21. Investing 5: Understanding Stocks

Introduction

Of all the major asset classes, stocks (or equities) have consistently delivered the highest return over the longest period of time. It is critical for you to understand basic information about stocks if you want to achieve better returns than those yielded by long-term bonds and cash. This chapter will give you a basic understanding of how and why stocks perform the way they do. This chapter will also help you understand why you should consider stocks or stock mutual funds when building your portfolio.

Before I begin the discussion of stocks, I would like to reiterate three important principles of successful investing discussed earlier.

First, stay diversified. Diversification is your best defense against risk. When investing in stocks, do not invest in individual stocks but in portfolios of stocks. Investing is risky and uncertain; minimize risk by diversifying your stock holdings immediately by investing in index funds, ETFs, or diversified mutual funds.

Second, use caution if you are investing in individual assets. The fastest way to get rich or poor (depending on your luck) is investing in individual stocks. If you must invest in individual assets, know what you are investing in. Do your homework. Spend time learning about the company, its financial statements, its management, its short- and long-term strategy, its domestic and global industry, and its competition. Note that I emphasize that this chapter on stock basics is not sufficient background information to enable you to invest wisely in individual equity assets. I strongly recommend that you invest in index or mutual funds that hold hundreds of individual assets instead of investing in individual stocks.

Finally, do not waste too much time and energy trying to beat the market. It is very difficult, expensive, and time-consuming to beat the market (to gain returns in excess of the returns on the major asset classes). While it may be possible to beat the market on a short-term basis, it is very difficult to consistently beat the market on a long-term basis.

Objectives

When you have completed this chapter, you should be able to do the following:

1. Review risk and return for stocks
2. Understand stock terminology
3. Understand how stocks are valued
4. Know why stocks fluctuate in value

5. Know stock-investing strategies
6. Calculate the costs of investing in stocks

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Review Risk and Return for Stocks

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Why Include Stocks in Your Portfolio?

Stocks, or equities, are an important part of most investors' portfolios. As an asset class (not as individual stocks), common stocks have a history of delivering strong, long-term capital gains, making stocks the best and most tax-efficient type of investment return. In addition, dividends on stocks are currently taxed at a much lower rate than interest on bonds, so earnings from stocks are a viable alternative to earnings from bonds.

Investing in individual stocks can be risky. Stocks are susceptible to changes in the domestic and world economy as well as changes in the company and political environment. The growth of a stock or equity investment is susceptible to a number of risks; therefore, a stock's growth is not solely determined by interest rates alone. Investing in a diversified portfolio can reduce the overall risk of your portfolio.

Stocks and Risk: All Risk Is Not Equal

Stocks are susceptible to a number of risks, including the following:

Interest-rate risk: Interest rates may rise or fall at any time, resulting in a decline or increase in a stock's value. Rising interest rates lower the present value of a stock.

Inflation risk: A rise or decline in inflation may result in an increase or decrease in the value of a stock. For most stocks, a higher rate of inflation results in a lower value of a stock. The inverse of this situation is also true.

Company risk: The share price may rise or decline because of problems with the company. The better the future prospects for a company, the higher the present value of the stock. The inverse of this situation is also true.

Financial risk: Whether or not a company is viewed as a financial risk has the potential to affect the performance of the company's stock. Companies that are less risky or have better prospects can usually borrow money at lower rates of interest; hence, these companies have lower expenses and higher earnings, which will cause an increase in their stock price. The inverse of this situation is also true.

Liquidity risk: Investors take the risk that they may be unable to find a buyer or seller for a stock when they need one. Often, liquidity is more closely related to market conditions than company conditions.

Political or regulatory risk: Unanticipated changes in the tax or legal environment may have an

impact on a company. Since taxes and the legal environment affect the outlook of a company, any regulatory changes that improve a company's long-term prospects will generally result in a higher price for that company's stock. The inverse situation is also true.

Exchange-rate risk: Changes in exchange rates may affect profitability for international companies. As exchange rates strengthen, the cost of domestically produced goods increases when these goods are sold overseas, which causes an increase in the stock price. The inverse situation is also true.

Market risk: Overall market movement may affect the price of a company's stock. Investors often monitor the way a stock responds to movement in the market. A measure of how sensitive a stock is to movements in the market is called "beta" (β). A stock with a beta of one moves very closely with the market. A stock with a beta that is greater than one will be more volatile than the market. A stock with a beta of less than one will be less volatile than the market. Betas can help investors determine a stock's market risk.

