

Indexing Moves Markets and Creates Inefficiencies



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How can one start a paper on whether indexing moves the market and creates inefficiencies without explaining how the market works in the first place? Stock prices are, for the most part, driven higher or lower by buying and selling activity, respectively, plain and simple.

The market does not discriminate between who is doing the buying and selling, but stock prices are driven accordingly on buying and selling actions, irrespective of whether the buyer is an index fund or an active fund manager, or other.

Stock prices aren't set magically by a wizard behind the curtain. Very simply, imagine a world of 100% indexing. How would prices be driven? By indexers, of course. Any price movement would be index-driven.

Indexing Moves Markets -- It is Not "Passive"

Figure 1: LongFin Corp (LFIN)¹

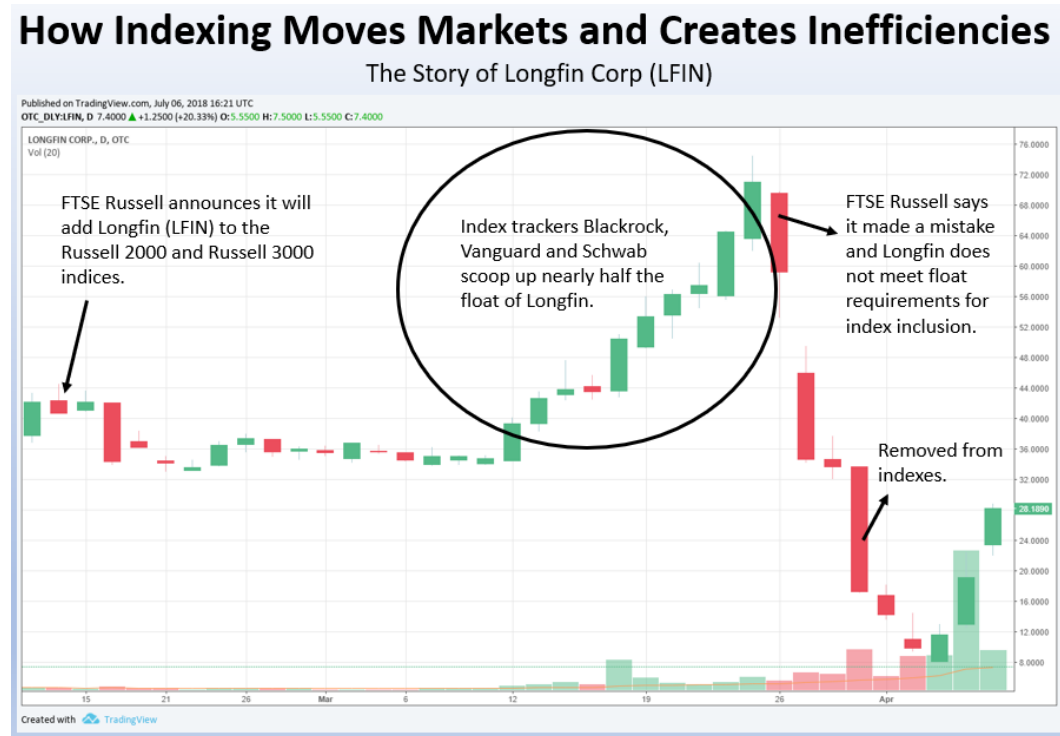


Figure 1 shows how pricing action does not discriminate between the active or index buyer. Indexing drives prices, and indexing activity, itself, can create market inefficiencies, as shown in the Longfin Corp (LFIN) example.

¹ Smith, Peter. "Investors nurse \$10m losses on LongFin index mistake. Financial Times. <https://www.ft.com/content/acb5ddb6-3341-11e8-ac48-10c6fdc22f03>

On February 14, 2018, FTSE Russell announced that it would add Longfin Corp (LFIN) to the Russell 2000 and 3000 indices. The news caused Blackrock and other index trackers to buy nearly half of the freely available float in Longfin, “pushing the shares up from their February low of \$32 to above \$71,” according to the *Financial Times*.

Once FTSE Russell noted they made a mistake, and that Longfin did not meet the 5% free-float requirement to be included in the Russell indices, the stock was removed from the indices after the close March 28, 2018, meaning Blackrock and other index tracking funds, including Vanguard and Charles Schwab, also had to sell their shares at a loss. The idea is not necessarily whether this “mistake” was material to index fund returns, but rather it’s important because it shows directly how indexing impacts pricing, causing inefficiencies.

