, say, to something under $2. She decides to enter into a futures contract in corn. She promises to deliver 5,000 bushels of corn two months from now for $2.34 a bushel. Johnson, a speculator in corn, decides that this deal is a good one for him because he believes that in two months the price of a bushel of corn will rise to $3.14. So Wilson and Johnson enter into a futures contract. Two months pass and the price of corn drops to $2.10. Johnson turns out to be wrong about the price rising. So, Wilson delivers 5,000 bushels of corn to Johnson, for which Johnson pays Wilson $2.34 a bushel (total: $11,700) as agreed. Then Johnson turns around and sells the corn for $2.10 a bushel (receiving $10,500). Johnson loses $1,200 on the deal.

**QUESTION:** In the example, the price of corn went down. It could have gone up, though. In this case, would Wilson, the farmer, have lost money?

**ANSWER:** Let’s suppose that the price of corn rose to $4. In this case, Wilson would have delivered 5,000 bushels of corn to Speculator Johnson for $2.34 a bushel, and then Johnson would have turned around and sold the corn for $4 a bushel. In this case, Speculator Johnson earned the difference between $4 and $2.34—or $1.66—for every one of the 5,000 bushels, for a total of $8,300.

Did Wilson, the farmer, lose this $8,300? In a way she did. She didn’t lose it in the sense that it could have been in her pocket (if she hadn’t entered into the futures contract with Johnson) and now it isn’t. This situation might be okay with Wilson. Wilson, remember, may not want to be in the speculating business. She might want to only be worried about growing and selling corn and nothing else. Maybe she doesn’t want to be involved in speculating on the price of corn. In other words, maybe she is willing to “give up” $8,300 now and then so that she can sleep soundly at night and not worry constantly about possible price declines.

**Currency Futures**

A futures contract can be written for wheat, as we have seen, or for a currency, a stock index, or even bonds. Here is how a currency futures contract works.

Suppose Bill owns a Toyota dealership in Tulsa, Oklahoma. It is currently May and Bill is thinking about a shipment of Toyotas he plans to buy in August. He knows that he must buy the Toyotas from Japan with yen, but he has a problem. At the present time, the dollar price of yen is $0.012. Bill wonders...
what the price of yen will be in August when he plans to make his purchase. Suppose the dollar price of yen rises to $0.018. If the price of the yen goes up, then instead of paying $30,000 for a Toyota priced at 2.5 million yen, he would have to pay $45,000.

What can Bill do? He could purchase a futures contract today for the needed quantity of yen in August. Who is willing to sell this contract? Obviously someone who thinks the dollar price of yen will go down between now and August. For example, Julie may think to herself, “I think the dollar price of yen will go down between now and August. Therefore, I will enter into a contract with Bill stating that I will give him 2.5 million yen in August for $30,000, the exchange rate specified in the contract being 1 yen = $0.012. If I am right, and the actual exchange rate at the time is 1 yen = $0.011, then I can purchase the 2.5 million yen for $27,500, and fulfill my contract with Bill by turning the yen over to him for $30,000. I walk away with $2,500 profit.”

**EXAMPLE:** Suppose you check the dollar price of a euro today and find that it is 83 cents. In other words, for every 83 cents, you get 1 euro in return. Let’s say that you believe that in three months you will have to pay $1.10 to buy a euro. With this belief in mind, you enter into a futures contract: essentially, you say that you are willing to buy $10 million worth of euros three months from now for 83 cents a euro. Who might be willing to enter into this contract with you? Anyone who thinks the dollar price of a euro will be lower (not higher) in three months. Suppose you and this other person enter a contract. You promise to buy $10 million worth of euros in three months (at 83 cents a euro) and this other person promises to sell you $10 million worth of euros in three months (at 83 cents a euro).

Three months pass and we learn that it takes 97 cents to buy a euro (not 83 cents and not $1.10). What happens now? The person who entered into a contract with you has to buy $10 million worth of euros at an exchange rate of 97 cents = 1 euro. For $10 million, he gets 10,309,278 euros. He then turns these euros over to you and gets 83 cents for every euro, which gives him $8,556,701. Obviously this person has taken a loss; he spent $10 million to get $8,556,701 in return—a loss of $1,443,299.

