FRONTIER FOCUS

June 2017

frontier|asset|management

Robert E. Miller, CFA
Managing Principal

The Value of Managing for Downside Risk

Many investors have an expectation of the return they believe their portfolio should achieve. This return expectation may be influenced by the media or by colleagues and friends often making it somewhat unrealistic. An investor who works for a large U.S. publicly traded company may have seen the company's stock rise dramatically and therefore assumes his investment portfolio should achieve similar returns. This is a false assumption since an individual stock may have some correlation to the overall markets, but they are certainly not perfectly correlated.

Recently, it has been a challenging time to be a diversified investor as virtually every asset class has trailed the S&P 500®, the common benchmark for large cap U.S. stocks. The average U.S.-based investor has seen the returns of the S&P 500® up over 17% for the last 12 months and wondered why his portfolio has not done the same. We see investor expectations set around U.S. large stocks and these stocks have been on a tear for the last eight years. The S&P 500® has been down only one quarter since the end of 2012 and has returned over 200% since January of 2009. That is a return of nearly 15% per year for the last 8 years. If you only look at these numbers, it makes sense that investors believe their returns should be that high.

Many investment managers show performance to their clients against some type of multi-factor benchmark comprised of several different asset classes. At Frontier, we use 5 indices made up of U.S. Equities, International Equities, Real Assets, Absolute Return, and Fixed Income to come up with a relevant benchmark for each strategy. Our method is beneficial to clients because a diversified benchmark will communicate a more telling story than gauging performance against a single index like the S&P 500®. This concept helps investors understand the volatility of the broad market and the advantage of diversifying into other asset classes such as bonds. When they see the bigger picture, it makes sense that their individual portfolio doesn't directly correlate with the growth of the S&P 500®. For the 10 years prior to 2009, the S&P 500® was one of the worst performing asset-class indices, losing 13%. During that same time Commodities, REITs, and Emerging Markets stocks each gained more than 100%. That was a good time to not be so tied to the performance of the S&P 500®.

Often, an investment manager will outperform their benchmark in up markets and then underperform their benchmark in down markets. As long as the down markets are not sustained, the investor is fairly content. But when markets become volatile, investors begin to get nervous and wonder if the losses will erode all the previous gains. Then they question their investment manager's approach. Is there a way to determine if your portfolio is caught in this type of strategy? At this point it may be hard to tell since many investment managers and strategists were not even managing money in 2008 and 2009 during the last big downturn. Their performance histories are only during up markets. How will these managers fare in a down market?

The amount of risk in a portfolio is one warning flag you might observe. Volatility is one measure of potential risk in a portfolio. It measures the dispersion of returns for a portfolio. Higher volatility numbers are often associated with higher risk. If a portfolio outperforms the benchmark merely because the volatility is higher, you might expect to see the same volatility when markets begin to decline. This increased volatility may lead to underperformance during down markets. Standard deviation is a measure of risk that looks at the volatility of the portfolio. A lower standard deviation is usually good, since more consistent returns are usually better for a portfolio.

Frontier's principal risk benchmark is the 1-year expected downside deviation. Each of our strategies is designed with a loss parameter. For example, the Frontier Balanced Strategy is designed to not lose more than 10% over a 12-month time-period at a 95% confidence interval. As a comparison, our expectations for the S&P 500® are for a downside of around 20% over the same period. More important than the standard deviation is the expected downside risk. When building strategies, Frontier spends a great deal of time focusing on the risk of the strategy. We define risk as the potential for loss instead of historical standard deviations numbers, which are commonly used. Just because a portfolio did not go down, does not mean that it did not take too much risk. Our management style of carefully monitoring downside risk should naturally cause our strategies to have lower than benchmark standard deviations.

Some investment managers might also have unexpected risk from asset classes that have unusually low volatility in recent history, which in turn gives the appearance of lower risk. All major asset classes shown in the table below have experienced less volatility in the last five years than their average since 1999. High past returns and low volatility may put a portfolio in a situation where there is more risk than might be expected.

	Standard Deviation As of May 31, 2017	
Asset Class	5-yr	Since 1999
US Large	9.6%	14.6%
US Small	13.9%	19.7%
International Large	12.1%	16.7%
Emerging Markets	14.5%	22.4%
REITs	13.2%	20.9%
Commodities	12.7%	16.5%
High Quality Fixed Income	2.9%	3.4%
High Yield Bonds	5.4%	8.4%

High returns and low volatility naturally lead investors to expect more of the same. This is a dangerous assumption and it inspires Frontier to be very diligent in our risk management. Looking back over the last five years, Frontier's Globally Diversified strategies have lower standard deviations and downside deviations than their benchmarks. These strategies have also returned more than their benchmarks. To outperform on both return and risk over the last 5 years in an up market is a monumental task. We are very proud that Frontier has delivered consistent outperformance without taking on unnecessary risk.

