CHAPTER 2
The Asset Allocation Decision*

After you read this chapter, you should be able to answer the following questions:

- What is involved in the asset allocation process?
- What are the four steps in the portfolio management process?
- What is the role of asset allocation in investment planning?
- Why is a policy statement important to the planning process?
- What objectives and constraints should be detailed in a policy statement?
- How and why do investment goals change over a person's lifetime?
- Why do asset allocation strategies differ across national boundaries?

The previous chapter informed us that *risk drives return*. Therefore, the practice of investing funds and managing portfolios should focus primarily on managing risk rather than on managing returns.

This chapter examines some of the practical implications of risk management in the context of asset allocation. **Asset allocation** is the process of deciding how to distribute an investor's wealth among different countries and asset classes for investment purposes. An **asset class** is comprised of securities that have similar characteristics, attributes, and risk/return relationships. A broad asset class, such as "bonds," can be divided into smaller asset classes, such as Treasury bonds, corporate bonds, and high-yield bonds. We will see that, in the long run, the highest compounded returns will most likely accrue to those investors with larger exposures to risky assets. We will also see that although there are no shortcuts or guarantees to investment success, maintaining a reasonable and disciplined approach to investing will increase the likelihood of investment success over time.

资产配置是将投资者财富分配在不同国家和资产类别上，以实现投资目的的决策过程。

The asset allocation decision is not an isolated choice; rather, it is a component of a structured four-step portfolio management process that we present in this chapter. As we will see, the first step in the process is to develop an investment policy statement, or plan, that will guide all future decisions. Much of an asset allocation strategy depends on the investor's policy statement, which includes the investor's goals or objectives, constraints, and investment guidelines.

What we mean by an "investor" can range from an individual account to trustees overseeing a corporation's multibillion-dollar pension fund, a university endowment, or an insurance company portfolio. Regardless of who the investor is or how simple or complex the investment needs, he or she should develop a policy statement before

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making long-term investment decisions. Although most of our examples will be in the context of an individual investor, the concepts we introduce here—investment objectives, constraints, benchmarks, and so on—apply to any investor, individual or institution. We'll review historical data to show the importance of the asset allocation decision and discuss the need for investor education, an important issue for companies who offer retirement or savings plans to their employees. The chapter concludes by examining asset allocation strategies across national borders to show the effect of regulations, market environment, and culture on investing patterns; what is appropriate for a U.S.-based investor is not necessarily appropriate for a non-U.S.-based investor.

2.1 Individual Investor Life Cycle

Financial plans and investment needs are as different as each individual. Investment needs change over a person's life cycle. How individuals structure their financial plan should be related to their age, financial status, future plans, risk aversion characteristics, and needs.

2.1.1 The Preliminaries

Before embarking on an investment program, we need to make sure other needs are satisfied. No serious investment plan should be started until a potential investor has adequate income to cover living expenses and has a safety net should the unexpected occur.

Insurance Life insurance should be a component of any financial plan. Life insurance protects loved ones against financial hardship should death occur before our financial goals are met. The death benefit paid by the insurance company can help pay medical bills and funeral expenses and provide cash that family members can use to maintain their lifestyle, retire debt, or invest for future needs (for example, children's education, spouse retirement). Therefore, one of the first steps in developing a financial plan is to purchase adequate life insurance coverage.

Insurance can also serve more immediate purposes, including being a means to meet long-term goals, such as retirement planning. On reaching retirement age, you can receive the cash or surrender value of your life insurance policy and use the proceeds to supplement your retirement lifestyle or for estate planning purposes.

Insurance coverage also provides protection against other uncertainties. *Health* insurance helps to pay medical bills. *Disability* insurance provides continuing income should you become unable to work. *Automobile and home* (or rental) insurance provides protection against accidents and damage to cars or residences.

Although nobody ever expects to use his or her insurance coverage, a first step in a sound financial plan is to have adequate coverage "just in case." Lack of insurance coverage can ruin the best-planned investment program.

Cash Reserve Emergencies, job layoffs, and unforeseen expenses happen, and good investment opportunities emerge. It is important to have a cash reserve to help meet these occasions. In addition to providing a safety cushion, a cash reserve reduces the likelihood of being forced to sell investments at inopportune times to cover unexpected expenses. Most experts recommend a cash reserve equal to about six months' living expenses. Calling it a "cash" reserve does not mean the funds should be in cash; rather, the funds should be in investments you can easily convert to cash with little chance of a loss in value. Money market or short-term bond mutual funds and bank accounts are appropriate vehicles for the cash reserve.

Similar to the financial plan, an investor's insurance and cash reserve needs will change over his or her life. The need for disability insurance declines when a person retires. In contrast, other insurance, such as supplemental Medicare coverage or long-term-care insurance, may become more important.

2.1.2 Investment Strategies over an Investor's Lifetime

Assuming the basic insurance and cash reserve needs are met, individuals can start a serious investment program with their savings. Because of changes in their net worth and risk tolerance, individuals' investment strategies will change over their lifetime. In the following sections, we review various phases in the investment life cycle. Although each individual's needs and preferences are different, some general traits affect most investors over the life cycle.

The four life-cycle phases are shown in Exhibit 2.1 (the third and fourth phases—spending and gifting—are shown as concurrent) and described here.

积累阶段是指个人从开始工作到其职业生涯中期的一段时间。顾名思义，这一阶段人们试图通过积累资产来满足相对中期目标需要（如房屋首付款）或者实现长期目标（如子女高等教育金、退休养老）。

Accumulation Phase Individuals in the early-to-middle years of their working careers are in the **accumulation phase**. As the name implies, these individuals are attempting to accumulate assets to satisfy fairly immediate needs (for example, a down payment for a house) or longer-term goals (children's college education, retirement). Typically, their net worth is small, and debt from car loans or their own past college loans may be heavy. As a result of their typically long investment time horizon and their future earning ability, individuals in the accumulation phase are willing to make relatively high-risk investments in the hopes of making above-average nominal returns over time.

Here we emphasize the wisdom of investing early and regularly in one's life. Funds invested in early life cycle phases, with returns compounding over time, will reap significant financial benefits during later phases. Exhibit 2.2 shows growth from an initial $10,000 investment over 20, 30, and 40 years at assumed annual returns of 7 and 8 percent. The middle-aged person who invests $10,000 "when he or she can afford it" will only reap the benefits of compounding for 20 years or so before retirement. In contrast, a person who begins saving at a younger age will reap the much higher benefits of funds invested for 30 or 40 years. Regularly investing as little as $2,000 a year reaps large benefits over time, as well. As shown in Exhibit 2.2, a person who has invested a total of $90,000—an initial $10,000 investment followed by $2,000 annual investments over 40 years—will have over half a million dollars accumulated assuming the 7 percent return. If the funds are invested more aggressively and earn the 8 percent return, the accumulation will be nearly three-quarters of a million dollars.

Exhibit 2.1 Rise and Fall of Personal Net Worth over a Lifetime

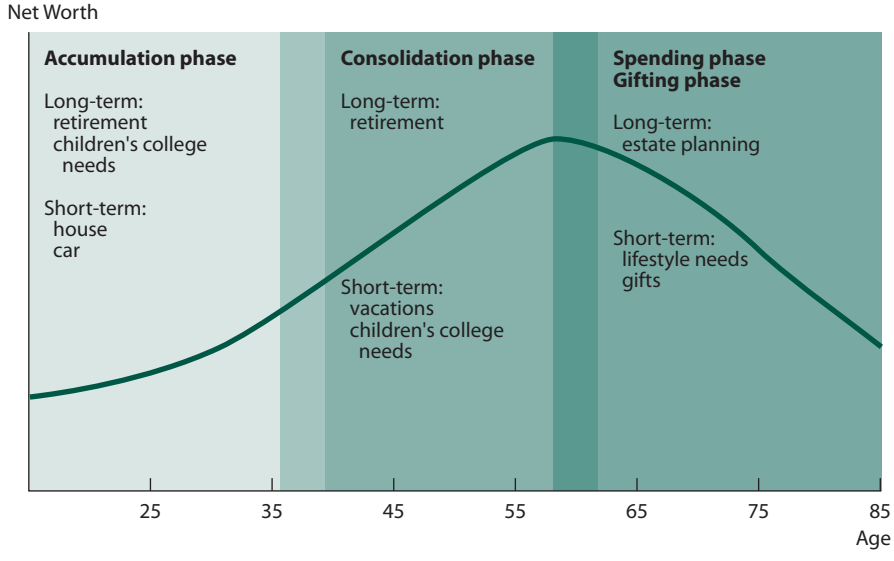


Exhibit 2.2 Benefits of Investing Early

		The Future Value of an Initial $10,000 Investment	The Future Value of Investing $2,000 Annually	The Future Value of the Initial Investment Plus the Annual Investment
Interest rate	7.0%			
20 years		$38,696.84	$81,990.98	$120,687.83
30 years		$76,122.55	$188,921.57	$265,044.12
40 years		$149,744.58	$399,270.22	$549,014.80
Interest rate	8.0%			
20 years		$46,609.57	$91,523.93	$138,133.50
30 years		$100,626.57	$226,566.42	$327,192.99
40 years		$217,245.21	$518,113.04	$735,358.25

Source: Calculations by authors.

