INTRODUCTION TO INVESTMENTS

PART

[one]

1

THE INVESTMENT SETTING

OBJECTIVES

1. Understand the difference between financial and real assets.

2. Discuss the key considerations in setting investment objectives.

3. Appreciate the potential change in investment strategy caused by the tax law revisions.

4. Describe the relationship of risk and return.

5. Explain the three factors that make up the required rate of return for an investor.

6. Understand the career opportunities that are open to students in the field of investments.

OUTLINE

There is nothing more exciting than waking up in the morning and racing for the newspaper or computer screen to get the latest stock quotes. Everything that happens during the day affects your portfolio, whether it's a snowstorm in the Midwest, congressional testimony by the Federal Reserve Board chairman, or a surprise earnings announcement by a Fortune 500 company. There is no "free space" when your money is in play. You are always on real time with events in the United States, Europe, and the rest of the world.

These factors make investing very challenging, where winners can become losers, and losers winners. Take the case of IBM. The stock price of this renowned computer manufacturer reached a high of 175⅞ per share in 1987. At the time, security analysts thought that "Big Blue" could go up forever with its dominance in the traditional mainframe computer market and its emergence as the leader in the rapidly growing personal computer market. Such was not to be. With the conversion

of most computer applications from mainframes to microcomputers and the cloning of IBM products by its competitors, IBM rapidly lost market share and began to actually lose money in the early 1990s. This was in stark contrast to the $6 billion per year annual profits it had averaged for the prior decade. By mid-1993, the stock had fallen to 40⅝. Many investors threw up their hands in disgust and bailed out. Over a decade later, by the winter of 2011, the firm was once again showing a profit after massive layoffs of employees and restructuring of operations, and the stock price was *up* to the equivalent of $326 (the actual stock price was $163, but there was a two-for-one stock split during this time period).

Common stocks are not the only volatile investment. In the past two decades, silver has gone from $5 an ounce to $50 and back again to $12. The same can be said of investments in oil, real estate, and a number of other items. Commercial real estate lost more than 30 percent of its value in the late 1980s and then fully recovered by 2006. Other examples are constantly occurring on both the upside and the downside as fortunes are made and lost.

How does one develop an investment strategy in such an environment? Suggestions come from all directions. The investor is told how to benefit from the coming monetary disaster as well as how to grow rich in a new era of prosperity. The intent of this text is to help the investor sort out the various investments that are available and to develop analytical skills that suggest what securities and assets might be most appropriate for a given **portfolio**.

We shall define an **investment** as the commitment of current funds in anticipation of receiving a larger future flow of funds. The investor hopes to be compensated for forgoing immediate consumption, for the effects of inflation, and for taking a risk. Investments may take the form of stocks, bonds, real estate, and even rare paintings or old baseball cards.

FORMS OF INVESTMENT

In the text, we break down investment alternatives between financial and real assets. A **financial asset** represents a financial claim on an asset that is usually documented by some form of legal representation. An example would be a share of stock or a bond. A **real asset** represents an actual tangible asset that may be seen, felt, held, or collected. An example would be real estate or gold. Table 1–1 on page 4 lists the various forms of financial and real assets.

As indicated in the left column of Table 1–1, financial assets may be broken down into five categories. **Direct equity claims** represent ownership interests and include common stock as well as other instruments that can be used to purchase common stock, such as warrants and options. Warrants and options allow the holder to buy a stipulated number of shares in the future at a given price. Warrants usually convert to one share and are long term, whereas options are generally based on 100 share units and are short term in nature.

Indirect equity can be acquired through placing funds in investment companies (such as a mutual fund). The investment company pools the resources of many investors and reinvests them in common stock (or other investments). The individual enjoys the advantages of diversification and professional management (though not necessarily higher returns).

Financial assets may also take the form of **creditor claims** as represented by debt instruments offered by financial institutions, industrial corporations, or the government. The rate of return is often initially fixed, though the actual return may vary with changing market conditions. Other forms of financial assets are **preferred stock**, which is a hybrid form of security combining some of the elements of equity ownership and creditor claims, and **commodity futures**, which represent a contract to buy or sell a commodity in the future at a given price. Commodities may include wheat, corn, copper, or even such financial instruments as Treasury bonds or foreign exchange.

TABLE 1-1 Overview of Investment Alternatives

Financial Assets	Real Assets

1. Equity claims—direct
    Common stock
    Warrants
    Options
2. Equity claims—indirect
    Investment company shares (mutual funds)
    Exchange-traded funds
    Pension funds
    Whole life insurance
    Retirement accounts
3. Creditor claims
    Savings accounts
    Money market funds
    Commercial paper
    Treasury bills, notes, bonds
    Municipal notes, bonds
    Corporate bonds (straight and convertible to common stock)
4. Preferred stock (straight and convertible to common stock)
5. Commodity futures
	1. Real estate
	    Office buildings
	    Apartments
	    Shopping centers
	    Personal residences
	2. Precious metals
	    Gold
	    Silver
	3. Precious gems
	    Diamonds
	    Rubies
	    Sapphires
	4. Collectibles
	    Art
	    Antiques
	    Stamps
	    Coins
	    Rare books
	5. Other
	    Cattle
	    Oil
	    Common metals

As shown in the right column of Table 1–1, there are also numerous categories of real assets. The most widely recognized investment in this category is *real estate,* either commercial property or one's own residence. For greater risk, *precious metals* or *precious gems* can be considered, and for those seeking psychic pleasure as well as monetary gain, *collectibles* are an investment outlet. Finally, the *other* (*all-inclusive*) category includes cattle, oil, and other items that stretch as far as the imagination will go.

Throughout the text, each form of financial and real asset is considered. What assets the investor ultimately selects will depend on investment objectives as well as the economic outlook. For example, the investor who believes inflation will be relatively strong may prefer real assets that have a replacement value reflecting increasing prices. In a more moderate inflationary environment, stocks and bonds are preferred. The latter has certainly been the case in the last 15 years.

THE SETTING OF INVESTMENT OBJECTIVES

The setting of investment objectives may be as important as the selection of the investment. In actuality, they tend to go together. A number of key areas should be considered.

Risk and Safety of Principal

The first factor investors must consider is the amount of risk they are prepared to assume. In a relatively efficient and informed capital market environment, risk tends to be closely correlated with return. Most of the literature of finance would suggest that those who consistently demonstrate high returns of perhaps 20 percent

or more are greater-than-normal risk takers. While some clever investors are able to prosper on their wits alone, most high returns may be perceived as compensation for risk.

And there is not only the risk of losing invested capital directly (a dry hole perhaps) but also the danger of a loss in purchasing power. At 6 percent inflation (compounded annually), a stock that is held for four years without a gain in value would represent a 26 percent loss in purchasing power.

Investors who wish to assume low risks will probably confine a large portion of their portfolios to short-term debt instruments in which the party responsible for payment is the government or a major bank or corporation. Some conservative investors may choose to invest in money market funds in which the funds of numerous investors are pooled and reinvested in high-yielding, short-term instruments. More aggressive investors may look toward longer-term debt instruments and common stock. Real assets, such as gold, silver, or valued art, might also be included in an aggressive portfolio.

It is not only the inherent risk in an asset that must be considered but also the extent to which that risk is being diversified away in a portfolio. Although an investment in gold might be considered risky, such might not be fully the case if it is combined into a portfolio of common stocks. Gold thrives on bad news, while common stocks generally do well in a positive economic environment. An oil embargo or foreign war may drive down the value of stocks while gold is advancing, and vice versa.

The age and economic circumstances of an investor are important variables in determining an appropriate level of risk. Young, upwardly mobile people are generally in a better position to absorb risk than are elderly couples on a fixed income. Nevertheless, each of us, regardless of our plight in life, has different risk-taking desires. Because of an unwillingness to assume risk, a surgeon earning $300,000 a year may be more averse to accepting a $2,000 loss on a stock than an aging taxicab driver.

