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INVITED EDITORIAL COMMENT

Do Index Buyers Make Overvalued Stocks More Overvalued?

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For more than 60 years, the capitalization-weighted market portfolio has been a cornerstone of the modern theory of investing. While taking its place as a cornerstone of investment practice as well, it has been subject to a litany of increasingly strident—and frequently improbable—criticisms, such as the recent Sanford C. Bernstein paper, "The Silent Road to Serfdom: Why Passive Investing Is Worse Than Marxism."[1]

In this article, I want to dispel one commonly voiced myth about indexing—namely, that when investors put their money into broad, market-cap-weighted index funds or ETFs, it has the unintended consequence of increasing the aggregate misvaluation in the market by making overvalued equities more overvalued and undervalued equities more undervalued.[2] For example, Timothy O'Neill, the global co-head of Goldman Sachs' investment-management division, called indexing "a bubble machine" that "guarantees that the most valuable company stays the most valuable, and gets more valuable and keeps going up." (Ledbetter [2016]). It's a good story, but on closer inspection, I don't think it's true.

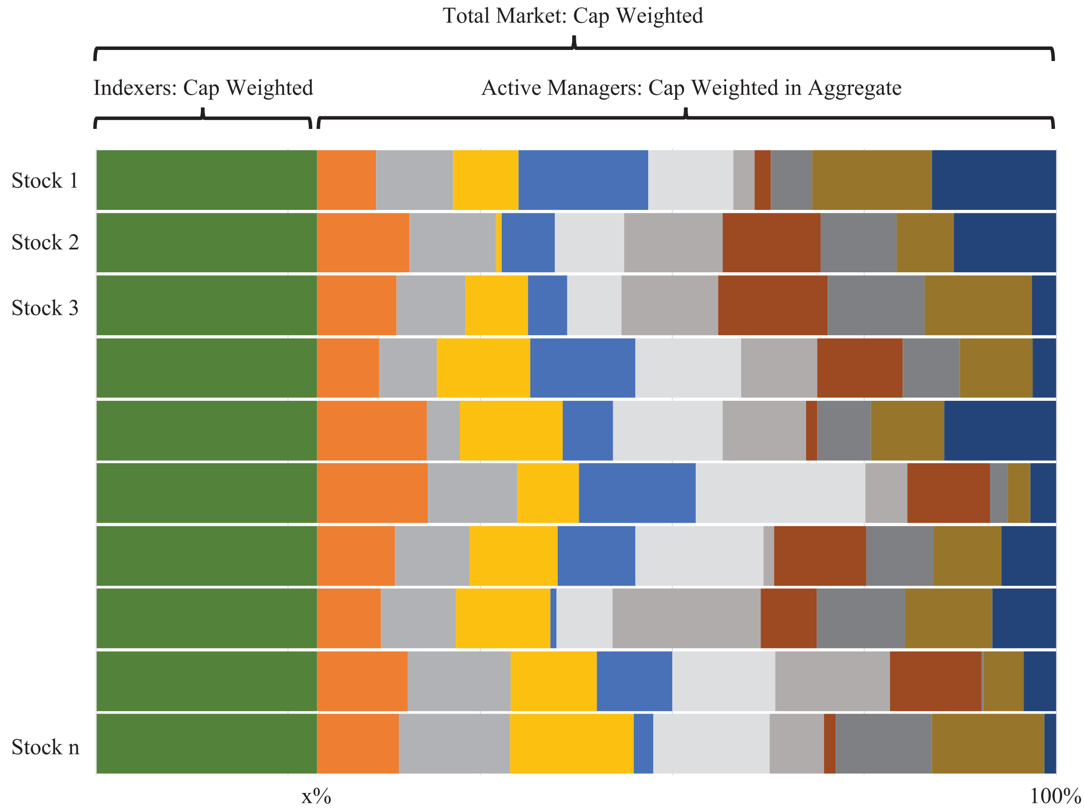
To see why, think of the equity market as being owned by two kinds of investors: (a) market-cap indexers, who own every equity in the market in proportion to its market capitalization, and (b) active managers, who each own a portfolio of equities that matches his or her assessment of which are the best ones to own or avoid. Although each active manager will own a portfolio that diverges from market-cap weights, the holdings of the active managers in aggregate must be in proportion to market-cap weights.

As William Sharpe [1991] explained in his seminal article, "The Arithmetic of Active Management,"[3] the total market portfolio and the portfolio of indexers are both capitalization weighted, and so it is inescapable that active managers collectively have to be capitalization weighted too (see Exhibit 1).[4]

Let's dig deeper into the flows that worry the indexing critics. There are two ways that an investor can buy an index fund: (a) with fresh money, for example, from a paycheck or (b) from the sale of an actively managed holding of equities. In the case of a fresh money purchase, either the seller is an indexer too, in which case the whole index as a package changes hands, or the seller is a collection of active managers who, according to Sharpe's equality, are collectively market-cap weighted. The concern seems to be that the indexer needs to buy five times as much of a stock that has five times the market cap of another stock; but wouldn't our best guess be that a stock that is five times as big as another can absorb five times the buying with the same percentage price impact?

Even if we thought that this flow would systematically push up the price of bigger companies more than that of smaller ones, why should we expect that big companies are systematically more overvalued than small companies? Isn't it more plausible that *some* large companies are overvalued and *some* are undervalued, and likewise for smaller companies? Although it is true that an overvalued company's market value is larger than its

Exhibit 1
Illustrating Sharpe's Equality



fair value, for any given equity we don't know *a priori* whether it is overvalued or undervalued—a subtle but critical distinction.

