BALLENTINE PARTNERS

Risk Management

What is Risk?

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Individual investors tend to equate "risk" with loss of capital. That definition of risk may lead an investor astray and prevent the investor from reaching his or her goals. This article proposes a different definition of risk and explains how prudent management of risk is essential for meeting the investor's goals. Investors cannot avoid risk, and there is no such thing as a "risk-free" investment.

The questions addressed by this article are:

1. What is the most useful definition of "risk' for individual investors?
2. What types of risk are most relevant for individual investors?
3. Is there such a thing as a risk-free investment?
4. How should an individual investor:
    - Think about the role of risk in his or her investment strategy?
    - Assess his or her risk tolerance?
    - Use risk to enhance investment returns?
    - Manage risk?

1. Definition of "risk"

For individual investors, the most useful definition of "risk" is the possibility that you will fail to meet one or more of your investment objectives.

Some objectives are likely to be more important to you than others. The amount and type of investment risk you are willing to tolerate should depend upon the consequences you expect to suffer if you fail to meet a particular investment objective. For example, if you are accumulating capital for retirement income and find yourself short of your objective as you approach your retirement date, you may be willing to delay your retirement. However, if you need capital to pay off a large obligation, you may face serious consequences if you fail to make the payment on time.

Most individual investors equate "risk" to an unexpected loss of capital, with good reason. First, private capital is irreplaceable or, at best, very difficult to replace. Each of us has just one life to live. If you saved for retirement, sold your business or inherited wealth, those events may not be repeated during your lifetime. If you lose a substantial portion of your wealth, the loss may be permanent. However, defining "risk" as "loss of capital" may actually hinder your ability to meet your long-term objectives. Second, our brains are wired to experience approximately two to three times as much pain from a loss, as compared to the happiness associated with a gain of equal size.

Investment professionals often equate "risk" to the annual price volatility of a portfolio – that is, the amount by which the value of a portfolio fluctuates over time. Volatility is measured by a statistic called standard deviation. Not only is the concept of standard deviation a difficult one for most investors to understand, it is not a very good measure of "risk." Volatility tells you nothing about whether an investment is likely to help you to attain your objective.

According to investment theory, stocks have much more price volatility than cash. Cash, in the form of money market fund shares, has nearly zero price volatility. Does that make stocks riskier than cash? Not necessarily. The answer depends upon your investment objective and timeframe. If you wish to keep ahead of inflation over the next 20+ years, then an investment solely in money market funds is likely to cause you to fail to meet your objective, which means the risk level is high. The after-tax return on money market funds has rarely exceeded the rate of inflation for any period, and there has never been a 20 year period during which the after-tax return from money market funds bested the rate of inflation. In this case, stocks may prove to be a much "safer" investment than cash because they are more likely to produce an after-tax return that is higher than the rate of inflation over a 20 year period.

However, volatility relates to our fear of loss and ability to tolerate losses. Chart 1 shows three of the many possible future paths for your portfolio. Imagine that you have established a baseline that represents your minimum acceptable level of wealth over your investment timeframe. All three paths begin at the same point – your portfolio value today – and end at exactly the same value. The path to the endpoint matters. Paths A and B succeed because your portfolio is always above your baseline. Path C fails because it falls below the baseline required to support your lifestyle, and because the precipitous drop in its value probably will shatter your confidence in your investment strategy.

2. How should I think about the role of risk in my portfolio?

Risk is both your friend and your foe. No one likes to lose money, and the loss of money, or worrying about the risk of loss, can literally lead to sleepless nights. However, the presence of risk creates the opportunity for you to earn a higher rate of return than would be possible if the investment had no risk.

For example, over a 70-year period, the return for US large company stocks has exceeded the return on government bonds by an average of 6-7% per year. Stock real returns have been about 10%, whereas bond real returns have been about 3%. According to economic theory, that 6% gap is much larger than it should be. No one knows for sure why the gap is so large, but one possible explanation is that most investors seem to focus too much on the short term risk of losing money in stocks, and pay too little attention to the higher return produced by stocks in the long run. Investors who understand the nature of risk can use this knowledge to their advantage and earn higher returns.

