

Factors In Focus



Where Are The Gains From International Diversification?

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If you've held a diversified portfolio for any part of the last 5 years, you might be second guessing whether or not international stocks belong in the mix. From 2010-2014, the S&P 500 compounded at +15.4% per year. Over the same period, international (developed country) stocks earned only +5.2%.

Investors who have held their diversified portfolios longer will recall the 2002-2009 period when the S&P 500 managed only +1.6% annually while international (developed country) stocks produced returns of +6.8% per year.

Over the entire period (2002-2014), however, the S&P 500 performed better—gaining +6.7% vs. +6.2% for international stocks, and had about 2% less risk (volatility) in the process. This brings up an important question: how important are international stocks to a diversified portfolio, and what is the best way to own them?

The Right Way To Go Global

To answer this we will look at diversified portfolio results over the period from 1995-2014. This stretch was chosen for a few reasons. First, it's the longest period available for the live DFA mutual funds that cover US and non-US large/small and growth/value companies. Second, it is the 20-year period after the landmark study authored by DFA co-founder Rex Sinquefeld with the same title as this article.¹ Looking at the last 20 years gives us a rich out-of-sample period to confirm or refute his original findings and further study the best ways to invest internationally.

Table 1 on the following page lists a series of 5 different portfolios with allocations broken down by the percentage associated with the asset class listed in the left-hand column. Each allocation is rebalanced annually back to its original target, is net of mutual fund costs but does not include advisory fees.

Portfolio 1 & 2—Traditional Diversification Comes Up Short

Portfolio 1 is a classic US-only stock (60%) and bond (40%) mix that has become increasingly popular in recent years. It returned +8.6% and had a risk level of 12.0. While this return was substantial for a balanced allocation, the final row in the table finds that much of this return came during the bull markets of 1995-1999 and 2009-2014. Its return during the

decade ending in 2009 (referred to as the “Lost Decade”) was barely positive—+1.9% annually—because the S&P 500 stock allocation actually *lost* -1.0% per year.

Portfolio 2 builds on portfolio 1 by replacing 30% of the US stock allocation with international (“EAFE” or Europe/Australasia/Far East) large cap stocks. Over the entire 20-year period, foreign stocks badly lagged US shares, which shows up in the lower overall return of portfolio 2—+7.8% per year. International stocks also had higher risk than US stocks, but their returns did not correlate (move in tandem with) US stocks perfectly. As such, adding international stocks lowered overall portfolio risk to 11.4. It's unlikely this modest level of risk reduction is compelling enough to entice an investor to move beyond a domestic stock portfolio. A 0.8% lower annual return hurts a lot more than 0.6% lower volatility helps. What's more, the +2.5% per year return during the Lost Decade isn't significantly better than the first allocation. This disappointing result is the basis for many traditional index investors like Vanguard founder John Bogle to question international diversification.

Portfolio 3 & 4—Small Cap and Value Diversification

Portfolio 3 takes a different approach to global diversification based on the research from Eugene Fama and Ken French. Instead of dedicating 30% of the stock portfolio to large, multinational stocks that dominate most foreign stock indexes, it instead allocates the 30% to large and small cap, low-priced “value” stocks. International value stocks—smaller ones in particular—tend to conduct business, produce goods and provide services primarily in their own local markets. As such, they tend to be much more tied to their local economy, amplifying the effects of foreign stock ownership compared to international blue chip companies like Nestle, Toyota, BP or Anheuser Busch Inbev. What's more, international large and small value stocks, like their US counterparts, have higher-than-market expected returns.

We see this improved diversification/higher return combination at work in the results of portfolio 3—its returns are +8.2% per year and risk is even lower, 11.2, compared to the S&P 500/EAFE combination of portfolio 2. And while portfolio 3 didn't outperform the S&P 500 stock-only mix of the first combination, it came close to matching it with a Lost Decade return that was approximately double. Now we're making

Table 1: Portfolio Risk/Return (1995-2014)