典型的**巩固阶段**是指个人职业生涯中期以后的时间段。在这个阶段，已经偿还了大部分或者全部的债务，并且可能已经支付或有足够的资产支付子女的大学费用。因此，这个阶段的收入将超过支出。

Consolidation Phase Individuals in the **consolidation phase** are typically past the midpoint of their careers, have paid off much or all of their outstanding debts, and perhaps have paid, or have the assets to pay, their children's college bills. Earnings exceed expenses, so the excess can be invested to provide for future retirement or estate planning needs. The typical investment horizon for this phase is still long (20 to 30 years), so moderately high risk investments are attractive. At the same time, because individuals in this phase are concerned about capital preservation, they do not want to take abnormally high risks that may put their current nest egg in jeopardy.

支出阶段通常从退休开始算起。这一阶段的生活支出由社会保障收入和前期投资收益（包括企业年金计划）负担。

Spending Phase The **spending phase** typically begins when individuals retire. Living expenses are covered by social security income and income from prior investments, including employer pension plans. Because their earning years have concluded (although some retirees take part-time positions or do consulting work), they are very conscious of protecting their capital. At the same time, they must balance their desire to preserve the nominal value of their savings with the need to protect themselves against a decline in the *real* value of their savings due to inflation. The average 65-year-old person in the United States has a life expectancy of about 20 years. Thus, although their overall portfolio may be less risky than in the consolidation phase, they still need some risky growth investments, such as common stocks, for inflation (purchasing power) protection.

The transition into the spending phase requires a sometimes difficult change in mindset; throughout our working life we are trying to save; suddenly we can spend. We tend to think that if we spend less, say 4 percent of our accumulated funds annually instead of 5, 6, or 7 percent, our wealth will last far longer. Although this is correct, a bear market early in our retirement can greatly reduce our accumulated funds. Fortunately, there are planning tools that can give a realistic view of what can happen to our retirement funds should markets fall early in our retirement years; this insight can assist in budgeting and planning to minimize the chance of spending (or losing) all the saved retirement funds. Annuities, which transfer risk from the individual to the annuity firm (most likely an insurance company), are another possibility. With an annuity, the recipient receives a guaranteed, lifelong stream of income. Options can allow for the annuity to continue until both a husband and wife die.

捐赠阶段类似于支出阶段，或者二者在时间上有交叉。在捐赠阶段，人们可能相信自己有充足的收入和资产来满足当期和未来的支出需要，同时应对突发事件。

Gifting Phase The **gifting phase** is similar to, and may be concurrent with, the spending phase. In this stage, individuals may believe they have sufficient income and assets to cover their current and future expenses while maintaining a reserve for uncertainties. In such a case, excess assets can be used to provide financial assistance to relatives or friends, to establish charitable trusts, or to fund trusts as an estate planning tool to minimize estate taxes.

2.1.3 Life Cycle Investment Goals

短期的高优先目标是相对短期的财务目标，通常是为了满足个人认为很重要的购买需要，例如积攒房屋首付资金，购买新车或旅行。

During an individual's investment life cycle, he or she will have a variety of financial goals. **Near-term, high-priority goals** are shorter-term financial objectives that individuals set to fund purchases that are personally important to them, such as accumulating funds to make a house down payment, buy a new car, or take a trip. Parents with teenage children may have a near-term, high-priority goal to accumulate funds to help pay college expenses. Because of the emotional importance of these goals and their short time horizon, high-risk investments are not usually considered suitable for achieving them.

长期的高优先目标通常包含某种形式的财务独立，比如在某个特定年龄退休的能力。

Long-term, high-priority goals typically include some form of financial independence, such as the ability to retire at a certain age. Because of their long-term nature, higher-risk investments can be used to help meet these objectives.

Lower-priority goals are just that—it might be nice to meet these objectives, but it is not critical. Examples include the ability to purchase a new car every few years, redecorate the home with expensive furnishings, or take a long, luxurious vacation. A well-developed policy statement considers these diverse goals over an investor's lifetime. The following sections detail the process for constructing an investment policy, creating a portfolio that is consistent with the policy and the environment, managing the portfolio, and monitoring its performance relative to its goals and objectives over time.

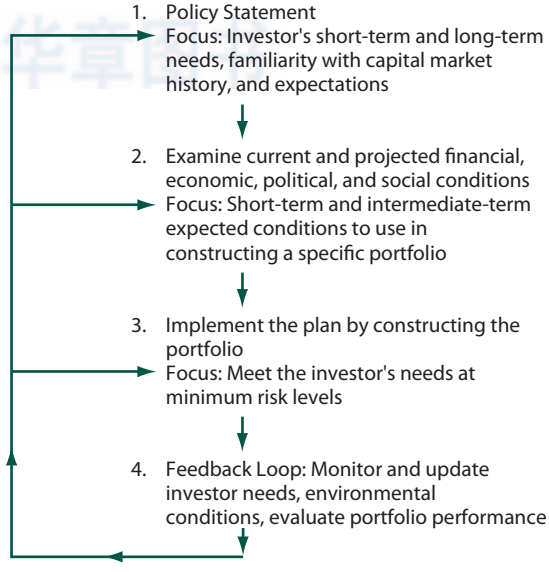
2.2 The Portfolio Management Process*

The process of managing an investment portfolio never stops. Once the funds are initially invested according to the plan, the real work begins in evaluating the portfolio's performance and updating the portfolio based on changes in the economic environment and the investor's needs.

如图2.3所示，投资组合管理过程的第一步是为投资者构建一份投资策略报告。

The first step in the portfolio management process, as seen in Exhibit 2.3, is for the investor, either alone or with the assistance of an investment advisor, to construct a

Exhibit 2.3 The Portfolio Management Process



*This section and the one that follows benefited from insights contained in Maginn, Tuttle, Pinto, and McLeavey (2007), especially Chapters 1 and 2.

policy statement. The policy statement is a road map; in it, investors specify the types of risks they are willing to take and their investment goals and constraints. All investment decisions are based on the policy statement to ensure that these decisions are appropriate for the investor. We examine the process of constructing a policy statement in the following section. Because investor needs, goals, and constraints change over time, the policy statement must be periodically reviewed and updated.

投资组合管理的第二步是，投资组合管理人对当前的经济金融形势及其未来发展趋势进行研究和预测。投资策略报告所反映的投资者需求和金融市场预期将共同决定**投资策略**。

The process of investing involves assessing the future and deriving strategies that offer the best possibility of meeting the policy statement guidelines. In the second step of the portfolio management process, the portfolio manager studies current financial and economic conditions and forecasts future trends. The investor's needs, as reflected in the policy statement, and financial market expectations will jointly determine **investment strategy**. Economies are dynamic; they are affected by numerous industry struggles, politics, and changing demographics and social attitudes. Thus, the portfolio will require *constant* monitoring and updating to reflect changes in financial market expectations. We examine the process of evaluating and forecasting economic trends in Chapter 12.

投资组合管理的第三步是**构建投资组合**。

The third step of the portfolio management process is to **construct the portfolio**. With the investor's policy statement and financial market forecasts as input, the advisors implement the investment strategy and determine how to allocate available funds across different countries, asset classes, and securities. This involves constructing a portfolio that will minimize the investor's risks while meeting the needs specified in the policy statement. Financial theory frequently assists portfolio construction, which is discussed in Part 2 of this book. Some of the practical aspects of selecting investments for inclusion in a portfolio are discussed in Part 4 and Part 5.

投资组合管理的第四步是**连检监测**投资者的需求和资本市场情况，并在必要时更新投资策略报告。

The fourth step in the portfolio management process is the **continual monitoring** of the investor's needs and capital market conditions and, when necessary, updating the policy statement. Based upon all of this, the investment strategy is modified accordingly. An important component of the monitoring process is to evaluate a portfolio's performance and compare the relative results to the expectations and the requirements listed in the policy statement. The evaluation of portfolio performance is discussed in Chapter 25. Once you have completed the four steps, it is important to recognize that this is a *continuous* process—it is essential to revisit all the steps to ensure that the policy statement is still valid, that the economic outlook has not changed, and so forth.

2.3 The Need for a Policy Statement

As noted in the previous section, a policy statement is a road map that guides the investment process. Constructing a policy statement is an invaluable planning tool that will help the investor understand his or her needs better as well as assist an advisor or portfolio manager in managing a client's funds. While it does not guarantee investment success, a policy statement will provide discipline for the investment process and reduce the possibility of making hasty, inappropriate decisions. There are two important reasons for constructing a policy statement: First, it helps the investor decide on realistic investment goals after learning about the financial markets and the risks of investing; second, it creates a standard by which to judge the performance of the portfolio manager.

