

Introduction

There is a wide range of financial instruments. The most general classification of financial instruments is based on the nature of the claim that the investor has on the issuer of the instrument. When the contractual arrangement is one in which the issuer agrees to pay interest and repay the amount borrowed, the financial instrument is said to be a *debt instrument*. In contrast to a debt instrument, an *equity instrument* represents an ownership interest in the entity that has issued the financial instrument. The holder of an equity instrument is entitled to receive a pro rata share of earnings, if any, after the holders of debt instruments have been paid. Common stock is an example of an equity claim. A partnership share in a business is another example.

Some financial instruments fall into both categories in terms of their attributes. Preferred stock, for example, is an equity instrument that entitles the investor to receive a fixed amount of earnings. This payment is contingent, however, and due only after payments to holders of debt instrument are made. Another hybrid instrument is a convertible bond, which allows the investor to convert a debt instrument into an equity instrument under certain circumstances. Both debt instruments and preferred stock are called *fixed income instruments*.

In this chapter, we'll provide some basics about financial instruments, the general types of risks associated with investing, and characteristics of asset classes.

RISKS ASSOCIATED WITH INVESTING

There are various risks associated with investing and these will be described throughout the book. Here we will provide a brief review of the major risks associated with investing.

Total Risk

The dictionary defines risk as “hazard, peril, exposure to loss or injury.” With respect to investing, investors have used a variety of definitions to describe risk. Today, the most commonly accepted definition of risk is one that involves a well-known statistical measure known as the variance and is referred to as the *total risk*. The variance measures the dispersion of the outcomes around the expected value of all outcomes. Another name for the expected value is the average value.

In applying this statistical measure to the returns for a financial instrument, which we refer to as an asset for our discussion here, the observed returns on that asset over some time period are first obtained. Appendix A explains how returns for an asset are calculated. From those observed returns, the average return (which is the average or mean value) can be computed and using that average value, the variance can be computed. The square root of the variance is the standard deviation.

Despite the dominance of the variance (or standard deviation) as a measure of total risk, there are problems with using this measure to quantify the total risk for many of the assets we describe in this book. The first problem is that since the variance measures the dispersion of an asset’s return around its expected value, it considers the possibility of returns above the expected return and below the average return. Investors, however, do not view possible returns above the expected return as an unfavorable outcome. In fact, such outcomes are viewed as favorable. Because of this, it is argued that measures of risk should not consider the possible returns above the expected return. Various measures of downside risk, such as risk of loss and value at risk, are currently being used by practitioners.

The second problem is that the variance is only one measure of how the returns vary around the expected return. When a probability distribution is not symmetrical around its expected return, then another statistical measure known as *skewness* should be used in addition to the variance. Skewed distributions are referred to in terms of *tails* and *mass*. The tails of a probability distribution for returns is important because it is in the tails where the extreme values exist. An investor should be aware of the potential adverse extreme values for an investment and an investment portfolio. The statistical measures important for understanding risk, skewness and kurtosis, are explained in Appendix B.

Diversification

One way of reducing the total risk associated with holding an individual asset is by diversifying. Often, one hears financial advisors and professional

money managers talking about diversifying their portfolio. By this it is meant the construction of a portfolio in such a way as to reduce the portfolio's total risk without sacrificing expected return. This is certainly a goal that investors should seek. However, the question is, how does one do this in practice?

Some financial advisors and the popular press might say that a portfolio can be diversified by including assets across all asset classes. (We'll explain in more detail what we mean by an asset class below.) Although that might be reasonable, two questions must be addressed in order to construct a diversified portfolio. First, how much of the investor's wealth should be invested in each asset class? Second, given the allocation, which specific assets should the investor select?

Some investors who focus only on one asset class such as common stock argue that such portfolios should also be diversified. By this they mean that an investor should not place all funds in the stock of one company, but rather should include stocks of many companies. Here, too, several questions must be answered in order to construct a diversified portfolio. First, which companies should be represented in the portfolio? Second, how much of the portfolio should be allocated to the stocks of each company?