3. Types of risk

There are many types of investment risk[1]. All investment risks lead to the same result – a loss of

[1] A glossary containing various types of risk can be found at the end of this article.

capital or inability to convert your investment into cash at a value you are willing to accept.

As we explained in discussing the definitions of risk, investment professionals often equate short term price volatility to risk when short term price volatility is actually the result of investor's changing perceptions and expectations about the various types of risk to which an investment is exposed. For example, price volatility is not risk; it is a response to various types of risk.

Most risks can be grouped into five broad categories of risk:

- Credit risk – the risk that the credit worthiness of an organization that issued debt instruments will deteriorate, calling into question the value of the bonds or other debt instruments issued by the organization.
- Political risk – the risk that a governmental organization will change laws or regulations, making some types of investments less desirable than before, or making a previously legal investment illegal (as when the US government prohibited private citizens from owning gold during the Depression).
- Market risk – the risk of adverse price changes due to an imbalance between supply and demand; also, markets can simply fail to function or be forced to close due under extreme conditions (for example, the "flash crash" in the US stock market).
- Interest rate risk and inflation risk – while these two risks are not identical, they are closely related. A change in the rate of inflation is often accompanied by a change in interest rates, and vice versa.
- Business risk – the risk that a specific business may experience problems that cause its securities to decline in value. Any number of issues can cause a business to experience problems, such as competition, loss of a key employee, law suits, faulty products, labor disputes, etc.

4. Is there such a thing as a risk-free investment?

In theory, yes; in reality, no. In investment theory, the interest rate for very high quality short term US government bonds is referred to as the "risk-free" interest rate. However, since the after-tax, after-inflation return on high quality short term government debt is often about zero or below zero, it is not the sort of investment that one would want as a long-term core portfolio position. An investment in a "risk-free" investment is not likely to keep up with inflation on an after-tax basis. In addition, credit risk is a factor. Even the US federal government is subject to credit downgrades due to its financial condition.

5. Investor expectations and risk

The behavior of prices for securities of all types is governed partly by cold-blooded financial calculations, and partly by investor expectations about the future. Investor expectations play a key role in the behavior of any securities market and the prices at which securities trade.

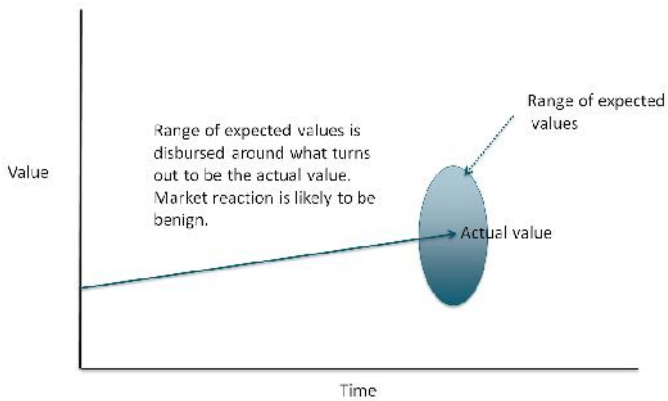
Every investment decision involves making an estimate of future returns. It is extremely difficult for anyone to accurately forecast the return on a single asset, let alone an entire market, therefore, each investor's estimate contains some amount of error. When the magnitude and direction of the errors is more or less randomly distributed around what turns out to be the true value, markets remain relatively tranquil when unexpected events occur, as illustrated in Chart 2.