2.3.1 Understand and Articulate Realistic Investor Goals

When asked about their investment goal, people often say, "to make a lot of money," or some similar response. Such a goal has two drawbacks: First, it may not be appropriate for the investor, and second, it is too open-ended to provide guidance for specific investments and time

frames. Such an objective is well suited for someone going to the racetrack or buying lottery tickets, but it is inappropriate for someone investing funds in financial and real assets for the long term.

编写投资策略报告的一个重要目的是帮助投资者了解自己的需求、目标及投资限制因素。

An important purpose of writing a policy statement is to help investors understand their own needs, objectives, and investment constraints. As part of this, investors need to learn about financial markets and the risks of investing. This background will help prevent them from making inappropriate investment decisions in the future based on unrealistic expectations and increase the possibility that they will satisfy their specific, measurable financial goals.

Thus, the policy statement helps the investor to specify realistic goals and become more informed about the risks and costs of investing. Market values of assets, whether they be stocks, bonds, or real estate, can fluctuate dramatically. For example, during the October 1987 crash, the Dow Jones Industrial Average (DJIA) fell more than 20 percent in one day; in October 1997, the Dow fell "only" 7 percent. A review of market history shows that it is not unusual for asset prices to decline by 10 percent to 20 percent over several months—for example, the months following the market peak in March 2000, and the major decline when the market reopened after September 11, 2001. The most recent "bloodbath" was the market decline of over 30 percent during 2008—and this decline was global. The problem is, investors typically focus on a single statistic, such as an 11 percent average annual rate of return on stocks, and expect the market to rise 11 percent every year. Such thinking ignores the risk of stock investing. Part of the process of developing a policy statement is for the investor to become familiar with the risks of investing, because we know that a strong positive relationship exists between risk and return.

制定投资策略报告的过程能帮助投资者熟悉投资风险，因为风险和回报之间存在着很强的正相关关系。

One expert in the field recommends that investors should think about the following set of questions and explain their answers as part of the process of constructing a policy statement:

1. What are the real risks of an adverse financial outcome, especially in the short run?
2. What probable emotional reactions will I have to an adverse financial outcome?
3. How knowledgeable am I about investments and financial markets?
4. What other capital or income sources do I have? How important is this particular portfolio to my overall financial position?
5. What, if any, legal restrictions may affect my investment needs?
6. How would any unanticipated fluctuations in my portfolio value affect my investment policy?

Adapted from Charles D. Ellis, *Investment Policy: How to Win the Loser's Game* (Homewood, IL: Dow Jones-Irwin, 1985), 25–26. Reproduced with permission of the McGraw-Hill Companies.

In summary, constructing a policy statement is mainly the investor's responsibility. It is a process whereby investors articulate their realistic needs and goals and become familiar with financial markets and investing risks. Without this information, investors cannot adequately communicate their needs to the portfolio manager. Without this input from investors, the portfolio manager cannot construct a portfolio that will satisfy clients' needs. The result of bypassing this step will most likely be future aggravation, dissatisfaction, and disappointment.

2.3.2 Standards for Evaluating Portfolio Performance

The policy statement also assists in judging the performance of the portfolio manager. Performance cannot be judged without an objective standard; the policy statement provides that objective standard. The portfolio's performance should be compared to guidelines specified in the policy statement, not on the portfolio's overall return. For example, if an investor has a low

tolerance for risky investments, the portfolio manager should not be fired simply because the portfolio does not perform as well as the risky S&P 500 stock index. The point is, because risk drives returns, the investor's lower-risk investments, as specified in the investor's policy statement, will probably earn lower returns than if all the investor's funds were placed in the aggregate stock market.

The policy statement will typically include a **benchmark portfolio**, or comparison standard. The risk of the benchmark, and the assets included in the benchmark, should agree with the client's risk preferences and investment needs. Notably, both the client and the portfolio manager must agree that the benchmark portfolio reflects the risk preferences and appropriate return requirements of the client. In turn, the investment performance of the portfolio manager should be compared to this benchmark portfolio. For example, an investor who specifies low-risk investments in the policy statement should compare the portfolio manager's performance against a low-risk benchmark portfolio. Likewise, an investor seeking high-risk, high-return investments should compare the portfolio's performance against a high-risk benchmark portfolio.

值得注意的是，客户和投资组合管理人必须达成共识，基准资产组合能够反映客户的风险偏好和合理回报率要求。这样，投资组合管理人的投资业绩应当与该基准资产组合进行比较。

Because it sets an objective performance standard, the policy statement acts as a starting point for periodic portfolio review and client communication with managers. Questions concerning portfolio performance should be addressed in the context of the written policy guidelines. Managers should mainly be judged by whether *they consistently followed the client's policy guidelines*. The portfolio manager who makes unilateral deviations from policy is not working in the best interests of the client. Therefore, even significant deviations that result in higher portfolio returns can and should be grounds for the manager's dismissal.

Thus, we see the importance of constructing the policy statement: The client must first understand his or her own needs before communicating them to the portfolio manager who in turn, must implement the client's desires by following the investment guidelines. As long as policy is followed, shortfalls in performance should not be a major concern. Remember that the policy statement is designed to impose an investment discipline on the client and on the portfolio manager. The less knowledgeable they are, the more likely clients are to inappropriately judge the performance of the portfolio manager.

2.3.3 Other Benefits

A sound policy statement helps to protect the client against a portfolio manager's inappropriate investments or unethical behavior. Without clear, written guidance, some managers may consider investing in high-risk investments, hoping to earn a quick return. Such actions are probably counter to the investor's specified needs and risk preferences. Though legal recourse is a possibility against such action, writing a clear and unambiguous policy statement should reduce the possibility of such inappropriate manager behavior.

Just because a specific manager currently manages your account does not mean that person will always manage your funds. Because your portfolio manager may be promoted' dismissed or take a better job' your funds may come under the management of an individual you do not know and who does not know you. To prevent costly delays during this transition, you can ensure that the new manager "hits the ground running" with a clearly written policy statement. A policy statement should prevent delays in monitoring and rebalancing your portfolio and contribute to a seamless transition from one money manager to another.

To sum up, a clearly written policy statement helps avoid potential problems. When the client clearly specifies his or her needs and desires, the portfolio manager can more effectively construct an appropriate portfolio. The policy statement provides an objective measure for evaluating portfolio performance, helps guard against ethical lapses by the portfolio manager, and aids in the transition between money managers. Therefore, the first step before beginning any investment program is to construct a policy statement.

An appropriate policy statement should satisfactorily answer the following questions:

1. Is the policy carefully designed to meet the specific needs and objectives of this particular investor? (Cookie-cutter or one-size-fits-all policy statements are generally inappropriate.)
2. Is the policy written so clearly and explicitly that a competent stranger could use it to manage the portfolio in conformance with the client's needs? In case of a manager transition, could the new manager use this policy statement to handle your portfolio in accordance with your needs?
3. Would the client have been able to remain committed to the policies during the capital market experiences of the past 60 to 70 years? That is, does the client fully understand investment risks and the need for a disciplined approach to the investment process?
4. Would the portfolio manager have been able to maintain the policies specified over the same period? (Discipline is a two-way street; we do not want the portfolio manager to change strategies because of a disappointing market.)
5. Would the policy, if implemented, have achieved the client's objectives? (Bottom line: Would the policy have worked to meet the client's needs?)

Adapted from Charles D. Ellis, *Investment Policy: How to Win the Loser's Game* (Homewood, IL: Dow Jones-Irwin, 1985), 62. Reproduced with permission of the McGraw-Hill Companies.

2.4 Input to the Policy Statement

Before an investor and advisor can construct a policy statement, they need to have an open and frank exchange of information, ideas, fears, and goals. Specifically, the client and advisor need to discuss the client's investment objectives and constraints. To illustrate this framework, we discuss the investment objectives and constraints that may confront "typical" 25-year-old and 65-year-old investors.

2.4.1 Investment Objectives

The investor's **objectives** are his or her investment goals expressed in terms of both risk and returns. The relationship between risk and returns requires that goals not be expressed only in terms of returns. Expressing goals only in terms of returns can lead to inappropriate investment practices by the portfolio manager, such as the use of high-risk investment strategies or account "churning," which involves moving quickly in and out of investments in an attempt to buy low and sell high.

For example, a person may have a stated return goal such as "double my investment in five years." Before such a statement becomes part of the policy statement, the client must become fully informed of investment risks associated with such a goal, including the possibility of loss. *A careful analysis of the client's risk tolerance should precede any discussion of return objectives.* It makes little sense for a person who is risk averse to have his/her funds invested in high-risk assets. Investment firms survey clients to gauge their risk tolerance. Sometimes investment magazines or books contain tests that individuals can take to help them evaluate their risk tolerance (see Exhibit 2.4). Subsequently, an advisor will use the results of this evaluation to categorize a client's risk tolerance and suggest an initial asset allocation such as those contained in Exhibit 2.5.

