



**SELECT PORTFOLIO
MANAGEMENT, INC.**
Integrated Wealth Management
A Registered Investment Advisor



White Paper:
Understanding Risk

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Understanding Risk

What is risk?

In general

Risk is all around us, and we all take risks every day. Some people consider driving a car risky. Others don't seem to mind driving but don't like flying in an airplane--even though statistics show you're far more likely to die in a car than in an airplane. Some of us, like racecar drivers, cliff divers, and bungee jumpers, actually thrive on risk. Others go to great lengths to reduce risk.

Risk is multidimensional with many factors interacting. For example, an athlete in top physical condition may suffer a fatal heart attack while exercising because he or she has a family history of heart disease.

Some risks are more apparent than others. For instance, walking a high wire is quite obviously a risk. On the other hand, the danger of being struck by lightning is not so obvious.

The bottom line is that you can't live without taking some risks. Since you cannot totally eliminate them, the best you can do is try to reduce them as much as possible. That's why we avoid people with colds, eat healthy diets, wear life jackets when we go boating, and buy life insurance.

Risk in the investment world

Some people view risk as a negative, others as a positive. Ask any group of people what risk means to them, and you are likely to get some of these answers:

- Danger
- Possible loss
- Uncertainty
- Challenge
- Opportunity
- Thrill

In the investment world, however, risk means uncertainty. It refers to the possibility that you will lose your investment or that an investment will yield less than its anticipated return. More simply stated, risk refers to the probability that an investment will make or lose money. Every investment carries some degree of risk because its returns are unpredictable. The degree of risk associated with a particular investment is known as its volatility.

The relationship between risk and return

When you invest, you plan to make money on that investment or, more accurately, earn a return. Risk and return are directly related. The higher the risk, the higher the return potential. If you want a higher rate of return, you will have to accept a higher risk. Conversely, you may accept a lower risk, but the return potential is lower.

Technical Note: The term "risk-return tradeoff" refers to the universal principle that investors should plan to be compensated for taking higher levels of risk of loss by earning higher rates of return.

The relationship between risk and time, or the time horizon

The length of time that you plan to remain in a particular investment vehicle is known as your investment planning time horizon. Generally speaking, the longer your time horizon, the more you can afford to invest more aggressively, in higher-risk investments. This is because the longer you can remain invested, the more time you'll have to ride out fluctuations in the hope of getting a greater reward in the future. Of course, there is no assurance that any investment will not lose money.

Risk-taking propensity

Each of us is able to accept a certain amount of investment risk. This is known as our risk-taking propensity. Those of us who can accept a relatively great amount of risk are referred to as risk tolerant. On the other end of the spectrum, those who can accept very little risk are known as risk averse. Those who hold the middle ground are risk neutral or risk indifferent.

There are ways to measure your risk tolerance, using tests to assess how you react to different types of risk, such as monetary, physical, social, and ethical. These tests aren't foolproof, since we are essentially talking about psychological behaviors that may vary under different conditions. However, the results from these tests are generally considered reliable and valid.

Your risk-taking propensity is as important in determining which investments match your risk-return expectations as the risk of the investment itself.

How do you evaluate the risk of a specific investment?

Before you can evaluate the risk of a specific investment, you must understand the types of risk that exist and how to measure them.

As in your day-to-day life, risks are prevalent in the investment world, and some are more apparent than others. Each investment is subject to all of the general uncertainties associated with that type of investment. These are known as systematic risks and include market, interest rate, and purchasing power risk, among others. Risk also arises from factors and circumstances that are specific to a

particular company, industry, or class of investments. These are known as diversifiable or unsystematic risks. Diversifiable risks include business, financial, and default risk, among others.

Measuring risk involves analyzing the different types of risk using an array of mathematical tools and techniques (e.g., the standard deviation, Beta, Alpha, and so forth). The statistics obtained provide an investor with some standardized measurements with which to make an educated decision.

