chapter 1

Investing is an Important Activity Worldwide

Suppose you are fortunate enough to receive an inheritance of $1 million from a relative. She specifies only that you must invest this money intelligently in financial assets within the next six months, and not spend it on consumption, and that you must be answerable to a trustee who has the final say if you fail to make reasonable decisions. You now face an enviable task—building a portfolio of stocks, bonds, and so forth—and you quickly realize that not only do you not know all the answers, you don't even know some of the questions.

Having had a finance course in college, you learned about return and risk, but now you must really understand what these variables mean. You have heard some people talk about making a "killing in the market," but common sense tells you it can't be all that easy. Like the prospective investor asked the broker when the latter was showing him the yachts belonging to other brokers, "Where are the customers' yachts?" Also, you have on several occasions read about fraudulent investment schemes leaving people broke, but wiser. And so you realize you have your work cut out for you. You need to identify the important issues, ask the right questions, and learn the basics about successful investing.

You can, in fact, construct and manage your portfolio, as the following chapters will show. With a little tenacity, you can be on your way to an intelligent investing program, because basic knowledge can go a long way. Let's get started.

Chapter 1 provides the foundation for the study of Investments by analyzing what investing is all about. The critically important tradeoff between expected return and risk is explained, and the major issues that every investor must deal with in making investment decisions are analyzed. An organizational structure for the entire text is provided.

AFTER READING THIS CHAPTER YOU WILL BE ABLE TO:

- Understand why return and risk are the two critical components of all investing decisions.
- Appreciate the scope of investment decisions and the operating environment in which they are made.
- Follow the organization of the investment decision process as we progress through the text.

An Overall Perspective on Investing

- In less than two years, from its peak in March 2000, the S&P 500 Index, a measure of large stocks, subsequently lost about 50 percent of its value, while the NASDAQ Stock Market lost about 75 percent of its value. In less than two years during 2000–2002, investors lost $5 trillion, or 30 percent of their wealth in stocks. In 2008–2009 stock market volatility was even greater. In only two months in 2011, $3 trillion in stock market wealth disappeared in the United States, and $8 trillion globally. With volatility like this, should most investors avoid stocks, particularly for their retirement plans?
- Following the financial crisis of 2008, interest rates on U.S. Treasury securities dropped to record lows, in some cases close to zero. In early 2012, Germany sold six-month Treasury securities with a negative yield. Why would investors continue to invest in these debt securities, sometimes stampeding to invest in them?
- Almost everyone says stocks have always outperformed Treasury bonds over long periods of time, such as 30 years. Is this an accurate statement?
- Many company employees with self-directed retirement plans have none of their funds invested in stocks, although over the years stocks have significantly outperformed the alternative assets they did hold. Is this smart?
- About two-thirds of all affluent Americans use financial advisors, a percentage that has been increasing? Will you need one?
- For a recent 10-year period, only one-fourth of professionally managed stock portfolios were able to outperform the overall stock market. Why?
- How can futures contracts, with a reputation for being extremely risky, be used to reduce an investor's risk?
- What is the historical average annual rate of return on common stocks and bonds? What can an investor reasonably expect to earn from stocks in the future?

The objective of this text is to help you understand the investments field as it is currently understood, discussed, and practiced so that you can intelligently answer questions such as the preceding and make sound investment decisions that will enhance your economic welfare. To accomplish this objective, key concepts are presented to provide an appreciation of the theory and practice of investments.

Both descriptive and quantitative materials on investing are readily available. Some of this material is very enlightening; much of it is entertaining but debatable because of the many controversies in investments; and some of it is worthless. This text seeks to cover what is particularly useful and relevant for today's investment climate. It offers some ideas about what you can reasonably expect to accomplish by using what you learn, and therefore what you can realistically expect to achieve as an investor in today's investment world. Many investors have unrealistic expectations, and this will ultimately lead to disappointments in results achieved from investing—or, worse, the loss of all of their funds in a fraud or scam.

Just Say NO! Prepare yourself to say NO! Learning how to avoid the many pitfalls awaiting you as an investor—in particular, investing scams and frauds—by clearly understanding what you can reasonably expect from investing your money may be the single most important benefit to be derived from this text. For example, would you entrust your money to someone offering 36 percent annual return on riskless Treasury securities? Some 600 investors did, and lost some $10 million to a former Sunday school teacher.

In February 2009, the SEC filed a complaint alleging that R. Allen Stanford and James Davis operated a massive Ponzi scheme, misappropriating billions of dollars of investors' money. According to the complaint, the $8 billion fraud involved certificates of deposit promising overly high rates of return. The size of this alleged fraud pales in comparison to the

Madoff scandal reported in December 2008, involving a very large Ponzi scheme. According to a criminal complaint, Bernard Madoff admitted that his investment advisor business was a fraud and had been insolvent for years. Supposedly, returns were being paid to certain investors out of the principal received from other investors.

Intelligent investors quickly learn to say no, thereby avoiding many of the pitfalls that await investors daily. At the very least, you must be prepared to carefully investigate the investment alternatives that will be offered to you.

✓ Remember, there are many financial scams and frauds awaiting the unwary. However, you can easily learn to avoid them.

Establishing a Framework for Investing

SOME DEFINITIONS

The term *investing* can cover a wide range of activities. It often refers to investing money in certificates of deposit, bonds, common stocks, or mutual funds. More knowledgeable investors would include other "paper" assets, such as warrants, puts and calls, futures contracts, and convertible securities, as well as tangible assets, such as gold, real estate, and collectibles. Investing encompasses very conservative positions as well as aggressive speculation. Whether your perspective is that of a college graduate starting out in the workplace or that of a senior citizen concerned with finances after retirement, investing decisions are critically important to most people sometime in their life.

