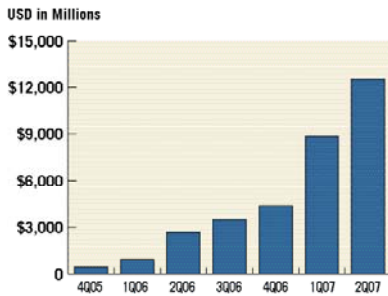


Fundamentals™



RAFI Managed Assets*



*Includes RAFI™ assets managed or sub-advised by Research Affiliates or RAFI licensees.



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PRICE-INDIFFERENT INDEXES: THE EQUAL-WEIGHT ALTERNATIVE

Long before we presented our research on the Fundamental Index™ concept, another price indifferent index provided clues that cap-weighted portfolios suffer a sizeable return drag. The return drag arises from stock pricing errors, which by construction lead to overweighting the overpriced stocks and underweighting the underpriced stocks in a cap-weighted strategy. When the pricing errors correct—as they inevitably do—the losses from the relatively higher-priced overvalued stocks overwhelm the gains from the relatively lower-priced undervalued stocks.

The issue can be solved with relative ease by assigning portfolio weights on some measure other than price. Probably the easiest approach is to equal weight the index constituents. Take the S&P Equal Weight Index (S&P EWI), for example, where each stock receives a 0.20% (1/500) portfolio weight. Because price no longer dictates a company's position, half of the portfolio is likely to be in overvalued stocks and the other half in undervalued stocks. Although we still don't know which stocks are overvalued, the weights are now independent of the price, so the resulting portfolio is free from the burden of overweighting the overvalued stocks and underweighting the undervalued stocks.

What does equal weighting tell us about the return drag? From January 1990, when S&P began publishing the S&P 500 EWI, to April 2007, the S&P EWI outperformed the

S&P 500 by 1.93% annually—with returns of 11.45% for the S&P 500 and 13.38% for the S&P EWI over this period. Most managers would move heaven and earth to outperform their benchmark by such a margin over the long term. Yet here it is, and all one had to do was divide by 500 and rebalance!

Unfortunately, it's not that simple... which is why we haven't seen more people adopt this elementary solution. It turns out that many of the benefits of indexing are not achievable using an equal-weighted index strategy. These include:

- **Economic Representation:** Equal weighting fails to adequately reflect the economy as the amount we allocate to each sector is solely dependent on the number of companies, not their economic scope. For example, the energy sector comprises nearly 10% of the S&P 500 Index while it only makes up 6% of the S&P EWI. Why? Energy is dominated by a few very large companies like Exxon Mobil, Chevron, and ConocoPhillips but in equal weighting each only receives a 0.20% weight.
- **Scalability:** Perhaps equal weighting's biggest problem is the lack of capacity; this indexing approach just cannot be run on a scale. Consider the impact on a small company such as PMC-Sierra

which has a market cap of \$1.6 billion. On a rough approximation, there is \$1.5 trillion invested in cap-weighted index funds that track the U.S. equity market via the S&P 500. If 10% of these assets, or \$150 billion, shift from cap-weighting to equal-weighting, then PMC-Sierra would be required to absorb \$300 million, or about 20% of its current market capitalization!”

- **Turnover:** Turnover is relatively high and expensive for an equal-weighted portfolio, because each stock has to be rebalanced back to its 0.20% target. In the case of the S&P EWI, this takes place quarterly and thus drives up the amount of trading and associated costs relative to the S&P 500—and a lot of these transactions would occur in relatively small, less liquid stocks.

Given these drawbacks, it is clear that a simple equal-weighting approach is not an attractive investment strategy for most

investors. The RAFI™ methodology was designed to retain the benefits of indexing without the performance drag associated with a cap-weighted index strategy. By using alternative financial measures of size to construct the index, the RAFI approach allocates the majority of its assets to larger enterprises resulting in sector allocations reflecting the broad economy. Further, the higher proportion of larger companies ensures a much greater degree of scalability and capacity. On the turnover front, annually rebalancing based upon company fundamentals—always less volatile than market prices—translates into relatively low turnover. Thus, the Fundamental Index strategy preserves most of the crucial benefits of being a passive investor and achieves the primary benefit of the equal weighted portfolio—the elimination of the price-weighted return drag. For comparison, the FTSE RAFI annualized return for the January 1990–April 2007 period was 13.62% compared with the S&P EWI return of 13.38%.

Performance Update*

TOTAL RETURN AS OF 6/30/07	BLOOMBERG TICKER	YTD	12 MONTH	ANNUALIZED 3 YEAR	ANNUALIZED 5 YEAR	ANNUALIZED 10 YEAR	10 YEAR VOLATILITY
FTSE RAFI™ 1000 Index ^a	FR10XTR	8.16%	22.64%	14.81%	13.23%	11.52%	14.20%
S&P 500 ^b	SPTR	6.96%	20.59%	11.68%	10.71%	7.13%	15.06%
Russell 1000 ^c	RU10INTR	7.18%	20.43%	12.34%	11.33%	7.55%	15.17%
FTSE RAFI™ US 1500 Index ^d	FR15USTR	8.50%	19.59%	15.93%	17.51%	14.70%	18.05%
Russell 2000 ^e	RU20INTR	6.45%	16.43%	13.45%	13.88%	9.06%	19.73%
FTSE RAFI™ Developed ex US 1000 Index ^f	FRX1XTR	12.90%	31.24%	24.85%	20.71%	12.06%	14.82%
MSCI EAFE ^g	GDDUEAFE	11.09%	27.54%	22.75%	18.21%	8.04%	14.87%
FTSE All World Series Developed ex US ^h	FTS5DXUS	11.92%	28.39%	23.69%	18.95%	8.76%	14.90%

Definition of Indices: (A) The FTSE RAFI™ 1000 comprises the 1000 largest companies selected and weighted using our Fundamental Index methodology; (B) The S&P 500 Index is an unmanaged market index that focuses on the large-cap segment of the U.S. equities market; (C) The Russell 1000 Index is a market-capitalization-weighted benchmark index made up of the 1,000 highest-ranking U.S. stocks in the Russell 3000; (D) The FTSE RAFI™ 1500 comprises the 1001st to 1500th largest companies selected and weighted using our Fundamental Index methodology; (E) The Russell 2000 is a market-capitalization weighted benchmark index made up of the 2,000 smallest U.S. companies in the Russell 3000; (F) The FTSE RAFI™ Developed ex US 1000 Index comprises the largest 1000 non US-listed companies by fundamental value, selected from the constituents of the FTSE Developed ex US Index; (G) MSCI EAFE (Morgan Stanley Capital International Europe, Australasia, Far East) is an unmanaged index of issuers in countries of Europe, Australia, and the Far East represented in U.S. dollars; and (H) The FTSE All World ex-US Index comprises Large and Mid-Cap stocks providing coverage of Developed and Emerging Markets excluding the United States. It is not possible to invest directly in any of the indexes above.

*In November 2008 performance returns for all prior periods were restated to reflect a change in calculation methodology from using a 365 day period to annualize returns to a return calculation based on using monthly returns as of the last business day of each month to create a geometric return for each period.

Source: Based on price data from Bloomberg.

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