Chapter Nine

Financial Investments

Chapter Goals

This chapter will enable you to:

- Apply risk and return principles to investments.
- Develop an overall asset allocation.
- Evaluate the factors that enter into investing in financial assets.
- Relate financial investing to overall household operations.
- Recognize how portfolio management differs from individual-asset selection.
- Distinguish among investment alternatives.
- Utilize leading ways of measuring investment risk.

Dan and Laura had a special interest in smaller companies, biotechnology, and investing in China. The trouble was their investment tolerances for risk were far apart with Laura more interested in stocks and having a much higher tolerance for risk. Constructing an investment portfolio for them looked as though it was going to be difficult.

Real Life Planning

One of the themes underlying this chapter is the principle of risk and return. That is, risk and return are related and, generally, the greater the return you expect to receive on an investment over time, the greater the risk you undertake. This principle can be overlooked by people who may measure performance by only one of those variables, return. When you consider buying a risky investment, you should anticipate purchasing an asset with a larger projected gain to compensate you for the possibility of loss. Many people say they don't understand why so much time is spent on measuring risk. The example below may help.

There was a mutual fund manager who developed a reputation for above-average performance using U.S. government bonds. Bonds are considered more conservative and more straight-laced than stocks. There are no bonds more "plain vanilla" than U.S. government since they are perceived as having no risk of nonpayment. Some people would say the only way to outperform using them is to be able to predict interest rates consistently. If there is anyone with that predictive ability over extended periods of time, he or she hasn't publicly demonstrated it.

Thus, it was all the more surprising that this manager of mutual funds pretty consistently did better than market returns by a substantial margin. When asked whether he was

taking risk in his active management approach, he said he wasn't. His first priority was the safety of his investors' principal and using primarily U.S. government bonds helped him achieve it. He developed a growing following among individual investors, financial planners, and investment managers alike, who were all attracted to his returns and his firm answers to questions.

One day Federal Reserve actions raised interest rates sharply, which surprised virtually all investors in the bond market. It had a major effect on those bond managers who were using derivatives, a financial instrument sometimes employed to enhance returns. These derivatives were particularly hard hit at this time. While most bond funds were down, this manager's funds declined more than 25 percent, which, in the world of high-quality bond funds, happens less often than losing more than three-quarters of your money in stock funds. A fundamental analysis of his style would have uncovered his heavy use of derivatives.

However, there was a much more simple way to identify the greater risk he undertook. His standard deviation, the measure of risk represented by fluctuations in his returns over time, was much greater than that for any other fund in his category. It suggested that under certain negative circumstances, he could have problems. This information was available in an easy-to-understand format accessible in many public libraries. In other words, analysis of risk and return could have prevented the loss that many investors experienced.

OVERVIEW

Why do you make investments? Typically you don't save money because you like to perform investing as a leisure activity. Instead, investments are the result of a decision to spend less today so that you will have enough for your future spending needs. For example, one major reason for saving and investing is to have enough money to live comfortably in retirement when you no longer have active work-related income.

How much you set aside for investments depends on your goals, which are strongly influenced by the pleasure you get from spending today versus the satisfaction you get from saving monies so that you can live the good life in the future.

In the last chapter you learned that your investments can be separated into financial and nonfinancial ones. Frequently, nonfinancial investments such as your home and its possessions, your career, and other human-related benefits are connected to household functions today. Many fall under the umbrella of capital expenditures.

On the other hand, financial investments such as stocks, bonds, and mutual funds tend to be reserved for future household use.[1] Ownership of these assets is evidenced by pieces of paper instead of real assets you can touch. In contrast to many nonfinancial assets, they have little or no real cost of upkeep and often provide income and maintain or increase their value over time. For example, a financial asset such as a quality stock often provides dividend income and growth in price over time. In contrast, a nonfinancial real asset such as a washing machine or car has no cash income directly, requires upkeep, and tends to decline in value over time.[2]

Traditionally, investment theory and, to a large extent, investment practice tend to focus on financial assets, which are generally assumed to have readily available market prices. In this chapter, which concentrates on financial assets, we will assume that all assets discussed are marketable and are called marketable securities. Analyses of these marketable investments have some key advantages. Their values are objectively determined, competitively established, and easily measured.

[1] However, during retirement they are employed to fund current household functions and, in some cases, the investments or, more frequently, the income from those investments is used currently.

[2] A house is a partial exception. If well maintained, it may rise in price for many years before it begins to decline.

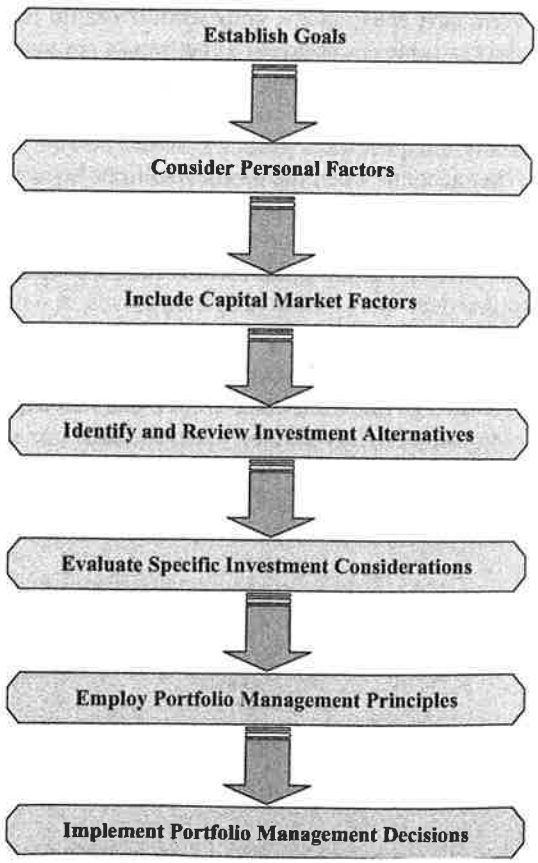
Given the focus on financial assets, when we discuss risk, we will concentrate on investment risk. **Investment risk** is the risk principally associated with savings placed in financial assets. The risk is of a decline in asset value, typically measured by its market price. This risk is in contrast to insurance risk. **Insurance risk** is the risk primarily associated with nonfinancial assets that can be reduced or eliminated by transferring it to an insurance company. The risk is of deterioration in usability or valuation of a household's real or human assets. The analysis of household operations must, of course, incorporate both risks.

In this chapter we view investments and asset allocation from a financial planning perspective. We describe the entire asset allocation process as an advisor would, beginning with goals and ending with portfolio management implementation. With this knowledge, you should be able to establish an overall asset allocation, one that can improve your investment performance.

Asset allocation for financial investments refers to the amount and type of securities we place our monies into. The financial instruments used are typically stocks and bonds or mutual funds. The exact breakdown by category and further separation into subcategory can vary depending on the person. For example, one person may have 100 percent all in large company stocks while another may have 60 percent in stocks and 40 percent in bonds with stocks of all sizes and investment styles and bonds of many types.

The planning system for asset allocation has eight components, which are given in Figure 9.1. We will examine each of them.

FIGURE 9.1
The Planning System for Asset Allocation



ESTABLISH GOALS

Goals are at the head of the financial planning process. They were discussed in detail in Chapter 3. Goals are, of course, determined by our needs and the things and activities that we enjoy. Common goals are becoming financially independent, saving for a major capital outlay such as a car, and putting away money for a child's college education. Once we have established our goals, we are in position to identify the role savings and investments play in the process. Investments can be viewed as a delivery mechanism: they help create sufficient assets to fund our goals. Our financial planning procedures can establish the amount of money needed for each goal. More narrowly, our investment focus is on the appropriate asset allocation to help meet our goals.

CONSIDER PERSONAL FACTORS

An asset allocation in practice is not a rigid representation of market factors alone. It is also influenced by personal characteristics. The factors listed below are some of the personal considerations that enter into the asset allocation process.

Time Horizon for Investments

We have many goals. They tend to vary in their horizon—that is, the time frame we have set to achieve our goals. Time frames are important because most investments fluctuate in value. It would be improper to place volatile stocks in an investment account due to be liquidated in three months; the risk of loss should the market decline would be too high. Similarly, for most people, it would be a mistake to place the entire sum in a money market account when the monies will not be needed for 20 years; the after-tax returns could trail the cost of living and instead of an increase in investable sums, the amount accumulated could decline on an inflation-adjusted basis.

We can group goals for investment purposes into five time horizons (see Table 9.1).

Liquidity Needs

Liquidity in an investment framework is the need or desire to be able to convert assets into cash. The need can come from a planned expenditure to be made at a fixed future period. In that case, it is covered under the time horizon just discussed. Alternatively, liquidity can be a need for current income to fund living expenses. It also can be a function of risk preference, employed for emergency use to reduce risk in general since typically the more liquid the financial instrument, the lower the risk of investment loss.