As you are building and monitoring your portfolio, you should track the beta of your portfolio, or the weighted beta of each of the individual stocks or mutual funds in your portfolio. This will tell you how risky your overall portfolio is in comparison to the market.

A diversified portfolio moves with the market: one company's successes or failures cannot affect it as much. Remember the fourth principle of good investing: stay diversified. Do not invest solely in individual stocks—invest in a broad range of financial assets. Do not invest solely in large-cap stocks either; broaden and deepen your portfolio to include international, small-cap, and other asset classes.

Beware of using leverage. Using leverage is the process of increasing your purchasing power by borrowing money to invest in financial assets. Leverage increases risk: it magnifies capital gains and losses because the rate of return on the loan is fixed, while the rate of return on the investment is not. Do not use leverage to invest.

Understand Stock Terminology

There are a number of important terms you should understand before you begin working with stocks:

Common stock is an ownership share of a company. The company initially sells common stock through an initial public offering, or IPO. The stock is then traded among investors in secondary markets. Owners of common stock take more risk than owners of other types of stock, but they also receive a greater reward if the company performs well.

Preferred stock is also an ownership share of a company. However, this type of stock differs from common stock in that the dividend is paid before dividends on common stock are paid to shareholders. However, if the company's profits increase, the dividend is not increased

accordingly, so return is limited.

Classes of stock: Some companies have multiple classes of stock, usually called Class A, B, etc. These multiple classes of stock usually give certain advantages to the Class A shares, such as increased voting power. Companies may also have different dividend policies for different classes of stock.

Shareholders (stockholders) are investors who own shares, or equity, in a company. When you purchase shares of stock from a company, either individually or through a mutual fund, you become a partial owner in that company.

Voting rights: Shareholders have the right to vote on major policy issues. Usually, a shareholder is given one vote for each share of common stock he or she owns. However, some companies issue different classes of shares, and some classes have extra voting rights. Generally, shareholders vote by proxy, a practice similar to voting with an absentee ballot.

Book value per share is the value of each share of the company's stock after the company's liabilities have been subtracted from the company's assets. To find the book value per share, subtract the company's liabilities from the company's assets to find the company owner's equity (as seen on a balance sheet); then divide this amount by the weighted average number of shares that are outstanding. The book value per share is based on the value of the company's assets at their purchase cost, minus depreciation, or the amount the asset has decreased in value since it was purchased. This value is based on the tax code and not on the actual loss in value of the assets. In other words, it is the value of the company's assets at cost minus their depreciated amount.

Earnings per share refers to the level of earnings of each share of stock—not necessarily the amount that will be paid out as dividends. Earnings per share equals the net income minus preferred stock dividends divided by the weighted average number of common shares outstanding.

Dividend yield refers to the annual yield of dividends per share divided by the current market price. The dividend yield indicates the amount of return on the current share price. Dividend yield is only one way investors receive a return on their investment.

Stock splits are when the firm issues new shares of stock, which in turn, lowers the current market price. For example, assume you have 10 shares of stock priced at $100 per share ($1,000 total). If the stock splits two-for-one, you would then have 20 shares. The price of the stock would most likely decline from $100 per share to $50 per share ($100 divided by 2). You would still have the same total value of $1,000, but the price for each share would now be $50 per share instead of $100 per share, and you would now have 20 shares instead of 10 shares. While a stock split has no impact on a company's value, it may be a positive indicator of the company's prospects.

Reverse splits reduce the number of shares outstanding and raise the stock's price. A reverse split is the opposite of a stock split.

Stock repurchases are when companies buy back their own shares. This is generally positive for the investor because each time a company repurchases stock, the investor owns a larger proportion of the company. In addition, a stock repurchase signals to the market that the company considers their shares undervalued.

Classification of Common Stocks

There are a number of different classifications for stocks. You should recognize that these classifications are temporary and may differ from investor to investor and from one time period to another.

Blue-chip stocks are the stocks of the largest and best-managed companies. There is not a specific list of blue-chip stocks, and the stocks that are considered "blue chips" change from year to year. The phrase "blue chip" relates to poker, where the blue chips are the highest value of chip.

Growth stocks are the stocks of companies that are growing faster than average; these companies generally reinvest dividends. These companies also generally have higher price-earnings ratios and higher price-to-book ratios than the market as a whole.

Value stocks are less expensive, compared to the overall market. The companies that are value stocks generally have lower price-earnings ratios and lower price-to-book ratios than the market as a whole.

Income stocks are the stocks of companies that pay dividends on a regular basis.

Cyclical stocks are the stocks of companies whose share prices move up and down parallel to the state of the economy.

Defensive stocks are the stocks of companies whose share prices move opposite to the state of the economy.