This reasoning was explained in greater depth by Harvard professor André Perold [2007] in an article defending market-cap-weighted indexing:

> Holding a stock in proportion to its capitalization weight does not change the likelihood that the stock is overvalued or undervalued. The notion that capitalization weighting imposes an intrinsic drag on performance is, accordingly, false.[5]

In other words, there is no passive strategy that is agnostic on individual stock valuation that is better than the broad market-cap portfolio.

Let's turn to the second case—an investor who decides to sell his or her actively managed holdings and move into an index fund. We should only be concerned here if we believe that the investor somehow manages to pull his money from the active managers who hold relatively undervalued equities. Even though all active managers think they own undervalued equities, we've already shown this cannot be the case in aggregate, because active managers as a group can't do anything other than own the market index.

The intransigent critic of indexing might counter that investors who move into an index fund will tend to sell their active holdings that have performed the worst recently, which would have the effect of pushing those stocks down even further. This argument requires us to believe that the active manager who is doing the worst is also somehow most likely to be the best at identifying undervalued equities.

If we believe that investors in actively managed portfolios tend to chase returns (and we do),[6] then the effect of the return chaser moving into an index fund should result in less of the pressure that the critic of indexing is concerned about. This is because the return chaser is doing half the chasing by not buying the actively managed portfolio that has done well recently. Better still, by giving up return chasing to become index investors, they will be less likely to cause misvaluations in the future.

A related, frequently asserted misconception is that "the index universe has become, simply, a big momentum trade."[7] When the price of an equity goes up, market-cap-weighted index investors do not need to buy more of that stock; they own just the right amount. In contrast, as argued by a pair of LSE professors in "Curse of the Benchmarks" (Vayanos and Woolley [2016]), it is active managers who tend to cause momentum in an effort to keep their tracking error relative to their benchmarks within some maximum risk tolerance. The result is that these managers are forced to buy stocks that they are underweight when those stocks outperform their benchmark and to sell stocks that they are overweight when those stocks underperform.

In this article, we have used a simplified representation of the marketplace to explain why the argument that investor flows into broad, market-cap-weighted index funds make misvalued equities more misvalued is not correct. Of course, the real world is not so simple. Investors frequently use index funds and ETFs to get exposure to narrowly defined or poorly constructed indexes. Many investors use index products as part of an active asset allocation approach.[8] These uses of index products are worthy of attention, but they don't turn the fallacy into a truth in the case of broad, market-cap-weighted index funds, which represent the vast majority of index fund and ETF assets.

ENDNOTES

[1]For a critique of the Sanford C. Bernstein article, see "Is Indexing Worse Than Marxism?" by Burton Malkiel (Princeton professor and author of *A Random Walk Down Wall Street*) (*Wall Street Journal*, November 24, 2016, www.wsj.com/articles/is-indexing-worse-than-marxism-1479857852).

[2]In the case of flows into narrowly defined "index" baskets, such as utilities or REITs, as we pointed out in our note "What"s Up with REITs?" (Elm Partners, July 27, 2016, https://www.elmfunds.com/blog/whats-up-with-reits), this may be better thought of as active management rather than broad market-cap indexing; and as with all actively managed investing, it can indeed impact relative valuations. Furthermore, even the broadest public market index cannot cover the private, unquoted markets, and so index flows can cause public markets to become misvalued relative to private markets, but so too would flows into actively managed public equities.

[3]In the article, Sharpe [1991] wrote, "Each passive manager will obtain precisely the market return, before costs. From this, it follows (as the night from the day) that the return on the average actively managed dollar must equal the market return. Why? Because the market return *must* equal a weighted average of the returns on the passive and active segments of the market. If the first two returns are the same, the third must be also."

[4]Lasse Pedersen, in "Sharpening the Arithmetic of Active Management" (2016, SSRN 2849071), argues that Sharpe's equality does not hold in general. In the case of a well-constructed, well-managed index, the effects that Pedersen lists are small enough to ignore for the purpose to which we are applying Sharpe's equality.

[5]Professor Perold was responding to the theory proposed by Robert Arnott (and others, including Jeremy Siegel) that, "No longer must investors suffer a performance drag by settling for an index that inherently overweights every overvalued company and underweights every undervalued one. With due respect to the pioneers in finance theory and the cap-weighted indexers, there is a better way" (R. Arnott. "Orthodoxy Overwrought," *Institutional Investor*, December 18, 2006).

[6]For a more detailed discussion of return chasing, see our research paper on SSRN 2718428 and our blog post, "Return Chasing Can Be Hazardous to Your Wealth" (Elm Partners, January 26, 2016, https://www.elmfunds.com/blog/return-chasing-can-be-hazardous-to-your-wealth).

[7]Steven Bregman, president and co-founder of Horizon Kinetics, an active investment manager, in a presentation titled "Indexation: Capitalist Tool (Delivery Agent of the Great Bubble)," October 2016, www.valuewalk.com/wp-content/uploads/2016/10/Grants-Conference_Oct-4-2016_Steven-Bregman_Final.pdf.

[8]See our recent note on active index investing, "What's All the Hoopla? Passive Indexers Are Still a Rare Breed" (Elm Partners, September 30, 2016, https://www.elmfunds.com/blog/whats-all-the-hoopla-passive-indexers-are-still-a-rare-breed).

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