Diversification Means Always Having To Say You're Sorry

BRIAN PORTNOY, PH.D., CFA

As much as any topic in finance, cargo ships of ink have been spilled on the topic of diversification. It is unquestionably the anchor to designing an effective portfolio of investments. Though first formally articulated in Harry Markowitz's seminal 1952 paper on Modern Portfolio Theory (MPT), the idea is commonsense to all of us: Don't put all of your eggs in one basket.

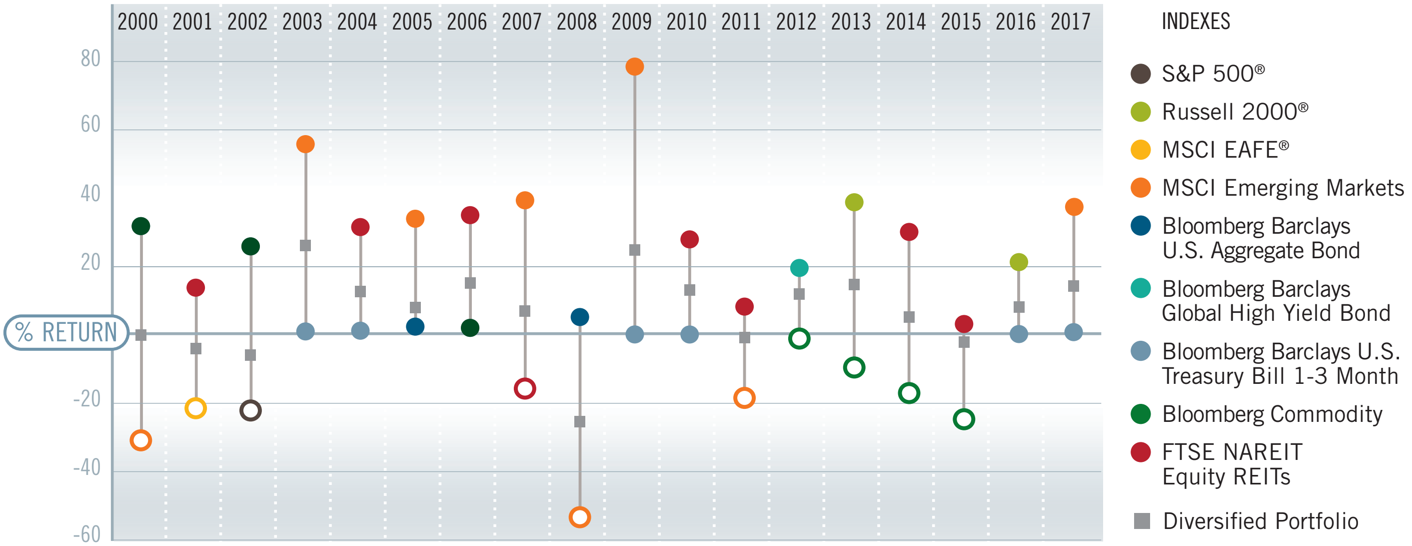
Because we don't know what's going to outperform, we spread our bets across a variety of investments. The trick, if it is one, as shown mathematically in MPT, is that we need to consider how the price of each investment varies in relation to the others. Assuming they don't move in lock step, there is inherent benefit in owning lower-correlated investments. Doing so allows us to hold a more "efficient" portfolio, meaning either: (1) for the same level of risk, we can earn higher returns or (2) we can achieve a similar return level but at reduced volatility.

Sounds good! But of course there's a catch — one that few have actually taken into consideration. Being truly diversified means that there almost always will be a part of your portfolio that is sucking wind.

If every piece of your portfolio is working really well, it means one of two things: you're incredibly lucky or you are not actually diversified. I would assume the latter.

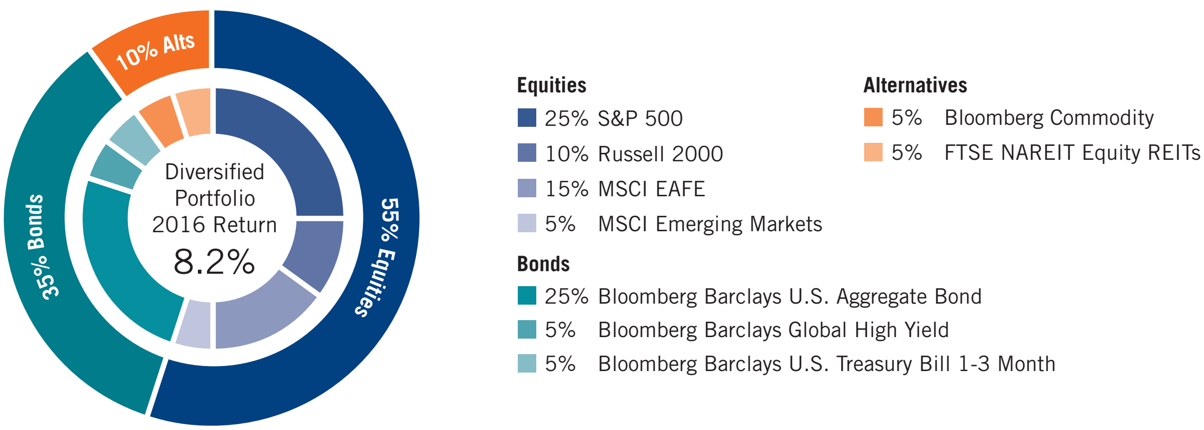
But what's the big deal about that? Indeed, owning underperformers is built into the definition of diversification. While statistically true, there is an unspoken behavioral component to this experience: We hate owning losers. And, we fixate on the negative, drumming up feelings of regret and "if only" I (or my advisor) had tilted more toward a winner.

