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Long-Term Global Market Volatility and Correlation

What is the net effect of globalization for investors who seek to diversify internationally?

A long-term view of global equity markets reveals substantial variation of return volatility over time. Volatility has been particularly high during periods of financial crisis such as the Great Depression and periods of war. It has long been recognized that global investors can avoid a portion of individual market volatility by holding diversified portfolios. A 1776 prospectus of a mutual fund in The Netherlands notes that "because nothing is completely certain, but subject to fluctuations, it is dangerous to allocate all capital to a single security. Nobody will have reason to believe that all securities will stop paying off at the same time, thereby losing the entire invested capital."

The potential for diversification depends on two factors: the correlation between markets, and the number of markets that are available for investment. Both change over time. It is often argued that the recent globalization of markets has been associated with an increase in correlations and that there is "no place to hide" in a global market. However, globalization also increases the available investment choices, which contributes to diversification potential. What is the net effect of globalization for investors who seek to diversify internationally?

In a recent paper, we analyzed the relative contribution of changes in market correlation and the expansion of the investment opportunity set over the last 130 years.[1] We identified two periods that are characterized by integrated global markets, 1872-1914 and 1972-2000, when capital was relatively free to flow across international borders, and the shares of many "emerging markets" were actively traded in international markets.

Our research shows that the average correlation among four "core" markets (France, Germany, the U.K. and the U.S.) was almost twice as high during these globalization episodes as compared to the intermittent period of disintegration. The correlation between these core markets has been particularly high during the recent 1972-2000 period. These higher return correlations have limited the diversification potential for investors who restricted their portfolio allocations to these markets. At the end of 2000, the variance of an equal-weighted portfolio of these four countries had approximately 70 per cent of the volatility of the individual markets, implying a potential 30 per cent risk reduction through diversification. Investors holding these markets in proportion to their market cap weights would only achieve a 20 per cent risk reduction.

These numbers suggest that the benefits of international diversification are currently low. However, the post-war period has also shown a marked increase in the investment opportunity set as a large number of markets emerged or re-emerged. This expansion of the investment opportunity set has helped investors in two ways. First, more markets imply an increased potential for spreading risks. Second, emerging markets have on average lower return correlation than the core markets.

Our estimates indicate that both of these factors have significantly contributed to the benefits of diversification. An equal-weighted internationally diversified portfolio of both core and emerging markets experienced only 35 per cent of the volatility of individual markets—a risk reduction of 65 per cent. The increase in the number of markets and the lower correlations of the emerging markets each contribute about half to the additional risk reduction. While the diversification benefits are somewhat smaller for cap-weighted portfolios (50 per cent), a portfolio that includes the emerging markets currently offers double the risk reduction provided by a strategy that is limited to the core markets only.

International diversification is alive and well in global capital markets! ■

1. "Long-term Global Market Correlations" by William N. Goetzmann, Lingfeng Li, and K. Geert Rouwenhorst. A full version of this article is available at www.investmentreview.com.