TABLE 9.1
Time Horizons

Horizon	Time Frame (years)	Examples of Goals	Investment Policy
Immediate	0	Emergency fund and other possible uses within days or weeks	Money market funds
Short-term	0–2	Vacation, new car	U.S. government bonds, certificates of deposit, short-term bond funds
Intermediate-term	2–4	Down payment for home, renovation of home	Conservative stocks, mutual funds, and bonds
Long-term	4–10	Education for a child	Normal long-term asset allocation
Very long-term	Over 10	Retirement	Normal long-term asset allocation

Investments vary in their degree of liquidity. For example, well-known large-sized issues like U.S. government bonds are generally more liquid than small local hospital obligations and publicly traded securities tend to be more liquid than private partnerships.

Current Available Resources

The investments you select are influenced by the amount that you have accumulated in financial assets. In addition, other assets such as real estate and human assets affect your asset allocation. This thinking is, of course, part of TPM. Simply put, under TPM your asset allocation is affected by the amount and risk characteristics of all your assets.

Projected Future Cash Flows

Projected future cash flows are obtained by subtracting outlays from revenue streams. We have called the difference *net cash flow,* the amount that we are free to employ in any way we wish. The greater our projected net cash flows and the lower their risk of a disappointing outcome for it, the more able we are to handle a risky investment. That is because we will have future monies to invest that will offset disappointing results for our current assets.

Taxes

People's tax brackets vary. Investment decisions should be made based on their after-tax returns. Therefore, our asset allocations can vary depending on our marginal tax bracket. For example, people in low tax brackets use taxable bonds while those in high ones often own tax-free municipal bonds. When changes in assets in portfolios are contemplated, the impact of gains or losses on sale must be included. For example, there is little purpose in selling a well-regarded stock to take advantage of a potential extra 10 percent price gain on another security purchased with the proceeds from sale of the well-regarded issue when the sale will result in a 20 percent federal and state tax payment due to the gain on liquidation of the original stock bought at a very low price.

Restrictions

Restrictions in formulating an asset allocation are limitations on freedom of choice in investment alternatives or investment practices. Many restrictions are included under the other items discussed—for example, not using municipal bonds for people in low

TABLE 9.2 Risk Profile Quiz

Source: Lewis Altfest and Karen Altfest, *Lew Altfest Answers Almost All Your Questions about Money* (New York: McGraw-Hill, 1992), p. 64.

Answer the following questions using ratings from 1 (strongly agree) to 5 (strongly disagree).

1. Short-term fluctuations in the value of my assets do not bother me.
2. I tend to buy and sell securities at the right time.
3. Having high current investment income is not important to me.
4. If an investment could not be sold quickly without a substantial financial penalty, it would not disturb me, provided the longer-term returns on the investment were favorable.
5. It would not bother me at all if I couldn't sell my new investment for many years if there was the potential for unusually good performance.
6. Investing in common stocks and common-stock mutual funds does not make me jittery.
7. I am willing to endure a significant decline in my principal over a few years if it will result in higher longer-term returns.
8. I am willing to take on greater risk so that I can obtain a hedge against inflation.
9. I don't need a guaranteed return of my principal if forgoing that will greatly increase the potential longer-term growth rate of my investments.
10. If the prevailing economic and investment sentiment seemed gloomy, I would not switch to safer securities.

	Score
Risk taker	Below 20
Middle of the road	20–40
Conservative	40 or higher

Practical Comment

There are a number of other factors concerning human characteristics that should be considered.

RISK

When a self-evaluation approach is used, care must be taken to relate the assessment of risk to types of investments. What one person thinks is conservative, another may think is aggressive. For example, some people, perhaps influenced by their personal experience of long-term appreciation of their home, regard both public and private real estate as less risky, like bonds, while others recognize that real estate risk is more closely aligned with equity investments.

Also keep in mind that self-assessment of risk tolerance and many other assessment techniques can reflect cyclical variations in tolerance for risk. Put simply, people's tolerance for risk often tends to rise when prior overall market performance has been good and when the outlook for investment returns appears very favorable. The opposite is true when past results and the outlook are poor. Unfortunately, that can be the wrong time to change asset allocations. Financial planners should discourage changes for these reasons, pointing out that poor performance has often been the outcome. For example, when suspecting a rise in risk tolerance because of strong recent market performance, clients should be told to visualize how they would feel about changes if the market were in the midst of a decline. In general, it is advisable to stress a steady tolerance for risk over a long-term time frame.

PAST EXPERIENCES

Asset allocations overall can be influenced by past personal experiences that may not be entirely logical. A client may not want to purchase a particular type of security—say, a mutual fund offering small-sized companies—because she got "burned" in that type of security in the past. The planner can stress the benefits of investing in that asset class, but if the client is adamant, another type of security with many of the same characteristics can be substituted.

tax brackets. In addition, you may restrict the use of debt to finance purchase of investments or preclude the use of higher-risk options or commodities. Finally, individuals may have specific preferences; for example, there are those who prefer socially responsible funds.

Risk Tolerance

Risk tolerance is the amount of risk you are willing to undertake. Some people think of it solely as a function of one's personality. However, it can be influenced by many variables in addition to personality including upbringing, current circumstances, and the amount and type of current assets and future cash flows for the household.

A person's risk tolerance can be determined in many different ways. People can be asked to describe themselves and their tolerance for risk. For example, the question may be framed as "In investment matters, do you consider yourself conservative, moderate, or aggressive?" Alternatively, their prior actions can be observed. For example, looking at a breakdown of their current portfolio can help determine the appropriate asset allocation for them. Another approach is to give them a variety of oral or written questions that can be scored to help determine their risk tolerance. One such questionnaire is given in Table 9.2.

INCLUDE CAPITAL MARKET FACTORS

We have established the goals and the distinguishing features of individuals. At the same time, we need to examine the characteristics of the overall financial markets and of the various types of securities likely to be considered for the asset allocation. We begin by discussing two of the most basic characteristics of finance: risk and return.

Risk and Return

One of the most logical thoughts in investing is that risk and return should be related. If you select an investment that has a greater degree of risk, you expect to earn a higher return. Why else would you expose yourself to an above-average chance of loss? Generally, in finance it is assumed that risk and return are proportionately related. It is a basic assumption of modern investment theory.[3] For example, if you choose an investment with 20 percent greater risk, you should get a 20 percent higher return.[4] Let's look at the two factors, return and risk, separately.

Return

Return is the total of income and growth of monies invested over a period of time. We can establish the cumulative return using the following formula.

$$\text{Holding period return (HPR)} = \frac{\text{Sum of dividends or interest paid} + \text{Gain in principal invested}}{\text{Original cost}}$$

We are often interested in calculating time-weighted returns. These returns give effect to how long you have owned a security and the timing of income payments during that period. The internal rate of return (IRR) is often used to obtain this return, typically by providing a compound annual return.[5] An example of HPR and IRR for a bond is provided in Example 9.1. The example details IRR for both a stock and a bond; the bond is expected to be held until it matures. In that case, the IRR is also known as the yield to maturity (YTM).

Example 9.1

Betsy bought a stock three years ago for $20 per share and placed it in a tax-sheltered pension plan. In years 1 to 3, she received cash dividends of $0.30, $0.60, and $1.00, respectively. She sold the stock for $28 per share the day she received the $1.00 dividend. She also purchased a bond in the pension plan for $960 on January 1, paying $50 once a year, which is due to be repaid at $1,000 in eight years. Calculate the actual HPR and IRR for her stock and the projected IRR/YTM for the bond.

Stock

Year 3: (28 + 1) = $29

Calculator Solution

General Calculator Approach	Specific HP12C	Specific TI BA II Plus
		CF
Clear the register	f FIN	2nd CLR Work
Enter initial cash outflow	20 CHS g CF_0	20 +/− ENTER ↓
Enter cash inflow Year 1	0.30 g CF_j	0.30 ENTER ↓ ↓
Enter cash inflow Year 2	0.60 g CF_j	0.60 ENTER ↓ ↓
Enter cash inflow Year 3	29 g CF_j	29 ENTER ↓ ↓
Calculate the internal rate of return	f IRR	IRR CPT
	14.6%	14.6%

[3] Three prominent parts of this theory—modern portfolio theory, capital asset pricing model, and efficient market theory—are discussed in this chapter and in Web Appendix A: Modern Investment Theory.

[4] After the risk-free rate, to be described, is taken into account.

[5] We can calculate average annual returns when provided with annual or cumulative statistics. Average annual arithmetic mean returns are given as

$$\text{Arithmetic mean returns} = \frac{\text{Sum of annual returns}}{\text{Number of periods}} \text{ or } \frac{1}{N}\sum_{1}^{N} r_N \text{ and}$$

$$\text{Geometric mean returns} = \sqrt[\text{Number of Periods}]{\text{Product of annual returns}} - 1 \text{ or } \sqrt[N]{\prod_{1}^{N}(1 + r_N)} - 1.$$

Bond

Year 8: (1,000 + 50) = $1,050

Calculator Solution

General Calculator Approach	Specific HP12C	Specific TI BA II Plus
Clear the register	f FIN	CF 2nd CLR Work
Enter initial cash outflow	960 CHS g CF_0	960 +/– ENTER ↓
Enter cash inflows Years 1–7	50 g CF_j	50 ENTER ↓
Enter number of years	7 g N_j	7 ENTER ↓
Enter cash inflow Year 8	1,050 g CF_j	1,050 ENTER ↓ ↓
Calculate the internal rate of return	f IRR 5.6%	IRR CPT 5.6%

The stock had a 14.6 percent annual return while the bond has a projected yield to maturity of 5.6 percent.