Look at the graphic below and consider the difference in the top performing investment class versus the bottom going back to 2000. That gap was the narrowest in 2012 and widest in 2009.



As of 12/31/17. **Past performance is no guarantee of future results and current performance may be higher or lower than the performance shown.** The above table is presented for informational purposes only and is not meant to represent the performance of any Virtus product. Please see page 4 for index definitions and Diversified Portfolio composition. Performance of all cited indexes is calculated on a total-return basis with dividends reinvested. Indexes are unmanaged and not available for direct investment.

Two things are clear. One, a diversified portfolio will often have outright losers in it. That's tough to swallow. Two, the gap between the top dog and the mutt is often very wide, such as in 2003, 2008, and 2009. Those wide gaps can drive regret. Alas, diversification usually doesn't *feel* very good. Take 2016 as an example of this discomfort, for example. Consider the following diversified portfolio[1]:



A number of asset classes performed well in 2016, though some, including fixed income, did not. The rub is that the S&P 500, by far the most popular proxy for "the market," returned 12.0%. Investors can be frustrated when their diversified portfolios significantly underperform what they see as the market benchmark. In 2015, the general lack of dispersion among asset classes also led investors to feel that diversification wasn't "working." In 2014, a number of asset classes performed poorly, but the S&P 500 did very well. The sense of regret among investors and advisors was acute in 2014.

For a financial advisor serving investors in or near retirement, this balanced portfolio — especially after a multi-year tear for equities — strikes me as reasonable. It is this sort of diversified portfolio that most Baby Boomer and even Gen X investors should own. That said, "the market" in 2014 nearly tripled the returns of this balanced portfolio; many folks weren't happy. Similar feelings held true in 2015 and 2016. For financial advisors as much as anyone, diversification almost always means having to say you're sorry.

I see behavioral explanations underlying these frustrations. I'd point to three behavioral quirks throwing sand in the gears: loss aversion, the fallacy of composition, and "if only" bias.

1 **Loss Aversion** — Losses are more painful than gains are pleasurable.

Loss aversion states that the pain associated with losing is more intense than the joy we feel with gains. Take a standard example comparing the utility of a $100 loss versus a $100 gain. According to many studies, even though the loss and gain are the same amount, we find the loss much more distressing than we find the gain enjoyable. Researchers often point to about a 2-to-1 ratio, meaning that we'd need to win $200 to feel enough happiness to offset the annoyance of losing $100. Or, a $100 loss feels twice as bad as a $100 gain feels good.

Because there are always losers in a portfolio, at least on a relative basis, and sometimes also on an absolute basis, we're struck with the pain of knowing that something's not working — a pain that often overwhelms the fact that plenty of other pieces *are* working.

One could reply that this is exactly why we build diversified portfolios — the whole eggs-in-basket argument and the inability to know what will outperform tomorrow.

2 **Fallacy of Composition** — We assign the attributes of one piece to the whole.

That's where the second bias comes into play. Our cognitive tendency is to focus on pieces of the whole rather than the whole itself. Not only is it easier to focus on one versus many, it's then that much more taxing to take on the relationships

[1]Indexes used in allocation are defined on Page 4.

between the various pieces. When given transparency, we are not wired to see the one portfolio; we instead home in on the individual investments that comprise it.

This is where the "fallacy of composition" kicks in — a bias in which we reflexively assign the attributes of one piece to the whole. Applied to our portfolios, if something's not working right now and perhaps losing a lot of money, then the portfolio overall is flawed, even "risky."

Take a silly example: A portfolio that's 98% in U.S. Treasuries and 2% in frontier market equities. You know the proportion, but as your advisor I show you a portfolio with just two line items. Assuming the bonds muddle along but the frontier equity exposure is extremely volatile, when the latter is down 40% (could happen), you will likely tell me I've built you a "risky" portfolio. But that's clearly not the case. Down 40%, the frontier exposure cost you 0.8 cents on the dollar. If the frontier fund goes to zero, you would've lost just two cents on the dollar. Thus, portfolios that are on track to meet one's financial goals can be perceived as not on track and perhaps too risky.

3 **If Only** — How we initially benchmark success will be a key determinant of happiness.

Finally, there is the phenomenon of "if only." In the science of regret, a key takeaway is that how we initially benchmark success will be a key determinant of future happiness. In our portfolios, if we measure our success by comparing all of our investments to the top performer, then we're doomed to be displeased. It is in fact natural to feel recently that "if only I had more invested in an S&P 500 Index fund…." But that mindset of chasing recent performance is a sure ticket to not meeting one's long-term financial objectives. "Woulda shoulda coulda" is not a strategy worth pursuing.