One cruel lesson of investing is that conservative investments do not always end up being what you thought they were when you bought them. This was true of IBM as described at the beginning of the chapter. This has also been true of many other firms. Classic examples can be found in the drug industry where leading firms such as Merck and Pfizer, who have reputations for developing outstanding products for the cure of cardiovascular and other diseases, saw their stock values fall by 30 percent when a strong movement for health care regulation and cost containment began in the mid-1990s. Much crueler lessons were provided to dot-com investors in the late 1990s as "can't miss" $100 stocks became $2 disasters. The same could be said for investors in the energy company Enron, which shrank from $90 to 50¢ in 2001 and eventual bankruptcy. Even risk-averse investors in short-term U.S. Treasury bills saw their income stream decline from 6 percent to 1 percent over a four-year period as interest rates plummeted. This declining cash flow can be a shock to your system if you are living on interest income. The financial crisis of 2007–2009 was another nightmare for income-oriented investors, as companies cut over $50 billion of dividends and stock prices plummeted more than 50 percent from their 2007 peak.

Current Income versus Capital Appreciation

A second consideration in setting investment objectives is a decision on the desire for current income versus capital appreciation. Although this decision is closely tied to an evaluation of risk, it is separate.

In purchasing stocks, the investor with a need for current income may opt for high-yielding, mature firms in such industries as public utilities, chemicals, or apparel. Those searching for price gains may look toward smaller, emerging firms in high technology, energy, or electronics. The latter firms may pay no cash dividend, but the investor hopes for an increase in value to provide the desired return.

The investor needs to understand there is generally a trade-off between growth and income. Finding both in one type of investment is unlikely. If you go for high-yielding utilities, you can expect slow growth in earnings and stock price. If you opt for high growth with a biotechnology firm, you can expect no cash flow from the dividend.

Liquidity Considerations

Liquidity is measured by the ability of the investor to convert an investment into cash within a relatively short time at its fair market value or with a minimum capital loss on the transaction.

Most financial assets provide a high degree of liquidity. Stocks and bonds can generally be sold within a matter of seconds at a price reasonably close to the last traded value. Such may not be the case for real estate. Almost everyone has seen a house or piece of commercial real estate sit on the market for weeks, months, or years.

Liquidity can also be measured indirectly by the transaction costs or commissions involved in the transfer of ownership. Financial assets generally trade on a relatively low commission basis (perhaps ¼ to 1 percent), whereas many real assets have transaction costs that run from 5 percent to 25 percent or more.

In many cases, the lack of immediate liquidity can be justified if there are unusual opportunities for gain. An investment in real estate or precious gems may provide sufficient return to more than compensate for the added transaction costs. Of course, a bad investment will be all the more difficult to unload.

Investors must carefully assess their own situation to determine the need for liquidity. If you are investing funds to be used for the next house payment or the coming semester's tuition, then immediate liquidity will be essential, and financial assets will be preferred. If funds can be tied up for long periods, bargain-buying opportunities of an unusual nature can also be evaluated.

Short-Term versus Long-Term Orientation

In setting investment objectives, you must decide whether you will assume a short-term or long-term orientation in managing the funds and evaluating performance. You do not always have a choice. People who manage funds for others may be put under tremendous pressure to show a given level of performance in the short run. Those applying pressure may be a concerned relative or a large pension fund that has placed funds with a bank trust department. Even though you are convinced your latest investment will double in the next three years, the fact that it is currently down 15 percent may provide discomfort to those around you.

Market strategies may also be short term or long term in scope. Those who attempt to engage in short-term market tactics are termed *traders.* They may buy a stock at 15 and hope to liquidate if it goes to 20. To help reach decisions, short-term traders often use technical analysis, which is based on evaluating market indicator series and charting. Those who take a longer-term perspective try to identify fundamentally sound companies for a buy-and-hold approach. A long-term investor does not necessarily anticipate being able to buy right at the bottom or sell at the exact peak. Buy-and-hold investors also minimize their capital gains taxes.

Research has shown it is difficult to beat the market on a risk-adjusted basis. Given that the short-term trader encounters more commissions than the long-term investor because of more active trading, short-term trading as a rule is not a strategy endorsed by the authors.

Inflation has been very tame from the mid-1980s through the 2000s, with prices growing at 1 to 3 percent per year. This is a far cry from the double-digit inflation of 11.4 percent in 1979 and 13.4 percent in 1980. Even these rates would have to be considered mild compared with the triple-digit (100+ percent) inflation witnessed during the 1980s in such developing countries as Brazil, Israel, and Mexico.

As you plan your future, you might ask, "What effect could inflation have on my well-being?" If inflation is at 3 to 4 percent, the impact is not great. But observe in the table the effect of 6 percent sustained inflation over a 20-year time period. These values indicate why the Federal Reserve remains ever vigilant in trying to hold down the rate of inflation.

Impact of 6 Percent Inflation over 20 Years

	2010 Price	20 Years Later
Average automobile	$ 19,500	$ 62,536
Mercedes	44,000	141,108
Typical three-bedroom house	160,000	513,120
BBA starting salary	45,000	144,315
MBA starting salary	90,000	288,630
Average private college annual tuition	24,000	76,968
Ivy League annual tuition	40,000	128,280
Poverty level (family of four)	34,000	109,043

Tax Factors

Investors in high tax brackets have different investment objectives than those in lower brackets or tax-exempt charities, foundations, or similar organizations. An investor in a high tax bracket may prefer municipal bonds where interest is not taxable, real estate with its depreciation and interest write-offs, or investments that provide tax credits or tax shelters.

The Tax Relief Act of 2003 changed tax considerations related to investments substantially, and you should be aware of these changes and their impact on portfolio strategy. Prior to the passage of the act, dividends were taxed as ordinary income (the same as salary, for example) and the maximum tax rate on dividends was 38.8 percent. However, long-term capital gains, that is, gains on securities held for over a year, were only taxed at a maximum rate of 20 percent.

For high-income, high-tax-bracket investors this made stocks with large capital gains potential much more desirable. They looked to companies such as Home Depot or eBay that paid little or no dividends, but used their funds instead to generate growth and hopefully capital gains for investors. Companies that paid high dividends such as Duke Energy or AT&T were often shunned by wealthy investors because of the tax consequences of owning these stocks.

However, the Tax Relief Act of 2003 put dividends and long-term capital gains on an equal footing. These tax rates were continued for two years at the beginning of 2011 in negotiations between the new Republican majority in the House of Representatives, the Democratic Senate, and President Obama. They both are now taxed at a maximum rate of 15 percent. This means that high-income investors may now seriously consider stocks with high dividends such as Verizon, Pfizer, or Southern Co. for their portfolios.

Ease of Management

Another consideration in establishing an investment program is ease of management. The investor must determine the amount of time and effort that can be devoted to an investment portfolio and act accordingly. In the stock market, this may determine whether you want to be a daily trader or assume a longer-term perspective. In real estate, it may mean the difference between personally owning and managing a handful of rental houses or going in with 10 other investors to form a limited partnership in which a general partner takes full management responsibility and the limited partners merely put up the capital.

Of course, a minimum amount of time must be committed to any investment program. Even when investment advisers or general partners are in charge, their activities must be monitored and evaluated.

In managing a personal portfolio, the investor should consider opportunity costs. If a lawyer can work for $200 per hour or manage his financial portfolio, a fair question would be, How much extra return can I get from managing my portfolio, or can I add more value to my portfolio by working and investing more money? Unless the lawyer is an excellent investor, it is probable that more money can be made by working.

