

# THE CASE FOR INTERNATIONAL INVESTING<sup>1</sup>

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## **I. Introduction**

“Take all your savings and buy some good stock and hold it ’til it goes up, then sell it. If it don’t go up, don’t buy it.” –Will Rogers<sup>2</sup>

International stocks — defined for our purpose as non-U.S. stocks held by U.S. investors — have produced disappointing returns in the 1990’s, leading some to wish they could go back in time and “not buy them.” Some U.S. investors are considering cutting back or even abandoning their international equity allocations, at a time when increasing those allocations would probably be more fruitful. The investor who shuns international stocks today because they performed poorly in the recent past can be said to suffer from look-back bias, as Will Rogers pretended to do.

The concern expressed by some investors about international investing motivates us to restate the case for it. International stocks continue to make up a large component of the investment policy of virtually all sophisticated investors. Despite recent performance, non-U.S. stocks have always been held by investors as much for potentially superior returns as for diversification or risk reduction. In restating the case for international investing, this paper builds on the classic arguments set forth in the 1970’s and 1980’s and brings to the forefront the persistent lack of integration of capital markets across countries – a surprising outcome that makes international investing much more interesting and potentially rewarding going forward.

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<sup>2</sup> Sterling, Bryan B., and Frances N. Sterling, eds. *A Will Rogers Treasury: Reflections and Observations*. New York: Crown Publishers Inc., 1982, p. 157.

## A. Performance data

Before launching into arguments for and against international investing, it pays to examine briefly the results from these markets. Figures 1 and 2 compare the growth of a dollar invested in the MSCI EAFE index, representing international equities, with that of the S&P 500 over 1970-1989 and 1990-1998 respectively.<sup>6</sup> Figures 3 and 4 show efficient frontiers created using the S&P 500 and EAFE over these same two periods.

International stocks returned only 5.3% annually between 1990 and 1998. The Japanese market decline has been the leading cause of this poor performance. In local currency, the Japanese market is down approximately 60% from its high achieved on the last day of 1989. As has been well-documented elsewhere, much Japanese capital that had been invested in overseas financial markets has been repatriated, and a number of once powerful Japanese financial institutions now hover on the brink of insolvency.

In the 1980's, the size and strength of the Japanese market grew to dominate the returns of the EAFE index. In fact, by the end of 1988, the Japanese market represented approximately 65% of the capitalization of the EAFE index and had five times the weight of the next largest market, the U.K. Today, Japan has fallen to second place behind the U.K. with each country representing just over 20% of the index.

In contrast with Japan, the European markets have generally had solid performance during the 1990's, mirroring the strength of the U.S. market. Three European countries<sup>7</sup> actually outperformed the U.S., and the broad MSCI Europe index returned 14.3% per year – a far cry from the 5.3% annual return of EAFE.

Investors have also been dismayed by the returns of emerging markets in recent years. From 1988 to 1993, emerging market returns as proxied by the MSCI Emerging Markets Free (EMF) Index averaged a stunning 36.5% per year.<sup>8</sup> Moreover, emerging market returns were slightly less correlated with U.S. markets than was EAFE, offering investors even greater diversification.<sup>9</sup> However, from 1994 to 1998 – the period during which most plan sponsors made commitments to emerging markets – they declined markedly, returning an average of –9.3% per year. This aggregate masks significant return

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<sup>6</sup> EAFE is the Morgan Stanley Capital International (MSCI) Europe, Australasia, Far East index of non-U.S. stocks in developed countries. The actual index used is the MSCI EAFE return with gross (before-tax) dividends, in U.S. dollars. It measures total returns (capital gains plus dividends), is capitalization weighted, and is calculated gross of withholding taxes on dividends. MSCI EAFE is used in the paper as the proxy for the developed-country international stock asset class except where otherwise noted. Also, unless otherwise noted, all returns shown in this paper are unhedged total returns in U.S. dollars.

<sup>7</sup> Finland, the Netherlands, and Switzerland.

<sup>8</sup> In this paper, emerging markets are proxied by the MSCI Emerging Markets Free (EMF) index with gross dividends unless otherwise noted. The index is in U.S. dollars and is unhedged.

<sup>9</sup> The correlation of the S&P 500 with MSCI EAFE was 0.431 over 1988-1993, and the correlation of the S&P 500 with MSCI EMF was 0.419 over the same period.

differences among countries: Russia and Thailand each lost more than 80% of its value over this five-year period, while Greece and Portugal gained 189% and 151% respectively.

## B. Critiques of international equity investing

This sad litany has led some U.S. investors to question the theoretical rationale and practical wisdom of allocating equity investments internationally. Among the concerns expressed, we note several themes: (1) international investing was never a good idea in the first place, because proponents oversold its advantages while ignoring its many risks; (2) the strength of the U.S. economy makes international equities less compelling than they used to be; and (3) international equities are an ineffective diversifier because all stock markets in the world tend to decline at once. We present each of these criticisms in some detail below.

### 1. “It was never a good idea.”

A few plan sponsors adopted the idea of international investing only reluctantly, if at all. These sponsors typically focused on the unfamiliarity of international markets, their market and currency risks, the cost of currency hedging, and the perceived dominance of U.S. companies. Some pension fund sponsors who declined to invest abroad argued this was appropriate given that their plan’s liabilities were denominated in U.S. dollars.

These concerns were echoed by at least a few serious researchers. Dennis Logue (1983), who conceded that the case for international investing is statistically compelling, pointed out that active international managers faced high transaction costs not accounted for in index data.<sup>10</sup> Moreover, at the time (16 years ago), even index investors faced significant practical problems related to issues as diverse as safekeeping, taxes, illiquid markets and capital controls.

While these worries have largely dissipated in the developed world, they are still relevant in some emerging-market countries. More recently, Rex Sinquefield, a respected investment manager known for his advocacy of asset-class investing, diversification, and other elements of applied capital market theory, published research that questions the benefits of international investing.<sup>11</sup> Sinquefield (1996) reported that from 1970-1994, a globally diversified portfolio was less risky than an all-U.S. portfolio but by so little that an investor could only raise a plan’s equity allocation by 1% without raising its total risk.<sup>12</sup> He also noted that the decline of the U.S. dollar over this period was the only

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<sup>10</sup> Logue, Dennis. “Multinationals are good tools for international diversification.” *International Investing*, Peter L. Bernstein, ed., Institutional Investor Books, New York, 1983.

<sup>11</sup> Rex A. Sinquefield is Chairman and Chief Investment Officer of Dimensional Fund Advisors, Inc. (Santa Monica, Calif.).

<sup>12</sup> Sinquefield, Rex A. “Where are the gains from international diversification?” *Financial Analysts Journal*, January-February 1996.

source of EAFE's higher returns, concluding that "EAFE and other foreign-marketlike portfolios fail both tests [lower risk and higher return] as diversifiers for U.S. sponsors."

2. "It was fine but is no longer advisable or necessary"

Some critics of international investing point out that U.S. companies now lead many of the world's industries, besting their foreign competitors based on structural advantages built into the U.S. economy, coupled with superior management practices, technology advances and marketing savvy. Wall Street's requirement that companies generate consistent earnings growth, combined with the threat of leveraged buyouts and the mantra of shareholder value creation, has transformed sluggish bureaucracies into hypercompetitive world leaders. Many global companies domiciled in the U.S. are characterized by lean staffs, just-in-time inventory management, commanding shares of world markets, and exceptional profit margins and earnings growth rates. They are among the companies that have led the U.S. stock market advance of the 1990's. Many foreign companies, these critics of international investing argue, are not really managed for the primary goal of shareholder value creation, given that business cultures and governance structures differ significantly between the U.S. and other countries. Why, then, should anyone risk their money in international stocks?

A more modest claim made for U.S. companies is that they are more global in scope than they used to be, so they have become a reasonably complete sample of the world's economic opportunities. If investing in Toyota is simply duplicative of investing in Ford, and both companies react to the same global auto-industry factor, then one might reasonably avoid the local-market risk and currency risk of Toyota. Extending this logic to the whole U.S. stock market, one might be able to construct a reasonably well-diversified portfolio, incorporating most or all of the major risk factors in global markets, from U.S. stocks alone.

3. "All the markets decline at once"

Concern that international equity investing was failing to provide diversification in times of distress first arose in the wake of the crash of 1987.<sup>13</sup> A widely-read paper by Richard Roll described the decline as a truly international event:<sup>14</sup>

October's crash could be ascribed to the normal response of each country's stock market to a worldwide market movement... The U.S. market was not the first to decline sharply. Non-Japanese Asian markets began a severe decline on October

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<sup>13</sup> The crash of 1987 was not the first international crash; the 1929 crash affected New York, London, Paris, and Berlin about equally (see Kenneth L. Fisher, *The Wall Street Waltz*, Contemporary Books, Chicago, 1987, pp. 70-71). However, the 1929 crash was less synchronized, with declines in the various countries taking place on different days, and to some extent weeks and months, of that year.

