

## CHAPTER 2

### *Buying and Selling Securities*

*“Don’t gamble! Take all your savings and buy some good stock and hold it till it goes up. If it don’t go up, don’t buy it.” You might wish to try Will Rogers’ well-known stock market advice, but you first need to know the basics of securities trading. Fortunately, trading is a simple task; as attested by the several billion stock shares that trade among investors on a busy day. Essentially, the process starts by opening a trading account with a brokerage firm and then submitting trading orders. But you should know about some important details beforehand.*

We hope your reading about the history of risk and return in the previous chapter generated some interest in investing on your own. To help you get started, this chapter covers the basics of the investing process. We begin by describing how you go about buying and selling securities such as stocks and bonds. We then outline some of the most important considerations and constraints to keep in mind as you get more involved in the investing process.

#### ***2.1 Getting Started***

Suppose you have some money that you want to invest. One way to get started is to open an account with a securities broker such as A.G. Edwards or Merrill Lynch. Such accounts are often called brokerage or trading accounts. Opening a trading account is straightforward and really much like opening a bank account. You will be asked to supply some basic information about yourself and

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sign an agreement (often simply called a customer's agreement) that spells out your rights and obligations and those of your broker. You then give your broker a check and instructions on how you want the money invested.

To illustrate, suppose that instead of going to Disneyland, you would rather own part of it. You therefore open an account with \$10,000. You instruct your broker to purchase 100 shares of Walt Disney stock and to retain any remaining funds in your account. Your broker will locate a seller and purchase the stock on your behalf. Say shares of stock in Walt Disney Corporation are selling for about \$60 per share, so your 100 shares will cost \$6,000. In addition, for providing this service, your broker will charge you a commission. How much depends on a number of things, including the type of broker and the size of your order, but, on this order, \$50 wouldn't be an unusual commission charge. After paying for the stock and paying the commission, you would have \$3,950 left in your account. Your broker will hold your stock for you or deliver the shares to you, whichever you wish. At a later date, you can sell your stock by instructing your broker to do so. You would receive the proceeds from the sale, less another commission charge. You can always add money to your account and purchase additional securities, and you can withdraw money from your account or even close it altogether.

In broad terms, this basic explanation is really all there is to it. As we begin to discuss in the next section, however, there is a range of services available to you, and there are important considerations that you need to take into account before you actually begin investing.

<b>Table 2.1 Some Brokerage Firms and Representative Commissions</b>				
		<u>Commissions* (\$50 share price)</u>		
	Examples	200 Shares	500 Shares	1,000 Shares
Full Service Brokers	A.G. Edwards Merrill Lynch	\$200	\$250	\$400
Discount Brokers	Charles Schwab Fidelity Brokerage	\$100	\$150	\$200
Deep Discount Brokers	Olde Discount Quick & Reilly	\$60	\$100	\$125
*These commissions are approximate and representative only. They do not necessarily correspond to actual rates charged by firms listed in this table.				

***Choosing a Broker***

The first step in opening an account is choosing a broker. Brokers are typically divided into three groups: full-service brokers, discount brokers, and deep-discount brokers. Table 2.1 lists well-known brokers in each category. What distinguishes the three groups is the level of service they provide and the resulting commissions they charge.

With a deep-discount broker, essentially the only services provided are account maintenance and order execution, that is, buying and selling. You generally deal with a deep-discount broker over the telephone or, increasingly, using a web browser (see the next section on online brokers for a discussion).

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At the other extreme, a full-service broker will provide investment advice regarding the types of securities and investment strategies that might be appropriate for you to consider (or avoid). The larger brokerage firms do extensive research on individual companies and securities and maintain lists of recommended (and not recommended) securities. They maintain offices throughout the country, so, depending on where you live, you can actually stop in and speak to the person assigned to your account. A full-service broker will even manage your account for you if you wish.

Discount brokers fall somewhere between the two cases we have discussed so far, offering more investment counseling than the deep-discounters and lower commissions than the full-service brokers. Which type of broker should you choose? It depends on how much advice and service you need or want. If you are the do-it-yourself type, then you may seek out the lowest commissions. If you are not, then a full-service broker might be more suitable. Often investors will begin with a full-service broker, then, as they gain experience and confidence, move on to a discount broker.

We should note that the brokerage industry is very competitive, and differences between broker-types seems to be blurring. Full-service brokers frequently discount commissions to attract new customers (particularly those with large accounts), and you should not hesitate to ask about commission rates. Similarly, discount brokers have begun to offer securities research and extensive account management services. Basic brokerage services have become almost commodity-like, and, more and more, brokerage firms are competing by offering financial services such as retirement planning, credit cards, and check-writing privileges, to name a few.

***Online Brokers***

The most important recent change in the brokerage industry is the rapid growth of online brokers, also known as e-brokers or cyberbrokers. With an online broker, you place buy and sell orders over the internet using a web browser. If you are currently participating in a portfolio simulation such as Stock-Trak, then you already have a very good idea of how an online account looks and feels.

Before 1995, online accounts essentially did not exist; by 1998, millions of investors were buying and selling securities on-line. Projections suggest that by 2000, more than 10 million online accounts will be active. The industry is growing so rapidly that it is difficult to even count the number of online brokers. By late 1998, the number was approaching 100, but the final tally will surely be much larger.

Online investing has fundamentally changed the discount and deep-discount brokerage industry by slashing costs dramatically. In a typical online trade, no human intervention is needed by the broker as the entire process is handled electronically, so operating costs are held to a minimum. As costs have fallen, so have commissions. Even for relatively large trades, online brokers typically charge less than \$15 per trade. For budget-minded investors and active stock traders, the attraction is clear.

<b>Table 2.2. Large Online Brokers</b>		
Broker	Internet Address	Commission for Simple Stock Transaction
Charles Schwab	<a href="http://www.schwab.com">www.schwab.com</a>	\$29.95, up to 1,000 shares
Fidelity Investments	<a href="http://www.fidelity.com">www.fidelity.com</a>	\$25, up to 1,000 shares
DLJdirect	<a href="http://www.dljdirect.com">www.dljdirect.com</a>	\$20, up to 1,000 shares
E*Trade	<a href="http://www.etrade.com">www.etrade.com</a>	\$14.95, up to 5,000 shares
Waterhouse	<a href="http://www.waterhouse.com">www.waterhouse.com</a>	\$12, up to 5,000 shares
Ameritrade	<a href="http://www.ameritrade.com">www.ameritrade.com</a>	\$8, no share limits

Who are the online brokers? Table 2.2 provides information on some of the larger ones. As the industry evolves, this information changes, so check our web site ([www.mhhe.com/cj](http://www.mhhe.com/cj)) for more up-to-date information. Examining the table, you might notice that at least some of these online brokers are actually just branches of large discount brokers. Charles Schwab, for example, is both the largest discount broker and the largest online broker.

Competition among online brokers is fierce. Some take a no-frills approach, offering only basic services and very low commission rates. Others, particularly the larger ones, charge a little more, but offer a variety of services, including research and various banking services including check writing privileges, credit cards, debit cards, and even mortgages. As technology continues to improve and investors become more comfortable using it, online brokerages will almost surely become the dominant form because of their enormous convenience and the low commission rates.

*(marg. def. Security Investors Protection Corporation (SIPC) Insurance fund covering investors' brokerage accounts with member firms.)*

***Security Investors Protection Corporation***

As you are probably aware, when you deposit money in a bank, your account is normally protected (up to \$100,000) by the Federal Deposit Insurance Corporation, or FDIC, which is an agency of the U.S. Government. However, brokerage firms, even though they are often called investment banks, cannot offer FDIC coverage. Most brokerage firms do belong to the **Security Investors Protection Corporation**, or SIPC, which was created in 1970. The SIPC insures your account for up to \$500,000 in cash and securities, with a \$100,000 cash maximum. Some brokers carry additional insurance beyond SIPC minimums. Unlike the FDIC, the SIPC is not a government agency; it is a private insurance fund supported by the securities industry. However, by government regulations almost all brokerage firms operating in the United States are required to be members of the SIPC.

There is a very important difference between SIPC coverage and FDIC coverage. Up to the maximum coverage, the value of whatever you deposit in a bank is fully guaranteed by the FDIC; you will not lose a cent under any circumstances with FDIC coverage. In contrast, the SIPC insures only that you will receive whatever cash and securities were held for you by your broker in the event of fraud or other failure. The value of any securities, however, is not guaranteed. In other words, you can lose everything in an SIPC-covered account if the value of your securities falls to zero.

***Broker-Customer Relations***

There are several other important things to keep in mind when dealing with a broker. First, any advice you receive is *not* guaranteed. Far from it — buy and sell recommendations carry the explicit warning that you rely on them at your own risk. Your broker does have a duty to exercise reasonable care in formulating recommendations and not recommend anything grossly unsuitable, but that is essentially the extent of it.

Second, your broker works as your agent and has a legal duty to act in your best interest; however, brokerage firms are in the business of generating brokerage commissions. This fact will probably be spelled out in the account agreement that you sign. There is therefore the potential for a conflict of interest. On rare occasions, a broker is accused of "churning" an account, which refers to extensive trading for the sole purpose of generating commissions. In general, you are responsible for checking your account statements and notifying your broker in the event of any problems, and you should certainly do so.

Finally, in the unlikely event of a significant problem, your account agreement will probably specify very clearly that you must waive your right to sue and/or seek a jury trial. Instead, you agree that any disputes will be settled by arbitration and that arbitration is final and binding. Arbitration is not a legal proceeding and the rules are much less formal. In essence, a panel is appointed by a self-regulatory body of the securities industry to review the case. The panel will be composed of a small number of individuals who are knowledgeable about the securities industry, but a majority of them will not be associated with the industry. The panel makes a finding and, absent extraordinary circumstances, its findings cannot be appealed. The panel does not have to disclose factual findings or legal reasoning.

CHECK THIS

- 2.1a What are the differences between full-service and deep-discount brokers?
- 2.1b What is the SIPC? How does SIPC coverage differ from FDIC coverage?

## 2.2 Brokerage Accounts

The account agreement that you sign has a number of important provisions and details specifying the types of trades that can be made and who can make them. Another important concern is whether or not the broker will extend credit and the terms under which credit will be extended. We discuss these issues next.

*(marg. def. **cash account** A brokerage account in which all transactions are made on a strictly cash basis.)*

### *Cash Accounts*

A **cash account** is the simplest arrangement. Securities can be purchased to the extent that sufficient cash is available in the account. If additional purchases are desired, then the needed funds must be promptly supplied.