Prior to the development of portfolio theory by Harry Markowitz in 1952,¹ while financial advisors often talked about diversification in these general terms, they never provided the analytical tools by which to answer the questions posed here. Markowitz demonstrated that a diversification strategy should take into account the degree of correlation (or covariance) between asset returns in a portfolio. The correlation of asset returns is a measure of the degree to which the returns on two assets vary or change together. Correlation values range from -1 to $+1$.

Indeed, a key contribution of what is now popularly referred to as "Markowitz diversification" or "mean-variance diversification" is the formulation of an asset's risk in terms of a portfolio of assets, rather than the total risk of an individual asset. Markowitz diversification seeks to combine assets in a portfolio with returns that are less than perfectly positively correlated in an effort to lower the portfolio's total risk (variance) without sacrificing return. It is the concern for maintaining expected return while lowering the portfolio's total risk through an analysis of the correlation between asset returns that separates Markowitz diversification from other approaches suggested for diversification and makes it more effective.

The principle of Markowitz diversification states that as the correlation between the returns for assets that are combined in a portfolio decreases, so does the variance of the portfolio's total return. The good news is that

¹Harry M. Markowitz, "Portfolio Selection," *Journal of Finance* 7, no. 1 (1952): 77-91.

investors can maintain expected portfolio return and lower portfolio total risk by combining assets with lower (and preferably negative) correlations. However, the bad news is that very few assets have small to negative correlations with other assets. The problem, then, becomes one of searching among a large number of assets in an effort to discover the portfolio with the minimum risk at a given level of expected return or, equivalently, the highest expected return at a given level of risk. Such portfolios are called *efficient portfolios*.

The recent financial market crisis has taught an important lesson about constructing efficient portfolios and what to expect from them. Specifically, when constructing a portfolio based on the historical correlations observed, there is no assurance that those correlations may not adversely change over time, particularly in stressful periods in financial markets. By “adversely change” it is meant that correlations that may be considerably less than one when designing a diversified portfolio might move closer to one. This is because during such times there are typically massive sell offs of all assets because of the concerns of a systemic threat to the financial markets throughout the world.

