



## The Free Lunch Illustrated

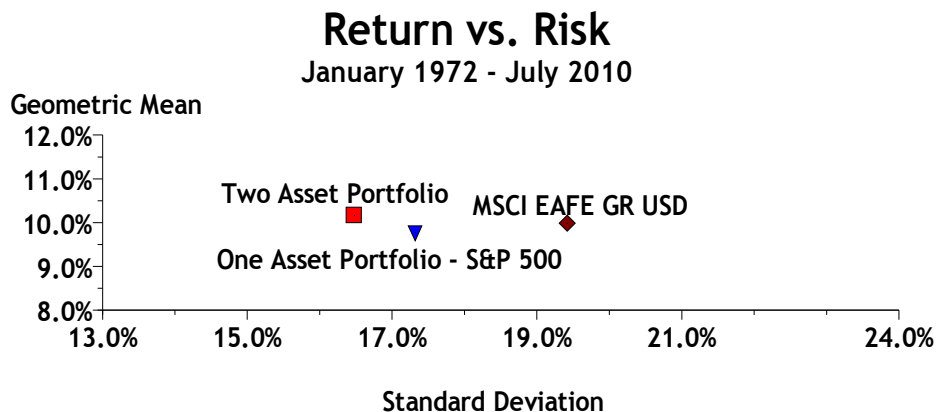
By Michael Nairne

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One of the most remarkable discoveries in modern finance is the ability to improve the expected return of a portfolio while simultaneously reducing its risk. While the proverbial “free lunch” does exist, its exploitation requires a focus not only on the returns and volatility of the assets in the portfolio but on the degree of covariance *between* those assets – i.e. the extent to which the returns of the assets move in tandem. All other things being equal, mixing assets that do not move in tandem will improve a portfolio’s risk-adjusted returns.

Unfortunately, the typical investor, eschewing diversification in favour of the latest hot manager or the recommendations of a market prophet, often misses out on the free lunch. That is unfortunate because, in retrospect, one can clearly discern the tremendous value that diversification offers. Take a single asset class portfolio comprised of the S&P 500 stocks (in blue) – by diversifying equally into foreign stocks as represented by the MSCI EAFE index (in brown), the new two asset class portfolio (in red) outperformed the single asset portfolio from January 1972 through July 2010.

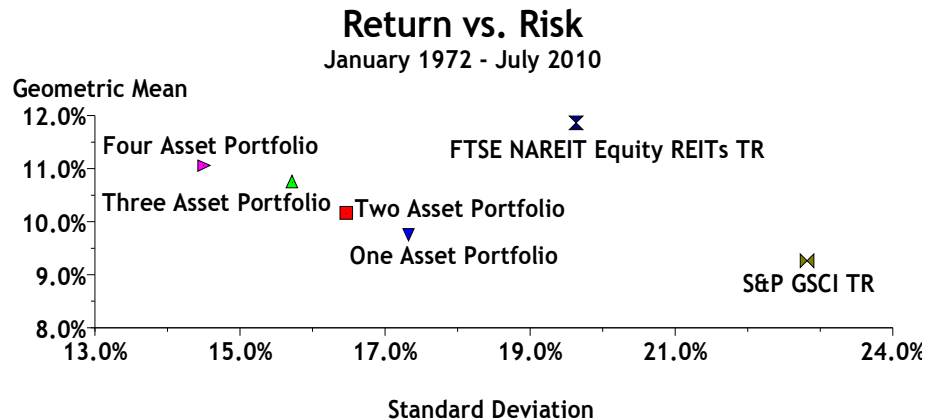


Most importantly, this outperformance was achieved with less volatility. The standard deviation of the two asset class portfolio – a measure of its volatility – was less than that of either the S&P 500 or MSCI EAFE. The free lunch was served!

Incorporating additional asset classes with low covariances to equities into the portfolio increases the size of the free lunch. For example, the following graph illustrates that the



addition of a 20% allocation to real estate investment trusts (FTSE NAREIT Equity REIT index) with the balance invested equally in U.S. and foreign stocks creates a three asset class portfolio (in green) that had a higher return with less volatility than the two asset portfolio (in red).



The full impact of adding an asset class with a low covariance to equities into a portfolio is illustrated with the addition of a 10% allocation to commodities as measured by the S&P Goldman Sachs Commodity index (S&P GSCI). Despite the lower compound return and extreme volatility of this asset as portrayed by its outlying position in the bottom right of the graph, its addition creates a four asset portfolio (in pink) that had a higher return with even less volatility than the three asset portfolio.

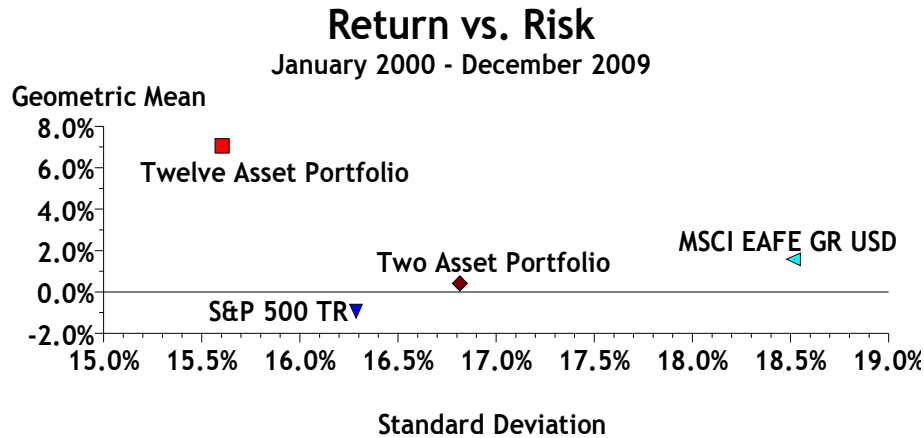
Where the covariance of an asset class relative to equities is sufficiently low or possibly even negative, its addition to a portfolio can improve risk-adjusted returns even if the asset itself exhibits tremendous volatility and has relatively low compound returns. In this case, the strong performance of the S&P GSCI during periods of weak equity returns in the early and late 1970's, late 1980's and early this decade dramatically improved the risk-adjusted return of the total portfolio over the entire period. Patient, long-term strategic asset allocation is paramount in accessing the free lunch.

Today, many analysts assert that diversification is no longer effective in the context of a truly global economy. They believe the returns of risk assets are now so correlated that the free lunch is at best a snack. In evidence, they cite the poor performance of both U.S. and foreign stocks over the last decade.

To the contrary, diversification that incorporated style and size elements and a more diverse mix of assets delivered superior risk-adjusted returns. This is evidenced in the following graph which compares the return of a twelve asset class portfolio (in red) to that of a two asset portfolio (in brown) comprised of U.S. and foreign stocks over the past decade. The broad diversification of the twelve asset portfolio – comprised of equal weights of U.S. large and small company stocks; U.S. large and small value stocks; foreign large, large value and small company stocks; emerging market stocks; U.S. REITs; hedge



funds, gold and commodities – resulted in substantially higher returns with less volatility than the two asset portfolio.



Diversification's free lunch is still being served. The biggest helpings go to those who order a robust assortment of assets and are patient enough to remain seated until the entire meal is on the table.

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