6. The role of emotions

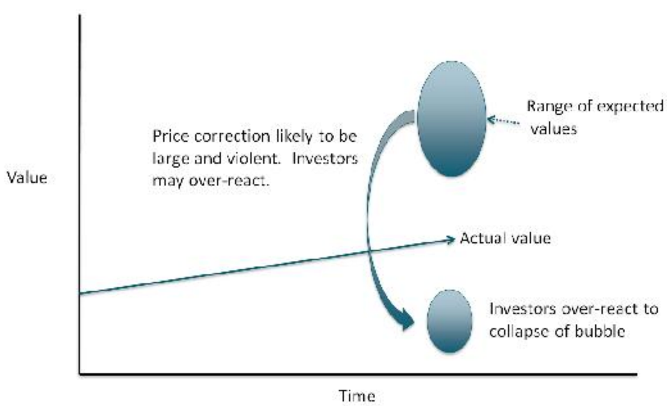
Greed and fear are powerful emotions. Both play a substantial role in the way our brains assess risk. Greed can cause us to assume risks that we should avoid; fear can cause us to avoid risks that we should be more willing to assume. Learning how to balance and manage both greed and fear is crucial to the growth and preservation of private wealth. One of the most damaging things an investor can do is react to painful losses by abandoning a long-term strategic investment plan and converting assets to cash at or near the market bottom. Such a reaction is illustrated in Chart 4, which shows an investor selling near the bottom of the market in an attempt to avoid the pain of additional losses. Many investors did just that during the crash of 2008 - 2009. By the end of 2011, the market had substantially recovered. Most investors who sold near the bottom probably did not reinvest in time to participate in that recovery. Instead, they experienced wealth destruction that may be permanent.

Financial bubbles are caused by investors who share similarly rosy expectations about the future of a particular type of asset and are invariably followed by the sudden collapse of prices. The only questions are, how long will the bubble persist, and how big will it become? A sudden collapse occurs when investors realize their expectations will not be fulfilled and try to reduce their exposure at the same time. When the magnitude and direction of the individual estimation errors are highly correlated (which is what causes an asset bubble), the eventual correction is likely to be sudden and violent, which is why it so dangerous for an investor to follow the herd. When bubbles burst and prices collapse, investors tend to overreact. Security prices often fall far below their intrinsic value. That is when savvy investors step in to take advantage of the overreaction, as illustrated in Chart 3.

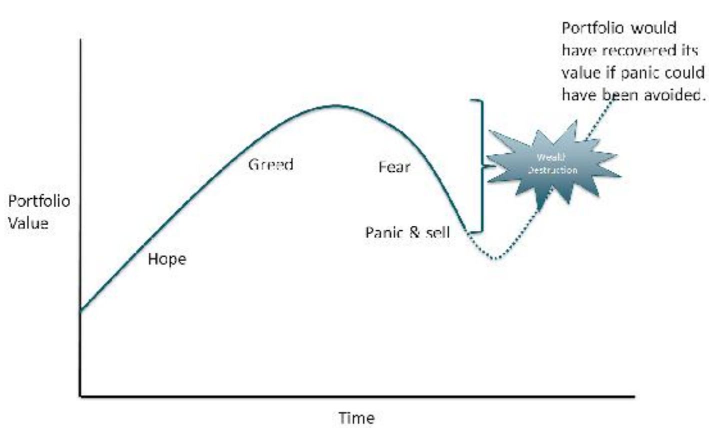
Ch 2: Average of Investors' Expectations is Approximately Correct



Ch 3: Investors' Expectations are Wrong in the Same Direction



Ch 4: How the Cycle of Greed and Fear Destroys Wealth



We strive to help families avoid this destructive behavior through the following activities:

- Assessing the family's risk tolerance, as described in section 8 of this article;
- Providing our clients with education about investment risks;
- Performing scenario analyses of various economic conditions and how the family's portfolio may respond, as described in section 9 of this article;
- Testing various portfolio designs to help ourselves and our clients understand how a portfolio may behave under difficult conditions;
- Focusing on our clients' long-term strategic investment goals;
- Taking a long view and not overreact to current events; and
- Helping our clients understand the historical behavior of the markets.