Rating services

You don't need to measure risk yourself. Ratings services, such as Standard & Poor's, Fitch, Moody's, Value Line, and Morningstar, compile and publish risk and return statistics for many types of investments. These services provide an investor with key information and statistics in a condensed and easy-to-read format.

To obtain rating service reports, check with your public library. It may subscribe to some or all of these services. If not, you may have to subscribe yourself, for an annual fee. Some services offer a free trial period.

Research

For specific investments, you may be able to view an annual report, prospectus, or proxy statement with financial information and outlined business strategies. To obtain copies of these documents, contact the issuer of the security.

You may find helpful information in books, newspapers, magazines, journals, newsletters, or on the radio, television, or Internet.

How do you reduce risk?

Diversify

One of the best ways to reduce risk is to develop a portfolio of investments that is balanced in terms of the types of assets in which you invest. In other words, don't put all your eggs in one basket. This is known as diversification or asset allocation. A portfolio that mixes a variety of asset classes (e.g., cash, bonds, domestic and foreign stocks, and real estate) has a lower risk for a given level of return than does a portfolio that consists of only one. Diversification works because it broadens your investment base. It can be achieved by company, industry, type of security, markets, or by investment objective.

How an investor diversifies depends upon his or her own situation. An investor can be aggressive (investing mostly in high-risk vehicles), conservative (investing mostly in low-risk vehicles), or somewhere in between.

Allow for the passage of time

Historically, time has had a dampening effect on the riskiness of investments (though there is no guarantee this will continue in the future). In "investment speak," the standard deviation associated with the average rate of return on an investment has decreased with the square root of time. In plain English, the longer the investor remained invested--or the longer the investor's time horizon--the less risky the investment has become.

Do your homework

You may be able to reduce some risk simply by being diligent. For example, have real estate inspected and appraised before you buy it, or investigate a company's financial condition before you purchase stock in it.

Gauge the economy by identifying trends in overall business conditions. These trends are indicated regularly (weekly or monthly) by figures on inventories, prices, employment, and the GDP. Is the economy on an upswing or downswing? Knowing this will help you choose an investment more likely to appreciate under the given conditions.

Choose investments that make sense to you. For example, buy stock in a company with relatively stable earnings, or one whose sales are likely to keep up with inflation, or one whose products are in great demand, or one who sells a product for which the demand is constant, such as food.

Types of Risk

What is risk?

In the investment world, risk means uncertainty. It refers to the possibility that you will lose some or all of your investment or that an investment will yield less than its anticipated return. Simply stated, risk is the degree of probability that an investment will make or lose money. Every investment carries some degree of risk because its returns are unpredictable. The degree of risk associated with a particular investment is referred to as its volatility.

Each investment is subject to all of the general risks associated with that type of investment. These risks are called systematic risks and are caused by conditions outside a company or industry (e.g., society or politics). These conditions are generally difficult for the investment issuer to control. Thus, systematic risks cannot be reduced by diversifying your investment portfolio. You simply must be aware of them when choosing which investments are right for you.

Risk also arises from factors and circumstances that are specific to a particular company, industry, or class of investments. These are called unsystematic or diversifiable risks. As the name implies, unsystematic risks can be reduced by diversifying your investment portfolio.

What are the types of systematic risks?

Market risk

The stock market can be a great way to build wealth, but it can also plummet in little or no time at all.

Specifically, market risk refers to the change in the price of securities caused by fluctuations in overall market conditions or in a specific sector of the market, brought on by outside forces. More simply stated, market risk is another name for losses due to the falling prices of securities.

What causes the price of securities to fall? Of the many possible causes, here are a few:

- National events (e.g., war or disaster)
- Political events (e.g., a presidential election)
- Economic factors (e.g., interest and unemployment rates)

A bear market refers to a general downward trend to market prices. A bull market refers to a rise in overall market prices.

Interest rate risk

Interest rate risk is the risk of loss due to variation in the price of bonds (or preferred stock) because of changes in the rates of interest. When interest rates rise, bond prices fall; when interest rates go down, bond prices rise. The bond you bought when interest rates were low is worth less as interest rates increase because new bonds with higher interest rates can be bought.