*(marg. def. **margin account** A brokerage account in which, subject to limits, securities can be bought and sold on credit)*

*(marg. def. **call money rate** The interest rate paid by brokers to borrow bank funds for lending to customer margin accounts.)*

### *Margin Accounts*

With a **margin account**, you can, subject to limits, purchase securities on credit using money loaned to you by your broker. Such a purchase is called a *margin purchase*. The interest rate you pay on the money you borrow is based on the broker's **call money rate**, which is, loosely, the rate the

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broker pays to borrow the money. You pay some amount over the call money rate called the spread; the exact spread depends on your broker and the size of the loan. Suppose the call money rate has been hovering around 7 percent. If a brokerage firm charges a 2.5 percent spread above this rate on loan amounts under \$10,000, then you would pay a total of about 9.5 percent. However, this is usually reduced for larger loan amounts. For example, the spread may decline to .75 percent for amounts over \$100,000.

There are several important concepts and rules involved in a margin purchase. For concreteness, we focus on stocks in our discussion. The specific margin rules for other investments can be quite different, but the principles and terminology are usually similar.

*(**margin** def. **margin** The portion of the value of an investment that is *not* borrowed.)*

In general, when you purchase securities on credit, some of the money is yours and the rest is borrowed. The amount that is yours is called the **margin**. Margin is usually expressed as a percentage. For example, if you take \$7,000 of your own money and borrow an additional \$3,000 from your broker, your total investment will be \$10,000. Of this \$10,000, \$7,000 is yours, so the margin is  $\$7,000/\$10,000 = 70\%$ .

It is useful to create an account balance sheet when thinking about margin purchases (and some other issues we'll get to in just a moment). To illustrate, suppose you open a margin account with \$5,000. You tell your broker to buy 100 shares of Microsoft. Microsoft is selling for \$80 per share, so the total cost will be \$8,000. Since you have only \$5,000 in the account, you borrow the remaining \$3,000. Immediately following the purchase, your account balance sheet would look like this:

Assets		Liabilities and account equity	
100 shares of Microsoft	\$8,000	Margin loan	\$3,000
		Account equity	5,000
Total	<u>\$8,000</u>	Total	<u>\$8,000</u>

On the left-hand side of this balance sheet we list the account assets, which, in this case, consist of the \$8,000 in Microsoft stock you purchased. On the right-hand side we first list the \$3,000 loan you took out to partially pay for the stock; this is a liability because, at some point, the loan must be repaid. The difference between the value of the assets held in the account and the loan amount is \$5,000. This amount is your account equity; that is, the net value of your investment. Notice that your margin is equal to the account equity divided by the value of the stock owned and held in the account:  $\$5,000 / \$8,000 = .625$ , or 62.5 percent.

*Example 2.1 The Account Balance Sheet* You want to buy 1,000 shares of Wal-Mart at a price of \$24 per share. You put up \$18,000 and borrow the rest. What does your account balance sheet look like? What is your margin?

The 1,000 shares of Wal-Mart cost \$24,000. You supply \$18,000, so you must borrow \$6,000. The account balance sheet looks like this:

Assets		Liabilities and account equity	
1,000 shares of Wal-mart	\$24,000	Margin loan	\$6,000
		Account equity	18,000
Total	<u>\$24,000</u>	Total	<u>\$24,000</u>

Your margin is the account equity divided by the value of the stock owned:

$$\begin{aligned}
 \text{Margin} &= \$18,000 / \$24,000 \\
 &= .75 \\
 &= 75 \text{ percent}
 \end{aligned}$$

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(*marg. def.* **initial margin** The minimum margin that must be supplied on a securities purchase.)

**INITIAL MARGIN** When you first purchase securities on credit, there is a minimum margin that you must supply. This percentage is called the **initial margin**. The minimum percentage (for stock purchases) is set by the Federal Reserve (the "Fed"), but the exchanges and individual brokerage firms may require higher amounts.

The Fed's power to set initial margin requirements was established in the Securities Exchange Act of 1934. In subsequent years, initial margin requirements ranged from a low of 45 percent to a high of 100 percent. Since 1974, the minimum has been 50 percent (for stock purchases). In other words, if you have \$10,000 in cash that is not borrowed, you can borrow up to an additional \$10,000 but no more.

We emphasize that these initial margin requirements apply to stocks. In contrast, for the most part, there is little initial margin requirement for government bonds. On the other hand, margin is not allowed at all on certain other types of securities.

*Example 2.2 Calculating Initial Margin* Suppose you have \$6,000 in cash in a trading account with a 50 percent initial margin requirement. What is the largest order you can place (ignoring commissions)? If the initial margin were 60 percent, how would your answer change?

When the initial margin is 50 percent, you must supply half of the total, so \$12,000 is the largest order you could place. When the initial margin is 60 percent, your \$6,000 must equal 60 percent of the total. In other words, it must be the case that:

$$\begin{aligned} \$6,000 &= .60 \times \text{Total order} \\ \text{Total order} &= \$6,000/.60 \\ &= \$10,000 \end{aligned}$$

As this example illustrates, the higher the initial margin required, the less you can borrow.

*(marg. def. **maintenance margin** The minimum margin that must be present at all times in a margin account.)*

*(marg. def. **margin call** A demand for more funds that occurs when the margin in an account drops below the maintenance margin.)*

**MAINTENANCE MARGIN** In addition to the initial margin requirement set by the Fed, brokerage firms and exchanges generally have a **maintenance margin** requirement. For example, the New York Stock Exchange (NYSE), requires a minimum of 25 percent maintenance margin. This amount is the minimum margin required at all times after the purchase.

A typical maintenance margin would be 30 percent. If your margin falls below 30 percent, then you may be subject to a **margin call**, which is a demand by your broker to either add to your account, pay off part of the loan, or sell enough securities to bring your margin back up to an acceptable level. If you do not or cannot comply, your securities may be sold. The loan will be repaid out of the proceeds, and any remaining amounts will be credited to your account.

To illustrate, suppose your account has a 50 percent initial margin requirement and the maintenance margin is 30 percent. A particular stock is selling for \$50 per share. You have \$20,000, and you want to buy as much of this stock as you possibly can. With a 50 percent initial margin, you buy up to \$40,000 worth, or 800 shares. The account balance sheet looks like this:

Assets		Liabilities and account equity	
800 shares @\$50/share	\$40,000	Margin loan	\$20,000
		Account equity	20,000
Total	<u>\$40,000</u>	Total	<u>\$40,000</u>

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Unfortunately, right after you buy it, the company reveals that it has been artificially inflating earnings for the last three years (this is not good), and the share price falls to \$35 per share. What does the account balance sheet look like when this happens? Are you subject to a margin call?

To create the new account balance sheet, we recalculate the total value of the stock. The margin loan stays the same, so the account equity is adjusted as needed:

Assets		Liabilities and account equity	
800 shares @\$35/share	\$28,000	Margin loan	\$20,000
		Account equity	8,000
Total	<u>\$28,000</u>	Total	<u>\$28,000</u>

As shown, the total value of your "position" (i.e., the stock you hold) falls to \$28,000, a \$12,000 loss. You still owe \$20,000 to your broker, so your account equity is  $\$28,000 - \$20,000 = \$8,000$ . Your margin is therefore  $\$8,000 / \$28,000 = .286$ , or 28.6 percent. You are below the 30 percent minimum, so you are undermargined and subject to a margin call.

THE EFFECTS OF MARGIN Margin is a form of *financial leverage*. Any time you borrow money to make an investment, the impact is to magnify both your gains and losses, hence the use of the term "leverage." The easiest way to see this is through an example. Imagine that you have \$30,000 in an account with a 60 percent initial margin. You now know that you can borrow up to an additional \$20,000 and buy \$50,000 worth of stock (why?). The call money rate is 5.50 percent; you must pay this rate plus a .50 percent spread. Suppose you buy 1,000 shares of IBM at \$50 per share. One year later, IBM is selling for \$60 per share. Assuming the call money rate does not change and ignoring dividends, what is your return on this investment?

At the end of the year, your 1,000 shares are worth \$60,000. You owe 6 percent interest on the \$20,000 you borrowed, or \$1,200. If you pay off the loan with interest, you will have  $\$60,000 - \$21,200 = \$38,800$ . You started with \$30,000 and ended with \$38,800, so your net gain is \$8,800. In percentage terms, your return was  $\$8,800 / \$30,000 = 29.33$  percent.

How would you have done without the financial leverage created from the margin purchase? In this case, you would have invested just \$30,000. At \$50 per share, you would have purchased 600 shares. At the end of the year, your 600 shares would be worth \$60 apiece, or \$36,000 total. Your dollar profit is \$6,000, so your percentage return would be  $\$6,000 / \$30,000 = 20$  percent. If we compare this to the 29.33 percent that you made above, it's clear that you did substantially better by leveraging.

The downside is that you would do much worse if IBM's stock price fell (or didn't rise very much). For example, if IBM had fallen to \$40 a share, you would have lost (check these calculations for practice) \$11,200 or 37.33 percent on your margin investment, compared to \$6,000, or 20 percent on the unmarginated investment. This example illustrates how leveraging an investment through a margin account can cut both ways.

*Example 2.3 A Marginal Investment?* A year ago, you bought 300 shares of Ford at \$55 per share. You put up the 60 percent initial margin. The call money rate plus the spread you paid was 8 percent. What was your return if the price today is \$50? Compare this to the return you would have earned if you had not invested on margin.

Your total investment was 300 shares at \$55 per share, or \$16,500. You supplied 60 percent, or \$9,900, and you borrowed the remaining \$6,600. At the end of the year, you owe \$6,600 plus 8 percent interest, or \$7,128. If the stock sells for \$50, then your position is worth  $300 \times \$50 = \$15,000$ . Deducting the \$7,128 leaves \$7,872 for you. Since you originally invested \$9,900, your dollar loss is  $\$9,900 - \$7,872 = \$2,028$ . Your percentage return is  $-\$2,028 / \$9,900 = -20.48$  percent.

If you had not leveraged your investment, you would have purchased  $\$9,900 / \$55 = 180$  shares. These would have been worth  $180 \times \$50 = \$9,000$ . You therefore would have lost \$900, so your percentage return would have been  $-\$900 / \$9,900 = -9.09$  percent, compared to the -20.48 percent that you lost on your leveraged position.

*Example 2.4 How Low Can It Go?* In our previous example (Example 2.3), suppose the maintenance margin was 40 percent. At what price per share would you have been subject to a margin call?

