

# The Rewards of Multiple-Asset-Class Investing

by Roger C. Gibson, CFA, CFP®

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*"Let every man divide his money into three parts, and invest a third in land, a third in business, and a third let him keep in reserve."*

—Talmud  
Circa 1200 BC–500 AD

**A**sset allocation is not a new idea! The Talmud quote above is approximately 2,000 years old. Whoever said it knew something about risk. He also knew something about return.

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**Editor's note:** This month, in honor of the *Journal of Financial Planning's* 25th anniversary, we are reprinting "The Rewards of Multiple-Asset-Class Investing," by Roger C. Gibson, CFA, CFP®, originally published in March 1999. This persuasive and prescient article made the case, exactly one year before the stock market began its dramatic plunge in 2000, for the value of diversifying among asset classes as a way to reduce volatility and increase overall returns.

He may have been the world's first proponent of asset allocation. Today we talk about asset allocation rather than diversification, but it is really just a new name for a very old and time-tested investment strategy. A more contemporary translation of the advice might read: "Let every investor create a diversified portfolio that allocates one third to real estate investments, one third to common stocks, with the remaining one third allocated to cash equivalents and bonds."

Is it still good advice today? Let's examine the recommendation in more detail. The overall portfolio balance is one-third fixed income investments and two-thirds equity investments. The one third allocated to fixed income mitigates the volatility risk inherent in the two thirds allocated to equity investments. Diversification across two major forms of equity investing with dissimilar patterns of returns further reduces the equity risk. The result is a balanced portfolio, tilted toward equities, appropriate for an investor with a longer investment time horizon who is simultaneously concerned about risk and return. It is a remarkably elegant and powerful asset allocation strategy. Imagine trying to develop a one-sentence investment strat-

egy, knowing that a wide variety of investors, most of whom are not yet born, will follow the advice for the next 2,000 years! You would be hard-pressed to come up with something better.

The unknown author of the Talmud quote could not have possibly envisioned today's investment world. Over the past decade, democracies and free enterprise have replaced many of the world's dictatorships and centrally directed economies. New capital markets are forming, and investment alternatives have proliferated. People from around the world can exchange volumes of information instantaneously via the Internet, virtually without cost. The world has truly gotten smaller and increasingly interconnected as economic events in one part of the world affect markets on the other side of the globe.

In spite of all of this change, investors are not that different today than they were a hundred years ago. They want high returns, and they do not want to incur risk in securing those returns. Diversification is a time-honored investment principle. In this article, let's explore the role of multiple-asset-class diversification in giving investors the returns they long for, while mitigating the risks they face.

## International Investing

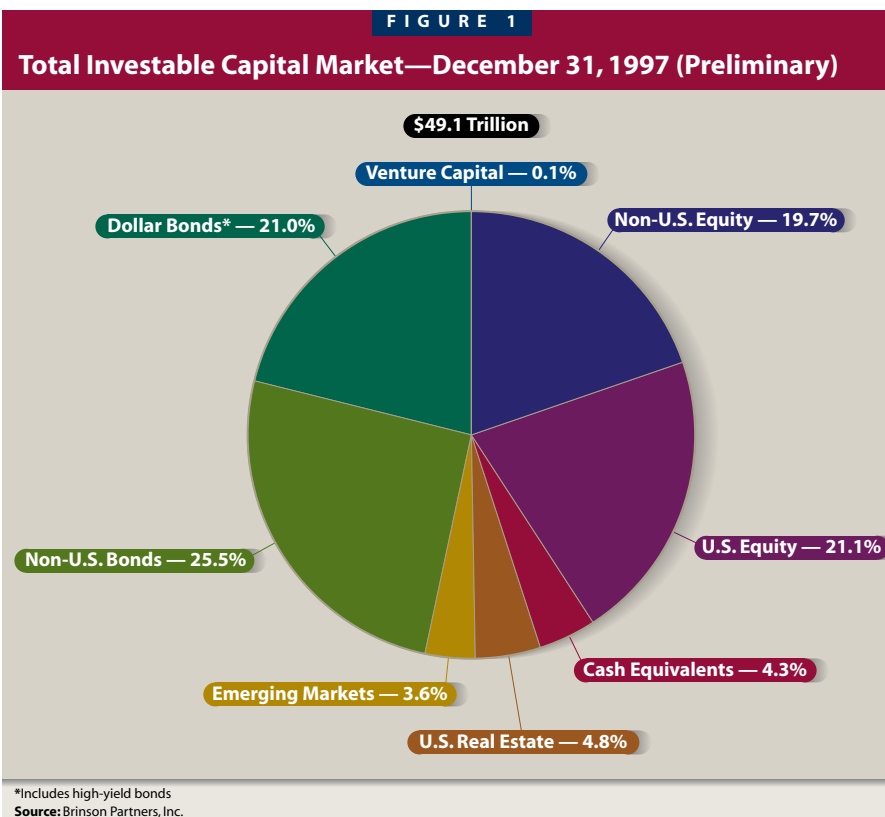
An old adage advises us to “not put all of our eggs in one basket.” Although there are obvious advantages to using more than one basket to carry our eggs, the benefits of diversification are more powerful and subtle than this adage suggests.

When we construct an investment portfolio using multiple asset classes, we discover that portfolio volatility is less than the weighted average of the volatility levels of its components.<sup>1</sup> This occurs as a result of the dissimilarity in patterns of returns among the components of the portfolio. We will call this advantageous reduction in portfolio volatility the *diversification effect*.

Figure 1 shows a pie chart depicting the distribution of the total investable capital market as of December 31, 1997. Why not take diversification to its logical conclusion and design portfolios that use all of these major world asset classes? This would generate more opportunities for the ups and downs of one asset class to partially offset the ups and downs of another.