Making Money in Stocks

Investors make money on stocks in two ways: dividends and capital gains.

Dividends are payments companies make to shareholders with part of the companies' profits. Different types of companies have different dividend policies, and these policies can change from year to year.

Capital gains: Investors purchase shares in companies with the expectation that the price of the shares will increase. This increase in share value is known as a capital gain. Because of lower tax

rates for long-term capital gains, capital gains are the preferred type of earnings for companies and individuals. The following are descriptions of the different types of capital gains:

Realized capital gains are gains that are realized when shares of an asset are sold.

Unrealized capital gains are known as "paper gains" because the asset has yet to be sold, and the gains have not yet been realized.

Short-term capital gains are gains that apply when stock is owned less than one year. These gains are taxed as ordinary income.

Long-term capital gains are gains where the investor has held the financial asset longer than 366 days. Making the distinction between short-term and long-term capital gains is important because gains made on shares owned longer than one year and sold are taxed at a preferential (lower) federal tax rate than gains made on shares owned less than one year and sold.

<h2 style="text-align:center; color:blue;">Understand How Stocks Are Valued</h2>

The goal of stock valuation is to determine the intrinsic value of a company (in other words, the company's fundamental economic value). If the market price of the company's stock is greater than the company's intrinsic value, the investor should sell the stock. If the market price of the company's stock is less than the company's intrinsic value, the investor should buy the stock. Determining a company's intrinsic value is one of the most challenging responsibilities an investor has. Determining this value is accomplished using various tools, including dividend discount models, fundamental analysis, cash-flow analysis, and technical analysis. Proper stock valuation is a difficult, time-consuming, and challenging activity—it is not something that can be done in a few minutes or that can be calculated using a program that can be purchased on the Internet. The purpose of this chapter is to familiarize you with some terminology that will help you understand stock valuation—not to give you the tools to value stocks. Teaching proper valuation of stocks is beyond the scope of this course.

Dividend discount models regard the value of a stock as the present value of all future dividends that will be earned while holding that stock; these dividends are discounted at the company's required rate of return, or discount rate. The value of a company's common stock is found by dividing the dividend you expect to have in the future by the current required rate of return you require for holding this stock, or discount rate (k), minus the stock's long-term growth rate (g).

$$\text{Value of common stock} = D_1 / (k - g)$$

The letter g represents how fast you expect dividends to grow over the next 50 years—the long-term growth rate. It is very difficult to determine the exact value of a company's stock using this method because it is impossible to accurately project either the dollar amount of future dividends

or the growth rate. However, this model may still be helpful in your stock analysis.

Fundamental analysis assumes that the value of the stock can be determined by the future earnings of the company. Analysts spend a great deal of time investigating the company, the industry, the global industry, and the global economy to determine the intrinsic value of the company and gather the necessary information for fundamental analysis. Fundamental analysis has been found to be a valuable tool for stock valuation, particularly when analysts are able to forecast earnings that are significantly different than the market consensus.

Cash-flow analysis assumes that the value of the company is measured by the discounted value of the free cash flows to all shareholders, including equity shareholders. Free cash flows are defined as cash flows in excess of cash flows required for operations and investment. To value a stock based on cash-flow analysis, investors build cash-flow models that forecast expected cash flows to all shareholders and to the company as a whole. While cash-flow analysis is helpful in determining intrinsic value, the value of the company often lies in areas that are difficult to quantify in terms of assets, such as video libraries for entertainment companies or patents for medical companies.

Technical analysis assumes that supply and demand are the key factors necessary to understand stock prices and markets. Technical analysis focuses on the psychological factors that determine a company's value, such as greed and fear, as well as the economic factors that determine a company's value. Major research studies have found that this type of analysis is not as reliable in predicting stock prices.

In addition to the methods discussed above, a few key ratios are often used to value stocks:

Price-earnings ratio (PE) is the market price of the stock divided by the earnings per share, or the amount you are paying for one dollar of earnings. The PE ratio is one of the most widely used ratios and compares the financial performance of different companies, industries, and markets. It is most useful when comparing a company's current PE ratio to a company's historical PE ratio (i.e., today's PE ratio compared to the PE ratio for each of the past 10 years), the industry PE ratio (i.e., a weighted average of all the PE ratios of companies within an industry), or the market PE ratio (i.e., a weighted average of all the PE ratios of companies within an market). The company's forecasted PE ratio, or the PE ratio for the upcoming year, is generally considered to be more important than the company's historical, or accounting, PE ratio.