<sup>14</sup> Roll, Richard. "The international crash of October 1987." *Financial Analysts Journal*, September-October 1988.

19 (their time). This decline was echoed first by a number of European markets, then by North America and, finally, by Japan.

This pattern of financial-market distress following the sun around the globe has become familiar. U.S. stock-index futures, which are traded around the clock, often fall sharply at night (forecasting a decline at the New York Stock Exchange opening) when non-U.S. markets tumble. Over the period since the 1987 crash, it has become commonplace to observe that, because stock declines in one national market are often accompanied by similar declines in other markets, international diversification helps the least when it is needed the most. The correction of August 1998, during which the S&P fell 14%, EAFE 12%, and emerging markets 29% on a calendar-month basis, intensified this fear.

### C. Responding to the criticism: this paper's structure

To address these concerns and motivate a fresh look at international equities, we state the case for international investing in the remainder of this paper. Many things have changed since the rationale for investing internationally was first articulated in the 1970's and 1980's. To base a major component of investment policy on the "timeless truths" then articulated, without taking into account subsequent (and conceivably permanent) changes in global capital markets, is unwise. Therefore we bring current conditions to the forefront, and put the re-exposition of the timeless truths closer to the end of the paper. Section II examines the current market dominance, high profitability, and low risk of U.S. corporations as factors that add to, not detract from, the case for international diversification. Section III sets out a more recent argument for international investing, centered on the observation that global markets are not as integrated as one might expect after decades of relatively free trade and crossborder portfolio flows – and that this lack of integration provides diversification for all investors, as well as active management opportunities for international investors.

As originally stated, the case in favor of international investing included two inducements – one risk-related and one return-related. The risk arguments derive from portfolio theory, and focus on diversification of risk and on market completion, examined in Section IV. The return arguments, considered in Section V, focus on the greater participation of non-U.S. companies in (it is hoped) the faster-growing economies outside the United States. An additional argument for international diversification, based on asset-liability matching, is essentially risk-related but is different enough in focus to merit its own section (Section VI). These sections review the original arguments, refreshing them with new data and evaluating their relevance to today's markets.

## II. Why *not* just invest in the United States? Some timely considerations

As we noted, the case for international investing is, on its surface, more difficult to make after a period in which U.S. stocks have provided stellar returns and international markets as a whole have performed less well. However, these events are in the past, and investors are (or should be) concerned about the future. Questions investors should consider before turning away from international markets include:

A. Will U.S. companies continue to dominate foreign competitors?

The currently robust state of the U.S. economy and corporate sector has made it difficult for investors to justify their international allocations to trustees and clients. Why should an investor swim against the tide and bet part of the portfolio on non-U.S. firms?

Benjamin Disraeli said in 1838, “The Continent is not going to suffer England to be the workshop of the world”. Looking forward, the rest of the world will be disinclined to allow the United States the same luxury. The performance of Corporate America may currently be the envy of other countries, but it is a safe assumption that the pendulum of competitiveness will continue to swing among national economies. High profit margins will eventually be competed away, and high U.S. earnings growth rates have already slowed.

Inherently, the observation that U.S. companies are dominant is a statement about the past – the quite recent past, if one recalls the enthusiasm with which Japanese successes were greeted only a decade ago. It is not a forecast of the future. Competition is a powerful force, and the profitability of U.S. companies is a highly visible target for non-U.S. businesses. It will become a more attainable target as foreign companies restructure to control costs, and as trade, regulations, and corporate governance evolve in favor of freer markets and more effective competition.

B. Is international investing redundant?

It sometimes appears that the increasingly global character of U.S. firms is making investing in non-U.S. stocks redundant. If that is true, one need not believe that U.S. companies will continue to dominate world markets to avoid holding Toyota in favor of Ford.

In the worldwide market for vehicle sales, however, Ford and Toyota are competing *against each other*. Ford will not always win. Thus there is an unsystematic risk factor in each company that is not present in a portfolio consisting of both companies, and unsystematic risk must either be actively managed or eliminated through diversification; it cannot simply be ignored. Active managers will want to take a stand on which company is likely to perform better in a given future period, and passive managers will want to diversify the risk of holding one company and not the other

Finally, many non-U.S. companies have no counterpart in the United States. Others have franchises in rapidly growing parts of the world where U.S. companies cannot effectively compete. To avail oneself of these opportunities, one must identify and hold the stocks of these companies.

C. Are international equities too risky in relation to their return?

One reason that international equities have disappointed investors during the 1990's is that their absolute risk, or volatility, was considerably higher than that of U.S. stocks. This was not because international stocks became more volatile, but because U.S. stocks became less volatile – a condition that may not hold in the future. From 1970 to 1989 the annualized monthly standard deviation of the S&P 500 and EAFE was 16.2% and 16.7% respectively. During the 1990's the annualized monthly standard deviation of the S&P 500 declined to 13.5%. In contrast, the volatility of international stocks rose modestly to 17.5%. As a result, international stocks were substantially more volatile than U.S. stocks.

Thus, the observation that international stocks are riskier than U.S. stocks is period-specific, and has more to do with very low volatility in the U.S. market in the 1990's than with high volatility overseas. In fact, over the shorter and more recent 1994-1998 period studied in section III-C, the volatilities of the two indices (measured using monthly returns) were almost identical (13.9% for the S&P 500 and 14.0% for EAFE), suggesting the problem of high risk in international stocks relative to domestic ones may have passed.

### **III. Is the global market integrated?**

“Is there any point to which you would wish to draw my attention?”

“To the curious incident of the dog in the night-time.”

“The dog did nothing in the night-time.”

“That was the curious incident,” remarked Sherlock Holmes.<sup>16</sup>

#### **A. Defining market integration and its tests**

One of the arguments against international investing is that international diversification is redundant in a newly integrated world economy. This argument suggests that U.S. investments adequately represent the global investment opportunities. However, in spite of widely acknowledged forces toward globalization, global capital, goods, and labor markets are still not very well integrated. If and when markets are integrated, assets domiciled in different countries but similar in other regards, such as risk, industry and size factors, will trade at similar prices. The dog that didn't bark – the widely predicted integration of global capital markets that hasn't yet taken place – is news. Some readers may be surprised to hear that this is actually very good news for investors.

Why? If markets are integrated, then there is little opportunity to reduce risk or add return through international diversification because every risk factor has the same price and the same return in every country. U.S. stocks, due to the breadth and scope of its industries, would be a reasonable representative of global markets. There would be then, arguably, be little to gain from “completing” one's market holdings by diversifying

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<sup>16</sup> Doyle, Sir Arthur Conan. “Silver Blaze.” *The Complete Sherlock Holmes*. Doubleday: New York, 1960.

internationally. Even in the case of global market integration there would be reasons for international investing – to capture the *unsystematic* risk of non-U.S. companies that are competing with U.S. companies (as Toyota does with Ford), and to invest in unique industries and companies that don't exist in the United States – but there would be little or no reduction in *systematic* risk.

With markets not fully integrated, however, the reasons to invest internationally become much more compelling. The payoffs for taking various types of risk are out of “synch” from one country to another because business cycles, valuation and liquidity trends, and other factors driving market returns are out of synch. Thus, if markets are less than perfectly integrated, international stocks have to be held to achieve appropriately diversify systematic portfolio risk – even if foreign markets contained no unique industries or companies. Market completion becomes a necessity if investors are to avoid uncompensated risk.

Moreover, the finding of less than perfectly integrated markets helps active managers. These managers require markets to be at least somewhat inefficient if they are to have any possibility of earning excess risk-adjusted returns. Market segmentation causes the global equity market to be inefficient in several dimensions, most notably including different prices in different countries for the same risk factor. Thus, it is more likely that skilled active managers will earn excess returns in partly segmented markets than they would if the global equity market were perfectly integrated.

## B. Testing for integration

From a theoretical standpoint, the best evidence of integration across countries' capital markets is, according to Beckers, Connor, and Curds (1996), “if any two assets with the same level of risk and the same expected cash flows always have the same price irrespective of the markets in which they trade.”<sup>18</sup> A robust test of integration based on asset pricing would, however, require more than 100 years of data, and the results would probably still be inconclusive, at least from a statistical standpoint.<sup>19</sup>

Tests of integration have, therefore, focused on the correlations of assets in different countries. Such tests measure capital market integration only indirectly, as described by Beckers et al.: “...[T]he comovements in security returns are linked to a set of common factors. If markets are fully integrated, then the factors explaining the correlations of returns will be international ones, with no role for national factors.” Because the

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<sup>18</sup> Beckers, Stan, Gregory Connors, and Ross Curds. “National versus global influences on equity returns.” *Financial Analysts Journal*, March-April 1996.

<sup>19</sup> A detailed explanation of the need for a 100-year period (or longer) is in footnote 1 of Beckers, Connors, and Curds.