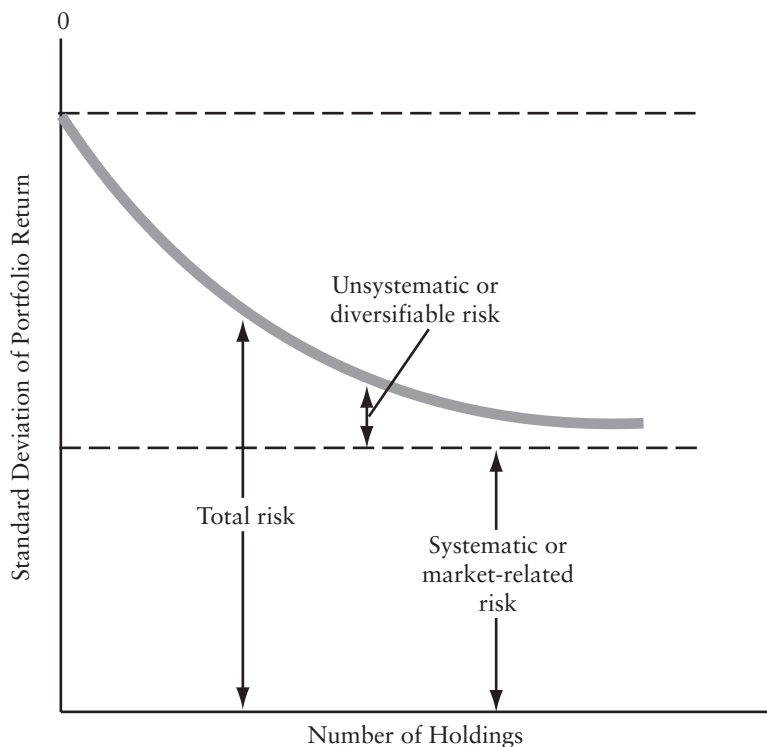
Systematic vs. Unsystematic Risk

The total risk of an asset or a portfolio can be divided into two types of risk: systematic risk and unsystematic risk. William Sharpe defined *systematic risk* as the portion of an asset’s variability that can be attributed to a common factor.² It is more popularly referred to as *market risk*. Because in the models developed to explain how total risk can be partitioned, the Greek letter beta was used to represent the quantity of systematic risk associated with an asset or portfolio, the term “beta” or “beta risk” has been used to mean market risk.

Systematic risk is the minimum level of risk that can be attained for a portfolio by means of diversification across a large number of randomly chosen assets. As such, systematic risk is that which results from general market and economic conditions that cannot be diversified away. For this reason the term *undiversifiable risk* is also used to describe systematic risk.

Sharpe defined the portion of an asset’s return variability (i.e., total risk) that can be diversified away as *unsystematic risk*. It is also called *diversifiable risk*, *unique risk*, *residual risk*, *idiosyncratic risk*, or *company-specific risk*. This is the risk that is unique to a company, such as an employee strike, the outcome of unfavorable litigation, or a natural catastrophe.

²William F. Sharpe, “Capital Asset Prices,” *Journal of Finance* 19, no. 3 (1963): 425–442.

EXHIBIT 1.1 Systematic and Unsystematic Portfolio Risk

How diversification reduces unsystematic risk for portfolios is illustrated in Exhibit 1.1. The vertical axis shows the standard deviation of a portfolio's total return. The standard deviation represents the total risk for the portfolio (systematic plus unsystematic). The horizontal axis shows the number of holdings of different assets (e.g., the number of common stock held of different companies). As can be seen, as the number of asset holdings increases (assuming that the assets are less than perfectly correlated as discussed below), the level of unsystematic risk is almost completely eliminated (that is, diversified away). The risk that remains is systematic risk. Studies of different asset classes support this. For example, for common stock, several studies suggest that a portfolio size of about 20 randomly selected companies will completely eliminate unsystematic risk leaving only systematic risk.

The relationship between the movement in the price of an asset and the market can be estimated statistically. There are two products of the estimated relationship that investors use. The first is the beta of an asset.

Beta measures the sensitivity of an asset's return to changes in the market's return. Hence, beta is referred to as an index of systematic risk due to general market conditions that cannot be diversified away. For example, if an asset has a beta of 1.5, it means that, on average, if the market changes by 1%, the asset's return changes by about 1.5%. The beta for the market is one. A beta that is greater than one means that systematic risk is greater than that of the market; a beta less than one means that the systematic risk is less than that of the market. Brokerage firms, vendors such as Bloomberg, Yahoo! Finance, and online Internet services provide information on beta for common stock.

The second product is the ratio of the amount of systematic risk relative to the total risk. This ratio, called the coefficient of determination or *R-squared*, varies from zero to one. A value of 0.8 for a portfolio means that 80% of the variation in the portfolio's return is explained by movements in the market. For individual assets, this ratio is typically low because there is a good deal of unsystematic risk. However, as shown in Exhibit 1.1, through diversification the ratio increases as unsystematic risk is reduced.

Inflation or Purchasing Power Risk

Inflation risk, or *purchasing power risk*, is the potential erosion in the value of an asset's cash flows due to inflation, as measured in terms of purchasing power. For example, if an investor purchases an asset that produces an annual return of 5% and the rate of inflation is 3%, the purchasing power of the investor has not increased by 5%. Instead, the investor's purchasing power has increased by 2%.

Different asset classes have different exposure to inflation risk. As explained in later chapters, there are some financial instruments specifically designed to adjust for the rate of inflation.