In addition to greed and fear, the human brain has some natural biases that affect the way we assess risk. For more on this fascinating topic, see any of the writings of Richard H. Thaler, Daniel Kahneman or Amos Tversky. While we won't detail all of their research findings, there are several key points that emerge from their behavioral finance research worth noting:

- Fear of loss: Our brains react to the threat of a financial loss much more strongly than to a possible financial gain. Most people rate the prospect of a loss about three times more painful than the pleasure associated with a similarly sized gain which can cause us to avoid risks that we should be more willing to assume.
- Recency bias: Our brains are very good at recognizing patterns, however, our brains are very heavily influenced by whatever recent trends and patterns we have observed. We tend to assume recent trends will continue, even when a longer view would inform us that is unlikely. Predicting a recent trend will continue does not work well when we need to make long-term decisions; in fact, it may work against us.
- Anchoring: Investors often base their decisions on irrelevant figures and statistics. For example, suppose an investor pays $50 per share for a stock. The price rises at first, but then falls because the company is performing poorly compared to its peers. Many investors would say, "I am not selling until the price is back above $50." That is both anchoring and loss avoidance simultaneously. The investor would be better off taking the loss and moving the capital to a more productive investment.
- Hindsight bias: This tends to occur in situations where a person believes, after the fact, that the onset of some past event was predictable and completely obvious, whereas, in fact, very few people actually predicted the event.

An increased awareness of the tricks our brains play on us helps make us better investors.

7. Objective risk vs. subjective risk

The risk our brains perceive is subjective risk while objective risk is the risk that is actually there. For example, let's assume the stock market has just had three really good years in a row, with returns of 12%, 15%, and 22% respectively. This is the sort of fact pattern that causes investors to focus on the most recent returns (the effect of recency bias) and to perceive a low level of risk (i.e. subjective risk is low) and to decide to put more money into stocks.

Their thinking goes: "Stocks are going up. Everyone else is making money. I would like to make some money."

The problem is that objective risk may have increased substantially due to recent market gains. If the recent increase in stock prices has driven price-earnings multiples (company earnings divided by the company's market value) well above their historical averages, then we should expect poor investment returns, or even losses, for the next several years.[2]

Conversely, if stock prices have been falling for some time, most investors reduce their holdings or sell out altogether because they perceive a high level of risk. Investors begin to think "Stocks keep falling with no end in sight." However, if stock prices are falling faster than the decline in corporate earnings, then objective risk is decreasing, and this may be a good time to buy stocks.

8. Determining your risk tolerance

The term "risk tolerance" is one of the most complex and misunderstood aspects of investing. Investors cannot decide to avoid risk, only how much exposure to have to various types of risk. We do not believe that an investor's risk tolerance can be measured by a simple questionnaire and, it certainly cannot be described with simple terms such as "conservative" or "aggressive". Those terms have no objective meaning as one person's "aggressive" portfolio may be another's "moderate" portfolio. In addition, the above terms tell us nothing about whether your investment goals are likely to be met by the portfolio you select which is a very serious problem.

Your risk tolerance consists of two different, but related, factors:

- Your psychological tolerance for various types of risk; and
- Your risk-carrying capacity.

Each of these factors can influence the other, and both change over time in response to changes in your financial situation and your experience.

Your psychological tolerance for various types of risks can be influenced by a variety of forces, including your investment knowledge and experience. Education about risk can be a considerable factor, which is why we devote so much time to informing and educating our clients. We do extensive interviewing and financial analysis to understand their needs and the types of risk they are willing to accept. We encourage our clients to consider all the various categories of "risk," which includes the risk of losing principal.

9. Risk management and scenario planning

Since risk cannot be avoided entirely, we must learn how to manage risk. To develop risk management strategies, we need to forecast the future.

We use scenario planning as our window into the future. Human beings are natural scenario planners. Our brains are wired to consider causes and effects, sensitivity to various inputs, uncertainty about outcomes, and keep multiple possible futures in mind simultaneously. Scenario planning is superior to traditional forecasting methods because it embraces uncertainty and it allows us to explicitly factor uncertainty into our decision-making. It recognizes that there are many possible futures and

[3] For example, a forward price-earnings multiple of 10 means that the company's stock price is currently 10 times the company's forecasted earnings for this year. A trailing price-earnings multiple of 10 means that the company's current stock price is 10 times last year's actual earnings.

there is no one "right" answer. Scenario planning also allows us to incorporate low probability events that would be highly disruptive if they were to occur whereas traditional forecasting disregards low probability events and shuts out the unexpected.