The results would be inconclusive if countries had the same returns, because this could happen by coincidence rather than by arbitrage across countries by investors. The results would only be conclusive if (1) countries had returns that were different by a statistically significant amount, showing the markets were *not* integrated; and (2) it could be demonstrated that the pricing test had been correctly specified.

existence of international common factors in security returns depends in part on integration of real economic activity (that is, goods and labor markets), correlation-based tests are best understood as joint tests of capital-market and real economic integration.

Using a statistical method that has generally stood up under scrutiny, Heston and Rouwenhorst (1995) studied correlations of stocks in twelve European countries over 1978-1992, a period during which these countries were in a common free-trade area and, most of the time, in one of several linked-currency arrangements.<sup>20</sup> They found that:

...[C]ross-country differences in average return and return volatility are primarily due to country factors. Industry factors cannot account for the differences in the mean and volatility of country index returns. These results are surprising in the sense that we find large country effects in a sample where one would expect them to be relatively unimportant, because the European countries are economically and financially integrated, yet industrially diverse. We conjecture that country effects will play an even larger role in a sample that also includes the U.S., Japan, and various emerging markets.

It may be premature to jump to conclusions based on these findings because some of the data are almost a generation old, and the result is an average across time. For example, European stock markets may have been more integrated by the end of the period or will be further as a result of European Monetary Union. However, Beckers et al., using a method that is similar to that of Heston and Rouwenhorst but sensitive enough to use over subperiods as short as 12 months, are able to test for changes in the degree of integration over time. Studying 1982-1995, they find that market integration is steadily increasing within the European Union *but not outside it*. Moreover, looking at the degree of integration (as opposed to the directional trend over time), they conclude that:

Nation-specific industry factors have substantially more explanatory power than global industry factors. Country factors are strong, but the global market factor, capturing the tendency of all securities worldwide to move together, is even more powerful than the country factors. The best model...has a global market factor, country factors, and nation-specific industry factors.

These results give a mixed verdict for global market integration. The fact that the global market factor is strong suggests that there is considerable integration. In a perfectly integrated world, however, the country factors and nation-specific industry factors would not exist, and would have been replaced by global industry factors. The fact that there is no evidence for this yet having occurred means that the world has a long way to go in terms of integration – and, outside the European Union, it is not even moving in that

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<sup>20</sup> Heston, Steven L., and K. G. Rouwenhorst. "Country and industry effects in international stock returns." *Journal of Portfolio Management*, Spring 1995.

direction at a statistically detectable rate. Clearly investors need to continue to try to find price differences across countries.

Solnik, Boucrelle, and Le Fur corroborate this finding – correlations among countries have barely risen since the 1960's, and not at all in the last 10 years – but they add a twist: correlations increase when markets are volatile.<sup>21</sup> They speculate (and we agree):

Correlations are low when national factors dominate. For example, the prolonged strike by French civil servants at the end of 1996 had a negative impact on the Paris Bourse that was not felt by other markets. [But w]hen strong shocks in world markets occur, they affect all markets simultaneously. Global shocks affect the markets' volatility and their correlations at the same time.

Thus markets are segregated enough to afford investors both diversification and the opportunity to add value through active management. However, Solnik et al. believe that the global factor causes the benefit of international diversification to be muted in times of distress. Not all observers have corroborated this finding.

C. Integration in short-term returns:  
Does EAFE decline on days when the S&P declines?

Solnik's observation, that the correlation of international with U.S. stocks rises in times of high volatility, has not universally stood up to scrutiny. Despite scares in October 1997 and August 1998, recent research by Barclays Global Investors finds that "contrary to the view of today's skeptics, the diversification benefit is even stronger during severe market downturns than in normal market conditions."<sup>22</sup>

To see whether correlations between U.S. and foreign markets increase during periods of market volatility, BGI examined EAFE returns on the day of, and for various periods after, large daily negative moves in the S&P 500. On 68 days between January 1988 and June 1998, the S&P declined by two standard deviations.<sup>23</sup> The average S&P return of -2.35% on these days coincided with an average EAFE return of -0.66% on the same days. Thus, EAFE exposure helped on average. Over longer periods, international stocks continued to perform relatively well in the wake of a bad day for the S&P: the one-week EAFE return (including the first day) averaged -0.34%, and the monthly and quarterly returns were positive on average. Moreover, the daily correlation between the two indices on down days was low (0.28), suggesting a relatively minor degree of linkage.

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<sup>21</sup> Solnik, Bruno, Cyril Boucrelle, and Yann Le Fur. "International market correlation and volatility." *Financial Analysts Journal*, September-October 1996.

<sup>22</sup> Scanlan, Matthew and Livermore, Kurt. "Where are the diversification benefits when you really need them?" *Currents*, Barclays Global Investors, San Francisco, November, 1998.

<sup>23</sup> The standard deviation of daily percentage price changes in the S&P 500 was determined after-the-fact to determine which days to study.

Indeed, this correlation is lower than the correlation measured on two-standard-deviation up days (0.41) and is not much higher than the correlation measured across all days (0.30). These results contradict the view that during periods of distress, U.S. and international markets tend to move in lockstep. Tables 1 and 2 summarize these findings.

Over a slightly outdated period, Bergstrom et al. corroborates the BGI findings.<sup>24</sup> Studying weekly data from both U.S. and international indices – a method that avoids most of the lead and lag problems in the daily U.S. market data studied by BGI – they report that:

...[T]here are only four years [out of 1980-1995] when the correlation of weekly returns was greater during a declining U.S. market than during a rising U.S. market. This evidence is consistent with the view that there has not been a reduction in the benefits of international diversification, even during periods when the U.S. market has declined.

#### D. Why global markets may never be perfectly correlated

The disappearance of all barriers to integrated capital markets is, at best, far in the future. However, the power of technology to globalize not only capital markets but markets for goods and labor, combined with worldwide efforts to establish freer trade, is having an effect. Barriers to all kinds of international activity are falling and the world is becoming more integrated in many dimensions. It does not matter that increasing capital market integration is hard to find in the data. The macro trend is too obvious to ignore.

However, there is a compelling reason why global markets will never be perfectly correlated, and it is because of – not in spite of – free trade. Let us conduct a “thought experiment.” If every country is an autarchy (that is, closed to foreign trade), then the business mix of each country must necessarily reflect the necessities of civilized life in that country. Because human needs are similar wherever you go, these mixes tend to be similar *across* countries – one-seventh in agriculture, one-seventh in real estate, retail, manufacturing, and so forth. While no country has ever been a literal autarchy, the global economic picture of a generation ago is not profoundly different from that. Under such conditions, the returns on different countries’ stock markets would tend to be substantially correlated because of the similarity of the business mix across countries.

Now, let these countries trade with one another. People and cultures differ in tastes, skills and preferences, and have natural cost advantages and disadvantages due to differing natural resources and geographic endowments. Thus countries tend to specialize.

As specialization increases, the business mixes of countries become more dissimilar. Swiss stocks (say) tend to move with interest rates while Finnish stocks move with the supply and demand for telecommunications equipment. Obviously we are

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<sup>24</sup> Michaud, Richard O., Gary L. Bergstrom, Ronald D. Frashure, and Brian K. Wolahan. “Twenty Years of International Equity Investing.” *Journal of Portfolio Management*, Fall 1996.

oversimplifying, but the trend is clear: trade causes specialization, and specialization *lowers* correlations. This phenomenon would tend to counteract a general increase in correlations due to increasing market integration, and may account for the failure of researchers to find that correlations among country markets are in fact rising.

E. Are U.S. multinationals good vehicles for diversification?

A final test of global capital-market integration is motivated by the allegation that U.S. stocks incorporate all of the major risk-factor opportunities in the world and that one therefore does not have to buy international stocks. If this is true, then stocks of U.S.-based multinational corporations should be correlated to international stocks.

Stephen Hardy (1997) uses returns-based style analysis, first developed by William F. Sharpe, to examine the extent to which international exposure can be achieved by buying stocks of U.S.-based multinationals.<sup>25</sup> For this to work, Hardy notes, “these U.S. stocks would have to behave like foreign securities... A simple way to test this idea is to do a style analysis on these...companies... If these stocks behave at all like foreign markets, it will be demonstrated by significant weightings in the EAFE index.” Of the seven companies shown in Table 3, only Coca-Cola and Colgate-Palmolive showed any weight at all in EAFE when regressed against five factors (EAFE plus the four Russell domestic style indices).<sup>26</sup> Moreover, the EAFE weights are small: 5.3% in EAFE for Coca-Cola, which earns 80% of its profits outside the U.S., and 9.6% in EAFE for Colgate-Palmolive. Avon Products, Gillette, McDonalds, Philip Morris, and Procter & Gamble showed no evidence of being influenced by EAFE using this methodology.

