Making Sense of Benchmarks

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Choosing index benchmarks is a complex decision. Some aspects are obvious: Don’t use an index covering European stocks to benchmark a portfolio of Japanese investments. Other aspects are more subtle: Must the stocks be weighted by market value? Does liquidity matter? What about the way the index publisher announces changes? What does it mean when the index is called a benchmark or investable? Or both?

The choices used to be simple. For U.S. stocks there was the Dow Jones Industrial Average and the S&P 500, and for foreign investments there was MSCI’s EAFE. Today there are almost too many indexes to count.

This article focuses on what it means for an index to be a benchmark. I’ll describe how stocks in an index are weighted, how they are chosen, and whether some of the index provider’s policies or procedures may matter to an investment consultant. While the discussion deals with equity indexes and is written from a U.S. perspective, the comments apply to non-U.S. equity markets and, with a few changes, to nonequity markets.

The consultant should make the choice of an index to gauge an investment manager’s performance. Obviously some indexes are easier to beat than others. Moreover, the index’s coverage should match the manager’s universe or investment mandate and the index must be a fair test of the manager’s investment skill and acumen. Choosing an index because it seems easy to understand or the data are free on the Web may not be the best course.

Investable Indexes Defined
An investable index has the following characteristics:

- The stocks are liquid and accessible.
- Data are available that let a manager hold all the stocks in the same proportion as the index and make timely necessary trades to achieve the same return and risk results that the index provider calculates and publishes.

The alternative to an investable index is a benchmark index, which describes the results in a market although there is no assurance anyone actually got those returns.


The S&P 500 is investable as demonstrated by the results achieved by Vanguard’s S&P 500 Fund or the two exchange-traded funds (ETFs) SPDR and iShares, all of which track the S&P 500. These come within a few basis points of the S&P 500’s results as published by Standard & Poor’s.1 Each is a full replicator and holds all 500 stocks.

The S&P/CITIC China A Shares 300 is a widely used benchmark for investment in Chinese A shares. However, only residents of China may hold class A shares, so this index isn’t investable for a non-Chinese investor or investment manager.

The China A Shares is an extreme example, but the concept holds up in other cases. Even large-scale investment management firms specializing in passive or index portfolios do not routinely hold all the stock portfolios that track small or micro-cap U.S. stocks or funds that track stocks in multiple markets or countries. Examples of index investments where few if any managers hold all the stocks in the index-mandated proportions include funds tracking the Wilshire 5000, S&P’s Total Market Index, MSCI’s EAFE, and S&P’s S&P/Citigroup Global Equity Index. The last covers some 11,000 stocks in more than 50 countries. These indexes all are benchmarks.

Whether or not an index is investable is not necessarily black and white. Ownership restrictions like those for China A shares will make an index uninvestable. Or trading may be very costly, or some stocks may have very little float and are not readily available. At the investable end of the range, few indexes are like the S&P 500, where index funds and ETFs completely replicate the portfolio and there are no constraints on float or liquidity.

When Index Investability Matters
Deciding whether investability matters depends on how the index is being used as well as which markets are involved and how large or dynamic the portfolio is. Indexes are used in three ways: for investment analysis, as a performance measure, and as investments. When compar-
allow portfolio managers time for trading? Similarly, the prices used in the index calculations and adjustments should reflect actual trades.

For investment products such as ETFs, futures, or options, the investability of an index should be beyond debate. These products all assume that the index is investable for the markets to work as intended. Markets keep the prices of ETFs very close to their net asset values (NAVs) through an arbitrage mechanism that allows the ETF manager to create or redeem shares by exchanging ETF shares for the underlying portfolio. If the index (which the ETF tracks) is not investable, this arbitrage will fail and the spread between prices and NAV will widen. There are some questions with ETFs that cover various markets or where the ETF trades in different hours than the markets tracked by the underlying index. Futures and options are settled based on the cash market value of the index portfolio. If this value cannot be realized by an actual portfolio, investors may not trust and probably won’t be willing to hold the futures or options contracts.

Investability of the underlying index matters in other investment products as well. A broad range of structured products promise investors returns based on the performance of an index. Many of these are not traded on an open market where arbitrage without limits is essential to the products. Instead, the product issuer relies on its ability to hedge certain positions to avoid undue risks. One example is investment in the BRIC countries—Brazil, Russia, India, and China. BRIC is a popular buzz word and indexes designed to track the BRIC equity markets abound. S&P’s BRIC 40 Index, with a somewhat unusual design, has proven to be a stand-out success with more than $1.2 billion in assets tracking it. The S&P BRIC 40 includes stocks that are listed and trading in New York, London, or Hong Kong only, excluding the home markets of all four of the BRIC countries. Trading is less expensive, more efficient, and easier in the developed markets used in the index than in some of the BRIC home markets. A structured product issuer can hedge his position if the S&P BRIC 40 is the underlying index, while he might not be able establish a hedge in a BRIC index using the home country markets.