Risk

Risk, as most people view it, is the chance of loss on an investment. As you can see in Table 9.3, there are many types of risk for financial assets.

According to modern investment theory, the total risk of a security—one that includes all the fundamental risks shown in Table 9.2—can be represented by one measurement: its price action. The wider the fluctuations around its average price, the greater the stock's risk. The most common measurement of price fluctuation is the standard deviation.[6]

The idea of standard deviation and risk is shown in Figure 9.2. Notice that company A and company B both have the same return (they start and end up at the same price), but company B has greater total risk because its price has fluctuated more widely.

Since the standard deviation measures price change, it includes fluctuations that result in gains as well as those that result in losses. Therefore, this method contrasts with investors' measurement of loss only. The semi-variance, a less-used methodology, measures fluctuations resulting in losses.[7]

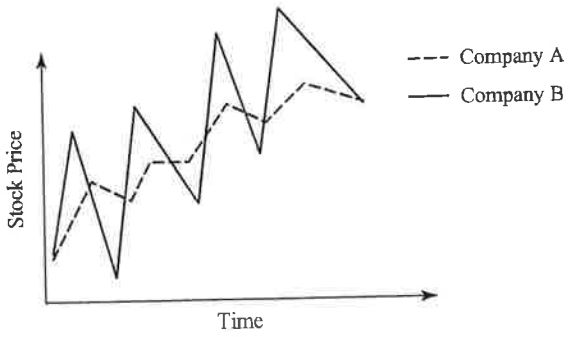
[6] The standard deviation is the square root of the sum of the squared deviations around the average return.

[7] Harry Markowitz, "Foundations of Portfolio Theory," *Journal of Finance* 46, no. 2 (June 1991), pp. 469–77.

TABLE 9.3
Fundamental Risks for Financial Assets

Risks	Explanation
Market	The risk of a decline in the overall stock or bond market
Liquidity	The risk of receiving a lower-than-market price upon sale of your holding
Economic	The risk of unfavorable business conditions caused by weakness in the overall economy
Inflation	The risk of an unexpected rise in prices that reduces purchasing power
Political	The risk of a change in government or governmental policy adversely affecting operations
Regulatory	The risk of a shift in regulatory policy impacting activities
Currency	The extra risk in international activities arising from currency fluctuations
Technological	The risk of obsolescence of a product line or inputs in producing it
Preference	The risk of a shift in consumer taste
Other industry	The risks other than the ones given above that affect companies in an industry
Company	The operating and financial risks that apply to a particular firm

FIGURE 9.2
Companies with Same Mean Returns but Different Risks



The capital asset pricing model (CAPM) is a specialized modern investment theory model that is based on risk-return principles. It, too, measures risk based on price changes. However, its risk is received by measuring price change of a security relative to a benchmark's price performance.

The benchmark for large company stocks is usually the S&P 500, the Standard and Poor's index of the 500 largest companies in the United States. The risk measurement is called the *beta coefficient* and the greater the price fluctuation of a security relative to the benchmark's movements, the greater the security's beta coefficient.

The benchmark is automatically given a beta of 1 and stocks or mutual funds of stocks having a beta coefficient greater than 1 are deemed to have more risk than the market, while those having a beta less than 1 have below-average risk.

Unlike the standard deviation, the beta coefficient doesn't claim to measure total risk, just systematic risk. **Systematic risk** is the risk of overall market factors such as the economy, inflation, interest rates, and the stock market. In contrast, **unsystematic risk** is risk related to an individual company such as a decline in market share, the loss of a key patent, and so on. CAPM says individual company risk can be diversified away when you hold a large portfolio of securities. Therefore, CAPM says that all you need to know is systematic risk as measured by the beta coefficient.

The standard deviation and the beta coefficient have a strong advantage. Unlike fundamental measures of risk, they both can be measured objectively. For each measure, the higher the figure, the greater the risk. In most instances, beta coefficients and standard deviations are developed by independent investment services such as Morningstar and Value Line, and their newsletters are available in many libraries.

As a practical matter, all you need to remember is that a beta greater than 1 equals above-average risk; a beta below 1 equals below-average risk.[8] Also keep in mind that both the beta and the standard deviation are best used when comparing securities that are similar to each other. For a more detailed explanation of beta coefficients, see Web Appendix A: Modern Investment Theory.

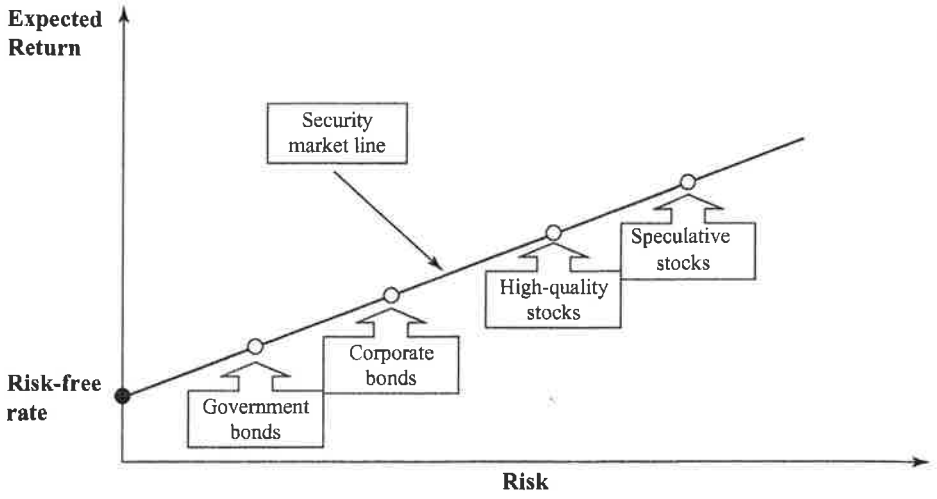
Example 9.2

Dana was down to one of two choices of investments in her pension plan at work. She wanted growth of assets, was fairly aggressive in her investment tolerance for risk, and, therefore, chose from stock, not bond, mutual funds.

She went to the library and found results for her pension plan's two stock alternatives. The first fund, the Oaktimber Fund, had a beta coefficient of 0.75 and a standard deviation of 15.8. The second, the Advanced Horizon Fund, had a beta of 1.54 and a standard deviation of 31.2. Both mutual funds invested in large companies. She looked up an S&P 500 index fund that had

[8] Relative to its benchmark.

FIGURE 9.3
Security Market Line



statistics very close to those of the actual index and found its beta to be 1.0, as she thought. She knew that the S&P was the benchmark of large company performance and 1.0 meant average. She also found out that the S&P 500 had a standard deviation of 21.0 for the past period being measured.

Dana instantly recognized that the beta coefficient of 1.54 for Advanced Horizon was well above the market, signifying higher-than-average risk. The standard deviation also was substantially above the market's 21.0. She also noticed that Advanced Horizon's three-year return of 13 percent a year was well above Oaktimber's 9 percent a year. She thought to herself, the higher the risk, the higher the return. She picked Advanced Horizon, which best fit her high risk tolerance.

Expected Rate of Return

Under modern investment theory, the expected rate of return combines risk-return principles to arrive at a projected future return. As the equation below indicates, the expected rate of return is equal to the risk-free rate plus a risk premium. Therefore, the **risk premium** is the extra return that compensates you for the additional amount of risk you are taking with a particular security over a completely safe one.

$$\text{Expected rate of return} = \text{Risk-free rate} + \text{Risk premium}$$

The risk-free rate, the completely safe one, is the rate of return you require even if there is no risk. The yield on 30-day U.S. government Treasury Bills is generally used to gauge this rate.[9]

The risk premium depends on the degree of risk undertaken. For example, a nearly bankrupt airline will have a much greater risk premium than a leading high-quality food company.[10]

The risk-return characteristics of various securities are demonstrated in Figure 9.3. Notice that the risk-free rate appears right on the expected return line. That is because it is viewed as having no risk. The diagram shows that the more risky the security, the greater the risk premium and the greater the expected or required rate of return.[11]

[9] Some would say 90-day or 10-year government issues are more appropriate depending on the time horizon for the investment.

[10] The investor may use either the standard deviation, the beta coefficient, or more judgmental factors as inputs in establishing the risk premium.

[11] For our purposes, expected and required rates of return are synonymous.

