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Measuring Investment Risk

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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.

Because of these changes and because of the emotional component involved, it can be challenging to measure your risk tolerance with a high degree of accuracy. However, there are tests that help estimate 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 types of risks : (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 10 percent, then losing 13 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. Stocks of small technology companies often are examples of this type.

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 some investors may think of deviation only as a negative, forgetting that prices fluctuate up as well as down. While it's true that greater fluctuations may increase the risk that you may have to sell at an inopportune time, some investors prefer to try to take advantage of large price fluctuations in a stock with a high standard deviation.

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 0.75; in other words, it has historically had less volatility than the market as a whole. A security whose value goes up and down 25 percent more than the S&P 500 has a beta of 1.25, meaning it has typically been more volatile than the overall market.

This measurement is also useful because it suggests how far you can anticipate your investment might 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 that the investment has outperformed the market, whereas a negative or low alpha implies the opposite.

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 x 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 likely a fund's return is to resemble the return of a given index; the higher the R-squared number, the greater the correlation between the two.

To schedule an appointment with Faye Sykes, click here .

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