

Tracking Error Regret Is the Enemy of Investors

by Larry Swedroe, Director of Research

There are several keys to having a successful investment experience. The first is to create a well-thought-out financial plan. This plan should begin with identifying your ability, willingness and need to take risk, as well as what it is that you want your money to do for you. Having identified all the appropriate risks and objectives, an overall financial plan can then be developed (one that integrates the investment plan into an estate, tax and risk management plan). The next step is to decide on the investment strategy most likely to allow you to achieve your goals within the risk parameters acceptable to you.

Two tools that advisors, trustees and investors can use to help identify the prudent investment strategy are the 1992 Restatement of Trust (Third), also referred to as the Prudent Investor Rule, and the 1994 Uniform Prudent Investor Act. Both of these incorporated Modern Portfolio Theory (MPT) into their writing. Among the fundamental tenets of MPT is that, done properly, diversification reduces the risk of underperformance as well as the volatility and dispersion of returns, without reducing expected returns.

Thus, a diversified portfolio is considered more efficient (and thus more prudent). The Uniform Prudent Investor Act states that “because broad diversification is fundamental to the concept of risk management, it is incorporated into the definition of prudent investing.”

Clearly, the benefits of diversification are well known. In fact, it’s been called the only free lunch in investing. It’s why I recommend that investors diversify not only across domestic equity asset classes (small- and large-cap stocks, value and growth stocks, and real estate) but also that they include a significant allocation to international equity asset classes (including emerging markets stocks).

However, investors who adopt the strategy of broad diversification must understand that they are taking on another type of risk, a psychological one known as tracking error regret. Think of tracking error as the risk that a diversified portfolio underperforms a popular benchmark, such as the S&P 500. Regret over tracking error can lead investors to make the mistake that I call confusing ex-ante strategy with ex-post outcome.

Confusing Strategy With Outcome

“Fooled by Randomness” author Nassim Nicholas Taleb had the following to say on confusing strategy and outcome: “One cannot judge a performance in any given field by the results, but by the costs of the alternative (that is, if history played out in a different way). Such substitute courses of



An Independent Member of



events are called alternative histories. Clearly the quality of a decision cannot be solely judged based on its outcome, but such a point seems to be voiced only by people who fail (those who succeed attribute their success to the quality of their decision).”

Unfortunately, in investing there are no clear crystal balls. Thus, a strategy should be judged in terms of its quality and prudence before its outcome is known, not after.

2008-2015 Provides a Test

Since 2008, investors have been faced with a major test of their ability to ignore tracking error regret. From 2008 through 2015, major U.S. asset classes provided fairly similar returns. While the S&P 500 Index returned 6.5 percent per year, the MSCI Prime (Large) Value Index returned 5.1 percent, the MSCI U.S. Small Cap 1750 Index returned 7.7 percent and the MSCI U.S. Small Cap Value Index returned 7.7 percent. The total returns of the four indices were 66 percent, 49 percent, 82 percent and 70 percent, respectively.

International stocks, however, have underperformed by wide margins. Over the same period, the MSCI EAFE Index returned 0 percent per year and the MSCI Emerging Markets Index returned -3 percent per year (with a total return of -21 percent).

Clearly, investors who diversified globally have been disappointed. Unfortunately, that disappointment has led many to consider abandoning their strategy of global diversification. But, should we judge the strategy to have been a poor one based on the outcome? Not when we look at the question through the lens provided by Taleb.

To see the wisdom of taking the correct viewpoint (Taleb’s), let’s consider an investor at the beginning of this period (one who doesn’t have the benefit of a clear crystal ball). How did the world look to that investor? To answer that question, we’ll look at the returns for the prior five-year period.

The Good Side of Tracking Error

An investor contemplating their investment strategy looking backward at the start of 2008 would have been reviewing the following returns. For the five-year period from 2003 through 2007, the S&P 500 Index provided a total return of 83 percent. That was less than half the 171 percent total return provided by the MSCI EAFE Index and not much more than 20 percent of the 391 percent return of the MSCI Emerging Markets Index. Yes, the S&P 500 Index underperformed the MSCI Emerging Markets Index by 308 percentage points over just a five-year period.

If you think that’s bad (or impressive, depending on which side of the coin you happen to be looking at), during that same period, the DFA Emerging Markets Small Cap Fund ([DEMSX](#)) provided a total return of 430 percent, outperforming the S&P 500 Index by 347 percentage points, and the DFA Emerging Markets Value Fund ([DFEVX](#)) provided a total return of 546 percent, outperforming the S&P 500 Index by 463 percentage points. (Full disclosure: My firm, Buckingham, recommends DFA funds in constructing client portfolios.)

Looking at the domestic asset classes, the S&P 500 Index also underperformed the MSCI U.S. Small Cap 1750 Index by a total of 40 percentage points, the MSCI U.S. Small Cap Value Index by a total of 28 percentage points and the MSCI Prime (Large) Value Index by a total of 14 percentage points.

As you can see, tracking error works both ways. You have to take the positive tracking error with the negative. Importantly, I doubt that any investors looking back at the returns in the period from 2003 through 2007 would have been questioning the benefits of building a globally diversified portfolio. Regrettably, the twin problems of “relativism” (how the performance of your portfolio compares to that of your friends and to popular benchmarks) and “recency” conspire to lead investors to abandon even well-thought-out plans.