To answer, let  $P^*$  be the critical price. You own 300 shares, so, at that price, your stock is worth  $300 \times P^*$ . You borrowed \$6,600, so your account equity is equal to the value of your stock less the \$6,600 you owe, or  $300 \times P^* - \$6,600$ . We can summarize this information as follows:

$$\begin{aligned} \text{Amount borrowed} &= \$6,600 \\ \text{Value of stock} &= 300 \times P^* \\ \text{Account equity} &= 300 \times P^* - \$6,600 \end{aligned}$$

From our preceding discussion, your percentage margin is your dollar margin (or account equity) divided by the value of the stock:

$$\begin{aligned} \text{Margin} &= \text{Account equity}/\text{Value of stock} \\ &= (300 \times P^* - \$6,600)/(300 \times P^*) \end{aligned}$$

Finally, to find the critical price, we will set this margin equal to 40 percent, the maintenance margin, and solve for  $P^*$ :

$$\begin{aligned} .40 &= (300 \times P^* - \$6,600)/(300 \times P^*) \\ .40 \times 300 \times P^* &= 300 \times P^* - \$6,600 \\ P^* &= \$6,600/180 = \$36.67 \end{aligned}$$

At any price below \$36.67, your margin will be less than 40 percent, and you will be subject to a margin call, so this is the lowest possible price that could be reached before that occurs.

### ***Hypothecation and Street Name Registration***

As a part of your margin account agreement, you must agree to various conditions. We discuss two of the most important next.

*(marg. def. **hypothecation** Pledging securities as collateral against a loan.)*

**HYPOTHECATION** Any securities you purchase in your margin account will be held by your broker as collateral against the loan made to you. This practice protects the broker because the securities can be sold by the broker if the customer is unwilling or unable to meet a margin call. Putting securities up as collateral against a loan is called **hypothecation**. In fact, a margin agreement is sometimes

called a hypothecation agreement. In addition, to borrow the money that it loans to you, your broker will often *re*-hypothecate your securities, meaning that your broker will pledge them as collateral with its lender, normally a bank.

*(marg. def. **street name** An arrangement under which a broker is the registered owner of a security.)*

**STREET NAME REGISTRATION** Securities in a margin account are normally held in **street name**. This means that the brokerage firm is actually the registered owner. If this were not the case, the brokerage firm could not legally sell the securities if a customer should refuse to meet a margin call or otherwise fail to live up to the terms of the margin agreement. With this arrangement, the brokerage firm is the "owner of record," but the account holder is the "beneficial owner."

When a security is held in street name, anything mailed to the security owner, such as an annual report or a dividend check, goes to the brokerage firm. The brokerage firm then passes these on to the account holder. Street name ownership is actually a great convenience to the owner. In fact, because it is usually a free service, even customers with cash accounts generally choose street name ownership. Some of the benefits are:

1. Since the broker holds the security, there is no danger of theft or other loss of the security. This is important because a stolen or lost security cannot be easily or cheaply replaced.
2. Any dividends or interest payments are automatically credited, and they are often credited more quickly (and conveniently) than they would be if the owner received the check in the mail.

3. The broker provides regular account statements showing the value of securities held in the account and any payments received. Also, for tax purposes, the broker will provide all the needed information on a single form at the end of the year, greatly reducing the owner's record keeping requirements.

### ***Other Account Issues***

If you do not wish to manage your account yourself, you can set up an *advisory account*. In this case, you pay someone else to make buy and sell decisions on your behalf. You are responsible for paying any commissions or other costs as well as a management fee. In a recent innovation, brokerage firms have begun to offer *wrap accounts*. In such an account, you choose a money manager or set of money managers from a group offered by the brokerage firm. All of the costs, commissions, and expenses associated with your account are wrapped into a single fee that you pay, hence the name. If you simply authorize your broker to trade for you, then there is no management fee, but you are still responsible for any commissions. This arrangement is termed a *discretionary account*.

Most of the large brokerage firms offer accounts that provide for complete money management, including check-writing privileges, credit cards, and margin loans, especially for larger investors. Such accounts are generally called *asset management accounts*. Often, in such accounts, any uninvested cash is automatically invested to earn interest, and detailed statements are provided on a regular basis to account holders. The terms on these accounts differ from broker to broker, and the services provided are frequently changed in response to competition.

Finally, if you want to buy and sell a broad variety of individual securities, then a brokerage account is almost a requirement. It is true that some companies and other entities (such as the U.S. Government) do sell directly to the public, at least at certain times and subject to various restrictions, so you can buy securities directly in some cases. In fact, you could buy and sell through the want ads in your local paper if you were so inclined, but given the modest commissions charged by deep-discount brokers, this hardly seems worth the trouble.

However, you should be aware that if you do not wish to actively buy and sell securities, but you do want to own stocks, bonds, or other financial assets, there is an alternative to a brokerage account: a *mutual fund*. Mutual funds are a means of combining or pooling the funds of a large group of investors. The buy and sell decisions for the resulting pool are then made by a fund manager, who is compensated for the service. Mutual funds have become so important that we will shortly devote an entire chapter to them (Chapter 4) rather than give them short shrift here.

#### CHECK THIS

- 2.2a What is the difference between a cash and margin account?
- 2.2b What is the effect of a margin purchase on gains and losses?
- 2.2c What is a margin call?

(*marg. def.* **short sale** A sale in which the seller does not actually own the security that is sold.)

### 2.3 Short Sales

An investor who buys and owns shares of stock is said to be "long" in the stock or to have a "long" position. An investor with a long position will make money if the price of the stock increases and lose money if it goes down. In other words, a long investor hopes that the price will increase.

Now consider a different situation. Suppose you thought, for some reason, that the stock in a particular company was likely to *decrease* in value. You obviously wouldn't want to buy any of it. If you already owned some, you might choose to sell it.

Beyond this, you might decide to engage in a **short sale**. In a short sale, you actually sell a security that you do not own. This is referred to as "shorting" the stock. After the short sale, the investor is said to have a short position in the security.

Financial assets of all kinds are sold short, not just shares of stock, and the terms "long" and "short" are universal. However, the mechanics of a short sale differ quite a bit across security types. Even so, regardless of how the short sale is executed, the essence is the same. An investor with a long position benefits from price increases, and, as we will see, an investor with a short position benefits from price decreases. For the sake of illustration, we focus here on shorting shares of stock. Procedures for shorting other types of securities are discussed in later chapters.

### ***Basics of a Short Sale***

How can you sell stock you don't own? It is easier than you might think. You first borrow the shares of stock from your broker and then you sell them. At some future date, you will buy the same number of shares that you originally borrowed and return them, thereby eliminating the short position. Eliminating the short position is often called "covering" the position or, less commonly, "curing" the short.

You might wonder where your broker will get the stock to loan you. Normally, it will simply come from other margin accounts. Often, when you open a margin account, you are asked to sign a loan-consent agreement, which gives your broker the right to loan shares held in the account. If shares you own are loaned out, you still receive any dividends or other distributions and you can sell the stock anytime if you wish. In other words, the fact that some of your stock may have been loaned out is of little or no consequence as far as you are concerned.

An investor with a short position will profit if the security declines in value. For example, assume that you short 1,000 shares of Liz Claiborne at a price of \$10 per share. You receive \$10,000 from the sale (more on this in a moment). A month later, the stock is selling for \$6 per share. You buy 1,000 shares for \$6,000 and return the stock to your broker, thereby covering your position. Because you received \$10,000 from the sale, and it cost you only \$6,000 to cover, you made \$4,000.

Conventional Wall Street wisdom states that the way to make money is to "buy low, sell high." With a short sale, we hope to do exactly that, just in opposite order — sell high, buy low. If a short sale strikes you as a little confusing, it might help to think about the everyday use of the terms. Whenever we say that we are running "short" on something, we mean we don't have enough of it. Similarly, when someone says "don't sell me short" they mean don't bet on them not to succeed.

*Example 2.5 The Long and Short of It* Suppose you short 2,000 shares of GTE at \$35 per share. Six months later you cover your short. If GTE is selling for \$30 per share at that time, did you make money or lose money? How much? What if you covered at \$40?

If you shorted at \$35 per share and covered at \$30, you originally sold 2,000 shares at \$35 and later bought them back at \$30, so you made \$5 per share, or \$10,000. If you covered at \$40, you lost \$10,000.

### ***Short Sales: Some Details***

When you short a stock, you must borrow it from your broker, so there are various requirements you must fulfill. First, there is an initial margin and a maintenance margin. Second, after you sell the borrowed stock, the proceeds from the sale are credited to your account, but you cannot use them. They are, in effect, frozen until you return the stock. Finally, if there are any dividends paid on the stock while you have a short position, you must pay them.

To illustrate, we will again create an account balance sheet. Suppose you want to short 100 shares of Sears when the price is \$30 per share. This means you will borrow shares of stock worth a total of  $\$30 \times 100 = \$3,000$ . Your broker has a 50 percent initial margin and a 40 percent maintenance margin on short sales.

An important thing to keep in mind with a margin purchase of securities is that margin is calculated as the value of your account equity relative to the value of the securities purchased. With a short sale, margin is calculated as the value of your account equity relative to the value of the securities sold short. Thus, in both cases margin is equal to equity value divided by security value.

In our example here, the initial value of the securities sold short is \$3,000 and the initial margin is 50 percent, so you must deposit half of \$3,000, or \$1,500, in your account at a minimum. With this in mind, after the short sale, your account balance sheet is as follows:

Assets		Liabilities and account equity	
Proceeds from sale	\$3,000	Short position	\$3,000
Initial margin deposit	1,500	Account equity	1,500
Total	<u>\$4,500</u>	Total	<u>\$4,500</u>

As shown, there are four items on the account balance sheet:

1. *Proceeds from sale.* This is the \$3,000 you received when you sold the stock. This amount will remain in your account until you cover your position. Note that you will not earn interest on this amount—it will just sit there as far as you are concerned.
2. *Margin deposit.* This is the 50 percent margin that you had to post. This amount will not change unless there is a margin call. Depending on the circumstances and your particular account agreement, you may earn interest on the initial margin deposit.
3. *Short position.* Because you must eventually buy back the stock and return it, you have a liability. The current cost of eliminating that liability is \$3,000.
4. *Account equity.* As always, the account equity is the difference between the total account value (\$4,500) and the total liabilities (\$3,000).

We now examine two scenarios: (1) the stock price falls to \$20 per share and (2) the stock price rises to \$40 per share.