Though this is an extreme example that shows indexing drives prices and that indexing can create inefficiencies, it is no less important of an example, and perhaps its very existence has significant implications. We hypothesize, for example, that, given this empirical evidence, not only can inefficiencies exist in the marketplace, but that some inefficiencies are driven by index investing, itself, and might be explained, in part, as a function of the company’s weight in the index, and how many shares are required to be owned by index trackers versus the company’s outstanding float. Should the weight of the company in an index cause a large percentage of the float to be purchased by index trackers, there may be greater potential for index-driven inefficiencies over an undefined time period.

Figure 2: Explaining Potential Price Inefficiencies Caused By Indexing

$$\text{Index – driven inefficiencies} = \frac{\text{shares purchased by index trackers to achieve index weight}}{\text{shares in outstanding float}}$$

Figure 2 states that the price inefficiencies caused by indexing are, in part, a function of the shares purchased by index trackers to achieve their respective index weightings and the shares in the outstanding float, where there may exist a positive correlation between index-driven inefficiency and the ratio over an undefined time period.

Understanding the Implications of the Arithmetic of Active Management

In a source customarily used to support index investing, Nobel laureate William F. Sharpe’s work, the Arithmetic of Active Management², says that:

- (1) before costs, the return on the average actively managed dollar will equal the return on the average passively managed dollar and
- (2) after costs, the return on the average actively managed dollar will be less than the return on the average passively managed dollar.

However, the logic is also very useful in explaining why active stock selection remains very important, too. For starters, if one believes in Sharpe’s Arithmetic of Active Management as it relates to the vast \$46 trillion corporate equity market, the very idea “whether including or excluding fees...almost all categories of actively managed domestic equity funds underperformed their respective benchmarks on average over intermediate (five years) and long-term investment horizons (10 and 15 years),”³ means the existence of offsetting outperformance in other segments of the corporate equity market.

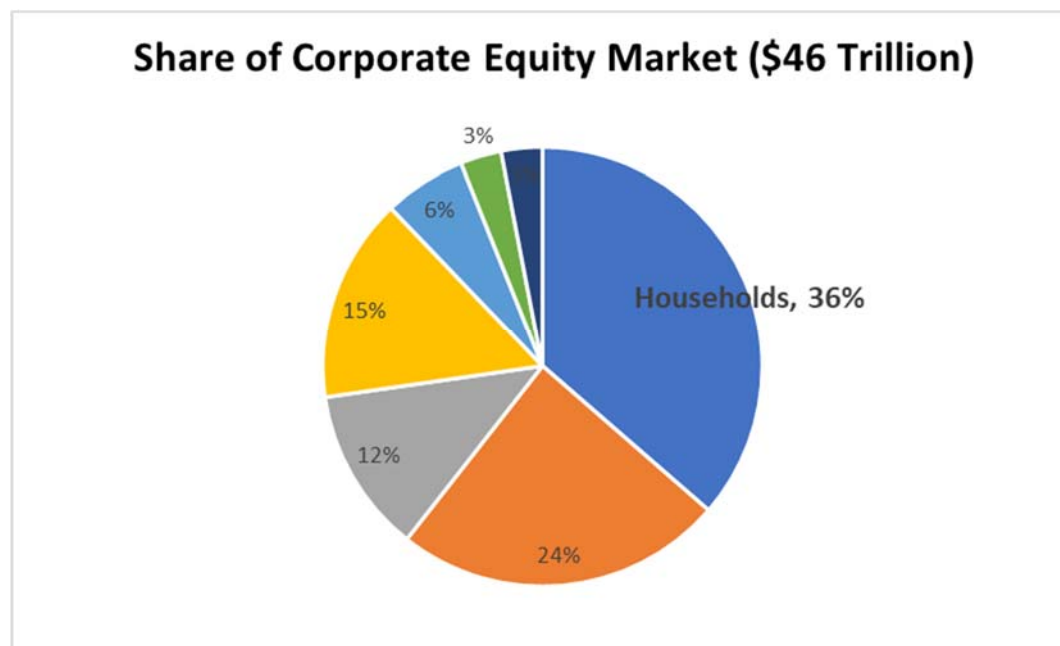
² Sharpe, William F. “The Arithmetic of Active Management.” *Financial Analysts Journal*, January-February 1991.

³ Napach, Bernice, “Don’t Expect Active Funds to Outperform in a Bear Market.” ThinkAdvisor.

<https://www.thinkadvisor.com/2018/07/02/even-on-a-risk-adjusted-basis-active-funds-underper/>

Said differently, mutual funds account for just 24% of the corporate equity market (see Figure 3). A large percentage of active funds underperforming (gross of fees) may only imply that other areas, including the largest segment, of the corporate equity market (households at 36%) may not only be outperforming, but also are free of fund fees, altogether.