Investment The commitment of funds to one or more assets that will be held over some future period

Investments The study of the investment process

An **investment** can be defined as the commitment of funds to one or more assets that will be held over some future time period. **Investments** is concerned with the management of an investor's wealth, which is the sum of current income and the present value of all future income. (This is why present value and compound interest concepts have an important role in the investment process.) Although the field of investments encompasses many aspects, it can be thought of in terms of two primary functions: analysis and management—hence the title of this text.

Financial Assets Pieces of paper evidencing a claim on some issuer

Marketable Securities Financial assets that are easily and cheaply traded in organized markets

Financial Assets and Marketable Securities In this text, the term investments refers in general to financial assets and in particular to marketable securities. **Financial assets** are paper (or electronic) claims on some issuer, such as the federal government or a corporation; on the other hand, real assets are tangible, physical assets such as gold, silver, diamonds, art, and real estate. **Marketable securities** are financial assets that are easily and cheaply tradable in organized markets. Technically, the word investments includes both financial and real assets, and both marketable and nonmarketable assets. Because of the vast scope of investment opportunities available to investors, our primary emphasis is on marketable securities; however, the basic principles and techniques discussed in this text are applicable to real assets.

Even when we limit our discussion primarily to financial assets, it is difficult to keep up with the proliferation of new products. Two such assets that did not exist a few years ago are the many new Exchange Traded Funds and Direct Access Notes (corporate bonds designed for the average investor), both of which are discussed in a later chapter.

A Perspective on Investing

WHY DO WE INVEST?

We invest to make money! Although everyone would agree with this statement, we need to be more precise. (After all, this is a college textbook and anyone helping to pay for your education expects more.) We invest to improve our welfare, which for our purposes can be defined as monetary wealth, both current and future. We assume that investors are interested only in the monetary benefits to be obtained from investing, as opposed to such factors as the psychic income to be derived from impressing one's friends with one's financial prowess.

Funds to be invested come from assets already owned, borrowed money, and savings or foregone consumption. By foregoing consumption today and investing the savings, investors expect to enhance their future consumption possibilities by increasing their wealth. Don't underestimate the amount of money many individuals can accumulate. A 2004 survey found that more than 8 million U.S. households had a net worth of more than $1 million (excluding their primary residence). That represented a one-third increase over 2003 alone, and amounted to 7 percent of all U.S. households. Much of this success was attributed to ownership of stocks and bonds. Of course, things can change. Americans' net worth declined a record 18 percent in 2008.

Investors also seek to manage their wealth effectively, obtaining the most from it while protecting it from inflation, taxes, and other factors. To accomplish both objectives, people invest.

TAKE A PORTFOLIO PERSPECTIVE

This text assumes that investors have established their overall financial plan and are now interested in managing and enhancing their wealth by investing in an optimal combination of financial assets. The idea of an "optimal combination" is important because our wealth, which we hold in the form of various assets, should be evaluated and managed as a unified whole. Wealth should be evaluated and managed within the context of a **portfolio**, which consists of the asset holdings of an investor. For example, if you own four stocks and three mutual funds, that is your portfolio. If your parents own 23 stocks, some municipal bonds, and some CDs, that is their portfolio of financial assets.

Portfolio The securities held by an investor taken as a unit

The Importance of Studying Investments

THE PERSONAL ASPECTS

It is important to remember that all individuals have wealth of some kind; if nothing else, this wealth may consist of the value of their services in the marketplace. Most individuals must make investment decisions sometime in their lives. For example, many employees today must decide whether their retirement funds are to be invested in stocks or bonds or some other alternative. And many people try to build some wealth during their working years by investing.

Retirement Decisions Estimates suggest that more than 40 percent of households headed by someone between 47 and 62 will be unable to replace half their pre-retirement income when they cease working. Even more worrisome, many will have retirement income below the poverty line.

A major revolution in personal finance is to provide employees with self-directed retirement plans (defined contribution plans rather than defined benefit plans). Whereas traditional defined-benefit retirement plans guarantee retirees an amount of money each month, the new emphasis on self-directed retirement plans means that you will have to choose among stock funds, bond funds, guaranteed investment contracts, and other alternatives.

✓ In 1979, more than 85 percent of workers in the private sector were covered with a pension; by 2012, less than 20 percent.

Your choices are many, and your success—or lack thereof—will directly affect your retirement benefits. Therefore, while employees in the past typically did not have to concern themselves much with investing decisions relative to their company's retirement plan, future employees will have to do so. This is a very important personal reason for studying the subject of investments!

A good example of this revolution in retirement programs is a 401(k) plan offered by many employers, whereby employees contribute a percentage of salary to a tax-deferred plan, and the employer often matches part of the contribution. Tens of millions of American workers contribute to 401(k) plans. At the end of 2011, these plans held approximately $3 trillion in assets. The bulk of 401(k) assets are invested in stocks; therefore, it is important to know something about stocks.[1]

To illustrate the critical importance of making good investment decisions, consider yet another self-directed retirement vehicle, the Individual Retirement Account (IRA). IRAs are a primary method that Americans use to provide for their retirement. IRA assets totaled approximately $5 trillion by 2011, which was roughly 30 percent of the total U.S. retirement market.

The annual maximum IRA contribution was $5,000 in 2012 ($6,000 for those age 50 and above). IRA funds can be invested in a wide range of assets, from the very safe to the quite speculative. IRA owners are allowed to have self-directed brokerage accounts, which offer a wide array of investment opportunities. Since these funds may be invested for as long as 40 or more years, good investment decisions are critical, as shown in Example 1-1.

Example 1-1

Consider the amount of retirement wealth that can be accumulated by one individual contributing $5,000 annually to a tax sheltered account if returns are compounded annually. Over many years of investing, the differences in results that investors realize, owing solely to the investment returns earned, can be staggering. Note that in the case of a $5,000 annual contribution for 40 years, the payoff at a compound earnings rate of 15 percent is almost $9 million, whereas at an earnings rate of 10 percent the payoff is $2.21 million, a great retirement fund but significantly less than almost $9 million. Similarly, if a 10 percent rate of return can be obtained instead of a 5 percent rate of return, over a period of 40 years the difference approaches a fourfold multiple. Clearly, good investment decisions leading to higher returns can make a tremendous difference in the wealth that you can accumulate.