Hardy concludes that one cannot gain exposure to the non-U.S. market factor by constructing a portfolio of these popular U.S. growth stocks, and corroborates this conclusion with a similar examination of multinational-company mutual funds. As Table 2 indicates, neither the Fidelity Export & Multinational fund nor the U.S. Global Leaders Growth fund showed *any* EAFE exposure when tested using the five-factor model. Hardy’s method might be criticized on the ground that the U.S. large growth index already includes an international factor – that is, the index contains U.S.-based multinational stocks that are influenced by international economic forces. If that is true, then putting EAFE in the style analysis is double counting and one would not expect it to

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<sup>25</sup> Hardy, R. Stephen. “International exposure – Going multi-national.” *The Advisor*, Vol. 21 (November 18, 1997), Zephyr Associates, Zephyr Cove, Nev. Returns-based style analysis is described in Sharpe, William F., “Asset allocation: Management style and performance measurement,” *Journal of Portfolio Management*, Winter 1992.

<sup>26</sup> The style analysis, or multiple regression, consisted of simultaneously regressing stock returns on the four Russell domestic style indices (large growth, large value, small growth, and small value), a bond index, and EAFE. The weights on the six indices (regressors) add to 100%, so that a 5.3% weighting in EAFE for Coca-Cola implies that 5.3% of the variation in the price of Coca-Cola stock is explained by variation in EAFE, and 94.7% by variation in the four Russell indices plus the bond index. Companies were selected by Hardy for illustrative purposes and do not represent a scientific sample. According to the author, the stocks were studied using monthly returns for the 10 years ending July 1997; the Fidelity fund for the 33 months ending July 1997; and the U.S. Global Leaders fund for the 22 months ending July 1997.

have a large weight. It is unlikely this critique has much force, however, because EAFE and U.S. large growth stocks have a correlation of 0.46, which is actually lower than the correlation of all U.S. stocks with EAFE (0.49).<sup>27</sup> The conclusion from this evidence is that, to gain exposure to the international market factor, one must buy international stocks.

### III. Arguments based on risk and capital market theory<sup>28</sup>

#### A. Mean-variance efficiency

The most basic case for international investing rests on Harry Markowitz's (1952) prescription that investors should diversify so as to hold only mean-variance efficient portfolios.<sup>29</sup> A mean-variance efficient portfolio is one that has the highest expected return (mean) for a given amount of risk (variance, or standard deviation), or – alternatively – the lowest risk for a given level of expected return. As long as an asset is imperfectly correlated with other assets in the portfolio, adding it is likely to reduce the risk of the portfolio. Because most assets are imperfectly correlated in this way, it usually improves the efficient frontier to add additional assets (at least up to a point). To determine the weight of each asset required to achieve an efficient portfolio, Markowitz developed a quadratic programming algorithm, that, in the form of portfolio optimization tools, has become an integral part of the investment management process over the last several decades.

Because international equities are imperfectly correlated with domestic ones, it is intuitively obvious that they should reduce the risk of domestic portfolios, even if the international assets are somewhat riskier. Referring back to Figures 3 and 4, the risk reduction from holding different mixes of U.S. and international stocks can be seen. Over the full 1970-1998 period, U.S. and international stocks had roughly similar returns and risks, but were substantially out of phase with one another; for example, international stocks (represented by EAFE) beat the S&P 500 by 51 percentage points in 1986, while the S&P won by 20 or more percentage points in at least one year of the 1970's, the 1980's, and the 1990's. The correlation coefficient of monthly returns was 0.48. The result of this low correlation is that mixes of the S&P and EAFE were substantially less risky than either index taken alone, while offering basically the same return.

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<sup>27</sup> The correlation of the Russell large growth index with EAFE, and of the Wilshire 5000 (representing all U.S. stocks) with EAFE, was measured over January 1979 to September 1998.

<sup>28</sup> We suggest as representative of the classic case for international diversification two articles: Solnik, Bruno, "Why not diversify internationally rather than domestically," *Financial Analysts Journal*, July-August 1974, and Lessard, Donald, "World, country, and industry relationships in equity returns," *Financial Analysts Journal*, January-February 1976. [Pattie introduced the phrase "capital market theory" in the first discussion of Siquefield. (I guess she doesn't like "classical financial economics.") So I'm recycling it here.]

<sup>29</sup> Markowitz, Harry M. *Portfolio Selection*. First edition, 1952; second edition, Basil Blackwell, Oxford, 1991.

Skeptics will argue that the 1970's and 1980's are irrelevant to today's investment decisions because international stocks were in their highest growth phase in that period, and because the U.S. market became less risky after that. Therefore we examine 1990-1998 (Figure 4) more closely. Unsurprisingly the returns are dramatically different for the two indices, with the S&P winning at a compound annual rate of 11.7%. Moreover, the risk of EAFE was higher than that of the S&P. Nevertheless, mixes of the two indices were less risky than either single index, reflecting the still-low correlation of 0.47 over the period.

#### B. Asset allocation using historical inputs

If international stocks were expected to underperform U.S. stocks in the future (as they have in the 1990's to date), risk reduction would be an inadequate rationale for non-U.S. investing—the return decrement would offset any risk benefit. In order to make decisions today about how to allocate between U.S. and international stocks in the future, one must have *forward-looking* estimates of the returns and risks of these assets, and of the correlation between them. For risk and correlation, historical estimates – with modification if the analyst deems it necessary – are an adequate proxy for expectations about the future.<sup>30</sup> For return, however, it is worse than useless to project unmodified results from the 1990's forward.

Why? The return of international stocks over that period had a negative component (caused primarily by Japan) that was almost certainly *unexpected*.<sup>31</sup> While some investors, looking at the astronomical valuations of Japanese stocks at the beginning of the decade, may have expected the market to fall, that was obviously not the market-consensus expectation – or else Japanese stocks would not have been priced so highly. No one intentionally buys securities with negative expected returns, so we must presume that people who bought Japanese stocks at the peak expected at least a competitive or normal rate of return going forward.

Moreover, the U.S. market return over 1990-1998 had a positive component that was likewise unexpected. The net result of these two deviations from expectation is that the spread between S&P 500 and EAFE returns, which was probably expected to be zero or narrow at the beginning of the decade, turned out to be hugely in favor of the U.S. market.

To project the future, we assume that the S&P and EAFE have the *same* expected return. This is reasonable if markets are in equilibrium – that is, if neither U.S. nor international

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<sup>30</sup> Because estimates of risk and correlation improve with the sampling frequency, these variables can be estimated for forecasting purposes even if only a limited amount of historical calendar time is available to study. In contrast, expected return cannot be discerned from historical returns unless a very long period of calendar time is available; increasing the sampling frequency does not help.

<sup>31</sup> Nearly all of the realized return on a risky investment is unexpected. That is, the average or expected return is almost never achieved, with the realizations being higher or lower due to volatility.

markets are under- or overpriced. (Such an equilibrium assumption is appropriate for the sake of discussion, , although a different assumption, based on analysis of the returns and risks available from the markets at a given point in time, might be made when actually allocating assets.) The risk and correlation estimates for these indices are taken from the five years ending December 31, 1998, so that old data do not overwhelm the analysis.

Figure 5 shows the results of this analysis.<sup>32</sup> The minimum-variance portfolio consists of 49% in international equities and 51% in U.S. equities; the globally diversified portfolio having the same risk as U.S. equities is 97% international. (This result obtains because the EAFE and S&P had about the same amount of risk over the period studied.) Thus if the future resembles 1994-1998 in terms of the risk and correlation of these indices, almost all portfolios containing both the EAFE and S&P have an expected standard deviation lower than that of the S&P 500, illustrating the power of diversification to reduce portfolio variability.

This result does not, of course, imply that investors should hold the minimum-variance portfolio or any other particular weight in international equities. Because of the liability structure of U.S.-based plans, benchmark risk, and peer risk, few U.S.-based investors seem to want to hold more than 25% of their total assets in non-U.S. equities.

### C. Asset allocation with risky and riskless assets

Risk reduction, of course, is not what investors principally desire. It is sometimes said that you can't consume risk-adjusted return. However, the insight of another Nobel Prize-winning economist, James E. Tobin, enables investors to do precisely that.<sup>33</sup>

#### 1. Two-fund separation theorem

Investors' portfolios are composed of two "funds": (1) a portfolio of risky assets, such as stocks, and (2) the "riskless" asset, such as short-term U.S. Treasury bills.<sup>34</sup> The investor's first task is to decide *which* risky assets to hold – that is, to construct a mean-variance efficient portfolio from the various risky assets available in the marketplace. We have already demonstrated that, under any reasonable set of assumptions, almost all portfolios on the efficient frontier will include international equities. The second task is

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<sup>32</sup> Note that this figure looks different from the usual mean-variance chart because the percentage in equities, not the expected or realized return, is on the Y-axis. We used this unusual format because, in this case where all portfolio mixes have the same expected return and differ only in risk, the efficient frontier is a line bent backwards onto itself and is awkward to graph in mean-variance space.

<sup>33</sup> The two-fund separation theorem is described by Tobin, James E., in "Liquidity Preference as Behavior Toward Risk," *Review of Economic Studies* 25: 65-86, February 1958.