Credit Risk

The typical definition of *credit risk* is that it is the risk that a borrower will fail to satisfy its financial obligations under a debt agreement. The securities issued by the U.S. Department of the Treasury are viewed as free of credit risk. (Whether this remains true in the future will depend on the U.S. government economic policies.) An investor who purchases an asset not guaranteed by the U.S. government is viewed as being exposed to credit risk. Actually, there are several forms of credit risk: default risk, downgrade risk, and spread risk. We describe these various risks in Chapter 4 and we will see that the definition of credit risk given above is for that of default risk.

Liquidity Risk

When an investor wants to sell an asset, he or she is concerned whether the price that can be obtained is close to the true value of the asset. For example, if recent trades in the market for a particular asset have been between \$40 and \$40.50 and market conditions have not changed, an investor would expect to sell the asset in that range.

Liquidity risk is the risk that the investor will have to sell an asset below its true value where the true value is indicated by a recent transaction. The primary measure of liquidity is the size of the spread between the bid price (the price at which a dealer is willing to buy an asset) and the ask price (the price at which a dealer is willing to sell an asset). The wider the bid-ask spread, the greater the liquidity risk.

Exchange Rate or Currency Risk

An asset whose cash flows are not in the investor's domestic currency has unknown cash flows in the domestic currency. The cash flows in the investor's domestic currency are dependent on the exchange rate at the time the payments are received from the asset. For example, suppose an investor's domestic currency is the U.S. dollar and that the investor purchases an asset whose payments are in euros. If the euro depreciates relative to the U.S. dollar at the time a euro payment is received, then fewer U.S. dollars will be received.

The risk of receiving less of the domestic currency than is expected at the time of purchase when an asset makes payments in a currency other than the investor's domestic currency is called *exchange rate risk* or *currency risk*.

ASSET CLASSES

In most developed countries, the four major asset classes are (1) common stocks, (2) bonds, (3) cash equivalents, and (4) real estate. Why are they referred to as asset classes? That is, how do we define an *asset class*? There are several ways to do so. The first is in terms of the investment attributes that the members of an asset class have in common. These investment characteristics include

- The major economic factors that influence the value of the asset class and, as a result, correlate highly with the returns of each member included in the asset class.
- Risk and return characteristics that are similar.
- A common legal or regulatory structure.

Based on this way of defining an asset class, the correlation between the returns of two different asset classes—the key statistical measure for successful diversification—would be low.

Mark Kritzman offers a second way of defining an asset class based simply on a group of assets that is treated as an asset class by asset managers.³ He writes:

some investments take on the status of an asset class simply because the managers of these assets promote them as an asset class. They believe that investors will be more inclined to allocate funds to their products if they are viewed as an asset class rather than merely as an investment strategy. (p. 79)

Kritzman then goes on to propose criteria for determining asset class status which includes the attributes that we mentioned above and that will be described in more detail in later chapters.

Based on these two ways of defining asset classes, the four major asset classes above can be extended to create other asset classes. From the perspective of a U.S. investor, for example, the four major asset classes listed earlier have been expanded as follows by separating foreign securities from U.S. securities: (1) U.S. common stocks, (2) non-U.S. (or foreign) common stocks, (3) U.S. bonds, (4) non-U.S. bonds, (5) cash equivalents, and (6) real estate.

Common stocks and bonds are commonly further partitioned into more asset classes. For U.S. common stocks (also referred to as U.S. equities), asset classes are based on market capitalization and style (growth versus value).

The *market capitalization* of a firm, commonly referred to as “market cap,” is the total market value of its common stock outstanding. For example, suppose that a corporation has 400 million shares of common stock outstanding and each share has a market value of \$100. Then the market capitalization of this company is \$40 billion (400 million shares times \$100 per share). The categories of common stock based on market capitalization are *mega-cap* (greater than \$200 billion), *large cap* (\$10 billion to \$200 billion), *mid-cap* (\$1 billion to \$10 billion), *small cap* (\$300 million to \$1 billion), *micro-cap* (\$50 million to \$300 million), and *nano-cap* (less than \$50 million).

