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# The Importance of Dividend Yields in Country Selection

## A Value Approach for Global Equity Investors

Michael Keppler

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Spoke the old farmer to his son:

A cow for her milk  
A hen for her eggs  
And a stock, by heck  
For her dividends.

An orchard for fruit  
Bees for their honey  
And stocks, besides  
For their dividends.

(Williams [1938, p. 58])

The importance of dividends in long-term investment performance, which the old farmer understood, has been demonstrated in a number of studies. Of the 11.13% average annual total return provided by U.S. equities over the last six decades, 4.58% per year, or 41.2% of the total return, was collected in the form of dividends.<sup>1</sup>

Over the twenty years ending in December 1989, the contribution of dividends to the total return of U.S. equities was 35.6%. Global equity investors registered a lower dividend contribution over the same twenty-year period, with dividend yields averaging 26.2% of the total return of the market capitalization-weighted Morgan Stanley Capital International World Index and 27.2% of the equally-weighted World Index in local currencies.<sup>2</sup> During this period, global equity markets, as measured by the market cap-weighted MSCI World Index, provided a total annual compound return of 12.1% in local currencies; the total return of the equally-weighted World Index was 15.5%. In U.S. dollar terms, global equity investors received a return of 13.3% and 16.7% respectively, assuming reinvestment of dividends. The most important return and risk return measures for the MSCI World Index and selected countries over this twenty-year period are shown in Tables 1 and 2.<sup>3</sup>

Given the fact that dividend returns are inherently less risky than capital returns, it would seem that investors should pay more attention to dividend yields and resist the urge to chase high-priced equities, which may provide excellent returns in the short run, but which are also highly vulnerable to market corrections. The standard deviation of the annual capital return during the period between December 1929 and December 1989 was 21.3%, while the standard

deviation of the annual dividend yield during the same period was only 1.5%. Over the twenty-year period ending in December 1989, the standard deviation was 16.9 for the annual capital return and 0.9% for the annual dividend yield.

TABLE 1  
Risk and Return Characteristics in Local Currencies  
Selected Country Indexes and the MSCI World Index  
December 31, 1969-December 31, 1989

	Average Quarterly Return (%)	Average Quarterly Capital Gain (%)	Average Quarterly Dividend Yield (%)	Capital Gain in % of Total Return	Dividend Yield in % of Total Return	Std of Quart. Return (%)	Quart. Risk of Loss (%)	Return per Unit of Std	Return per Unit of Risk of Loss
MSCI World Index:									
— Market Cap.-Weighted	3.22	2.38	0.85	73.8	26.2	7.89	1.72	0.41	1.87
— Equally Weighted	3.97	2.89	1.08	72.8	27.2	7.70	1.40	0.52	2.84
Australia	3.42	2.34	1.08	68.4	31.6	12.47	3.39	0.27	1.01
Austria	3.12	2.35	0.77	75.3	24.7	9.80	1.45	0.32	2.15
Belgium	4.07	1.75	2.32	43.1	56.9	9.74	1.82	0.42	2.24
Canada	3.23	2.28	0.94	70.8	29.2	9.04	2.12	0.36	1.52
Denmark	4.19	3.12	1.07	74.4	25.6	10.37	2.01	0.40	2.09
France	4.05	2.78	1.26	68.8	31.2	11.81	2.70	0.34	1.50
Germany	2.61	1.55	1.06	59.5	40.5	9.35	2.27	0.28	1.15
Hong Kong	7.31	6.26	1.05	85.7	14.3	21.67	5.36	0.34	1.36
Italy	3.81	3.11	0.69	81.8	18.2	14.90	3.70	0.26	1.03
Japan	4.53	4.03	0.50	89.0	11.0	9.66	1.79	0.47	2.54
Netherlands	3.43	1.97	1.47	57.3	42.7	9.19	2.08	0.37	1.65
Norway	4.79	3.91	0.88	81.6	18.4	15.74	3.53	0.30	1.36
Singapore/Malaysia	4.90	4.27	0.63	87.2	12.8	19.56	3.93	0.25	1.25
Spain	3.55	1.83	1.73	51.4	48.6	11.95	2.59	0.30	1.37
Sweden	4.97	3.99	0.98	80.3	19.7	11.27	1.86	0.44	2.67
Switzerland	2.10	1.43	0.67	68.1	31.9	9.21	2.22	0.23	0.94
United Kingdom	4.50	3.22	1.28	71.5	28.5	12.92	2.54	0.35	1.77
United States	2.97	1.90	1.07	64.0	36.0	8.83	2.21	0.34	1.34

Dividend yields also deserve more attention as valuation measures that often provide good clues to future stock price performance (Fosback [1987, pp. 13-14]). A simple test of predictive value of dividends yields for global investors appears in Table 3, which shows the one-year returns of the market cap-weighted MSCI World Index that ensued from various dividends yield intervals during the period from 1969 to 1987.