What about you? You now have 10,309,278 euros for which you paid $8,556,701. How many dollars will you get if you sell all those euros? Well, since you get 97 cents for every euro, you will get approximately $10 million. Are you better off or worse off now? You are better off by $1,443,229.
At the close of the twentieth century, the editors of the financial magazine *The Economist* identified the highest returning investments for each year, beginning in 1900 and ending in 1999. For example, the highest-returning investment in 1974 was gold, in 1902 it was U.S. Treasury bills, and in 1979 it was silver.

The editors then asked how much income a person would have earned at the end of 1999 if she had invested $1 in the highest-returning investment in 1900, and then taken the returns from that investment and invested it in the highest-returning investment in 1901, and so on for each year during the century. After taxes and dealer costs, she would have earned $1.3 quadrillion. (Quadrillion comes after trillion. In 2004, Bill Gates, the richest person in the world, had $47 billion, so $1.3 quadrillion is 27,659 times what Bill Gates has.) What is the lesson? With perfect foresight (or with a crystal ball that always correctly tells you what the highest-returning investment of the year will be), one would be rich beyond his or her imagination.

After the editors ran their experiment, they changed it. They went back and asked themselves what one would have earned over the twentieth century if, instead of investing in the highest-returning investment in a given year, she invested in it one year late. In other words, if X is the best investment in 1956, then invest in it in 1957.

Why did the editors choose to proceed this way? Because they believed that many people only invest in a “hot” investment when it is too late. In other words, they invest in it after they have heard about it, but investing in it after they have heard about it is usually too late. Think of an investment as a mountain. Going up the mountain is comparable to increasing returns on the investment; going down the mountain is comparable to decreasing returns. It’s only when the investment is near its peak that many people hear about it. Then it’s too late, with no place to go but down.

Here’s an example. A person with a crystal ball, or with perfect foresight, would have invested in the Polish stock market in 1993, when no one was talking about it, and reaped a 754 percent gain. The typical investor would have invested in it one year later, in 1994, when everyone was talking about it. The problem is that the Polish stock market fell by 55 percent in 1994. So, what would the person who is always one year late have earned over the twentieth century? After taxes and dealer costs, $290.

What are the economic lessons here? First, the best investments are often the ones that you don’t hear about until it is too late. Second, ignoring the first lesson, and thinking that a popular investment is necessarily a good investment, is often the way to low returns.

Many people seem to think that when it comes to investments, whatever an investment did last year will be what it does this year. If it went up by 30 percent last year, well then it has to go up this year by 30 percent. Consider the words of Warren Buffet, one of the most successful investors of all times: “If past history was all there was to the game, the richest people would be librarians.”

What do you think: does anything guarantee that the future will look exactly like the immediate past?
Options

An option is a contract that gives the owner of the option the right, but not the obligation, to buy or sell shares of a stock at a specified price on or before a specified date. The two types of options are calls and puts.

Call Options

Call options give the owner of the option the right to buy shares of a stock at a specified price within the time limits of the contract. The specified price at which the buyer can buy shares of a stock is called the strike price. For example, suppose Brown buys a call option for $20. The call option specifies that she can buy 100 shares of IBM stock at a strike price of $150 within the next month. If the price of IBM stocks falls below $150, Brown doesn't exercise her call option. She simply tears it up and accepts the fact that she has lost $20. If she still wants to buy IBM stock, she can do so through her stockbroker as she normally does and pay the going price, which is lower than $150. If the price rises above $150, she exercises her call option. She buys the stock at $150 a share and then turns around and sells it for the higher market price. She has made a profit.

If Brown buys a call option, then someone must sell it to her. Who would sell her a call option? Any person who thought the option would not be exercised. That's $20 in his pocket.