<sup>34</sup> Short-term bills and other cash instruments are riskless only with respect to their *nominal* returns; inflation causes the possibility that real returns on bills will be lower than anticipated. Investors concerned with real-rate risk sometimes consider inflation-linked bonds, rather than bills, to be the riskless asset for the purpose of this analysis.

to determine how much risk to take. This is accomplished by deciding how much to allocate to the portfolio of risky assets and how much to the riskless asset.

The amount of risk the investor should take is a function of his or her needs and preferences, and has nothing to do with the riskiness of the assets in the market. The investor can simply adjust the risk level of the total fund by varying the proportions of the two funds (risky and riskless). This insight is called the two-fund separation theorem, diagrammed in Figure 7.

## 2. Capital allocation line

The particular portfolio of risky assets that one should hold is indicated by the point (P) in Figure 6 where the efficient frontier is tangent to a line passing through the riskless asset. We call this particular efficient portfolio the “tangency portfolio.” The straight line passing through the riskless asset and point P is called the capital allocation line. The points on the capital-allocation line to the left of P represent combinations of the riskless asset and the tangency portfolio. (Cash is usually considered to be the riskless asset, although investors with a long time horizon may instead regard Treasury bonds as the riskless asset.) The points on the capital allocation line to the right of the tangency point represent the tangency portfolio leveraged by borrowing cash. Note that all points on the capital allocation line are equal or superior in terms of their risk-return tradeoff to the points on the efficient frontier.

## 3. Capital allocation line with no borrowing

In practice, most plan sponsors do not borrow to buy securities. The insight from Figure 6 – that one can improve on the efficient frontier by adjusting the amount of risky and riskless securities – can, however, be easily adapted to situations where leverage is not permitted. Figure 7 provides an interpretation of the capital-allocation line for pension plans and other investors that cannot or do not borrow. The tangency point (P) in Figure 7 can be taken to represent an optimized portfolio of the S&P and EAFE indices (risky assets). The riskless (actually low-risk) asset is, in this interpretation, a bond fund. Points on the capital allocation line to the left of P then represent mixes with less than 100% in equities (several are shown). Points on the line to the right of P are not permitted because of the no-borrowing constraint.

## 4. Results

The two-fund separation theorem, then, can be used to make money by improving the risk-adjusted return of a portfolio. By including international stocks, the equity component of a portfolio gains in terms of its risk-adjusted return, or Sharpe ratio, but it does not (using our assumptions) have a higher return. The risk reduction does, however, allow the investor to hold more equities without increasing the risk of the overall portfolio. We find that if one had invested 25% of total equities in international stocks over the five years ending December 31, 1998, the investor could have held 5.6

percentage points more in equities than if he held only U.S. stocks, without increasing overall portfolio risk.<sup>35</sup>

Note that this analysis is completely independent of the return assumption. The same result obtains whether one uses historical returns or an estimate of expected returns.

## 5. Implications for long-run performance

A 5.6% increase in total equity allocation, with no change in fund risk, is very substantial. If stocks outperform bonds by their historical average of 5.9% per year compounded,<sup>36</sup> a 65.6% rather than 60% allocation to equities causes a difference in the cumulative total return over the next 20 years equal to 35% of the initial investment.<sup>37</sup> With the lower 3% return premium over bonds proposed by many researchers for current forward-looking use, and supported by Tint and Siegel (1998) in a recent issue of *Investment Insights*,<sup>38</sup> a 65.6% rather than 60% allocation produces a cumulative total return difference over 20 years equal to 13% of the original investment.

## 6. A note on Sinquefeld (1996)

We noted earlier that Sinquefeld (1996), a surprising critic of international diversification (except with small-cap and value stocks), performed substantially the same analysis and got a very different result: the risk reduction was trifling, and the investor could hold only one percentage point more in equities. Because our result (using basically the same method but different starting and ending dates, and different return assumptions) was so contrary to Sinquefeld's, we repeated his experiment as precisely as possible. We find that by adding EAFE over the 1970-1994 period studied by Sinquefeld, the investor could have moved his or her total-equity percentage from 60% to 67.3% without exceeding the standard deviation of a portfolio composed of 60% in the S&P 500 and 40% in the bond index.<sup>39</sup> In other words, there *are* appreciable gains from international diversification; we are unable to duplicate Sinquefeld's findings.<sup>40</sup>

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<sup>35</sup> This assumes an initial allocation of 60% to equities and 40% to bonds, proxied by the Lehman Intermediate Government/Corporate bond index. We choose the 25% proportion (of EAFE to total equities) for realism because most U.S.-based plans are unlikely to invest more than that in EAFE.

<sup>36</sup> According to data extracted from Ibbotson Associates' EnCORR software, the compound annual total return on the S&P 500 was 11.22% over 1926-1998; the compound annual total return on intermediate-term Treasury bonds was 5.32%. The difference between these two rates of return is 5.9%.

<sup>29</sup> Stated as a compound annual rate, the increase in return is 0.3% per year. For simplicity's sake, these projections assume monthly rebalancing and zero variance.

<sup>38</sup> Tint, Lawrence G., and Laurence B. Siegel. "Waking up to the risk of equity investing." *Investment Insights*, Barclays Global Investing, San Francisco, December 1998.

<sup>39</sup> To repeat the experiment in Table 5 of Sinquefeld (1996) as exactly as possible, we used actual monthly returns over 1970-1994. For the bond return we followed Sinquefeld's method by using an 80-20 mix of the Ibbotson intermediate Treasury and long corporate-bond series over 1970-1972, and the Lehman government/corporate series thereafter. We formed portfolios of stocks and bonds using a fixed three-to-one ratio of S&P to EAFE, so that a 60-40 overall mix is 45% in the S&P, 15% in EAFE, and 40% in

#### D. Market completion

A final argument based on classical financial economics derives from Sharpe's (1964) Capital Asset Pricing Model (CAPM).<sup>41</sup> Sharpe noted that if all investors have the same expectations about the returns, risks, and correlations of every asset, then the point of tangency (P) will be the market-capitalization-weighted portfolio of all risky assets in the world, or "market portfolio" for short.<sup>42</sup> That is, all investors will hold the *same* portfolio of risky assets, but in different amounts, depending on their appetite for risk.

Under these conditions, only the market portfolio is mean-variance efficient. Portfolios lacking an asset that is large in terms of market capitalization are quite undesirable in terms of their expected return per unit of risk, no matter how high their returns in a particular historical period. The investor automatically gains diversification benefits from "completing" the holdings of a portfolio that previously held only a part of world market capitalization. As we demonstrated in Section IV, markets are not fully integrated and therefore the CAPM does not hold globally. However, one has to allocate capital among assets somehow, and market-capitalization weights, which represent the supply of investable assets, are a reasonable starting point. Deviations from these weights then reflect judgment as to the relative desirability of each asset, and the way in which they interact with the investor's liabilities and risk preferences.

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bonds; a 61-39 mix is 45.75% in the S&P, 15.25% in EAFE, and 39% in bonds, and so forth. Returns are calculated using so-called monthly rebalancing – that is, the monthly portfolio return is the fixed-weight average of the monthly returns of the constituent assets. Siquefield forced the compound returns of the S&P and EAFE to be equal, which we did not do because we do not know the method he used. However, it is difficult to see how that would affect the result if he simply deducted a constant from the EAFE return (or added a constant to the S&P return) each month – portfolio standard deviation is a function of constituent standard deviations, not constituent returns.

<sup>40</sup> In a private communication with us, Siquefield agrees that the calculations we present are numerically correct. He notes, however, that EAFE would still have been a largely undesirable investment between 1970-1994 if it had had the same expected return as the S&P 500, because EAFE was riskier and was subject to dividend withholding taxes.

<sup>41</sup> The CAPM was first described in Sharpe, William F., "Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk," *Journal of Finance*, September 1964, pp. 425-442, and in works by John Lintner, Jan Mossin, and Jack L. Treynor.

<sup>42</sup> Sharpe's original CAPM identifies the point of tangency as the market portfolio, but does not say specifically that this portfolio is global in scope. Other researchers, including Solnik (1974), later noted that in a perfectly integrated world with no transaction costs or other barriers to international investing, and with all currency risk able to be perfectly and costlessly removed by hedging, the market portfolio in the CAPM consists of all risky assets in the world. (See Solnik, Bruno, "An equilibrium model of the international capital market," *Journal of Economic Theory*, July-August 1974.) Solnik's global CAPM implies a *three-fund* separation theorem, which says that in an integrated multicurrency world where CAPM assumptions hold, all investors will hold portfolios composed of long and short positions in (1) the unhedged world portfolio of risky assets, (2) the investor's home-country riskless asset, and (3) a currency-hedged portfolio of foreign-country riskless assets.

The usual caveat regarding the CAPM, that the assumptions are unrealistic but the conclusions are useful as a first approximation, applies here.

