The number on biotech indexes

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Those of us who invest in stocks can repeat the major indexes of market performance in our sleep because they are ubiquitous in the financial media. The S&P, FTSE, CAC, DAX and Nikkei are acronyms known worldwide for their alleged measure of the US, UK, French, German and Japanese stock markets, respectively. So to biotech investors, it would follow that biotech indexes would do the same and help us measure overall biotech stock performance.

Apples and oranges

Not necessarily. If the two best known, Nasdaq Biotechnology Index (NBI) and the AMEX Biotechnology Index (BTK), were indeed indexes of broad biotech stock performance, we would see similar performance over time. Yet for the period since February 12, 2001 to October 5, 2005, when we have data for both, the former reports a disappointing 27% loss and the latter a small 2.4% gain.

How can indexes of the same activity produce such disparate results? Because all indexes use admission criteria that may vary considerably. The biotech indexes differ in definition of biotech, how many companies they include and what weight they assign to each one. Looking more closely, we find that they are far from being broad indicators of worldwide, publicly traded biotech stock activity.

For some, biotech is making and selling drugs only. To others, biotech includes the application of software or other specialized lab equipment to facilitate other companies' drug discovery. These may be distinctions without a difference. What pharmaceutical company today does not employ biotech in any of these forms?

What's more, sample size influences the significance of the result. The BTK contains a mere 17 of the over 500 publicly traded biotechs on US markets, including many companies based throughout the world. It is drug centric, with 15 of 17 companies devoted to developing and marketing drugs. The other two, Invitrogen (Carlsbad, CA, USA; Nasdaq:IVGN) and Affymetrix (Santa Clara, CA,USA; Nasdaq: AFFX), sell research tools and reagents.

Created in 1993, the NBI is not only older but also broader, comprising 154 companies (also as of October 5). With a broader definition of biotech, its portfolio ranges from drugs to databases to software to laboratory equipment. In fact, one might argue that 10% or so of its companies, such as Vivus (Mountain View, CA, USA; Nasdaq:VVUS), are not biotech under any definition except that of their communications departments.

Not all created equal

Equally important as the number and nature of the index's companies is the weighting. To treat each stock as fungible would misstate the economic importance of the smaller versus the larger. More accurate would be to weight the stocks by market capitalization (number of shares outstanding by stock price). This correctly swells the importance of a large capitalization stock like Genentech (S. San Francisco, CA, USA; NYSE:DNA) or Amgen (Thousand Oaks, CA, USA; Nasdaq:AMGN), for whom changes in stock price affect investor wealth far more on average than those of small companies.

The BTK weights its 17 companies, but in a way whose relevance time has mooted. Reflecting investor enthusiasms at the index's 2000 creation, it offers the anachronisms of Celera Genomics (Norwalk, CT, USA; NYSE: CRA) weighted at 5.96% and Human Genome Sciences (Rockville, MD, USA; Nasdaq: HGSI)—a once-hopeful company whose pipeline sadly has run dry—at 3.93%. The heaviest is Protein Design Labs (Fremont, CA, USA; Nasdaq:PDLI) at 7.7%. These three companies' market capitalizations are $850 million, $1.2 billion and $3 billion, yet Amgen's at $94 billion earns it a mere 6.3% weight and Genentech's $88 billion—over 100 times more than Celera's—only 5.29% (as of October 5). Today, the BTK is as useful an indicator of biotech as a buggy whip is of transportation.

Beyond BTK

Another indicator of biotech industry performance, related to the BTK but better, is financial firm Merrill Lynch's Biotech (AMEX:BBH) holding company depositary receipts (HLDRs). HLDRs are neither an index nor an exchange-traded fund; shares represent part ownership in a limited sample of only 18 biotechs—most (but not all) of the same stocks as the BTK—that are weighted by market capitalization. Because Genentech and Amgen comprise the HLDRs lion's share, following the price gives you a better idea of the movement of overall biotech stock wealth. It's up 34% since February 21, 2001, which makes more sense given Amgen's small gain and Genentech's huge rise. Yet with a market cap about the same as Amgen's today, Genentech receives greater weight, so this is not a perfect measure.

Though the NBI employs a 'modified capitalization-weighted methodology,' one large distortion is using only stocks traded on the Nasdaq. This eliminates Genentech, whose shares trade on the New York Stock Exchange, a Nasdaq competitor. The Nasdaq achieved one of its goals though, which was to sell financial products based on the index. Created in 2001, the iShares Nasdaq Biotechnology Index (IBB) is an exchange-traded fund—a fund based on the NBI that trades just like a stock.

No talismans

Just because a financial services company creates a product and calls it something doesn't ensure that it means what the name signifies, or that it means the same thing to one investor as to another. No single biotech index tracks biotech perfectly. Merrill Lynch's Biotech HLDRs best weights biotech by market cap, the NBI is broader but lacks Genentech, and the BTK is useless. The answer? Until something better appears, follow the first two jointly to best track biotech's market progress.

Tom Jacobs is cofounder of Complete Growth Investor (http://www.completegrowth.com), a stock service for individual investors. He cannot give individual investment advice but welcomes your comments at tom@completegrowth.com.