Many value investors have taken advantage of the tendency of higher-yielding stocks to outperform lower-yielding stocks in the long run – a phenomenon contrary to a basic tenet of the efficient market theory. Benjamin Graham and others have shown that U.S. equity investors can improve their overall stock selection by concentrating on issues with above average yield. Graham showed that the average compound growth in price for a group of U.S. stocks with a dividend yield equal to or greater than two-thirds of the triple-A bond yield was 19.5% compared to 7.5% for the Dow Jones Industrial Index over the fifty-year period ending in 1975 (Rea [1977, p. 70]).

Given the positive correlation between dividend yields and portfolio returns, the challenge for the global equity investor lies in finding ways of exploiting this well-known market inefficiency in the construction of global equity portfolios.

This is what I set out to do in the study presented here. I intended to show that it is possible to turn the odds of beating global stock market indexes to the investor's favor by concentrating global equity investments in markets with above-average dividend yields.

TABLE 2  
Risk and Return Characteristics in U.S. Dollars  
Selected Country Indexes and the MSCI World Index  
December 31, 1969–December 31, 1989

	Average Quarterly Return (%)	Average Quarterly Capital Gain (%)	Average Quarterly Dividend Yield (%)	Capital Gain in % of Total Return	Dividend Yield in % of Total Return	Std of Quart. Return (%)	Quart. Risk of Loss (%)	Return per Unit of Std	Return per Unit of Risk of Loss
MSCI World Index:									
— Market Cap.-Weighted	3.51	2.67	0.85	75.9	24.1	8.40	1.74	0.42	2.02
— Equally Weighted	4.32	3.24	1.08	75.0	25.0	8.92	1.67	0.48	2.59
Australia	3.17	2.08	1.08	65.8	34.2	13.89	3.69	0.23	0.86
Austria	4.30	3.53	0.77	82.0	18.0	11.44	2.15	0.38	2.00
Belgium	4.70	2.38	2.32	50.6	49.4	11.69	2.31	0.40	2.03
Canada	3.17	2.23	0.94	70.3	29.7	9.57	2.38	0.33	1.34
Denmark	4.41	3.33	1.07	75.6	24.4	10.81	2.16	0.41	2.04
France	4.29	3.03	1.26	70.5	29.5	14.46	3.29	0.30	1.30
Germany	3.74	2.68	1.06	71.7	28.3	11.09	2.49	0.34	1.50
Hong Kong	7.22	6.17	1.05	85.5	14.5	22.90	5.81	0.32	1.24
Italy	3.11	2.41	0.69	77.7	22.3	16.57	4.53	0.19	0.69
Japan	5.96	5.46	0.50	91.7	8.3	12.06	2.22	0.49	2.68
Netherlands	4.35	2.88	1.47	66.3	33.7	10.36	2.16	0.42	2.01
Norway	5.16	4.28	0.88	82.9	17.1	17.68	4.07	0.29	1.27
Singapore/Malaysia	5.62	4.99	0.63	88.8	11.2	20.30	3.94	0.28	1.43
Spain	3.19	1.47	1.73	45.9	54.1	13.92	3.04	0.23	1.05
Sweden	4.75	3.76	0.98	79.3	20.7	11.31	2.38	0.42	1.99
Switzerland	3.59	2.92	0.67	81.4	18.6	11.37	2.52	0.32	1.42
United Kingdom	4.14	2.86	1.28	69.0	31.0	14.42	2.96	0.29	1.40
United States	2.97	1.90	1.07	64.0	36.0	8.83	2.21	0.34	1.34

TABLE 3  
Dividend Yields and Stock Prices (1969–1987)

MSCI World Index Dividend Yield	MSCI World Index One Year Later	Probability of Rising Prices
Under 2.5%	-7.7%	0%
2.5% - 5.0%	+7.5%	66%
Over 5.0%	+26.1%	100%

## METHODOLOGY

I tested a number of buy-and-sell strategies with hypothetical portfolios made up of individual national currency indexes over the twenty-year period ending in December 1989.<sup>4</sup> The indexes were sorted first into four quartiles according to their dividend yields.<sup>5</sup>