Table 4 shows the capitalizations of a broad spectrum of equity markets as of December 31, 1998, along with other data for these countries. Representing more than 50% of world equity capitalization, the non-U.S. market actually makes up a majority of Sharpe's market portfolio, and leaving it out of the portfolio is a powerful bet against the approximately 4 billion residents of the countries making up the MSCI All-Country World ex-U.S. index.<sup>43</sup> The U.S. investor should be fully conscious of making such a bet should he choose to avoid these securities.

Perhaps the most remarkable feature of Table 4 is the large size to which many of the world's traditionally poorer economies have grown, a theme to which we turn in the next section.

## **V. Arguments suggesting higher returns for international equities**

### **A. Convergence of global economies and faster growth in emerging markets**

Until the last quarter-century, it was widely assumed that the rich countries would continue to get richer while poor countries, burdened by Malthusian visions of population growth, would get poorer. This trend dramatically reversed itself after a series of events in the 1970's and 1980's that began to enable labor, capital, and goods to flow to where they are the most productive. Among these were the relaxation of immigration controls, the free floating of exchange rates and abolition of exchange controls in many countries, and various trade agreements. The result was a spectacular boom in a number of Asian "tiger" economies and, to a lesser extent, in Latin America and elsewhere.

The emergence of East Asia in the last half-century represents the most rapid wealth creation in the history of the world. Countries in other regions are following the Asian example (complete with market crashes and currency devaluations) and are having great success over the long term. The GDP and stock market data in Table 4 reflect the cumulative past successes of developing countries; a similar table constructed a generation ago would have shown very few countries outside Europe and North America in the top ranks.

We have warned of the danger of casually extrapolating past trends forward. However, the natural human desire to improve one's lot, combined with the development of institutions enabling sustained growth to occur, make us optimistic that the level of economic development in poorer and middle-income countries will expand greatly in the years ahead. Remember that these countries do not necessarily have to innovate goods

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<sup>43</sup> The MSCI All-Country World Index (ACWI) consists of the United States, Canada, all of the components of EAFE, and all of the components of EMF. (Prior to September 1998, Malaysia, which was in both EAFE and EMF, was adjusted so that it is not double counted. Malaysia was dropped from EAFE at the end of September 1998 and dropped from EMF at the end of November 1998.) ACWI ex-U.S. is increasingly chosen by both plan sponsors and consultants as their international equity benchmark.

and services; they only need to build their business infrastructure, an easier task than was faced by the already-developed industrial pioneers.

Despite occasional setbacks such as the Mexican crisis of 1994 and the East Asian, Russian, and Brazilian crises of 1997-1998, this convergence of national incomes and wealth levels is a powerful long-term trend and represents an opportunity for investors.<sup>44</sup> The emergence of a global information-based economy in the 1990's will help to continue the reduction of wealth and income differences: a Web page designer in India can do roughly the same work as one in Seattle (and E-mail the result to her boss in New York in the same amount of time).

Real economic growth in a country is no guarantee of high returns from investing in that country's listed corporations. Too often, emerging-market stocks are buffeted by currency and interest-rate shocks and by funds flows rather than being priced on fundamentals. As in developed countries, some emerging-market companies are poorly managed; others are run for the benefit of executives or workers, or are designed to achieve social and political ends. Maximizing shareholder value is often far down the list of corporate goals. While we believe that in the very long run, diversified holdings in emerging markets are likely to be among the highest-returning of all investments, investors concerned about the problems with emerging-market stocks may be able to capture some of the increased wealth of emerging economies by investing in companies (in emerging or developed markets) that sell into these economies.<sup>45</sup>

All developed countries, including the United States, were once emerging (and some emerging markets were once developed!). Investors who participated in the capital infusion required by these growing economies were richly rewarded on average, although with considerable volatility due to political as well as economic and market risk, and with no guarantee of the success of any particular country. The case for investing in fast-growing parts of the world is summed up by the investment manager David Fisher, of the Capital Group, who points out that emerging markets make up 45% of world gross domestic product (GDP) when measured by the quantity of goods produced, but only 4%

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<sup>44</sup> Part of the convergence process, unfortunately, consists of the slowing of growth in the rich countries. Some of this slowing is clearly due to the increasing size of government in those countries. It is possible, but far from certain, that the enrichment of poorer countries has also contributed to the slowing in richer countries. This concern is most valid where low-skilled workers in richer countries are concerned.

For an interesting discussion of how the convergence process works and why we should not be frightened of it, see Cohen, Daniel, *The Wealth of the World and the Poverty of Nations*, MIT Press, Cambridge, Mass., 1998.

<sup>45</sup> Some observers are concerned that the assumption of higher returns in rapidly-growing economies is flawed. They point out that rapidly-growing economies require huge infusions of new capital. Thus, they would argue, the market capitalization of an emerging country can grow at a very high rate because of new issues, but the rate of return per dollar invested would not be different (or, at least, not much different) from the return on an investment of comparable risk in a lower-growth economy.

of world equity market capitalization. Fisher asks rhetorically: “Do you think those numbers are going to get farther apart or closer together?”<sup>47</sup>

## B. Equilibrium risk premium for higher risk of international stocks

Another argument simply notes that international stocks are riskier than U.S. stocks and therefore should be priced to earn a higher rate of return. In a CAPM context, the beta of Asian stocks when regressed on the world equity index is 1.10; the beta of European stocks is 0.95. These results compare to a beta of 0.88 for the U.S. market regressed on the world equity index.<sup>48</sup> Of course, compensation for higher risk is a fair deal, not a free lunch. If the return premium for taking the risk of the U.S. market is equal to the historical value of 7% per year, the regression results imply an additional premium of 1.8% per year for Asian stocks and 0.6% per year for European stocks. If the return premium for the U.S. market is the lower 3% rate we mentioned earlier, an additional premium of 0.8% for Asian stocks and 0.3% for European stocks is implied.

So far, this analysis has been conducted using data for *unhedged* international equity returns. Some investors, noting that risk is reduced by currency hedging at least in the short run, hedge currency risk by selling in the forward market the currency in which a particular international investment is denominated. Since most strategies that reduce risk in the short run also reduce risk in the long run, a hedged or partially hedged international equity position has become part of some institutions’ investment policy. It is not clear, however, that currency hedging reduces risk in the long run, and hedging can be costly.

The question of whether or not, and how, to hedge the currency exposure of international investments is beyond the scope of this article. Recent comprehensive treatments are in Meese (1999) and in Froot and Perold (1996).<sup>49</sup>

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<sup>47</sup> Data are courtesy of Rob Neithart and David Fisher at the Capital Group (Los Angeles). GDP data are converted to U.S. dollars using purchasing-power parity exchange rates and are measured as of the end of 1997 by the International Monetary Fund, Washington. Equity market capitalization are from MSCI; emerging-market capitalization is represented by the EMF index and the world is represented by ACWI. The reader should also note that, using the same country definitions as we did for GDP, less-developed countries comprise 84% of world population.

<sup>48</sup> The MSCI Europe, Asia, and U.S. indices (each unhedged, and in excess of the U.S. Treasury bill return) are used as the independent variables; the MSCI World index (in excess of the U.S. Treasury bill return) is used as the dependent variable. The period studied is January 1970 to June 1998. A regression of the MSCI EMF (emerging markets index) on the world index is not meaningful because of asynchronous data and other problems, and is not included here.

<sup>49</sup> Froot, Kenneth A. and Andre F. Perold. “The determinants of optimal currency hedging,” Harvard Business School working paper 97-011, Boston, October 1996; available from the author by following links from the HBS research web site, <http://www.hbs.edu/dor/papers9697.html>

## **VI. Liability-related arguments**

Many pension plans have liabilities with long-term exposure to international markets. The source of this exposure is not typically a pension plan for foreign employees, for such an arrangement is the exception rather than the rule for U.S.-based plans. Rather, it is because the companies themselves earn sales and profits outside the U.S., because they sell to or buy from other companies with such exposures, and because pension plans must provide purchasing power for beneficiaries whose consumption patterns are influenced by global factors. As international economies thrive or wither, the economic liability (present value of expected future benefits payments) of the plan grows or shrinks because international forces buffet the domestic firm and its workforce.

These principles apply even to companies that appear purely domestic. If a company has a U.S.-only workforce, its pension plan may, using actuarial methods, be considered to be exposed only to U.S. market (chiefly interest-rate) risk. However, the size and prosperity of the workforce – and the ensuing economic liability of the company's pension plan – is affected by the company's international sales and profits. This phenomenon has follow-on effects: the company's suppliers (which may not have any direct international sales) are also affected, as are consumer goods companies that sell to the company's employees, and so on *ad infinitum*. No company – or its pension plan – is completely insulated from international influences. It is just a matter of degree.