Example 9.3

Brad had two investments: one in government bonds, the other in a speculative stock fund. Over a five-year period, he received an average return of 5 percent a year in government bonds and 5.5 percent for the speculative fund. Brad thought to himself that he made more money in the stock than the bond. Yet he was dissatisfied with his stock performance. He felt he should have received greater return for the risk taken. In other words, his risk premium should have been more than 0.5 percent a year.

The Efficient Market Hypothesis

The efficient market hypothesis is one of the basic assumptions of a pure risk-return approach. When risk and return are exactly correlated, all investments sell at the prices they are expected to. As you can gather, the **efficient market hypothesis (EMH)** deals with investment information and valuation of individual securities. It says that the best valuation for an individual security is its current market price. This price reflects all information known about the security. It is the fair price for the asset. When new information is issued, it is quickly incorporated in the price of the shares.

A major conclusion of the EMH is that it will not be profitable to attempt to outperform the market. Even if there were people who were not fully informed or capable of appraising shares, and their actions could create particularly appealing prices, other investors would quickly step in to take advantage. By doing so, these investors would eliminate any above-average profit opportunities.

Example 9.4

Suppose a market analyst disclosed that, according to his tests, the length of women's skirts was an indicator of the future direction of the market. Actually, there reputedly was such a theory some 75 years ago. Suppose that buying stocks when skirt lengths rose and selling them when they dropped resulted in a doubling in investment returns. This information would spread quickly. The next step would be market analysts, portfolio managers, and television commentators positioned at the fashion openings of prominent designers to observe leading-edge fashion lengths.

As soon as the new skirt lengths were known, the investors would communicate orders via cell phone directly to the floor of the stock exchange and via television to all viewers. This information, now known by all who would try to act on it, would be instantaneously incorporated in stock prices. Knowledge of skirt lengths would no longer have investment use. The price of all shares would be efficient in that it would reflect all available information including the length of women's skirts.

There are three forms of the EMH: the weak form, the semi-strong form, and the strong form.

- *The weak form.* The weak form deals only with price and volume for a security. It says that looking at current and past information on stock price patterns and the number of shares traded will not be useful.
- *The semi-strong form.* The semi-strong form states that all publicly available information is incorporated in a stock's price. Therefore, not only information on price and volume but also fundamental analysis such as analysis of annual reports, brokerage firm recommendations, discussions with industry and company representatives, and so on, will not lead to better-than-average performance.
- *The strong form.* The strong form states that the share prices fully reflect not only public but also private information. Therefore, knowledge of information on a company's outlook that has not yet been released to the public or other insider information is not useful.

In effect, the weak form says that technical analysis has no use. That is because technical analysts use just price changes and volume to make predictions about future performance. If the weak form of EMH is true, then technical analysts are wasting their time. Some tests

of this hypothesis have turned up anomalies—exceptions to efficient market beliefs and opportunities to use technical analysis for extra profit.[12] The strong form has not been tested as often,[13] perhaps because intuitively it does not seem logical that knowledge of what is going on inside a company before others know it would not be profitable.

Most tests of the EMH have focused on the semi-strong form and public information. It not only includes the weak form's technical analysis; it extends efficiency to include all public information. It isn't as broad as the strong form because it doesn't include private information. Contrary to efficient market theory, a relatively broad array of opportunities for profitable investing has been found including purchasing depressed stocks early in January,[14] small cap stocks,[15] those with low price to book,[16] and those with low p/e multiples;[17] eliminating or shorting those with high p/e multiples;[17] purchasing those that have been neglected;[18] and so on.

Mean Reversion and Efficient Markets

Mean reversion,[19] as it relates to groups of individual securities or overall markets, says that returns for securities tend to move toward average performance when the returns are examined over longer time frames. Therefore, if securities underperform for a period, they may be more likely to outperform later on. When their results are highly favorable for a period of time, they can be vulnerable to poor returns in the period beyond. Thus, in contrast to efficient market beliefs, future stock price movements may be somewhat predictable.[20]

Example 9.5

Phil was interested in stocks in two industries: beverage companies and manufacturers of branded foods. They had the same beta coefficients. Over the past year, beverage companies had performed extremely well, rising more than the overall market, while food companies had actually declined in price. There was no fundamental news to account for the discrepancy in performance. Each industry's earnings were in line with expectations.

[12] David P. Brown and Robert H. Jennings, "On Technical Analysis," *Review of Financial Studies* 2, no. 4 (October 1989).

[13] See Jeffrey F. Jaffe, "Special Information and Insider Trading," *Journal of Business* (July 1974), pp. 410–28; Nejat H. Seyhun, "Insiders' Profits, Costs of Trading and Market Efficiency," *Journal of Financial Economics* 16 (1986), pp. 189–212; and Lisa K. Meulbroek, "An Empirical Analysis of Illegal Insider Trading," *Journal of Finance* 47, no. 5 (December 1992), pp. 1661–99.

[14] See Michael S. Rozeff and William R. Kinney Jr., "Capital Market Seasonality: The Case of Stock Returns," *Journal of Financial Economics* 3, no. 4 (October 1976), pp. 379–402; and Marc R. Reinganum, "The Anatomy of a Stock Market Winner," *Financial Analysts Journal* 44, no. 2 (March–April 1988), pp. 272–84.

[15] Rolf Banz, "The Relationship between Return and Market Value of Common Stocks," *Journal of Financial Economics* 9 (March 1981), pp. 3–18; Marc R. Reinganum, "A Revival of the Small-Firm Effect," *Journal of Portfolio Management* 18, no. 3 (Spring 1992), pp. 55–62.

[16] Barr Rosenberg, Kenneth Reid, and Ronald Lanstein, "Persuasive Evidence of Market Inefficiency," *Journal of Portfolio Management* 11, no. 3 (Spring 1985), pp. 9–17; Eugene F. Fama and Kenneth R. French, "The Cross Section of Expected Stock Returns," *Journal of Finance* 47, no. 2 (June 1992), pp. 427–65.

[17] Sanjoy Basu, "The Investment Performance of Common Stocks in Relation to Their Price-Earnings Ratios: A Test of the Efficient Market Hypothesis," *Journal of Finance* 32, no. 3 (June 1977), pp. 663–82.

[18] Avner Arbel and Paul Strebel, "Pay Attention to Neglected Firms!" *Journal of Portfolio Management* 9, no. 2 (Winter 1983), pp. 37–42.

[19] See Werner DeBondt and Richard Thaler, "Does the Stock Market Overreact?" *Journal of Finance* 40 (1985), pp. 793–805; James Poterba and Lawrence Summers, "Mean Reversion in Stock Prices: Evidence and Implications," *Journal of Financial Economics* 22 (1988), pp. 27–59; Eugene Fama and Kenneth French, "Business Conditions and Expected Returns on Stocks and Bonds," *Journal of Financial Economics* 25 (November 1989), pp. 23–49.

[20] Nicholas Barberis, "Investing for the Long Run When Returns Are Predictable," *Journal of Finance* 55 (February 2000), pp. 225–64; John Campbell and Robert Shiller, "Stock Prices, Earnings and Expected Dividends," *Journal of Finance* 43 (July 1988), pp. 661–76.

Practical Comment Why Mean Reversion May Work

The reason for mean reversion may be human weaknesses such as overemphasis on near-term developments and lack of vision of longer-term events, or insufficient weighting given to the random nature of unexpected occurrences. Unexpected occurrences, both good and bad, can affect highly and poorly regarded companies equally.

Mean reversion can be viewed as a modified form of efficient markets. It can be interpreted as indicating that markets and individual securities may not be fairly priced over shorter periods but move toward efficiency over the longer term. That is, they reflect appropriate returns after adjustment for risk over extended periods. In shorter time frames, securities may be over- or underpriced, which presents potential opportunities for abnormal returns through fundamental analysis.

Phil believed that stocks and industries "come back" in price over time (reversion to mean performance) and chose to invest in the consumer food sector. Over the following year, he was rewarded with strong gains when their shares moved back to normal valuations, while the beverage companies underperformed the market. Over the combined two-year period before and after Phil's analysis, both industries had the same average performance of 11 percent per year. Mean reversion had brought both industries back into parity.

IDENTIFY AND REVIEW INVESTMENT ALTERNATIVES

We have inputted goals and other personal factors and examined capital market factors. Before proceeding, we need to identify and review the investment alternatives that are appropriate for the asset allocation. We will review those most used by households—bonds, stocks, and mutual funds, which, of course, are generally made up of bonds or stocks. In this way, you can become familiar with their investment characteristics such as their risk-return profiles and better understand how to employ them in the asset allocation process.

Bonds

Bonds are contracts in which an investor lends money to a borrower. As compensation for receiving the money, the borrower agrees to pay interest, often twice a year and generally of a fixed amount. The borrower also agrees to repay a stated sum at the end of a fixed period. The date that the loan is to be repaid is called the **maturity date.**[21]

Bonds of high-quality companies are considered safer than most other types of investments for the following reasons:

1. The annual income to be received is generally fixed in advance.
2. The contracted-for loan principal is likely to be repaid in full at the stated date.[22] In the event of financial difficulties, the borrower will have to comply with the terms of the contract. Interest and principal will be repaid on time or the company will be faced with bankruptcy. Should bankruptcy occur, bondholders have priority in receiving the proceeds from liquidation of business assets and are therefore repaid before stockholders receive any material proceeds.