If the stock price falls to \$20 per share, then you are still liable for 100 shares, but the cost of those shares is now just \$2,000. Your account balance sheet becomes:

Assets		Liabilities and account equity	
Proceeds from sale	\$3,000	Short position	\$2,000
Initial margin deposit	<u>1,500</u>	Account equity	<u>2,500</u>
Total	<u><u>\$4,500</u></u>	Total	<u><u>\$4,500</u></u>

Notice that the left-hand side doesn't change. The same \$3,000 you originally received is still held, and the \$1,500 margin you deposited is still there also. On the right-hand side, the short position is now a \$2,000 liability, down from \$3,000. Finally, the good news is that the account equity rises by \$1,000, so this is your gain. Your margin is equal to account equity divided by the security value (the value of the short position),  $\$2,500/\$2,000 = 1.25$ , or 125 percent.

However, if the stock price rises to \$40, things are not so rosy. Now the 100 shares for which you are liable are worth \$4,000:

Assets		Liabilities and account equity	
Proceeds from sale	\$3,000	Short position	\$4,000
Initial margin deposit	<u>1,500</u>	Account equity	<u>500</u>
Total	<u><u>\$4,500</u></u>	Total	<u><u>\$4,500</u></u>

Again, the left-hand side doesn't change. The short liability rises by \$1,000, and, unfortunately for you, the account equity declines by \$1,000, the amount of your loss.

To make matters worse, when the stock price rises to \$40, you are severely undermargined. The account equity is \$500, but the value of the stock sold short is \$4,000. Your margin is  $\$500/\$4,000 = 12.5$  percent. Since this is well below the 40 percent maintenance margin, you are

subject to a margin call. You have two options: (1) buy back some or all of the stock and return it, or (2) add funds to your account.

*Example 2.6 A Case of the Shorts* You shorted 5,000 shares of a particular stock at a price of \$30 per share. The initial margin is 50 percent, and the maintenance margin is 40 percent. What does your account balance sheet look like following the short?

Following the short, your account becomes

Assets		Liabilities and account equity	
Proceeds from sale	\$150,000	Short position	\$150,000
Initial margin deposit	<u>75,000</u>	Account equity	<u>75,000</u>
Total	<u>\$225,000</u>	Total	<u>\$225,000</u>

Notice that you shorted \$150,000 worth of stock, so, with a 50 percent margin requirement, you deposited \$75,000.

*Example 2.7 Margin Calls* In our previous example (Example 2.6), at what price per share would you be subject to a margin call?

To answer this one, let  $P^*$  be the critical price. The short liability then is 5,000 shares at a price of  $P^*$ , or  $5,000 \times P^*$ . The total account value is \$225,000, so the account equity is  $\$225,000 - 5,000 \times P^*$ . We can summarize this information as follows:

$$\begin{aligned} \text{Short position} &= 5,000 \times P^* \\ \text{Account equity} &= \$225,000 - 5,000 \times P^* \end{aligned}$$

Your margin is the account equity relative to the short liability:

$$\text{Margin} = (\$225,000 - 5,000 \times P^*) / (5,000 \times P^*)$$

Finally, to find the critical price, we will set this margin equal to 40 percent, the maintenance margin, and solve for  $P^*$ :

$$\begin{aligned} .40 &= (\$225,000 - 5,000 \times P^*) / (5,000 \times P^*) \\ .40 \times 5,000 \times P^* &= \$225,000 - 5,000 \times P^* \\ P^* &= \$225,000 / 7,000 = \$32.14 \end{aligned}$$

At any price *above* \$32.14, your margin will be less than 40 percent, so you will be subject to a margin call, so this is the highest possible price that could be reached before that occurs.

(*margin def.* **short interest** The amount of common stock held in short positions.)

At this point you might wonder whether short selling is a common practice among investors. Actually it is quite common and a substantial volume of stock sales are initiated by short sellers. The nearby Investment Updates box is a sample *Wall Street Journal* report published weekly covering **short interest**. Short interest is the amount of common stock held in short positions. As shown, the amount of stock held short for some companies can be several tens of millions of shares, and the total number of shares held short across all companies can be several billion shares.

Investment Updates: Short Interest

We conclude our discussion of short sales with an important observation. With a long position, the most you can ever lose is your total investment. In other words, if you buy \$10,000 worth of stock, \$10,000 is the most you can lose because the worst that can happen is the stock price drops to zero. However, if you short \$10,000 in stock, you can lose *much more* than \$10,000 because the stock price can keep rising without any particular limit. In fact, as our previous chapter showed, stock prices do tend to rise, at least on average. With this in mind, potential short sellers should remember the following classic bit of Wall Street wisdom: He that sells what isn't his'n, must buy it back or go to prison!<sup>1</sup>

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<sup>1</sup>Of course, the same is true for "she that sells what isn't hers'n;" it just doesn't rhyme as well.

CHECK THIS

- 2.3a What is a short sale?
- 2.3b Why might an investor choose to short a stock?
- 2.3c What is the maximum possible loss on a short sale? Explain.

## 2.4 Investor Objectives, Constraints, and Strategies

Different investors will have very different investment objectives and strategies. For example, some will be very active, buying and selling frequently, while others will be relatively inactive, buying and holding for long periods of time. Some will be willing to bear substantial risk in seeking out returns; for others, safety is a primary concern. In this last section, we describe, in general terms, some strategies that are commonly pursued and their relationship to investor constraints and objectives.

In thinking about investor objectives, the most fundamental question is: Why invest at all? For the most part, the only sensible answer is that we invest today to have more tomorrow. In other words, investment is simply deferred consumption; instead of spending today, we choose to wait because we wish to have (or need to have) more to spend later. There is no difference, really, between investing and saving.

Given that we invest now to have more later, the particular investment strategy chosen will depend on, among other things, willingness to bear risk, the time horizon, and taxes. We discuss these and other issues next.

Investment Updates: Investing's Four Letter Word

### ***Risk and Return***

Probably the most fundamental decision that an investor must make concerns the amount of risk that she is willing to bear. Most investors are *risk-averse*, meaning that, all other things the same, they dislike risk and want to expose themselves to the minimum risk level possible. However, as our previous chapter indicated, larger returns are generally associated with larger risks, so there is a tradeoff. In formulating investment objectives, the individual must therefore balance return objectives with risk tolerance.

Attitudes toward risk are strictly personal preferences, and individuals with very similar economic circumstances can have very different degrees of risk aversion. For this reason, the first thing that must be assessed in evaluating the suitability of an investment strategy is risk tolerance. Unfortunately, this is not an easy thing to do. Most individuals have a difficult time articulating in any precise way their attitude toward risk (what's yours?). One reason is that risk is not a simple concept; it is not easily defined or measured. Nevertheless, the Investment Updates box contains an article from the *Wall Street Journal* about risk tolerance that has a short quiz that might help you assess your attitude toward risk. When you take the quiz, remember there are no right or wrong answers. Afterwards, score your risk tolerance as shown at the end of the article.

### ***Investor Constraints***

In addition to attitude toward risk, an investor's investment strategy will be affected by various constraints. We discuss five of the most common and important constraints next.

**RESOURCES** Probably the most obvious constraint, and the one to which many students can most easily relate, is *resources*. Obviously, if you have no money, you cannot invest at all! Beyond that, certain types of investments and investment strategies either explicitly or effectively have minimum requirements. For example, a margin account must normally have a minimum of \$2,000 when it is established.

What is the minimum resource level needed? It depends on the investment strategy, and there is no precise answer. Through mutual funds, investments in the stock market can be made for as little as \$500 to start, with subsequent investments as small as \$100. However, since there are frequently minimum commission levels, account fees, and other costs associated with buying and selling securities, an investor interested in actively trading on her own would probably need more like \$5,000 to \$50,000.

**HORIZON** The investment *horizon* refers to the planned life of the investment. For example, individuals frequently save for retirement, where the investment horizon can be very long depending on your age. On the other hand, you might be saving to buy a house in the near future, implying a relatively short horizon.

The reason horizon is important is evident in our previous chapter. It is true that stocks outperformed the other investments in the long run, but there were shorter periods over which they did much worse. Consequently, if you have to pay tuition in 30 days, stocks are probably not the best investment for that money. Thus, in thinking about the riskiness of an investment, one important consideration is when the money will be needed.

## 30 Chapter 2

**LIQUIDITY** For some investors, there is the possibility that an asset will need to be sold quickly. In such cases, the asset's *liquidity* is particularly important. An asset with a high degree of liquidity is one that can be sold quickly without a significant price concession. Such an asset is said to be liquid.

Notice that liquidity has two related dimensions. After all, any asset can be sold quickly and easily if the price is cut sufficiently, so it's not just a question of the ease with which an asset can be sold. Liquidity is difficult to measure precisely, but some assets are clearly much more liquid than others. A good way to think about liquidity is to imagine buying an asset and then immediately reselling it. The less you would lose on this "round-trip" transaction, the more liquid is the asset.

**TAXES** Different types of investments are taxed very differently. When we talk about the return on an investment, what is really relevant is the *after-tax* return. As a result, taxes are a vital consideration. Higher tax bracket investors will naturally seek investment strategies with favorable tax treatments while lower tax bracket (or tax-exempt) investors will focus more on pretax returns.

In addition, the way in which an investment is held can affect its tax status. For example, individuals are generally allowed to open Individual Retirement Accounts (IRAs). The returns on an IRA are not taxed until they are withdrawn, so an IRA can grow for decades with no tax payments required. Thus any investments held in an IRA become tax-deferred.

**SPECIAL CIRCUMSTANCES** Beyond the general constraints we have discussed, essentially everyone will have some special or unique requirements or opportunities. For example, many companies will match certain types of investments made by employees on a dollar-for-dollar basis (typically up to some maximum per year). In other words, you double your money immediately with complete

certainty. Since it is difficult to envision any other investment with such a favorable payoff, such an opportunity should probably be taken even though there may be some undesirable liquidity, tax, or horizon considerations.

A list of possible special circumstances would be essentially endless, so we make no attempt to produce one here. Just to give a few examples, however, the number of dependents and their needs will vary from investor to investor, and the need to provide for dependents will be an important constraint. Some investors want to only invest in companies whose products and activities they consider to be socially or politically suitable, and some investors want to invest primarily in their own community or state. Finally, some investors, such as corporate insiders, face regulatory and legal restrictions on their investing, and others, such as political office-holders, may have to avoid (or at least ethically *should* avoid) some types of investments out of concern for conflicts of interest.

