

Are You Using the Right Index?

What You Own Can Make a Difference.

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For years many investors have incorporated indexed investments into their portfolios.

Index funds offer a number of advantages including:

- 1) Simplicity,
- 2) Broad diversification in a sector or asset class, and
- 3) Performance consistency relative to a benchmark.

Index funds are attractive asset allocation tools because they track specific asset classes instead of tracking individual securities like their actively managed counterparts. But the way in which their benchmarks are weighted can have a surprising effect on long-term performance.

MARKET CAP WEIGHTING VS. PRICE WEIGHTING

If you examine popular indexes you will notice that they can be constructed quite differently. When calculating an index, companies must decide how each stock will be weighted.

The most common way to structure an index is to use market-cap weighting. In this scenario, if the market capitalization of a company's stock is \$1,000,000 and the market capitalization of all stocks in the index is \$20,000,000, the stock would then be included as 5% of the index.

Another way to structure an index is through price-weighting. In this case, a stock's price, rather than its market capitalization, determines the weighting percentage. This strategy can help prevent the index from being dragged down by a few poorly performing holdings or subsectors. And by the same principle, price-weighting may limit an index's upside from being fueled solely by a handful of high-flying issues.

With market-cap weighting, the largest companies will consume a greater portion of the index. In a market-cap weighted index there is typically a high concentration in the top ten holdings, which increases the index's potential for volatility. Price weighting tends to lead to a more even distribution among the holdings, which can help reduce volatility down the road.

THE TECH SECTOR EXAMPLE

So how might this weighting apply to a specific sector? Let's examine technology as an example.

The meltdown of technology stocks in 2001 and 2002 left many investors weary of the sector. As tech stocks rebounded, and investors considered shifting dollars back into the sector, they took a smarter, more calculated approach to investing in technology. Now, not only are many investors looking for a vehicle that offers the potential to deliver tech-like returns, they are looking for an investment that seeks to distribute risk more evenly in the event the sector suffers another setback. It makes sense then that investors are looking at technology indexes these days.

As mentioned, price weighted and market-cap weighted indexes can have varying distributions of holdings. Market-cap indexes tend to be heavily concentrated in their top ten issues, while price weighted indexes tend to have a more democratic distribution.

Table 1 shows four popular technology indexes and the weight of their top ten holdings.

You will notice that three of the indexes are market-cap weighted, with their Top 10 Holdings concentrations ranging from 43 – 60%. The price-weighted structure of the NYSE Arca Tech 100 Index, on the other hand, leads to a mere 25% concentration in its top ten holdings.

Table 1

Index	Top 10 Holdings Concentration	Weighting Methodology
NYSE Arca Tech 100	25.46%	price-weighted
Nasdaq 100 Index	42.71%	market-cap
Dow Jones U.S. Tech Sector	58.81%	market-cap
S&P Technology Select Sector	59.74%	market-cap

As of September 30, 2007

Source: Bloomberg Financial Markets

Diversification strategies also vary between indexes. The NYSE Arca Tech 100 Index includes biotechnology and other tech-related health care stocks, electronic toys, and what are typically considered defense stocks, in addition to traditional technology sub-industries. Although technology is the largest industry represented in the Nasdaq 100 Index, this index includes companies from all non-financial sectors. Starbucks Corporation and Bed Bath & Beyond, Inc are among the most noteworthy of its non-technology components. The S&P Technology Select Sector Index included in this analysis was created in a joint venture with Merrill Lynch to serve as the basis for an investment product. Like the Dow Jones U.S. Tech Sector, the S&P Technology Select provides exposure to a broad range of tech-related sub-industries, but its weighting structure has a fairly high concentration of its top 10 holdings.

HOW THE RETURNS STACK UP

In the end, investors want to know how different strategies might affect their returns. If you examine long-term returns for the technology indexes in our example you will notice varying results. Given the history of technology and its relative volatility, it can be useful to examine the returns for individual years. Since each index is constructed differently, by weighting and diversification, this exercise provides an evaluation of performance when an index's "style" is both in and out of favor. In Table 2 you will see annual returns for the technology boom of 1999 and the correction that followed in 2000, 2001, and 2002, as well as the subsequent rebound. The final row shows the value of a hypothetical \$10,000 investment held through the entire period in each index. (*Note: You cannot*

invest directly in an unmanaged index. Past performance is no guarantee of future results. Investment strategies that concentrate in particular market segments or fewer securities tend to increase the total risk of an investment relative to the broader market.)

Table 2

	NYSE Arca Tech 100	Nasdaq 100	Dow Jones U.S. Tech Sector	S&P Tech Select Sector
1999	116.84%	102.10%	83.68%	66.69%
2000	-16.12%	-36.83%	-36.99%	-42.04%
2001	-15.42%	-32.62%	-28.34%	-22.76%
2002	-33.14%	-37.53%	-38.66%	-38.27%
2003	52.62%	49.48%	51.04%	39.49%
2004	12.09%	10.75%	1.76%	5.53%
2005	7.80%	1.90%	3.31%	-0.02%
2006	5.21%	7.31%	10.10%	12.56%
YTD 2007	12.46%	19.43%	16.04%	16.44%
Growth of \$10,000	\$22,444	\$11,618	\$10,322	\$8,885

As of September 30, 2007

Source: Bloomberg Financial Markets

As you look at this chart, you will notice that all four indexes posted hefty gains in 1999, but the market-cap weighted indexes took a greater pounding during the sector's decline and were slower to rebound than their NYSE Arca Tech 100 counterpart. By having higher concentrations in their top ten holdings, these market-cap weighted indexes were more susceptible to the volatility of the sector in general. The price-weighted NYSE Arca Tech 100 had a more even distribution of its holdings, and held up better in the down markets of 2000, 2001 and 2002, helping the index deliver a stronger long-term return over this time period.

What can we learn from all of this? Index funds are not created equal, by design.

Investors can make more informed decisions about investment vehicles that follow indexes by understanding more about the indexes themselves and how they are constructed. Stock weighting is more important than many realize in an index's performance characteristics.

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