While the market cap of a company is easy to determine given the market price per share and the number of shares outstanding, how does one define “value” and “growth” stocks? We describe how this done in Chapter 3.

For U.S. bonds, also referred to as fixed income securities, the following are classified as asset classes: (1) U.S. government bonds, (2) corporate bonds, (3) U.S. municipal bonds (i.e., state and local bonds), (4) residential

³Mark Kritzman, “Toward Defining an Asset Class,” *Journal of Alternative Investments* 2, no. 1 (1999): 79–82.

mortgage-backed securities, (5) commercial mortgage-backed securities, and (6) asset-backed securities. In turn, several of these asset classes are further segmented by the credit rating of the issuer. For example, for corporate bonds, investment-grade (i.e., high credit quality) corporate bonds and non-investment grade corporate bonds (i.e., speculative quality) are treated as two asset classes.

For non-U.S. stocks and bonds, the following are classified as asset classes: (1) developed market foreign stocks, (2) developed market foreign bonds, (3) emerging market foreign stocks, and (4) emerging market foreign bonds. The characteristics that market participants use to describe emerging markets is that the countries in this group:

- Have economies that are in transition but have started implementing political, economic, and financial market reforms in order to participate in the global capital market.
- May expose investors to significant price volatility attributable to political risk and the unstable value of their currency.
- Have a short period over which their financial markets have operated.

Loucks, Penicook, and Schillhorn describe what is meant by an emerging market as follows:⁴

Emerging market issuers rely on international investors for capital. Emerging markets cannot finance their fiscal deficits domestically because domestic capital markets are poorly developed and local investors are unable or unwilling to lend to the government. Although emerging market issuers differ greatly in terms of credit risk, dependence on foreign capital is the most basic characteristic of the asset class. (p. 340)

The asset classes above are referred to as *traditional asset classes*. Other asset classes are referred to as *nontraditional asset classes* or *alternative asset classes*. They include hedge funds, private equity, and commodities and are discussed later.

Real Estate

Before we discuss alternative asset classes, we provide a brief digression to consider where real estate belongs in our classification scheme. Real estate

⁴Maria Mednikov Loucks, John A. Penicook, and Uwe Schillhorn, "Emerging Markets Debt," Chapter 31 in *Handbook of Finance: Vol. I, Financial Markets and Instruments*, edited by Frank J. Fabozzi (Hoboken, N.J.: John Wiley & Sons, 2008).

is a distinct asset class, but is it an alternative asset class? There are three reasons why we do not consider real estate to be an alternative asset class.

First, real estate was an asset class long before stocks and bonds became the investment of choice. In fact, in times past, land was the single most important asset class. Kings, queens, lords, and nobles measured their wealth by the amount of property that they owned. “Land barons” were aptly named. Ownership of land was reserved only for the wealthiest of society. However, over the past 200 years, our economic society changed from one based on the ownership of property to the ownership of legal entities. This transformation occurred as society moved from the agricultural age to the industrial age. Production of goods and services became the new source of wealth and power.

Stocks and bonds evolved to support the financing needs of new enterprises that manufactured material goods and services. In fact, stocks and bonds became the “alternatives” to real estate instead of vice versa. With general acceptance of owning equity or debt stakes in companies, it is sometimes forgotten that real estate was the original and primary asset class of society. In fact, it was less than 30 years ago that in the United States real estate was the major asset class of most individual investors. This exposure was the result of owning a primary residence. It was not until around 1983 that investors began to diversify their wealth into the “alternative” assets of stocks and bonds.

Second, given the long-term presence of real estate as an asset class, models have been developed based on expected cash flows for valuing real estate.

Finally, real estate is not an alternative to stocks and bonds—it is a fundamental asset class that should be included within every diversified portfolio. The alternative assets that we describe in this book are meant to diversify the stock-and-bond holdings within a portfolio context.