### ***Strategies and Policies***

In formulating an investment strategy or policy, there are four key areas that must be addressed are: investment management, market timing, asset allocation, and security selection. We discuss each of these next.

**INVESTMENT MANAGEMENT** A basic decision that you and every other investor must make is whether you will manage your investments yourself or hire someone else to do it. At the one extreme, you can open an account with a broker and make all of the buy and sell decisions yourself. At the other extreme, you can invest all of your money in a managed account, such as a wrap account, and make no buy and sell decisions at all.

Often investors partially manage their investments themselves and partially use professional managers. For example, you might divide your money between, say, four different mutual funds. In this case, you have hired four different money managers. However, you decided what types of funds to buy, you chose the particular funds within each type, and you decided how to divide your money between the funds.

It might appear that managing your money by yourself is the cheapest way to go because you save on the management fees. Appearances can be deceiving, however. First of all, you should consider the value of your time. For some, researching investments and making investment decisions is something of a hobby; for many of us, however, it is too time-consuming and this is a powerful incentive to hire professional management. Also, for some strategies, the costs of doing it yourself can exceed those of hiring someone even after considering fees simply because of the higher commissions and other fees that individual investors frequently pay. For example, it might not be a bad idea for some of your investment to be in real estate, but a small investor will find it difficult to directly acquire a sound real estate investment at reasonable cost.

An interesting question regarding professional management concerns the possibility of generating superior returns. It would seem logical to argue that by hiring a professional investor to manage your money, you would earn more, at least on average. Surely the pros make better investment decisions than the amateurs! Surprisingly, this isn't necessarily true. We will return to this subject in later chapters, but for now, we will simply note that the possibility of a superior return may not be a compelling reason to prefer professional management.

*(marg. def. **market timing** Buying and selling in anticipation of the overall direction of a market.)*

**MARKET TIMING** A second basic investment decision you must make is whether you will try to buy and sell in anticipation of the future direction of the overall market. For example, you might move money into the stock market when you thought it was going to rise, and move money out when you thought it was going to fall. This activity is called **market timing**. Some investors very actively move money around to try to time short-term market movements; others are less active but still try to time longer-term movements. A fully passive strategy is one in which no attempt is made to time the market.

Market timing certainly seems like a reasonable thing to do; after all, why leave money in an investment if you expect it to decrease in value? You might be surprised that a common recommendation is that investors *not* try to time the market. As we discuss in more detail in a later chapter, the reason is that successful market timing is, to put it mildly, very difficult. To outperform a completely passive strategy, you must be able to very accurately predict the future; if you make even a small number of bad calls, you will likely never catch up.

*(marg. def. **asset allocation** The distribution of investment funds among broad classes of assets.)*

**ASSET ALLOCATION** Another fundamental decision that must be made concerns the distribution of your investment across different types of assets. We saw in Chapter 1 that different asset types—small stocks, large stocks, bonds—have very different risk and return characteristics. In formulating your investment strategy, you must decide what percentage of your money will be placed in each of these broad categories. This decision is called **asset allocation**.

An important asset allocation decision for many investors is how much to invest in common stocks and how much to invest in bonds. There are some basic rules of thumb for this decision, one of the simplest being to split the portfolio into 60 percent stocks and 40 percent bonds. This popular 60-40 mix is generally a reasonable allocation strategy, but you should read the article in the nearby Investment Updates box before you finally decide.

Investment Updates: Popular 60-40 Mix

(*margin. def.* **security selection** Selection of specific securities within a particular class.)

**SECURITY SELECTION** Finally, after deciding who will manage your investment, whether you will try to time the market, and the various asset classes you wish to hold, you must decide which specific securities to buy within each class. This is termed **security selection**.

For example, you might decide that you want 30 percent of your money in small stocks. This is an asset allocation decision. Next, however, you must decide *which* small stocks to buy. Here again there is an active strategy and a passive strategy. With an active strategy, we try to identify those small stocks that we think will do the best in the future; in other words, we try to pick "winners." Investigating particular securities within a broad class in an attempt to identify superior performers is often called *security analysis*.

With a passive security selection strategy, we might just acquire a diverse group of small stocks, perhaps by buying a mutual fund that holds shares in hundreds of small companies (such funds are discussed in detail in Chapter 4).

A useful way to distinguish asset allocation from security selection is to note that asset allocation is essentially a macro-level activity because the focus is on whole markets or classes of assets. Security selection is a much more micro-level activity because the focus is on individual securities.

If we simultaneously consider the active versus passive aspects of asset allocation and security selection, four distinct investment strategies emerge, which we summarize in the following two-by-two table:

	<b>Security Selection</b>	
	Active	Passive
<b>Asset Allocation</b>		
Active	I	II
Passive	III	IV

With strategy I, we actively move money between asset classes based on our beliefs and expectations about future performance and we also try to pick the best performers in each class. This is a fully active strategy. At the other extreme, strategy IV, we follow a fully passive strategy, neither changing asset allocation very much nor choosing individual securities in an attempt to identify the likely best performers.

With strategy II, we actively varying our holdings by class, but we don't try to choose particular securities within each class. With this strategy, we might move back and forth between short-term government bonds and small stocks in an attempt to time the market. Finally, with strategy III, we don't vary our asset allocations, but we do select individual securities. A diehard

stock-picker would fall into this category; such an investor holds 100 percent stocks and concentrates solely on buying and selling individual companies.

CHECK THIS

- 2.4a What does the term "risk-averse" mean?
- 2.4b What are some of the constraints investors face in making investment decisions?
- 2.4c What is asset allocation?

***2.5 Summary and Conclusions***

This chapter explores the investing process. We discuss how to choose a broker and various aspects of broker-customer relations, including hypothecation, street name registration, and arbitration. The use of margin to purchase securities is covered, and the financial leverage effect of a margin purchase is emphasized. We describe short sales in some detail and stress the potentially unlimited losses that can arise from a short position. Finally, we cover some of the constraints faced by investors, and we briefly describe some basic investment strategy considerations, including market timing, asset allocation, and security selection.

*Key Terms*

**Security Investors Protection**

**Corporation (SIPC)**

**cash account**

**margin account**

**call money rate**

**margin**

**initial margin**

**maintenance margin**

**margin call**

**hypothecation**

**street name**

**short sale**

**short interest**

**market timing**

**asset allocation**

**security selection**

***Get Real!***

This chapter covered the basics of brokerage accounts, some important trade types, and, finally, some big picture issues regarding investment strategies and objectives. How should you, as an investor or investment manager, put this information to work?

The answer is that you need to open a brokerage account! Investing is like many activities; the best way to learn is by making mistakes. Unfortunately, making mistakes with real money is an expensive way to learn, so we don't recommend trying things like short sales with real money, at least not at first.

Instead, to learn about how to trade and gain some experience with making (and losing) money, you should open a Stock-Trak account (or a similar simulated brokerage account). Take it seriously. Try out various trade types and strategies and see how they turn out. The important thing to do is to follow your trades and try to understand why you made or lost money and also why you made or lost the amount you did.

In a similar vein, you should carefully review your account statements to make sure you understand exactly what each item means and how your account equity is calculated.

After you have gained some experience trading "on paper," you should open a real account as soon as you can pull together enough money. Looking back at Chapter 1, you know that it's important to get started early. Once you have a real account, however, it's still a good idea to keep a separate "play money" account to test out trading ideas to make sure you really understand them before committing your precious real money.

## ***STOCK-TRAK FAST TRACK***

### ***TRADING COMMON STOCKS WITH STOCK-TRAK***

Stock-Trak allows you to trade common stocks in much the same way you would with an individual brokerage account that supported trading on the internet. This includes buying, selling, and selling short common stocks trading on NYSE, AMEX, and NASDAQ. There are a few restrictions, however. For example, Stock-Trak restricts trading to common stocks trading at a price of \$5.00 or more per share. Thus many small company stocks cannot be traded. Stock-Trak also requires that all stock trades be in multiples of 25 shares. You should consult the most recent Stock-Trak rules at their website ([www.stocktrak.com](http://www.stocktrak.com)) for other possible restrictions that might apply.

To trade common stocks with Stock-Trak, you must first know the ticker symbol of the stock you wish to trade. Stocks trading on NYSE or AMEX have ticker symbols made up from one to three letters. For example, F is the ticker for Ford Motor Company, MU is the ticker for Micron Technology, and TMX is the ticker for TelMex (Telephonos de Mexico). NASDAQ stocks have four or five letters in their ticker symbols. For example, MSFT is the ticker for Microsoft Corporation, and ADVNA is the symbol for Advanta Corporation.

You should be able to easily find most stock ticker symbols from the *Wall Street Journal's* NYSE, AMEX, and NASDAQ stock price listings. Tickers can also be found through most internet stock quote servers. But be careful how you type in the company name when requesting a server to look up a ticker symbol. For example, if you simply type "walmart" you will probably not get the desired ticker symbol. But if you type "wal-mart" you will get the ticker WMT for Wal-Mart Stores. After you have found the appropriate ticker symbol, you can submit an order to Stock-Trak.

## 40 Chapter 2

There are four basic types of stock trades; these are:

- 1) Buy to open or increase a long position
- 2) Sell to close or reduce a long position
- 3) Short sell to open or increase a short position
- 4) Buy to cover or reduce a short position

When "buying" a stock, you take a long position with the hope that the stock price will increase. By "selling" stock you are closing all or part of a long position. "Selling short" refers to selling stock shares that you don't own (you are actually selling borrowed shares) with the hope that you can later buy them back at a lower price. Buying stock shares back to close all or part of a short position is called "covering" a short position. We will discuss these four types of orders in the sequence of transactions described immediately below.

Suppose you want to buy 1,000 shares of Texas Instruments and short sell 800 shares of Citigroup. Both stocks trade on NYSE under the ticker symbols TXN and C, respectively. Your orders might be abbreviated to look like this:

Buy 1,000 TXN

Short 800 C

After execution, you would have a 1,000-share long position in Texas Instruments (TXN) and an 800-share short position in Citigroup (C).

Now, suppose you later want to reduce your long position in TXN to 600 shares and increase your short position in C to 1,200 shares. The necessary orders would be these:

Sell 400 TXN

Short 400 C

After execution, you would have a 600-share long position in Texas Instruments (TXN) and a 1,200-share short position in Citigroup (C).

To close out your long and short positions completely, you would then submit these orders:

Sell 600 TXN

Cover 1,200 C

After execution, you will have closed out both positions completely. Your Stock-Track account will then reflect any gains or losses on these transactions, including commission costs.