An international equity portfolio can help to defease the international component of the pension liability. Over the long run, although not the short run, the equity markets in a country are closely related to economic activity in that country. Likewise, international equity prices reflect demand that a country represents for the goods and services it buys from, and sells to, U.S. companies. Thus, international equity exposure can reduce the “surplus risk” – the variability of the pension surplus, which is the difference between pension assets and liabilities – for many if not most U.S.-based plans.

## **VII. Conclusion**

Investing in international equities remains a compelling strategy for diversifying one's portfolio and achieving a rate of return commensurate with risk taken. The 1990-1998 underperformance of the international stock indices should be interpreted not as a disproof of the desirability of international investing, but as a draw from a probability distribution of possible outcomes. This distribution has always been wide and has always included the possibility of returns much lower or much higher than the mean or expected value. The fact that the distribution is wide simply means that international equities have risk. Thus, the recent poor performance of international equities is the realization of a risk that was present in the asset class all along.

It was, therefore, the right thing to have included international equities in the portfolio mix in the 1990's, as it is right to diversify and avoid large bets on a single asset class thought to be the best buy at a given point in time. To argue otherwise is to argue that

one should only invest in the next period's highest-returning asset class – which cannot be known with certainty. It is entirely possible, and perhaps likely, that U.S. equities will underperform international equities in the “next period,” frustrating those who withdraw from international markets based on the last period.

Skeptics regarding international investing have focused on three categories of critiques. First, a few investors believe that it was never a good idea to expose U.S.-based portfolios to the market, currency, and political risks of non-U.S. investments. As we have shown, portfolios containing international equities are typically *less* risky than all-U.S. portfolios because the low correlation between the two categories; and it is prudent – even mandatory, we would argue – to take advantage of such opportunities to reduce portfolio risk through diversification.

Second, some investors believe that international investing was necessary and desirable in the 1970's and 1980's when the original arguments for diversifying internationally were made, but that these conditions no longer apply. We responded by noting that today's conditions are highly supportive of international investing: the current global dominance of U.S.-based multinational companies is unlikely to persist forever, and international stocks expose the investor to industries, companies, and risk factors not available in the U.S.

Third, many investors are concerned that all the equity markets in the world tend to decline together. We presented evidence that when the U.S. market is down, international equities have fallen less on average, reducing risk for the U.S. investor.

We also noted that the global equity market is not fully integrated. As a consequence, investors can expect differential returns across countries from taking the *same* types of risk. Thus, international diversification would pay off even if foreign markets contained the same risk factors as found in U.S. markets. Moreover, we showed that stocks of U.S. multinational companies are inadequate tools for achieving international diversification; one must actually buy the international stocks.

Finally, the traditional arguments for international investing, first advanced in the 1970's and 1980's, are as valid today as they ever were. Investors can reduce total portfolio risk, or, alternatively, increase their allocation to equities without increasing portfolio risk, by holding international stocks. Because non-U.S. (especially emerging) economies are likely to have higher long-term growth rates than the United States, international stocks may provide higher returns than U.S. stocks. In addition, U.S.-based pension funds typically have liability streams that are exposed to the global economy, and international investing helps these funds reduce the volatility of their “surplus” (assets minus liabilities).

It is always tempting – and always dangerous – to succumb to the natural human inclination to project the most recent trends forward forever. U.S.-based plan sponsors would do well to be cognizant of this temptation and avoid it when thinking about their allocations to international stocks. Going forward, international stocks are at least as

likely to outperform as to underperform. Whether or not they perform well in the next few years, international stocks improve the risk-reward tradeoff for U.S. investors and should always be a part of the portfolio.

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Figure 1  
Total Return Indices of U.S. and International Stocks, 1970-1989

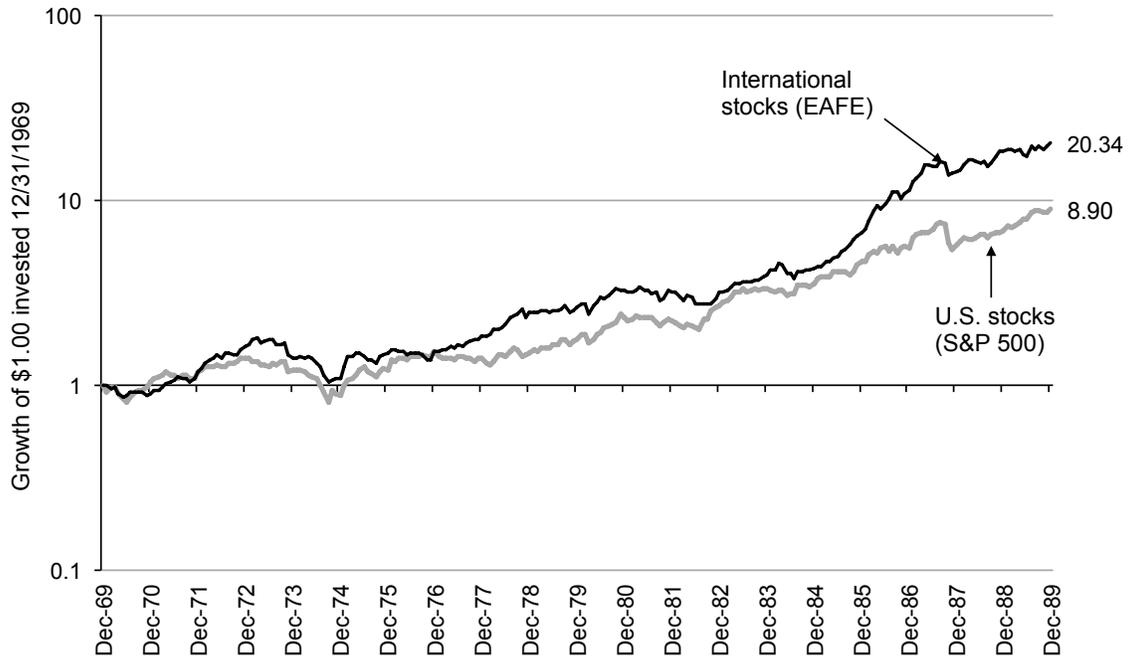


Figure 2  
Total Return Indices of U.S. and International Stocks, 1990-1998

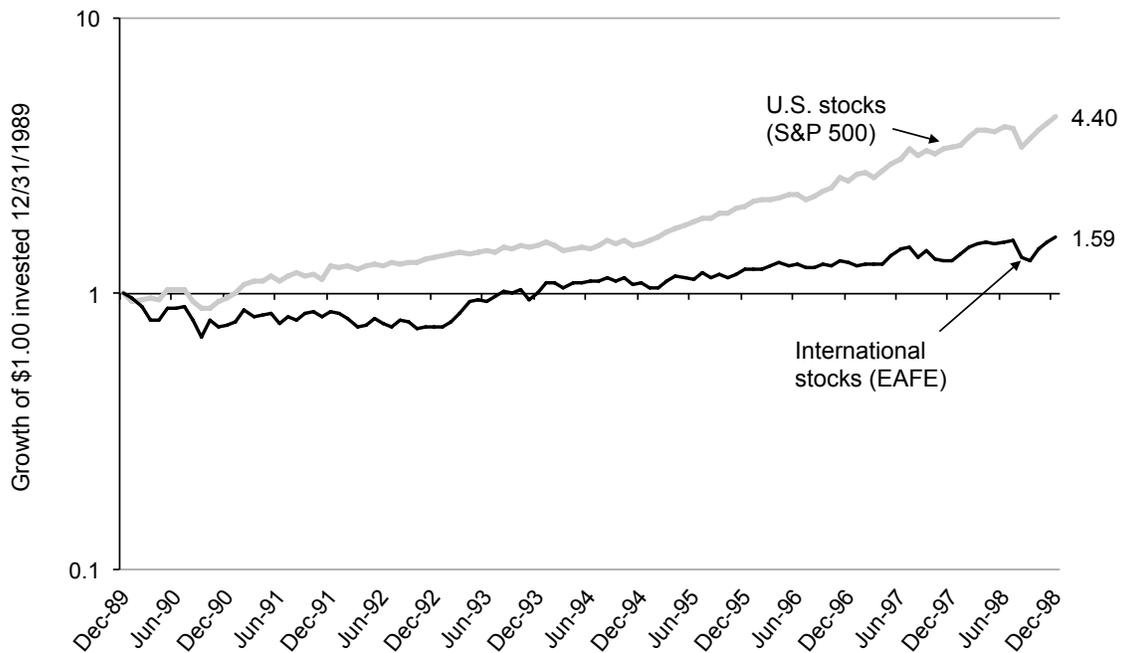


Figure 3  
Retrospective Efficient Frontier of U.S. and International Stocks,  
1970-1989