Amount Invested per Year	Number of Years	Final Dollar Wealth if Funds Are Compounded at 5%	10%	15%
$5000	20	165,330	286,375	512,218
$5000	30	332,194	822,470	2,173,726
$5000	40	603,999	2,212,963	8,895,452

Building Wealth Over Your Lifetime Beyond the retirement issue, the study of investments is more important than ever in the 21st century. After being net sellers of stocks for many years, individual investors swarmed into the financial markets, either by force (becoming part of a self-directed retirement plan) or by choice (seeking higher returns than those available from financial institutions). In the late 1990s individuals increased their direct ownership of stocks, reversing the earlier trend. Approximately 52 million households in the United States own mutual funds.

[1] The maximum 401(k) contribution for 2012 was $16,500.

Individual investor interest in the stock market is best expressed by the power of mutual funds (explained in Chapter 3), a favorite investment vehicle of small investors. Mutual funds are a driving force in the stock market. With so much individual investor money flowing into mutual funds, and with individual investors owning a large percentage of all stocks outstanding, the study of investments is as important as ever, or more so.

In the final analysis, we study investments in the hope of earning better returns in relation to the risk we assume when we invest. A careful study of investment analysis and portfolio management principles can provide a sound framework for both managing and increasing wealth. Furthermore, a sound study of this subject matter will allow you to obtain maximum value from the many articles on investing that appear daily in newspapers and magazines, which in turn will increase your chances of reaching your financial goals. Popular press articles cover many important topics, such as the following examples:

1. Financial assets available to investors
2. Should a mutual fund investor use a financial advisor?
3. Compounding effects and terminal wealth
4. Realized returns vs. expected returns
5. How to compare taxable bonds to municipal (tax-exempt) bonds
6. Index funds and ETFs
7. How diversification works to reduce risk
8. The asset allocation decision
9. Active vs. passive investing

All of these issues are covered in the text, and learning about them will make you a much smarter investor.

INVESTMENTS AS A PROFESSION

In addition to the above reasons for the importance of studying investments, the world of investments offers several rewarding careers, both professionally and financially. A study of investments is an essential part of becoming a professional in this field.

Investment Bankers and Traders Investment bankers, who arrange the sale of new securities as well as assist in mergers and acquisitions, enjoyed phenomenal financial rewards in the booming 1980s and 1990s. Given the turmoil of 2000–2002, investment banking business dropped off sharply, and by mid-2002 was the slowest part of Wall Street's business. In 2008 the financial crisis saw the demise of Bear Stearns and Lehman Brothers, and the merger of Merrill Lynch with Bank of America. Furthermore, signaling the end of an era on Wall Street, Goldman Sachs and Morgan Stanley, the last two major investment banks at the time, became bank holding companies in order to stay in business.

Security Analysts and Portfolio Managers A range of financial institutions, including brokerage firms and investment bankers as well as banks and insurance companies, need the services of **security analysts** (also called investment analysts). Brokerage houses need them to support their registered representatives who in turn serve the public—for example, preparing the research reports provided to customers. Investment bankers need analysts to assist in the sale of new securities and in the valuation of firms as possible merger or acquisition candidates. Banks and insurance companies own portfolios of securities that must be evaluated in order to be managed. Mutual funds need analysts to evaluate securities for possible purchase or sale.

Security Analysts Market professionals whose job it is to study, evaluate and recommend stocks to investors, either institutions or individuals

Financial firms need portfolio managers to manage the portfolios of securities handled by these organizations. Portfolio managers are responsible for making the actual portfolio buy and sell decisions—what to buy and sell, when to buy and sell, and so forth. Portfolio performance is calculated for these managers, and their jobs may depend on their performance relative to other managed portfolios and to market averages.

Stockbrokers and Financial Advisors What about the registered representatives (stockbrokers) employed in cities across the country? A few superbrokers earn $1 million or more per year. Of course, the average broker earns much less, but still the compensation can be quite rewarding. More will be said about brokers in Chapter 5.

The employment and pay for the various job types associated with Wall Street tend to be cyclical. While the late 1990s were great years for investors and investment firms and employees, the market declines of 2000–2002 brought a new reality, as did the financial crisis of 2008. Given the tremendous turmoil in the financial markets in 2008, we have entered a new era of banking, financial institutions, and trading practices, and the exact structure will take time to unfold.

Finally, the number of financial advisors continues to grow. This area has employment opportunities for people interested in the Investments field. The Bureau of Labor Statistics expects this job category to expand significantly out to 2016. Roughly two-thirds of all affluent Americans now use one. For a typical $1 million portfolio, a financial advisor will charge $10,000 a year. Some charge by the hour, with the hourly rate in the $115 to $150 range.

Standard credentials do not exist for financial advisors. Most advisors must register with their local state securities commission and with the Securities and Exchange Commission as a Registered Investment Advisor (RIA) when they manage more than $25 million. Otherwise, financial advisors are bound only by the job requirements of professional organizations to which they belong.[2] According to one survey, planners gross a little over $100,000 per year, primarily from selling products for commissions and from managing clients' assets for a percentage of the assets under management.

Exhibit 1-1 lists three designations that financial advisors and planners may hold and indicates how they are compensated. Those interested in this field as a career should seriously consider obtaining one (or more) of these professional designations.

EXHIBIT 1-1

Professional Designations Held by Financial Advisors and Planners

- Certified Financial Planner (CFP), awarded by the Certified Financial Planning Board of Standards, an industry group, requires course work and an examination on financial planning. Holders of the CFP must have three years experience and adhere to a code of ethics.
- Chartered Financial Consultant (ChFC) requires a comprehensive examination and often involves those with an insurance background;
- Personal Financial Specialist (PFS), awarded by the American Institute of Certified Public Accountants to CPAs only, requires experience in personal financial planning and a comprehensive examination.