Let us begin with interest-generating investments and examine the impact of internationally diversifying a domestic bond portfolio. Figure 2 graphs the comparative performance over rolling 20-year periods of a 100 percent U.S. long-term corporate bond portfolio versus portfolios with 10 percent, 20 percent, and 30 percent international bond allocations. There are six lines on the chart—one for each 20-year rolling period ending 1992 through 1997. In each case the bond portfolio volatility decreased and return increased as the allocation to international bonds increased from 10 percent to 30 percent.

Figure 3 examines the impact of internationally diversifying a domestic common stock portfolio. The data for international common stock returns begins three years earlier than for international bonds, and we therefore have nine rolling 20-year periods to examine. In all but one 20-year period, the international diversification steadily



improved the portfolio returns as the commitment increased from 0 percent to 30 percent. The notable exception was the 20-year period ending 1997. Over this time period, domestic stock returns were sufficiently higher than international stock returns, so as to slightly impair the portfolio returns as we added international stocks to the domestic stock portfolio.<sup>2</sup> This is not an argument against international diversification. Rather, this exception highlights the fact that there will be time periods when domestic stocks will generate higher returns than international stocks. Unless you possess the market timing skill to predict which asset class will be superior, a diversified approach remains the best strategy. Over every 20-year period, portfolio volatility was lower with a 10 percent or 20 percent international commitment. And, in almost every period, volatility remained lower with a 30 percent international com-

mitment as compared with an all-domestic common stock portfolio.

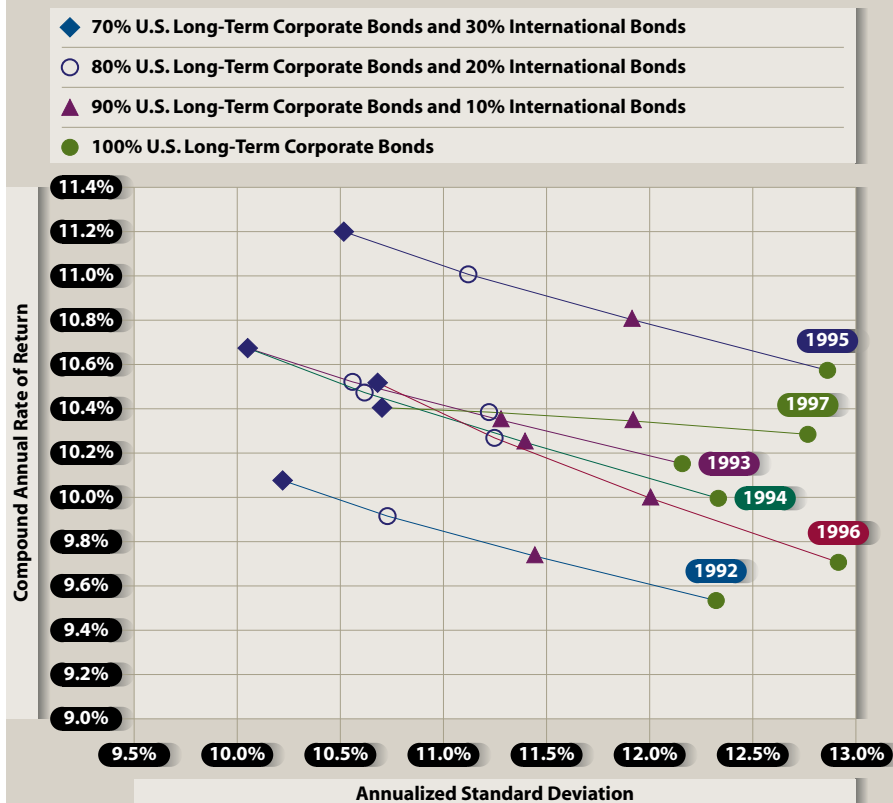
## Multiple-Asset-Class Investing

Let's now look at multiple-asset-class investing in a broader equity context. The equity side of the portfolio is usually responsible for great portfolio returns when they occur. The equity side of the portfolio is also most often responsible for significant losses. Figure 4 shows the performance of 15 different equity portfolios over the time period from 1972 through 1997. The portfolios are intentionally unlabeled in order to conduct a “blindfolded” exercise. Of these 15 portfolios, four are identified by squares, six are triangles, four are diamonds and one is a circle. As we move to the right along the figure, portfolio volatility increases. Likewise, returns increase as we

FIGURE 2

## International Diversification of a Bond Portfolio

Rolling 20-Year Periods Ending December 1992 Through December 1997



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move from bottom to top. Assume that we have a reliable crystal ball and know with certainty that each one of these portfolios will have the same performance over the next 26 years that it had over the period from 1972 through 1997. Now answer these questions:

- If you had to choose between owning a randomly chosen portfolio identified by a square or one identified by a triangle, which would you choose: square or triangle?
- If you had to choose between owning a randomly chosen portfolio identified by a triangle or one identified by a diamond, which would you choose?
- If you had to choose between owning a

randomly chosen portfolio identified by a diamond, or simply owning the circle, which would you choose: diamond or circle?

I have asked this series of questions to my clients and to audiences of people at speaking engagements. The answers are consistent. When given the choice, people prefer the triangles to the squares, the diamonds to the triangles and the circle to the diamonds.

Now turn to Figure 5. Each square is a single-asset-class portfolio.

"A" is the Standard & Poor's 500 Composite Index (S&P 500). The S&P 500 presently includes 500 large U.S. stocks, as measured in terms of the total market value

of shares outstanding. The index measures the total return of a capitalization-weighted basket of these stocks and, for our purposes, represents the domestic common stock asset class.

"B" is the EAFE Index (Europe, Australia, and Far East), which measures the total return of a sample of common stocks of companies representative of the market structure of 20 European and Pacific Basin countries. It represents the international common stock asset class.

