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Viewpoint

The Evolution and Success of Index Strategies in ETFs

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Abstract

Taking issue with John Bogle's description of how investors use index strategies that are based on exchange-traded funds (ETFs), I explain why and how ETFs are a significant innovation propelling further growth in indexing with respect to both tactical and strategic investment strategies for institutional and retail investors.

This article is part of the following collection(s):

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Investment pioneer John Bogle recently shared his perspective on the history and success of index funds in a Viewpoint piece in this journal.[1] In the article, he highlights the growth of indexing in the mutual fund arena over four decades: At the end of 2015,

index mutual fund assets totaled $4 trillion, representing some 34% of all mutual fund assets compared with only 4% in 1995. According to Bogle, the fundamental principles of the first index fund were to “buy virtually the entire US stock market and hold it intact ‘forever.’ . . . These simple principles have won the day.”[2]

Bogle emphasizes that the combination of the cost advantages of index management and the inability of stock selection strategies to consistently outperform has been a key component of the growth of index assets as a share of equity mutual fund holdings. But he is disturbed by the fact that exchange-traded funds (ETFs), the fastest-growing form of index product, represent about half of all indexed assets in the United States. He notes that only one-fifth of all equity ETF assets are invested in the S&P 500 Index, with the rest in ETFs benchmarked to MSCI EAFE, MSCI Emerging Markets, country, industry, “smart beta,” leveraged, and theme-based ETFs.

According to Bogle, these ETFs, rather than being held forever, are “traded at a frenzied pace” and are “held largely by financial institutions and mostly used for speculation, hedging, arbitrage, or other short-term purposes.”[3] He complains that the 1,800 ETFs available in the United States (as of the end of 2015) are a betrayal of the original concept of indexing, because they are “less diversified, carry greater risk, and are used largely for rapid-fire trading.”[4] Bogle acknowledges that some investors are using ETFs properly, trading “only moderately and strategically,”[5] but notes that they are the smallest segment of ETF investors. The purpose of this piece is to take issue with Bogle’s description of how investors use ETF-based index strategies and to shed light on why and how ETFs are a significant innovation propelling further growth in indexing.[6]

ETFs Take Indexing to a New Level and Broader Audience

Few would take issue with John Bogle’s argument that a key attribute that led investors to embrace index strategies—lower cost—helped ETFs win the performance game versus discretionary equity strategies of mutual funds that typically burden investors with sizable management and marketing fees. In addition, the concept of owning a market portfolio together with cash or leverage, which was behind the CAPM concepts of William Sharpe, provides a strong intellectual underpinning for having core asset class holdings in index form.[7]

But the other part of the success story of index strategies—their growth in ETF packaging—is not a perversion of the original concept of indexing. Rather, ETFs

represent a product innovation that extends the original concept of index construction to include rules-based managed portfolios that can be bought, held, and traded like stocks. ETFs can be accessed through exchanges and held by the smallest and largest investors for the same management fee. In this sense, ETFs are often said to have democratized investing; the range of investment exposures available in ETF packaging brings to the average investor what was available only to the largest institutions 20 years ago.

ETFs also bring together investors with different motivations and horizons. Holders include long-term investors looking for cheap and efficient ways to build and periodically rebalance a long-term portfolio, as well as shorter-horizon investors who want to adapt their portfolios to changing market views or conditions—including frequent traders who wish to "speculate." Now that ETFs are so large and liquid, institutions are increasing their use of ETFs as an alternative to hiring money managers and to using derivative instruments. In particular, for fixed-income investing, ETFs have revolutionized the investment process. Before the introduction of fixed-income ETFs, index investing was a very small portion of fixed-income mutual funds and institutional assets. Today, bond index investing has grown considerably through investor adoption of fixed-income ETFs that have become an efficient and transparent vehicle for gaining exposure to portfolios of fixed-income securities. The market structure of ETF trading has facilitated advances in price discovery with respect to trading bond portfolios, a process that had been largely hidden to most investors.

