



Index Fund Strategies

ASSET CLASS

A monthly update of asset class performance, trends, & topics for long-term investors

Index Returns

	% Return			
	1995	1996	1997	Annual
Bonds				
Short-term	8.0	5.8	6.0	6.6
Intermediate	19.1	2.4	9.2	10.0
Long-term	30.1	-1.3	14.3	13.6
Global	16.0	10.8	8.3	11.7
U.S. stocks				
Large Market	37.5	22.9	33.2	31.1
Large Value	38.4	20.2	28.1	28.7
Small Market	30.2	17.7	24.2	23.9
Small Value	29.3	22.3	30.7	27.4
Real estate	12.1	33.8	19.3	21.4
Int'l stocks				
Large Market	13.1	6.4	5.5	8.3
Large Value	11.5	7.8	-3.1	5.2
Small Market	0.5	2.6	-23.7	-7.7
Small Value	1.2	1.0	-22.7	-7.6
Emerg. Mkts.	2.2	11.4	-18.9	-2.6

Short-term bonds = DFA One-Year Fixed Income fund; Intermediate bonds = DFA Intermediate Government Bond fund; Long-term bonds = Vanguard Bond Index Long-term; Global bonds = DFA Global Fixed Income fund; U.S. Large Market = Vanguard Index 500 fund; U.S. Large Value = DFA Large Cap Value fund; U.S. Small Market = DFA 6-10 Small Company fund; U.S. Small Value = DFA Small Cap Value fund; Real Estate = DFA Real Estate Securities fund; Int'l Large Market = DFA International Large Cap fund; Int'l Large Value = DFA International Large Cap Value fund; Int'l Small Market = DFA International Small Company fund; Int'l Small Value = DFA International Small Cap Value fund; and Emerging Markets = DFA Emerging Markets fund.

This information is obtained from sources we believe are reliable, but we cannot guarantee its accuracy. **Past performance does not guarantee future returns.**

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The new year started a little rocky for U.S. stocks as the Southeast Asian markets continued to fall. As this is being written, however, stocks are recovering and the financial press is once again gushing about the patience of the "new breed" of U.S. investors. Last October's one-day crash is often sited as proof that most investors are in it for the long haul.

I'm not convinced. One-day or one-quarter (e.g. the '87 crash) does not test investors' discipline nor their knowledge of market history. One year, two years, or three years of "disappointing" returns are another thing and we're starting to see this in the area of global diversification.

The U.S. market just finished a three-year run of +20% returns— an unprecedented feat. Foreign markets, not surprisingly, have had three lousy years, led by Japan. So how have investors reacted? Many have moved to all-U.S. portfolios. Fewer, I'm afraid, have rebalanced portfolios to take advantage of lower prices overseas.

This month, TAM rebalanced client accounts by taking profits in the U.S. large and small value funds and buying the international asset classes. Although I would like to think that investors are more knowledgeable and patient today, I suspect when it's all said and done, we will be in the minority of U.S. investors in this regard. For an insight into the historical basis for such a move, I have reprinted part of an article published by David Booth of Dimensional Fund Advisors. The complete article is available upon request.

International Stock Returns and the Size Effect

David Booth, Dimensional Fund Advisors

International stock returns have been lower than U.S. stock returns for the past several years, and international small cap stocks have had lower returns than international large cap stocks.

A review of the data shows that the most recent performance is consistent with the longer-term history of returns. Large differences in returns between EAFE and the S&P 500 are not uncommon, and the international "size effect" generally amplifies the differences. When EAFE outperforms the S&P 500, international small cap stocks outperform international large cap stocks. When the S&P 500 outperforms EAFE, large cap international stocks outperform small cap stocks.

The observed return relations are evidence that international small cap stocks provide greater diversification benefits than international large cap stocks. The benefit of international diversification comes from international stocks having higher returns than U.S. stocks when U.S. stocks perform poorly. Small cap international stocks provide much more of this type of benefit than do large cap stocks.

Diversification is a two-edged sword, with an economic cost equal to the economic benefit. In order to gain relative performance when U.S. stocks do poorly, it is necessary to be willing to lose relative performance when U.S. stocks do well, as has happened recently.

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Since 1986, the inception of Dimensional's international strategies, there has been one period of high returns for international stocks, 1986-1990, and one period of low returns, 1991-1997. Dimensional's funds have performed predictably, with high relative returns in the first period and low relative returns in the second. The Japan Small Company Fund has truly been an outlier in both periods. It was the best-performing international mutual fund in the five years 1987-1991, and the worst-performing international fund in the last five years.