Price-to-book ratio (PB) is the price of the company's stock divided by the company's book value per share, or the amount you are paying for one dollar's worth of assets, as shown on the balance sheet. The PB ratio does not consider the actual value of the assets, only the non-depreciated portion of the assets; there can often be a major discrepancy between the actual value of the assets and the book value of the assets.

Return on equity (ROE) is the company's earnings per share divided by the company's book values per share, or a measure of how well the company is utilizing its assets to make money.

Generally, the higher this ratio, the better the company is utilizing its resources. Understanding the trend of ROE is important because it indicates whether or not the company is improving its financial position.

Dividend payout ratio shows the dividends paid by the company divided by the earnings of the company. The dividend payout ratio can also be calculated as dividends per share divided by earnings per share. A high dividend payout ratio indicates that the company is returning a large percentage of company profits back to the shareholders. A low dividend payout ratio indicates that the company is retaining most of its profits for internal growth. The dividend payout ratio will be different for different types of companies.

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Know Why Stocks Fluctuate in Value

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There are many different reasons why stocks fluctuate in value. The most common reasons for fluctuations include changes in interest rates; the perceived risk of the company; company earnings, dividends, and cash flow; supply and demand; and investor sentiment in the market.

Interest rates: Investors require a certain expected return, or discount rate, to invest in stocks; this discount rate is greatly influenced by the interest rate. As interest rates decrease, shareholders' discount rates also decrease; future earnings are therefore discounted at a lower rate, which results in a higher value of the company. As interest rates increase, shareholders require a higher discount rate to invest; all future earnings are therefore discounted at this higher rate, which reduces the value of the company.

Perceived risk of the company: There is an inverse relationship between perceived risk of the company and its stock price. This is because as the perceived riskiness of the company decreases, investors are willing to pay more for the company stock; this results in an increase in stock price. The inverse of this situation is also true.

Earnings, dividends, and cash flow: As earnings, dividends, and cash flow per share increase beyond investor expectations, investors are willing to pay more for the stock, and the stock price generally increases. The inverse is also true.

Supply and demand: Stock prices may rise and fall based solely on supply and demand for the shares. For example, an investor with a large number of shares may need to sell shares of a stock to meet his or her cash needs. When the shareholder sells these shares, the supply of shares that are for sale increases, and the price of the shares is likely to fall. Likewise, if an investor gets new money into his or her accounts and decides to substantially increase his or her holdings in a stock, the price for that stock will likely rise as demand increases.

Investor sentiment in the market: Stock prices may rise or fall based on the general sentiment investors have about the market and about how well the overall market is performing. If investor sentiment is positive and the market is performing well, investors will likely bid up the price of all stocks. If investor sentiment is negative and the market is performing poorly, investors will

typically be less willing to purchase stock, resulting in lower stock prices.

Know Stock-Investing Strategies

There are several different strategies for investing in stocks. The most common are the buy-and-hold strategy, the dollar-cost averaging strategy, and the dividend-reinvestment strategy.

Buy-and-Hold Strategy

The buy-and-hold strategy refers to buying a stock and holding it for an extended period of time. This is a very cost-effective, long-term strategy. This strategy helps investors minimize brokerage fees and avoid market timing, where investors try to forecast whether the market will go up or down and invest accordingly. It also minimizes taxes because realized gains are taxed as long-term instead of short-term capital gains. Since you keep the stock for an extended period of time, you are not taxed on unrealized capital gains until these gains are realized when you sell the stock. Moreover, while you may still receive dividends each year, these dividends are taxed at lower rates than interest rates on bonds or savings accounts.

Dollar-Cost Averaging

Dollar-cost averaging refers to purchasing a fixed dollar amount of a security at regular intervals, for example, every month. This investing strategy is based on the general trend of the market and averages out fluctuations in the market; it takes luck and market timing out of the equation, and it adds discipline to your investing. This is a good investment strategy, particularly if you are planning to fund your investments by paying yourself (taking 10 to 20 percent or more out of your paycheck each month).

Dividend-Reinvestment Plans (DRIPs)

A dividend-reinvestment plan refers to a strategy in which additional shares of stock are purchased with a stock's dividend payments. This strategy simplifies the investment process by allowing you to avoid brokerage fees in purchasing additional shares of stock. While you still pay taxes each year on the dividends received, the avoidance of brokerage costs results in a higher overall return.

Calculate the Costs of Investing in Stocks

The costs of investing in stocks can be divided into three categories: explicit costs, implicit costs, and hidden costs.

Explicit Costs

Explicit costs are reported to you each month; these costs include brokerage commissions and custody fees.