Figure 3: Households are the Primary Owners of the Corporate Equity Market



Data Source: Federal Reserve Board, Goldman Sachs Investment Research, MarketWatch⁴

Furthermore, the idea that retail investors individually own smaller chunks of the corporate equity market expands upon the definition of Nelson's Syllogism of the Stock Market⁵ (please read source work for more details), which says that at any time, the number of active investors outperforming can be greater than the number of active investors underperforming, regardless of fees and expenses, each and every year. Said plainly, it's very likely that, if households are outperforming (an offset to active fund underperformance), the number of investors within the household segment may be greater than the number of investors holding underperforming active funds.

Not only do we believe the field of finance cannot conclusively determine the performance of active stock selection on the basis of active fund management alone, which seems to be the primary support for indexing and efficient market theory,⁶ but that counterintuitively, active fund underperformance, on a gross basis, may suggest that stock selection outside of both active *and index funds* (and free of fund fees) may be outperforming. If there are more

⁴ Vlastelica, Ryan (2018). "Goldman blames mom-and-pop investors for volatility in stocks." <https://www.marketwatch.com/amp/story/guid/76120B14-52F3-11E8-8AA1-3C71A5012970>

⁵ Nelson, Brian, Tatiana Dmitrieva, and Kris Rosemann (2017), "Value and Momentum Within Stocks, Too." Study of Individual Time Series of 20,000+ Valuentum Buying Ratings (page 11). https://www.valuentum.com/articles/Value_and_Momentum_Within_Stocks_Too

⁶ Nelson, Brian. "Aiding in Misbehaving." Valuentum Securities. <https://www.valuentum.com/downloads/20180624/download>

investors in the household segment than in any other segment (and households are outperforming), the field of finance could be using active fund underperformance as a reason to stay away from active stock selection when the opposite may very well be true!

The implications of these findings are vast and may serve to largely bring into question whether individuals and advisors that are actively selecting stocks are truly underperforming, as many are led to believe given active fund underperformance. Not only is stock selection free of fund fees, but it also is free from traditional measures of the investor/advisor behavior gap,⁷ which implies further underperformance relative to reported index fund and active fund returns, the latter in most cases already trailing benchmark returns.⁸ Can finance really say definitively that active stock selection is underperforming, or is it really just active fund management underperforming, further exacerbated by mutual fund owners, whether individual or advisor, succumbing to a potential behavioral gap themselves?

Is Advisor “Value-Add” A Misnomer?

Another important takeaway of this analysis brings into question whether currently-available research measuring advisor “alpha” is a fair way to present it to the individual mom-and-pop investor. For example, the term “value-add” might generally be viewed as value added above and beyond what might be considered a plain vanilla strategy that can easily be pursued by individuals such as an index ETF that tracks the S&P 500 (SPY) or a diversified and rebalanced stock/bond portfolio benchmark, a rather straightforward strategy. Under a situation, for example, where a financial advisor may pursue a strategy that on a net basis underperforms a reasonable benchmark (as in the case of indexing), but also where a behavioral gap is present, all before the levying of financial advisor fees, themselves, the term “value-add” may simply be inappropriate in usage.

The comparison may be similar, for example, of an active fund manager saying that his or her fund subjectively adds 300 basis points of outperformance because the team talks to management one-on-one, does its own channel checking, and performs extensive due diligence, all good things that “add value.” In such a case, it would be hard to argue against that subjective viewpoint, but what if the fund is actually trailing its benchmark by 200 basis points? One wouldn’t say the fund is adding 300 basis points of outperformance or net returns? Certainly not. *Under such a presentation, would any active fund be an underperformer?* Does the presentation of “value add” for advisors fall into the same category, given the presence of advisor fees themselves versus plain vanilla advising “benchmarks” and what looks to be documented investor/advisor behavioral gap?

Furthermore, if households, themselves, may be outperforming actively-managed benchmarks, as hypothesized in this paper, what is the appropriate benchmark, for example, to even measure advisor value-add. If the benchmark may be performance relative to a mom-and-pop investor, what if the mom-and-pop investor is actually outperforming, as implied by active fund underperformance? Widely-read opinion, for

⁷ Morningstar’s Annual ‘Mind the Gap’ Study Shows Better Timing and Market Conditions Led to Solid Investor Returns. <https://newsroom.morningstar.com/newsroom/news-archive/press-release-details/2018/Morningstars-Annual-Mind-the-Gap-Study-Shows-Better-Timing-and-Market-Conditions-Led-to-Solid-Investor>Returns/default.aspx>

⁸ Soe, Aye M. and Ryan Poirier, FRM (2017), “SPIVA US Scorecard.” S&P Dow Jones Indices. http://us.spindices.com/documents/spiva/spiva-us-year-end-2016.pdf?force_download=true

example, says “advisors can potentially add ‘about 3%’ in net returns,”⁹ but against what reasonable “advising” benchmark--one that assumes individuals are vastly trailing the market and benchmark “advising portfolio” year after year? If most mom-and-pop individuals are not active investment selectors (e.g. households), they may very well be indexing, implying minimal underperformance, at worst. Is the advisor “value add” measured similarly to if an active fund compared its performance to the worst active fund in its respective category? Almost all active funds would outperform in this comparison.