- Group I National country indexes with the highest dividend yields
- Group II National country indexes with the second highest dividend yields

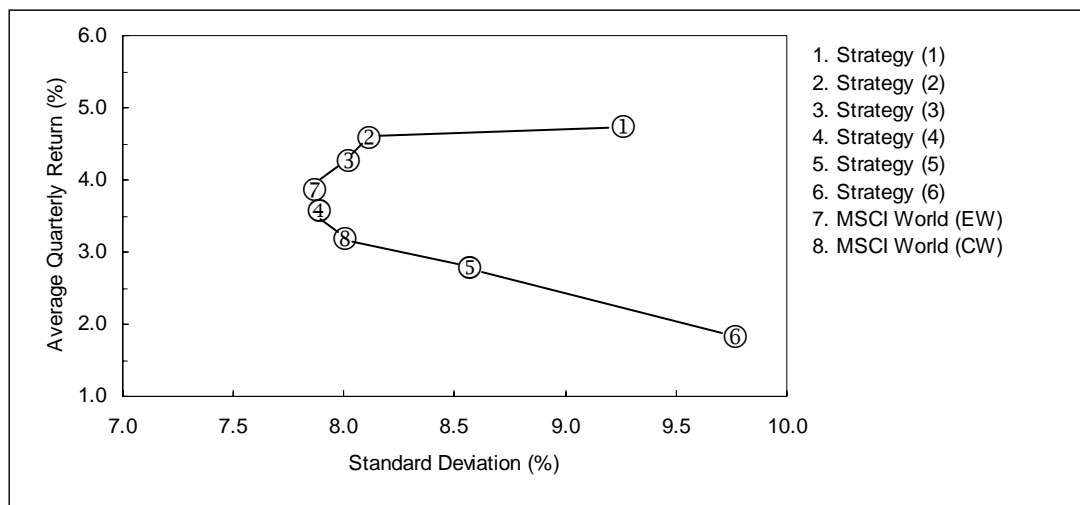
Group III National country indexes with the second lowest dividend yields  
 Group IV National country indexes with the lowest dividend yields

Then, six portfolios were constructed according to six strategies:

- Strategy (1) Invest in Group I markets (the markets with the highest dividend yields)
- Strategy (2) Invest in Group I and II markets
- Strategy (3) Invest in Group I, II, and III markets
- Strategy (4) Invest in Group II, III, and IV markets
- Strategy (5) Invest in Group III and IV markets
- Strategy (6) Invest in Group IV markets (the markets with the lowest dividend yields)

As I wanted to combine the effect of diversification with the return analysis, I did not analyze Groups I-IV separately.<sup>6</sup> The hypothetical portfolios were constructed with equal initial investments in each market, regrouped quarterly according to their dividend yields, and rebalanced to equal investments in each national market at the end of each quarter. The quarterly total returns for the various strategies were calculated as the arithmetic average of the quarterly total returns of the national MSCI indexes included in each strategy. Total returns were calculated with gross dividends reinvested, as published by Morgan Stanley Capital International Perspective. The risk–return trade-off is shown in Figure 1.

FIGURE 1  
 Risk and Return Trade-Off  
 in Local Currencies



Because Morgan Stanley publishes data only on a market capitalization-weighted world index, I created an equally-weighted world equity index as a benchmark against which to test the six portfolio strategies. The risk and return characteristics of the portfolio are shown in Tables 4 and 5, which also include the corresponding figures for the benchmark, the equally-weighted MSCI World Index.

A comparison of the returns of the market capitalization-weighted World Index and the equally-weighted World Index shows that the total compound annual return of the latter exceeded the total compound annual return of the former by 3.37%. This is because of the “small-country effect”, i.e., smaller markets provide a higher total return than the larger national

markets included in the MSCI World Index. Comparing the results of the six strategies tested with the equally-weighted World Index takes into account the fact that equally-weighted indexes outperform market-capitalization weighted over long periods.

## FINDINGS

### Analyses in Local Currency Terms

Local currency results are reported in Table 4.

