THE UNCERTAINTY OF RISK

WINDHAVEN
INVESTMENT MANAGEMENT

The importance of investment discipline and diversification in risky and uncertain financial markets

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"I can live with doubt, and uncertainty, and not knowing. I think it's much more interesting to live not knowing than to have answers which might be wrong. I have approximate answers, and possible beliefs, and different degrees of certainty about different things, but I'm not absolutely sure of anything…" Richard Feynman – Nobel Laureate in Physics

KEY POINTS

- There are many risks to investing and many are interconnected.
- Managing investments to just one index or asset class can potentially distort short-term performance at the expense of a long-term strategy.
- Uncertainty is a specific type of risk that is hard to measure.
- Windhaven's approach towards risk and uncertainty may help individual investors over full-market cycles.

WHAT DOES RISK MEAN?

Today's world can be characterized by risks and uncertainty. The field of philosophy of probability suggests a fundamental difference between risk and uncertainty: risk is measurable while uncertainty largely is not. It can be difficult for market participants to price in uncertainty in the form of tail risks that might appear to have very low probability, but potentially very high impact (whether positive or negative). Investors worry about market risks for equities and interest rate risk or inflation risk when holding fixed income or cash. They try to quantify these risks into different terms like beta, standard deviation, duration, downside capture to estimate their comfort level with risks. However, when risks materialize, fear, emotion and uncertainty can lead to a "herd mentality" where investors start to feed off of each other and make short-term decisions that may have negative long-term consequences.

One risk that shows up quite frequently is what is commonly referred to as benchmark risk, especially for individual investors. This risk can take many forms, each with the ability to be potentially detrimental to investors' long-term goals. It can show up when they compare their returns to what a neighbor's investment did, how they have done relative to the latest best performing stock, or when they compare their performance to a specific index. While all of these sources/benchmarks are quick to point out performance, they don't necessarily include or show the risk associated with achieving those returns. Investors may therefore fail to take risk into account when thinking about returns. They may be blinded by the strong outperformance of a single index and try to catch up by adding riskier investments to their portfolio when pricing in that asset class might be close to peaking – namely, after missing the proverbial boat. The same could apply with underperforming assets: investors may feel the need to sell and reduce risk when the asset in question might be close to a rebound. These instances may potentially lead investors to worry about performance until the point comes where they give in and go to cash following a sharp fall in the market value of their investment.

Recently, benchmark risk has shown up in the form of comparisons to the S&P 500 index. In 2013 and 2014, the S&P 500 outperformed most asset classes, by a large margin.