Put Options

Put options give the owner the right, but not the obligation, to sell (rather than buy, as in a call option) shares of a stock at a strike price during some period of time. For example, suppose Martin buys a put option to sell 100 shares of IBM stock at $130 during the next month. If the share price rises above $130, Martin will not exercise his put option. He will simply tear it up and sell the stock for more than $130. On the other hand, if the price drops below $130, then he will exercise his option to sell the stock for $130 a share. Who buys put options? People who think the price of the stock is going to decline.

Who sells put options? Obviously, the people who think the price of the stock is going to rise. Why not sell a put option for, say, $20, if you believe that the price of the stock is going to rise and the buyer of the put option is not going to exercise the option?

A Student Asks

Question: I’ve heard some people talk about getting part of their pay or a bonus in the form of stock options. I’ve heard that some people make a lot of money through stock options. What are these options?

Answer: A stock option gives an employee the right to buy a specific number of shares of stock at a price specified by the employer. The “price” specified by the employer is often the current market price of the stock when the stock option is issued. The hope for the employee is that the market price will rise over time. For example, if the stock option specifies the price of $10 a share, the employee has the right to buy the stock at $10. Now suppose time passes and the market price of the stock rises to $40. What can the employee do now? He or she can buy the stock for $10 a share and then turn around and sell it for $40 a share.
How You Can Use Call and Put Options

Suppose you think a certain stock is going to rise in price during the next few months. Currently, the stock sells for $250 a share. You don’t have enough money to buy many shares of stock, but you would like to benefit from what you expect will be a rise in the price of the stock. What can you do? You can buy a call option. A call option will sell for a fraction of the cost of the stock. So, with limited resources, you decide to buy the call option, which gives you the right to buy, say, 100 shares of the stock at $250 anytime during the next three months.

Wait a minute. If you don’t have the money to buy the stock at $250 a share now, why does anyone think you will have the money to buy the stock at $250 in a few months? Well, you don’t have to buy the stock. If you are right that the price of the stock will rise, then the call option you are holding will become worth more to people. In other words, if you bought the option when the price of the stock was $250, and the stock rises to $300, then your call option has become more valuable. You can sell it and benefit from the uptick in the price of the stock.

Alternatively, let’s say you expect the price of the stock to fall. Then you can buy a put option. In other words, you buy the right to sell the stock for $250 anytime during the next three months. If the price does fall, then your option becomes more valuable. In fact, the further the price falls, the more valuable your put option becomes. People who have the stock and want to sell it for a price higher than it currently brings on the market will be willing to buy your put option from you for some price higher than the price you paid.

**EXAMPLE:** The current price of a call option for AT&T stock is $10, while the current price of the AT&T stock is $100. Ginny decides to buy a call option for $10. This call option gives her the right to buy AT&T at a price of $100. Five months pass and the price of AT&T shares has risen to $150. If Ginny wants to, she can exercise her call option to buy AT&T stock at $100. In other words, she can spend $100 to buy a share of stock, which she can turn around and immediately sell for $150, making a profit of $50 per share.

### Defining Terms
1. Define:
   - a. futures contract
   - b. option

### Review Facts and Concepts
2. Why might a person buy a futures contract?
3. Why might a person buy a call option?
Chapter Summary

Be sure you know and remember the following key points from the chapter sections.

Section 1

- Financial markets serve the purpose of channeling money from some people to other people.
- A stock is a claim on the assets of a corporation that gives the purchaser a share (ownership) in the corporation.
- Stocks are bought and sold on exchanges and markets such as the New York Stock Exchange.
- Some people buy stocks for the dividends, which are payments made to stockholders based on a company’s profits, or to make money by buying shares at a lower price and selling at a higher price.

Section 2

- A bond is simply an IOU, or a promise to pay, typically issued by companies, governments, or government agencies.
- The three major components of a bond are face or par value, maturity date, and coupon rate.
- The price that a person pays for a bond depends on market conditions: the greater the demand for the bond relative to the supply, the higher the price.
- The yield on the bond is the coupon payment divided by the price paid for the bond.