Brokerage commissions are service charges assessed by a broker in return for arranging purchases or sales of financial assets. Commissions vary widely from broker to broker. The commission may be a set amount, such as $15 for a sale or trade, or a percentage of the purchase or sale price, such as 75 basis points (0.75 percent). Commissions apply to both buying and selling. You should agree on these costs with your broker prior to trading.

Custody fees, or annual fees are the fees a brokerage house charges for holding stocks, bonds, or mutual funds in your account. These charges may be a minimum amount for stock accounts (for example, $15 per year) or a specific charge per holding (for example, 18 basis points per security). These fees may also be assessed as a percentage of assets under management (for example, 25 basis points).

Implicit Costs

Implicit costs are those you may not see until months after you sell a security. The most common implicit cost is taxes. It is critical that you account for taxes when you are valuing the total return of your portfolio. Implicit costs such as taxes are not noted on your monthly report, and most investors do not think about them until they have to pay them. Understand taxes before you begin paying them.

Taxes on capital gains: Capital gains are earned by selling stocks or securities. Short-term capital gains are earned when you sell assets you owned for less than a year: they are taxed at your marginal tax rate, which includes both your federal and state marginal tax rates. Long-term capital gains are earned when you sell assets you held for more than one year: they are taxed at 0 to 23.8 percent, depending on your income level and how long you held the assets. Generally, the longer you hold an asset, the longer you can defer paying taxes on capital gains.

Taxes on stock dividends: Dividends are the returns you get from a company. Previously, stock dividends were taxed at your income rate. However, because of the tax changes in 2003 and 2013, stock dividends are now taxed the same as capital gains.

See Figure 1 below for further understanding of taxes on long term capital gains and stock dividends.

Hidden Costs

In addition to understanding explicit and implicit costs, you should be aware of these hidden costs involved in investing in stocks:

Account transfer fees are costs for moving assets in or out of an existing account. Understand the costs before you begin trading.

Account maintenance fees are fees for maintaining your account.

Inactivity fees are fees for not having any account activity over a certain period of time.

Minimum balance fees are charged when you fail to maintain the required minimum balance in your account. Make sure you know what the minimum balance on your account is.

Interest on margin loans is interest charged on money you borrow to buy securities.

Summary

Of all the major asset classes, stocks have consistently delivered the highest return over the longest period of time. It is therefore critical for you to understand basic information about stocks if you want to achieve better returns than those yielded by long-term bonds.

Stocks, or equities, are an important part of most investors' portfolios. As an asset class (and not as individual stocks), common stocks have a history of delivering strong, long-term capital gains; stocks are the best and most tax-efficient type of investment return. Having individual stocks in a diversified portfolio can reduce the overall risk of the portfolio. Stocks are susceptible to a number of risks, including interest-rate, inflation, company, financial, liquidity, political or regulatory, exchange-rate, and market risks.

Understanding stocks requires you to understand a new set of terminology. There are a number of different classifications for stocks. You should realize that these classifications are temporary: they may differ from investor to investor and from one time period to another. Investors make money on stocks in two ways: dividends and capital gains.

The goal of stock valuation is to determine the intrinsic value of a company, or the company's fundamental economic value. If the market price of the company's stock is greater than the company's intrinsic value, the investor should sell the stock. If the market price of the company's stock is less than the company's intrinsic value, the investor should buy the stock. Determining a company's intrinsic value is one of the most challenging responsibilities an investor has. Determining this value is accomplished using various tools, including dividend discount models, fundamental analysis, cash-flow analysis, and technical analysis. Proper stock valuation is a difficult, time-consuming, and challenging activity.

Assignments

Financial Plan Assignments

Continue to work on your Investment Plan. As you do, it your assignment is to review the history of stocks over the past 5, 10, 25, 50, and 75 years. How have stocks performed overall? What do stocks add to a portfolio? What disadvantages do stocks have? How can you minimize the disadvantages of stocks, while at the same time enjoying the advantages stocks offer? While stocks may be risky in the short term, they deliver higher risk-adjusted returns in the long term. Consider the following concepts:

Benchmarks: What are the major benchmarks or indexes that correspond with stocks? (See Possible Benchmarks for Investment Plans (LT15)). It is likely you will include stocks in your diversified portfolio, so it is important that you select the major benchmarks you will follow to help you understand how stocks perform.

Generally, investors consider stocks more risky than bonds. What do they mean by that? To see graphically the volatility of stocks versus other asset classes, open Historical Return Simulation for Asset Classes (LT23). Go to the *Asset Class Data* tab and use the light-blue drop-down boxes to select your asset classes (or you can just use the asset classes listed). Use the dark-blue drop-down boxes to select your time period. Then go to the *Charts* tab. Push the *F9* button to see the impact of standard deviation.