Our goals in using scenario planning are to:

- Make better investment decisions than what is possible with single point or probability forecasts;
- Anticipate how each major component of a portfolio will react to various scenarios, and how the entire portfolio will behave;
- Identify emerging trends earlier; and
- Shorten our reaction time because we have already thought through what needs to be done in response to emerging trends.

While it is gratifying to have the future evolve exactly according to one of our scenarios, that is not necessary for the process to prove productive. The goals of the scenario planning process can still be met even if events proceed along a course we did not anticipate.

Conclusion

Rather than attempting to avoid risk, successful investors embrace and manage it. Risk has many dimensions, but the most useful definition for a private investor is the failure to meet one or more of your major investment objectives.

The various types of investment risk may prevent you from meeting your objectives while simultaneously, the presence of risk offers the possibility of higher returns.

For private investors, the keys to success are:

- Setting strategic investment goals and remaining focused on the long term, without being distracted by short-term noise;
- Understanding both your risk-carrying capacity and your psychological risk tolerance and structuring a portfolio that takes both into account;
- Becoming a contrarian, being alert to bubbles, buying when others are selling, and selling (or, at least not buying) when others are buying; and
- Being prepared to stick with your plan in spite of short term market upheavals.

About Roy C. Ballentine, ChFC, CFP®

Roy is the Executive Chairman and Founder of the firm. Roy dedicates his time to thought leadership, strategic oversight of client engagements, and coaching and training our team members.

Glossary of Investment Risks

Risk	Description
Business risk	The risk of doing business in a particular industry or environment. Consider the Gulf of Mexico oil spill of 2010 and its impact on the drilling industry. Companies that had nothing to do with the spill lost a considerable portion of their value.
Counter-party risk	The possibility that some or all of your capital will be lost because a bank or other financial intermediary will not be able to fulfill its contractual obligations to you. Many types of investments involve counter-party risk, including, Exchange Traded Notes (ETNs), derivative contracts, options, and futures.
Credit risk	The possibility that the financial condition of an organization will deteriorate after a security has been issued. Because investors perceive that the borrower is less credit-worthy than before, the prices of all securities issued by the borrower will decline in value.
Creditor failure risk	The risk that a lender upon whom your investment depends for a mortgage or other loan will experience financial pressures that cause it to demand immediate repayment of a loan, or refuse to advance funds on a line of credit that a company needs for operations. This happened during the banking crises of the late 1980s and 2008-2009.
Default risk	The possibility that a borrower will default on an obligation. This risk applies to bonds and other debt instruments, options, futures and other types of derivatives. For example, a bond issuer may fail to make interest payments when due and may fail to repay your principal when the bond matures.
Exchange rate risk (currency risk)	The risk of loss due to a decline in the relative value of the currency upon which your investment depends. For example, if you purchase stocks of companies in the Euro zone, and the Euro declines in value relative to the US dollar, your investment performance will reflect that loss when your performance is measured in US dollars. Similarly, if you have an obligation that must be paid in another currency, and that currency appreciates relative to the US dollar, you will experience an increase in the size of the obligation, when its size is measured in US dollars.
Forced sale risk	The risk that an investment is liquidated involuntarily due to a company takeover, fund closure, or redemption by the issuer. This risk applies to bonds that have call features, hedge funds, and many other investments. This risk also applies to any investment account that has a margin loan associated with it.
Government seizure of your investment	The risk that a government will sometimes seize the capital of private investors. In 2013, private investors holding deposits in Cypriot banks were confronted with this risk. In the 1930s, the US required citizens holding gold to sell their holdings to the government at an artificially low price.
Inflation risk	The chance the money you have invested will decline in real value due to inflation.
Insurance failure risk	The possibility that an insurance arrangement that is supposed to protect an investment will fail to perform as expected, or will completely fail. For example, many municipal bonds are insured with respect to their interest and principal payments. Municipal bankruptcies on a large scale might stress the insurance arrangements to the point of failure. Municipal bond insurance does not protect your investment from loss, unless the issuer actually defaults.