The high turnover of ETFs, deemed a negative feature by Bogle, is viewed positively by ETF investors. Whether they wish to trade frequently or infrequently, investors want liquidity and low trading costs when they enter the marketplace. ETFs are traded not only by both short-term and long-term investors but also by ETF desks at "liquidity providers," including broker/dealers and high-frequency-trading firms. These traders are making sure that the ETF price is aligned with the prices of the component securities, after accounting for trading costs. The "frenzied" trading that Bogle observes is partly the process of liquidity provision and market making. Some market participants trade ETFs with respect to the underlying stocks, closely related futures and options, and similar trading vehicles.

Bogle says that his central tenet in creating the first index mutual fund was "strategy follows structure."[8] That is also the central tenet of ETFs: They represent a packaging structure for indexes and other rules-based strategies that can deliver their investment

objectives while allowing holdings transparency on a daily basis. This daily transparency facilitates the creation and redemption process, which, for most ETFs, can be done “in-kind” by the exchange of securities and ETF shares (without having to raise or invest cash), thus reducing the market impact of flows in and out of the fund. The flexibility of the ETF creation and redemption process also allows ETFs to be more tax efficient than mutual funds—an after-tax cost advantage.

A Brief History of Tradable Index Products

The story behind the origin of ETFs offers insights into their success as a product innovation. The creation of the Standard & Poor’s Depositary Receipt (SPDR) on the AMEX in 1993 (ticker symbol: SPY) was partly in response to calls from the SEC for a single product for trading baskets of stocks after the 1987 stock market crash. SPDRs (“Spiders”) were thought to have the potential to reduce the volatility impact on individual stocks from the arbitrage of stock index futures.[9] The SEC white paper published in response to the 1987 market crash called for “the availability of a basket trading on an exchange that would restore program trades to more traditional stock trading techniques.”[10]

Nate Most and Steve Bloom of the American Stock Exchange saw an opportunity to provide all types of investors with access to an S&P 500 exchange-traded product that would trade like a stock at a fee set at the same level as Bogle’s Vanguard index fund. (This account is in contrast to Bogle’s assertion that ETFs were created and “originally designed for stock traders and speculators.”)[11] After four years of SEC review, SPY started trading. James Ross, global head of SPDR ETFs for State Street Global Advisors (SSGA), who was the product manager for SPY in those early days, recalls that there was an awareness from the start that the structure of SPY allowed short-term traders to be in the same fund as long-term buy-and-hold investors. Along with hedge funds and some retail investors, one of the largest early adopters was a major public pension fund from outside the United States.[12]

It is also important to note that well before ETFs came along, product innovation was occurring in tradable index exposure in the derivatives market. If ETFs had not been invented, the use of derivatives for exchange access to index exposure would probably have grown even more. Tradable S&P 500 Index exposure became available via index futures at the Chicago Mercantile Exchange (CME) in 1982, attracting both short-term and long-term traders. But the arbitrage process to keep stock index futures and stock

prices aligned was cumbersome. It involved doing a trade among 500 stocks listed primarily on the NYSE, a specialist structure, in contrast to futures traded in open outcry pits at the CME. Futures also had a different regulatory structure, with daily marking to market, and many mutual funds and pension funds were not authorized to use derivatives at the time. An S&P 500 ETF provided an alternative to futures for long-term investors who preferred the stock format and exchange access, and it also gave more active traders and those who wanted to short stocks a flexible and low-cost tool for their strategies.

Keep in mind that even before the launch of SPY, longer-term index investing through tradable index futures was finding its way into institutional and retail mutual funds. SSGA started the first synthetic commingled fund in 1983; called the Stock Performance Index Futures Fund (SPIFF), it appealed primarily to pensions, which could use it for equitizing cash cheaply and as a way to efficiently maintain their target equity weights. In 1993, PIMCO launched its first equity mutual fund by combining short-term fixed-income investing and S&P 500 Index futures with the goal of outperforming the S&P 500 by capitalizing on (1) the fund's ability to generate superior fixed-income returns relative to the interest rate implied in S&P 500 futures and (2) any cheapness in the S&P 500 futures prices.