This worksheet builds random portfolios with the expected return and standard deviation of the period and asset class chosen. It then assumes that each asset class builds 10 different portfolios, and those portfolios are run for 20 years. The differences between the 10 different portfolios are shown in the same colored lines. The more the colored lines move together, i.e., the more each of the random portfolios move together, the less risky or less volatile the asset class. The more the same colored lines diverge, the more risky or more volatile the asset class. Now compare the portfolios for large-capitalization stocks, small-capitalization stocks, and international stocks. You may get a sense for the volatility in this asset class.

While stocks are generally more volatile (or risky) than bonds, their returns are higher to compensate for this additional risk. To see what the returns have been for various types of stocks, go to Expected Return Simulation and Benchmarks (LT27). Go to the tab labeled *Returns and Risk*. Look for the 1-, 5-, 10-, 25-, 50-, 75- and 85-year returns for large-capitalization, small-capitalization, international, and emerging-market stocks. How have these assets performed compared with bonds or inflation? You might also look at the return and risk history of Real Estate Investment Trusts, or REITs, which have characteristics of both equities and bonds.

Now that you have reviewed the historical asset class performance, estimate your expected return for your Plan for Stage 1 and Stage 2. This process involves three steps:

1. Determine your asset-allocation targets.
2. Using those targets, use historical estimates over specific time periods to get a recommendation for your expected return.
3. Adjust the historical data to take into account current market conditions and expectations.

First, to get your asset-allocation targets, start with your stocks, bonds, and other asset class allocations determined earlier in Section III.C.1 and III.C.2. For most individuals, your initial emergency fund allocation will be to Treasury Bonds, completing your bond allocation. The more difficult allocation is to divide up your equity or stock allocations. It is important to recognize risk in building your portfolio. Your bond allocations are generally the least risky. Within stocks, the large-cap stocks add the next level of risk and are generally the least risky of

all equities. Next in order of risk come small-cap stocks, international stocks, and emerging-market stocks, all of which have much more risk than large-cap stocks. I generally recommend that investors have over half or more of their stock allocations in large-cap stocks because they are the least risky of all stocks or equities. Conservative and very conservative investors may have two-thirds to three-quarters of their equity allocation in these large-cap stocks. Realize that your allocation will differ in comparison to other investors depending on your age, risk tolerance, and investment experiences.

Finally, there are asset classes that are neither bonds nor equities but have some characteristics of both. Real Estate Investment Trusts (REITs) fall under this category and may be useful to include in your allocation. I include these as "Other Asset Classes."

I strongly recommend you have a minimum of four asset classes, consistent with building your investment portfolio. I generally recommend investors include more asset classes than four, with the riskier asset classes (i.e., small-cap and emerging-market stocks) limited in their allocations to between 5 percent and 15 percent. Determine your asset allocation targets for Stage 1 (now) and Stage 2 (retirement) and include these targets in Section III.B.1 and III.B.2.

Second, you need to get an idea of how that allocation would have done using historical data and your proposed asset allocation. To determine this historical return, use Expected Return Simulation and Benchmarks (LT27) and include this as Exhibit 1. Using the light-blue drop-down boxes, include the asset classes you are interested in. Using the dark-blue drop-down boxes, include the time periods over which you are interested. Finally, using the green boxes, type in your allocation targets for each asset class, making sure the totals add up to 100 percent. For example, a period of 80 means you are using the last 80 years of data ending in 2007 and calculating the geometric return for that asset class. Note that your choice of time periods will have a significant effect on the historical data. I generally recommend that investors use the longest time period available.

After you have entered your allocations and time periods, **LT27** will give you a weighted return using historical data. I encourage you to change the time periods (look at 1, 5, 10, 50, and 80 years to see what impact that has on your weighted returns). Determine your weighted return for Stages 1 and 2, your periods before and during retirement.

Finally, adjust the expected returns from **LT27** to account for current market conditions. I strongly recommend that if your weighted return is greater than 8 percent from the historical returns, use an expected return of less than 8 percent (6.5-7.5 percent). I also recommend that your expected return for Stage 2, or retirement, be less than your expected return on Stage 1. Determine your expected return and enter these into your Plan in Sections I.A.1 and I.A.2. Print off Exhibit 1 from **LT27.**

To calculate risk, instead of using standard deviation, beta, or other measure of risk, we have simplified the plan to state that we accept the risk of our weighted benchmarks. Copy your allocations from Section III.B.1 and II.B.2 to the sections on risk in Section I.B.1 and I.B.2.