Assume an investor can add a 2 percent extra return to his portfolio but it takes 5 hours per week (260 hours per year) to do so. If his opportunity cost is $40 per hour, he would have to add more than $10,400 ($40 × 260 hours) to his portfolio to make personal management attractive. If we assume a 2 percent excess return can be gained over the professional manager, the investor would need a portfolio of $520,000 before personal management would make sense under these assumptions. This example may explain why many high-income individuals choose to have professionals manage their assets.

Decisions such as these may also depend on your trade-off between work and leisure. An investor may truly find it satisfying and intellectually stimulating to manage a portfolio and may receive psychic income from mastering the nuances of investing. However, if you would rather ski, play tennis, or enjoy some other leisure activity, the choice of professional management may make more sense than a do-it-yourself approach.

Retirement and Estate Planning Considerations

Even the relatively young must begin to consider the effect of their investment decisions on their retirement and the estates they will someday pass along to their "potential families." Those who wish to remain single will still be called on to advise others as to the appropriateness of a given investment strategy for their family needs.

Most good retirement questions should not be asked at "retirement" but 40 or 45 years before because that's the period with the greatest impact. One of the first questions a person is often asked after taking a job on graduation is whether he or she wishes to set up an IRA. An IRA allows a qualifying taxpayer to deduct an allowable amount from taxable income and invest the funds at a brokerage house, mutual fund, bank, or other financial institution. The funds are normally placed in common stocks or other securities or in interest-bearing instruments, such as a certificate of deposit. The income earned on the funds is allowed to grow tax-free until withdrawn at retirement. As an example, if a person places $3,000 a year in an IRA for 45 consecutive years and the funds earn 10 percent over that time, $2,156,715 will have been accumulated.

Normally, private companies and governments have retirement plans. Most public employees, such as teachers, firefighters, and police, have a **defined benefit plan**. The defined benefit plan specifies the amount of the retirement benefit based on income and years of service. For example, a schoolteacher who teaches for 35 years and earned an average of $80,000 over the last four years of work may be entitled to 80 percent of his or her income ($64,000 per year) for the rest of his or her life. In some states and cities, this amount may be adjusted annually for inflation and not be included as taxable income for state income tax purposes. In the defined benefit plan, the public pension fund is responsible for managing the money and generating the benefits.

The second type of retirement plan is the **defined contribution plan**. This type of plan usually requires the employee to make contributions out of each paycheck into a retirement fund. Most plans match the employee contribution up to some limit. In the defined contribution plan, the employee is responsible for

We know the first is not going to go away (not even Elvis got out alive), but what about the second (taxes)? In this case, we are especially talking about the estate tax, or the taxes paid on your assets at time of death.

Fewer than 100,000 people pay the estate tax. The primary reason is that, starting in 2002, you had to have an estate of at least $1 million to owe the tax (there is a $1 million exemption). Also, there are tax planning devices that help you avoid part of the tax (lifetime gifts, trusts, the marital deduction, etc.). Nevertheless, for those who pay the estate tax, it is indeed an onerous burden.

During his or her lifetime, a successful person tends to pay 50 percent of every dollar earned in federal and state income taxes, local property taxes, state sales taxes, and excise taxes on foreign imports, alcoholic beverages, etc.

Then when he or she dies, an estate tax of up to 50 percent may be extracted. This double taxation may mean this person and his or her heirs may only get to keep 25 cents of each dollar earned; 75 cents could go to the government. Most people do not like that ratio.

To rectify this situation, the Bush administration and Congress decided to eliminate the estate tax as one of the provisions of the newly enacted Economic Growth and Tax Reconciliation Act of 2001.

But wait a minute. Don't rush out to die just because of the legislation. First of all, the elimination is a slow process and is enacted by progressively larger estate tax exemptions. The tax table reads like this:

Years	Exemptions
2002–03	$1.0 million
2004–05	1.5 million
2006–08	2.0 million
2009	3.5 million
2010	Total exemption
2011–12	5.0 million

Thus, a person who died in 2006 got a $2.0 million exemption and a death in 2009 qualified for a $3.5 million exemption. Finally there was no estate tax for those who died in 2010.

After the 2010 elections, the estate tax laws were changed in January 2011. The Republicans agreed to extend stimulus programs sought by the Democrats in exchange for an estate tax exemption of $5.0 million. The Democrats wanted a $3.5 million limit but accepted the higher amount. We do not know what the politicians will do from one minute to the next, much less during the next three or four years.

managing their own pension fund with mutual funds made available to them through their employer. Companies such as Vanguard and Fidelity and the College Teacher Retirement Fund offer retirement planning services and mutual funds to companies and universities. Defined contribution plans transfer the risk of money management from employers to employees and allow employees to choose a level of risk and return that meets their goals and objectives. An advantage to the employee is that the defined contribution is a more flexible retirement program, but a disadvantage is that employees don't know what their benefit will be when they retire. If you manage your money well, you can end up with a very healthy retirement benefit, but if you manage your money poorly, you can end up living well below what you expected.

Because many public and private pension funds are moving to defined contribution plans, it is important for everyone to know more about money management and the trade-offs between risk and return. As you will see, the type of investment can have a big impact on your rate of return and ending value of your portfolio.

MEASURES OF RISK AND RETURN

Now that you have some basic familiarity with the different forms of investments and the setting of investment goals, we are ready to look at concepts of measuring the return from an investment and the associated risk. The return you receive from any investment (stocks, bonds, real estate) has two primary components: capital gains or losses and current income.

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application example

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A one-period rate of return from an investment can be measured as:

$$\text{Rate of return} = \frac{(\text{Ending value} - \text{Beginning value}) + \text{Income}}{\text{Beginning value}} \qquad \textbf{(1–1)}$$

Thus, if a share of stock goes from \$20 to \$22 in one year and also pays a dollar in dividends during the year, the total return is 15 percent. Using Formula 1–1:

$$\frac{(\$22 - \$20) + \$1}{\$20} = \frac{\$2 + \$1}{\$20} = \frac{\$3}{\$20} = 15\%$$

Where the formula is being specifically applied to stocks, it is written as:

$$\text{Rate of return 5} = \frac{P_1 - P_0 + D_1}{P_0} \qquad \textbf{(1–2)}$$

where:

P_1 = Price at the end of the period.
P_0 = Price at the beginning of the period.
D_1 = Dividend income.

Assume that you have several one-year rates of return of 15, 20, −10, and 5 percent. How would you calculate the annualized rate of return? The geometric mean return makes the most financial sense, because financial returns often have negative returns, and an arithmetic average return creates an upward bias in the answer. The geometric return would take the 4th root of the product of four period returns minus one, where the percentages are expressed in decimals. For example:

$$\begin{aligned} R_G &= \sqrt[4]{(1 + .15)(1 + .20)(1 - .10)(1 + .05)} - 1 \\ &= \sqrt[4]{1.15 \times 1.20 \times .90 \times 1.05} - 1 \\ &= \sqrt[4]{1.3041} - 1 \\ &= 1.06863 - 1 \\ R_G &= .06863 \text{ or } 6.86\% \end{aligned}$$

The general equation for the geometric mean return would be

$$R_G = \sqrt[n]{(1 + r_1)(1 + r_2)(1 + r_3) \cdots (1 + r_n)} - 1$$

If we used an arithmetic average return, we would add all four returns (15% + 20% + −10% + 5%), which would give us a total of 30 percent, and divide by four periods. The average return would be 7.5 percent, which is quite a bit higher than the geometric mean return of 6.86 percent. This demonstrates how the arithmetic return is biased on the upside when a series of returns has negative numbers. This is a very important distinction, and Figure 1–4 on page 15 presents the contrast between the two types of returns for various investments.