风险承受度不仅与个人心理承受力有关，还受到个人当前所投保险总额和现金余额等其他因素影响。

Risk tolerance is more than a function of an individual's psychological makeup; it is affected by other factors, including a person's current insurance coverage and cash reserves. Risk tolerance is also affected by an individual's family situation (for example, marital status and the number and ages of children) and by his or her age. We know that older persons generally have shorter investment time frames within which to make up any losses; they also have years of experience, including living through various market gyrations and "corrections"

Exhibit 2.4 How Much Risk Is Right for You?

You've heard the expression "no pain, no gain"? In the investment world, the comparable phrase would be "no risk, no reward."

How you feel about risking your money will drive many of your investment decisions. The risk-comfort scale extends from very conservative (you don't want to risk losing a penny regardless of how little your money earns) to very aggressive (you're willing to risk much of your money for the possibility that it will grow tremendously). As you might guess, most investors' tolerance for risk falls somewhere in between.

If you're unsure of what your level of risk tolerance is, this quiz should help.

1. You win $300 in an office football pool. You: (a) spend it on groceries, (b) purchase lottery tickets, (c) put it in a money market account, (d) buy some stock.
2. Two weeks after buying 100 shares of a $20 stock, the price jumps to over $30. You decide to: (a) buy more stock; it's obviously a winner, (b) sell it and take your profits, (c) sell half to recoup some costs and hold the rest, (d) sit tight and wait for it to advance even more.
3. On days when the stock market jumps way up, you: (a) wish you had invested more, (b) call your financial advisor and ask for recommendations, (c) feel glad you're not in the market because it fluctuates too much, (d) pay little attention.
4. You're planning a vacation trip and can either lock in a fixed room-and-meals rate of $150 per day or book standby and pay anywhere from $100 to $300 per day. You: (a) take the fixed-rate deal, (b) talk to people who have been there about the availability of last-minute accommodations, (c) book standby and also arrange vacation insurance because you're leery of the tour operator, (d) take your chances with standby.
5. The owner of your apartment building is converting the units to condominiums. You can buy your unit for $75,000 or an option on a unit for $15,000. (Units have recently sold for close to $100,000, and prices seem to be going up.) For financing, you'll have to borrow the down payment and pay mortgage and condo fees higher than your present rent. You: (a) buy your unit, (b) buy your unit and look for another to buy, (c) sell the option and arrange to rent the unit yourself, (d) sell the option and move out because you think the conversion will attract couples with small children.
6. You have been working three years for a rapidly growing company. As an executive, you are offered the option of buying up to 2% of company stock: 2,000 shares at $10 a share. Although the company is privately owned (its stock does not trade on the open market), its majority owner has made handsome profits selling three other businesses and intends to sell this one eventually. You: (a) purchase all the shares you can and tell the owner you would invest more if allowed, (b) purchase all the shares, (c) purchase half the shares, (d) purchase a small amount of shares.
7. You go to a casino for the first time. You choose to play: (a) quarter slot machines, (b) $5 minimum-bet roulette, (c) dollar slot machines, (d) $25 minimum-bet blackjack.
8. You want to take someone out for a special dinner in a city that's new to you. How do you pick a place? (a) read restaurant reviews in the local newspaper, (b) ask coworkers if they know of a suitable place, (c) call the only other person you know in this city, who eats out a lot but only recently moved there, (d) visit the city sometime before your dinner to check out the restaurants yourself.
9. The expression that best describes your lifestyle is: (a) no guts, no glory, (b) just do it! (c) look before you leap, (d) all good things come to those who wait.
10. Your attitude toward money is best described as: (a) a dollar saved is a dollar earned, (b) you've got to spend money to make money, (c) cash and carry only, (d) whenever possible, use other people's money.

SCORING SYSTEM: Score your answers this way: (1) a-1, b-4, c-2, d-3 (2) a-4, b-1, c-3, d-2 (3) a-3, b-4, c-2, d-1 (4) a-2, b-3, c-1, d-4 (5) a-3, b-4, c-2, d-1 (6) a-4, b-3, c-2, d-1 (7) a-1, b-3, c-2, d-4 (8) a-2, b-3, c-4, d-1 (9) a-4, b-3, c-2, d-1 (10) a-2, b-3, c-1, d-4.

What your total score indicates:

- 10–17: You're not willing to take chances with your money, even though it means you can't make big gains.
- 18–25: You're semi-conservative, willing to take a small chance with enough information.
- 26–32: You're semi-aggressive, willing to take chances if you think the odds of earning more are in your favor.
- 33–40: You're aggressive, looking for every opportunity to make your money grow, even though in some cases the odds may be quite long. You view money as a tool to make more money.

Exhibit 2.5 Initial Risk and Investment Goal Categories and Asset Allocations Suggested by Investment Firms

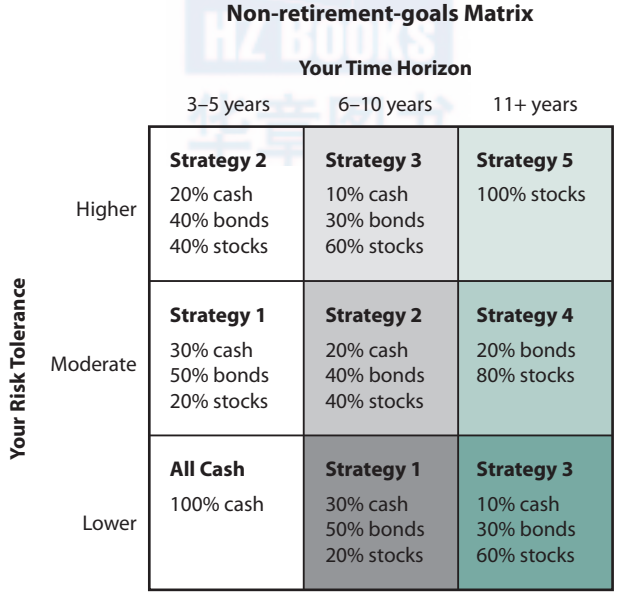
FIDELITY INVESTMENTS SUGGESTED ASSET ALLOCATIONS:

	Cash/Short-Term	Bonds	Domestic Equities	Foreign Equities
Short-term	100%	0%	0%	0%
Conservative	30	50	20	0
Balanced	10	40	45	5
Growth	5	25	60	10
Aggressive growth	0	15	70	15
Most aggressive	0	0	80	20

VANGUARD INVESTMENTS SUGGESTED ASSET ALLOCATIONS:

Overall Objective	Risk Level	Cash/Short-Term	Bonds	Stocks
Income-oriented	Conservative	0%	100%	0%
	Moderate	0	80%	20%
	Aggressive	0	70%	30%
Balanced	Conservative	0%	60%	40%
	Moderate	0	50%	50%
	Aggressive	0	40%	60%
Growth	Conservative	0%	30%	70%
	Moderate	0	20%	80%
	Aggressive	0	0%	100%

T. ROWE PRICE MATRIX



Source: Based on data sampled from Personal Fidelity.com, Vanguard.com, and TRowePrice.com.

(a euphemism for downtrends or crashes) that younger people have not experienced or whose effect they do not fully appreciate. Risk tolerance is also influenced by one's current net worth and income expectations. All else being equal, individuals with higher incomes have a greater propensity to undertake risk because their incomes can help cover any shortfall. Likewise, individuals with larger portfolios can afford to place some assets in risky investments while the remaining assets provide a cushion against losses.

个人收益目标可能用绝对收益率或相对收益率水平来表示，但也可能就是一般性目标，例如，资本保值、当期收入、资本增值或总收入水平等。

A person's return objective may be stated in terms of an absolute or a relative percentage return, but it may also be stated in terms of a general goal, such as capital preservation, current income, capital appreciation, or total return.

Capital preservation means that investors want to minimize their risk of loss, usually in real terms: They seek to maintain the purchasing power of their investment. In other words, the return needs to be no less than the rate of inflation. Generally, this is a strategy for strongly risk-averse investors or for funds needed in the short run, such as for next year's tuition payment or a down payment on a house.

当投资者希望投资组合的实际价值能随时间增长，以满足未来的某种需要时，**资本增值**是一个合适的目标。

Capital appreciation is an appropriate objective when the investors want the portfolio to grow in real terms over time to meet some future need. Under this strategy, growth mainly occurs through capital gains. This is an aggressive strategy for investors willing to take on risk to meet their objective. Generally, longer-term investors seeking to build a retirement or college education fund may have this goal.

When **current income** is the return objective, the investors want the portfolio to concentrate on generating income rather than capital gains. This strategy sometimes suits investors who want to supplement their earnings with income generated by their portfolio to meet their living expenses. Retirees may favor this objective for part of their portfolio to help generate spendable funds.

The objective for the **total return** strategy is similar to that of capital appreciation; namely, the investors want the portfolio to grow over time to meet a future need. Whereas the capital appreciation strategy seeks to do this primarily through capital gains, the total return strategy seeks to increase portfolio value by both capital gains and reinvesting current income. Because the total return strategy has both income and capital gains components, its risk exposure lies between that of the current income and capital appreciation strategies.