[21] *Bonds* is the most popular term used for this type of investment, but a broader and perhaps more accurate term, *fixed obligations*, is sometimes employed. A fixed obligation is any investment in which the terms, including the returns, are known at the beginning of the period or depend on clearly defined factors such as the inflation rate. Fixed obligations consist not only of bonds but of other investments such as mortgages and bank certificates of deposits. Unless otherwise stated, we will use the terms *bonds* and *fixed obligations* synonymously. Fixed obligations as they pertain to future household outflows described in Chapter 6, as opposed to future financial investment inflows as indicated here, have a different meaning.

[22] Unless repaid earlier, generally at the option of the corporation under terms stated in the contract.

Common Stocks

Common stocks are very different from bonds. As a common stockholder, you are an owner, not a creditor, of a company. You are entitled to participate in the current profits and anticipated future growth of the enterprise. Of course, if there are no profits, your investment can end up having no value. As you can gather, stocks typically have higher risk premiums than bonds. In sum, stocks present potentially higher returns than bonds, but the shareholder must be prepared to take greater risk.

Individual common stocks, also called *equities*, can be placed in various categories. Professional investors often use these equity categories to concentrate in. Sometimes they use them to ensure that they are never too far away from overall market performance or that of the segment of the stock market they operate in. Some of the methods of categorizing stocks are given below.

Relative Growth Rates

Companies that grow more rapidly in sales and earnings than the overall economy and are less affected by cyclical business conditions are called **growth stocks.** Examples would be fast-growing technology leaders. Those that generally grow at average or below-average rates but are also less affected by business conditions are called **defensive stocks.** Companies in the consumer basics and utility sectors are examples of defensive companies. Firms whose growth rates are at or below those for the overall economy but whose operations are highly sensitive to aggregate business conditions are called **cyclical stocks.**

Sector and Industry

Sectors are the parts of the overall economy. The economic sectors that pertain to the stock market are sometimes divided into basic materials, capital goods, consumer cyclicals, consumer noncyclicals, energy, financial, health care, services, technology, transportation, and utilities.

Each sector, in turn, is divided into a number of industries. For example, consumer cyclicals would include, among others, autos, consumer appliances, and retail chains. Since sectors tend to share some similar characteristics, some active managers use these categories and industries to decide which areas to over- or underemphasize.

Geographic Area

Geographic area indicates which areas of the country or of the world you concentrate in. For example, the northeast area of the United States is the most populated but slowest-growing region. You may be interested in investing in faster-growing sections of the United States or in parts of the world that present potentially more rapid growth rates than the United States.

Company Size

Companies come in all sizes. As a generalization, larger companies are more secure, often having entrenched positions in major markets. Smaller companies can be more flexible since they may have more entrepreneurial management. On the other hand, they also may have more risk if the outlook changes dramatically. Medium-sized companies are a blend of the previous two.

Quality

Quality in stocks is a measure of how confident we are that the anticipated prospects for a company are going to be fulfilled. Those companies of high quality are more likely to be large and have a strong position in their markets. Often they have good returns on investment and are less likely to have large noneconomic-related disappointments in earnings. They are sometimes called **blue chips** and generally have risk that is below overall market averages.

TABLE 9.4
Total Industry Net Assets

Source: Investment Company Institute, *Mutual Fund Fact Book*, 45th ed, 2005. Available online at http://www.ici.org/pdf/2005_factbook.pdf

Year	Industry Net Assets (billions of dollars)			Total Number of Funds
	Stock Funds	Bond Funds	Total[1]	
1970	45.1	2.5	47.6	361
1975	37.5	4.7	45.9	426
1980	44.4	14.0	134.8	564
1985	111.3	122.7	495.4	1,528
1990	239.5	291.3	1,065.2	3,079
1995	1,249.1	598.9	2,811.3	5,725
2000	3,961.9	811.2	6,964.7	8,155
2004	4,384.1	1,290.3	8,106.9	8,044

[1] Hybrid and money market funds are also included in total.

At the opposite end of the quality spectrum are companies whose operations are less predictable, their profitability more precarious with current or potential losses possible. Sometimes these companies have a large amount of debt in relation to the value of their equity. They can be highly risky and, if so, are called **speculative investments**.

Mutual Funds

Mutual funds combine stock or bond assets[23] for investors, who receive centralized administration and investment management. In effect, people pay an investment company a yearly fee for handling their investment needs. Their investment is evidenced by shares of the mutual fund owned. Monies transferred to the investment company are pooled together with those of other shareholders for efficient management. This form of asset management has grown rapidly in recent decades, as shown in Table 9.4.

Below you see some selected mutual fund characteristics have been separated into strengths and weaknesses.

[23] Other types of assets also are used such as money market funds.

Characteristics	Explanation
Strengths	
Expertise	Fund companies are typically run professionally, and the portfolio managers in charge of investment activities are generally qualified.
Low cost	Mutual fund activities are provided at relatively low cost.
Diversification	Diversification generally into 50 or more stocks is possible with a modest sum of money.
Low minimum investment	The minimum investment to purchase many funds is as low as $500 to $1,000.
Professional recordkeeping	Records are kept by the fund management, who can provide you with information about performance or for tax purposes.
General information	Published information and telephone assistance from the fund management companies are generally available to help select mutual funds and monitor them. The information is either obtained yourself or through a broker or financial planner.
Safety	Mutual funds are supervised by the Securities and Exchange Commission and the fund's board of directors. Actual assets often are not directly under the manager's supervision but are placed with a third party, with the manager just making buy and sell decisions.
Daily pricing	The firm's price and performance statistics are available daily in some newspapers; in *Barron's*, which is issued weekly; through Internet sites; or from the funds directly.
Reinvestment and payout	Mutual funds can provide automatic reinvestment of their distributions and can accommodate the need for withdrawals of a stated amount per period.
Weaknesses	
Cost	The overhead costs are higher than they would be if you were to manage the money yourself.
Performance	The majority of mutual funds underperform their relevant markets.
Tax	Holders of mutual funds are subject to tax inefficiencies such as being taxed on realized capital gains from individual stocks or bonds liquidated by the fund manager even though the fund itself hasn't been sold by the investor.
Liquidity	Purchases and sales for most funds can be effected only once a day.

Mutual Fund Classification System

Mutual funds cover virtually all types of stocks and bonds. At over 8,000 in number, there are more mutual funds than stocks on the New York Stock Exchange. Historically, funds were categorized by risk. Thus, general stock funds ranged from most conservative, income-only, to aggressive growth. More recently, they have generally been listed by size and by investment style.

Size Most stock mutual funds can be divided into small, medium, and large size categories for their investments. The basis for this separation is overall stock market worth of the companies that the mutual fund invests in. Smaller capitalization companies provide greater potential returns as they may have the potential for faster growth and have more managerial flexibility. However, they also have greater risk since they may not be as diversified as larger companies. Larger capitalization companies have more consistency of performance and lower company fundamental and stock market risk.[24] Medium capitalization companies provide a blend of the other two categories.

Investment Style There are many styles of active investment. However, they are commonly separated into three categories: growth, value, and blend.

- *Growth.* A **growth style of investing** involves selecting companies that are expected to have rapid growth in revenues and earnings per share. These companies are more likely to be favorably thought of by investors and have higher-than-average valuations such as high price/earnings multiples.
- *Value.* A value investor employing a **value style of investing** places more emphasis on price in making purchase decisions. The manager looks for companies that are out of favor or otherwise mispriced in relation to their outlook for earnings growth. Their valuations of such ratios as their market price in relation to their earnings (p/e ratio) or market price in relation to their asset value as recorded on their books are likely to be below average. Their universe of stocks is broader, often with more emphasis on companies whose earnings growth or return on investment is temporarily or permanently below that for the average stock.
- *Blend.* The blend category is essentially all else. It may entail a manager who moves from value to growth style or buys a mix of the two. It also may involve a style of investing that cannot be defined in value or growth terms as, for example, a manager who largely uses technical analysis.

Example 9.6 Helen had a choice of three styles of larger company mutual funds for her pension. The first picked the fastest-growing companies in industries with favorable outlooks like those in the technology sector. The second selected individual companies that had some blemishes in outlook but were soundly positioned and financed and were cheaply priced. The third was a mixture of the other two styles. Helen quickly identified them as growth, value, and blend styles. She decided to select the value style, which suited her belief in making purchases for her household that were "bargains" and therefore represented value investments.

A sample grid employing these principles for stocks is shown in Figure 9.4.