"C" is the National Association of Real Estate Investment Trusts (NAREIT) Equity Index, which measures the total return of equity real estate investment trusts. Equity REITs are similar to closed-end funds of real estate properties. The NAREIT equity index is a proxy for the real estate asset class.

"D" is the Goldman Sachs Commodity Index (GSCI). This index measures the total return of a collateralized position in the Goldman Sachs Commodity Index futures contract. The GSCI represents a diversified cross-section of the major raw and semi-finished goods used by producers and consumers. The major components of the index are energy, agricultural products, livestock, industrial metals, and precious metals.

The triangles represent every possible two-asset-class portfolio that investors can construct using the four single-asset classes (A, B, C, and D) as building blocks. Each portfolio is rebalanced annually to maintain an equal-weighted allocation between the asset classes. For example, the triangle AB represents the performance of a portfolio weighted equally between the S&P 500 (domestic stocks) and EAFE (international stocks).

The diamonds represent every possible three-asset-class portfolio that investors can construct with the four single-asset classes. And the circle is an equally balanced portfolio using all four asset classes.

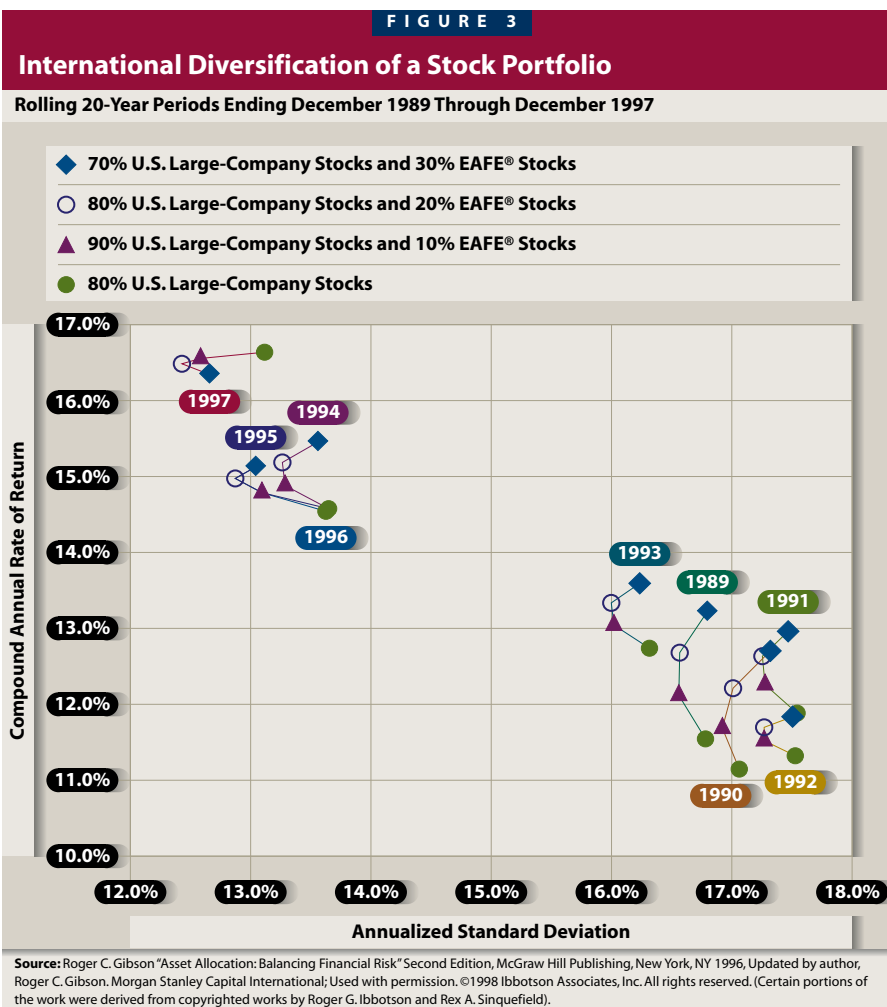
When an investor chooses a triangle portfolio over a square, he or she is indicat-

ing a preference for two-asset-class portfolios over single-asset-class portfolios. This decision is a rational one, since the two-asset-class portfolios, in general, have less volatility and more return than the single-asset-class portfolios. Likewise, the three-asset-class portfolios (diamonds) have better volatility/return characteristics than the two-asset-class portfolios (triangles), and the four-asset-class portfolio (circle) is a better choice than a random placement in one of the three-asset class portfolios (diamonds). The order of preference moves to the left in the direction of less volatility and upward toward higher returns.

The reduction in volatility observed as we progress from one- to four-asset-class portfolios is not unanticipated. We expect this is due to the dissimilarity in returns among the portfolio components. The generally rising pattern of returns, however, is surprising! The GSCI, for example, had lower returns with considerably more volatility than the S&P 500; yet a portfolio allocated equally between the two had a higher return with much less volatility than either of its components! Indeed, all six of the two-asset-class portfolios had higher returns with less volatility than three out of four of the single-asset classes used to build them.

When comparing the returns of these 15 equity portfolios, we find that single-asset-class portfolios generated the three lowest returns, whereas the highest returning portfolios were all multiple-asset-class structures. When we compare the volatility levels of these portfolios, we find that four out of the five most volatile portfolios were single-asset-class structures. The low volatility alternatives are all multiple-asset-class portfolios.

In Figure 5, dashed lines divide the graph into four quadrants. The best-performing portfolios occupy the upper left quadrant. These portfolios generated the highest returns with the least volatility. Each is a multiple-asset-class portfolio. The worst performing portfolios occupy the lower right quadrant. Four portfolios



occupy this space. Three are single-asset-class portfolios (S&P 500, EAFE and GSCI), and one is a two-asset-class portfolio (S&P 500 with EAFE).