As displayed in Exhibit 1, for the entire 1986-1997 period, Dimensional's small cap international funds have higher returns than the EAFE Index, 11.36% versus 11.05%. Although we would expect a greater small cap premium in the future, because EAFE has underperformed the S&P 500, the past eleven years is well within expectations. We expect EAFE to have returns approximately equal to the S&P 500, and that small cap international stocks will have higher average returns and greater diversification benefits than EAFE stocks.

Exhibit 2 displays size and international effects over two periods of time. The first covers the 9-year period 1982-1990, the worst nine-year period for small cap U.S. stocks from 1926-1997, based on the difference in compound returns between small cap stocks and the S&P 500. The second is the period 1991 through September 1997, a particularly rough time for international small cap stocks.

In the first period, the size effect is -7.41% in the U.S. and 7.10% internationally. In the second period, the size effect is 5.49% in the U.S. and -6.32% internationally.

The international size effect amplifies the international effect. In the first period, EAFE's compound return is 2.95% greater than the S&P 500's. In the second, it is 10.36% lower. The compound return differential between international and U.S. small cap stocks is 17.46% in the first period and -22.17% in the second. Thus, global small cap stock returns are less correlated, thereby producing greater diversification benefits, than global large cap stocks.

The results conform to our intuition about small cap stocks. Small cap stocks are more closely tied to their domestic markets than are large cap stocks. Large companies like Sony and Citibank often gain most of their earnings internationally. When Japanese stocks do well, in total returns and relative to U.S. stocks, small cap Japanese stocks should outperform Sony. When Japanese stocks do poorly, small cap stocks should underperform Sony.

Exhibit 3 displays compound returns for large cap and small cap Japanese stocks for four time periods since 1971. The most recent time period has results similar to those for the 1979-1982 period. The 1983-1988 results look similar to those for 1971-1978. Japanese stocks provide excellent diversification benefits for U.S. investors. Japanese small cap stocks provide much greater diversification benefits than do large cap Japanese stocks.

The diversification benefits are greatest when we need them most. The 1973-1974 bear market was more pronounced in the U.S. than in Japan. As a result, the compound returns from 1971-1978 is only 4.6% for the S&P 500, but 38.2% for small Japanese stocks. The 1987 stock market crash was sharper in the U.S. than in Japan. As a result, the 1983-1988 compound return is 16.5% for the S&P 500 and 47.8% for small Japanese stocks.

The 1989-1997 results display the effects of diversification on the negative side. A \$1 investment in the S&P 500 grows to \$4.37, while it shrinks to \$0.52 if invested in small Japanese stocks. Diversification works even when we wish it wouldn't.

Thus, the most recent experience of international stocks is not unusual, even though disappointing. We would like to think that diversification always adds to returns, but it does not. In order to offset times of poor U.S. performance, there have to be times when international stocks offset good U.S. returns. The good news is that diversification works best when we need it most.

Exhibit 1
Dimensional's International Small Company Strategy vs. EAFE Index
April 1986-September 1997

	International Small Company Strategy	EAFE Index (%)
Annualized Return(%)	11.36	11.05
Total Return (%)	244.71	233.83
Growth of \$1	3.45	3.34

Exhibit 2
Domestic and International Stocks
Annualized Compound Return (%)

	1982-1990	1991-Sept. 1997
U.S. Size Effect	-7.41	5.49
Large Cap (S&P 500 Index)	16.24	20.06
Small Cap (U.S. 9-10 Port.)	8.83	25.55
International Size Effect	7.10	-6.32
Large Cap (EAFE Index)	19.19	9.70
Small Cap (Int'l Small Port.)	26.29	3.38
International Effects (International minus U.S.)		
Large International Effect	2.95	-10.36
Small International Effect	17.46	-22.17

Exhibit 3
S&P 500 Index vs. Japanese Stocks
Returns and Growth of \$1

	Compound Returns (%)			Growth of \$1		
	S&P 500 Index	Japan Large	Japan Small	S&P 500 Index	Japan Large	Japan Small
1971-1978	4.6	26.6	38.2	1.43	6.59	13.33
1979-1982	16.0	5.0	-1.8	1.81	1.22	0.93
1983-1988	16.5	41.2	47.8	2.51	7.94	10.41
1989-Sep. 1997	18.4	-4.1	-7.2	4.37	0.69	0.52
1971-Sep. 1997	13.3	15.2	17.0	28.46	44.19	67.44