All things considered, this work is not to say that advisors don’t help and form a vitally important part of the financial community. Many individuals don’t have the time or willingness to deal with their financial lives, and a good financial advisor is there for them. After all, who wouldn’t want to spend as much time with the grandkids as possible, while traveling the world? An advisor can offer that flexibility. However, when it comes to the concept of “value-add,” the idea is usually referenced against some tangible benchmark based on opportunity cost. From where we stand, opinion that states that advisors “add about 3%” in net returns per year, on average, may not be necessarily appropriate, on the basis of the Arithmetic of Active Management, the existence of an investor/advisor behavioral gap on both index and active funds (advisors hold a large part of the fund universe), and financial advisor fees, themselves.

Conclusion

We think the example of Longfin Corp shows definitively that index investing can move markets and can create inefficiencies. In a prior paper¹⁰, we introduced the concept of expectations “errors” as it relates to testing market efficiency, and in this paper, we strive to identify the foundational element that may help explain not only that inefficiencies exist because of index investing, but also the drivers behind such inefficiencies, illustrated as a function of shares purchased by index trackers to achieve the respective index weight as a percentage of the number of shares in the company’s float. It may not be whether indexing moves markets or causes inefficiencies, but rather, how frequently and by how much.

This paper also builds on Nelson’s Syllogism of the Stock Market, in cautioning readers who extrapolate underperforming active funds into underperforming overall active stock selection. It remains very likely that on the basis of underperforming active fund returns, that households or another segment of the vast corporate equity market may be outperforming. The idea that the number of outperforming active investors can still be greater than the number of underperforming active investors, regardless of fund performance distributions, is a core dynamic of the Nelson Syllogism of the Stock Market (for funds), but perhaps even more integral when viewing the vast \$46 trillion corporate equity market in its entirety.

There is no doubt that advisors are an integral part of the investment community and perform a valuable function of the financial system. However, the term “value-add” in the context of advisories may be a misnomer, as even some of the largest money managers say advisor value is “virtually impossible to quantify (footnote 9, page 2).” We continue to

⁹ Vanguard. “Putting a value on your value: Quantifying Vanguard Advisor’s Alpha.”

<https://www.vanguard.com/pdf/ISGQVAA.pdf>

¹⁰ Nelson, Brian. “Aiding in Misbehaving.” Valuentum Securities.

<https://www.valuentum.com/downloads/20180624/download>

believe that systematic transparency with respect to advisory fees and after-fee advisory returns will only help the individual mom-and-pop investor.

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About the Author



Brian Nelson is the president of equity research and ETF analysis at Valuentum Securities. He is the architect behind the company's research methodology and processes, developing the Valuentum Buying Index rating system, the Economic Castle rating, and the Dividend Cushion ratio. Mr. Nelson has acted as editor-in-chief of the firm's Best Ideas Newsletter and Dividend Growth Newsletter since their inception.

Before founding Valuentum Securities in early 2011, Brian

worked as a director at Morningstar, where he was primarily responsible for training and methodology development within the firm's equity and credit research department. Prior to that position, he served as a senior industrials securities analyst covering aerospace, airlines, construction, and environmental services companies.

Before joining Morningstar, Mr. Nelson worked for a small capitalization fund covering a variety of sectors for an aggressive growth investment management firm in Chicago. He holds a Bachelor's degree in finance and a minor in mathematics, magna cum laude, from Benedictine University. Brian has an MBA from the University of Chicago Booth School of Business and also holds the Chartered Financial Analyst (CFA) designation.

Highlights:

Brian is frequently quoted in the media and has been a frequent guest on Nightly Business Report, Bloomberg TV, CNBC, and the MoneyShow.

Mr. Nelson is very experienced valuing equities, developing discounted cash-flow models used to derive the fair value estimates for companies in the equity coverage universes of two independent investment research firms, including Valuentum.

Brian worked on a small cap fund and a micro-cap fund that were ranked within the top 10th percentile and top 1st percentile within the Small Cap Lipper Growth Universe, respectively, in 2005.

Mr. Nelson led the charge in developing Morningstar's issuer credit ratings, creating and rolling-out one of the firm's proprietary credit metrics, the Cash Flow Cushion.

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