Asset Class	Port. 1	Port. 2	Port. 3	Port. 4	Port. 5
S&P 500 Index	60.0%	42.0%	42.0%	12.5%	13.5%
US Large Value stocks				12.5%	13.5%
US Small Value stocks				17.0%	18.0%
EAFE Index		18.0%			
Int'l Large Value stocks			11.0%	11.0%	12.0%
Int'l Small Value stocks			7.0%	7.0%	8.0%
Short-Term bonds	40.0%	40.0%	40.0%	40.0%	35.0%
Annual % Return	+8.6%	+7.8%	+8.2%	+9.0%	+9.2%
Risk (Volatility)	12.0	11.4	11.2	11.4	12.3
'00-'09 "Lost Decade"	+1.9%	+2.5%	+3.8%	+6.3%	+6.4%

progress. And with the lowest risk of any portfolio in the table, we are free to “spend” some of that risk savings on higher-expected returning stocks.

Portfolio 4 does just that, applying the same diversification/return principles to the US side of the stock portfolio as we did with international stocks in portfolio 3. It splits the US large cap allocation evenly between the S&P 500 and large value stocks, and puts 40% of the US stock allocation in small value companies. The return jumps to +9.0% per year—higher than either the S&P 500-only or S&P 500/EAFE combinations. But the portfolio’s risk is still less than the S&P 500-only allocation and no greater than the S&P 500/EAFE mix of portfolio 2.

This is Modern Portfolio Theory in action—adding higher risk asset classes in a diversified portfolio tends to increase total plan results without a commensurate increase in total plan risk.

Portfolio 5—Bringing It All Together

Portfolio 5 is included because it answers one of the most common questions prospective clients ask: why do we typically use stock/bond allocations that are 85/15, 75/25 or 65/35 instead of the more common 80/20 and 60/40 splits? The answer is, because our broad but targeted asset allocations allow us to. Portfolio 5 takes one final step—it increases the portfolio’s overall stock allocation by 5% and risk to approximately the level of portfolio 1, the S&P 500-only allocation, one which most investors hold directly with index funds or indirectly with individual stocks.

Portfolio 5 has an annual risk level of 12.3, indistinguishable from portfolio 1, but delivered a return that was 1.4% per year higher than the S&P 500/EAFE combination (portfolio 2) and 0.6% better than the S&P 500-only mix (portfolio 1). This despite the fact that portfolio 1 benefited from holding 100% of

its stock portfolio in the better performing US market and none in underperforming international stocks.

Sinquefield’s Study Endures

As to how these out-of-sample results compare to the original Sinquefield work, his paper found that the fully-diversified, enhanced stock portfolio (his version of portfolio 5) outperformed the traditional S&P 500/EAFE mix by 2.4% per year from 1975-1994, resulting in 18% of additional portfolio returns. While all stock returns were lower over the last 20 years, the 1.4% additional benefit of portfolio 5 over portfolio 2 (from Table 1: +9.2% vs. +7.8%) resulted in the identical benefit—18% better portfolio performance.

Those mirror-image results cannot be attributed to chance. The Sinquefield study has clearly stood the test of time.

“Lost Decade” Diversification

Portfolio 5 has one more advantage that matters as much as its long-term return superiority and even more than its risk/return efficiency. The 2000-2009 Lost Decade return was +6.4% per year, more than *triple* the gain of portfolio 1. This illustrates the diversification advantage that real-world investors actually care about: more consistent long-term returns and acceptably high returns during periods where one part of their portfolio (in this case, the S&P 500) performed exceptionally poor.

More consistent returns make it easier for long-term investors to reach retirement on their terms, generate a sizable and growing stream of lifetime cash flow, and leave a larger and more predictable sum of wealth to their loved ones. As this article shows, the right approach to international stock investing can be a major contributor to those results.

Source of asset class return data: DFA Returns 2.0

1 <http://www.cfapubs.org/doi/abs/10.2469/faj.v52.n1.1961>

S&P 500 Index = DFA US Large Company fund (DFUSX, DFLEX prior to 2010),

US Large Value stocks = DFA US Large Value fund (DFLVX),

US Small Value stocks = DFA US Small Value fund (DFSVX),

EAFE Index = DFA Large Cap Int'l fund (DFALX),

Int'l Large Value stocks = DFA Int'l Value fund (DFIVX),

Int'l Small Value stocks = DFA Int'l Small Value fund (DISVX),

Short-Term bonds = DFA Five-Year Global fund (DFGBX)

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