Investment Objective: 25-Year-Old What is an appropriate investment objective for our typical 25-year-old investor? Assume he holds a steady job, is a valued employee, has adequate insurance coverage, and has enough money in the bank to provide a cash reserve. Let's also assume that his current long-term, high-priority investment goal is to build a retirement fund. Depending on his risk preferences, he can select a strategy carrying moderate to high amounts of risk because the income stream from his job will probably grow over time. Further, given his young age and income growth potential, a low-risk strategy, such as capital preservation or current income, is inappropriate for his retirement fund goal; a total return or capital appreciation objective would be most appropriate. Here's a possible objective statement:

> *Invest funds in a variety of moderate- to higher-risk investments. The average risk of the equity portfolio should exceed that of a broad stock market index, such as the NYSE stock index. Foreign and domestic equity exposure should range from 80 percent to 95 percent of the total portfolio. Remaining funds should be invested in short- and intermediate-term notes and bonds.*

Investment Objective: 65-Year-Old Assume our typical 65-year-old investor likewise has adequate insurance coverage and a cash reserve. Let's also assume she is retiring this year. This individual will want less risk exposure than the 25-year-old investor because her earning power from employment will soon be ending; she will not be able to recover any investment losses by saving more out of her paycheck. Depending on her income from social security and a pension plan, she may need some current income from her retirement portfolio to meet living expenses. Given that she can be expected to live an average of another 20 years, she will

need protection against inflation. A risk-averse investor will choose a combination of current income and capital preservation strategy; a more risk-tolerant investor will choose a combination of current income and total return in an attempt to have principal growth outpace inflation. Here's an example of such an objective statement:

> *Invest in stock and bond investments to meet income needs (from bond income and stock dividends) and to provide for real growth (from equities). Fixed-income securities should comprise 55–65 percent of the total portfolio; of this, 5–15 percent should be invested in short-term securities for extra liquidity and safety. The remaining 35–45 percent of the portfolio should be invested in high-quality stocks whose risk is similar to the S&P 500 index.*

More detailed analyses for our 25-year-old and our 65-year-old would make more specific assumptions about the risk tolerance of each, as well as clearly enumerate their investment goals, return objectives, the funds they have to invest at the present, the funds they expect to invest over time, and the benchmark portfolio that will be used to evaluate performance.

2.4.2 Investment Constraints

In addition to the investment objective that sets limits on risk and return, certain other constraints also affect the investment plan. Investment constraints include liquidity needs, an investment time horizon, tax factors, legal and regulatory constraints, and unique needs and preferences.

如果一项资产能够以接近市场公允价值的价格水平迅速变现，则其具有**流动性**。

Liquidity Needs An asset is **liquid** if it can be quickly converted to cash at a price close to fair market value. Generally, assets are more liquid if many traders are interested in a fairly standardized product. Treasury bills are a highly liquid security, and real estate and venture capital are not.

Investors may have liquidity needs that the investment plan must consider. For example, although an investor may have a primary long-term goal, several near-term goals may require available funds. Wealthy individuals with sizable tax obligations need adequate liquidity to pay their taxes without upsetting their investment plan. Some retirement plans may need funds for shorter-term purposes, such as buying a car or a house or making college tuition payments.

Our typical 25-year-old investor probably has little need for liquidity as he focuses on his long-term retirement fund goal. This constraint may change, however, should he face a period of unemployment or should near-term goals, such as honeymoon expenses or a house down payment, enter the picture. Should any changes occur, the investor needs to revise his policy statement and financial plans accordingly.

Our soon-to-be-retired 65-year-old investor has a greater need for liquidity. Although she may receive regular checks from her pension plan and social security, it is not likely that they will equal her working paycheck. She will want some of her portfolio in liquid securities to meet unexpected expenses, bills, or special needs such as trips or cruises.

Time Horizon Time horizon as an investment constraint briefly entered our earlier discussion of near-term and long-term high-priority goals. A close (but not perfect) relationship exists between an investor's time horizon, liquidity needs, and ability to handle risk. Investors with long investment horizons generally require less liquidity and can tolerate greater portfolio risk: less liquidity because the funds are not usually needed for many years; greater risk tolerance because any shortfalls or losses can be overcome by earnings and returns in subsequent years.

Investors with shorter time horizons generally favor more liquid and less risky investments because losses are harder to overcome during a short time frame.

Because of life expectancies, our 25-year-old investor has a longer investment time horizon than our 65-year-old investor. But, as discussed earlier, this does not mean the 65-year-old should place all her money in short-term CDs; she needs the inflation protection that long-term investments

such as common stock can provide. Still, because of the time horizon constraint, the 25-year-old can have a greater proportion of his portfolio in equities—including stocks in small firms, as well as international and emerging market firms—than the 65-year-old.

税则的影响将使投资规划变得复杂起来。尤其是投资组合中包含了国际资产后，税收问题将使投资规划更加复杂。

Tax Concerns Investment planning is complicated by the tax code; taxes complicate the situation even more if international investments are part of the portfolio. Taxable income from interest, dividends, or rents is taxable at the investor's marginal tax rate. The marginal tax rate is the proportion of the next one dollar in income paid as taxes. Exhibit 2.6 shows the marginal tax rates for different levels of taxable income. As of 2011, the top federal marginal tax rate was 35 percent.

Capital gains or losses arise from asset price changes. They are taxed differently than income. Income is taxed when it is received; capital gains or losses are taxed only when an asset is sold and the gain or loss, relative to its initial cost or **basis**, is realized. **Unrealized capital gains** (or *losses*) reflect the price change in currently held assets that have *not* been sold; the tax liability on unrealized capital gains can be deferred indefinitely. If appreciated assets are passed on to an heir upon the investor's death, the basis of the assets is considered to be their value on the date of the holder's death. The heirs can then sell the assets and pay lower capital gains taxes if they wish. **Realized capital gains** occur when an appreciated asset is sold; taxes are due on the realized capital gains only. As of 2011, the maximum tax rate on stock dividends and long-term capital gains is 15 percent.

当一项已增值的资产出售时认为**已实现的资本利得**。只有在实现资本收益时才征税。

Some find the difference between average and marginal income tax rates confusing. The **marginal tax rate** is the part of each additional dollar in income that is paid as tax. Thus, a married person, filing jointly, with an income of $50,000 will have a marginal tax rate of 15 percent. The 15 percent marginal tax rate should be used to determine after-tax returns on investments.

The **average tax rate** is simply a person's total tax payment divided by their total income. It represents the average tax paid on each dollar the person earned. From Exhibit 2.6, a married person, filing jointly, will pay $6,650 in tax on a $50,000 income [$1,700 + 0.15($50,000 – $17,000)]. This average tax rate is $6,650/$50,000 or 13.3 percent. Note that the average tax rate is a weighted average of the person's marginal tax rates paid on each dollar of income.

Exhibit 2.6 Individual Marginal Tax Rates, 2011

For updates, go to the IRS website, *http://www.irs.gov*.

	IF TAXABLE INCOME IS		THE TAX IS		
			THEN		
	Over	But Not Over	This Amount	Plus This %	Of the Excess Over
Single	$0	$8,500	$0	10%	$0
	$8,500	$34,500	$850	15%	$8,500
	$34,500	$83,600	$4,750	25%	$34,500
	$83,600	$174,400	$17,025	28%	$83,600
	$174,400	$379,150	$42,449	33%	$171,850
	$379,150		$110,016	35%	$379,150
Married Filing Jointly	$0	$17,000	$0	10%	$0
	$17,000	$69,000	$1,700	15%	$17,000
	$69,000	$139,350	$9,500	25%	$69,000
	$139,350	$212,300	$27,087	28%	$139,350
	$212,300	$379,150	$47,513	33%	$212,300
	$379,150		$102,574	35%	$379,150

The first $17,000 of income has a 10 percent marginal tax rate; the next $33,000 has a 15 percent marginal tax rate:

$$\frac{\$17{,}000}{\$50{,}000} \times 0.10 + \frac{\$33{,}000}{\$50{,}000} \times 0.15 = 0.133, \text{ or the average tax rate of 13.3 percent}$$

Another tax factor is that some sources of investment income are exempt from federal and state taxes. For example, interest on federal securities, such as Treasury bills, notes, and bonds, is exempt from state taxes. Interest on municipal bonds (bonds issued by a state or other local governing body) is exempt from federal taxes. Further, if investors purchase municipal bonds issued by a local governing body of the state in which they live, the interest may be exempt from both state and federal income tax. Thus, high-income individuals have an incentive to purchase municipal bonds to reduce their tax liabilities.