Financial advisors are compensated by four methods:

- Fee-based—may involve a comprehensive financial plan, or specific issues.
- Commission-based—plan and recommendations are provided at no charge, with compensation derived from commissions earned from products sold to implement the plan.
- Fee-and-commission based—commissions are often greater than the fees.
- Salaried—banks, credit unions, and so forth often offer planning services by salaried financial planners.

[2] In order to sell securities, financial planners and advisors may need to pass what are called Series 66 and Series 7 exams.

Chartered Financial Analyst (CFA) A professional designation for people in the investments field

The CFA Designation Individuals interested in careers in the investments field, as opposed to financial planning, should consider studying to receive the **Chartered Financial Analyst (CFA)** designation. This is a professional designation for people in the investments area, not unlike the CPA designation for accountants. The CFA designation is widely recognized in the investments industry today. It serves as an indication that areas of knowledge relevant to investing have been studied and that high ethical and professional standards have been recognized and accepted. Details of the CFA program are included in Appendix 1-A. Throughout this text, we will use some questions and problems from previous CFA exams.

Understanding the Investment Decision Process

An organized view of the investment process involves analyzing the basic nature of investment decisions and organizing the activities in the decision process.

Common stocks have produced, on average, significantly larger returns over the years than savings accounts or bonds. Should not all investors invest in common stocks and realize these larger returns? The answer to this question is: To pursue higher returns, investors must assume larger risks. Underlying all investment decisions is the tradeoff between expected return and risk.

Investments Intuition

The stock market suffered sharp declines during 2000–2002 because of the collapse of technology stocks. However, if investors had bought Apple and Amazon during that time, they would have done extremely well over the next decade. Why didn't more investors buy these stocks? The reason is that at the time the risk was thought to be too great, not only for these stocks, but for stocks in general. And therein lies the story of investing. There are great opportunities, but there are also large risks.

THE BASIS OF INVESTMENT DECISIONS—RETURN AND RISK

Return Why invest? Stated in simplest terms, investors wish to earn a return on their money. Cash has an opportunity cost: By holding cash, you forego the opportunity to earn a return on that cash. Furthermore, in an inflationary environment, the purchasing power of cash diminishes, with high rates of inflation (such as that in the early 1980s) bringing a relatively rapid decline in purchasing power.

Investments Intuition

Investors buy, hold, and sell financial assets to earn returns on them. Within the spectrum of financial assets, why do some people buy common stocks instead of safely depositing their money in an insured savings account or a U.S. savings bond with a guaranteed minimum return? The answer is that they are trying to earn returns larger than those available from such safer (and lower-yielding) assets. They know they are taking a greater risk of losing some of their money by buying common stocks, but they expect to earn a greater return.

Expected Return The ex ante return expected by investors over some future holding period

Expected Return vs. Realized Return In investments it is critical to distinguish between an **expected return** (the anticipated return for some future period) and a

Realized Return Actual return on an investment for some previous period of time

realized return (the actual return over some past period). Investors invest for the future—for the returns they expect to earn—but when the investing period is over, they are left with their realized returns. What investors actually earn from their holdings may turn out to be more or less than what they expected to earn when they initiated the investment. This point is the essence of the investments process: Investors should always consider the risk involved in investing.

Properly stated, investors seek to maximize their returns from investing, subject to the risk they are willing to incur. Therefore, we must consider the other side of the coin from return, which is risk.

Risk Investors would like their returns to be as large as possible; however, this objective is subject to constraints, primarily risk.[3] The stock market enjoyed the five greatest consecutive years of returns in its history during 1995–1999, with total returns each year in excess of 21 percent on a broad cross-section of common stocks. Nevertheless, several professionally managed funds performed poorly relative to the market, and some managed to lose money in one or more of those years. As this example shows, marketable securities offering variable returns across time are risky. The investment decision, therefore, must always be considered in terms of both risk and return. The two are inseparable.

Risk The chance that the actual return on an investment will be different from the expected return

There are different types, and therefore different definitions, of risk. **Risk** is defined here as the uncertainty about the actual return that will be earned on an investment. When we invest, we may do so on the basis of an expected return, but there is a risk that what we in fact end up with when we terminate the investment—the actual (realized) return—will be different.

Using the term risk in this manner, we find that the nominal (current dollar) return on a Treasury bill has no practical risk, because there is little chance that the U.S. government will fail to redeem these obligations as they mature in 13 or 26 weeks. On the other hand, there is some risk, however small, that General Electric, a company in business for more than 100 years, will be unable to redeem an issue of 30-year bonds when they mature. And there is a very substantial risk of not realizing the expected return on any particular common stock over some future holding period, such as one year, six months, one month, or even one day.

Concepts in Action

Returns and Risk

Investors enjoyed the best five consecutive years in stock market history over the period 1995–1999. They thought they were truly in the golden age of money making, and in fact they were—during that period. This great performance came to an end with negative returns in 2000, and 2001 and 2002 also showed negative returns. Such is the nature of stock market returns and risk!

Or consider an individual company and its risk to investors. Cisco, the router company, was the world's most valuable company during some part of 2000. It had a market cap of $550 billion. It's stock price climbed 35-fold in five years (more than $80/share) as annual sales growth averaged 40 percent. Then the Internet crash occurred. Revenues declined 18 percent, while stock price declined 90 percent, an incredible loss for such a company. By mid-2004 annual sales were $22 billion, and net income was $3.6 billion in 2003 (higher than in the bubble). Stock price, however, had recovered to only $25 or so. Such is the nature of stock risk!

[3] Although risk is the most important constraint on investors, other risks clearly exist. Taxes and transaction costs are often viewed as constraints. Some institutional investors may face legal constraints on the types of securities they can purchase or the amount they can hold.

