INSIGHTS ON DIVERSIFICATION

COMMON RISK ANALYSIS: CORRELATIONS ARE DYNAMIC, NOT STATIC

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Characteristics of Client Portfolios

Diversification is the idea of mixing a wide variety of investments within a portfolio with the goal of smoothing out unsystematic risk events. Investors use this discipline so that the positive performance of some investments can neutralize the negative performance of others. Correlations of asset classes are a key factor in determining portfolio risk and will ultimately determine if a portfolio is truly diversified.

The subject of correlations should not be concluded with the unchallenged acceptance of the default solution of using historical asset class co-movements. For example, the correlation of US Equities and Government bonds during our study period over the last 20 years was -0.21. The fact that over the period measured, the statistic has been -0.21 is more an artifact of that period rather than a predictor of future outcomes.

Intuitively, it would be logical to think that rising growth would be good for stocks and falling growth would be bad for stocks. It is also reasonable to recognize that government bonds would perform better when growth is weak and less well when growth is strong. Risk seeking markets benefit stocks, while risk avoiding markets benefit government bonds. Thus, when rising growth or risk seeking behavior are dominant, stocks and bonds should be negatively correlated. On the other hand, equities do relatively well when inflation is falling, as do Government bonds. During periods when changes in inflation drive market returns, stocks and bonds should be positively correlated. While this hypothesis isn't based on a full model, we feel comfortable cautioning against the use of static correlation inputs.

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Common risk analysis models use historical correlations, making the implicit assumption that these values will hold true in the future. Historically, what we have found is that in times when volatilities are higher or rising, correlations between many asset classes rise. We agree that diversification benefits can be gained by mixing different asset classes, yet we must recognize that the diversification benefits are not static.

US stocks and US bonds at times can have very low and sometimes negative correlation to one another. International investing, while less obvious since the dawn of globalization, is another form of diversification, and carries a very similar fact pattern as it relates to having dynamic correlation patterns. During the great recession, investors who thought they were diversified by allocating to international equities found that their portfolios experienced greater volatility for holding international investments. This experience was mentioned 13 years earlier in an article in the Journal of International Monetary and Finance where Longin and Solnik demonstrated that:

"The correlations between stock market returns were higher when volatilities themselves were higher, implying that in a recessionary period the benefit of diversification tended to be diminished at the exact point when it was most desired."

While using static correlations can provide a more robust evaluation of asset class correlations being calculated to several decimal places of precision, we believe this method can lead to outcomes that are very different than the very goal diversification was meant to provide. When looking at diversifying into International markets we believe a conditional correlation approach where selective periods or conditions are isolated and evaluated should be employed. All allocations can be debated and the weighting the asset class carries to each environment is an art, not a science.

As well, we have to consider how much of a hedge is international investing within the global marketplace. Basic Modern Portfolio Theory might suggest significant diversification benefits from combining Domestic asset classes with International asset classes, but we see the benefits as a more dynamic contribution coming at different times through an economic cycle. This may be due to globalization and the uprising of multinational companies, but "local" has never been as "global" as it is today. That said, we see three times throughout an economic cycle that investing internationally provides diversification, and each environment displays different costs/benefits; I. during a bear market, II. during bull markets, and III. when central banks are implementing divergent policies.

I. International correlations during global bear markets

So often we hear that international diversification comes from the amount of multinational exposure one has in their core US equity allocation. This is one market environment (bear markets) in the not-so-distant past where that position has been helpful. As you can see in Table I and Table II, international investing actually harmed an internationally "diversified" portfolio by increasing risk in the form of larger losses in those periods than the US equity benchmarks. This is supportive of Longin and Solnik's position of increasing volatilities diminishing diversification right when investors want it/need it most.

Table I

Table II

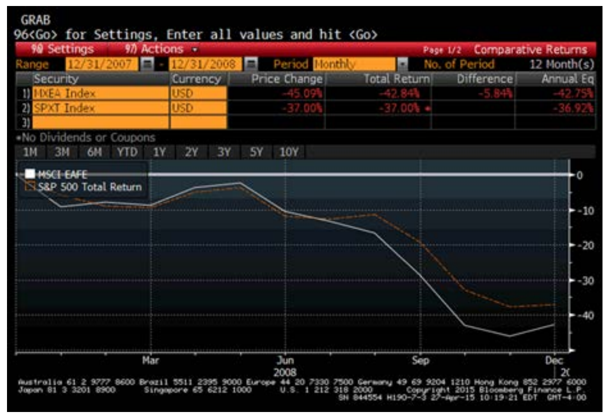

Table I shows from 2000 through 2002 the S&P 500 was down 37.61% while the MSCI EAFE was down 42.38% an additional 4.77%. Table II shows the S&P 500 down 37% in 2008 with the MSCI EAFE down 42.84%. During both bear markets in the last 15 years, international investing only added to the negative returns.

II. International correlations during global bull markets

The next period we selected in our conditional correlation approach was the global bull market of 2003 – 2006. Table III shows a significant increase in return by including the international asset class with the MSCI EAFE returning 145.53% during the period while the S&P 500 returned 73.21. In this period, correlations decreased as emerging markets helped produce Alpha in portfolio returns that were globally diversified. Diversification of return streams is evident, but international diversification is of little help during bear markets while the strategy is more helpful in global bull markets when emerging economies do best.

Table III

III. International correlations when central bank policies are divergent

A third period to analyze is when Central Bank Policies are divergent. With 2014 marking the end of QE in the US, and with Japan and the EU in the midst of their own versions of QE, we find the global economies in this third environment. While the US maintained a zero interest rate policy (ZIRP), we witnessed slow but steady economic growth and US stock markets continually hitting new all-time high levels, albeit not a straight line up.

Table IV shows the first third of 2015 which marks the early stages of the current environment where the US, and EU and Japanese Central Bank Policies are divergent. The MSCI EAFE Index is significantly outperforming the S&P 500, and EM is starting to add Alpha even over the strong returns of the EAFE. As a tactical manager we do not participate in forward looking hypotheses, but we do look at the data as it presents itself and we are seeing consistency with times when adding international asset classes has added to the benefit of diversification.

Table IV

Our work displays three different periods in an economic cycle where correlations rise and fall. Unfortunately if you're a buy-and-hold investor, correlations rise when you seek diversification most… during a bear market! At RPg Asset Management, this fact pattern plays well into our priorities of 1. Avoiding bear markets, and 2. Materially participating in upwardly trending markets. Including international exposures with our tactical approach could allow for participation during a global bull market which would allow for a portfolio to capture Alpha from the international allocation and EM participation. This may also add value by tactically moving to cash as volatility and correlations rise once the markets are in a bear market.

Our Conclusion

While we are coming out of a period when International investing added diversification by having very different return dynamics than Domestic equities, yet providing inferior relative return dynamics when compared to US Equity markets, we think we may be in a period when International asset classes can add value in the form of investment returns. If the evidence of Quantitative Easing and a Zero Interest Rate Policy that we've learned from the US equity markets holds up in International markets, we could be entering a virtuous cycle for both diversification, and international asset returns.

Sources: Francois Longin, Bruno Solnik, Bloomberg

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