What Is an Alternative Asset Class?

Part of the difficulty of working with alternative asset classes is defining them. Are they a separate asset class or a subset of an existing asset class? Do they hedge the investment opportunity set or expand it? That is, in terms of Markowitz diversification, do they improve the efficient portfolio for a given level of risk? This means that for a given level of risk, do they allow for a greater expected return than by just investing in traditional asset classes? Are they listed on an exchange or do they trade in the over-the-counter market?

In most cases, alternative assets are a subset of an existing asset class. This may run contrary to the popular view that alternative assets are separate asset classes. However, we take the view that what many consider separate “classes” are really just different investment strategies within an

existing asset class. In most cases, they expand the investment opportunity set, rather than hedge it. Finally, alternative assets are generally purchased in the private markets, outside of any exchange. While hedge funds and private equity meet these criteria, commodity futures prove to be the exception to these general rules.

Alternative assets, then, are just alternative investments within an existing asset class. Specifically, most alternative assets derive their value from either the debt or equity markets. For instance, most hedge fund strategies involve the purchase and sale of either equity or debt securities. Additionally, hedge fund managers may invest in derivative instruments whose value is derived from the equity or debt market.

SUPER ASSET CLASSES

Although we have defined the general attributes of an asset class, it would help clarify alternative assets if we first define a super asset classes. There are three super asset classes: capital assets, assets that are used as inputs to creating economic value, and assets that are a store of value.⁵

Capital Assets

Capital assets are defined by their claim on the future cash flows of an enterprise. They provide a source of ongoing value. As a result, capital assets may be valued based on discounted cash flow models; that is, models that compute the present of the expected cash flow from a capital asset.

Corporate financial theory demonstrates that the value of the firm is dependent on its cash flows. How those cash flows are divided up between shareholders and bondholders in a perfect capital market is irrelevant to firm value.⁶ Capital assets, then, are distinguished not by their possession of physical assets, but rather, by their claim on the cash flows of an underlying enterprise. Hedge funds and private equity funds, for example, fall within the super asset class of capital assets because the value of their funds are all determined by the present value of expected future cash flows from the assets in which the fund manager invests.

Consequently, we can conclude that it is not the types of assets in which they invest that distinguish alternative asset classes such as hedge funds and

⁵Robert Greer, "What is an Asset Class Anyway?" *Journal of Portfolio Management* 23, no. 2 (1997): 83–91.

⁶This is the well-known Modigliani-Miller theory of capital structure. See Franco Modigliani and Merton Miller, "The Cost of Capital, Corporation Finance, and the Theory of Investment," *American Economic Review* 48, no. 3 (1958): 433–443.

private equity funds from traditional asset classes. Rather, it is the alternative investment strategies that are pursued by the managers of these asset classes that distinguish them from traditional asset classes such as stocks and bonds.

Assets that Can be Used as Economic Inputs

Certain assets can be consumed as part of the production cycle. Consumable or transformable assets can be converted into another asset. Generally, this class of asset consists of the physical commodities: grains, metals, energy products, and livestock. These assets are used as economic inputs into the production cycle to produce other assets, such as automobiles, skyscrapers, new homes, and appliances.

These assets generally cannot be valued using the traditional discounted cash flow approaches used for common stocks and bonds. For example, a pound of copper, by itself, does not yield an economic stream of revenues. Nor does it have much value for capital appreciation. However, the copper can be transformed into copper piping that is used in an office building or as part of the circuitry of an electronic appliance.

While consumable assets cannot produce a stream of cash flows, this asset class has excellent diversification properties for an investment portfolio. In fact, the lack of dependency on future cash flows to generate value is one of the reasons why commodities have important diversification potential vis-à-vis capital assets.