The after-tax return on taxable investment income is

$$\text{After-Tax Income Return} = \text{Pre-Tax Income Return} \times (1 - \text{Marginal Tax Rate})$$

因此，在纳税投资者决定购买何种债券前，应比较应税债券的税后收益和市政债券的收益率水平。

Thus, the after-tax return on a taxable bond investment should be compared to that of municipals before deciding which security a tax-paying investor should purchase.[1] Alternatively, we could compute a municipal's equivalent taxable yield, which is what a taxable bond investment would have to offer to produce the same after-tax return as the municipal. It is given by

$$\text{Equivalent Taxable Yield} = \frac{(\text{Municipal Yield})}{(1 - \text{Marginal Tax Rate})}$$

To illustrate, if an investor is in the 28 percent marginal tax bracket, a taxable investment yield of 8 percent has an after-tax yield of 8 percent × (1 − 0.28) or 5.76 percent; an equivalent-risk municipal security offering a yield greater than 5.76 percent offers the investor greater after-tax returns. On the other hand, a municipal bond yielding 6 percent has an equivalent taxable yield of: 6 percent/(1 − 0.28) = 8.33 percent; to earn more money after taxes, an equivalent-risk taxable investment has to offer a return greater than 8.33 percent.

从个人退休账户中取出的任何资金，无论是源于资本利得，或者收入增加，或者二者皆有，都应当作为当期收入征税。

There are other means of reducing investment tax liabilities. Contributions to an IRA (individual retirement account) may qualify as a tax deduction if certain income limits are met. Even without that deduction, taxes on any investment returns of an IRA, including any income, are deferred until the funds are withdrawn from the account. Any funds withdrawn from an IRA are taxable as current income, regardless of whether growth in the IRA occurs as a result of capital gains, income, or both. For this reason, to minimize taxes advisors recommend investing in stocks in taxable accounts and in bonds in tax-deferred accounts such as IRAs. When funds are withdrawn from a tax-deferred account such as a regular IRA, assets are taxed (at most) at a 35 percent income tax rate (Exhibit 2.6)—even if the source of the stock return is primarily capital gains. In a taxable account, capital gains are taxed at the maximum 15 percent capital gains rate. Decisions regarding IRAs (including Roth IRAs) are very important, but the details of such decisions are beyond the purpose of this book. Therefore, we recommend that investors discuss these decisions with a tax consultant or financial planner.

Legal and Regulatory Factors Both the investment process and the financial markets are highly regulated and subject to numerous laws. At times, these legal and regulatory factors constrain the investment strategies of individuals and institutions.

For example, funds removed from a regular IRA, Roth IRA, or 401(k) plan before age 59½ are taxable and subject to an additional 10 percent withdrawal penalty. You may also be

[1]Realized capital gains on municipal securities are taxed, as are all other capital gains; similarly for capital losses. Only the income from municipals is exempt from federal income tax.

familiar with the tag line in many bank CD advertisements—"substantial interest penalty upon early withdrawal." Regulations and rules such as these may make such investments unattractive for investors with substantial liquidity needs in their portfolios.

Regulations can also constrain the investment choices available to someone in a fiduciary role. A *fiduciary*, or trustee, supervises an investment portfolio of a third party, such as a trust account or discretionary account.[2] The fiduciary must make investment decisions in accordance with the owner's wishes; a properly written policy statement assists this process. In addition, trustees of a trust account must meet the prudent-man standard, which means that they must invest and manage the funds as a prudent person would manage his or her own affairs. Notably, the prudent-man standard is based on the composition of the entire portfolio, not each individual asset.[3]

此外，信托账户的受托人必须满足审慎人原则，即他们必须如同一个谨慎的投资者管理自己的事务一样管理信托账户的资金。

All investors must respect certain laws, such as insider trading prohibitions against the purchase and sale of securities on the basis of important information that is not publicly known. Typically, the people possessing such private, or insider, information are the firm's managers, who have a fiduciary duty to their shareholders. Security transactions based on access to insider information violates the fiduciary trust the shareholders have placed with management because the managers seek personal financial gain from their privileged position as agents for the shareholders.

基于内幕消息进行的证券交易违反了股东与管理层之间的信托协议关系，因为基金经理利用其作为股东代理人的优势地位来获取自己的经济利益。

For our typical 25-year-old investor, legal and regulatory matters will be of little concern, with the possible exception of insider trading laws and the penalties associated with early withdrawal of funds from tax-deferred retirement accounts. Should he seek a financial advisor to assist him in constructing a financial plan, that advisor would have to obey the regulations pertinent to a client-advisor relationship. Similar concerns confront our 65-year-old investor. In addition, as a retiree, if she wants to do estate planning and set up trust accounts, she should seek legal and tax advice to ensure that her plans are properly implemented.

Unique Needs and Preferences This category covers the individual and sometimes idiosyncratic concerns of each investor. Some investors may want to exclude certain investments from their portfolio solely on the basis of personal preference or for social consciousness reasons. For example, they may request that no firms that manufacture or sell tobacco, alcohol, pornography, or environmentally harmful products be included in their portfolio. Some mutual funds screen according to this type of social responsibility criterion.

Another example of a personal constraint is the time and expertise a person has for managing his or her portfolio. Busy executives may prefer to relax during nonworking hours and let a trusted advisor manage their investments. Retirees, on the other hand, may have the time but believe they lack the expertise to choose and monitor investments, so they also may seek professional advice.

In addition, a business owner with a large portion of her wealth—and emotion—tied up in her firm's stock may be reluctant to sell even when it may be financially prudent to do so and then reinvest the proceeds for diversification purposes. Further, if the stock holdings are in a private company, it may be difficult to find a buyer unless shares are sold at a discount from their fair market value. Because each investor is unique, the implications of this final constraint differ for each person; there is no "typical" 25-year-old or 65-year-old investor. The point is, each individual will have to decide on—and then communicate—specific needs and preferences in a well-constructed policy statement.

[2]A discretionary account is one in which the fiduciary, many times a financial planner or stockbroker, has the authority to purchase and sell assets in the owner's portfolio without first receiving the owner's approval.

[3]As we will discuss in Chapter 7, it is sometimes wise to hold assets that are individually risky in the context of a well-diversified portfolio, even if the investor is strongly risk averse.

2.5 Constructing the Policy Statement

As we have seen, the policy statement allows the investor to communicate his or her objectives (risk and return) and constraints (liquidity, time horizon, tax, legal and regulatory, and unique needs and preferences). This communication gives the advisor a better chance of implementing an investment strategy that will satisfy the investor. Even if an advisor is not used, each investor needs to take this first important step of the investment process and develop a financial plan to guide the investment strategy. To do without a plan or to plan poorly is to place the success of the financial plan in jeopardy.

2.5.1 General Guidelines

Constructing a policy statement is the investor's responsibility, but investment advisors often assist in the process. Here, for both the investor and the advisor, are guidelines for good policy statement construction.

In the process of constructing a policy statement, investors should think about the set of questions suggested previously on page 37.

When working with an investor to create a policy statement, an advisor should ensure that the policy statement satisfactorily answers the questions suggested previously on page 39.

2.5.2 Some Common Mistakes

When constructing their policy statements, participants in employer-sponsored retirement plans need to realize that in many such plans 30–40 percent of their retirement funds may be invested in their employer's stock. Having so much money invested in one asset violates diversification principles and could be costly. To put this in context, most mutual funds are limited by law to having no more than 5 percent of their assets in any one company's stock; a firm's pension plan can invest no more than 10 percent of their funds in its own stock. As noted by Schulz (1996), individuals are unfortunately doing what government regulations prevent many institutional investors from doing. In addition, some studies point out that the average stock allocation in many retirement plans is lower than it should be if the investor wants growth of principal over time—that is, investors tend to be too conservative.

此外，一些研究指出，许多退休金计划中的股票配置平均水平低于能保证投资本金长期增长应有的水平，也就是说投资者往往过于保守。

Another consideration is the issue of stock trading. A number of studies by Barber and Odean (1999, 2000, 2001) and Odean (1998, 1999) have shown that individual investors typically trade stocks too often (driving up commissions), sell stocks with gains too early (prior to further price increases), and hold on to losers too long (as the price continues to fall). These costly mistakes are especially true for men and online traders.

Investors, in general, seem to neglect that important first step to achieve financial success: They do not plan for the future. Studies of retirement plans discussed by Ruffenach (2001) and Clements (1997a, b, c) show that Americans are not saving enough to finance their retirement years and they are not planning sufficiently for what will happen to their savings after they retire. Around 25 percent of workers have saved less than $50,000 for their retirement. Finally, about 60 percent of workers surveyed confessed they were "behind schedule" in planning and saving for retirement.

2.6 The Importance of Asset Allocation

A major reason why investors develop policy statements is to provide guidance for an overall investment strategy. Though a policy statement does not indicate which specific securities to purchase and when they should be sold, it should provide guidelines as to the asset classes to include and a range of percents of the investor's funds to invest in each class. How the investor divides funds into different asset classes is the process of asset allocation. Rather than

尽管投资策略报告并不具体指明应购买何种证券及何时出售，但它应说明可投资的资产类别，以及在每类资产上的投资比例。

provide strict percentages, asset allocation is usually expressed in ranges. This allows the investment manager some freedom, based on his or her reading of capital market trends, to invest toward the upper or lower end of the ranges. For example, suppose a policy statement requires that common stocks be 60 percent to 80 percent of the value of the portfolio and that bonds should be 20 percent to 40 percent of the portfolio's value. If a manager is particularly bullish about stocks, she will increase the allocation of stocks toward the 80 percent upper end of the equity range and decrease bonds toward the 20 percent lower end of the bond range. Should she be optimistic about bonds or bearish on stocks, that manager may shift the allocation closer to 40 percent invested in bonds with the remainder in equities.

