Is Diversification Dead?
A historical perspective on the effectiveness of diversification

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Vice President, Investment Research Group
June 29, 2016

Introduction
Personally, we don’t think so, but after the past five years this becomes a question worth asking.

Pop Quiz – Over the last five years, what was the best performing asset class?

5-Year Annualized Returns

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Representative Index</th>
<th>Index Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Large Cap Equity</td>
<td>S&amp;P 500</td>
<td>11.7%</td>
</tr>
<tr>
<td>U.S. Small Cap Equity</td>
<td>Russell 2000</td>
<td>7.9%</td>
</tr>
<tr>
<td>Global Real Estate</td>
<td>MSCI World REIT</td>
<td>6.6%</td>
</tr>
<tr>
<td>High Yield Bond</td>
<td>Barclays High Yield 2% Capped</td>
<td>5.4%</td>
</tr>
<tr>
<td>Core Taxable Bond</td>
<td>Barclays US Aggregate Bond</td>
<td>3.3%</td>
</tr>
<tr>
<td>International Developed Equity</td>
<td>MSCI EAFE</td>
<td>2.1%</td>
</tr>
<tr>
<td>Emerging Market Equity</td>
<td>MSCI Emerging Markets</td>
<td>-4.8%</td>
</tr>
<tr>
<td>Commodities</td>
<td>Bloomberg Commodity</td>
<td>-12.5%</td>
</tr>
</tbody>
</table>

Data displayed as of 5/31/16
Source: Morningstar Direct

Answer – U.S. Large Cap Equity and it’s not even close.

While this may not appear all that revolutionary on its surface, it is quite a big deal for anyone practicing the principles of diversification. To this point, diversified investors have experienced a period of substantial disappointment due to diversification working against them rather than for them. This probably sounds a bit counterintuitive, but it’s true, diversification has been a direct headwind for return-seeking diversified investors over the past five years.

Key Points
- On a long-term basis, diversification may provide benefits in the form of better returns and/or lower risk.
- While the return enhancing element of diversification has been cyclically out of favor, the value generated from risk reduction is very much present. As such, we believe that diversification is not dead, but rather, just hiding in the form of risk reduction.
- Over the past five years, any investor (highly skilled or amateur) constructing a diversified, multi-asset portfolio was likely to have performance that lagged a Basic 2-Asset Portfolio (60% U.S. Large Cap Equity and 40% Core Taxable Fixed Income). Diversification did not enhance returns over this period.
- The primary reason to diversify is risk reduction. Diversification has shown the ability to reduce risk and this value proposition has been persistent throughout time.
- The return benefits of diversification are cyclical. While we have recently been in a down-cycle, we strongly encourage investors to think longer-term and stay diversified.

NOTE: FOR IMPORTANT DISCLOSURES, INCLUDING POTENTIAL CONFLICTS OF INTEREST, PLEASE SEE THE LAST TWO PAGES OF THIS PUBLICATION.
Impact on Multi-Asset Solutions

Diversified multi-asset portfolios invest in a range of investments in an effort to reduce risk, enhance returns or some combination of the two. Ultimately, finance textbooks tell us that diversification pushes out the efficient frontier and improves risk-adjusted results. What the textbooks may not tell us is that while these results may play out over the long-term, in the short-to-medium term, cyclical patterns emerge leading to diversification either generating or reducing returns. Ultimately, the return-enhancing benefit of diversification is cyclical (like everything else in the market) and can prove valuable in the long term only if investors stick to a well-defined plan.

Peeling the Onion

Let’s examine three fairly simplistic portfolio examples to gain some insight regarding the short- and long-term value proposition of diversification. This exercise will lead us to three important conclusions.

We start with a basic, domestically-focused, two-asset portfolio. This portfolio depicts a common 60/40 allocation through the lens of a domestically focused investor. The proxies leveraged within this analysis (S&P 500 and Barclays US Aggregate Bond) are commonly used by the media as high-level yardsticks for the equity and bond markets. This equates to the type of portfolio U.S. based investors may be capturing in their minds when assessing performance.

Basic 2-Asset Portfolio

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Index</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Large Cap Equity</td>
<td>S&amp;P 500</td>
<td>60</td>
</tr>
<tr>
<td>Core Taxable Bond</td>
<td>Barclays US Aggregate Bond</td>
<td>40</td>
</tr>
</tbody>
</table>

Next, we created an internationally diversified portfolio to capture the impact of investing in developed international equities (a common practice among diversified investors).

Internationally Diversified Portfolio

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Index</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Large Cap Equity</td>
<td>S&amp;P 500</td>
<td>40</td>
</tr>
<tr>
<td>International Developed Equity</td>
<td>MSCI EAFE</td>
<td>20</td>
</tr>
<tr>
<td>Core Taxable Bond</td>
<td>Barclays US Aggregate Bond</td>
<td>40</td>
</tr>
</tbody>
</table>

Our last entry into the field is a broadly diversified portfolio. In all fairness, this portfolio is not scientifically engineered; rather, it is a simple look at a more broadly diversified portfolio that uses common diversifying assets.