Bonds with shorter maturities are less susceptible to interest rate risk. Conversely, bonds with longer maturities generally offer higher yields, but also have the potential for greater price swings than those of shorter maturities.

Purchasing power, inflation risk, or price level risk

Purchasing power risk, also referred to as inflation or price level risk, refers to the possibility that the return on your investments won't keep pace with increasing price levels. As prices rise, the value of a dollar falls, resulting in a decreased ability to purchase goods and services.

People who hold cash, savings accounts, and bonds assume this kind of risk. The danger is that their money may not grow enough over the years to allow them to achieve their financial goals.

Example(s): Martha retires at age 62. She receives \$1,000 a month from her pension and \$1,500 a month from her investments in certificates of deposit (CDs) and bonds. Martha's total monthly income of \$2,500 allows her to live quite comfortably. Twenty years later, Martha is a healthy 82 years of age. She still receives \$2,500 a month from her pension and investments, but, even though her lifestyle has not changed, her monthly expenses have climbed to over \$3,000 because of inflation. She is dipping into principal to cover the excess cost. Martha worries about what she will do when her investments are gone.

Social risk

Social risk refers to the possibility that a segment of society will institute boycotts, litigation, publicity campaigns, or lobbying efforts against a company due to its poor social policy or business practices. The actions of society can negatively affect that company's performance. Tobacco, energy, gaming, and weapons companies often face this type of risk, as do companies that create environmental or discrimination concerns.

Example(s): A large oil company ships crude oil overseas in giant tankers. One night, while pulling into port, the tanker's captain miscalculates and crashes into another tanker, opening a hole in his own ship. Millions of gallons of oil spill into the sea and wash up on the shore. The cleanup effort costs millions of dollars, paid by the country's taxpayers. The oil corporation refuses to reimburse the government for the expense. In reprisal, the country's driving population boycotts the oil company's service stations for the next several years, causing a great economic loss to the company.

Reinvestment rate risk

Reinvestment rate risk refers to the possibility that you will have to reinvest funds at a lower rate of return than the investment originally earned.

Example(s): Your six-year, 9 percent interest CDs mature. You choose to reinvest the money in new CDs. At this time, however, CDs are earning only 5 percent interest.

Exchange rate or currency risk

Exchange rate or currency risk arises because of fluctuating foreign exchange rates. These fluctuations may affect the value of foreign investments or profits when converting them into U.S. currency.

Political risk

Political risk refers to possible changes in the government or legal environment. For example, taxes may rise, tariffs may be imposed, or wages and prices may be controlled. All of these things could result in reducing a company's profits.

What are the types of unsystematic risks?

Business (or industry) and business failure risk

Business or industry risk refers to the risk associated with a particular company or industry. Business risk can be caused by changes in a company's sales due to operating problems, such as a strike, an unfavorable outcome of litigation, or technical obsolescence. Industry-specific risks arise because some industries are inherently more uncertain than others. They may face greater risks due to accidents, product liability, or the innovative nature of their business. For example, a company developing new drugs has a greater inherent risk than a company manufacturing consumer products, such as soap or shampoo.

In addition, some businesses prosper while others fail. When a business fails, stockholders--and sometimes bondholders--can lose their entire investment.

Financial, credit, or default risk

Financial or credit risk arises when a company incurs excessive debt. Put in accounting terms, financial risk is related to the company's debt-to-equity ratio. That means the company has a high fixed obligation (interest) to pay each year. If the firm does not perform well, it may be unable to satisfy that obligation plus pay bondholders, preferred stockholders, or common stockholders. In addition, borrowing exposes the company to the risk that creditors will file legal claims against it.

Liquidity risk

Liquidity risk refers to the chance that an asset sold on short notice may not receive its full market value.

Measuring Risk

What is risk?

In the investment world, risk means uncertainty. It refers to the possibility that you will lose your investment or that an investment will yield less than its anticipated return. Simply stated, risk is the degree of probability that an investment will make or lose money.