The major findings are:

1. Strategies (1) and (2) result in the highest risk-adjusted returns of all strategies, beating the equally-weighted MSCI World Index when the risk is measured by the expectation of a quarterly loss. If risk is measured by the standard deviation of quarterly returns, Strategy (2) produces the highest risk-adjusted return. On the basis of both volatility and expectation of loss risk measures, Strategy (6) results in the lowest risk-adjusted returns of all strategies.
2. In terms of their total annual compounded returns, Strategies (1) through (6) finished in the exact order expected: Strategy (1) — investing in the markets with the highest dividend yields — results in the highest total returns (18.49%), 2.98 percentage points above the total return for the equally-weighted World Index, while Strategy (6) — investing in the markets with the lowest divided yields — results in the lowest total return (5.74%). See Figure 1.
3. The average quarterly returns achieved with Strategies (1) through (6) are also positively correlated with their yield rankings: Strategy (1) provides the highest quarterly average return (4.73%) compared to 3.97% for the equally-weighted World Index, while Strategy (6) results in the lowest return (1.88%).

TABLE 4  
Country Selection Strategies Based on Dividend Yield  
Risk and Return Characteristics in Local Currencies  
December 31, 1969–December 31, 1989

	MSCI World EW	MSCI World CW	Strategy (1)	Strategy (2)	Strategy (3)	Strategy (4)	Strategy (5)	Strategy (6)
Compound Annual Return (%)	15.51	12.14	18.49	18.37	16.76	14.24	10.46	5.74
Average Quarterly Return (%)	3.97	3.22	4.73	4.62	4.27	3.70	2.89	1.88
Std. Deviation of Quarterly Returns (%)	7.70	7.89	9.10	7.97	7.90	7.73	8.37	9.65
Expectation (Risk) of Quarterly Loss (%)	1.40	1.72	1.40	1.18	1.31	1.56	2.00	2.75
Probability of Quarterly Gain (%)	76.25	71.25	73.75	78.75	76.25	71.25	68.75	60.00
Probability of Quarterly Loss (%)	23.75	28.75	26.25	21.25	23.75	28.75	31.25	40.00
Risk Adjusted Quarterly Return:								
— Return per Unit of Risk of Loss	2.84	1.87	3.38	3.90	3.26	2.38	1.45	0.68
— Return per Unit of Standard Deviation	0.52	0.41	0.52	0.58	0.54	0.48	0.35	0.19
Average Annualized Returns over Various Rolling Periods Ending Each Quarter (%)								
1-Year Rolling Periods	17.32	13.94	20.98	20.33	18.63	16.13	12.55	8.91
3-Year Rolling Periods	16.08	12.73	20.24	19.17	17.31	14.32	10.51	7.53
5-Year Rolling Periods	15.78	12.69	19.71	18.71	16.99	14.07	10.38	7.09

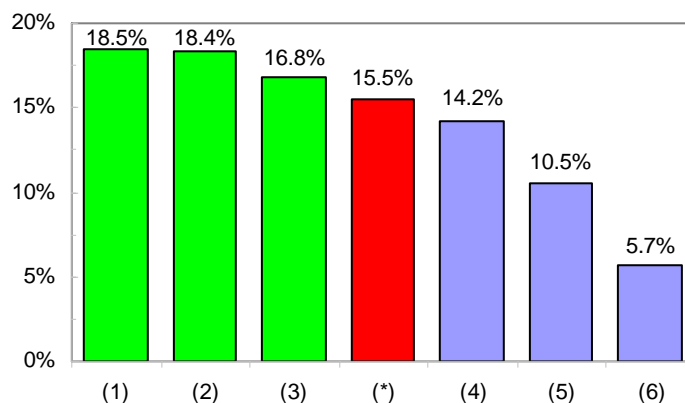
MSCI World EW: MSCI World Index Equally Weighted

MSCI World CW: MSCI World Index Weighted by Market Capitalization

4. While the other performance measures shown in Table 4 are not in exact sequence, most demonstrate the dominating position of the high-dividend yield Strategies (1), (2), and (3) over the low-dividend-yield Strategies (4), (5,) and (6). A supplementary study analyzing price returns only shows that the high-dividend Strategies (1), (2), and (3) also result in higher compound annual and higher average quarterly gains than the low-dividend Strategies (4), (5), and (6). The compound annual capital gain over the twenty-year test period was 11.25% for Strategy (1) compared to 3.82% for Strategy (6), while the average capital gain over the same period was 3.10% and 1.42%, respectively. These results indicate that a high-dividend yield strategy was as effective for income-oriented global equity investors as it was for investors interested in maximizing capital gains.<sup>7</sup>
5. Strategy (1) beat the equally weighted MSCI World Index in forty-three out of eighty quarters during the test period. Strategy (2) produces superior results over the benchmark in fifty-two quarters, i.e., 65% of the time, while Strategy (6) underperforms the benchmark in fifty-three quarters, and Strategy (5) underperforms the benchmark in fifty-two quarters out of the eighty-quarter test period.
6. A t-test shows that Strategies (1), (2), and (3) outperformed the equally-weighted World Index at level 0.06, 0.002, and 0.005, respectively. Strategies (4), (5), and (6) on the other hand, underperformed the benchmark at level 0.06, 0.001, and 0.004, respectively. While the usual assumption of the independence of quarterly returns is violated and the t-test is not strictly applicable, I use it as an approximation of the degree of difference between returns. The t-test indicates that the results of the various dividend yield strategies described are statistically significant.

