The Hidden Costs of Indexing

MORNINGSTAR

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On Jan. 26, 2010, Standard & Poor's announced that Berkshire Hathaway would be joining the S&P 500. A curious thing happened: Berkshire's stock rocketed to around $76 from $68 in a few short days, a nearly 12% rise. Did S&P's pronouncement increase Berkshire's intrinsic value by 12%? Warren Buffett would say no.

What changed was that now everyone knew a chunk of the one-trillion-plus dollars indexed to the S&P 500 would move in lock step to buy Berkshire stock on Feb. 12. Naturally, hedge funds and traders rushed to buy the stock before the inclusion date. When the day rolled around, the index funds obeyed their mandates and bought more than $20 billion worth of Berkshire Hathaway stock at a 12% premium. It was a $2 billion payday on the index investor's dime.

Market events like Berkshire's inclusion happen regularly with indexes. To add insult to injury, the same mechanisms that drive up stocks before they're bought by index funds drive stocks down before the funds sell them. Index investors lose, market-makers and hedge funds win. It's a well-established but poorly known phenomenon called index turnover cost. Any index with enough assets following it will suffer from the effect to some degree. Not much has been made of it because it's hard to measure just exactly how much indexers are losing. A recently published study by New York University professor Antti Petajisto provided some cold, hard numbers.

Index Turnover Costs

Petajisto estimated that from 1990 to 2005 the annual turnover drag for the small-cap Russell 2000 was at least 0.38%-0.77% and for the S&P 500 at least 0.21%-0.28%. Researchers Honghui Chen, Gregory Noronha, and Vijay Singal in a 2005 paper estimated the cost of index turnover drag at 1.30%-1.84% for the Russell 2000 and at around 0.03%-0.12% for the S&P 500. These figures imply that index funds that don't slavishly follow the index can beat their benchmarks by avoiding the price pressure surrounding index additions and deletions. It's one of those rare free lunches in investing.

Before you dismiss the free lunch as too meager, consider that an investment losing 0.30 percentage points off a 9% annual return ends up with 8% less after 30 years. The same investment losing 2 percentage points annually gives up an incredible 47% of the total return at the end.

Testing the Results

In the spirit of scientific verification, we ran a crude check on the researchers' results. Before I delve into the specifics, let's go over some jargon. Alpha is the portion of a strategy's return that can't be explained by market factors--hence, it's also called abnormal return. So far, researchers have identified four big market factors that explain most of a strategy's returns: market risk, size, value, and momentum. When you control for them, the leftover return is alpha, which can be interpreted as the value a strategy adds (or subtracts). If the researchers were wrong, we'd expect abnormal return to be indistinguishable from zero, particularly for the Russell 2000.

We looked at the large, small, and total U.S. stock indexes from six major index families: Dow Jones, Morningstar, MSCI, Russell, S&P, and Wilshire. None of them had abnormal returns distinguishable from zero except for the Russell 2000 and the Morningstar Small Cap indexes. Russell 2000 had a monthly abnormal return of negative 0.33% from 1992 to 2010. That's a big loss for an index. Morningstar's small-cap index suffered a negative 0.17% monthly drag. Morningstar small-cap index's negative alpha is likely due to the fact that it trades some of the same stocks within a week of Russell's trades or sometimes on the same day. Not surprisingly, the S&P 500 didn't show a negative abnormal return; the tests we ran were too coarse to detect the small turnover costs the researchers found.

Avoiding the Worst of It

The market is rapidly changing, with new indexes covering new markets. Investors shouldn't assume that index creators are overly concerned about index turnover cost. In fact, the providers would be fools to bring attention to it. They want as much money tracking their indexes as possible. Investors, therefore, should be forearmed with knowledge of index qualities that potentially signal turnover drag. The big red flags follow:

1. Lots of assets tracking the index. This is the big one. If you have more than a trillion dollars marching in lock step, as the S&P 500 does, price impact is a fact of life.

2. High index turnover. Price impact matters less if your index is making infrequent changes.

3. Illiquid underlying holdings. Microcaps and small emerging-markets stocks are among the hardest-to-trade holdings. The less liquid a holding, the bigger the price impact of a trade.

Investors can sidestep the entire issue by holding a total stock market index. Or, if you're already holding an index but don't want to sell it, buy a complementing index to recreate the total market. For S&P 500 investors, the Vanguard Extended Market Index comes in two affordable flavors: the exchange-traded fund (NYSEArca:VXF - News) with an expense ratio of 0.13% and the mutual fund (NASDAQ:VEXMX - News) at 0.30%. Russell 2000 investors probably already have large-cap exposure, so complementing their holding with the large-cap Russell 1000 would lead to double exposure. They should stop adding to the overcrowded Russell 2000 Index and gain small- and micro-cap exposure through a less-trafficked index. Even better would be to avoid small- and micro-cap stock indexes and use funds like DFA U.S. Small Cap (NASDAQ:DFSTX - News) or DFA U.S. Micro Cap (NASDAQ:DFSCX - News). DFA funds are passively managed but do not rigidly follow indexes, sidestepping the market-impact cost inherent in indexes.

Don't go rushing off to dump your index funds yet. The tax consequences can eliminate all the future savings and more. Also keep in mind that less-followed ETFs can have wider bid-ask spreads; frequent traders may end up paying more in trading costs than any savings. Small funds also face higher prospects of untimely closure and lack of liquidity.

Critics of indexing shouldn't feel smug about these results. If anything, they strengthen the case for indexing. Managers more often than not fail to beat the S&P 500 and the Russell 2000. When you add back in the handicap that the indexes suffer, active managers look even worse. For example, as of Oct. 18, 2010, of the 66 actively managed small-cap mutual funds in the Small Core Morningstar Institutional Category, only 32 beat the Russell 2000 over one year. However, if the Russell has a turnover drag of 0.50%, only 24 of the funds actually beat the unhandicapped index. This isn't even accounting for the additional risk the funds took over the index.

Index investors pay a price for comfort and familiarity, but oftentimes it pays to trod off the beaten path and seek unloved, unused indexes.

Samuel Lee does not own shares in any of the securities mentioned above.