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Risk and Return Trade-Offs

The risk for an investment is related to the uncertainty associated with the outcomes from an investment. For example, an investment that has an absolutely certain return of 10 percent is said to be riskless. Another investment that has a likely or expected return of 12 percent, but also has the possibility of minus 10 percent in hard economic times and plus 30 percent under optimum circumstances, is said to be risky. An example of three investments with progressively greater risk is presented in Figure 1–1. Based on our definition of risk, investment

FIGURE 1-1 Examples of Risk
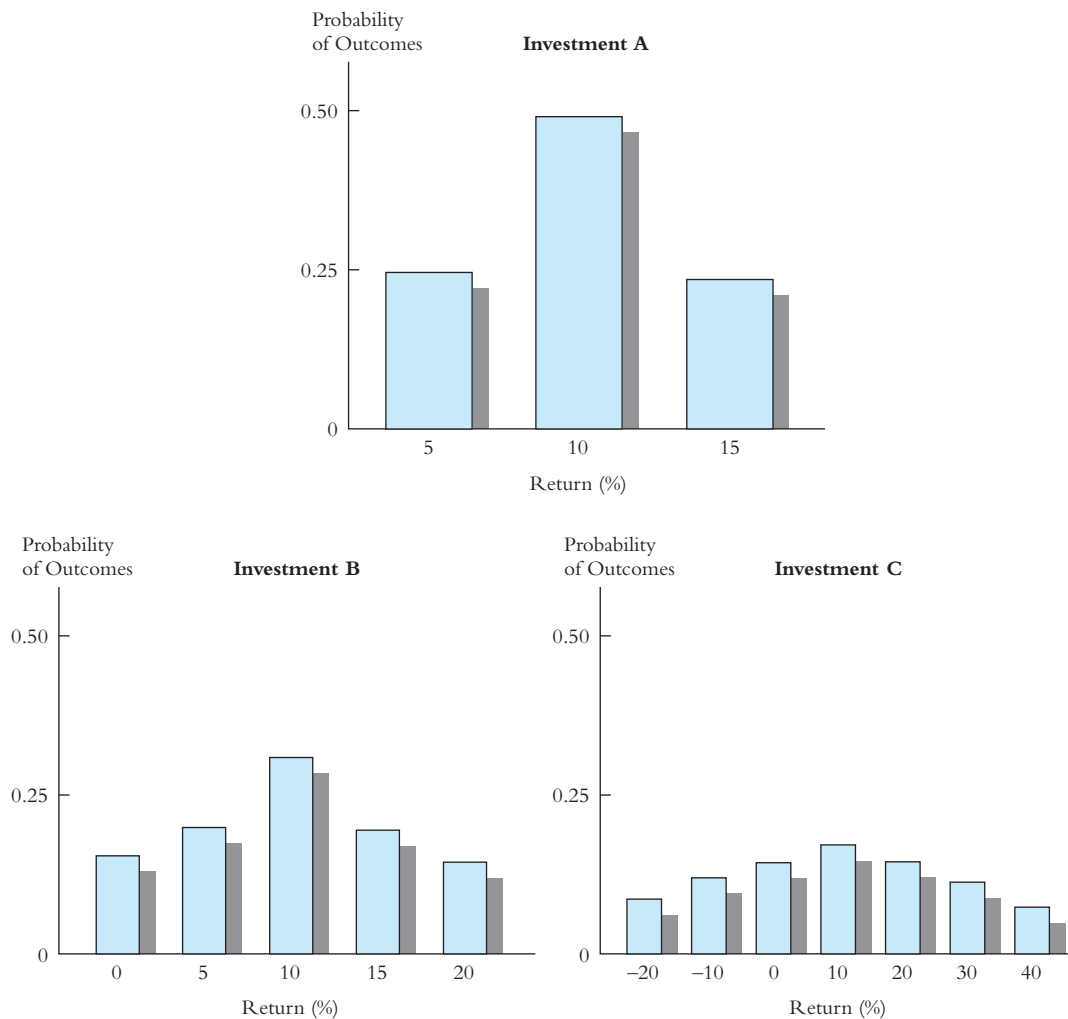
C is clearly the riskiest because of the large uncertainty (wide dispersion) of possible outcomes.

In the study of investments, you will soon observe that the desired or required rate of return for a given investment is generally related to the risk associated with that investment. Because most investors do not like risk, they will require a higher rate of return for a more risky investment. That is not to say the investors are unwilling to take risks—they simply wish to be compensated for taking the risk. For this reason, an investment in common stocks (which inevitably carries some amount of risk) may require an anticipated return 6 or 7 percent higher than a certificate of deposit in a commercial bank. This extra return of 6 or 7 percent represents a risk premium on top of the certificate of deposit return. You never know whether you will get the returns you anticipate, but at least your initial requirements will be higher to justify the risk you are taking.

Other Common Risks   Investors are faced with lots of risks that may show up in quantitative measures but are sometimes hard to quantify easily. For example, if you put your money in an individual retirement account, you have a **tax risk**. IRA investors assume that their tax rate will be lower in retirement because they will have less income. But when you are 25 years old, how would you know what the tax rate will be 40 years later? Usually, the ability to compound your money

tax-free should make up for any higher taxes in the future, but there is a risk present. Corporate finance textbooks often talk about **operating risk** and **financial risk**. Operating risk focuses on the volatility of operating earnings, and given the cyclical nature of the economy and the stability of the industry, this is a risk that can be measured. The greater the volatility of operating income, the greater the risk. Financial risk occurs when a firm uses too much financial leverage (high debt ratio) and risks bankruptcy. If a company has both high operating risk (airlines) and high financial risk (airlines), then there is a high probability that in an economic downturn, bankruptcy will occur (General Motors and Chrysler). If you are a mutual fund investor, you suffer from **manager risk**. There are good managers, bad managers, and lucky managers. One task of an investor is to measure the long-run performance of the manager. When a manager stays at a fund for a long time, his or her performance can be measured. But when there is a new manager or management by committee, it is hard to measure the manager's ability to perform with or above risk-adjusted market returns over time.

ACTUAL CONSIDERATION OF REQUIRED RETURNS

Let's consider how return requirements are determined in the financial markets. Although the following discussion starts out on a theoretical "what if" basis, you will eventually see empirical evidence that different types of investments do provide different types of returns.

Basically, three components make up the required return from an investment:

1. The real rate of return
2. The anticipated inflation factor
3. The risk premium

Real Rate of Return

The **real rate of return** is the return investors require for allowing others to use their money for a given time period. This is the return investors demand for passing up immediate consumption and allowing others to use their savings until the funds are returned. Because the term *real* is employed, this means it is a value determined before inflation is included in the calculation. The real rate of return is also determined before considering any specific risk for the investment.

Historically, the real rate of return in the U.S. economy has been from 2 to 3 percent. During much of the 1980s and early 1990s, it was somewhat higher (4 to 6 percent), but in the 2000–2007 period the real rate of return came back to its normal level of 2 to 3 percent, which is probably a reasonable long-term expectation. With the financial crisis of 2007 lingering into 2011, the Federal Reserve Board kept U.S. interest rates at record lows to stimulate the economy. At the beginning of 2011, the real rate of return was actually negative. This means that investors in one-year treasury bills were actually losing purchasing power. In our examples, however, we will use the long-term average of 2 to 3 percent.

Because an investor is concerned with using a real rate of return as a component of a required rate of return, the past is not always a good predictor for any one year's real rate of return. The problem comes from being able to measure the real rate of return only after the fact by subtracting inflation from the nominal interest rate. Unfortunately, expectations and occurrence do not always match. The real rate of return is highly variable (for seven years in the 1970s and early 1980s, it was even negative). One of the problems investors face in determining required rates of return is the forecasting errors involving interest

rates and inflation. These forecasting errors are more pronounced in short-run returns than in long-run returns. Let us continue with our example and bring inflation into the discussion.