FIGURE 2

Compound Annual Returns (in Local Currencies)  
Various Strategies and the MSCI World Index  
December 1969–December 1989



(\*) MSCI World Index (Equally Weighted)

7. The stability of my basic findings is demonstrated by the fact that both the quarterly average return figures and the average annualized return over various rolling periods (one, three, and five years) ending each quarter over the twenty-year test period are in sequence for all strategies (Tables 4 and 5). To examine the stability of the test results further, I divided the twenty-year test period into two subperiods: 1970-1980, and 1980-1990. The basic

relationship presented hold over both subperiods, suggesting that the findings are generic rather than time-specific. Subperiod results are available on request.

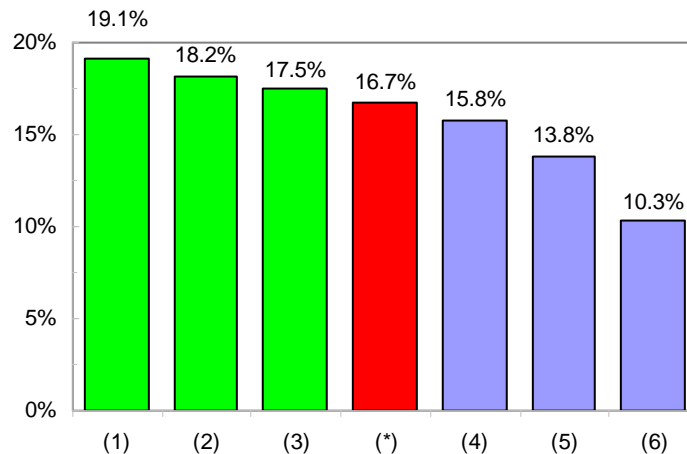
### Analyses in U.S. Dollar Terms

While the value of the U.S. dollar against most foreign currencies was on a roller coaster during the twenty-year test period, the risk and return characteristics of the strategies tested follow similar patterns when measured in U.S. dollar terms. See table 5.

1. The total annual compounded returns achieved with Strategies (1) through (6) are in exact order: Strategy (1) — investing in the markets with the highest dividend yields — resulted in the highest total return (19.08%), 2.39 percentage points above the total return for the equally-weighted MSCI World Index, while Strategy (6) — investing in the markets with the lowest dividend yields — resulted in the lowest total return (10.31%). Returns are shown in Figure 3.
2. The relationship of the average quarterly returns achieved with Strategies (1) through (6) holds up across all strategies: Strategy (1) provided the highest quarterly average return (5.01% compared to 4.32% for the equally-weighted World Index), while Strategy (6) performed worst (3.12%).

FIGURE 3

Compound Annual Returns (in U.S. Dollars)  
Various Strategies and the MSCI World Index  
December 1969-December 1989



(\*) MSCI World Index (Equally Weighted)

While the other U.S. dollar performance measures shown were not in exact sequence for the six strategies, by most measures Strategies (1) through (3) produced far better results than their counterpart Strategies (4) through (6).

### CONCLUSIONS

The most striking results of this study are the abnormally low risk-adjusted returns of Strategy (6), which were less than a quarter (23.9%) of the risk-adjusted return of the equally weighted MSCI World Index if risk is measured by the expectation of a quarterly loss, and

36.5% if risk is measured by the standard deviation of quarterly returns (Table 4). Contrary to the assumption held by proponents of modern portfolio theory, therefore, higher returns are not necessarily associated with higher risks.

My results seem to indicate that the conclusion reached by Baillie and DeGennaro [1990] in an examination of the relationship between mean returns on a U.S. stock portfolio and its conditional variance is equally applicable to international equities: “[A]ny relationship between mean returns and own variance or standard deviation is weak” (Baillie and DeGennaro [1990, p. 203]).