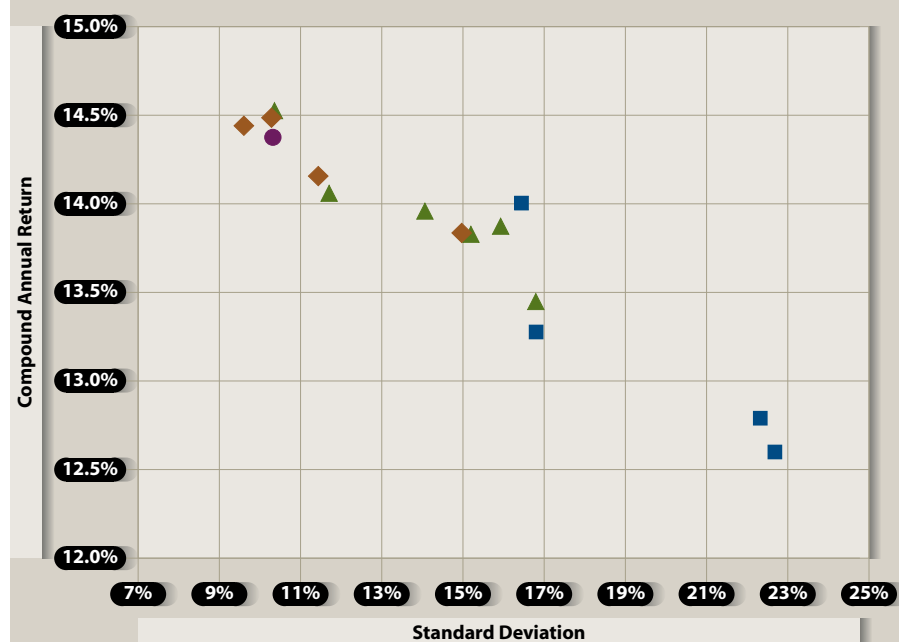
Return for a moment to the four single-asset classes. If we offer investors the opportunity to choose how they would invest their money, given complete certainty that each asset class would perform as indicated on the graph, they would likely pick portfolio C—Equity REITs. The choice seems obvious. Equity REITs had both a higher return and less volatility than any of the other asset classes. Yet a portfolio allocated equally among the other three asset classes generated a higher return than REITs, with approximately 30 per-

cent less volatility! Compare the position of C versus ABD on Figure 5. This amazing result occurred despite the fact that each of the other three asset classes had lower returns with more volatility than REITs!

If we asked an investor to eliminate one of the four asset classes as a building block for the multiple-asset-class portfolios, he would probably choose D—the Goldman Sachs Commodity Index. Of all 15 portfolios on the graph, GSCI has the lowest return with the most volatility. Yet the five highest returning portfolios have D as an equal component. And the seven least volatile portfolios have D as an equal component. Obviously there is more going on here than is captured by the return and

FIGURE 4

## 15 Equity Portfolios (1972–1997)



volatility statistics on Figure 5. We are missing the crucial information about how each asset class's pattern of returns correlates with the others. The GSCI, for example, has a pattern of returns that is the most dissimilar to the other asset classes. It accordingly produces the strongest "diversification effect" when combined with other asset classes.

Table 1 shows the performance statistics for the 15 equity portfolios. The data in this table make a very strong case for multiple-asset-class investing. For investors concerned primarily with maximizing portfolio returns, we see that multiple-asset-class strategies have dominated single-asset-class strategies. For investors who are more concerned about volatility, again multiple-asset-class strategies are dominant. The Sharpe ratios displayed provide a risk-adjusted performance measurement for each portfolio.<sup>3</sup> Again, we find multiple-asset-class strategies delivering much higher rates of risk-adjusted returns than single-asset-class strategies.

At the bottom of Table 1 we find sum-

mary comparisons for four-, three-, two- and one-asset-class approaches. This summary provides perhaps the most compelling argument for multiple-asset-class investing. As we move toward broader diversification, rates of return increase, volatility levels decrease and Sharpe ratios improve. The four-asset-class portfolio has a compound rate of return 1.2 percent higher than the average compound returns of its components. That is, a \$1 investment in a continuously rebalanced portfolio of all four components has a future value of \$32.89, compared with an average future value of \$25.18 for the four components standing alone. The four-asset-class portfolio has 47 percent less volatility than the average volatility levels of its components. And the Sharpe ratio of the four-asset-class portfolio shows that it has generated over twice as much risk-adjusted return as the average of its components.

Table 2 gives another picture of the risk reduction achieved by the breadth of diversification. Here we list the five worst years,