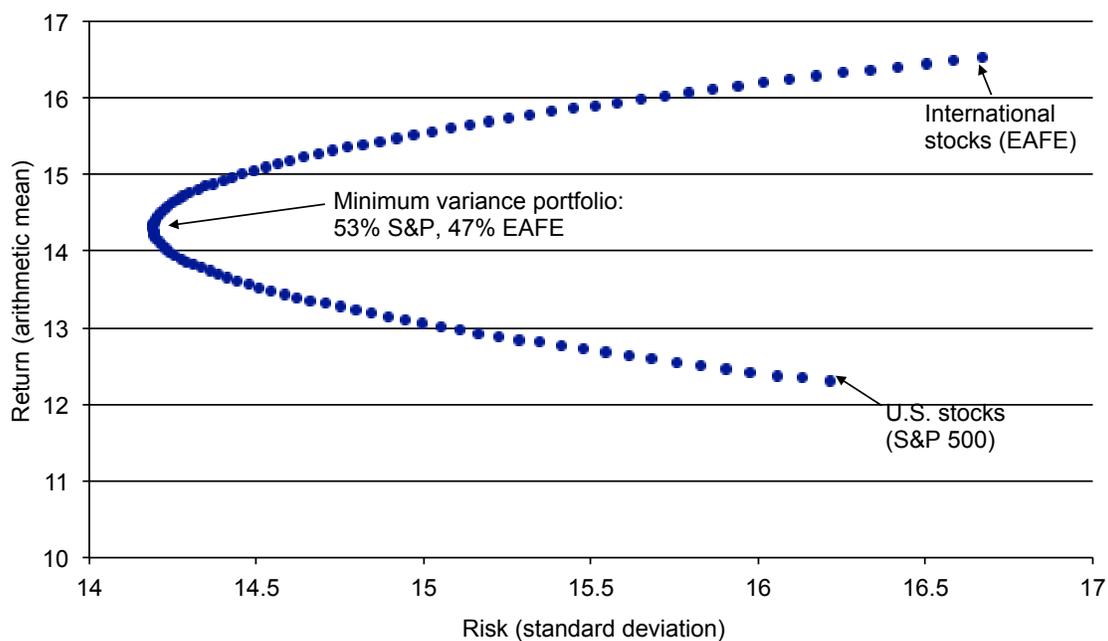
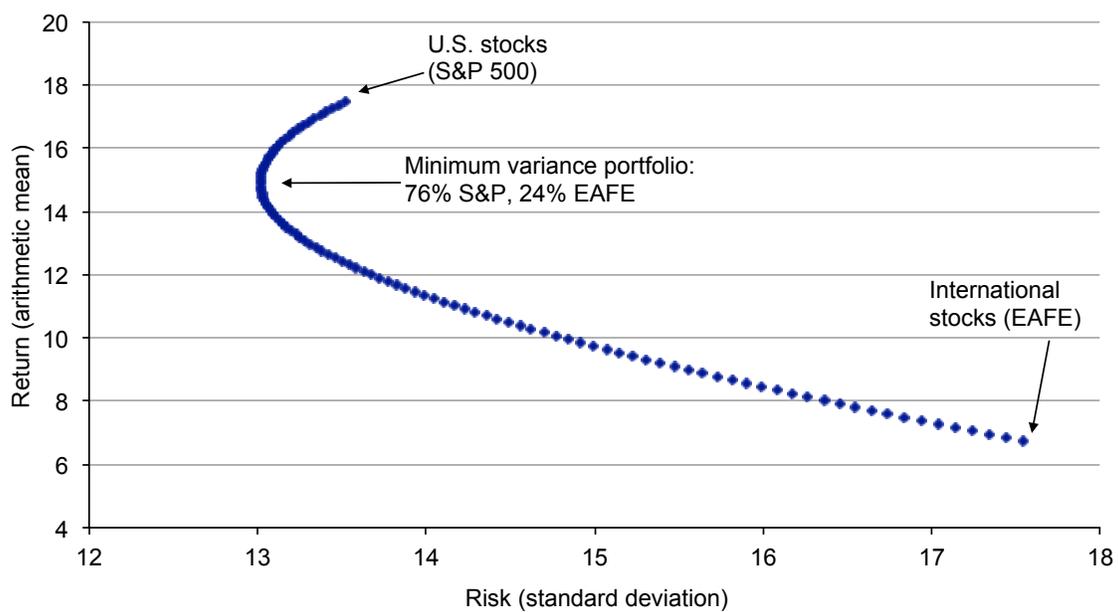
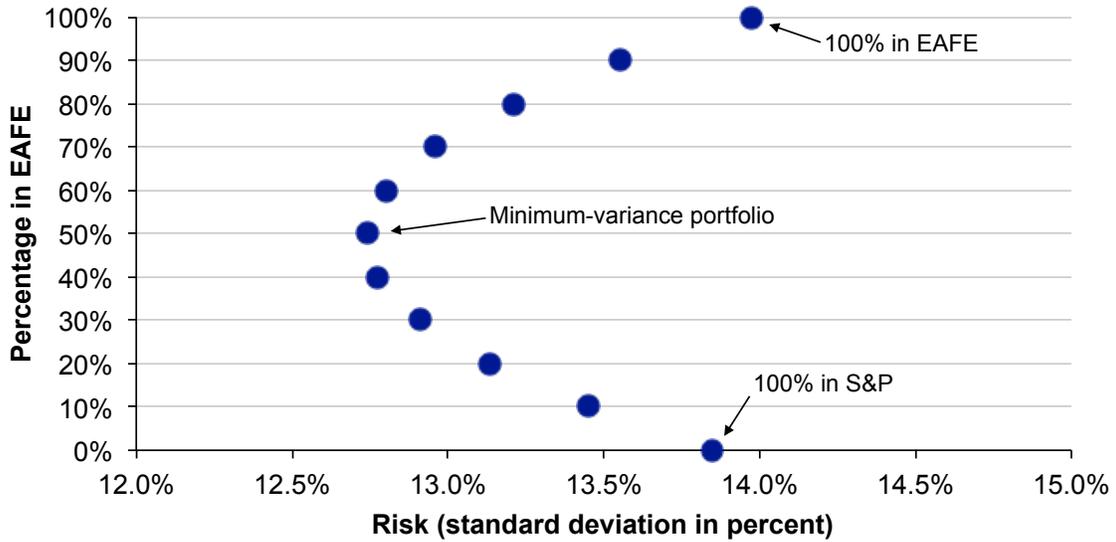


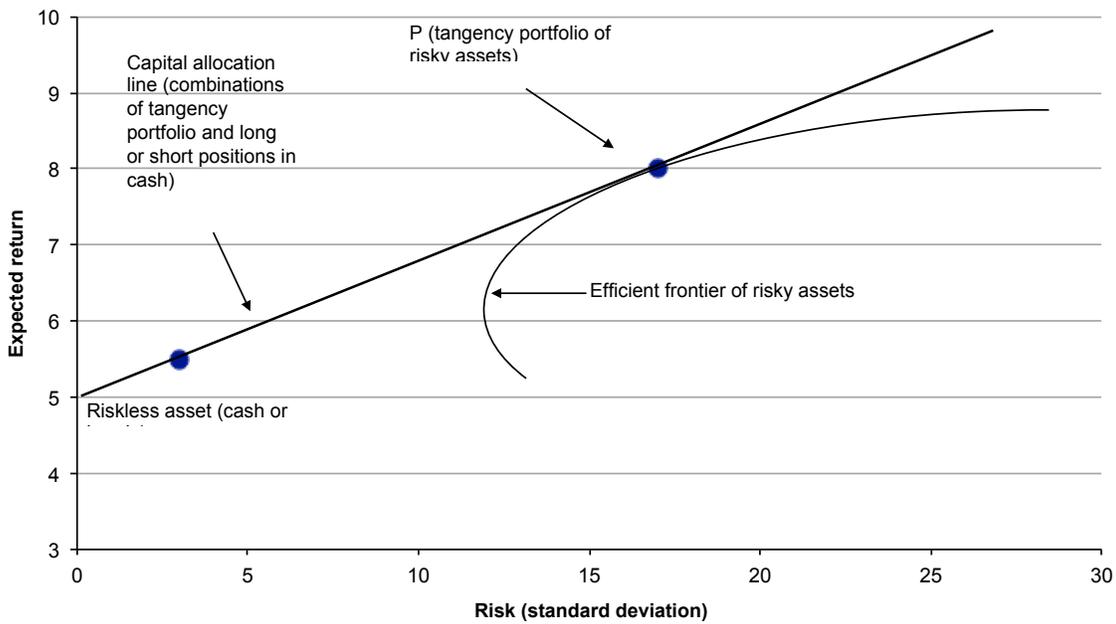
Figure 4  
Retrospective Efficient Frontier of U.S. and International Stocks,  
1990-1998



**Figure 5**  
**Risk Reduction from Diversification**  
**between S&P 500 and EAFE Stocks**  
**(based on risk and correlation data from 1994-1998)**



**Figure 6**  
**Capital Allocation Line**  
**(Efficient Frontier of All Risky and Riskless Assets)**



**Figure 7**  
**Interpretation of Capital Allocation Line**  
**for Investors with a No-Borrowing Constraint**