Learning Tools

The following Learning Tools may be helpful as you prepare your Personal Financial Plan:

Possible Benchmarks for Investment Plans (LT15)
> This document shows possible benchmarks for most of the major asset classes.

Historical Return Simulation for Asset Classes (LT23)
> This spreadsheet shows the impact of various investment strategies and the volatility for different asset classes. This spreadsheet will also show you the historical impact of different asset allocation decisions for several asset classes.

After-Tax, ETY, and Other After-Inflation Returns (LT26)
> This spreadsheet calculates the after-tax return, equivalent taxable yield, and after-inflation return on various assets.

Expected Return Simulation and Benchmarks (LT27)
> This spreadsheet shows a historical perspective on returns and standard deviation (risk) for the major asset classes over the last 1, 5, 10, 25, 50, 75, and 85 years. The spreadsheet also includes recommended benchmarks for some of the major asset classes.

Review Materials

Terminology Review

> **Assets under management**. This is another way an investment advisor is paid. It is calculated as a percentage of your assets under management, i.e., if you have $500,000 with an advisor and their fee is 1.0% per year, you will pay them $5,000 per year.

> **Captive brokers**. These are brokers whose company is part of a group which owns a mutual fund company. These brokers may be encouraged to sell company mutual funds which may not be the best fit for the investor but are in the interest of the company.

> **Cash accounts**. This is money with the broker which you use to pay for purchases or receive any cash. There is a specific time between notification of purchases and when the purchases must be paid.

> **Commissions**. Commissions are the way a broker or investment advisor is paid. It is either a percentage of every buy or sell order (e.g., 20 bps per trade), or a specific charge for a trade (e.g., $9.99).

> **Day orders**. These are orders to buy and sell securities which are good only until the end of the trading day.

Deep-discount and on-line brokers. These are brokers who are even cheaper than discount brokers. They do only trading, but at a 90% discount to full-service brokers. On-line can even be cheaper with other services.

Discount-service brokers. These are brokers who only perform trading, but usually at a 50% to 70% discount to full-service costs.

Discretionary accounts. These are accounts where you authorize a broker or investment advisor to make trades for you and your account. Exercise caution with this as the broker can buy and sell securities at will and you are responsible for all taxes and commission costs.

Full-service brokers. These are brokers who will give you all the tools, research and other advice to help you trade and invest.

Independent brokers. These are brokers whose company is not part of a major chain or who own a captive mutual fund company. They may be inclined to give unbiased advice as they do not sell specific mutual funds.

Initial public offerings (IPOs). These are the very first shares ever issued by a company. Investment bankers serve as underwriters or intermediaries for these IPOs

Investment advisor. A person or an organization that helps makes the day-to-day decisions regarding a portfolio's investments for investors.

Limit orders. These are orders to sell or buy a specific number of shares at a specific price or better. This is generally the best method in working with brokers.

Maintenance margin. This is money you put up to buy on margin. If your maintenance margin falls below a specific level, you will be required to put up more money. If not, your position will be closed out.

Margin accounts. These are accounts where you borrow from the brokerage firm to purchase financial assets. This is debt, and can amplify both gains and losses.

Margin call. This is a call by the broker to put up more money when your margin declines below a certain level. I recommend you do not buy on margin. It is using debt to invest and you can lose more than your original investment doing this.

Market orders. These are orders to sell or buy a specific number of shares at the currently available or market price. Be careful as the market can move quickly and dramatically between when you place the order and order execution time.

Open orders (GTC: good till canceled, GTD: good till date specified). These are orders which are good until filled or canceled. Be very careful with open or GTC /GTD orders.

If you fail to cancel specific orders, you might have orders filled that you forgot to close out.

Primary and Secondary markets. Primary markets are markets for trading newly issued securities. Secondary markets are for trading already issued shares of stocks, bonds, and other securities. Secondary markets consist of organized exchanges and over-the-counter or electronic markets where existing shares are traded.

Securities markets or organized exchanges. These are areas used to facilitate trading of financial instruments.

Over-the-Counter (OTC) Market. This is an electronic network of dealers used to execute trades without specialists or middle-men.

Seasoned new issues. These are new shares being issued by a company that is already publicly traded.

Stockbroker. A stockbroker is a person who is employed by and solicits business for a commission house or merchant.

Stop (or stop-loss) orders. These are orders to sell a specific number of shares if the stock price falls below a certain price or buy a specific number of shares if the stock price rises above a certain price. These are used to set prices to safeguard against major fluctuations.