As we shall see in Chapter 7, Harry Markowitz changed the study of Investments in a significant manner by quantifying risk as a statistical measure, the variance or standard deviation. This allows us to measure the risk of various assets and compare them.

Risk-Averse Investor An investor who will not assume a given level of risk unless there is an expectation of adequate compensation for having done so

Investors Are Risk-Averse! It is easy to say that investors dislike risk, but more precisely, we should say that investors are risk-averse. A **risk-averse investor** is one who will not assume risk simply for its own sake and will not incur any given level of risk unless there is an expectation of adequate compensation for having done so.

✓ Note carefully that it is not irrational to assume risk, even very large risk, as long as we expect to be compensated for it.

Investors cannot reasonably expect to earn larger returns without assuming larger risks. Furthermore, it is possible that some investors, perhaps unwittingly, act in a manner that is too risk-averse, thereby severely diminishing the final wealth they will accumulate over a long period of time.

Example 1-2 A 2007 study of 401(k) retirement plan participants found that 16 percent of participants under age 30 had none of their funds invested in stocks. Given that stocks have almost always outperformed other asset classes *over long periods*, is this a case of being too risk-averse?

Risk Tolerance An investor's willingness to accept risk when investing

Investor's Risk Tolerance Investors deal with risk by choosing (implicitly or explicitly) the amount of risk they are willing to incur—that is, they decide their **risk tolerance**. Some investors choose to incur high levels of risk with the expectation of high levels of return. Other investors are unwilling to assume much risk, and they should not typically expect to earn large returns.

Can we say that investors, in general, will choose to minimize their risks? No! The reason is that there are costs to minimizing the risk, specifically a lower expected return. Taken to its logical conclusion, the minimization of risk would result in everyone holding risk-free assets such as savings accounts and Treasury bills. The intelligent way to think about return and risk is this:

✓ Investors decide on their risk tolerance—how much risk they are willing to assume when investing. They then seek to maximize their returns subject to this risk tolerance constraint and any other constraints that might apply (for example, taxes).

Of course, investors' risk tolerance changes as conditions (real or perceived) change. In today's world, with all the instant communications available to most people, this can happen quickly.

Example 1-3 During 2011, investors' risk tolerance shifted as they reacted to a variety of events in both the United States and abroad. The European sovereign debt crisis (Greece, etc.) and banking crisis, and the confrontation over raising the U.S. debt limit, along with the downgrade in the rating of U.S. debt, led to significant shifts in risk tolerance as many investors lost their appetite for stocks.

To put these two criteria for making investment decisions together, we need to think in terms of the expected return-risk tradeoff that results from the direct relationship between the risk and the expected return of an investment. We will do this below.

Some Practical Advice

You can find a number of websites with a set of questions designed to help you assess your risk tolerance. One such site can be found at http://njaes.rutgers.edu/money/riskquiz/. Also see http://www.morningstar.co.uk/uk/655/articles/98540/a-guide-to-assessing-your-risk-tolerance.aspx.

The Expected Risk-Return Tradeoff Within the realm of financial assets, investors can achieve virtually any position on an expected return-risk spectrum such as that depicted in Figure 1-1. The line RF to B is the assumed tradeoff between *expected* return and risk that exists for all investors interested in financial assets. This tradeoff always slopes upward, because the vertical axis is expected return, and rational investors will not assume more risk unless they expect to be compensated. The expected return should be large enough to compensate for assuming the additional risk; however, there is no guarantee that the additional returns will be realized.

RF in Figure 1-1 is the return on a risk-free asset such as Treasury bills. This position has zero risk (on a practical basis, in the sense of default) and an expected return equal to the current rate of return available on risk-free assets such as Treasury bills. This **risk-free rate of return**, which is available to all investors, will be designated as RF throughout the text.

Risk-Free Rate of Return The return on a riskless asset, often proxied by the rate of return on Treasury securities

Figure 1-1 shows approximate relative positions for some of the financial assets that will be discussed in Chapter 2. As we move from risk-free Treasury securities to more risky corporate bonds, equities, and so forth, we assume more risk in the expectation of earning a larger return. Common stocks are quite risky, in relation to bonds, but they are not as risky as a speculative purchase of options (puts and calls) or futures contracts. (All these terms are defined in Chapter 2.)

Obviously, Figure 1-1 depicts broad categories. Within a particular category, such as common stocks, a wide range of expected return and risk opportunities exists at any time.

The important point in Figure 1-1 is the tradeoff between expected return and risk that should prevail in a rational environment. Investors unwilling to assume risk must be satisfied with the risk-free rate of return, RF. If they wish to try to earn a larger rate of return, they must be willing to assume a larger risk as represented by moving up the expected return-risk

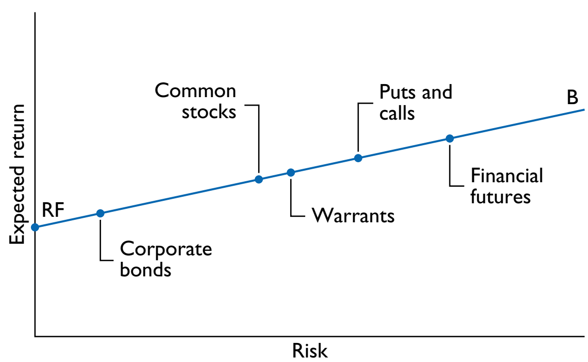

Figure 1-1

The Expected Return-Risk Tradeoffs Available to Investors.

tradeoff into the wide range of financial assets available to investors. In effect, investors have different risk tolerances, and, therefore, they should have differing return expectations.[4]

Ex Post vs. Ex Ante Always remember that the risk-return tradeoff depicted in Figure 1-1 is ex ante, meaning "before the fact." That is, before the investment is actually made, the investor expects higher returns from assets that have a higher risk. This is the only sensible expectation for risk-averse investors, who are assumed to constitute the majority of all investors.