Glossary of Investment Risks (continued)

Risk	Description
Interest rate risk	The risk that bonds and other securities that are dependent upon interest payments lose value when market interest rates increase, or when a change in the credit quality of a particular issuer causes investors to demand a higher interest rate for lending to that issuer. All debt instruments are exposed to this risk and long-term bonds are most exposed.
Liquidity risk	The possibility you won't be able to sell or convert a security into cash when you need the money or simply want to remove the security from your portfolio. When liquidity risk strikes, it may not be possible to find a buyer at any price, or only at a price that is a steep discount from the value you expected to receive.
Litigation risk	The risk that investors in private investments will be sued by their partners for undue enrichment if the investment manager fails to manage the investment in the best interests of all of the investors. The classic example of this was the Madoff affair when investors who received substantial distributions from Madoff's fund were sued for recovery of those distributions. There are other recent instances when investors have been sued by other investors.
Market failure risk	The risk that a market will simply cease to function. When a market fails, securities that have traded in that market usually become very illiquid, and they lose a significant portion of their value. (See liquidity risk.) The US securities markets closed for a period following the 2001 attack on the World Trade Center. The market for many types of fixed income securities suddenly failed in 2008 with little to no warning. Money market funds, which are generally regarded as very safe, required government intervention in 2008 to prevent money market funds from failing.
Market risk	The likelihood that a broad investment market, such as the bond or stock market, will decline in value, taking the value of your investments with it.
Political risk (country risk)	The risk that political instability or a political change that investors believe will result in damage to a region's economy can cause investments to lose value. Political risk is a factor in both the US federal government and in individual states within the US.
Principal risk	The chance that your original investment will decline in value or be lost entirely due to a problem that was specific to a security you purchased (as opposed to a loss due to a general market decline or interest rate risk).
Regulatory risk	The risk of a regulatory change that could adversely affect an investment. This includes a wide range of factors such as unfavorable changes in environmental laws, laws that restrict international capital movements, and new rules that restrict activity in certain industries.
Reinvestment risk	The risk that cash distributions will not be reinvested, or cannot be reinvested at the same rate as before, so that the return you were expecting is not actually achieved. Many types of investments are exposed to this risk including bonds, for example.

Glossary of Investment Risks (continued)

Risk	Description
Sovereign default risk	The possibility that a sovereign country may default on its debt. For example, in 2012 Greece defaulted on its sovereign debt. When a sovereign default occurs the damage may result in contagion that affects financial markets and instruments far beyond the site of the default. The world financial markets are very complex, and there are many connections between the various markets. Sovereign default risk is extremely dangerous because it can trigger many other risks, such as collapse of the value of currency, hyperinflation, bank failures, bond and equity market failures, political risk, etc. etc. It can also occur quite suddenly. As illustrated by Greece's default in 2012, investors may be forced to accept a negotiated solution that they do not want, and that they have had no role in crafting. Also, there is no assurance that credit default agreements or other forms of insurance will perform as expected.
Tax risk	The possibility that tax rates will change in a manner that will cause an investment to lose value because investors perceive that its after-tax return is not as attractive as before. For example, the interest rates for municipal (i.e. tax-exempt) bonds tend to change in relation to the interest rates for taxable bonds. The relationship between the interest rates changes as the tax rate changes, however, the tax rate is just one of several factors affecting this relationship.
Timing risk	The risk of buying or selling an investment at an inappropriate time. Consider the investors who sold their stocks at the market bottom in March of 2009 because they could no longer endure the pain of losses. (March 2009 turned out to be the turnaround point.)
Tracking error risk	The risk that an investment designed to track a specific market index deviates from that index. This applies to many types of investments, including Exchange Traded Funds ("ETFs"), stock index mutual funds, bond index mutual funds, many types of derivatives, and actively managed portfolios that are intended to track an index.
Valuation risk	The possibility that an investment is overvalued and is about to experience a sudden, sharp decline in value or the risk that the estimated value of a security is subsequently found to be quite different from its actual cash value. For example, a valuation study may over- or under-estimate the true value of investment, even if the study is performed by an expert.

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