Section 3

- In a futures contract, a seller agrees to provide a particular good to the buyer on a specified future date at an agreed-upon price.
- An option is a contract giving the owner the right, but not the obligation, to buy (a call option) or sell (a put option) shares of a particular good at a specified price on or before a specified date.

Economics Vocabulary

To reinforce your knowledge of the key terms in this chapter, fill in the following blanks on a separate piece of paper with the appropriate word or phrase.

1. If a person buys Spyders, she is buying a stock index, sometimes referred to as buying ______.
2. The ______ of a stock is the dividend divided by the closing price.
3. A(n) ______ is an IOU, or a promise to pay.
4. The ______ on a bond is equal to the annual coupon payment divided by the face value of the bond.
5. A(n) ______ bond is a bond issued by a state or local government.
6. The federal government issues bonds of different maturities. Bonds with a maturity of 2 to 10 years are called ______.
7. A(n) ______ is a contract in which the seller agrees to provide a particular good to the buyer on a specified future date at an agreed-upon price.

Understanding the Main Ideas

Write answers to the following questions to review the main ideas in this chapter.

1. What is the purpose of financial markets?
2. If you buy a stock are you lending money to the company issuing the stock, or are you buying ownership in the company?
3. Name three places where stocks are bought and sold.
4. Why did Charles Dow create the Dow Jones Industrial Average?
5. What does it mean if the Dow Jones Industrial Average rises by, say, 100 points in a day?
6. What are the two reasons to buy stock?
7. What determines the price of a stock?
8. What does it mean if someone invests in a mutual fund? In a stock index fund?
9. “The stock market may not be the best place to put your money in the short run, but it is a pretty good place to put your money in the long run.” What does this statement mean?
10. The PE ratio of a stock is 33. What does this number mean?
11. List and define the three major components of a bond.
12. Name two of the best-known bond ratings services.
13. What determines whether a bond will have a good rating or a poor rating?
14. What is the yield of a bond?
15. Would you buy or sell bonds if you expected the interest rate to rise? Explain your answer.
16. If your city needed to raise money, what kind of bond would it issue?
17. What is a Treasury bill?
18. Suppose you are the type of person who likes to take chances, and you are not afraid of risk. Are you likely to receive higher or lower returns on your investments? Explain.
19. What is a futures contract? Give an example of a situation in which someone might buy such a contract. Why would this person buy the contract?
20. What is a call option? Why might someone buy a call option rather than stock shares?

**Solving Economic Problems**

Use your thinking skills and the information you learned in this chapter to find solutions to the following problems.

1. **Application.** In Chapter 10 you learned how the Fed decides to change the money supply. Suppose that the Fed decides to increase the money supply. How do you think this action will affect the stock market?
2. **Analysis.** If bonds and stocks are substitutes, then what should we see happen as bonds offer higher returns?
3. **Cause and Effect.** Suppose that there is no cause-effect relationship between the current condition of the federal budget (deficit, balance, or surplus) and the Dow Jones Industrial Average. If so, what would we expect to see in the real world?
4. **Writing.** Write a one-page paper discussing the factors that you think will influence the stock market over the next several years. Explain how the factors that you have identified will cause people to want to buy more stocks, sell more stocks, or turn entirely to other types of investments.
5. **Economics in the Media.** Check the newspaper and find the Dow Jones Industrial Average (DJIA) for the most recent date.
6. **Economics in the Media.** Check the newspaper and find the current stock price for five of the 30 companies that compose the DJIA.
7. **Economics in the Media.** Find an article in the newspaper or a story on television news that mentions one of the following: stock market, bond market, put option, call option, DJIA, S&P 500, or NASDAQ. Discuss the contents of the article or story.

**Doing the Math**

Do the calculations necessary to solve the following problems.