We believe that risk is too often overlooked in both investment strategy creation and due diligence efforts. Many strategies are created with an attempt to achieve a target return and then have constraints placed on the equities for risk management. Unfortunately, investors may not know the amount of risk in their portfolio until it is too late. Frontier sets out to achieve the most return we can for a given level of risk. Building a Frontier strategy starts with a downside risk target, so we understand how much risk is in the strategy. Our risk management enables clients to achieve a return without exposing them to more risk than they expect or want.

Past performance is no guarantee of future returns. Performance shown represents total returns that include income, realized and unrealized gains and losses. Returns greater than one year are annualized, unless otherwise noted. All calculations of performance are by Frontier. Nothing presented herein is or is intended to constitute investment advice or recommendations to buy or sell any types of securities and no investment decision should be made based solely on information provided herein. There is a risk of loss from an investment in securities, including the risk of loss of principal. Different types of investments involve varying degrees of risk, and there can be no assurance that any specific investment will be profitable or suitable for a particular investor's financial situation or risk tolerance. Diversification does not ensure a profit or protect against a loss. All performance results should be considered in light of the market and economic conditions that prevailed at the time those results were generated. Before investing, consider investment objectives, risks, fees and expenses.

Information provided herein reflects Frontier's views as of the date of this newsletter and can change at any time without notice. Exclusive reliance on the above is not advised.

Any forward looking statements or forecasts are based on assumptions and actual results are expected to vary from any such statements or forecasts. No reliance should be placed on any such statements or forecasts when making any investment decision. All calculations of performance are by Frontier.

It is generally not possible to invest directly in an index. Exposure to an asset class or trading strategy or other category represented by an index is only available through third party investable instruments (if any) based on that index therefore they do not experience frictional costs or fees.

Asset Class	Index	Index Description
US Large	S&P 500	Represents US large company stocks. It is a market-value-weighted index of 500 stocks that are traded on the NYSE, AMEX, and NASDAQ
US Small	Russell 2000	Measures the performance of the small-cap segment of the U.S. equity universe. The Russell 2000 Index is constructed to provide a comprehensive and unbiased small-cap barometer and is completely reconstituted annually to ensure larger stocks do not distort the performance and characteristics of the true small-cap opportunity set.
International Large	MSCI EAFE	Measures international equity performance. It is comprised of the MSCI country indexes capturing large and mid-cap equities across developed markets in Europe, Australasia and the Far East, excluding the U.S. and Canada.
Emerging Markets	MSCI Emerging Markets	Measures large and mid-cap equities across 23 Emerging Markets (EM) countries which include Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Russia, Qatar, South Africa, Taiwan, Thailand, Turkey and United Arab Emirates.
REITs	FTSE NAREIT All Equity REITs	This is a free-float adjusted, market capitalization-weighted index of U.S. Equity REITs. Constituents of the Index include all tax-qualified REITs with more than 50 percent of total assets in qualifying real estate assets other than mortgages secured by real property.
Commodities	Bloomberg Commodity Index	This is a broadly diversified index that allows investors to track commodity futures through a single, simple measure. The DJ-UBSCISM is composed of futures contracts on physical commodities.
High Quality Fixed Income	Barclays US Aggregate Bond	Measures the performance of the U.S. investment grade bonds market. The securities must have at least one year remaining to maturity, must be denominated in U.S. dollars and must be fixed rate, nonconvertible and taxable.
High Yield Bonds	Credit Suisse Frist Boston High Yield	Represents domestic non-investment grade corporate bonds. Floating-rate and convertible bonds and preferred stock are not included.

Frontier obtained some of the information provided herein from third party sources believed to be reliable but it is not guaranteed and Frontier does not warrant or guarantee the accuracy or completeness of such information. The use of such sources does not constitute an endorsement. Data source for funds and indices is Morningstar.

Frontier defines downside risk for asset classes and strategies as the Expected Deviation; a measure of the dispersion of returns below the expected return.

Expected 95% Downside – The lowest return Frontier would expect to encounter over the next 12-months if all the monthly returns fell within 1.645 deviations (95% statistically confident range) of the expected real return.

Correlation – A statistical measure of how two asset classes move in relation to each other. Correlation is computed into what is known as the correlation coefficient, which ranges between -1 and +1. Perfect positive correlation (a correlation co-efficient of +1) implies that as one asset class moves, either up or down, the other asset class will move in lockstep, in the same direction. Alternatively, perfect negative correlation means that if one asset class moves in either direction the asset class that is perfectly negatively correlated will move in the opposite direction. If the correlation is 0, the movements of the securities are said to have no correlation; they are completely random.

Hypothetical expected figures are presented for illustrative purposes only. There are numerous other factors related to the markets in general or to the implementation of any specific investment strategy that cannot be fully accounted for in the preparation of hypothetical expected results, all of which can adversely affect actual trading and performance. Importantly, it should not be assumed that investors who actually invest in any strategy will have positive returns, or returns that equal either hypothetical expected results or any corresponding benchmark. In addition, performance can, and does, vary between individual portfolios.

Frontier's performance is available on our website – www.frontierasset.com.

Frontier's ADV Brochure is available by request, at no charge, at info@frontierasset.com or 307.673.5675.