Deciding If an Index Is Investable

There are empirical and theoretical approaches to deciding if an index is investable. The empirical depends on examining investments that replicate the index while the theoretical depends on a review of index rules and procedures. Each leaves some room for judgment or debate.

The example of the S&P 500 as an investable index was an empirical test of investability—the performance difference between the S&P 500 and ETFs or funds that track it is very small for some large funds. Exactly what is “very small” may be open to debate. It could be a statistically insignificant amount when compared with the index or fund annual total return and an economically insignificant amount given the size of the portfolio. While the investment return net of expenses is the statistic that most people will focus upon, perhaps other measures such as volatility should be considered. Derivatives and some derivative strategies using options may depend on the volatility of an index as well or more than the return. An empirical test of an index’s investability should be straightforward providing there is an investment or fund to provide the data. Using portfolio or trading models to gauge investability if an actual investment isn’t available depends on the reliability of the model.

Investability also can be judged by examining how the index is constructed and managed. The following four aspects or details of index management are crucial to assuring that an index is investable:
Liquidity of the stocks. Adequate liquidity is essential for investability. Liquidity means that the stocks are available for purchase without undue cost or difficulty. An index portfolio manager must be able to buy or sell any of the stocks in the index so he can handle cash inflows and outflows and changes to the index. If 90 percent of a company’s outstanding shares are closely held, chances are it is neither liquid nor easy to buy. Float adjustment—counting only those shares that are readily available by excluding corporate cross-holdings and closely held shares—is standard for most indexes today. However, float adjustment doesn’t guarantee liquidity. Berkshire Hathaway Class A shares trade at a six-figure price and the shareholders are known as long-term buy-and-hold investors. As a result, assembling a significant block of stock could be difficult. Another liquidity factor is the treatment of initial public offerings (IPOs). IPOs may include restrictions on insider sales or other lock-ins that reduce liquidity for long periods after the offering.

Discussions of liquidity tend to focus on stocks being added to an index. However, bigger difficulties may arise when a fund manager is handling a large cash inflow or outflow and must trade all the stocks including some small or less liquid issues.

Weighting of stocks. The way stocks are weighted in an index recently has been a source of discussion focusing on returns and costs. For investability the question is whether the stock-weighting rules and adjustments make it difficult to keep a portfolio aligned with the index. Market-cap weighted indexes do not require periodic rebalancing to keep weights aligned and usually are easier to track than equal or fundamentally weighted portfolios where periodic adjustments are needed. In any index, there are adjustments for adding stocks, deleting stocks, accounting for share issuances or buy-backs, and/or rebalancing for market moves in non-cap weighted indexes. For all these events the data should be available to index fund managers on a timely basis to allow for trading. Some fund managers choose not to follow the exact schedule published by the index provider in hopes of outperforming the index. There is nothing wrong with this approach, but the results are a reflection of the fund manager’s skill and luck, not the index’s investability.

Pricing. Index levels and returns depend on the stock prices used in calculating the index. Further, when adjustments are made as stocks are added or dropped, the prices used to determine the index divisor affect the index performance and the evaluation of a fund manager. The prices used in index calculation must reflect trades that a fund manager could have made. Until a few years ago, NASDAQ defined the closing price as the last trade “printed” at 4 p.m. It was possible for several large trades to be reported in the seconds leading up to the close and then to see a small 100-share trade at a somewhat different price determine the official close. Moreover, there was no market-on-close facility that allowed an investor to be assured of trading at the closing price. Since indexes typically use closing prices for index calculations, this was a difficulty. Currently NASDAQ uses an improved system that provides for market-on-close. Normally pricing is not a concern, but in some markets at some moments it can be a factor.

Announcements of changes. When adjustments—whether adding a stock or simply updating the number of shares outstanding—are made to an index, investors and fund managers tracking the index need the information on a timely basis. Such information should be made public; changes to indexes are potentially market-moving and the information is “inside information” before release. For investability, timely announcements available to index fund managers are essential. There is some confusion between announcing changes and investors being able to predict the changes. Standard & Poor’s makes public announcements when stocks are added to or dropped from the S&P 500 and S&P’s other indexes. These announcements usually are two to five trading days before the change and never less than one trading day in advance. This assures that index fund managers can execute their trades on a timely basis. In most cases investors and Wall Street analysts do not correctly guess the stocks being added before the announcements. The announcement lead times assure that the indexes are investable and the accuracy of analysts’ guesses is irrelevant. Russell’s indexes, such as the Russell 2000, use a simple ranking to select stocks, making it easy to predict which stocks will be added or dropped in advance of their annual rebalance. The ease of predicting the changes doesn’t make the index more investable; in some years it pushes stock prices higher or lower, affecting the performance of the index.

Conclusion

Indexes are important tools for investment management and analysis. In some situations investability is an essential attribute of an index, and in others it merely is a welcome factor. Understanding when investability matters and how to gauge it can contribute to the overall success of an investment program.

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Endnote
1. The differences reflect timing, trading costs, and revenues from lending stock.