### STOCK-TRAK EXERCISES

1. Look up stock ticker symbols for these companies: American Express, Delta Airlines, Exxon, Liz Claiborne, McDonald's, Proctor & Gamble, Xerox.
2. Some companies have ticker symbols with only a single letter, for example, the letters B, C, D, F, G, H, K, L, M, N, O, P, R, S, T, U, W, X, Y, Z are one-letter tickers. What are these companies' names?
3. Can you guess what the company names are for these ticker symbols? AAPL, BUD, DIS, FDX, LZB, MAIL, MCIC, PIXR, OSSI, REV, SBUX, TRW, VO.
4. Logon to the Internet to the NYSE ([www.nyse.com](http://www.nyse.com)) and the Nasdaq-AMEX ([www.nasdaq-amex.com](http://www.nasdaq-amex.com)) to review the names and ticker symbols of some listed companies.

## Chapter 2

### Buying and Selling Securities

End of Chapter Questions and Problems

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#### *Review Problems and Self-Test*

1. **The Account Balance Sheet** Suppose you want to buy 10,000 shares of Intel Corporation at a price of \$30 per share. You put up \$200,000 and borrow the rest. What does your account balance sheet look like? What is your margin?
2. **Short Sales** Suppose that in the previous problem you shorted 10,000 shares instead of buying. The initial margin is 60 percent. What does the account balance sheet look like following the short?

#### *Answers to Self-Test Problems*

1. The 10,000 shares of Intel cost \$300,000. You supply \$200,000, so you must borrow \$100,000. The account balance sheet looks like this:

Assets		Liabilities and account equity	
10,000 shares of Intel	\$300,000	Margin loan	\$100,000
		Account equity	200,000
Total	\$300,000	Total	\$300,000

Your margin is the account equity divided by the value of the stock owned:

$$\begin{aligned}
 \text{Margin} &= \$200,000/\$300,000 \\
 &= .6666 \dots \\
 &= 67\%.
 \end{aligned}$$

2. Following the short, your account is as follows:

Assets		Liabilities and account equity	
Proceeds from sale	\$300,000	Short position	\$300,000
Initial margin deposit	<u>180,000</u>	Account equity	<u>180,000</u>
Total	<u><u>\$480,000</u></u>	Total	<u><u>\$480,000</u></u>

Notice that you shorted \$300,000 worth of stock, so, with a 60 percent margin requirement, you deposited \$180,000.

**Test Your IQ (Investment Quotient)**

1. **Brokerage Accounts** Which of the following agencies provides customer insurance protection for individual brokerage accounts?
  - a. Federal Deposit Insurance Corporation (FDIC)
  - b. Federal Investor Protection Agency (FIPA)
  - c. Securities Investor Protection Corporation (SIPC)
  - d. Securities Investor Insurance Agency (SIIA)
  
2. **Brokerage Accounts** Which of the following is not a standard provision of a hypothecation agreement?
  - a. right of a broker to lend shares held in street name for a beneficial owner
  - b. right of a broker to pledge shares held in street name as collateral for margin loans
  - c. right of a broker to short sell shares held in street name for a beneficial owner
  - d. all of the above are standard provisions of a hypothecation agreement
  
3. **Leverage** You deposit \$100,000 cash in a brokerage account and purchase \$200,000 of stocks on margin by borrowing \$100,000 from your broker. Later, the value of your stock holdings fall to \$150,000 whereupon you get nervous and close out your account. What is the percent return on your investment?
  - a. 0 percent
  - b. -25 percent
  - c. -50 percent
  - d. -75 percent

4. **Leverage** You deposit \$100,000 cash in a brokerage account and short sell \$200,000 of stocks. Later, the value of the stocks held short holdings rises to \$250,000 whereupon you get nervous and close out your account. What is the percentage return on your investment?
- a. 0 percent
  - b. -25 percent
  - c. -50 percent
  - d. -75 percent
5. **Account Margin** You deposit \$100,000 cash in a brokerage account and purchase \$200,000 of stocks on margin by borrowing \$100,000 from your broker. Later, the value of your stock holdings falls to \$175,000. What is your account margin in dollars?
- a. \$50,000
  - b. \$75,000
  - c. \$100,000
  - d. \$150,000
6. **Account Margin** You deposit \$100,000 cash in a brokerage account and purchase \$200,000 of stocks on margin by borrowing \$100,000 from your broker. Later, the value of your stock holdings falls to \$150,000. What is your account margin in percent?
- a. 25 percent
  - b. 33 percent
  - c. 50 percent
  - d. 75 percent
7. **Account Margin** You deposit \$100,000 cash in a brokerage account and short sell \$200,000 of stocks on margin. Later, the value of the stocks held short rises to \$225,000. What is your account margin in dollars?
- a. \$50,000
  - b. \$75,000
  - c. \$100,000
  - d. \$150,000

- 8. Account Margin** You deposit \$100,000 cash in a brokerage account and short sell \$200,000 of stocks on margin. Later, the value of the stocks held short rises to \$250,000. What is your account margin in percent?
- a. 20 percent
  - b. 25 percent
  - c. 33 percent
  - d. 50 percent
- 9. Margin Calls** You deposit \$100,000 cash in a brokerage account and purchase \$200,000 of stocks on margin by borrowing \$100,000 from your broker, who requires maintenance margin of 30 percent. Which of the following is the largest value for your stock holdings for which you will still receive a margin call?
- a. \$200,000
  - b. \$160,000
  - c. \$140,000
  - d. \$120,000
- 10. Margin Calls** You deposit \$100,000 cash in a brokerage account and short sell \$200,000 of stocks. Your broker requires maintenance margin of 30 percent. Which of the following is the lowest value for the stocks you are holding short for which you will still receive a margin call?
- a. \$260,000
  - b. \$240,000
  - c. \$220,000
  - d. \$200,000
- 11. Investment Decisions** Which of the following investment factors, strategies, or tactics is the least relevant to a passive investment policy?
- a. market timing
  - b. asset allocation
  - c. security selection
  - d. tax status

- 12. Investment Decisions** Which of the following investment factors, strategies, or tactics may have little relevance for a passive investment policy?
- a. market timing
  - b. asset allocation
  - c. security selection
  - d. tax status
- 13. Investment Decisions** Which of the following investment strategies or tactics will likely consume the greatest amount of resources, time, effort, and so on when implementing an active investment policy?
- a. market timing
  - b. asset allocation
  - c. security selection
  - d. tax strategy
- 14. Investment Decisions** Which of the following investment strategies or tactics is likely the most relevant in the decision to short sell a particular stock?
- a. market timing
  - b. asset allocation
  - c. security selection
  - d. tax strategy
- 15. Investment Constraints** Which of the following investment constraints is expected to have the most fundamental impact on the investment decision process for a typical investor?
- a. investor's tax status
  - b. investor's time horizon
  - c. investor's need for liquidity
  - d. investor's attitude towards risk

### *Questions and Problems*

#### Core Questions

- 1. Margin** What does it mean to purchase a security on margin? Why might you do it?
- 2. Short Sales** What does it mean to sell a security short? Why might you do it?
- 3. Margin Requirements** What is the reason margin requirements exist?

4. **Allocation versus Selection** What is the difference between asset allocation and security selection?
5. **Allocation versus Timing** Are market timing and active asset allocation similar? Why or why not?
6. **Street Name Registration** Why is street name registration advantageous to investors? Under what circumstances is it required?
7. **Broker-Customer Relations** Suppose your broker tips you on a hot stock. You invest heavily, but, to your considerable dismay, the stock plummets in value. What recourse do you have against your broker?
8. **Long Profits** An important difference between a long position in stock and a short position concerns the potential gains and losses. Suppose a stock sells for \$18 per share, and you buy 300 shares. What are your potential gains and losses?
9. **Calculating Margin** Mobil Corporation stock sells for \$75 per share, and you've decided to purchase as many shares as you possibly can. You have \$7,500 available to invest. What is the maximum number of shares you can buy? Why?
10. **Short Sale Profits** Suppose you sell short 1,000 shares of a stock at \$30 per share. Ignoring borrowing costs and fees, what is the maximum profit you can earn from this investment? What is the potential maximum loss?

#### Intermediate Questions

11. **Calculating Margin** Using the information in problem 9, construct your equity account balance sheet at the time of your purchase. What does your balance sheet look like if the share price rises to \$90? What if it falls to \$65 per share? What is your margin in both cases?
12. **Calculating Margin** You've just opened a margin account with \$20,000 at your local brokerage firm. You instruct your broker to purchase 600 shares of Apple Computer stock, which currently sells for \$50 per share. What is your initial margin? Construct the equity account balance sheet for this position.
13. **Calculating Returns** In the previous problem, suppose the call money rate is 6 percent and your broker charges you a spread of 1.25 percent over this rate. You hold your Apple stock for six months and sell at a price of \$55 per share. The company paid a dividend of \$0.75 per share the day before you sold your stock. What is your total dollar return from this investment? What is your effective annual rate of return?

- 14. Margin Call** Suppose you purchase 500 shares of IBM stock at \$80 per share with an initial cash investment of \$24,000. If your broker requires a 30 percent maintenance margin, at what share price will you be subject to a margin call? If you want to keep your position open despite the stock price plunge, what alternatives do you have?
- 15. Margin and Leverage** In the previous problem, suppose the call money rate is 5 percent and you are charged a 1.5 percent premium over this rate. Calculate your return on investment for each of the following share prices one year later. What would your rate of return be in each case if you purchased \$24,000 of stock with no margin?
- a. \$100
  - b. \$80
  - c. \$60
- 16. Short Sales** You believe that Citigroup stock is going to fall and you've decided to sell 2,000 shares short. If the current share price is \$50, construct the equity account balance sheet for this trade. Assume the initial margin is 100 percent.
- 17. Short Sales** Repeat the previous problem assuming you short the 2,000 shares on 75 percent margin.
- 18. Calculating Short Sale Returns** You just sold short 1,000 shares of Wetscope, Inc., a fledgling software firm, at \$70 per share. You cover your short when the price hits \$50 per share one year later. If the company paid \$1.00 per share in dividends over this period, what is your rate of return on the investment?
- 19. Margin Calls** You sold short 5,000 shares of stock at a share price of \$25 on 60 percent margin. If the maintenance margin for your account is 40 percent, at what share price will you be subject to a margin call?
- 20. Liquidity** The liquidity of an asset directly affects the risk of buying or selling that asset during adverse market conditions. Describe the liquidity risk you face with a short stock position during a market rally, and a long stock position during a market decline.