Ex post means "after the fact" or when it is known what has occurred. For a given period of time, such as a month or a year or even several years, the tradeoff may turn out to be flat or even negative. Such is the nature of risky investments!

Example 1-4 The years 2000–2002 each showed negative returns for the major stock indexes, as did 2008. While investors may have expected the returns for those years to be positive at the outset, they turned out to be years with negative returns.

Checking Your Understanding

1. Historically, stocks on average have outperformed other asset classes such as bonds. Should all intelligent investors own stocks?
2. Rational investors always attempt to minimize their risks. Agree or disagree, and explain your reasoning.
3. Investors should always seek to maximize their returns from investing. Agree or disagree.
4. The following is a correct statement: "The tradeoff between return and risk can be, and has been, both upward-sloping and downward-sloping." How is this possible?

Structuring the Decision Process

Traditionally, investors have analyzed and managed securities using a broad two-step process: security analysis and portfolio management.

Security Analysis The first part of the investment decision process, involving the valuation and analysis of individual securities

Security Analysis The first part of the investment decision process involves the valuation and analysis of individual securities, which is referred to as **security analysis**. The valuation of securities is a time-consuming and difficult job. First of all, it is necessary to understand the characteristics of the various securities and the factors that affect them. Second, a valuation model is applied to these securities to estimate their price, or value. Value is a function of the expected future returns on a security and the risk attached. Both of these parameters must be estimated and then brought together in a model.

Despite the difficulties, some type of security analysis is performed by most investors serious about their portfolios. Unless this is done, one has to rely on personal hunches, suggestions from friends, and recommendations from brokers—all dangerous to one's financial health.

[4] In economic terms, the explanation for these differences in preferences is that rational investors strive to maximize their utility, the perception of which varies among investors. Utility theory is a complex subject, but for our purposes we can equate maximization of utility with maximization of welfare. Because welfare is a function of present and future wealth, and wealth in turn is a function of current and future income discounted (reduced) for the amount of risk involved, in effect, investors maximize their welfare by optimizing the expected return-risk tradeoff. In the final analysis, expected return and risk constitute the foundation of all investment decisions.

Portfolio Management The second major component of the decision process is portfolio management. After securities have been evaluated, a portfolio should be constructed. Concepts on why and how to build a portfolio are well known. Much of the work in this area is in the form of mathematical and statistical models, which have had a profound effect on the study of investments in this country in the last 30 years.

Having built a portfolio, the astute investor must consider how and when to revise it. And, of course, portfolios must be managed on a continuing basis.

Finally, all investors are interested in how well their portfolio performs. This is the bottom line of the investment process. Measuring portfolio performance is an inexact procedure, even today, and needs to be carefully considered.

Important Considerations in the Investment Decision Process for Today's Investors

Intelligent investors should be aware of the fact that the investment decision process as just described can be lengthy and involved. Regardless of individual actions, however, certain factors in the investment environment affect all investors. These factors are relevant to investors as they work through the investment decision process.

THE GREAT UNKNOWN

"You have to understand that being wrong is part of the process," according to Peter Bernstein, one of the most prominent investment experts.

The first, and paramount, factor that all investors must come to grips with is uncertainty. Investors buy various financial assets, expecting to earn various returns over some future holding period. These returns, with few exceptions, may never be realized.

✓ The simple fact that dominates investing, although many investors never seem to appreciate it fully, is that the realized return on any risky asset will often differ from what was expected—sometimes quite dramatically.

At best, estimates are imprecise; at worst, they are completely wrong. The best one can do is make the most informed return and risk estimates possible, act on them, and be prepared for shifting circumstances. Regardless of how careful and informed investors are, the future is uncertain, and mistakes will be made.

✓ All investors, individuals as well as professionals, make investing mistakes.

Someone can always tell you what you should have bought or sold in the past. No one, however, can guarantee you a successful portfolio for next year or any other specified period of time because no one can consistently forecast what will happen in the financial markets, including those professionals who are paid to make recommendations. Uncertainty affects the financial markets. Consider the following quote on the *Morningstar* (a well-known provider of investment information) website around September 2011:[5]

> *Uncertainty Causes Investors to Bid Up Safe Stocks*
> Apparently uncertainty has carried over to investors, who are now bidding up the more defensive portion of our stock investing universe and seeking stocks that provide income in addition to capital gains.

[5] Robert Johnson, "Outlook for the Economy," *Morningstar* website, September 27, 2011.

Although the future is uncertain, it is manageable, and a thorough understanding of the basic principles of investing will allow investors to cope intelligently.

A GLOBAL PERSPECTIVE

Now more than ever, investors must think of investments in a global context. The investing environment has changed dramatically as the world's economies have become more integrated. The United States no longer accounts for a majority of stock market capitalization globally, as it did in the past.

✓ U.S. stocks now account for considerably less than half of the world's total stock market capitalization.

A global marketplace of round-the-clock investing opportunities is emerging. Approximately two-thirds of U.S. investors now own the securities of foreign companies.

Why should today's investors be actively interested in international investing? We should first note that European and Asian companies have adopted a more shareholder-friendly attitude in recent years. Also, the dividend yields on these stocks have improved dramatically. In early 2008, European stocks had an average dividend yield of about 3 percent, considerably above that of the S&P 500 Index (less than 2 percent). Even Asian stocks were yielding more than U.S. stocks.

Many U.S. companies now derive a very large percentage of their revenues from abroad. Consider some of the 100 largest multinational corporations headquartered in the United States. ExxonMobil and Hewlett Packard earned about 70 percent of their revenues from abroad, while some 75 percent of Coca-Cola's revenues came from abroad. Google was getting about half of its revenue outside the Americas. Thus, U.S. investors investing in what traditionally are thought of as classic American companies are vitally affected by what happens abroad. Of course, not all large corporations are affected this much. Walmart receives only about one-fourth of its revenues from abroad.