Assets that Are a Store of Value

Art is considered the classic asset that stores value. It is not a capital asset because there are no cash flows associated with owning a painting or a sculpture. Consequently, art cannot be valued using a discounted cash flow analysis. It is also not an asset that is used as an economic input because it is a finished product. Instead, art requires ownership and possession. Its value can be realized only through its sale and transfer of possession. In the meantime, the owner retains the artwork with the expectation that it will yield a price at least equal to that which the owner paid for it.

There is no rational way to gauge whether the price of art will increase or decrease because its value is derived purely from the subjective (and private) visual enjoyment that the right of ownership conveys. Therefore, to an owner, art is a store of value. It neither conveys economic benefits nor is used as an economic input, but retains the value paid for it.

Gold and precious metals are another example of a store-of-value asset. In the emerging parts of the world, gold and silver are a significant means

of maintaining wealth. In these countries, residents do not have access to the same range of financial products that are available to residents of more developed economies. Consequently, they accumulate their wealth through a tangible asset as opposed to a capital asset.

However, the lines between the three super classes of assets can become blurred. For example, gold can be leased to jewelry and other metal manufacturers. Jewelry makers lease gold during periods of seasonal demand, expecting to purchase the gold on the open market and return it to the lessor (i.e., owner of the gold) before the lease term ends. The gold lease provides a stream of cash flows that can be valued using discounted cash flow analysis.

Precious metals can also be used as a transformable/consumable asset because they have the highest level of thermal and electrical conductivity among the metals. Silver, for example, is used in the circuitry for most telephones and light switches. Gold is used in the circuitry for televisions, cars, airplanes, and computers.

STRATEGIC VS. TACTICAL ALLOCATIONS

Alternative assets should be used in a tactical rather than strategic allocation. Strategic allocation of resources is applied to fundamental asset classes such as equity, fixed income, cash, and real estate. These are the basic asset classes that should be held within a diversified portfolio.

Strategic asset allocation is concerned with the long-term asset mix. The strategic mix of assets is designed to accomplish an investor's long-term goal. For trustees of defined benefit pension plans, the long-term goal is to meet the long-term liabilities. Risk aversion is considered when deciding the strategic asset allocation, but current market conditions are not. In general, policy targets are set for strategic asset classes, with allowable ranges around those targets. Allowable ranges are established to allow flexibility in the management of the investment portfolio.

Tactical asset allocation is short-term in nature. This strategy is used to take advantage of current market conditions that may be more favorable to one asset class over another. The goal of funding long-term liabilities has been satisfied by the target ranges established by the strategic asset allocation. The goal of tactical asset allocation is to maximize return.

Tactical allocation of resources depends on the ability to diversify within an asset class. This is where alternative assets have the greatest ability to add value. Their purpose is not to hedge the fundamental asset classes, but rather to expand them. Consequently, alternative assets should be considered as part of a broader asset class.

EFFICIENT VS. INEFFICIENT ASSET CLASSES

Another way to distinguish alternative asset classes from traditional asset classes is based on the efficiency of the marketplace in which the assets trade. The U.S. public stock-and-bond markets are generally considered to be the most price efficient marketplaces in the world. Often, these markets are referred to as “semistrong efficient.” As explained in Chapter 3, this means that all publicly available information regarding a publicly traded corporation, both past information and present, is fully digested into the price of that company’s traded securities.

Yet inefficiencies exist in all markets, both public and private. If there were no informational inefficiencies in the public equity market, there would be no case for pursuing a strategy that seeks to outperform the market. Such strategies are referred to as *active management strategies*. Nonetheless, whatever inefficiencies do exist, they are small and fleeting. The reason is that information is easy to acquire and disseminate in the publicly traded securities markets. Top-quartile⁷ active managers in the public equity market earn returns in excess of their benchmark of approximately 1% a year.

In contrast, with respect to alternative assets, information is very difficult to acquire. Most alternative assets (with the exception of commodities) are privately traded. This includes private equity and hedge funds. The difference between top-quartile and bottom-quartile performance in private equity can be as much as 25%.