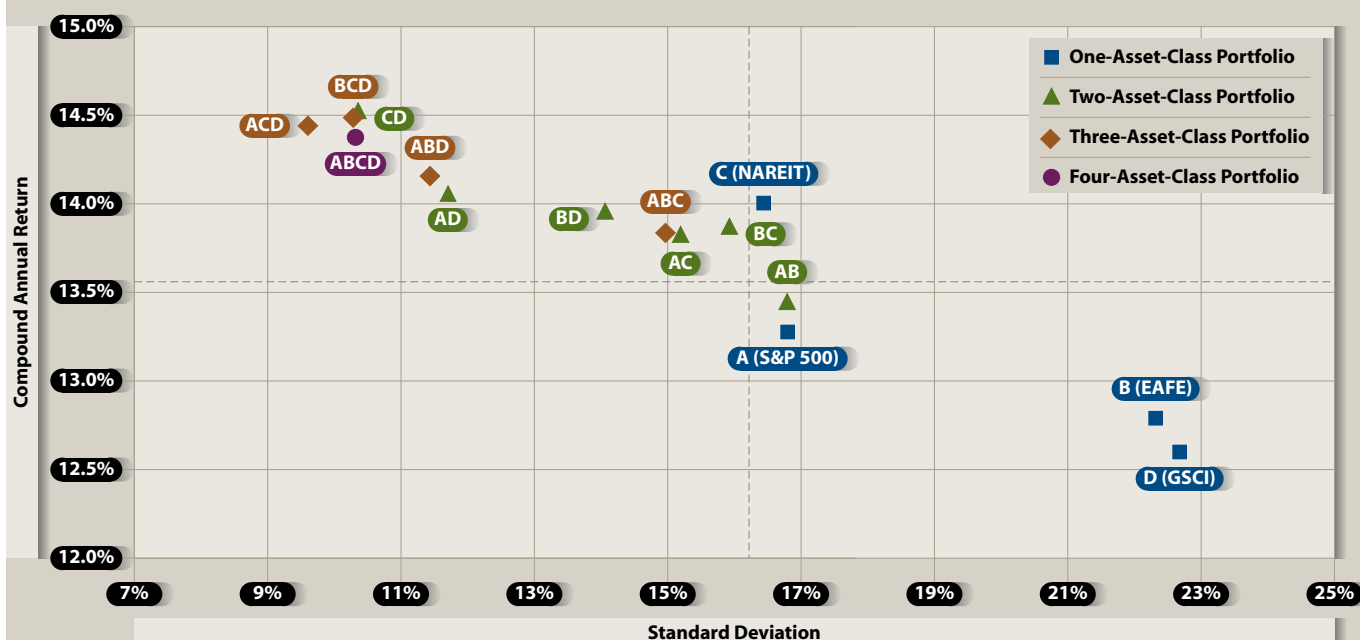
from 1972 through 1997, generated by each of the single-asset classes as compared with the four-asset-class portfolio. Most of the improvement in downside risk is due to the tendency of the Goldman Sachs Commodity Index to perform counter-cyclically to the other asset classes—an attribute that was of great value during the worldwide bear market for common stocks during 1973 and 1974. But even with the elimination of the GSCI as a building block, the analysis supports a multiple-asset-class approach with the remaining three asset classes.

We often cannot see the beneficial impact on return created by broader diversification because diversification examples mix fixed-income investments together with equity investments. In this situation, the large difference between the returns of fixed income and equity investments obscures the increase in portfolio return attributable to the diversification effect. Because the longer-term rates of return of the four equity asset classes used in our analysis were fairly similar, we can see the positive impact diversification has on both dampening volatility and increasing return.

Although one would expect that asset classes with similar volatility levels should have similar long-term growth paths, we are pedagogically fortunate to have the four equity asset class returns in our analysis be as close as they are. As of the time of this writing, precise return data were not yet available for 1998. There were, however, strikingly different returns across the four asset classes, ranging from another first place return for the S&P 500 to the worst return ever for the GSCI. The marked disparity in 1998 returns will trigger some significant repositioning of the 15 equity portfolios in volatility/return space. It will not, however, invalidate the basic conclusions of this paper. Multiple-asset-class strategies are generally less volatile and produce an incremental positive impact on portfolio return even though differences in the long-term growth paths of the four equity asset classes may obscure recognition of the return payoff.

FIGURE 5

## The Rewards of Multiple-Asset-Class Investing (1972–1997)



|   |  |
|---|--|
| A | S&P 500—Domestic Stocks  |
| B | EAFE®—International Stocks   |
| C | Equity REITS—National Association of Real Estate Investment Trusts, Inc. |
| D | Goldman Sachs Commodity Index  |

|    |  |      |   |
|----|--|------|---|
| AB | Equal Allocation of S&P 500 and EAFE®        | ABC  | Equal Allocation of S&P 500, EAFE® and Equity REITS       |
| AC | Equal Allocation of S&P 500 and Equity REITS | ABD  | Equal Allocation of S&P 500, EAFE® and GSCI               |
| AD | Equal Allocation of S&P 500 and GSCI         | ACD  | Equal Allocation of S&P 500, Equity REITS and GSCI        |
| BC | Equal Allocation of EAFE® and Equity REITS   | BCD  | Equal Allocation of EAFE®, Equity REITS and GSCI          |
| BD | Equal Allocation of EAFE® and GSCI           | ABCD | Equal Allocation of S&P 500, EAFE®, Equity REITS and GSCI |
| CD | Equal Allocation of Equity REITS and GSCI    |      |   |

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## Why Isn't Everyone Doing Multiple-Asset-Class Investing?

If multiple-asset-class investing is so wonderful, why isn't everyone doing it? There are three primary reasons. First, investors lack an awareness of the power of diversification. The typical investor understands that diversification may reduce volatility, but suspects that diversification simultane-

ously impairs returns. As we have demonstrated, diversification tends to improve returns, not diminish them. Investors need to be educated about this dual benefit.

Second, the question of market timing arises. Investors naturally want to believe that there must be some way to predict which asset class will come in first place. And some money managers suggest that they, in fact, can accurately make such market timing predictions. Let's assume

that we have a market timer with whom we consult annually for his prediction of the following year's best performing asset class among the S&P 500, EAFE, NAREIT, and GSCI. Had he successfully predicted the winning asset class over the past 15 years, from 1983 through 1997, an investor following his recommendations would have earned a compound rate of return of 32.33 percent. If such market timing skill exists, we should find evidence of money man-