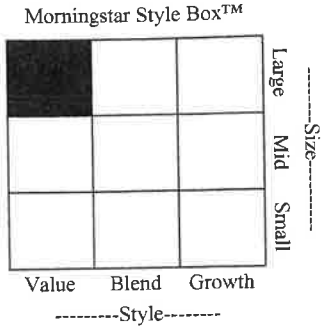
EVALUATE SPECIFIC INVESTMENT CONSIDERATIONS

Individual preferences create issues and choices in the way investments are managed. Two of them—active versus passive investing and use of individual securities versus mutual funds—are dealt with below.

[24] Of course, many believers in risk-return theory and efficient markets regard the two as synonymous.

FIGURE 9.4
Morningstar Investment Style Box

Source: Morningstar, Inc., 2005, http://www.morningstar.com.



An Active versus Passive Approach

Risk-return and efficient market theory say that attempting to outperform the market will not be fruitful. If you manage to do so, you are just lucky, not skilled. This thinking leads to a **passive approach** to investing. With a passive approach, no attempt is made to receive greater-than-market returns. Its proponents believe efforts can better be used to diversify in order to reduce risk and keep costs low. Passive investors tend to purchase index mutual funds of all types. An **index fund** attempts to duplicate market performance and keeps costs low by using computerized programs to purchase holdings and not employing high-priced investment managers and analysts.[25]

With the alternative, the **active approach** to investing, changes are made in holdings over time to take advantage of new opportunities. There are many different ways of performing active investing. However, they all have as their basis the belief that it is possible to outperform the market. Otherwise, it would be silly to make the effort.

One prominent active approach is fundamental investing. Under fundamental investing, analysis is made of overall market, industry, and company data to identify opportunities. Often the basis of this approach is the belief in mean reversion in investments with purchases made at below "true value" levels and sales made when they return to or attain correct valuations.

Individual Securities versus Mutual Funds

In establishing an investment portfolio, a decision should be made about whether to use individual securities or mutual funds.[26] Individual securities purchased by the household involve no fund-overhead expenses and offer a greater ability to buy and sell for tax planning purposes instead of typical annual taxable capital gains for mutual funds. With individual securities, there also can be the emotional "high" of watching a stock in your portfolio do well.

Mutual funds offer professional advice at reasonable cost, the ability to delegate the investment management and recordkeeping function, and simple diversification with low investment minimums by specialists in a wide variety of types of securities, geographic areas, and styles of investing. Although there are notable exceptions, the majority of mutual funds underperform the market.

Given the lack of expertise in many households, the lack of desire to monitor their investments, a sometimes emotional response to buy and sell decisions, and a desire for lower volatility, the majority of financial planners recommend implementing through mutual funds.

[25] It is generally included under the blend style of investing.

[26] Actually, mutual funds are just one of a number of investment alternatives including separate accounts and investment managers selected directly, tax-deferred annuities, hedge funds, exchange-traded funds, unit investment trusts, and so on. However, in this introductory text, we have limited ourselves to this most popular alternative.

EMPLOY PORTFOLIO MANAGEMENT PRINCIPLES

Portfolio management is the overall supervision of our investments program. It guides the decisions on asset allocation and individual investments. Each household does or should engage in portfolio management, which helps answer such questions as "Are my investments too concentrated in one area?" and "What returns am I likely to receive longer term." In this section, we discuss the principles that help establish portfolio management policies.

We have already described the characteristics of individual stocks and bonds and how risk and household needs both enter into decision making. Our approach was to look at each asset separately and decide whether it was attractive enough to purchase. There is a major weakness in using this approach.[27] It assumes that a portfolio is just the sum of all its individual securities.

Adding up all individual securities is roughly equivalent to saying that a house is only the sum of all the bricks and other materials that went into building it,[28] with no weight given to the safety and attractiveness of the building taken as a whole. Similarly, a portfolio is more than the sum of its parts because the individual assets are often related to each other. The interrelationships among the securities can create an attractive or unattractive portfolio just as the way the bricks are put together can create a beautiful or ugly house.

A **portfolio** can be defined as a grouping of assets held by an individual or a business. A portfolio that holds a diversified grouping of assets can be said to be attractively balanced and not easily influenced by events other than those that affect overall markets.

We also learned that individual securities are valued not only by the returns they offer but also by the risk they present in receiving their return. The two-parameter risk-return approach, here termed the mean-variance model,[29] serves as the basis for portfolio theory and its approach to constructing a portfolio.[30] Under portfolio theory, we strive to achieve the highest return we can, given the risk we are willing to undertake. Let's look at portfolio risk and return separately.

Portfolio return is fairly simple. It is just the sum of the returns for each security multiplied by the weighting it has in the portfolio. You might think, then, that portfolio risk is the weighted average sum of the risk for the individual securities. That isn't the case. The reason has to do with the correlation coefficient.

The **correlation coefficient** measures the degree to which investment in a portfolio is related to other investments in that portfolio. As a practical matter, for financial investments, it generally ranges from 0 to +1.[31] Often in portfolio management, we measure correlation through movements in prices. That is because price changes often largely determine performance, the reason for investing. Think of correlations as showing relationships. You are not going to get much portfolio diversification benefit from investing in Coca-Cola, Pepsi, and Cadbury Schweppes (Seven Up). They tend to be very similar and

[27] Of course, as we will see later in this chapter, there is a second possible weakness. If you are a believer in efficient markets, the effort to find attractive stocks will be fruitless.

[28] Just as we look at a house overall and decide whether it is attractive or unattractive, we can look at a portfolio overall and decide whether by placing the right investments in the right proportion we have a grouping of assets that appropriately answers our risk-return needs. Just as one building material may look attractive by itself but not fit the overall house effect, individual securities relate to one another and one that is attractive may not fit in with an individual's point of view.

[29] The variance measure of risk is just the standard deviation squared.

[30] Harry Markowitz, "Portfolio Selection," *Journal of Finance* 7, no. 1 (March 1952), pp. 77–91; Harry Markowitz, "The Early History of Portfolio Theory: 1600–1960," *Financial Analysts Journal* 55 (1999), p. 5.

[31] In theory its range is wider, from +1 to −1. Investments can be negatively correlated, which means that when one rises the other goes down. As a practical matter, negatively correlated investments are difficult to find.

therefore have high correlations. Combining a beverage company with a smaller technology company and a low-valuation automobile company would reduce the correlations. By reducing correlations, we lessen price fluctuations and overall risk in the portfolio.

Under Markowitz, forecasts of return, risk, and correlation[32] are combined to form what is called the mean-variance model. Its principles are key inputs into what is termed modern portfolio theory (MPT). The model computes the mix of portfolio assets that best meets the household's return-risk profile. The Markowitz model and its simplified offshoot, the capital asset pricing model (CAPM), are provided in Web Appendix A: Modern Investment Theory.

We can conclude by saying that the most important concern to the investor is the risk of the overall portfolio, not the risk of individual securities. The portfolio risk will reflect the separate risks of each of its holdings and the degree to which the securities are correlated.

Total Portfolio Management (TPM)

The Markowitz portfolio approach is, at heart, a theory of how overall capital markets work using individual securities. The capital asset pricing model has similar intentions. In contrast, total portfolio management (TPM), presented by the author of this book, is a model of the individual household. It proposes that a household make investment decisions based not only on marketable financial securities but on all assets that it possesses. Although we have referred to portfolio analysis as employing securities, its approach can embrace all assets. In fact, Markowitz has made reference to doing so.[33] The concepts we have explained thus far in the chapter apply to TPM as well.

Under TPM, all household assets interact and their correlations are taken into account. Investment decisions that are made incorporate individual asset returns, risks, and the degree to which they are correlated. The traditional view is to treat financial assets such as stocks and bonds separately from other household assets. While this solely financial asset approach can be considered too narrowly focused, it is established thinking, and we have followed it in this chapter. The other components of TPM—real assets, human and human-related assets, and liabilities—have or will be discussed in other chapters. We will deal with total portfolio management with its full integration of all assets in Chapter 18.

IMPLEMENT PORTFOLIO MANAGEMENT DECISIONS

We have now examined all the major factors that enter into the asset allocation process. The next part of operations, portfolio management actions, can be viewed as the decision-making-implementation arm of the asset allocation process. We will assume that goals and evaluation of personal characteristics, including such factors as time horizon and risk tolerance, have been established. The remaining steps are listed below and then described separately.

1. Establish an active or passive management style.
2. Construct a strategic asset allocation.

[32] Actually, correlation is part of portfolio risk and risk in this sentence refers to individual asset risk. It is segregated in this manner to differentiate it from the capital asset pricing model, which simplifies correlation to individual asset relative to the overall market, thereby bypassing individual-asset correlations with other portfolio assets.

[33] Markowitz called them exogenous assets. For further details, see Harry Markowitz and Peter Todd, *Mean-Variance Analysis in Portfolio Choice and Capital Markets* (New Hope, PA: Frank J. Fabozzi Associates, 2000).