**Chapter 2**  
**Buying and Selling Securities**  
Answers and solutions

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**Answers to Multiple Choice Questions**

1. C
2. C
3. C
4. C
5. B
6. B
7. B
8. A
9. C
10. B
11. A
12. C
13. C
14. C
15. D

**Answers to Chapter Questions and Problems**

Core questions

1. Purchasing on margin means borrowing some of the money used. You do it because you desire a larger position than you can afford to pay for, recognizing that using margin is a form of financial leverage. As such, your gains and losses will be magnified. Of course, you hope it is the gains you experience.
2. Shorting a security means borrowing it and selling it, with the understanding that at some future date you will buy the security and return it, thereby “covering” the short. You do it because you believe the security’s value will decline, so you hope to sell high, then buy low.
3. Margin requirements amount to security deposits. They exist to protect your broker against losses.
4. Asset allocation means choosing among broad categories such as stocks and bonds. Security selection means picking individual assets within a particular category such as shares of stock in particular companies.

5. They can be. Market timing amounts to active asset allocation, moving money in and out of certain broad classes (such as stocks) in anticipation of future market direction. Of course, market timing and passive asset allocation are not the same.
6. Some benefits from street name registration include:
  - a. The broker holds the security, so there is no danger of theft or other loss of the security. This is important because a stolen or lost security cannot be easily or cheaply replaced.
  - b. Any dividends or interest payments are automatically credited, and they are often credited more quickly (and conveniently) than they would be if you received the check in the mail.
  - c. The broker provides regular account statements showing the value of securities held in the account and any payments received. Also, for tax purposes, the broker will provide all the needed information on a single form at the end of the year, greatly reducing your record keeping requirements.

Street name registration will probably be required for anything other than a straight cash purchase, so, with a margin purchase for example, it will likely be required.

7. Probably none. The advice you receive is unconditionally *not* guaranteed. If the recommendation was grossly unsuitable or improper, then arbitration is probably your only possible means of recovery. Of course, you can close your account, or at least what's left of it.
8. If you buy (go long) 300 shares at \$18, you have a total of \$5,400 invested. This is the most you can lose because the worst that could happen is that the company could go bankrupt, leaving you with worthless shares. There is no limit to what you can make because there is no maximum value for our shares—they can increase in value without limit.
9. Maximum margin = 50%.  $\$15,000 / \$75$  per share = 200 shares.
10. The worst that can happen to a share of stock is for the firm to go bankrupt and the stock to become worthless, so the maximum gain to the short position is \$30,000. However, since the stock price can rise without limit, the maximum loss to a short stock position is unlimited.

Intermediate questions

**11.**

<u>Assets</u>		<u>Liabilities and account equity</u>	
200 shares of Mobil	\$15,000	Margin loan	\$7,500
		Account equity	<u>\$7,500</u>
Total	<u>\$15,000</u>	Total	<u>\$15,000</u>

Stock price = \$90

<u>Assets</u>		<u>Liabilities and account equity</u>	
200 shares of Mobil	\$18,000	Margin loan	\$7,500
		Account equity	<u>\$10,500</u>
Total	<u>\$18,000</u>	Total	<u>\$18,000</u>

Margin = \$10,500/\$18,000 = 58.3%

Stock price = \$65

<u>Assets</u>		<u>Liabilities and account equity</u>	
200 shares of Mobil	\$13,000	Margin loan	\$7,500
		Account equity	<u>\$5,500</u>
Total	<u>\$13,000</u>	Total	<u>\$13,000</u>

Margin = \$5,500/\$13,000 = 42.3%

**12.** 600 shares x \$50 per share = \$30,000; initial margin = \$20,000/\$30,000 = 66.7%

<u>Assets</u>		<u>Liabilities and account equity</u>	
600 shares of Apple	\$30,000	Margin loan	\$10,000
		Account equity	<u>\$20,000</u>
Total	<u>\$30,000</u>	Total	<u>\$30,000</u>

**13.** Interest on loan = \$10,000(1 + .0725)<sup>1/2</sup> - \$10,000 = \$356.16

Dividends received = 600(\$0.75) = \$450

Proceeds from stock sale = 600(\$55) = \$33,000

Dollar return = \$33,000 - \$30,000 - \$356.16 + \$450 = \$3,093.84

Rate of return = \$3,093.84/\$20,000 = 15.47%/six months; (1.1547)<sup>2</sup> - 1 = 33.3%/year

14.  $\$24,000/\$80 = 300$  shares; initial margin =  $300/500 = 60\%$

margin loan =  $200(\$80) = \$16,000$

$(500P - \$16,000)/500P = .30$  ;  $P = \$45.71$

To meet a margin call, you can deposit additional cash into your trading account, liquidate shares until your margin requirement is met, or deposit marketable securities against your account as collateral.

15. Interest on loan =  $\$16,000(1.065) - \$16,000 = \$1,040$

a. Proceeds from sale =  $500(\$100) = \$50,000$

Dollar return =  $\$50,000 - \$40,000 - \$1,040 = \$8,960$

Rate of return =  $\$8,960/\$24,000 = 37.3\%$

Without margin, rate of return =  $\$(100 - \$80)/\$80 = 25\%$

b. Proceeds from sale =  $500(\$80) = \$40,000$

Dollar return =  $\$40,000 - \$40,000 - \$1,040 = -\$1,040$

Rate of return =  $-\$1,040/\$24,000 = -4.3\%$

Without margin, rate of return =  $0\%$

c. Proceeds from sale =  $500(\$60) = \$30,000$

Dollar return =  $\$30,000 - \$40,000 - \$1,040 = -\$11,040$

Rate of return =  $-\$11,040/\$24,000 = -46.0\%$

Without margin, rate of return =  $\$(60 - \$80)/\$80 = -25\%$

16.	<u>Assets</u>		<u>Liabilities and account equity</u>	
	Proceeds from sale	\$100,000	Short position	\$100,000
	Initial margin deposit	<u>\$100,000</u>	Account equity	<u>\$100,000</u>
	Total	<u>\$200,000</u>	Total	<u>\$200,000</u>

17.	<u>Assets</u>		<u>Liabilities and account equity</u>	
	Proceeds from sale	\$100,000	Short position	\$100,000
	Initial margin deposit	<u>\$75,000</u>	Account equity	<u>\$75,000</u>
	Total	<u>\$175,000</u>	Total	<u>\$175,000</u>

18. Proceeds from short sale =  $1,000(\$70) = \$70,000$

Cost of covering short =  $1,000(\$50) = \$50,000$

Cost of covering dividends =  $1,000(\$1) = \$1,000$

Dollar profit =  $\$70,000 - \$50,000 - \$1,000 = \$19,000$

Rate of return =  $\$19,000/\$70,000 = 27.1\%$

19. Proceeds from short sale =  $5,000(\$25) = \$125,000$

Margin deposit =  $.60(\$125,000) = \$75,000$

Total liabilities plus account equity =  $\$125,000 + \$75,000 = \$200,000$

$(\$200,000 - 5,000P)/5,000P = .4$  ;  $P = \$28.57$

- 20.** If the asset is illiquid, it may be difficult to quickly sell it during market declines, or to purchase it during market rallies. Hence, special care should always be given to investment positions in illiquid assets, especially in times of market turmoil.

## Investment Updates (9/16/98)

# Short Interest On Big Board Hits a Record

Figure for Month Rose 2.58%  
To 4.21 Billion Shares;  
Amex Declined 0.72%

By AARON LUCCHETTI

Staff Reporter of THE WALL STREET JOURNAL  
NEW YORK—Short interest on the New York Stock Exchange rose to a record in the latest month, while activity on the American Stock Exchange decreased.

Short interest on the Big Board increased 2.58% to 4,206,357,899 shares on Sept. 15 from a revised 4,100,726,367 shares in mid-August.

On the Amex, the figure fell 0.72% to 204,278,391 shares from a revised 205,759,518 shares in mid-August.

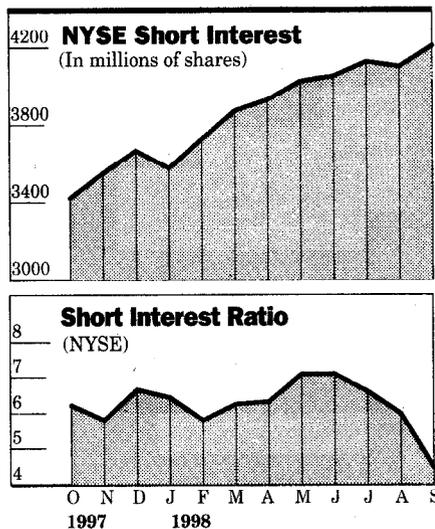
The level of negative sentiment measured by the Big Board's short-interest ratio—sometimes considered a contrarian indicator, as short-interest shares eventually must be purchased—fell to 5.45 from 5.98 in the previous trading period. The short-interest ratio is the number of trading days at the exchange's average daily trading volume required to convert the total short-interest position.

Investors who sell securities "short" borrow stock and sell it, betting that the stock's price will decline and that they will be able to buy the shares back later at a lower price for repayment to the lender. Short interest is the number of shares that haven't been purchased for return to lenders, and as such, is often viewed as an indicator of the degree of negative sentiment among investors in the stocks.

Investors may also rely on short selling for other purposes, including as a hedging strategy related to corporate mergers and acquisitions, to hedge convertible securities and options, or for tax-related purposes.

Average daily Big Board volume was 771,201,550, up from 685,370,716 shares in the previous month. Short positions were calculated for the month including the 21 trading days through Sept. 15.

The next Big Board short-interest report will be published Oct. 22.