Anticipated Inflation Factor

The anticipated inflation factor must be added to the real rate of return. For example, if there is a 2 percent real-rate-of-return requirement and the **anticipated rate of inflation** is 3 percent, we combine the two to arrive at an approximate 5 percent required return factor. Combining the real rate of return and inflationary considerations gives us the required return on an investment before explicitly considering risk. For this reason, it is called the risk-free required rate of return or, simply, **risk-free rate (R_F)**.

We can define the risk-free rate as:

$$\text{Risk-free rate} = (1 + \text{Real rate})(1 + \text{Expected rate of inflation}) - 1 \quad \textbf{(1–3)}$$

Plugging in numerical values, we would show:

$$\text{Risk-free rate} = (1.02)(1.03) - 1 = 1.0506 - 1 = 0.0506 \text{ or } 5.06\%$$

The answer is approximately 5 percent. You can simply add the real rate of return (2 percent) to the anticipated inflation rate (3 percent) to get a 5 percent answer or go through the more theoretically correct process of Formula 1–3 to arrive at 5.06 percent. Either approach is frequently used.

The risk-free rate (R_F) of approximately 5 percent applies to any investment as the minimum required rate of return to provide a 2 percent *real return* after inflation. Of course, if the investor actually receives a lower return, the real rate of return may be quite low or negative. For example, if the investor receives a 2 percent return in a 4 percent inflationary environment, there is a negative real return of 2 percent. The investor will have 2 percent less purchasing power than before he started. He would have been better off to spend the money *now* rather than save at a 2 percent rate in a 4 percent inflationary economy. In effect, he is *paying* the borrower to use his money. Of course, real rates of return and inflationary expectations change from time to time, so the risk-free required rate (R_F) also changes.

We have examined the two components that make up the minimum risk-free rate of return that apply to investments (stock, bonds, real estate, etc.). We now consider the third component, the risk premium. The relationship is depicted in Figure 1–2.

FIGURE 1-2 The Components of Required Rate of Return
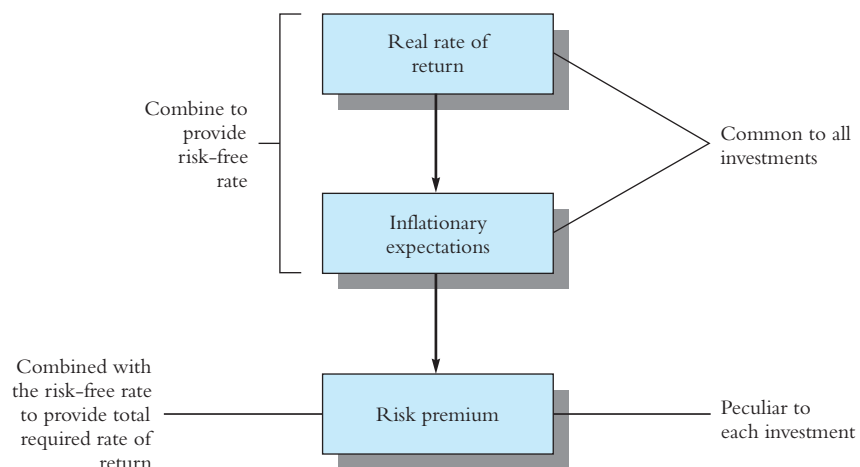
Risk Premium

The **risk premium** will be different for each investment. For example, for a feder-ally insured certificate of deposit at a bank or for a U.S. Treasury bill, the risk pre-mium approaches zero. All the return to the investor will be at the risk-free rate of return (the real rate of return plus inflationary expectations). For common stock, the investor's required return may carry a 6 or 7 percent risk premium in addition to the risk-free rate of return. If the risk-free rate were 5 percent, the investor might have an overall required return of 11 to 12 percent on common stock.

+ Real rate	2%
+ Anticipated inflation	3%
= Risk-free rate	5%
+ Risk premium	6% or 7%
= Required rate of return	11% to 12%

Corporate bonds fall somewhere between short-term government obligations (virtually no risk) and common stock in terms of risk. Thus, the risk premium may be 3 to 4 percent. Like the real rate of return and the inflation rate, the risk pre-mium is not a constant but may change from time to time. If investors are very fearful about the economic outlook, the risk premium may be 8 to 10 percent as it was for junk bonds in 1990 and 1991.

The normal relationship between selected investments and their rates of return is depicted in Figure 1–3.

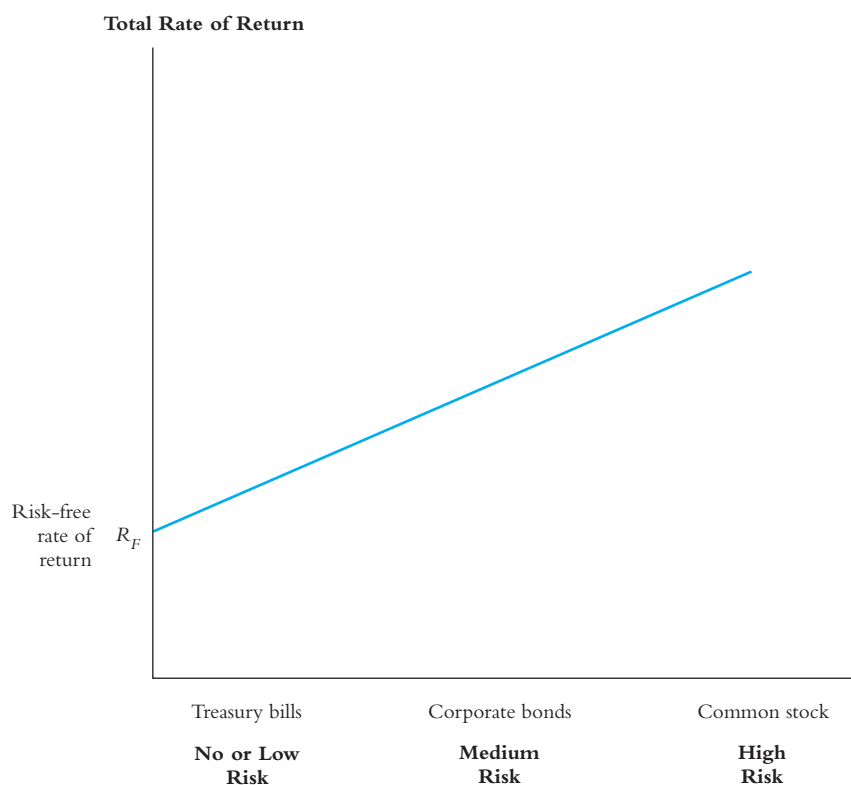**FIGURE 1-3** Risk-Return Characteristics

FIGURE 1-4 Basic Series: Summary Statistics of Annual Total Returns from 1926 to 2009

Series	Geometric Mean	Arithmetic Mean	Standard Deviation	Distribution
Large-company stocks	9.8%	11.8%	20.5%	
Small-company stocks	11.9	16.6	32.8	
Long-term corporate bonds	5.9	6.2	8.3	
Long-term government	5.4	5.8	9.6	
Intermediate-term government	5.3	5.5	5.7	
U.S. Treasury bills	3.7	3.7	3.1	
Inflation	3.0	3.1	4.2	

−90%   0%   90%

A number of empirical studies tend to support the risk-return relationships shown in Figure 1–3 over a long period. Perhaps the most widely cited are the Ibbotson and Associates data presented in Figure 1–4, which covers data for eight decades. Note that the high-to-low return scale is in line with expectations based on risk. Risk is measured by the standard deviation, which appears to the right of each security type. This distribution of returns indicates which security has the biggest risk. Figure 1–4 shows in practice what we discussed in theory earlier in the chapter; higher returns are normally associated with higher risk.