TABLE 1

## The Rewards of Multiple-Asset-Class Investing (1972–1997)

## Performance Statistics for the Fifteen Equity Portfolios

| Compound Annual Returns and Future Values of \$1, Ranked High to Low |        |         | Standard Deviations (Volatility), Ranked Low to High |        | Sharpe Ratios, Ranked High to Low |      |
|--|--------|---------|--|--------|-----------------------------------|------|
| CD   | 14.53% | \$34.00 | ACD  | 9.59%  | ACD                               | 0.79 |
| BCD  | 14.48% | \$33.67 | BCD  | 10.26% | BCD                               | 0.74 |
| ACD  | 14.44% | \$33.36 | ABCD   | 10.30% | CD                                | 0.74 |
| ABCD   | 14.38% | \$32.89 | CD   | 10.32% | ABCD                              | 0.73 |
| ABD  | 14.16% | \$31.31 | ABD  | 11.40% | ABD                               | 0.64 |
| AD   | 14.06% | \$30.59 | AD   | 11.68% | AD                                | 0.61 |
| C  | 14.01% | \$30.21 | BD   | 14.05% | BD                                | 0.50 |
| BD   | 13.96% | \$29.88 | ABC  | 14.95% | ABC                               | 0.46 |
| BC   | 13.87% | \$29.31 | AC   | 15.18% | AC                                | 0.46 |
| ABC  | 13.84% | \$29.07 | BC   | 15.92% | BC                                | 0.44 |
| AC   | 13.83% | \$29.00 | C  | 16.44% | C                                 | 0.43 |
| AB   | 13.45% | \$26.62 | AB   | 16.79% | AB                                | 0.39 |
| A  | 13.28% | \$25.61 | A  | 16.79% | A                                 | 0.38 |
| B  | 12.81% | \$22.94 | B  | 22.30% | B                                 | 0.26 |
| D  | 12.61% | \$21.95 | D  | 22.66% | D                                 | 0.25 |

## Average Performance Statistics: Four-, Three-, Two- and One-Asset-Class Portfolios

| Compound Annual Returns and Future Values of \$1, Ranked High to Low |        |         | Standard Deviations (Volatility), Ranked Low to High |        | Sharpe Ratios, Ranked High to Low |      |
|--|--------|---------|--|--------|-----------------------------------|------|
| Four   | 14.38% | \$32.89 | Four   | 10.30% | Four                              | 0.73 |
| Three  | 14.23% | \$31.85 | Three  | 11.55% | Three                             | 0.66 |
| Two  | 13.95% | \$29.90 | Two  | 13.99% | Two                               | 0.52 |
| One  | 13.18% | \$25.18 | One  | 19.55% | One                               | 0.33 |

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TABLE 2

## The Five Worst Years (1972–1997)

| Portfolio Structures |         |            |         |             |         |           |         |                       |        |
|----------------------|---------|------------|---------|-------------|---------|-----------|---------|-----------------------|--------|
| A<br>S&P 500         |         | B<br>EAFE® |         | C<br>NAREIT |         | D<br>GSCI |         | E<br>Equal Allocation |        |
| Year                 | Return  | Year       | Return  | Year        | Return  | Year      | Return  | Year                  | Return |
| 1974                 | -26.47% | 1990       | -23.19% | 1974        | -21.40% | 1981      | -23.01% | 1974                  | -7.63% |
| 1973                 | -14.66% | 1974       | -22.15% | 1973        | -15.52% | 1975      | -17.22% | 1981                  | -5.74% |
| 1977                 | -7.18%  | 1973       | -14.17% | 1990        | -15.35% | 1997      | -14.07% | 1990                  | -3.16% |
| 1981                 | -4.91%  | 1992       | -11.85% | 1987        | -3.64%  | 1993      | -12.33% | 1992                  | 3.71%  |
| 1990                 | -3.17%  | 1981       | -1.03%  | 1994        | 3.17%   | 1976      | -11.92% | 1994                  | 4.46%  |

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agers earning these rates of return. When we check Morningstar's database, we find that there is a universe of 638 mutual funds with at least 15 years of performance history. Included is the full variety of professionally managed, domestic, and international funds, equity and fixed income funds, as well as various specialty funds. How many of these funds had compound rates of return in excess of 32.33 percent? None! Not one got remotely close.

Maybe we are asking too much proficiency from our market timer. Let's assume that his prediction for the winning asset class each year never finished first, but instead his prediction came in second place among the four asset classes. This does not seem like a particularly impressive achievement. Yet it would have generated a 15-year compound annual return of 19.59 percent. Out of 638 funds, only three funds had better investment performance—this is less than one-half of one percent of all professionally managed mutual funds! And none of the three funds relied on market timing to deliver their impressive returns.

Perhaps we are still asking too much of our market timer. What if we ask him to simply recognize the long periods of dominance of one asset class over another? For example, our market timer might instruct us to invest our funds in EAFE during the portion of the 15-year period that fell in the 1980s, and then switch to the S&P 500 for the 1990s. This strategy would have generated a compound return of 22.81 percent. Again, not one mutual fund manager among 638 funds achieved that rate of return. Apparently, successfully predicting the performance of asset classes is difficult to do!

## Investor Psychology

The third reason involves investor psychology. Investors use their domestic market as a frame of reference for evaluating their investment results. For example, a U.S.-based investor will compare his equity

“Each year, the multiple-asset-class strategy loses relative to some of its component asset classes and wins relative to others. That is the nature of diversification.”

returns with a market index like the S&P 500. This frame of reference is not a problem in years when the domestic market underperforms other asset classes, since diversification into better performing markets rewards a multiple-asset-class investor. When the domestic market comes out on top, however, the investor perceives that diversification has impaired his returns. This sense of winning or losing arises primarily from the investor's immediate frame of reference. For example, the four-asset-class portfolio we have been discussing had a 10.4 percent return in 1997. Investors perceive this as a “winning” return given either an EAFE or GSCI frame of reference, since these asset classes had returns of 2.05 percent and -14.07 percent respectively in 1997. This return is lousy from either an S&P 500 or NAREIT perspective, since these asset classes had returns of 33.36 percent and 20.26 percent respectively.