Strategies (1), (2), and (3), and the equally-weighted MSCI World Index (in local currencies) had higher-return and low-risk characteristics than Strategies (4), (5), and (6), and the market cap-weighted MSCI World Index. In MPT language, this means that strategies (1), (2), (3) and the equally-weighted MSCI World Index lie on the ex post “efficient frontier”, while Strategies (4), (5), and (6) and the market cap-weighted MSCI World Index are “inefficient” because they are dominated by Strategies (1) through (3) and the equally-weighted MSCI World Index. This result holds approximately for Strategies (1) through (6) measured in U.S. dollar terms as well.

While the study shows that global equity investors can achieve excess risk-adjusted returns over the long term by investing in markets with above-average dividend yields, investors should keep in mind that dividend yields, important as they may be, are only one of several useful criteria for country selection decisions. When combined with other variables, however, the dividend-yield criterion is a valuable tool for enhancing the returns of global equity portfolios.<sup>8</sup>

TABLE 5  
Country Selection Strategies Based on Dividend Yield  
Risk and Return Characteristics in U.S. Dollars  
December 31, 1969-December 31, 1989

	MSCI World EW	MSCI World CW	Strategy (1)	Strategy (2)	Strategy (3)	Strategy (4)	Strategy (5)	Strategy (6)
Compound Annual Return (%)	16.69	13.26	19.08	18.19	17.50	15.83	13.84	10.31
Average Quarterly Return (%)	4.32	3.51	5.01	4.66	4.52	4.12	3.76	3.12
Std. Deviation of Quarterly Returns (%)	8.92	8.40	10.89	9.11	9.15	8.76	9.65	11.51
Expectation (Risk) of Quarterly Loss (%)	1.67	1.74	1.85	1.54	1.69	1.75	2.29	2.94
Probability of Quarterly Gain (%)	76.25	73.75	68.75	73.75	75.00	72.50	68.75	61.25
Probability of Quarterly Loss (%)	23.75	28.75	26.25	21.25	23.75	28.75	31.25	40.00
Risk Adjusted Quarterly Return:								
— Return per Unit of Risk of Loss	2.59	2.02	2.71	3.03	2.68	2.35	1.64	1.06
— Return per Unit of Standard Deviation	0.48	0.42	0.46	0.51	0.49	0.47	0.39	0.27
Average Annualized Returns over Various Rolling Periods Ending Each Quarter (%)								
1-Year Rolling Periods	18.95	15.37	22.38	20.52	19.79	18.03	16.60	15.43
3-Year Rolling Periods	17.25	14.21	20.93	18.81	17.95	15.90	14.20	13.70
5-Year Rolling Periods	15.71	13.62	18.76	17.01	16.36	14.57	12.87	11.73

MSCI World EW: MSCI World Index Equally Weighted

MSCI World CW: MSCI World Index Weighted by Market Capitalization



## NOTES

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<sup>1</sup> As measured by the Standard & Poor's 500 Composite Index during the period from December 1929 to December 1989. Dividend data and monthly stock price indexes come from the S&P's *Security Price Index Record*. 1988 and 1989 data were collected from the monthly updates of the S&P *Analyst's Handbook*.

<sup>2</sup> The equally-weighted world index used in this study is based on an arithmetic average of the quarterly returns of the eighteen national country equity total return indexes as published by Morgan Stanley Capital International, New York.

<sup>3</sup> The risk measure used in this study is the so-called expectation (or risk) of loss, which is calculated by multiplying the probability (number of loss periods divided by the total number of periods) by the magnitude (average loss in all periods). This measure is not a suitable forecasting tool. For evidence of the weak relationship between the mean returns and own variance or standard deviation, see Baillie and DeGennaro [1990].

<sup>4</sup> The investment universe includes the eighteen MSCI national equity indexes of Australia, Austria, Belgium, Canada, Denmark, France, Germany, Hong-Kong, Italy, Japan, The Netherlands, Norway, Singapore/Malaysia, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

<sup>5</sup> The data used are from the January, April, July, and October Morgan Stanley Capital International (MSCI) *Perspective* issues.

<sup>6</sup> Should Strategy (2) yield a lower return than Strategy (1), it would be obvious that the performance disadvantage is attributable to the lower returns of the country indexes included in Group II compared to the returns of the country indexes included in Group I.

<sup>7</sup> Complete results are available to interested readers upon request.

<sup>8</sup> See results of the country selection strategy employed by Commerzbank Capital Markets Corporation, New York, published in its quarterly research publication, *Global Equity Markets: Strategy Country Allocation*, and Cutler, Poterba, and Summers [1988].

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