Practical Comment Use of Modern Investment Approach

Risk-return analysis, MPT, CAPM, and the efficient market hypothesis are very controversial among academics and practitioners alike. Many claim that the theories don't work in day-to-day analysis and cite academic tests that bear this out.[34] On the other hand, some advisors employ MPT and CAPM procedures, more often as an input to decision making than as the sole decision tool. Even if it doesn't fully work,[35] it is hard to disagree with the thought that risk and return are related.

[34] See Eugene Fama and Kenneth French, "The CAPM Is Wanted, Dead or Alive," *Journal of Finance* 51, no. 5 (December 1996), pp. 1947–58.

[35] One reason could be the lack of inclusion of all household asset categories within TPM.

The majority of financial planners and other investment advisors engage in portfolio management and attempt to diversify portfolios. Most do not use Markowitz portfolio theory techniques that imply that you can find the single best portfolio for a household. Instead, planners often separate clients by risk tolerance—for example, into conservative, moderate, and aggressive categories—and often make even greater distinctions. Typically, they then provide mixes of stocks and bonds to implement portfolios. As you will see in the next section, specific asset allocations are usually based on that stock-bond mix.

3. Develop a tactical asset allocation.
4. Select individual assets.
5. Finalize and implement the portfolio.
6. Review and update the portfolio.

Establish an Active or Passive Management Style

At this point in the process, since passive management may provide fewer investment choices, it is important to decide whether the portfolio is to be actively or passively managed. Underlying the active approach is the belief that changes can add to portfolio performance. With passive management, no attempt is made to anticipate future events. Changes under passive management are made to maintain a constant asset allocation and risk profile, not to improve returns, and costs are kept very low. As mentioned, index-type assets such as index funds are often used in implementing a passive management approach.

Construct a Strategic Asset Allocation

Asset allocation is the percentage makeup of the portfolio by asset type. Strategic asset allocation is the normal portfolio makeup over the longer term. The strategic allocation process begins by establishing allowable asset categories. This might include small, mid, and large cap stocks; international equities; bonds; and so on, or their mutual fund counterparts. Other categories may be eliminated, such as tax-free municipal bonds if the household's marginal tax bracket is modest, or private partnerships if the amount of assets or tolerance for risk is low. The strategic asset allocation stresses diversification.

The strategic allocation should be strongly influenced by the household goals and risk profile. For example, if the goals can easily be achieved, a conservative asset allocation may be used even though the household can tolerate a more aggressive one. A shorter-term goal also will dictate a more conservative allocation. The overall risk tolerance, as discussed, can incorporate many factors. As a rule, the younger we are, the more aggressive the allocation. An example of strategic allocations by age and presumed tolerance for risk is given in Table 9.5.

Practical Comment Active versus Passive Investing

The relative performance of active and passive management can vary over an investment cycle. Therefore, the popularity of one over the other can change at any point in time. However, as mentioned, the disagreement concerning approach is unlikely to end soon. The proponents of an active approach point to past opportunities and investment managers who they believe have systematically outperformed the overall market. They say that passive management results in mediocre and even below-average performance after the deduction of expenses. The passive managers either think it is not possible to outperform after deductions of expenses or don't feel they can or want to expend the time to do so and don't want to delegate the job to active managers.

Develop a Tactical Asset Allocation

A tactical asset allocation modifies the breakdown of the portfolio to attempt to profit from current circumstances. When constructing a tactical asset allocation for the current economic environment, the outlook for asset categories and prevailing asset valuations will be included. Often, maximum allowable deviations of the tactical asset allocation from the strategic one will be set. As conditions change, allocations are altered. Where a passive approach is taken, a tactical asset allocation is not performed. Some people and advisors skip the tactical asset allocation as well, preferring a fixed strategic allocation at all times.

Select Individual Assets

Once the strategic and tactical asset allocations are established, individual assets[36] are selected for each category. Clearly, the goal is to select the assets that provide the highest returns for the overall risk taken.

Finalize and Implement the Portfolio

At this point, the entire portfolio is checked overall. The following questions may be asked: Is the portfolio consistent with the overall tolerance for risk? Can risk be reduced with little sacrifice in return? Simply put, am I properly diversified and will my portfolio produce

[36] As one entity, a mutual fund is also considered an individual asset.

TABLE 9.5
Strategic Asset Allocation

Asset Category	Young/ Fairly Aggressive	Middle-Aged/ Moderate Risk	Retired/ Lower Risk
Stocks			
Small cap	15%	10%	5%
Mid cap	10%	5%	2%
Large cap	25%	30%	20%
International	20%	15%	5%
REIT	5%	5%	3%
Total Stock	**75%**	**65%**	**35%**
Bonds			
Short-term	5%	5%	10%
Intermediate	5%	10%	25%
Long-term	0%	5%	10%
High-yield	10%	5%	5%
Total Bond	**20%**	**25%**	**50%**
Money market	**5%**	**10%**	**15%**
Total	**100%**	**100%**	**100%**

attractive returns? Further changes may be made to accomplish these objectives. When finished, the portfolio is implemented.

An example of the diversification process by financial asset category is given below.

Example 9.7

Steve, who is 45, has set up his own strategic asset allocation based on his tolerance for risk. He believes that inflation will be higher than what investors expect and observes that small cap funds have valuations well below their historical level relative to mid and large company stocks. He further believes that large cap stock valuations are high relative to historical levels. He does not think bond-fund managers can predict interest rates but believes they can take advantage of relative valuations among sectors of the bond market. He has two short-term bond funds he is looking at: one has had the highest absolute return, the other the highest risk-adjusted return. He also has two small cap funds that are almost identical in most respects. An exception is that one has a correlation with the S&P 500 of .90 and the other a .30 correlation.

Steve's strategic and tactical asset allocations are shown below along with an explanation of the difference.

Asset Category	Strategic Asset Allocation	Tactical Asset Allocation	Explanation
Stocks			
Small cap	10%	20%	Attractive relative valuation
Mid cap	5%	5%	
Large cap	20%	10%	Unattractive relative valuation
International	15%	15%	
REIT	5%	5%	
Total Stock	**55%**	**55%**	
Bonds			
Short-term	5%	10%	Not as affected by higher inflation
Intermediate	15%	5%	Higher-than-expected inflation is anticipated to result in weak performance
Long-term	5%	0%	Same as intermediate, only even weaker results
Inflation-indexed	0%	10%	Benefits from higher inflation
High-yield	10%	5%	Can be negatively affected by higher interest rates
Total Bond	**35%**	**30%**	
Money market	**10%**	**15%**	Will easily reflect expected increases in current interest rates
Total	**100%**	**100%**	

Even though it had a lower absolute return, Steve selected the short-term bond fund with the highest risk-adjusted performance knowing that there typically is no "free lunch" for returns as far as investment performance is concerned. He also selected the small cap fund with the lower correlation coefficient, which he figured would reduce his portfolio risk while adding to the asset category he preferred.

REVIEW AND UPDATE THE PORTFOLIO

As time moves on, the economic outlook and relative valuations change, as do household circumstances. Both passive and active investors must take into account current actual allocations relative to strategic ones and consider making changes. Active investors may want to purchase newly attractive securities and sell old ones that no longer fit performance requirements.

Practical Comment Understanding the Portfolio Concept

People often have difficulty fully understanding the overall portfolio concept.[37] They can appreciate the idea of diversifying to reduce risk. However, the idea of correlations affecting portfolio risk and purchase decisions that are significantly influenced by the goal of achieving lower correlations among holdings can be hard to convey. People often think one asset at a time. They ask, "Why shouldn't I select the best-performing assets I can?" They will point to an individual security that lags behind other portfolio holding performances in a strong economic and stock market environment and say, "Shouldn't I get rid of that dog?" The answer may be no because that asset will reduce overall portfolio fluctuations and could outperform in other economic and stock market environments.

It can help to introduce the idea of portfolio blending. Performance is expressed not in return alone but in risk-return terms. An investment is purchased not because of its appeal by itself but due to its effect on overall portfolio performance. A number of examples in daily life, while not exactly parallel, help explain this point.

Type	Explanation
Basketball	A team with four high-scoring, high-ego players may benefit from adding a player who cannot shoot a ball himself but knows how to pass well and can keep the others happy and productive.
Dressing style	Individual items of clothing may be attractive in themselves, but care must be taken that they don't clash when putting together a daily "dressing portfolio"—for example, wearing a plaid shirt, tie, and jacket all at one time.
Salad	Vinegar might be an unpleasant taste by itself but can produce a pleasing taste in a salad of fresh vegetables.

The financial point of placing less-correlated assets into a portfolio to reduce portfolio risk, even when understood by clients, is often forgotten and therefore should be revisited frequently.

[37] The work by Friend and Blume shows that individuals who are not well diversified would support this contention. See Marshall E. Blume and Irwin Friend, "The Asset Structure of Individual Portfolios and Some Implications for Utility Functions," *Journal of Finance* 30, no. 2 (May 1975), pp. 585–603.