From an investing standpoint, the real importance of adding foreign securities is that investors can achieve beneficial risk reduction if some foreign markets move differently than do U.S. markets. For example, when U.S. stocks are doing poorly, some foreign stocks may be doing well, which would help offset the poor U.S. performance. This risk reduction in a portfolio is a result of diversification, a very important concept in investing analyzed in Chapter 7. Over the last 35 years, a portfolio consisting of a major U.S. stock index and a major foreign stock index would have outperformed either index slightly, but with less risk.

Some Practical Advice

U.S. investors are regularly advised to diversify their portfolios by investing globally. Such activity can be heavily influenced by what the dollar is doing relative to other currencies. Net purchases by U.S. investors of foreign shares has been heavy in recent years. Such activity by U.S. investors was heavily influenced by the dollar's decline in recent years, which increased returns to U.S. investors in dollar terms (as explained in Chapter 6). Intelligent investors must pay attention to what is happening in the investing world on a global basis, and not simply what is happening in the United States.

Thus, we should consider foreign markets as well as the U.S. financial environment. We will do so throughout this text as an integral part of the discussion, rather than as a separate chapter. Although the technical details may vary, the principles of investing are applicable to financial assets and financial markets wherever they exist.

While it may be a smart play, foreign investing does not ensure our success as investors because of the first issue we discussed—the great unknown. As in any other area of investing, the experts are often wrong. Furthermore, as economies around the world become more integrated, markets become more similar than dissimilar.

Example 1-5 Investors have often sought out emerging markets as an investing opportunity on the basis that these economies may act differently from the industrialized economies, thereby providing some offset in case of market declines in the latter. However, this view is now less certain. Consider the following quote from the head of global credit at a firm managing more than $200 billion in fixed-income investments: "People often make the argument about decoupling (that emerging markets can rise as developed markets fall), but then they start to realize—*wait a second, it's one big interconnected world*."[6]

THE IMPORTANCE OF THE INTERNET

Any discussion of the investment decision process today must focus on the role of the Internet, which in a short time has significantly changed the investments environment. Now, all investors can access a wealth of information about investing, trade cheaply and quickly in their brokerage accounts, obtain real-time quotes throughout the day, and track their portfolios.

This is a true revolution—the Internet has democratized the flow of investment information. Any investor, at home, at work, or on vacation, can download an incredible array of information, trade comments with other investors, do security analysis, manage portfolios, check company filings with government agencies, and carry out numerous other activities not thought possible for a small investor only a few years ago. While some of these information sources and/or services carry a fee, most of it is free.

INDIVIDUAL INVESTORS VS. INSTITUTIONAL INVESTORS

There are two broad categories of investors: individual investors and institutional investors. The latter group, consisting of bank trust departments, pension funds, mutual funds, insurance companies, and so forth, includes the professional money managers, who are often publicized in the popular press. Institutional investors in the United States hold trillions in assets.

Institutional investors have a dual relationship with individual investors. On the one hand, individuals are the indirect beneficiaries of institutional investor actions, because they own or benefit from these institutions' portfolios. On a daily basis, however, they are "competing" with these institutions in the sense that both are managing portfolios of securities and attempting to do well financially by buying and selling securities.

Institutional investors are indeed the "professional" investors, with vast resources at their command. In the past, they were often treated differently from individual investors, because companies often disclosed important information selectively to some institutional investors. However, this situation changed significantly in October 2000 when Regulation FD (Full Disclosure) took place.

Regulation FD Regulates communications between public companies and investment professionals

Regulation FD, which applies to almost all public companies, attempts to regulate communications between public companies and investment professionals. Companies are now prohibited from (intentionally) disclosing material, nonpublic information to specific types of investment professionals unless the company simultaneously publicly discloses the information.

[6] Neil Shah, "Institutions Hit By Emerging Bets," *The Wall Street Journal,* September 26, 2011, p. c2.

If a non-intentional disclosure is made of such information, the company must publicly disclose the information promptly.

Some individual investors do even better either by superior skill and insight, or luck. Furthermore, some opportunities can more easily be exploited by individual investors than by institutional investors.

Example 1-6

Individual investors can exploit a spin-off (defined as a division of a company that is turned into a separate publicly held company), better than institutional investors in some cases. Some institutional investors will not purchase the new companies because they often pay no dividends immediately after spin-off, and they may be too small to be held by some institutions. Furthermore, unless the spin-off is unusually large, it is often ignored by security analysts.

These companies often look unattractive at the time of spin-off because they had problems as a division. However, these problems tend to be solved by a new, proactive management, and these companies become attractive as take-over candidates.

A study of 150 spin-offs found that the average three-year total return was about 75 percent, 30 percentage points higher than a comparable group of companies. In fact, several studies have found that over a period of one to three years, these stocks generally do well. In contrast, initial public offerings, which may enjoy great success on their first day of trading, generally track the overall market. In 2009, 50 spin-offs were completed, and in 2010, 74. 2011 had 60+ spin-offs.

Investors are advised to defer purchases of spin-offs until they have been trading for a few weeks, because some institutions may sell the shares they received in the spin-off, and prices are often lower weeks later than at the time trading begins in the new companies. With a newly energized management team who have stock options, these companies often take off and do very well.

Individual investors are now on a more competitive basis with institutional investors, given the information they can access from the Internet. We should expect the market to be more efficient today relative to the past, because information is even more quickly and freely available.

The question of how well individual investors do relative to institutional investors raises the issue of market efficiency, which we consider in Chapter 12. All intelligent investors who seek to do well when investing must ultimately come to grips with the issue of market efficiency.

ETHICS IN INVESTING

Today, perhaps more than ever, investors need to stop and think about ethical issues as they apply to investing. Recent corporate scandals involving Enron, WorldCom, HealthSouth, and so forth were prominently in the news as executives from these firms went on trial, charged with possible fraud in connection with the companies' financial activities. Other recent negative headlines involving ethical issues include the conflicts of interest with security analysts and the role of some mutual funds in providing a few investors with unfair trading advantages.