1. Assume that you own 1,250 shares of stock X. You just read in the newspaper that the dividend for the stock is $3.88 per share. What did you earn in dividends?
2. The closing price of a stock is $90.25. The stock is paying a dividend of $3.50. What is the yield of the stock?
3. The closing price of the stock is $66.40, and the net earnings per share is $2.50. What is the stock’s PE ratio?
4. The face value of a bond is $10,000 and the annual coupon payment is $850. What is the coupon rate?
5. Let’s say that a person buys a bond that matures in 10 years and pays a coupon rate of 10 percent. The face value of the bond is $10,000. How much money will the bondholder receive in the tenth year?
Is Free Trade the Best Policy for the United States?

Oklahoma can’t impose a tariff or quota on goods produced in Wisconsin, but the United States can and does impose tariffs and quotas on goods produced in other countries. For example, the United States currently imposes tariffs on garments, textiles, sugar, and many other goods produced in other countries. In other words, free trade exists among the states of the United States, but not among countries of the world. Do you think there should be free trade among countries, as there is among states? The issue has both opponents and proponents.

One day in November, two high school debate teams met and debated the issue of free trade. The question before each team was, Is free trade the best policy for the United States? Here is what four of the debaters, two from each team, had to say.

Alycyn Waldrop, Addison High School Debate Team

When I go to the store to buy something new, whether it be a pair of running shoes or a portable telephone, I want to buy the best product for the lowest price. That’s my objective, plain and simple. I have a better chance of meeting that objective living in a world of free trade than living in a world where countries impose tariffs and quotas on each other’s goods. Free trade maximizes competition, which is what guarantees me the highest quality goods at the lowest possible price.

Suppose there are 40 running shoe companies in the world, 10 in the United States and 30 in other countries. Am I, as a consumer, better off if all 40 companies sell their shoes in the United States, or if only the 10 U.S. companies sell their shoes in the United States? The answer is obvious. I am better off when 40 companies, domestic and foreign alike, compete for my business, than when only 10 domestic companies compete for it. Free trade is the policy that maximizes choice for the consumer. It guarantees high quality goods at reasonable prices.

Mike Saunders, Spring Valley High School Debate Team

If every country in the world practiced free trade, then perhaps free trade would be the best policy for the United States. But that’s not the case. That’s not the world we live in, and we shouldn’t pretend that it is. When other countries impose tariffs and quotas on our goods, that hurts our industries and our workers, and we should retaliate in kind.

Suppose the German government places a tariff on American cars imported into Germany. As a result, the price of American cars rises in Germany and Germans buy more German cars and fewer American cars. Since U.S. car companies sell fewer cars, they will have to lay off some of their workers. The people who are laid off are Americans, not Germans. In other words, some Americans will lose their jobs because the German government decided to impose tariffs on American cars.

Is this fair? Should the U.S. government practice free trade when another country doesn’t? Should our government sit back and do nothing as the German government puts Americans out of work?

I for one don’t think so. A policy of “give and take” would be more acceptable to me. If Germany practices free trade with
us, then we should practice free trade with Germany. But if Germany doesn’t practice free trade with us, then we shouldn’t practice free trade with them. We have to be realistic, and we have to protect ourselves.

The second best policy is for the United States to practice free trade, even if no other country in the world practices it. The worst policy is for the United States to impose tariffs and quotas on foreign goods simply because other countries impose tariffs and quotas on our goods.

United States policy shouldn’t protect the interests only of consumers; it should protect the interests of consumers, producers, and workers. When other countries impose tariffs and quotas on U.S.-produced goods, those countries hurt our producers and our workers. These countries should bear the economic consequences. There must be a price for such actions, or these countries will continue to make themselves better off at the expense of American producers and workers. The higher the price of imposing tariffs and quotas on U.S.-produced goods, the less likely foreign countries will do so.

The way to ensure free trade is for the United States to give other countries a taste of their own medicine. If they practice free trade with us, then we should practice free trade with them. If they impose tariffs and quotas on our goods, we should do the same to their goods.

What Do You Think?

1. Should the United States practice free trade even if other countries do not? Explain your thinking.
2. Is the world moving toward or away from greater free trade? Give some examples from recent news stories to support your answer.