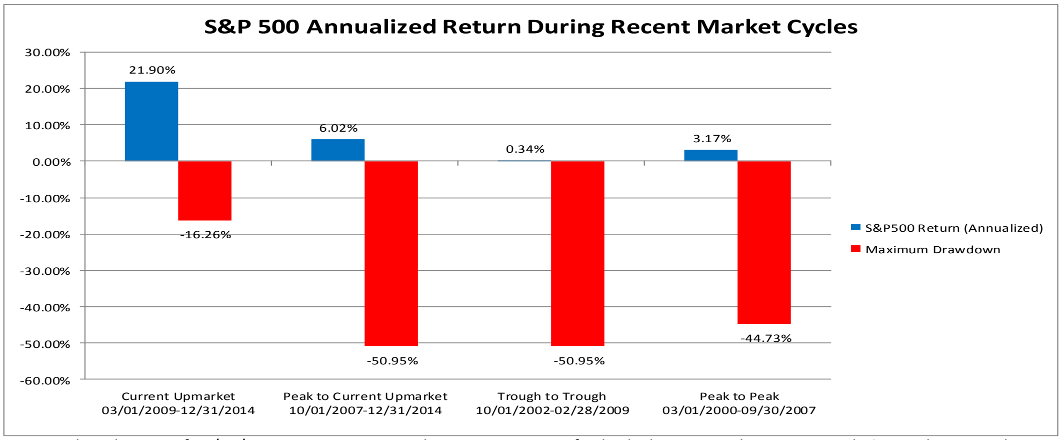
WHY INVESTING WITH A REAR VIEW MIRROR CAN BE DETREMINTAL TO YOUR WEALTH

We believe diversification works to deliver attractive risk-adjusted returns over time, but during shorter time frames it can build frustration. One of the side effects of a diversified portfolio is that investors will likely be unhappy with at least one of the asset classes in which they are invested. They can also be influenced by the timing of their investment in a diversified portfolio, just like a bottle of wine is influenced by its vintage. When we look at the chart below, it shows that for the last two years, any well diversified strategy would likely have lagged U.S. Large Cap Stocks (shown in red). Unfortunately, looking at the past highlights the absence of a pattern in asset class returns and therefore does not help us to guess how these assets classes will perform going forward.

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Commodities 32.1%	Emerging Markets 55.8%	US REITs 31.6%	Emerging Markets 34.0%	US REITs 35.1%	Emerging Markets 39.4%	Gold 5.8%	Emerging Markets 78.5%	Gold 29.5%	Gold 10.1%	US REITs 19.7%	US Sm Cap 38.8%	US REITs 28.0%	?
Gold 24.8%	US Sm Cap 47.3%	Emerging Markets 25.6%	Commodities 25.6%	Emerging Markets 32.1%	Commodities 32.7%	Core Bonds 5.2%	Intl Developed 31.8%	US REITs 27.9%	US REITs 8.3%	Emerging Markets 18.2%	US Lg Cap 32.4%	US Lg Cap 13.7%	?
Core Bonds 10.3%	Intl Developed 38.6%	Intl Developed 20.2%	Gold 17.9%	Intl Developed 26.3%	Gold 31.0%	T-Bills 1.4%	US REITs 28.0%	US Sm Cap 26.9%	Core Bonds 7.8%	Intl Developed 17.3%	Intl Developed 22.8%	Core Bonds 6.0%	?
US REITs 3.8%	US REITs 37.1%	US Sm Cap 18.3%	Intl Developed 13.5%	Gold 23.2%	Intl Developed 11.2%	US Sm Cap -33.8%	US Sm Cap 27.2%	Emerging Markets 18.9%	US Lg Cap 2.1%	US Sm Cap 16.3%	US REITs 2.9%	US Sm Cap 4.9%	?
T-Bills 1.6%	US Lg Cap 28.7%	Commodities 17.3%	US REITs 12.2%	US Sm Cap 18.4%	Core Bonds 7.0%	US Lg Cap -37.0%	US Lg Cap 26.5%	US Lg Cap 15.1%	T-Bills 0.1%	US Lg Cap 16.0%	T-Bills 0.1%	T-Bills 0.0%	?
Emerging Markets -6.2%	Commodities 20.7%	US Lg Cap 10.9%	US Lg Cap 4.9%	US Lg Cap 15.8%	US Lg Cap 5.5%	US REITs -37.7%	Gold 24.4%	Commodities 9.0%	Commodities -1.2%	Gold 7.1%	Commodities -1.2%	Gold -1.7%	?
Intl Developed -15.9%	Gold 19.4%	Gold 5.5%	US Sm Cap 4.6%	T-Bills 4.9%	T-Bills 4.5%	Intl Developed -43.4%	Commodities 13.5%	Intl Developed 7.8%	US Sm Cap -4.2%	Core Bonds 4.2%	Core Bonds -2.0%	Emerging Markets -2.2%	?
US Sm Cap -20.5%	Core Bonds 4.1%	Core Bonds 4.3%	T-Bills 3.2%	Core Bonds 4.3%	US Sm Cap -1.6%	Commodities -46.5%	Core Bonds 5.9%	Core Bonds 6.5%	Intl Developed -12.1%	Commodities 0.1%	Emerging Markets - 2.6%	Intl Developed -4.9%	?
US Lg Cap -22.1%	T-Bills 1.0%	T-Bills 1.4%	Core Bonds 2.4%	Commodities -15.1%	US REITs -15.7%	Emerging Markets -53.3%	T-Bills 0.2%	T-Bills 0.1%	Emerging Markets -18.4%	T-Bills 0.1%	Gold -28.0%	Commodities -33.1%	?