历史数据和经验研究强有力地证明，资产配置决策是投资组合管理过程的关键组成部分。

A review of historical data and empirical studies provides strong support for the contention that the asset allocation decision is a critical component of the portfolio management process. In general, there are four decisions involved in constructing an investment strategy:

- What asset classes should be considered for investment?
- What policy weights should be assigned to each eligible asset class?
- What are the allowable allocation ranges based on policy weights?
- What specific securities or funds should be purchased for the portfolio?

The asset allocation decision involves the first three points. How important is the asset allocation decision to an investor? In a word, *very*. Several studies by Ibbotson and Kaplan (2000); Brinson, Hood, and Beebower (1986); and Brinson, Singer, and Beebower (1991) have examined the effect of the normal policy weights on investment performance, using data from both pension funds and mutual funds, during time periods extending from the early 1970s to the late 1990s. The studies all found similar results: About 90 percent of a fund's returns over time can be explained by its target asset allocation policy. Exhibit 2.7 shows the relationship between returns on the target or policy portfolio allocation and actual returns on a sample mutual fund.

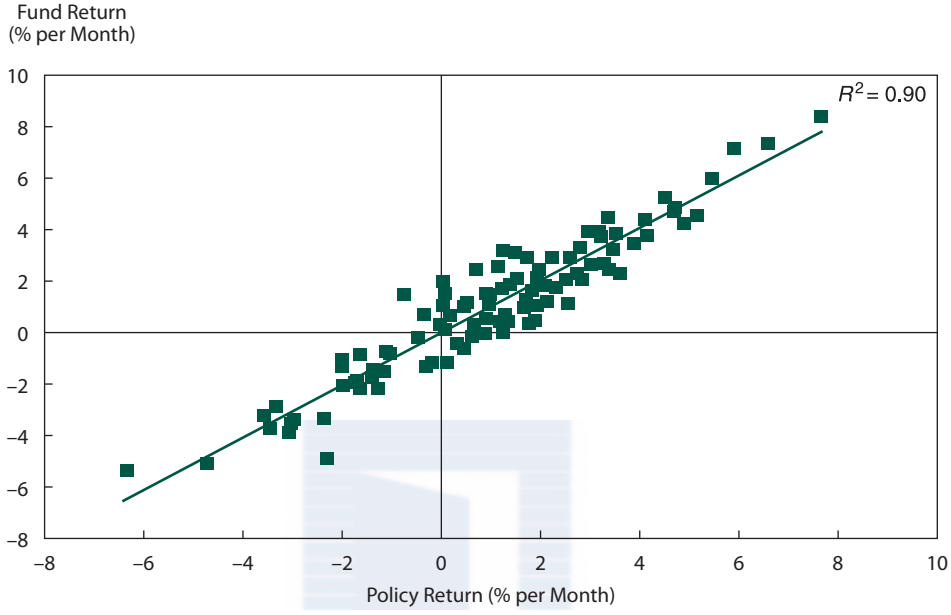
Rather than looking at just one fund and how the target asset allocation determines its returns, some studies have looked at how much the asset allocation policy affects returns on a variety of funds with different target weights. For example, Ibbotson and Kaplan (2000) found that, across a sample of funds, about 40 percent of the difference in fund returns is explained by differences in asset allocation policy. And what does asset allocation tell us about the *level* of a particular fund's returns? The studies by Brinson and colleagues (1986, 1991) and Ibbotson and Kaplan (2000) answered that question as well. They divided the policy return (what the fund return would have been had it been invested in indexes at the policy weights) by the actual fund return (which includes the effects of varying from the policy weights and security selection). Thus, a fund that was passively invested at the target weights would have a ratio value of 1.0, or 100 percent. A fund managed by someone with skill in market timing (for moving in and out of asset classes) and security selection would have a ratio less than 1.0 (or less than 100 percent); the manager's skill would result in a policy return less than the actual fund return. The studies showed the opposite: The policy-return/actual-return ratio averaged over 1.0, showing that asset allocation explains slightly more than 100 percent of the level of a fund's returns. Because of market efficiency, fund managers practicing market timing and security selection, on average, have difficulty surpassing passively invested index returns, after taking into account the expenses and fees of investing.

由于市场是有效的，平均而言，在考虑投资交易的支出费用后，基金经理主动选择市场时机和证券的投资收益率很难超过被动投资的指数收益率。

Thus, asset allocation is a very important decision. Across all funds, the asset allocation decision explains an average of 40 percent of the variation in fund returns. For a single fund, asset allocation explains 90 percent of the fund's variation in returns over time and slightly more than 100 percent of the average fund's level of return.

Good investment managers may add some value to portfolio performance, but the major source of investment return—and risk—over time is the asset allocation decision (Brown, 2000).

Exhibit 2.7 Time-Series Regression of Monthly Fund Return versus Fund Policy Return: One Mutual Fund, April 1988–March 1998



Note: The sample fund's policy allocations among the general asset classes were 52.4 percent U.S. large-cap stocks, 9.8 percent U.S. small-cap stocks, 3.2 percent non-U.S. stocks, 20.9 percent U.S. bonds, and 13.7 percent cash.

2.6.1 Investment Returns after Taxes and Inflation

Exhibit 2.8 provides additional historical perspectives on returns. It indicates how an investment of $1 would have grown over the 1986–2010 period and, using fairly conservative assumptions, examines how investment returns are affected by taxes and inflation.

Focusing first on stocks, funds invested in 1986 in the Standard & Poor's 500 stocks would have averaged an 11.57 percent annual return through 2010. Unfortunately, this return is unrealistic because if the funds were invested over time, taxes would have to be paid and inflation would erode the real purchasing power of the invested funds.

Except for tax-exempt investors and tax-deferred accounts, annual tax payments reduce investment returns. Incorporating taxes into the analysis lowers the after-tax average annual return of a stock investment to 8.33 percent.

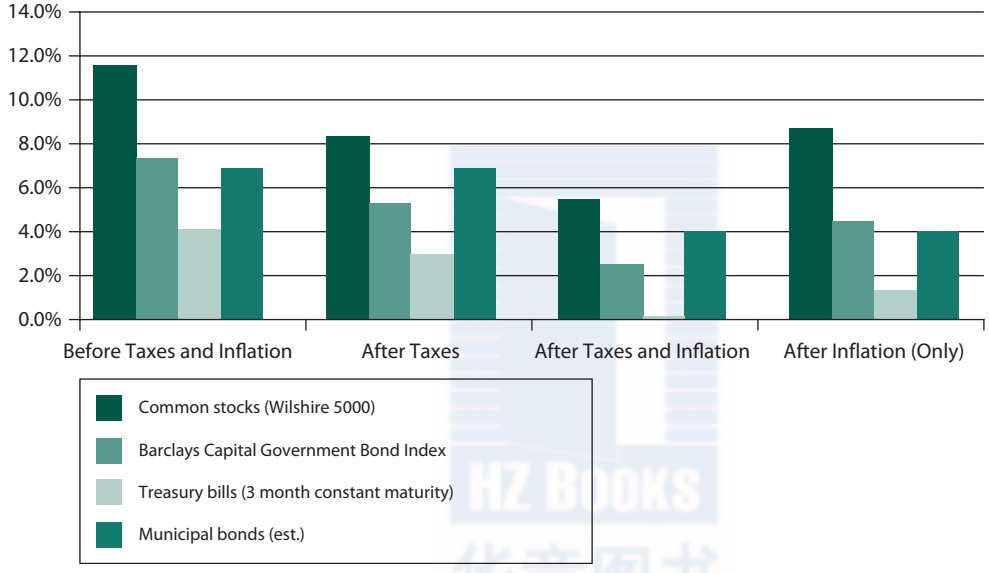
But the major reduction in the value of our investment is caused by inflation. The real after-tax average annual return on a stock over this time frame was only 5.50 percent, which is less than half our initial unadjusted 11.57 percent return!

This example shows the long-run impact of taxes and inflation on the real value of a stock portfolio. For bonds and bills, however, the results in Exhibit 2.8 show something even more surprising. After adjusting for taxes, long-term bonds maintained their purchasing power; T-bills barely provided value in real terms. One dollar invested in long-term government bonds in 1986 gave the investor an annual average after-tax real return of 2.47 percent. An investment in Treasury bills earned an average annual rate of only 0.15 percent after taxes

经过税收调整后，长期国债能维持其购买力，而国库券的实际收益率几乎为零。

Exhibit 2.8 The Effect of Taxes and Inflation on Investment Returns: 1986–2010

	Before Taxes and Inflation	After Taxes	After Taxes and Inflation	After Inflation (Only)
Common stocks (S&P 500)	11.57%	8.33%	5.50%	8.74%
Barclays Capital Government Bond Index	7.36%	5.30%	2.47%	4.53%
Treasury bills (3 month constant maturity)	4.14%	2.98%	0.15%	1.31%
Municipal bonds (est.)	6.88%	6.88%	4.05%	4.05%



Assumptions: 28 percent tax rate on income; 20 percent on price change. Compound inflation rate was 3.1 percent for full period.