A performance evaluation reviews past results. It should be done for an existing portfolio with the goal of answering the following questions: "How did I do?" "What were the reasons for the under- or overperformance?" "What can I do to improve future performance?" The evaluation also should be done when examining a potential future holding, as, for example, a mutual fund. The questions to be answered in both cases are somewhat similar: "How did the investment do?" "What were the reasons for the under- or overperformance?" "What does it suggest for future performance?" "How does or will that fund and its performance fit into my portfolio?"

Back to Dan and Laura

FINANCIAL INVESTMENTS

Dan and Laura came prepared for our discussion on financial investments. They had thought about the investments they were attracted to and mentioned to me that they believed that smaller companies were to their liking in general and that they considered them particularly attractive at that point in time. They also believed that biotechnology had

great potential, as did China, and wanted my opinion about investing in all these areas. They were concerned that inflation was going to increase over time.

Our discussion on tolerance for risk was a little more difficult. Dan was fairly conservative, saying they didn't have enough money and couldn't afford to lose it. He was concerned over the fluctuations in the current prices of stocks, preferring a mix of 40 percent stock, 60 percent bond. Laura, on the other hand, said that investing represented a terrific opportunity for those willing to take it. If they lost money, they had plenty of time to make it up. She wanted 80 percent in stocks and 20 percent in bonds. She said Dan was always concerned over the current price of a stock. He replied that she was always optimistic. After discussion among the three of us—I had the feeling that we all knew what the outcome would be at the beginning of the conversation—we decided on a 60 percent stock, 40 percent bond mix.

They had their own economic scenario with normal economic growth but believed that higher inflation than generally expected would arrive fairly soon. They knew that I was a financial planner who provided ongoing investment management services and asked for some information on how I would manage their money. However, they wanted to maintain control of their assets until the financial plan was completed before deciding on investment management services. In the meantime, they would implement the recommendations I gave to them.

We are up to the investments portion of the financial plan. I am going to incorporate in it most of the basics of an investment policy statement for both of you as part of the presentation. The investment policy statement serves as a guide for the management of your portfolio. This statement, which I will present informally, includes many of the steps in my asset allocation process for you. It ensures that we are "on the same page" as to your personal requirements and our investment approach for you going forward.

Before we do that, however, I want to review some overall capital market variables. The first is that the outlook for stocks and bonds is strongly influenced by risk and return. In general, the higher the risk, the higher the return. For some, it indicates that most securities at any point in time are efficient; their current prices fairly reflect the outlook. For example, if it looks to you as though a bond had a very attractive yield and therefore high cash return, chances are it is because it has a higher risk attached to it.

On the other hand, other people believe in mean reversion. Those people, many of whom have a value-oriented style of investing, buy out-of-favor stocks that are "bargains." They have the conviction that a disciplined person can take advantage of the temporary mispricing of securities. Mean reversion implies that stocks that are temporarily selling for a lower price than they should will return to their fair value over time.

There are, of course, other styles of investing that attempt to take advantage of what are thought to be opportunities in individual securities or even the overall market at certain points in time. One, purchasing the fastest-growing companies available, is called the growth style of investing.

There is a significant difference between efficient markets and mean reversion and between value and growth investing. Efficient market people believe you cannot consistently outperform the market; they prefer a passive approach to investing. They emphasize keeping expenses low and concentrating on proper diversification to reduce risk. Efficient market people generally use index funds to implement. People who employ mean reversion, one form of value investing, generally believe that strong research and control over emotional reactions can lead to better-than-average returns.

This brings us to your asset allocation and my investment policy statement for you. You have several goals that we deal with in other parts of the plan, but you're overriding one for our purposes today is your desire to retire in 20 years. Thus, your time frame is longer term. Liquidity is not as large an issue for you, as we have stated, but not for the retirement monies already accumulated and to be invested in the future. We will be setting aside an

emergency fund over time. In the interim, as you have indicated to me earlier, you can borrow from Laura's parents for any emergency.

You seek above-average returns and your risk tolerance, while somewhat different for each of you, is nonetheless consistent with that objective. In other words, your risk-return objectives are in line.

We will be thinking of tax consequences as part of our investment policy. For example, given their higher after-tax returns, tax-free municipal bonds of your state are likely to be used.

Some people have restrictions on types of stocks, such as not allowing tobacco stocks, but you have not indicated any such requirement.

For the time being, we will limit purchases to mutual funds. Mutual funds, in my opinion, provide the best balance of capable management and relatively low cost. They allow anyone to diversify widely to reduce risk and to take advantage of fund manager expertise in specific sectors of the bond and stock markets.

We will employ an active approach to portfolio management. By portfolio management, we mean looking at your financial assets overall, making sure that they fit your return and risk requirements as represented by your asset allocation. Our approach of diversifying widely can handle the sometimes overlooked part of supervision—correlation.

Correlation indicates the relationship between assets, the degree to which they react similarly to the same variables. All other things being equal, the lower the correlation, the lower the portfolio risks. For example, investments in Japanese stocks are going to be less correlated with U.S. ones than one large-sized economically sensitive U.S. industry is with another—say, retail stores and appliance stocks.

I employ a diversified style of investing, but with a value tilt. I base the portfolio on a longer-term investment horizon. An asset allocation provides the average weighting of securities by category in the portfolio over time. The average percentage weightings over the longer term are called a strategic asset allocation. I do not try to time the market. I do attempt to take advantage of disparities in valuations at the present time.

In other words, I try to moderately overweight those areas that appear to be attractive at the present time. For example, I overweighted international stocks because they seem to be fairly priced and provide attractive returns. On the other hand, I underweighted REITs, which, in my opinion, are overvalued at the moment. Unlike timing the market, which implies turnover for short-term profit, this approach expects that over the intermediate or longer term, our overemphasis of certain areas will lead to higher returns. I call the portfolio breakdown established our tactical asset allocation.

Based on those principles and an overall economic scenario, I have constructed your strategic and tactical asset allocations. They are shown in the accompanying table. Notice the wide diversity of asset classes in both stocks and bonds. In bonds they range in risk from short-term bonds, being the safest, to high-yield bonds, the most risky.

Similarly, for stocks they extend from larger capitalization companies, which have the least risk and lowest return, to small capitalization companies, with the greatest risk and highest potential return. Notice also that I have included an allocation in international securities. Part of that allocation includes an investment in a China fund; I believe the securities in this fund to be reasonably priced currently relative to prospects. International securities have the potential to lower your portfolio's overall volatility, even if they themselves are more volatile.

Based on our discussions, I have provided a breakdown of a diversified portfolio of 60 percent stocks, 40 percent bonds and money market funds. It stands in contrast to your current portfolio, which has 75 percent concentrated in large cap stocks and the rest in cash. The long-term bond area has not been given an allocation since, historically, intermediate-term bonds over longer periods have provided about the same returns but with lower risk.

In view of your concern about inflation, I have placed more money in the short-term area and underweighted intermediate-term bonds in the tactical allocation. This allocation

is more oriented to the current outlook. Shorter-term bonds will be affected less than intermediate ones in any rise in inflation.

My recommendations will come in the form of mutual funds. I believe that funds offer an attractive alternative of expert management and ability to diversify widely.

In sum, I have provided a diversified portfolio of investment that should assist you in achieving sufficient funds to meet your life cycle needs.

Asset Category	Current Allocation	Strategic Allocation	Tactical Allocation	Standard Deviation 10-Year[1]
Stocks				
Small cap	–	10%	14%	21.0
Mid cap	–	8%	10%	20.7
Large cap	75%	20%	18%	17.8
International	–	17%	20%	17.8
REIT	–	5%	3%	14.1
Total Stock	**75%**	**60%**	**65%**	**18.4**
Bonds				
Short-term	–	10%	15%	2.1
Intermediate	–	15%	8%	4.1
Long-term	–	5%	0%	5.7
High-yield	–	5%	7%	7.9
Total Bond	**0%**	**35%**	**30%**	**4.6**
Money market	**25%**	**5%**	**5%**	**0.4**
Total	**100%**	**100%**	**100%**	**12.7**

[1] 10-year data from Morningstar® Principia® for the period February 28, 1993, through February 28, 2003.

Summary

Financial investments are generally the instruments for building assets for your future use. Without them, you would have difficulty funding those things you care about.

- Financial assets consist primarily of stocks, bonds, and mutual funds.
- Having an appropriate asset allocation is the goal of most investors.
- Important personal factors in asset allocations include time horizon, liquidity needs, available current resources, projected future resources, taxes, restrictions, and risk tolerance.
- Risk and return are basic finance concepts. In theory, the two factors move in proportion.
- A security's expected rate of return includes the risk-free rate plus a risk premium.
- The efficient market hypothesis indicates that efforts to systematically outperform the market will be unsuccessful.
- Mean reversion indicates that there may be patterns in stocks that can lead to outperformance.
- Portfolio management looks at all financial investments overall in making decisions, and the Markowitz approach includes correlations among them.
- Total portfolio management incorporates all assets and liabilities and includes correlations in its risk-return framework.
- A strategic asset allocation looks at investment policy over the long term, while a tactical one makes cyclical changes based on opportunities at the time.