



Index Fund Strategies

ASSET CLASS

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

Index Returns

| | 1997 | 1998 | 1999 | Last 7 yrs. | 6/21 2000 |
|---------------------|-------|-------|------|-------------|-----------|
| Bonds | | | | | |
| Short-term | 6.0 | 5.7 | 4.6 | 5.3 | + 4.0 |
| Intermediate | 9.2 | 10.5 | -3.6 | 6.0 | + 5.5 |
| Long-term | 14.3 | 12.0 | -7.9 | 7.4 | + 9.8 |
| Global | 8.3 | 8.4 | 3.7 | 7.6 | + 3.5 |
| U.S. stocks | | | | | |
| Large Market | 33.2 | 28.7 | 20.8 | 21.3 | + 2.6 |
| Large Value | 28.1 | 12.0 | 4.8 | 16.3 | + 2.2 |
| Small Market | 22.8 | -7.3 | 29.8 | 16.5 | + 11.3 |
| Small Value | 30.7 | -7.3 | 13.1 | 15.6 | + 10.3 |
| Real estate | 19.3 | -15.4 | -2.0 | 6.7 | + 22.6 |
| Int'l stocks | | | | | |
| Large Market | 5.5 | 18.2 | 28.5 | 14.3 | - 7.8 |
| Large Value | -3.1 | 14.9 | 16.3 | 13.9 | + 0.2 |
| Small Market | -23.7 | 8.2 | 21.9 | 6.6 | + 1.9 |
| Small Value | -22.7 | 5.3 | 19.0 | 5.8 | + 1.8 |
| Emerg. Mkts. | -18.9 | -9.4 | 71.7 | 13.0 | - 17.6 |

Descriptions of Indexes

| | |
|--------------------|---------------------------------|
| Short-term bonds | DFA One-Year Fixed Income fund |
| Intermediate bonds | DFA Intermed. Gov't 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 US 9-10 fund |
| U.S. Small Value | DFA US 6-10 Value fund |
| Real Estate | DFA Real Estate Securities fund |
| Int'l Large Market | DFA Int'l Large Cap fund |
| Int'l Large Value | DFA Int'l Large Cap Value fund |
| Int'l Small Market | DFA Int'l Small Company fund |
| Int'l Small Value | DFA Int'l Small Cap Value fund |
| Emerging Markets | DFA Emerging Markets fund |

"Last 6 yrs." returns for U.S. Large Value (3/93), U.S. Small Value (3/93), Int'l Large Value (3/93), Int'l Small Market (10/96), Int'l Small Value (1/95), and Emerging Markets (5/94) include simulated data prior to fund inception (in parentheses).

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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Markets Update Wednesday, August 23, 2000

Since our last newsletter in June, the U.S. markets have been on a roller coaster ride, with only the small cap and real estate (REIT) sectors showing any real upward progress. Bonds continue to provide the steadiest returns this year.

The bloom has definitely fallen off the Internet stocks—at least for now—with most of the indexes tracking the sector down as much as 40% since March. Many Internet companies have folded and many more are on the brink. As you would expect, new web sites (at least one with a name I won't repeat) have been created to track/mock the excesses and subsequent decline of once-highflying Internet-related firms. Diversification *within* the sector has not helped investors weather this storm and too many investors have realized the negative effect of portfolio concentration.

The New Indexing

Eugene Fama, Jr., Dimensional Fund Advisors



Old school indexers claim the market portfolio is the only legitimate stock investment. Tilting a portfolio toward a particular piece of the market like small company stocks or value stocks is seen as stock picking, which in turn is seen as gambling (see 6/20/00 *Wall Street Journal* article by Jonathan Clements: "Don't Use Index Funds as Sector Bets").

I agree that stock picking is gambling. I don't agree that the only legitimate indexing approach is holding the market portfolio. That view persists by the intellectual equivalent of squatters' rights. Since the earliest passive portfolios were based on the broad U.S. market, traditional indexers tend to think any approach besides the market portfolio is closet stock picking (Clements compares an indexer who tilts towards small cap or value stocks with a teetotaler who sneaks lite beers). The reality is that most of the old indexing approaches fall short of replicating the market by making a concession here or there to accommodate consumer preferences and costs.