Broadly Diversified Portfolio

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Index</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Large Cap Equity</td>
<td>S&amp;P 500</td>
<td>25</td>
</tr>
<tr>
<td>U.S. Small Cap Equity</td>
<td>Russell 2000</td>
<td>5</td>
</tr>
<tr>
<td>International Developed Equity</td>
<td>MSCI EAFE</td>
<td>15</td>
</tr>
<tr>
<td>Emerging Market Equity</td>
<td>MSCI Emerging Markets</td>
<td>5</td>
</tr>
<tr>
<td>Core Taxable Bond</td>
<td>Barclays US Aggregate Bond</td>
<td>30</td>
</tr>
<tr>
<td>High Yield Bond</td>
<td>Barclays High Yield 2% Capped</td>
<td>10</td>
</tr>
<tr>
<td>Global Real Estate</td>
<td>MSCI World REIT</td>
<td>5</td>
</tr>
<tr>
<td>Commodities</td>
<td>Bloomberg Commodity</td>
<td>5</td>
</tr>
</tbody>
</table>

Using these three hypothetical reference portfolios, we examine the returns generated over various timeframes.

Annualized Returns

<table>
<thead>
<tr>
<th></th>
<th>3-year</th>
<th>5-year</th>
<th>10-year</th>
<th>15-year</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>7.9%</td>
<td>8.5%</td>
<td>6.7%</td>
<td>5.6%</td>
</tr>
<tr>
<td>B</td>
<td>6.2%</td>
<td>6.7%</td>
<td>5.8%</td>
<td>5.5%</td>
</tr>
<tr>
<td>C</td>
<td>4.2%</td>
<td>4.9%</td>
<td>5.3%</td>
<td>6.1%</td>
</tr>
<tr>
<td>Difference (C - A)</td>
<td>-3.7%</td>
<td>-3.6%</td>
<td>-1.4%</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

Data displayed as of 5/31/16
Source: Morningstar Direct

1Rebalanced monthly
Wow! In this hypothetical example, the discipline and desire to stay diversified has detracted 360 bps from five-year relative results on an annualized basis. Taking a longer-term view, it can be seen that the 15-year data set provides evidence for the potential return enhancing value of diversification. This example clearly shows that over the long-term a diversified portfolio has the ability to outperform a Basic 2-Asset Portfolio.

Despite this revelation, we believe many investors may say “I can’t wait 15 years to harness the power of diversification”. Well, maybe you don’t have to. Thus far, we have only talked about return comparisons but have spent no time discussing the risk side of the equation. Risk reduction is arguably the most valuable component of diversification. To this point, let’s examine the risk of our hypothetical portfolios.

### Risk (Standard Deviation)$^2$

<table>
<thead>
<tr>
<th>Portfolio</th>
<th>3-year</th>
<th>5-year</th>
<th>10-year</th>
<th>15-year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic 2-Asset Portfolio</td>
<td>9.4%</td>
<td>10.7%</td>
<td>14.3%</td>
<td>13.6%</td>
</tr>
<tr>
<td>Internationally Diversified</td>
<td>8.1%</td>
<td>9.6%</td>
<td>12.3%</td>
<td>11.6%</td>
</tr>
<tr>
<td>Broadly Diversified Portfolio</td>
<td>7.9%</td>
<td>9.4%</td>
<td>12.2%</td>
<td>11.1%</td>
</tr>
</tbody>
</table>

Data displayed as of 5/31/16  
Source: Morningstar Direct  
$^2$Rebalanced monthly; Calculated using daily returns

As you can see in the table above, risk reduction has continued to be a key value driver for diversification. As such, one can conclude that diversification is not dead but rather just hiding in the form of risk reduction. Returns are the most visible part of investing. Over recent periods the practice of asset diversification has not led to return enhancement but has clearly still led to risk reduction. So the question as to whether diversification adds value can clearly be answered from a risk perspective.

With our collective faith restored in the power of diversification, some investors may still be wondering whether diversification can enhance returns. Well, we have a simple answer – it depends. As we mentioned earlier, the return enhancing power of diversification is cyclical.

### Cyclical Return Pattern

Like most things in markets, the excess returns generated from a diversified portfolio are cyclical. History shows that the return component of diversification cycles in and out of favor (in some cases for relatively extended periods of time). The chart below shows the cyclical nature of excess returns.

#### Annualized 5-Year Rolling Excess Returns  
(Internationally Diversified vs. Basic 2-Asset Portfolio)

What this simple chart shows is that an internationally diversified portfolio has at times been a great return enhancer (green) and at other times a return detractor (red) relative to the Basic 2-Asset Portfolio. This cyclical pattern shows that diversification is not a consistent driver of positive excess returns.

What happens when we layer onto this chart a depiction of the broadly diversified portfolio?

Conclusion #1 – Over the past five years, any investor (highly skilled or amateur) constructing a diversified, multi-asset portfolio was likely to have performance that lagged the Basic 2-Asset Portfolio. Diversification did not enhance returns.