Financial markets depend on integrity in the process, whether it be from CEOs, brokers, stock exchange employees, security analysts, managers of mutual funds, or so forth. If investors lose confidence in the overall honesty of the investing environment, financial markets could be severely damaged, and this in turn could adversely impact the capital formation process which is so vital to the success of the U.S. economy.

Because of the overall importance of ethics in the investing process, we will examine some ethical issues in various chapters. In some cases, as in the next example, we will not provide a clear answer to the issue raised. In other examples we will offer some guidance on the issue. This is consistent with the real-life nature of ethical issues, which, while extremely important, is not always easy to address in the process of deciding on the correct course of action.

Ethics in Investing

The Case of Martha Stewart

The SEC filed securities fraud charges against Martha Stewart and her stockbroker in 2003. Stewart became entangled in this matter as a result of selling her stock in ImClone Systems after allegedly receiving an unlawful tip from her broker. The SEC also alleged that Stewart and her broker created an alibi for Stewart's sales and concealed important facts during the investigation into the matter. An SEC official stated that "[t]he Commission simply cannot allow corporate executives or industry professionals to profit illegally from their access to nonpublic information. The coordinated action announced today by the U.S. Attorney's Office shows that the consequences for those individuals will be even greater if we uncover evidence that they obstructed our investigation."

Stewart was forced to resign as an officer and director of her company, and was sentenced to five months in prison and two years' probation, in addition to a fine of $30,000. Contrary to popular belief, Stewart was not charged with insider trading, but rather with obstruction of justice.

Although many people seem to believe otherwise, she maintained throughout the proceedings that she had done nothing wrong. In this situation, when many believe her guilty while she maintains her innocence, would it have been appropriate for her to admit guilt in exchange for a reduced sentence?

Checking Your Understanding

5. Individual investors make investing decisions under conditions of uncertainty, while professional investors make such decisions under conditions of controlled risk taking, thereby eliminating the uncertainty. Agree or disagree and explain your reasoning.
6. A chance for larger returns than those available domestically is the primary reason U.S. investors should hold foreign securities. Agree or disagree and explain your reasoning.

Organizing the Text

Four chapters of background material follow this introductory chapter to form Part I, which covers background. The financial assets available to investors—both from direct investing and indirect investing—are examined in separate chapters, followed by a discussion of the securities markets in which they trade. This, in turn, is followed by an analysis of how securities are actually traded.

Part II deals with the important issues of return and risk, which underlie all investment decisions. Chapter 6 covers returns that investors have earned in the financial markets in the past, along with the risk involved, because investors must have an understanding of the results of investing in major assets such as stocks and bonds if they are to make intelligent estimates of the future. Chapter 7, in turn, deals with the estimation of return and risk, and involves the important principles of Markowitz portfolio theory that all investors should understand as they choose portfolios of securities to hold for the future. Chapter 8 continues the discussion of portfolio theory, explaining how an efficient portfolio is selected. Chapter 9 discusses capital market theory.

Nine chapters of the text, involving Parts III, IV, and V, are devoted to evaluating the primary financial assets, stocks and bonds, and explaining the basics of asset valuation. Common stocks are analyzed in Part III. For both stocks and bonds, valuation techniques are discussed in the first of the two chapters, and analysis and management in the second. For stocks, a chapter on market efficiency is included because this important concept affects the strategies followed in selecting and managing stocks.

Because of the complexity of common stocks, four additional chapters are needed to describe the basics of security analysis, the most popular method for analyzing stocks. Part IV is purposefully sequenced from market to industry to company analysis, followed by a discussion of technical analysis.

Part V covers bonds, using the same format as Part III. Chapter 17 covers the principles of bond valuation, and Chapter 18 covers the analysis and management of bonds.

Part VI contains a complete basic analysis of alternative investment opportunities involving derivative securities. Separate chapters cover options and futures.

Part VII contains two chapters involving the portfolio management process. Chapter 21 describes some of the issues that investors face in their financial planning and how they can proceed to manage their financial assets. The text concludes with the logical capstone to a study of investments, the measurement of portfolio performance, in Chapter 22.

Summary

- An investment is the commitment of funds to one or more assets that will be held over some future period. The field of investments involves the study of the investment process.
- The investment opportunities considered in this text consist primarily of a wide array of financial assets (primarily marketable securities), which are financial claims on some issuer.
- The basic element of all investment decisions is the tradeoff between expected return and risk. Financial assets are arrayed along an upward-sloping expected return-risk tradeoff, with the risk-free rate of return as the vertical axis intercept.
- Expected return and risk are directly related; the greater (smaller) the expected return, the greater (smaller) the risk.
- Investors seek to maximize expected returns subject to constraints, primarily risk.
- Risk is defined as the chance that the actual return on an investment will differ from its expected return.
- Rational investors are risk-averse, meaning that they are unwilling to assume risk unless they expect to be adequately compensated. The study of Investments is based on the premise that investors act rationally.
- Investors deal with risk by choosing (implicitly or explicitly) the amount of risk they are willing to incur—that is, they decide their risk tolerance.
- For organizational purposes, the investment decision process has traditionally been divided into two broad steps: security analysis and portfolio management.
- Security analysis is concerned with the valuation of securities. Valuation, in turn, is a function of expected return and risk.
- Portfolio management encompasses building an optimal portfolio for an investor. Considerations include initial portfolio construction, revision, and the evaluation of portfolio performance.
- Major factors affecting the decision process include uncertainty in investment decisions, the global nature of investing, the increasing importance of the Internet, the role of institutional investors in the marketplace, and ethical issues in investing. As they study investments, evaluate information and claims, and make decisions, investors should consider these factors carefully.

Questions

1-1 Define the term "investments."

1-2 Describe the broad two-step process involved in making investment decisions.

1-3 Is the study of investments really important to most individuals?

1-4 Distinguish between a financial asset and a real asset.