Of particular interest is the difference between the geometric mean return and the arithmetic mean return. The geometric mean is the compound annual rate of return while the arithmetic mean is a simple average of the yearly returns. The arithmetic mean is biased on the upside because it treats negative returns the same as positive returns. This is *not* true in reality. If you start with $1.00 and lose 50 percent, you now have 50 cents. To get back to your original investment, you need a 100 percent increase from 50 cents to $1.00.

Table 1–2, from the *Stocks, Bonds, Bills and Inflation 2010 Yearbook,* shows returns for nine different periods covering 84 years. An examination of the data indicates that returns are not consistent by decade. While large stocks have had somewhat inconsistent returns decade by decade, small stocks exhibited position returns every decade except for the 1920s. Even during the miserable most recent

TABLE 1-2 **Compound Annual Rates of Return by Decade (in percent)**

	1920s*	1930s	1940s	1950s	1960s	1970s	1980s	1990s	2000s†
Large company	19.2	−0.1	9.2	19.4	7.8	5.9	17.5	18.2	−0.9
Small company	−4.5	1.4	20.7	16.9	15.5	11.5	15.8	15.1	6.3
Long-term corporate	5.2	6.9	2.7	1.0	1.7	6.2	13.0	8.4	7.6
Long-term government	5.0	4.9	3.2	−0.1	1.4	5.5	12.6	8.8	7.7
Intermediate-term government	4.2	4.6	1.8	1.3	3.5	7.0	11.9	7.2	6.2
Treasury bills	3.7	0.6	0.4	1.9	3.9	6.3	8.9	4.9	2.8
Inflation	−1.1	−2.0	5.4	2.2	2.5	7.4	5.1	2.9	2.5

*Based on the period 1926–1929.

†Based on the period 2000–2009.

Source: *Stocks, Bonds, Bills and Inflation® 2010 Yearbook,* © 2010 Ibbotson Associates, Inc. Based on copyrighted works by Ibbotson and Sinquefield. All rights reserved. Used with permission.

decade, when large stocks had negative returns, small stocks and bonds performed positively. Table 1–2 complements Figure 1–4 by showing that the average return for each category of investments is only that: an average, and not a return that should be expected each and every year. Over long periods of time, common stocks generally tend to perform at approximately the same level as real assets such as real estate, coins, stamps, and so forth, with each tending to show a different type of performance in a different economic environment.[1] Real assets tend to do best in inflationary environments, while moderate inflation favors financial assets.

Another way of looking at the required rate of return is by using the **Capital Asset Pricing Model (CAPM)**, which incorporates all the factors we have previously discussed but has a slightly different way of looking at the risk premium. In the CAPM, risk is divided into company risk and market risk. **Beta** measures the risk of a security relative to the market. Generally, the company's stock return is regressed against the return on the Standard and Poor's 500 Stock Index over a 60-month period. If there is a perfect correlation of returns, the beta of the company is calculated as 1.00, and the company's stock is considered to have risk equal to the market risk and expected returns equal to the market. If the beta is less than 1.00, the risk is less than the market and returns are expected to be less than market returns, and of course if the beta is greater than 1.00, the risk is greater than the market and returns are expected to be higher than market returns. Beta represents **systematic risk** that cannot be diversified away in a portfolio of stocks, and so it has special importance to the investor. The calculation of beta is covered in more detail in the section on portfolio management.

The second factor in calculating risk is the risk premium allocated to the stock market. We call this risk the **equity risk premium**. Again we use the Standard and Poor's 500 Index (large company returns found in Table 1–2) as our proxy for market returns. In many textbooks, the equity risk premium is given as $(K_M - R_F)$ and the terms are given. K_M refers to the expected return on the stock market and R_F refers to the expected risk free rate U.S. government securities. Unfortunately, in the real world K_M and R_F are not observable and must be

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[1]Examples of other longer-term studies on comparative returns between real and financial assets are: Roger G. Ibbotson and Carol F. Fall, "The United States Wealth Portfolio," *The Journal of Portfolio Management,* Fall 1982, pp. 82–92; Roger G. Ibbotson and Lawrence B. Siegel, "The World Market Wealth Portfolio," *The Journal of Portfolio Management,* Winter 1983, pp. 5–17; and Alexander A. Robichek, Richard A. Cohn, and John J. Pringle, "Returns on Alternative Media and Implications for Portfolio Construction," *Journal of Business,* July 1972, pp. 427–43. (While Ibbotson and Siegel showed superior returns for metals between 1960 and 1980, metals have greatly underperformed other assets in the 1980s and 1990s.)

estimated, and so it is better to think of the equity risk premium as one term, ERP. The equity risk premium represents the extra return or premium the stock market must provide compared with the rate of return an investor can earn on U.S. Government Treasury Securities (a risk-free rate). Looking at Figure 1–4 again, we see that between 1926 and 2009 the mean return of large company stocks was 9.8 percent and of long-term government bonds was 5.4 percent. It is clear that stocks outperformed long-term government bonds by 4.4 percent. If we use U.S. Treasury bills as our risk-free rate, we have an equity risk premium of 6.1 percent (9.8 percent − 3.7 percent). An equity risk premium could be calculated in similar fashion for intermediate government bonds or long-term corporate bonds. The key to using the equity risk premium is to match the risk-free rate in the first term of the CAPM with the appropriate equity risk premium. For example, if you use the current long-term government rate in the CAPM you would use the 4.4 percent ERP, but if you used the Treasury bill rate you would use an ERP of 6.1 percent. If you were analyzing the stock of a small company, you could create equity risk premiums the same way, using the small stock returns from Figure 1–4. Table 1–3 shows the different equity risk premiums for large and small stocks that could be calculated from the data in Figure 1–4.

Recognize that we are assuming that historical equity risk premiums can be used as an estimate of the current equity risk premium in today's market environment. This is not always true. When investors are very optimistic, as they were with the Internet bubble in 1999–2001 and again with the housing bubble in 2006–2007, risk premiums can be very low, as investors don't perceive much risk in the markets. But the tide can turn fast. For example, when the financial crisis became the focal point of the U.S. economy in 2008 and 2009, risk premiums shot up quickly and stock price plummeted. The same panic occurred in 2010 with the Greek sovereign problem. So, although the historical average may be a good starting point, the equity risk premium can be adjusted up or down by the analyst based on his or her interpretation of the current risk situation.

You have to think not only about adjusting the equity risk premium, but also whether to use the long-term bond or the short-term Treasury bill for the risk-free rate. In times of a normal yield curve, where rates are not artificially depressed by the Federal Reserve, it probably doesn't make much of a difference which government security you use. But when the Federal Reserve Board has reduced short-term rates to extremely low levels to stimulate economic activity, you are probably better off using the long-term government bond yield. For example, in 2010, when one-year U.S. Treasury bills were yielding less than 1 percent, it would make no sense to use the short-term bills, because you would get an artificially low required rate of return that would cause you to overvalue stocks. Because common stocks have no maturity, it seems more realistic to use the long-term government bond for the risk-free rate. Additionally, the Federal Reserve generally doesn't manipulate long-term rates to stimulate the economy. How would we apply this CAPM to determine a required rate of return for an individual company's common stock?