Each year, the multiple-asset-class strategy loses relative to some of its component asset classes and wins relative to others. That is the nature of diversification. As of the date of this writing, the S&P 500 is everyone's favorite asset class, despite the fact that its return ranked 13th and its volatility was third highest out of the 15 equity portfolios in our example. The S&P 500's current popularity is a result of its remarkable performance over the past few years. Yet over the 26-year period of our analysis, the S&P 500 came in first place

only four times. This is fewer first place finishes than EAFE, NAREIT, or GSCI. The “frame of reference” problem is particularly acute because two of these first-place finishes happened quite recently, in 1995 and 1997. This recent period of S&P 500 dominance seems like an eternity to investors and fuels dissatisfaction with the lower returns generated over the same time period by a multiple-asset-class strategy. As a friend in the business observed, the problem with diversification is that it works whether you want it to or not!

We should not underestimate this “frame of reference” problem. Investors compare their investment results with their friends while playing golf or at cocktail parties. The true multiple-asset-class investor is still in the minority. During periods when the U.S. market prevails, he will feel particularly vulnerable talking with friends who own a more traditional domestic stock and bond portfolio. Recently I had a client tell me that he would rather follow a strategy where he loses when his friends are losing, than follow a superior long-term strategy that at times loses while his friends are winning. There is pain in being different!

Equity investing is a long-term endeavor. Investors should devise and implement strategies with the long term in mind. Investors naturally attach more significance to recent investment experience than to longer-term performance, but they should resist the temptation to abandon

more diversified strategies in favor of chasing yesterday's winner.

The multiple-asset-class investing analysis presented here is a pedagogical illustration that, for simplicity, uses equal-weighted strategies of various combinations of the S&P 500, EAFE, NAREIT, and GSCI. Although I am a strong proponent of multiple-asset-class investing, I do not recommend an equal-weighted strategy for my clients. My reasoning is partially rooted in the psychological concerns of this “frame of reference” issue. A more suitable alternative would be to allocate the four-asset-class portfolio 40 percent to the S&P 500, 30 percent to EAFE, 20 percent to NAREIT and 10 percent to GSCI. This allocation weights the portfolio in favor of more familiar asset classes and would have given its investor a 16.6 percent return in 1997. This return still lags the first-place S&P 500 asset class, but the performance is closer to the investor's frame of reference. Interestingly, this alternative would still have a greater return and less volatility than any of its components had over the 26-year period of our analysis. But its performance relative to an equal-weighted strategy would be inferior. The compound return of this 40/30/20/10 allocation was 14.04 percent, compared with 14.38 percent from the equal-weighted strategy. Its standard deviation of 12.96 percent was also worse than the 10.3 percent standard deviation of the equal-weighted strategy. Although its performance is not as favorable, the alternate portfolio structure may still be the better choice, given the psychological issues involved.

Occasionally, a client follows this analysis and questions its merit because it relies on historical data that may be irrelevant when looking into the future. His or her argument rests on the notion that the world is very different today than it was during the time period covered by my multiple-asset-class investing analysis; risks and opportunities exist now that have no historical precedent. Although that may be true,

investor behavior is much the same as it has always been. Investors prefer predictability to uncertainty, and they face a menu of investment alternatives differentiated according to their levels of volatility. The buying and selling activity of investors establishes security prices that bring supply and demand into equilibrium. For this to occur, more volatile asset classes must have higher expected returns than less volatile asset classes. This leads to competitive, risk-adjusted returns across investment alternatives. The diversification benefits of a multiple-asset-class approach rest on dissimilarity in patterns of returns across investment alternatives in the short run, and competitive asset pricing in the long run. These conditions should hold in the future, even in the face of risks and opportunities that are unique to our times. But for the sake of argument, let's assume with the critics that the future is simply unknowable. If we have no basis upon which to make predictions about the future, the wisest investment strategy is to broadly diversify portfolios in order to mitigate the risks of unknowable markets. Their criticism, in fact, supports the argument in favor of multiple-asset-class investing.

### Investment Portfolio Design Format

Figure 6 provides a format for designing a portfolio according to the principles discussed in this article. We begin at the left with the total value of the investor's portfolio. Investors naturally tend to prefer to retain their current investment holdings. This inertia inhibits clear investment decision making. To overcome this problem, it is helpful if the investor hypothetically converts all of his current investments to cash before proceeding with the portfolio design. This process creates an opportunity for the investor to make fresh decisions based on his present and future

needs, unencumbered by his past investment decisions.

The most general level of decision making is labeled "Investment Policy." At this level, the investor determines his or her allocation among short-term debt investments, long-term debt investments and equity investments. This is the most important decision the investor makes as it determines the portfolio's growth path through time and the general volatility level. Subject to the investment policy decisions, the investor proceeds to the "Asset Allocation" level. Here I advocate a globally diversified, multiple-asset-allocation approach. To obtain the diversification benefits described in Figure 2, we allocate the long-term debt investments between domestic and international bonds.

The equity investments are allocated across four asset classes. The 15-equity portfolio analysis previously discussed uses an index representing each of these equity asset classes. By globally diversifying the portfolio in this manner, the investor creates the maximum opportunity for the diversification effect to work its magic. The final level of decision making involves the choice of specific investment positions to execute the strategy.