When evaluating risk, there are two important elements to understand. The first is the investor's own ability to tolerate risk, and the second is the risk of the investment itself.

Why is it important (risk vs. return)?

When you make an investment, you plan to make money on that investment, or, more accurately, earn a return. Risk and return are directly related. The higher the risk, the higher the potential return, but also the greater the risk of loss. This fundamental principle is called the risk-return tradeoff.

How does an individual investor evaluate risk?

An investor must consider many factors when evaluating the risk of an investment or an investment portfolio.

Identify financial goals

The first step in evaluating risk is to clearly define your financial goals. For example, if you are young and plan for your investment to provide your retirement, you may be willing to assume more risk in exchange for a higher expected return. However, if you have children who are reaching college age, or you may otherwise need cash within a short time, you may not want to put money into high-risk vehicles. Clarifying the reasons you want to invest can be a key component in determining what level of risk you are comfortable assuming. The following questions may help you to assess your financial goals:

- What do you plan to do with any money earned by the investment?
- How much money will you need?
- When will you need the money?
- Can you afford to forgo the expected return?
- Can you afford to lose the principal?

Understand your risk tolerance

Each investor is able to accept a certain amount of investment risk. This is referred to as the investor's risk tolerance. The concept of risk tolerance is twofold, referring to both the investor's desire to assume risk and financial capacity to assume risk. An investor should never assume risk beyond his or her capacity, even if personal desire exceeds that capacity. On the flip side, an investor should not assume risk at full capacity if doing so will make him or her to lose sleep at night.

Risk tolerance is highly individual and subjective, depending on a number of factors, including the investor's age, stage in life, emotional temperament, attitude, and investment experience. Thus, an investor's risk tolerance is not static, but changes over the course of his or her life.

There are tests that help quantify an investor's risk tolerance at a given point in time.

Determine your investment time horizon

The period of time for which you plan to stay invested in a particular vehicle is referred to as your investment planning time horizon. Generally speaking, the longer your time horizon, the more you can afford to invest more aggressively, in higher-risk investments. This is because the longer you can remain invested, the more time you'll have to ride out fluctuations in the hope of getting a greater reward in the future. Of course, there is no assurance that any investment will not lose money.

What are the basic risks of investing?

Investment risk can be classified into two broad categories: (1) systematic or undiversifiable, and (2) unsystematic or diversifiable. Systematic risk is caused by economic, social, and political factors. These risks cannot be reduced by diversifying your portfolio. Unsystematic risks are associated with factors particular to the underlying company or industry, and can be reduced by diversification.

How is risk measured?

Risk is a rather fluid concept, yet experts have developed ways to measure it. To them, risk equals volatility, fluctuations in the price of a security or index of securities. The more fluctuation, the higher the volatility. Generally, the higher the volatility, the higher the risk--but also the potential for a higher rate of return.

Example(s): Say that you have two investments. One always returned exactly 8 percent every single year, while the second investment's return rate varied, gaining 15 percent one year, losing 3 percent the next year, then gaining 13 percent, then losing 3 percent, and so on. The first investment is characterized as having low volatility, low risk. The second investment is characterized as having higher volatility, higher risk.

Low-volatility investments are those whose performances are easier to predict than investments that are highly volatile. For example, although stock in well-established firms, such as General Electric, General Mills, or other blue chip companies can experience significant price fluctuations, the probability of this occurring is low. On the other hand, investors have come to expect fairly wide swings in the price of Small Cap stock.

Volatile stocks tend to be those of small companies with few shareholders because they face challenges from the economy, rivals, and customers on a regular basis, or those of companies classified as "shooting stars." A shooting star is a company that is experiencing growth at a rapid rate, but whose future is unpredictable. Internet company stock is currently a good example of this kind of stock.

The stock market has experienced extremely high volatility over the last few years. Record highs and unprecedented one-day declines have some investors feeling quite optimistic and others feeling very concerned.