TABLE 1-3   Historical Equity Risk Premiums, 1926–2009

Large stock return 9.8% − 5.4% long-term government bond = ERP of 4.4%
Large stock return 9.8% − 3.7% U.S. Treasury bill = ERP of 6.1%
Large stock return 9.8% − 5.3% intermediate government bond = ERP of 4.5%
Small stock return 11.9% − 5.4% long-term government bond = ERP of 6.5%
Small stock return 11.9% − 3.7% U.S. Treasury bill = ERP of 8.2%
Small stock return 11.9% − 5.3% intermediate government bond = ERP of 6.6%

**application
example**

$$K_e = R_F = \beta(\text{ERP})$$

K_e = Required rate of return
R_F = Risk-free rate
β = Beta coefficient
K_M = Expected return on the market
$(K_M - R_F)$ = Equity risk premium (ERP)

Having discussed the beta and the equity risk premium, what is the appropriate value for the first-term, risk-free rate (R_F)?

$$K_e \quad = \quad R_F \quad + \quad \beta(\text{ERP})$$
$$\qquad\qquad \downarrow \qquad\quad \downarrow \qquad \searrow$$

Risk-free   Beta   Equity risk
rate   premium

By using the long-term government bond rate for our equity risk premium calculation, we have matched the long-term nature of common stock with the long-term returns generated by 20-year government bonds. For example, if the current long-term government bond has a yield of 4.6 percent, our ERP is 4.4 percent, and the beta for the market by definition is 1.00, then our required return for the stock market would be as follows:

$$K_e = R_F + \beta(\text{ERP})$$
$$= 4.6\% + 1.00(4.4\%)$$
$$K_e = 9.0\%$$

Now K_e, the required rate of return, can be used as a discount rate for future cash flows from an investment. If the company we are valuing has a beta different from 1.00, then the required return will reflect either higher or lower return for a company with higher or lower risk than the market. This methodology will be helpful as you work through the dividend valuation models presented in Chapter 7.

We have attempted to demonstrate the importance of risk in determining the required rate of return for an investment. We have tied the risk and return trade-off to historical data and given you several ways to calculate and think about the risk and return trade-off. This material will be used in later chapters, and so you may be referred back to Chapter 1 for a review of these concepts.

WHAT YOU WILL LEARN

The first part of the book covers the general framework for investing. You will look at an overview of the security markets (New York Stock Exchange, Chicago Board Options Exchange, and so on). Then you will examine the basics for participating in the market, such as opening an account, executing an order, investing individually or through a mutual fund, and so forth. Also in the first section of the book, you will become familiar with sources of important investment information so you can begin to make your university or public library, as well as your computer, valuable assets.

You will then go through the classic process of analyzing and valuing a security. You will start with examining the economy, then move to the industry level, and finally move to the actual company. The authors go through the process of putting a value on a stock. There is also heavy emphasis on financial analysis. Section Two provides an in-depth analysis of the Johnson & Johnson Company to demonstrate procedures for identifying the strengths and weaknesses of a company. For

enthusiasts of charting and other forms of technical analysis, we examine the advantages and disadvantages of such approaches.

You will then move from stocks to bonds. Your level of interest should not diminish because bonds also offer an opportunity for income and, surprisingly, for large gains or losses. Because an emphasis of the book is to present the student with a wide investment horizon from which to choose, we then consider a variety of other investment alternatives. These include convertible securities and warrants, put and call options, commodities and financial futures, stock index futures and options, and real assets such as real estate and precious metals. We realize some of these terms may have little meaning to you now, but they soon will.

In the last section of the book, we consider the concepts of portfolio theory and how to put together the most desirable package of investments in terms of risk and return. The portfolio section includes chapters on bond management, international securities, real assets, private equity and hedge funds, and a final chapter on measuring portfolio risk adjusted returns. We also consider the consequences of investing in a reasonably efficient stock market environment, one in which information is acted on very quickly. Can superior return be achieved in such a setting?

Many students taking an investments course are not sure of their ultimate career goals. We hope this course can be equally valuable to a future banker, CPA, insurance executive, marketing manager, or anyone else. However, for those specifically considering a career in investments, the authors present a brief summary of career opportunities in Appendix 1A at the back of this chapter.

exploring the web

Web Address	Comments
www.aaii.com	A nonprofit Web site educating do-it-yourself investors
www.nasdaq.com	Provides information about Nasdaq stocks and market
www.nyse.com	Provides information about New York Stock Exchange listings and regulations
www.reit.com	Provides information and data about real estate investment trusts
http://quicken.intuit.com	Provides understandable coverage of financial planning and investing
www.morningstar.com	Contains evaluations of and information about stocks and mutual funds
www.business.com	Provides a searchable database for links to sites by industry
www.iclub.com	Provides information and education for investment club members
www.investopedia.com	Provides general education about stocks and investing
http://web.utk.edu/ ~jwachowi/part2.html	Site created by finance professor with links to information resources
www.investorwords.com	Provides links to finance sites and glossary of finance terminology
www.reuters.com	Contains business and financial market news for the United States and other countries
www.nasdaqtrader.com www.bloombergtradebook.com	These two Web sites represent electronic communication networks (ECNs) and the different companies and markets competing with traditional floor-based markets such as the NYSE.

KEY WORDS AND CONCEPTS

anticipated rate of
    inflation   13
beta   16
Capital Asset Pricing
    Model (CAPM)   16
commodity futures   3
creditor claims   3
defined benefit plan   8
defined contribution
    plan   8

direct equity claims   3
equity risk premium   16
financial asset   3
financial risk   12
indirect equity   3
investment   3
liquidity   6
manager risk   12
operating risk   12

portfolio   3
preferred stock   3
real asset   3
real rate of return   12
risk-free rate (R_F)   13
risk premium   14
systematic risk   16
tax risk   11

DISCUSSION QUESTIONS

1. How is an investment defined?
2. What are the differences between financial and real assets?
3. List some key areas relating to investment objectives.
4. Explain the concepts of direct equity and indirect equity.
5. How are equity and creditor claims different?
6. Do those wishing to assume low risks tend to invest long term or short term? Why?
7. How is liquidity measured?
8. Explain why conservative investors who tend to buy short-term assets differ from short-term traders.
9. How does the Tax Relief Act of 2003 affect the relative attractiveness of long-term capital gains versus dividend income? (A general statement will suffice.)
10. Why is there a minimum amount of time that must be committed to any investment program?
11. In a highly inflationary environment, would an investor tend to favor real or financial assets? Why?
12. What two primary components are used to measure the rate of return achieved from an investment?
13. Many people think of risk as the danger of losing money. Is this the same way that risk is defined in finance?
14. What are the three elements that determine the return an investor should require from an investment?
15. Explain how an investor receiving a 2 or 3 percent quoted return in an inflationary environment may actually experience a negative real rate of return.
16. In Figure 1–4 on page 15, what has been the highest return investment category over the 79-year period? What has been the lowest? Assuming risk is measured by the standard deviation, what can you say about the relationship of risk to return in Figure 1–4?

PROBLEMS

Rate of return

1. The price of the stock of Clarkson Corporation went from $50 to $56 last year. The firm also paid $2 in dividends. Compute the rate of return.

Rate of return

2. In the following year, the dividend was raised to $2.25. However, a bear market developed toward the end of the year, and the stock price declined from

$56 at the beginning of the year to $48 at the end of the year. Compute the rate of return or (loss) to stockholders.

Risk-free rate

3. Assume the real rate of return in the economy is 2.5 percent, the expected rate of inflation is 5 percent, and the risk premium is 5.8 percent. Compute the risk-free rate (Formula 1–3 on page 13) and required rate of return.

Required return

4. Assume the real return in the economy is 4 percent. It is anticipated that the consumer price index will go from 200 to 210. Shares in common stock are assumed to have a required return one-third higher than the risk-free rate. Compute the required return on common stock.

Geometric return

5. Sally is reviewing the performance of several portfolios in the family trusts. Trust A is managed by Wall Street Investment Advisors and Trust B is managed by LaSalle Street Investment Advisors. Both trusts are invested in a combination of stocks and bonds and have the following returns:

	Trust A	Trust B
Year 1	15%	12%
Year 2	10	15
Year 3	−4	−2
Year 4	25	20
Year 5	−8	−5

a. Calculate the annualized geometric and arithmetic returns over this 5-year period.

b. Which manager performed the best, and is there a significant enough difference for Sally to move her money to the winning manager?

c. Explain the different between the geometric and arithmetic returns.

