[James W. McCarthy and Monica Ann Ness]

How many stocks are needed to diversify away risk?

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ACHIEVING GROWTH THROUGH QUANTITATIVE DISCIPLINE

Advisors and their clients measure risk in many ways, but the most common measure is the volatility of a portfolio's market value versus the market itself. Volatility may result from either systemic risk, or the risk inherent in the stock market that cannot be diversified away with a single asset class, or non-systemic, or the risk you can mitigate for your client by creating a diversified portfolio. Sounds easy enough. The trade off, however, is the expense associated with owning more securities, as well as the potential opportunity cost of owning so many securities that returns are diluted and alpha disappears.

With that in mind, it is interesting that Morningstar notes that the average equity mutual fund holds 190 stocks. Similarly, the ever growing number of equity index funds replicates baskets of stocks with sometimes thousands of companies. Investors owning stocks in these vehicles apparently feel safe in the knowledge that they are well diversified. Clearly, it's believed that more is better.

However, a study by Lawrence Fisher and James H. Lourie, entitled "Some Studies on Variability of Returns of Investments in Common Stocks," came to the opposite conclusion. Using NYSE listed stocks they constructed portfolios consisting of one, two, eight, 16, 32, and 128 stocks and measured the volatility of returns versus the market for various time periods. They employed two methods to construct the tested portfolios. First, they used simple random selection. Since the study was published in 1970, examining every possible combination of stocks for each size portfolio would have been cost prohibitive given the price of computing power at that time. However, they created a minimum of 32,000 portfolios in their smallest sample size and believed this to be an adequate representation of the possible universe of combinations. They also tested portfolios randomly selected but with parameters to ensure industry diversification.

Given an investment world focused on tracking error, sector neutrality, indexing and portfolios of multiple mutual funds, their findings may surprise you. When examined over 40 one-year holding periods, investing in a portfolio of only 32 stocks eliminated 96 percent of the volatility vs. that of the market (or dispersion of returns). Interestingly, increasing a portfolio from only one stock to two stocks eliminated 43 percent of the volatility. None of us would put our clients in only two stocks, but Fisher and Lourie's work demonstrated that the risk reduction benefits of adding additional stocks to a portfolio diminish fairly quickly. Having had experience managing sector neutral portfolios, we find it more than a bit unexpected that there was no significant difference between the portfolios constructed using random selection and the industry diversified portfolios.

Risk reduction

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In the spirit of full disclosure, we have embraced this concept of concentrated diversification since our inception — both in our separately managed accounts and now in our recently launched mutual fund. Our accounts have typically held approximately 30 stocks. In further support of Fisher & Lourie's study, the composite results of our separately managed accounts have thus far produced a beta slightly less than the market as measured by the Standard & Poor's 500 Index.

So, how many stocks do you need to reduce risk associated with a limited number of holdings? Probably not as many as you thought.

Seascape Capital Management LLC is an independent investment advisor located in North Hampton, N.H. managing money for high net worth clients and their families.