Consider venture capital, one subset of the private equity market. Investments in start-up companies require intense research into the product niche the company intends to fulfill, the background of the management of the company, projections about future cash flows, exit strategies, potential competition, beta testing schedules, and so forth. This information is not readily available to the investing public. It is time consuming and expensive to accumulate. Furthermore, most investors do not have the time or the talent to acquire and filter through the rough data regarding a private company. One reason why alternative asset managers charge large management and incentive fees is to recoup the cost of information collection.

This leads to another distinguishing factor between alternative asset classes and traditional asset classes: the investment intermediary. Continuing with our venture capital example, most investments in venture capital are made through limited partnerships, limited liability companies, or special-purpose vehicles. It is estimated that 80% of all private equity investments in the United States are funneled through a financial intermediary.

Investments in alternative assets are less liquid than their public market counterparts. Investments are closely held and liquidity is minimal.

⁷We explain what is meant by a quartile in Appendix B.

Furthermore, without a publicly traded security, the value of private securities cannot be determined by market trading. The value of the private securities must be estimated by book value or appraisal, or determined by a cash flow model.

BETA AND ALPHA DRIVERS

Two terms bandied about in asset management are “beta drivers” and “alpha drivers.” To understand these terms, we must understand what is meant by a *market risk premium*. A market (or systematic) risk premium for an asset class is the difference in the return on an asset class and the return offered on a risk-free asset such as a U.S. Treasury security. Investors seek to capture that risk. An *excess return* is the return earned on an asset class that exceeds the return on a risk-free asset.

In constructing a portfolio, an investor seeks the most efficient trade-off between risk and return given a mix of asset classes. In the context of Markowitz diversification discussed earlier in this chapter, an efficient portfolio is sought—the portfolio that maximizes the expected portfolio return for a given level of risk. In this sense, the basic asset allocation is all about capturing the market risk premiums that exist for investing in different asset classes. However, if additional asset classes can be added to the mix of potential investment opportunities in which an investor may invest, the efficient frontier can be improved so as to provide a greater range of risk and return opportunities for an investor. Recall that in our earlier description of an asset class, we explained that it had a low correlation of returns with other asset classes.

Beta drivers capture market risk premiums in an efficient manner. We have already discussed the notion of beta or systematic risk. In contrast, *alpha drivers* seek pockets of excess return often without regard to benchmarks.

It is useful to think of traditional and alternative assets within the context of beta and alpha drivers. Alternative assets represent an alternative source of beta that is different from the mixture of traditional assets—stocks and bonds. Access to alternative assets can provide new systematic risk premiums that are distinctly different than that obtained from stocks and bonds. Commodities are a good example—they provide a different risk exposure than stocks or bonds. Consequently, the risk premium associated with commodities is less than perfectly correlated with the markets for traditional asset classes.⁸

Alternative assets fall squarely into the category of alpha drivers. Alpha drivers seek excess return or added value. They tend to seek sources of

⁸This is a form of what is popularly referred to as “alternative beta.”

return less correlated with traditional asset classes, which reduces risk in the entire portfolio via the process as we explained earlier in this chapter when we discussed diversification.

**Financial Instruments and Concepts Introduced in this Chapter
(in Order of Presentation)**

Debt instrument	Currency risk
Equity instrument	Liquidity risk
Fixed income instruments	Asset class
Total risk	Market capitalization
Skewness	Mega-cap
Tails	Large cap
Mass	Mid-cap
Efficient portfolios	Small cap
Systematic risk	Micro-cap
Market risk	Nano-cap
Undiversifiable risk	Traditional asset classes
Unsystematic risk	Nontraditional asset classes
Diversifiable risk	Alternative asset classes
Unique risk	Capital assets
Residual risk	Strategic asset allocation
Idiosyncratic risk	Tactical asset allocation
Company-specific risk	Active management strategies
Inflation risk	Market risk premium
Purchasing power risk	Excess return
Credit risk	Beta drivers
Liquidity risk	Alpha drivers
Exchange rate risk	