Ultimately, the math of diversification makes sense. It's the psychology of diversification that is muddled.

The path forward is not to rethink the former, but to accept and think through the latter. It is not a smart alternative to concentrate one's portfolio in what one predicts will be the hot performer. At the same time, it's also unfair to ourselves to ignore that diversification is often a bitter pill to swallow — even when it's good for us.

BRIAN PORTNOY, Ph.D., CFA, is the director of investment education at Virtus Investment Partners, a multi-asset platform of boutique money managers delivering a broad array of investment solutions. He leads the firm's educational initiatives on smart investing and behavioral finance.

Mr. Portnoy has worked in the hedge fund and mutual fund industries for the past 17 years. Prior to joining Virtus in 2014, he held senior strategy, investment, and research roles at Chicago Equity Partners, Mesirow Financial, and Morningstar. Mr. Portnoy is the author of *The Investor's Paradox: The Power of Simplicity in a World of Overwhelming Choice* (St. Martin's Press, 2014), which presents a practical road map for navigating the complex landscape of countless traditional and alternative investment strategies. He is a regular contributor to Forbes.com, has spoken to audiences globally about investing and decision-making, and has lectured on the history and future of hedge funds at the U.S. Securities and Exchange Commission as part of its Leading Authors series.

Mr. Portnoy pursued his research and teaching interests in political economy at the University of Chicago, where he earned his doctorate. He earned a B.A. from the University of Michigan. Mr. Portnoy is a Chartered Financial Analyst® (CFA) charterholder and a member of the Economic Club of Chicago.

To learn more about building a diversified portfolio, speak with your financial advisor, or call 800-243-4361 or visit us at Virtus.com.

The **Diversified Portfolio** assumes the following weights: 25% in the S&P 500®, 10% in the Russell 2000®, 15% in the MSCI EAFE®, 5% in the MSCI EM, 25% in the Bloomberg Barclays U.S. Aggregate Bond Index, 5% in the Bloomberg Barclays U.S. Treasury Bill 1-3 Month Index, 5% in the Bloomberg Barclays Global High Yield Index, 5% in the Bloomberg Commodity Index, and 5% in the FTSE NAREIT Equity REITs Index. Assumes annual rebalancing. Data represents total return for stated period. The Diversified Portfolio is not representative of any Virtus portfolio. Investors should consult their financial professional to identify suitable portfolio allocations. There is no guarantee that a diversified portfolio will outperform a non-diversified portfolio, or that diversification among different asset classes reduces risk.

Index Definitions— The **S&P 500®** is a free-float market capitalization-weighted index of 500 of the largest U.S. companies. The index is calculated on a total return basis with dividends reinvested. The **Russell 2000® Index** is a market capitalization-weighted index of the 2,000 smallest companies in the Russell Universe, which comprises the 3,000 largest U.S. companies. The **MSCI EAFE®** (Morgan Stanley Capital International Europe, Australasia, Far East) Index is a free float-adjusted market capitalization-weighted index that measures developed foreign market equity performance, excluding the U.S. and Canada. The index is calculated on a total return basis with net dividends reinvested. The **MSCI Emerging Markets Index (net)** is a free float-adjusted market capitalization-weighted index designed to measure equity market performance in the global emerging markets. The index is calculated on a total return basis with net dividends reinvested. The **Bloomberg Barclays U.S. Aggregate Bond Index** is a broad-based benchmark that measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market, including Treasuries, government-related and corporate securities, MBS (agency fixed-rate and hybrid ARM pass-throughs), ABS, and CMBS. The **Bloomberg Barclays Global High Yield Bond Index** is a multi-currency flagship measure of the global high yield debt market. The index represents the union of the US High Yield, the Pan-European High Yield, and Emerging Markets (EM) Hard Currency High Yield Indices. The high yield and emerging markets sub-components are mutually exclusive. Until January 1, 2011, the index also included CMBS high yield securities. The **Bloomberg Barclays U.S. Treasury Bill 1-3 Month Index** includes all publicly issued zero-coupon U.S. Treasury Bills that have a remaining maturity of less than 3 months and more than 1 month, are rated investment grade, and have $250 million or more of outstanding face value. In addition, the securities must be denominated in U.S. dollars and must be fixed rate and non convertible. The **Bloomberg Commodity Index** is composed of futures contracts on physical commodities and represents twenty two separate commodities traded on U.S. exchanges, with the exception of aluminum, nickel, and zinc. The **FTSE NAREIT Equity REITs Index** is a free-float market capitalization-weighted index which measures equity tax-qualified REITs that meet minimum size and liquidity criteria and are listed on the New York Stock Exchange, the American Stock Exchange and the NASDAQ National Market System. The index is calculated on a total return basis with dividends reinvested. The indexes are unmanaged, their returns do not reflect any fees, expenses, or sales charges, and they are not available for direct investment.

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