Conclusion #2 – The primary reason to diversify is risk reduction. Diversification has shown the ability to reduce risk and this value proposition has been persistent throughout time.
As you can see in the chart on the above, the broadly diversified portfolio excess return pattern is very similar, just more pronounced than the internationally diversified excess return pattern. The data series for the broadly diversified portfolio only goes back to 1995 with five year rolling calculations beginning in 2000. Even with this relatively narrow window into the past we can see the cyclical nature of diversification and the significant impact diversifying can have on a return stream relative to the Basic 2-Asset Portfolio. This information does not prove or disprove the merit of diversification from a returns perspective, but it clearly shows the cyclical nature of excess returns and the resulting headwind or tailwind that diversification can create.

**Conclusion #3** – The data clearly shows that the return benefits of diversification are cyclical. While we have recently been in a down-cycle, we strongly encourage investors to think longer-term and stay diversified.

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**Sticking to the plan...**

This is the moral of the story. Patience is easy in theory and difficult in practice. This is why we have financial advisors to guide us down the path. They keep us on track and help us avoid panicking at the wrong moment. Ultimately, investing is as much psychology as it is math and you need people in your corner that you can trust to steer you down the right path.

The Investment Research Group tends to take the long-view on diversification and as such has not lost faith. In fact, we recognize the cyclical nature of markets and believe that diversification does add value over time in the form of return enhancement and/or risk reduction. Nothing about that story has changed in the past five years and we are sticking with it despite the seemingly constant headwind we have been marching into over the past several years. The key is staying disciplined, adhering to a process and maintaining your composure. Keep diversifying those assets!
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The indices used to represent asset classes in this review are unmanaged and do not reflect the impact of fees. It is not possible to invest directly in an index.

The S&P 500® is a basket of 500 stocks that are considered to be widely held. The S&P 500® index is weighted by market value (shares outstanding times share price), and its performance is thought to be representative of the stock market as a whole. The S&P 500® index was created in 1957 although it has been extrapolated backwards to several decades earlier for performance comparison purposes. This index provides a broad snapshot of the overall U.S. equity market. Over 70% of all U.S. equity value is tracked by the S&P 500®. Inclusion in the index is determined by Standard & Poor’s and is based upon their market size, liquidity, and sector.

The Russell 2000 Index measures the performance of the small-cap segment of the U.S. equity universe. The Russell 2000 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. The Russell 2000 includes the smallest 2000 securities in the Russell 3000.

The MSCI World REIT Index is a free float-adjusted market capitalization index that captures large and mid-cap representation across 23 Developed Markets (DM) countries, which generate a majority of their revenue and income from real estate rental and leasing operations. With 67 constituents, it represents about 85% of the REIT universe in each country and all securities are classified in the REIT sector according to the Global Industry Classification Standard (GICS®).

The MSCI Emerging Markets Index is a free float-adjusted market capitalization index that captures large and mid-cap representation across 23 Emerging Markets (EM) countries. The MSCI Emerging Markets Index consists of the following 23 emerging market country indexes:

- Brazil
- Chile
- China
- Colombia
- Czech Republic
- Egypt
- Greece
- Hungary
- India
- Indonesia
- Korea
- Malaysia
- Mexico
- Peru
- Philippines
- Poland
- Qatar
- Russia
- South Africa
- Taiwan
- Thailand
- Turkey
- and United Arab Emirates

The Barclays Capital U.S. Aggregate Index is an index comprised of approximately 6,000 publicly traded bonds including U.S. government, mortgage-backed, corporate and Yankee bonds with an average maturity of approximately 10 years. The Barclays Capital U.S. Aggregate Bond Index is a market value-weighted index of fixed rate, non-investment grade debt.

The Barclays Capital U.S. Aggregate Index is an index comprised of approximately 6,000 publicly traded bonds including U.S. government, mortgage-backed, corporate and Yankee bonds with an average maturity of approximately 10 years. The Barclays Capital U.S. Aggregate Index is a market value-weighted index of fixed rate, non-investment grade debt.

The MSCI EAFE Index (Europe, Australasia, Far East) is a free float-adjusted market capitalization index that captures large and mid-cap representation across 23 Developed Markets (DM) countries, which generate a majority of their revenue and income from real estate rental and leasing operations. With 67 constituents, it represents about 85% of the REIT universe in each country and all securities are classified in the REIT sector according to the Global Industry Classification Standard (GICS®). As of July 31, 2015.

The MSCI Emerging Markets Index is a free float-adjusted market capitalization index that captures large and mid-cap representation across 23 Emerging Markets (EM) countries. The MSCI Emerging Markets Index consists of the following 23 emerging market country indexes:

- Brazil
- Chile
- China
- Colombia
- Czech Republic
- Egypt
- Greece
- Hungary
- India
- Indonesia
- Korea
- Malaysia
- Mexico
- Peru
- Philippines
- Poland
- Qatar
- Russia
- South Africa
- Taiwan
- Thailand
- Turkey
- and United Arab Emirates

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