Review Questions

1. What are eight risks that stocks are susceptible to?
2. What is leverage? How does leverage affect risk?
3. What is common stock? Preferred stock?
4. What are the two ways an investor can make money in stocks?
5. What is the goal of stock valuation? Why is it important for an investor to know a company's intrinsic value? Based on a company's intrinsic value, when should an investor buy or sell a stock?

Case Studies

Case Study 1

Data

Peter and Jessica, acting on the advice of their next-door neighbor, recently purchased their first stock, 500 shares of a small-capitalization Internet company trading at $80 per share. The neighbor told them that the stock was a "real money maker" because it recently had a two-for-one stock split and would probably split again soon. Even better, according to the neighbor, the company was expected to earn $1 per share and pay a

$0.25 dividend next year. Peter and Jessica have so far been unimpressed with the stock's performance—the stock had underperformed the S&P 500 index this year.

Application

Peter and Jessica have come to you for advice. What is your recommendation?

Case Study 1 Answer

Peter and Jessica lack an important part of investing process—knowledge of what they are invested in. Apparently their next-door neighbor lacks that same understanding. Buying stock is the process of understanding and owning a piece of a company. It is not enough to just know the numbers; they must know what the numbers mean, especially with individual stocks. Peter and Jessica do not know what the numbers mean.

Before they invest in individual stocks, they should learn more about the investment process. When buying individual stocks, it is critical to understand what is going on in the world, region, country, economy, industry, and company. They need to understand Investing Principles 6 and 8: If you must invest in individual assets, know what you invest in and who you invest with, and don't waste too much time, money, and energy trying to beat the market.

For people who have never invested before, I believe buying mutual funds (which are portfolios of stocks or bonds) is a much better first step in the investment-education process. Buying individual stocks is the last step on the bottom of the investment hourglass, not the first step.

Case Study 2

Data

Anne own 200 shares of ABC stock, selling at $410 per share. In order to make the stock more affordable for the average investor, ABC's management has decided to split the stock.

Calculations

A. How much was Anne's investment before the split?

B. Assuming ABC's management decides to split the stock three-for-one, how many shares would Anne own after the split?

C. What is the new price per share after the split?

D. How much would Anne's investment be worth after the three-for-one split?

Case Study 2 Answers

Calculations

A. Before the split, Anne's investment was worth $82,000, or 200 shares multiplied by $410 per share.

B. Afterward, Anne would have 600 shares, or 200 shares multiplied by 3.

C. Afterward, the price of the share should decline to $136.67, or $410 divided by 3.

D. After the split, the value of Anne's investment should remain at $82,000, or $136.67 multiplied by 600 shares.

Case Study 3

Data

MAM Corporation recently announced that its year-end earnings per share (EPS) for this last year was $4.50, and they estimate next year's EPS will be $5 per share. MAM stock is currently selling at $85 per share.

Calculations

A. What is the historical (last year's) PE ratio for MAM?

B. What is the estimated (or forward) PE ratio for MAM?

C. Assume the earnings prospects for MAM deteriorate and the company now estimates next year's earnings to be $4 per share. What would be MAM's new forward PE ratio?

Case Study 3 Answers

Divide the price per share by the earnings per share to calculate the respective PE ratios. PE ratios are normally computed with an x after them to denote "times."

A. The historical PE is $85 / $4.5, or 18.9x.

B. The forecast or forward PE ratio is $85 / $5, or 17.0x.

C. Assuming prospects decline for next year, the forecast or forward PE ratio would be $85 / $4, or 21.3x.

Case Study 4

Data

Clinton owns 1,000 shares of Boston Scientific Stock, selling at $50 per share at the beginning of the year. He is in the 25 percent federal marginal tax rate, and he live in a state that has no state income tax. At the end of the year, the stock rose to $55 and he received $1.50 in dividends.

Calculations

A. What was Clinton's before-tax return?

B. What is Clinton's after-tax return, assuming he held the stock?

Case Study 4 Answers

Calculations

A. Clinton only pays taxes on realized income, not unrealized income. Clinton's before-tax return is:

(55 – 50 + 1.5) / 50, or 13.0%.

B. Clinton's after-tax return would include the unrealized capital gains and the dividend after he paid taxes. Since this is a stock dividend, it is taxed at the preferential rate of 15%. The after-tax return is:

(55 – 50 + [1.50 * (1 – .15)]) / 50 = 12.55%.

Of the $1.50 dividends, Clinton pays 22.5 cents in taxes and keeps the remaining amount.