Relativism

Unfortunately, too many investors have entered what Vanguard founder John Bogle calls the “Age of Investment Relativism.” Investor satisfaction or unhappiness (and, by extension, the discipline required to stick with a strategy) seems determined to a great degree by the relative performance of their portfolio to some index (an index that shouldn’t even be relevant to an investor who accepts the wisdom of diversification).

Relativism, sadly, can best be described as the triumph of emotion over wisdom and experience. The history of financial markets has demonstrated that today’s trends are merely “noise” in the context of the long term. Bogle once quoted an anonymous portfolio manager, who warned: “Relativity worked well for Einstein, but it has no place in investing.”

Recency

The recency effect — in which the most recent observations have the largest impact on an individual’s memory and, consequently, on their perception — is a well-documented cognitive bias. This bias could affect investment behavior if investors focus on the most recent returns and project them into the future. This is a very common mistake, leading investors to buy what has done well recently (at high prices, when expected returns are now lower) and sell what has done poorly recently (at low prices, when expected returns are now higher). Buying high and selling low is not exactly a prescription for investment success. Yet, the research shows that is exactly what many investors do, partly due to recency bias. And that behavior leads investors to earn lower returns than the very funds in which they invest. A superior strategy is to follow a disciplined rebalancing strategy that systematically sells what has performed relatively well recently and buy what has performed relatively poorly.

We can observe the buy-high-and-sell-low strategy at work by examining current valuations. What we should expect to see is that the dramatic outperformance of the S&P 500 has made U.S. stocks more expensive (have higher valuations) relative to international equities. Valuations are the best predictor we have of future returns. As of year-end 2015, the Shiller Cyclically Adjusted Price-to-Earnings (P/E) Ratio, referred to as the CAPE 10 ratio, was at 24.4. To estimate future expected returns using the CAPE 10 metric, you first calculate the earnings yield (E/P) — the inverse of the

CAPE 10 — and get 4.1 percent. However, because the CAPE 10 is based on lagged 10-year earnings, you need to make an adjustment, since real earnings grow over the long term. I suggest using 2 percent as a real earnings growth estimate. Make that adjustment by multiplying the 4.1 percent earnings yield by 1.1 ($1 + [0.02 \times 5]$), producing an estimated *real* return to stocks of about 4.5 percent. (We multiply by five because a 10-year average figure lags current earnings by five years.)

By comparison, the CAPE 10 for both the international developed and emerging markets were at much lower levels. The CAPE 10 for the MSCI EAFE Index was at 16.4. That results in an earnings yield of 6.1 percent. In making the appropriate adjustments, you get an expected real return for the MSCI EAFE Index of 6.7 percent, or 2.2 percentage points greater than that of the S&P 500 Index. The CAPE 10 for the MSCI Emerging Markets Index stood at 12.3. That results in an earnings yield of 8.1 percent. In making the appropriate adjustments, you get an expected real return for the MSCI Emerging Markets Index of 8.9 percent, almost double that of the 4.5 percent expected real return of the S&P 500 Index.

We can also measure the relative valuations of domestic versus international markets by examining the more current valuations from three of Vanguard's index funds. The data below is from Morningstar and is as of the end of February 2016:

- U.S. Total Stock Market Index Fund (VTSMX): P/E of 17.0
- Developed Markets Index Fund (VTMGX): P/E of 14.3
- Emerging Markets Index Fund (VEIEX): P/E of 11.5

Investors who abandon the strategy of broad global diversification due to recency would now be selling international and emerging market equities when their valuations are much lower, and their expected returns are much higher. They likely would already have suffered the pains of the lower returns and would at this point be selling low to buy high.

We have one last problem to discuss.

Impatience

I have learned that when contemplating investment returns, the typical investor considers three to five years as a long time, and 10 years as an eternity. When it comes to the returns of risky asset classes, however, periods as short as three or five years should be considered nothing more than noise. And even 10 years is a relatively brief period. No more proof is required than the negative 1 percent per year return to the S&P 500 Index over the first decade of this century. Investors in stocks shouldn't have lost faith in their belief that stocks should outperform safe Treasury bills due to the experience of that decade.

Here's a much more striking example. Over the 40-year period ending in 2008, U.S. large-cap and small-cap growth stocks both underperformed long-term U.S. Treasury bonds. I would hope that investors didn't abandon the idea that these risky assets should be expected to outperform in the

future just because they had experienced a long period of underperformance. Yet, when it comes to international investing, perhaps because of home country bias, investors are far too willing to abandon well-thought-out strategies involving global diversification of international equities when they experience inevitable periods of underperformance.

As I have discussed previously, investors need to understand that when they invest in risky assets (such as stocks, and more specifically small and value stocks), they should expect they will experience some very long periods in which those risky assets underperform. If that wasn't the case, there would not be any risk.

Summary

Diversification means accepting the fact that parts of your portfolio may behave entirely differently than the portfolio itself. Knowing your level of tolerance for tracking error risk, and investing accordingly, will help keep you disciplined. The less tracking error you are willing to accept, the more the equity portion of your portfolio should look like the S&P 500 Index. On the other hand, if you choose a market-like portfolio, it will be one that's not very diversified by asset class and will have no international diversification. At least between these two choices (avoiding or accepting tracking error), there is no free lunch.

It is almost as important to get this balance right as it is to determine the appropriate equity/fixed-income allocation. If you have the discipline to stick with a globally diversified, passive asset class strategy, you are likely to be rewarded for your discipline.