### Largest Short Positions

Rank	Sep. 15	Aug. 14	Change	
<b>NYSE</b>				
1	Walt Disney Hldg	75,350,089	71,732,624	3,617,465
2	AT&T	41,616,230	40,703,168	913,062
3	Wal-Mart Stores	37,758,929	34,422,337	3,336,592
4	Micron Technology	35,620,879	32,536,252	3,084,627
5	Home Depot	33,736,094	30,556,425	3,179,669
6	Columbia/HCA	33,403,803	35,114,881	-1,711,078
7	SBC Comm	33,246,460	32,613,881	632,579
8	Kmart	31,482,473	32,475,896	-993,423
9	Travelers Group	29,221,192	28,154,589	1,066,603
10	Amer Home Prdcts	27,876,265	19,788,931	8,087,334
11	Iomega	27,831,452	28,146,392	-314,940
12	Compaq Computer	27,300,501	30,968,909	-3,668,408
13	Tyco Intl	26,745,408	25,839,632	905,776
14	Mediaone Group	24,835,440	24,832,716	2,724
15	Waste Management	23,991,604	21,460,600	2,531,004
16	Coca-Cola Co.	23,171,781	19,709,453	3,462,328
17	Medpartners	22,807,304	21,123,342	1,683,962
18	Conseco	22,625,304	18,155,934	4,469,370
19	Norwest	21,944,465	16,657,126	5,287,339
20	Bell Atlantic	21,725,506	19,638,936	2,086,570
<b>AMEX</b>				
1	Standard&Prs Dep	27,684,288	22,592,728	5,091,560
2	Trans World Cmmn	10,290,575	11,575,958	-1,285,383
3	Cablevision Sys	9,758,144	9,907,130	-148,986
4	Nabors	9,576,856	9,886,700	-309,844
5	Viacom cl B	8,003,689	8,131,564	-127,875

# Time for Investing's Four-Letter Word

By KAREN HUBE

Staff Reporter of THE WALL STREET JOURNAL

What four-letter word should pop into mind when the stock market takes a harrowing nose dive?

No, not those. R-I-S-K.

Risk is the potential for realizing low returns or even losing money, possibly preventing you from meeting important objectives, like sending your kids to the college of their choice or having the retirement lifestyle you crave.

But many financial advisers and other experts say that these days investors aren't taking the idea of risk as seriously as they should, and they are overexposing themselves to stocks.

"The market has been so good for years that investors no longer believe there's risk in investing," says Gary Schatsky, a financial adviser in New York. "And when the market drops hundreds of points and rebounds immediately, that belief is confirmed."

The danger is that when the market declines and stays down for months—as some analysts predict it eventually will—investors won't be able to meet their short-term financial goals. Or, they will panic and sell their investments as their shares are declining in value, which is the worst possible time.

So before the market goes down and stays down, be sure that you understand your tolerance for risk and that your portfolio is designed to match it.

Assessing your risk tolerance, however, can be tricky. You must consider not only how much risk you can afford to take but also how much risk you can stand to take.

What you can afford depends mainly on your time horizon—how long before you will need the money.

Determining how much risk you can stand—your temperamental tolerance for risk—is more difficult. It isn't quantifiable.

"A variety of behavioral factors come into play," says Richard Bernstein, director of quantitative research at Merrill Lynch & Co. in New York. "If my broker asks me if I want high-risk or low-risk securities, I may say high risk because I don't want to look wimpy."

Similarly, some people will gloss over the less-impressive details of their investing histories, says Ronald Roge, a financial adviser in Bohemia, N.Y. He routinely asks to see copies of his clients' tax returns to get a reliable account of gains or losses.

"The aim is always to find the fine line between greed and fear," he says.

To that end, many financial advisers, brokerage firms and mutual-fund companies have created risk quizzes to help people determine whether they are conservative, moderate or aggressive investors. Some firms that offer such quizzes include Merrill Lynch, T. Rowe Price Associates Inc., Baltimore, Zurich Group Inc.'s Scudder Kemper Investments Inc., New York, and Vanguard Group in Malvern, Pa.

"The typical investor may not have ever experienced a negative turn in the stock market. They need to be prepared for that," says Robert Benish, vice president of education programs for Scudder, whose questionnaire is part of a broader investing-education program. "We want to help them understand what risk means to them."

Typically, risk questionnaires include seven to 10 questions about a person's investing experience, financial security and tendency to make risky or conservative choices.

The benefit of the questionnaires is that they are an objective resource people can use to get at least a rough idea of their risk tolerance. "It's impossible for someone to assess their risk tolerance alone," says Mr. Bernstein. "I may say I don't like risk, yet will take more risk than the average person."

To score the quiz, add up the number of answers you gave in each category a-c, then multiply as shown to find your score

(a) answers \_\_\_\_\_ x 1 = \_\_\_\_\_ points

(b) answers \_\_\_\_\_ x 2 = \_\_\_\_\_ points

(c) answers \_\_\_\_\_ x 3 = \_\_\_\_\_ points

**YOUR SCORE:** \_\_\_\_\_ points

**If you scored...**

9-14 points

15-21 points

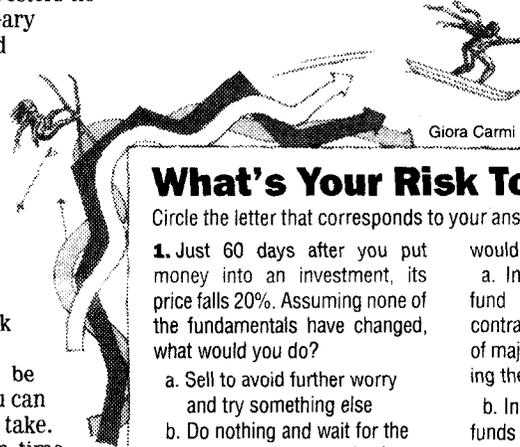
22-27 points

**You may be a:**

Conservative investor

Moderate investor

Aggressive investor



Giora Carmi

## What's Your Risk Tolerance?

Circle the letter that corresponds to your answer

- Just 60 days after you put money into an investment, its price falls 20%. Assuming none of the fundamentals have changed, what would you do?
  - Sell to avoid further worry and try something else
  - Do nothing and wait for the investment to come back
  - Buy more. It was a good investment before; now it's a cheap investment, too
- Now look at the previous question another way. Your investment fell 20%, but it's part of a portfolio being used to meet investment goals with three different time horizons.
  - What would you do if the goal were five years away?
    - Sell
    - Do nothing
    - Buy more
  - What would you do if the goal were 15 years away?
    - Sell
    - Do nothing
    - Buy more
  - What would you do if the goal were 30 years away?
    - Sell
    - Do nothing
    - Buy more
- The price of your retirement investment jumps 25% a month after you buy it. Again, the fundamentals haven't changed. After you finish gloating, what do you do?
  - Sell it and lock in your gains
  - Stay put and hope for more gain
  - Buy more; it could go higher
- You're investing for retirement, which is 15 years away. Which would you rather do?
  - Invest in a money-market fund or guaranteed investment contract, giving up the possibility of major gains, but virtually assuring the safety of your principal
  - Invest in a 50-50 mix of bond funds and stock funds, in hopes of getting some growth, but also giving yourself some protection in the form of steady income
  - Invest in aggressive growth mutual funds whose value will probably fluctuate significantly during the year, but have the potential for impressive gains over five or 10 years
- You just won a big prize! But which one? It's up to you.
  - \$2,000 in cash
  - A 50% chance to win \$5,000
  - A 20% chance to win \$15,000
- A good investment opportunity just came along. But you have to borrow money to get in. Would you take out a loan?
  - Definitely not
  - Perhaps
  - Yes
- Your company is selling stock to its employees. In three years, management plans to take the company public. Until then, you won't be able to sell your shares and you will get no dividends. But your investment could multiply as much as 10 times when the company goes public. How much money would you invest?
  - None
  - Two months' salary
  - Four months' salary

To check your score, see the box at the end of the accompanying story.

Source: Scudder Kemper Retirement Services

## Investment Updates (12/16/97)

# Popular 60-40 Mix Is No Panacea

Why do so many investors hold a mix of 60% stocks and 40% bonds?

As it turns out, there are three main arguments for the 60-40 mix. But none of them clinch the case.

■ **It produces good returns in bad times.**

The 1930s and 1940s were a nightmare for investors. In the 1930s, stocks were trounced by deflation. In the 1940s, bonds were battered by inflation. But in both decades, a mix of 60% U.S. stocks and 40% U.S. longer-term government bonds outpaced inflation by a healthy margin.

"What 60-40 has done is kept people whole over an extended period, especially a deflationary period," says Keith Ambachtsheer, a pension consultant in Toronto. "Where 60-40 runs into problems is in the 1970s," when inflation was much higher than in the 1940s. That high inflation not only wreaked havoc on bonds, but also hurt stocks, which were vulnerable because of rich valuations.

■ **It offers a decent mix of income and capital gains.**

If you are retired and living off your portfolio, you might have been told to buy a 60-40 mix, because you get a moderate amount of income and your portfolio should keep growing along with inflation.

Right now, for instance, stocks yield less than 2%, but bonds kick off around 6%, giving a 60-40 portfolio an overall yield of some 3½%.

Meanwhile, for capital appreciation, you have to rely on your stocks. Over the long haul, these might climb at 7% a year, assuming share price-to-earnings multiples hold steady and earnings per share rise at their historic 7% annual clip. If you have 60% in stocks, that translates into overall portfolio growth of more than 4%, nicely ahead of today's 2% inflation rate.

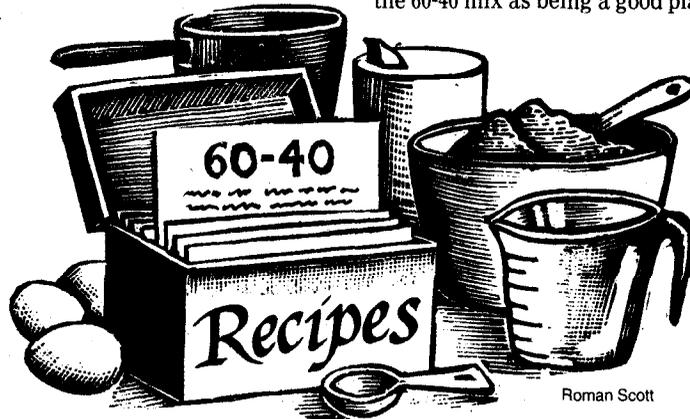
But in truth, you could keep up with inflation—and generate a much higher yield—by putting far less into stocks and keeping even more in bonds. For retirees, it seems, there is nothing magical about the 60-40 mix.

■ **It generates the best risk-adjusted return.**

Derek Sasveld, a senior consultant with Chicago's Ibbotson Associates, says the theoretical justification for the 60-40 mix came in the mid-1960s. At that time, there was keen interest among some institutional investors in building portfolios that produced good risk-adjusted returns. To find the right mix, they looked at the past 40 years of U.S. stock and bond returns.

"That 60-40 portfolio from 1926 through 1965 was terrific," Mr. Sasveld notes. "The correlation between stocks and bonds at that point was virtually zero."

But times have changed. "Stocks and bonds are now more correlated," Mr. Sasveld says. "People shouldn't think about the 60-40 mix as being a good place to start."



Roman Scott