Source: Computations by authors, using data indicated.

and inflation. Municipal bonds, because of the protection they offer from taxes, earned an average annual real return of almost 4.05 percent during this time.

这一历史分析表明，考虑投资收益税收后，在长期内能维持购买力的金融投资是投资于普通股。

This historical analysis demonstrates that, for taxable investments, a reasonable way to maintain purchasing power over long time periods when investing in financial assets is to invest in common stocks. Put another way, an asset allocation decision for a taxable portfolio that does not include a substantial commitment to common stocks makes it difficult for the portfolio to maintain real value over time.[4]

Notably, the fourth column, labeled "After inflation (only)," is more encouraging since it refers to results for a tax-free retirement account that is only impacted by inflation. These results should encourage investors to take advantage of tax-free opportunities.

2.6.2 Returns and Risks of Different Asset Classes

By focusing on returns, we have ignored its partner—risk. Assets with higher long-term returns have these returns to compensate for their risk. Exhibit 2.9 illustrates returns (unadjusted for

[4]Of course other equity-oriented investments, such as venture capital or real estate, may also provide inflation protection after adjusting for portfolio costs and taxes. Future studies of the performance of Treasury inflation-protected securities (TIPs) will likely show their usefulness in protecting investors from inflation as well.

Exhibit 2.9 Summary Statistics of Annual Returns, 1986–2010, U.S. Securities

	Geometric Mean (%)	Arithmetic Mean (%)	Standard Deviation (%)
Large company stocks (S&P 500)	9.94	11.57	18.23
Small company stocks (Russell 2000)	10.63	12.73	21.43
Government bonds (Barclays Capital)	7.20	7.36	5.86
Corporate bonds (Barclays Capital)	7.94	8.13	6.49
High-Yield Corporate bonds (Barclays Capital)	8.96	10.14	16.87
30-day Treasury bill (Federal Reserve)	4.12	4.14	2.24
U.S. inflation (Federal Reserve)	2.82	2.83	1.29

Source: Calculations by authors, using data noted.

inflation, transaction costs and taxes) for several asset classes over time. As expected, the higher returns available from equities (both large cap and small cap) also include higher risk. This is precisely why investors need a policy statement and why the investor and manager must understand the capital markets and have a disciplined approach to investing. Safe Treasury bills will sometimes outperform equities, and, because of their higher risk, common stocks will sometimes lose significant value. These are times when undisciplined and uneducated investors become frustrated, sell their stocks at a loss, and vow never to invest in equities again. In contrast, these are just the times when disciplined investors stick to their investment plan and position their portfolios for the next bull market.[5] By holding on to their stocks and continuing to purchasing more at depressed prices, the equity portion of the portfolio will experience a substantial increase in the future.

The asset allocation decision determines to a great extent both the returns and the volatility of the portfolio. As noted, Exhibit 2.9 indicates that stocks are riskier than bonds or T-bills. Exhibit 2.10 shows that stocks have sometimes experienced returns lower than those of T-bills for extended periods of time. Still, the long-term results in Exhibit 2.9 show that sticking with an investment policy through difficult times provides attractive rates of return over long holding periods.[6]

一种度量风险的常见方法是，通过计算大类资产年化收益率的标准差或方差来计算收益率的长期波动率。

One popular way to measure risk is to examine the variability of returns over time by computing a standard deviation or variance of annual rates of return for an asset class. This measure, which is used in Exhibit 2.9, indicates that stocks are relatively risky and T-bills are relatively safe. Another intriguing measure of risk is the probability of *not* meeting your investment return objective. From this perspective, the results in Exhibit 2.10 show that if the investor has a long time horizon (i.e., approaching 20 years), the risk of equities is small and that of T-bills is large because of their differences in *long-term* expected returns.

2.6.3 Asset Allocation Summary

A carefully constructed policy statement determines the types of assets that should be included in a portfolio. The asset allocation decision, not the selection of specific stocks and bonds, determines most of the portfolio's returns over time. Although seemingly risky, investors seeking

[5]Newton's law of gravity seems to work two ways in financial markets. What goes up must come down; but it also appears over time that what goes down may come back up. Contrarian investors and some "value" investors use this concept of reversion to the mean to try to outperform the indexes over time.

[6]The added benefits of diversification—combining different asset classes in the portfolio—may reduce overall portfolio risk without harming potential return. The important topic of diversification is discussed in detail in Chapter 7.

Exhibit 2.10 Higher Returns Offered by Equities over Long Time Periods Time Frame: 1934–2010

Length of Holding Period (calendar years)	Percentage of Periods That Stock Returns Trailed T-Bill Returns*
1	33.80%
5	15.10
10	8.80
20	0.00
30	0.00

*Price change plus reinvested income
Source: Author calculations.

虽然看似有风险，但是对于追求长期资本增值、收入增加、或者甚至是资本保值的投资者而言，应当在其投资组合中配置一个相当比例的股权投资。

capital appreciation, income, or even capital preservation over long time periods should stipulate a sizable allocation to the equity portion in their portfolio. As noted in this section, a strategy's risk depends on the investor's goals and time horizon. As demonstrated, investing in T-bills may actually be a riskier strategy than investing in common stocks due to the risk of not meeting *long-term investment return goals* especially after considering the impact of inflation and taxes.

美国以外的投资者在进行资产配置决策时也采取大体相同的方式；但由于面对的社会、经济、政策及税收环境不同，他们的资产配置策略会与美国投资者不同。

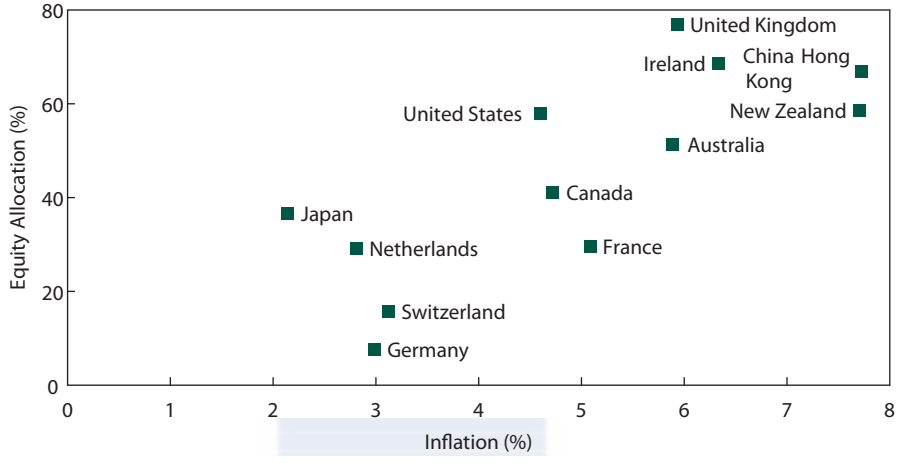
Asset Allocation and Cultural Differences Thus far, our analysis has focused on U.S. investors. Non-U.S. investors make their asset allocation decisions in much the same manner; but because they face different social, economic, political, and tax environments, their allocation decisions differ from those of U.S. investors. Exhibit 2.11 shows the equity allocations of pension funds in several countries and regions. As shown, the equity allocations vary dramatically from 79 percent in China Hong Kong to 37 percent in Japan and only 8 percent in Germany.

National demographic and economic differences can explain much of the divergent portfolio allocations. Of these six nations, the average age of the population is highest in Germany and Japan and lowest in the United States and the United Kingdom, which helps explain the greater use of equities in the United States and United Kingdom. Further, government privatization programs during the 1980s in the United Kingdom encouraged equity ownership among individual and institutional investors. In Germany, regulations prevent insurance firms from having more than 20 percent of their assets in equities. Both Germany and Japan have banking sectors that invest privately in firms and whose officers sit on corporate boards. Since 1980, the cost of living in the United Kingdom has increased at a rate about two times that of

Exhibit 2.11 Equity Allocations in Pension Fund Portfolios by Country and region

Country and region	Percentage in Equities
China Hong Kong	79
United Kingdom	78
Ireland	68
United States	58
Japan	37
Germany	8

Exhibit 2.12 Asset Allocation and Inflation for Different Countries and regions'Equity Allocation as of December 1997; Average Inflation Measured over 1980–1997



Germany and this inflationary bias in the U.K. economy again favors higher equity allocations. Exhibit 2.12 shows the positive relationship between the level of inflation in a country and region and its pension fund allocation to equity. These results and many others that could be mentioned dicate that some legislation, the general economic environment, and the demographics of a incountry and region have an effect on the asset allocation by the investors in the country and region.