Capital Asset Pricing Model

6. Calculate the required rate of return for Campbell Corp. common stock. The stock has a beta of 1.3, and Campbell is considered a large capitalization stock. Current long-term government bonds are yielding 5.0%.

a. How would your required rate of return change if you used U.S. Treasury bills for your risk-free rate? Assume the current yield on T-bills is 1.25 percent. This is an artificially low rate because the Federal Reserve is trying to stimulate the economy out of a recession.

b. How would this difference in required returns affect the value of any cash flow you would evaluate?

Capital Asset Pricing Model

7. Fastchip is a small technology company with a beta of 1.5 and a market capitalization of $200 million. Currently, long-term government securities are yielding 5.0 percent, intermediate governments are yielding 4.0 percent, and T-bills are yielding 3.3 percent. Calculate the required rate of return using all three risk-free rates. Choose which one would be the most aggressive and which would be the most conservative to use in valuing cash flows. Which K_e would you prefer to use, and why?

WEB EXERCISE

Assume you want to see how the market is doing on a given day as well as get additional perspective on a given stock. There are literally hundreds of options. We will merely suggest one for now.

Go to **http://finance.yahoo.com**

1. Note the changes in the Dow Jones (DJIA), Nasdaq, and S&P 500 Index. Write a brief comment on whether they all moved in the same direction or not.

www.mhhe.com/hirtblock10e

2. On the upper left-hand portion of the home page, you will see a search bar. Put in the symbol for any stock and click on "Get Quotes." If you do not have a preference, use IBM.

3. Write down the last trade value, the change, the previous close, the 52-week range, the P/E ratio, and the dividend yield. All these terms will take on greater meaning as you progress through the text.

4. On the left column you will see "Basic Chart." Click on this item. Describe when the stock hit its approximate high point (month and value) and its approximate low point (month and value). Based on the overall appearance of the chart, does the stock appear to have upward or downward momentum?

5. Click on "Competitors" along the left margin. Indicate how the company compares to other companies in the industry in terms of market capitalization (total market value). Write down the total values.

Note: From time to time, companies redesign their Web sites and occasionally a topic we have listed may have been deleted, updated, or moved into a different location.

APPENDIX 1A

CAREER OPPORTUNITIES IN INVESTMENTS

Career opportunities in the investment field include positions as stockbroker, security analyst, portfolio manager, investment banker, or financial planner.

Stockbroker

A stockbroker (an account executive) generally works with the public in advising and executing orders for individual or institutional accounts. Although the broker may have a salary base to cushion against bad times, most of the compensation is in the form of commissions. Successful brokers do quite well financially.

Most brokerage houses look for people who have effective selling skills as well as an interest in finance. In hiring, some brokerage houses require prior business experience and a mature appearance. Table 1A–1 lists both retail and

TABLE 1A-1 Major Retail Brokerage

Houses	Discount Brokers
CIBC World Markets	Bank of America
Cowen & Company	Charles Schwab
Deutsche Bank	E-Trade
Edward Jones	Fidelity
Goldman, Sachs & Co.	First Trade
Jefferies	Muriel Siebert
JPMorgan Securities	OptionsXpress
Merrill Lynch Credit Suisse	ShareBuilder
Morgan Stanley Smith Barney	TD Ameritrade
Raymond James	TradeKing
RBC Capital Markets	USAA
RBS Securities	WallStreet-E
UBS	Wells Trade
Wells Fargo Advisors	Zecco

discount brokerage houses in alphabetical order. There have been a lot of con-solidations and bankruptcies in the last several years, and many well-known names, such as Lehman Brothers and Bear Stearns, are gone. TD Waterhouse merged into Ameritrade to become TD Ameritrade, and Quick & Reilly and Wachovia were gobbled up by Wells Fargo and became part of Wells Fargo Advisors.

Security Analyst or Portfolio Manager

Security analysts study various industries and companies and provide research reports to their clientele. Security analysts might work for a brokerage house, a bank trust department, or other type of institutional investor and often specialize in certain industries. They are expected to have an in-depth knowledge of overall financial analysis as well as the variables that influence their industry.

The role of the financial analyst has been upgraded over the years through a certifying program in which you can become a chartered financial analyst (CFA). There are approximately 50,000 CFAs in the United States and Canada. Achieving this designation calls for a three-year minimum appropriate-experience requirement and extensive testing over a three-year period. Each of the annual exams is six hours long (the fee changes from year to year). You can actually begin taking the exams while still in school (you can complete your experience requirement later).

Topics covered in the three years of exams are shown in Table 1A–2. An undergraduate or graduate degree in business with a major in finance or account-ing or an economics degree is quite beneficial to the exam process (although other degrees are also acceptable). Of course, educational background must be supplemented with additional study prescribed by the Chartered Financial

TABLE 1A-2 Topics Covered in CFA Exams

Ethical and Professional Standards	
Applicable laws and regulations	Ethical conduct and professional obligations
Professional standards of practice	International ethical and professional considerations

Tools and Inputs for Investment Valuation and Management	
Quantitative methods and statistics	Microeconomics
Macroeconomics	Financial standards and accounting

Investment (Asset) Valuation	
Overview of the valuation process	Equity securities
Applying economic analysis in investment valuation	Fixed-income securities
Applying industry analysis in investment valuation	Other investments
Applying company analysis in investment valuation	Derivative securities

Portfolio Management	
Capital market theory	Equity portfolio management
Portfolio policies	Real estate portfolio management
Expectational factors	Specialized asset portfolio management
Asset allocation	Implementing the investment process
Fixed-income portfolio management	Performance management

Analysts Institute. The address for more information is: CFA Institute, P.O. Box 3668, Charlottesville, Virginia 22903 (phone 434-951-5499). The Web site location is www.cfainstitute.org.

While many security analysts are not CFAs, those who carry this designation tend to enjoy higher salaries and prestige. Top analysts are in strong demand, and six-figure to seven-figure salaries for top analysts are common. The magazine *Institutional Investor* picks an all-American team of security analysts—the best in energy, banking, and so on.

Portfolio managers are responsible for managing large pools of funds, and they are generally employed by insurance companies, mutual funds, bank trust departments, pension funds, and other institutional investors. They often rely on the help of security analysts and brokers in designing their portfolios. They not only must decide which stocks to buy or sell, but they also must determine the risk level with the optimum trade-off between the common stock and fixed-income components of a portfolio. Portfolio managers often rise through the ranks of stockbrokers and security analysts.

Investment Banker

Investment bankers primarily distribute securities from the issuing corporation to the public. Investment bankers also advise corporate clients on their financial strategy and may help to arrange mergers and acquisitions.

The investment banker is one of the most prestigious participants in the securities industry. Although the hiring of investment bankers was once closely confined to Ivy League graduates with the right family ties, such is no longer the case. Nevertheless, top academic credentials are still necessary.

Financial Planner

The field of financial planning is emerging to help solve the investment and tax problems of the individual investor. Financial planners may include specially trained representatives of the insurance industry, accountants, and certified financial planners (an individual may fall into more than one of these categories).

Certified financial planners (CFPs) are so designated by the College of Financial Planning, a division of the National Endowment for Financial Education. To qualify as a CFP, an applicant must demonstrate proficiency in the five following areas through extensive testing and training.

- Financial planning process and insurance
- Investment planning
- Income tax planning
- Retirement planning and employee benefits
- Estate planning

Information on the CFP program can be obtained from the CFP Board, 4695 South Monaco Street, Denver, CO 80237-3403 (phone 303-220-4800) or from colleges or universities that sponsor CFP classes or programs. The Web site location is www.cfp.net.