Source:Bloomberg as of 12/31/2014. Asset class performance is represented by annual total returns for the following indexes: S&P 500® Total Return Index (US Lg Cap). Russell 2000® Total Return Index (US Sm Cap), MSCI EAFE® Net of Taxes (Intl Developed), MSCI Emerging Markets Index℠ (Emerging Markets), Barclays US Aggregate Bond Index (Core Bonds), S&P GSCI® (Commodities), US Treasury 90-day T-Bill (T-Bills), NAREIT Index (US REITs), and Gold total return spot price $/oz (Gold). Returns assume reinvestment of dividends, interest, and capital gains. Indexes are unmanaged, do not incur fees or expenses, and cannot be invested in directly. **Past performance is no guarantee of future results.**

The S&P 500's cumulative performance from March 2009 through December 2014 was consistently better than most other asset classes. This has been good on an absolute basis, but it has led some investors to look at this single asset class as a benchmark for their portfolio. However, it is important to realize that investors do not invest just for a year, but for a lifetime. A diversified portfolio is designed to help reduce volatility over time, so investors can hopefully reach their goals by staying invested throughout market cycles. A diversified strategy helps reduce the desire to chase performance in up markets and helps keep investors invested during down markets. The current bull market for the S&P 500 has produced strong returns. However, it is important to consider returns on a risk-adjusted basis. The chart below shows S&P 500 performance over recent market cycles including its maximum drawdown throughout these cycles.



Source: Bloomberg as of 12/31/2014. Maximum Drawdown – A measure of risk which captures the worst cumulative peak-to-trough decline from any month-end data point to any other month-end data point. It will show in percentage terms how much money an investment would have lost until it returns to the breakeven point. For example, if you began with a $100,000 investment and you lost $30,000 before that investment returns to its breakeven level, your "maximum drawdown" would be measured as 30%

These drawdowns highlight how risky the S&P 500 can be. Remember, losses require higher subsequent gains just to get back to even. A 10% decline requires an 11% gain to get back to even, while a 50% decline requires a 100% gain to get back to even.

WINDHAVEN'S VIEW ON UNCERTAINTY MANAGEMENT

There are two measures of risk we believe are important to investors. The first is the risk of not meeting one's goals, which can be measured by determining what rate of return is required to meet one's objectives. The second risk may be more important: the risk of suffering a permanent loss of capital, which can cause drift from long-term plans, heightened uncertainty of the future and investment decisions that can potentially reduce the ability to recoup losses. This can include going to cash for an extended period of time or suffering a severe loss during a consumption phase (e.g. retirement). A good measurement to determine the risk of loss of capital is to focus on a strategy's downside capture or maximum drawdown. These metrics show how much a strategy declines in comparison to a benchmark or index in absolute terms during times of duress. Any investment carries risk, but our goal at Windhaven is to manage downside risk and uncertainty while looking to capture potential upside opportunities.

The problem with tail risks is that investors might think that they can be easily measured. However, many of the risks we see in the investment world have a large degree of unmeasurable uncertainty. For example, in 2014 most analysts were estimating limited volatility in oil prices, not a significant drop in a matter of months. In 1987, very few market-watchers were calling for the S&P 500 to drop more than 20% in one trading day, yet it did happen that year on October 19. It is tail events of this sort, which can end up happening more often than investors assume that can lead to the most potential damage in portfolios.

What we have found is that by having broadly diversified global portfolios, and adopting a dynamic approach to asset allocation focused on keeping clients invested through various market cycles, can be helpful in managing this uncertainty – albeit not eliminating it. Our approach focuses on investing for the long-term and not being swayed by every shift in the investment wind.

Or put another way: *"Investing should be more like watching paint dry or watching grass grow. If you want excitement, take $800 and go to Las Vegas."* – Paul Samuelson, Nobel Laureate in Economics

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