More importantly, in the absence of a unifying economic risk-return story across all stocks, the market itself is another arbitrary portfolio. It gives a heavy weighting to financially healthy stocks and a light weighting to distressed stocks. Don't get me wrong: it's hard to fault a market index approach. It's better than the vast majority of managed funds, and most investors should require a good reason to invest in something other than the broad market. But if there's more than one type of risk driving returns, it's possible for investors to use a wider range of strategies to gain greater expected returns - all within the bounds of indexing.

The argument for holding a value-weighted portfolio of all stocks springs

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from the traditional market (or beta) model of stocks returns. That model is built on the truism that risk and return are related: you can't get extra return without taking extra risk. The beta model assumes that the only risk truly related to returns is market risk. Each stock carries its own piece of the market's risk and each stock's expected return is proportionate to its volatility relative to the entire market. Since no single stock or "sector" has a greater expected return than the market without being that much riskier, no single stock or sector deserves to be held in an excess weight. In such a world the rational indexer will hold every stock in its market proportion. That's the most diversified portfolio.

There aren't many publicly available funds that actually hold every stock. There are thousands of tiny stocks at the smaller end of the spectrum that are costly to trade. Mutual funds tend to sample from these stocks, buying only some of the names until they have a portfolio that looks and hopefully behaves like that segment of the stock universe. Since the universe of these tiny stocks totals less than 2% of the market, such a practice is hardly egregious, but it can cause portfolio performance to deviate from the index during small-stock bull markets. It also demonstrates that even pure indexers don't mimic the market regardless of costs.

More interesting is when old-fashioned indexers advocate putting lighter-than-market proportions of money into international stocks. Clements recommends 25% when the actual non-U.S. stock universe is more like 60% of world markets. If you really believed in indexing every publicly traded security in proportion, you'd invest 60% of your assets overseas. Most indexers only want to mimic markets within countries, but not across countries - which is reasonable. Unless there's evidence of a common engine driving expected returns for stocks across all countries, there's no obvious reason to hold them in market proportions. Markets are not unified around the world (as Japanese investors witnessing the recent U.S. bull markets can attest), so it makes sense for different investors to have different exposures to overseas indexes.

The same logic works within the U.S. market. Suppose market volatility is only one of several factors that drives U.S. portfolio returns. In such a world the market would no longer be the only legitimate indexing solution. Academic research over the last ten years by Eugene Fama and Ken French,

among others, suggests that this is in fact the case. Market risk is only one of three distinct risk factors in stock investing. Small company stocks expose investors to a completely different form of volatility. Distressed stocks with poor earnings prospects, usually mislabeled "value" stocks, also have unique risk-return characteristics. Each of these three risk "flavors" is unrelated to the others. Small stocks can do well when the overall market does poorly and value stocks can have dreadful returns when small stocks do well, and so on. Yet each of the three risk factors has as much potential for increasing investment returns (the extra return expected for taking each of these risks is about 5% per year on average).

That's why it's reasonable, as in the international case, to consider indexing a portfolio with other-than-market weights. Large growth stocks, especially in the wake of the recent boom, dominate the market. If this situation reverts, the market portfolio might not be diversified enough into small cap and value sectors to suit many investors. It's a question of preference. If you work at a large growth company like, say, Cisco, you may want to diversify your career exposure with the stocks of small value stocks. If you work at some dinosaur value company, you might similarly opt for less than the market share of value stocks. Managing factors this way is a technological advancement over the market portfolio.

In the presence of more than one risk factor, the goal of indexing switches from diversification across the available stocks to diversification across the available risk-return dimensions. This might seem like "sector betting" to traditional indexers like Vanguard founder John Bogle, who still believe that market risk primarily determines performance and that small stocks and value stocks aren't separate sources of risk and return. The academic community is arriving at a different consensus, one that recognizes multiple independent risks. Investors might even have natural combinations of the different risk exposures that best suit their individual time horizons and preferences. As long as the portfolios they use to gain these exposures are index funds, and as long as the exposures are consistent and not timed to predict markets, this sort of portfolio structuring is not a "sector bet" - it's the new face of indexing.

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