### Conclusion

Asset allocation is vitally important. The benefits of diversification are powerful and robust, not just in terms of volatility reduction, but also for return enhancement. To evaluate the desirability of an



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FIGURE 6

## Investment Portfolio Design Format

| Total Portfolio                                      | Investment Policy  | Asset Allocation  | Investment Alternatives  | Dollar Commitment  |
|--|--|---|--|--|
| <b>Total Investment Assets</b><br>\$ _____<br>_____% | <b>Short-Term Debt Investments</b><br>\$ _____<br>_____% | <b>Short-Term Debt Investments</b><br>\$ _____<br>_____%              | <b>Money Market Funds</b><br>\$ _____<br><b>CDs</b><br>\$ _____<br><b>Fixed Annuities</b><br>\$ _____<br><b>Guaranteed Interest Contracts</b><br>\$ _____<br><b>Short-Term Bonds</b><br>\$ _____                               | \$ _____<br>\$ _____<br>\$ _____<br>\$ _____<br>\$ _____ |
|  | <b>Long-Term Debt Investments</b><br>\$ _____<br>_____%  | <b>Domestic Long-Term Debt Investments</b><br>\$ _____<br>_____%      | <b>Higher Quality Intermediate-Term Bonds</b><br>\$ _____<br><b>Lower Quality Intermediate-Term Bonds</b><br>\$ _____<br><b>Higher Quality Long-Term Bonds</b><br>\$ _____<br><b>Lower Quality Long-Term Bonds</b><br>\$ _____ | \$ _____<br>\$ _____<br>\$ _____<br>\$ _____             |
|  |  | <b>International Long-Term Debt Investments</b><br>\$ _____<br>_____% | <b>International Bonds</b><br>\$ _____   | \$ _____   |
|  |  | <b>Domestic Common Stock Investments</b><br>\$ _____<br>_____%        | <b>Convertible Securities</b><br>\$ _____<br><b>Large Company Stocks</b><br>\$ _____<br><b>Small Company Stocks</b><br>\$ _____  | \$ _____<br>\$ _____<br>\$ _____                         |
|  |  | <b>International Common Stock Investments</b><br>\$ _____<br>_____%   | <b>Large Company Stocks</b><br>\$ _____<br><b>Small Company Stocks</b><br>\$ _____<br><b>Emerging Market Stocks</b><br>\$ _____  | \$ _____<br>\$ _____<br>\$ _____                         |
|  | <b>Short-Term Debt Investments</b><br>\$ _____<br>_____% | <b>Real Estate Investments</b><br>\$ _____<br>_____%                  | <b>Real Estate Direct Ownership</b><br>\$ _____<br><b>Real Estate Partnerships</b><br>\$ _____<br><b>Real Estate Pooled Accounts</b><br>\$ _____<br><b>Real Estate Investment Trusts</b><br>\$ _____                           | \$ _____<br>\$ _____<br>\$ _____<br>\$ _____             |
|  |  | <b>Investment Hedges</b><br>\$ _____<br>_____%                        | <b>Precious Metal Bullion</b><br>\$ _____<br><b>Precious Metal Mining Stocks</b><br>\$ _____<br><b>Commodities</b><br>\$ _____   | \$ _____<br>\$ _____<br>\$ _____                         |

Source: Roger C. Gibson, *Asset Allocation: Balancing Financial Risk* Second Edition, McGraw-Hill Publishing, New York, NY 1996

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asset class as a portfolio building block, it is not enough to know only its return and volatility characteristics. We must also know how its pattern of returns correlates to the patterns of returns of the other portfolio components. All other things being equal, the more dissimilarity there is among the asset classes within a portfolio, the stronger the diversification effect, providing investors with not only less volatility, but also greater returns.

The beauty of diversification lies in the fact that its benefits are not dependent on the exercise of superior skill. They arise from the policy decision to follow a multiple-asset-class investment approach. Imagine for a moment that each of the portfolios in Figure 5 represented the performance of a different common stock manager, actively engaged in trying to out-

perform their competitors through superior skill in security selection. We would want to know what the managers in the upper left quadrant are doing to generate returns that are, on average, over one percent higher with more than a one-third reduction in volatility, as compared with the managers in the lower right quadrant. Amazingly, these marked performance advantages did not rely on skill, but rather a simple policy decision: diversify!

The multiple-asset-class strategy is a tortoise-and-hare story. Over any one-year, three-year, or ten-year period, the race will probably be led by one of the component single-asset classes. The leader will, of course, attract the attention. The tortoise never runs as fast as many of the hares around it. But it does run faster on average than the majority of its competi-

tors, a fact that becomes lost due to the attention-getting pace of different lead rabbits during various legs of the race. It is noteworthy that the time period for the multiple-asset-class analysis presented in this article is 26 years.<sup>4</sup> The length of a marathon is 26 miles. Think of this 26-year, multiple-asset-class illustration as a marathon. The GSCI rabbit led the first third of the race during the 1970s. The second third of the race was run in the 1980s, when the EAFE rabbit ran the fastest. During the final third of the race in the 1990s, the S&P 500 rabbit was outpacing all others. There is always a hare running faster than the multiple-asset class tortoise, and, depending on the leg of the race, it is usually a different hare that takes the lead! Yet the tortoise, in the long run, leaves the pack behind. We know the moral of the story: slow and steady wins the race. In the end, patience and discipline are rewarded. To secure the reward, we need to relinquish our domestic frame of reference and invest as citizens of the world.



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## Endnotes

1. The only exception to this is the rare situation of perfect positive correlation of returns among the investments in the portfolio.
2. Diversification into an asset class with lower returns does not necessarily result in a lower portfolio return. Depending on the magnitude of the difference in returns and the correlations among the portfolio components, diversification into a lower returning asset class may actually result in an increase in portfolio return.
3. The Sharpe ratio is a measure of reward relative to total volatility. The statistic is a ratio of a portfolio's excess return above that of a Treasury bill divided by the portfolio's standard deviation. The Sharpe ratio affirms the notion that a portfolio should generate some incremental reward for the assumption of volatility, otherwise it would be better to simply own Treasury bills.
4. Twenty-six years is the longest period of time for which performance data were available for all four indices representing the equity asset classes.



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