What are the methods of measuring risk?

Measuring risk involves the use of mathematical tools and techniques, and assumes that volatility increases your risk of loss--and that risk worsens as your time horizon shrinks.

Standard deviation

The standard way to calculate the risk of a particular investment is to calculate the standard deviation of its past prices. This method measures an investment's pure volatility. Standard deviation is a measure of the variation around an average or mean. In the case of an investment, the standard deviation measures how far away from the average the return rate for any one year is likely to be.

Example(s): An investment whose rate of return never varies at all has a standard deviation of zero. An investment whose rate keeps varying, but always lies exactly 10 percent away from the average rate, has a standard deviation of 10 percent. Generally, the greater the standard deviation, the more variable the return and the riskier the investment.

One drawback to the standard deviation method is that it implies fault when the price fluctuates up as well as down. For example, say the price of certain stock goes up in price in very small increments and very large increments. Thus, the standard deviation may be large, but would you consider this a poor investment?

Beta

A better method of measuring risk is referred to as beta. Beta measures an individual investment's volatility in relation to the stock market in general, as measured by the Standard & Poor's 500 Stock Index (S&P 500). The S&P 500 has a beta of 1. A security whose value goes up and down 25 percent less than the S&P 500 has a beta of .75, and a security whose value goes up and down 25 percent more than the S&P 500 has a beta of 1.25.

An investment with a beta equal to 0 (e.g., cash) has the lowest volatility (remember, risk equals volatility). An investment with a beta between 0 and 1 is classified as one with low volatility. An investment with a beta of 1 matches the S&P 500. Anything more volatile than the S&P 500 will have a beta of more than 1.

This measurement is also useful because it suggests how far you can anticipate your investment to fall when the market falls, and, conversely, how much your investment may rise when the market rises. Be aware, however, that beta measures market risk only, not an investment's or investment portfolio's total risk.

Alpha

Alpha measures an investment's beta against its actual performance. A positive or high alpha implies good performance, whereas a negative or low alpha implies poor performance.

Example(s): Say that this year U.S. savings bonds returned 6 percent, the S&P 500 returned 10 percent, and your investment returned 12 percent. Your investment's beta is 1.2 (see above). You would ordinarily expect that your investment would yield at least as much as the U.S. savings bonds. However, the market (S&P 500) returned 4 percent more than the bonds (10% - 6%). Therefore, you should expect your investment to yield 6 percent (bonds), plus its beta (1.2) times 4 percent (the extra return), which is 10.8 percent [$6\% (1.2 \times 4\%)$]. Your investment, though, actually earned 12 percent, which is 1.2 percent more than you expected (12% - 10.8%). Your investment's alpha, then, is 1.2. Had your investment returned only 6 percent, it would have an alpha of -4.8.

Treynor index

The Treynor index measures the excess return per unit of risk taken. The higher the Treynor index, the more return the investment is making per unit of risk it is taking.

Style analysis

Style analysis is a statistical method that identifies how a mutual fund performs compared to individual global asset classes. Broadly defined, global asset classes include Large Cap stocks, Small Cap stocks, foreign stocks, emerging market stocks, domestic bonds, international bonds, and cash. Values, called factors, are used to represent how closely a fund's performance matches the performance of indexes representing the different global asset classes.

R-squared

R-squared is a measure of a mutual fund's diversification relative to the market. You can use R-squared to evaluate how much of a fund's risk is market related and how much is due to its own inherent attributes.

Disclosures

This material does not constitute the rendering of investment, legal, tax or insurance advice or services. It is intended for informational use only and is not a substitute for investment, legal, tax, and insurance advice.

State, national and international laws vary, as do individual circumstances; so always consult a qualified investment advisor, attorney, CPA, or insurance agent on all investment, legal, tax, or insurance matters.

The effectiveness of any of the strategies described will depend on your individual situation and on a number of other factors. After reviewing your personal situation, we may recommend that you not use any strategy in this document but instead consider various other strategies available through our practice.

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