The Growth of ETFs' Strategic Applications Reflects Wider Adoption of Indexing

The expansion of ETFs to cover benchmarks from a wide range of broad equity indexes —including country and international indexes, sectors, and industries, along with such factors as momentum, value, and quality—was a natural evolution. This expansion also incorporated ETFs on established benchmarks for other asset classes, such as fixed income, commodities, and currencies. ETF sponsors—including BGI (now BlackRock), SSGA, and Vanguard, which had thriving index fund management businesses geared to institutional investors—looked to expand the success of the ETF concept to other segments of investors' portfolios. Instead of being a perversion of indexing, as Bogle suggests, the growth of ETFs beyond the equity asset class can be seen as a quest by investors to move closer to an index-based global market portfolio of risky assets, consistent with the tenets of modern portfolio theory.

ETFs also became logical choices for investors who wanted to go beyond buy-and-hold investing and apply active management in a top-down fashion in multi-asset-class

portfolios, including tactical/global asset allocation. Before ETFs, investors who wanted to implement a view on overall economic conditions, an asset class, or an industry had only the choice of stocks or bonds traded in less liquid dealer markets; they also had limited tools for overall risk management. New strategies, such as global asset allocation, became more widely adopted, as did hedge fund investing that involved shorting ETFs as a hedge. For institutional investors, especially large public and corporate funds, looking to add to emerging-market equity and commodity exposure, ETFs became the vehicle of choice.

Another factor in the growth of ETFs was the fallout from the two bear equity markets that occurred in the decade of 2000–2009, which contributed to an increase in more dynamic approaches to managing asset classes as a key part of investing. These more volatile market conditions led to an interest in more asset class diversification and dynamic risk management. Today's investors want an element of their portfolio construction to be adaptable to the ever-changing information and risk conditions in financial markets.

Questioning the proliferation of ETFs to cover both broad and narrow segments of financial markets, Bogle expresses concern about their turnover as a sign that they are being used for speculation and market timing. Investor surveys and conversations with investors indicate that although their initial use of ETFs may be for tactical purposes or for areas of the portfolio where liquidity is critical, the typical pattern is for investors to turn to ETFs more for long-term holdings and as a replacement for derivatives.

For several years, Greenwich Associates has conducted a survey of institutional investors on their use of ETFs that sheds light on this question. The most recent survey, conducted in late 2015, was based on interviews of almost 200 corporate and public pension plans, foundations, and endowments, as well as asset managers, insurance companies, registered investment advisers, and investment consultants.[13] Of the survey respondents, 67% were existing ETF investors and 43% were pensions, endowments, and foundations. Across asset managers in the survey, 58% invested more than 10% of fund assets in ETFs or in strategies that used ETFs.

Surveys from several years ago indicated that the top institutional ETF uses were rebalancing to asset class weights and making tactical adjustments; however, the most recent survey shows a significant shift to more strategic uses of ETFs that began several years ago. The most frequently cited reason for using ETFs was for obtaining

core exposures, with 68% of institutional ETF assets categorized as “strategic”—up from 58% two years earlier. This trend is also supported by a finding that 40% of ETF usage was for holding periods of two years or longer and 25% for one to two years. Only 5% of ETF usage was for holding periods of under a month, refuting Bogle’s assertion that institutions primarily use ETFs for speculation. The survey report’s conclusion summarizes the typical pattern of institutional ETF applications:

> Initially using ETFs for simple, tactical tasks, institutions discover that ETFs provide an effective means of obtaining long-term exposures, and over time they integrate the funds more deeply into their investment strategies. Institutions that start using ETFs in equity portfolios find that the funds are equally as useful in fixed income and other asset classes.[14]

This pattern of institutions using ETFs for both tactical and core asset class exposure with index strategies is similar to the way in which financial advisers use ETFs for their retail clients. This finding stands in contrast to Bogle’s statement that “most of today’s 1,800 ETFs are less diversified, carry greater risk, and are used largely for rapid-fire trading—speculation, pure and simple.”[15] Certainly, many applications of the 1,800 ETFs are based on a forecast or view relative to current prices, but that is also true of individual stocks. There is a natural balance between investors who have a bottom-up stock, industry, or thematic view and those who want broad asset class exposure to fulfill a buy-and-hold target allocation or one based on a more top-down view of relative risk and return. For many investors who have short or long investment horizons and who are motivated by dynamic investment views or simply want passive exposure, ETFs are the preferred vehicle as demonstrated by their asset growth and increased adoption.

ETF Turnover

Bogle supports his assertion that ETFs are primarily used for speculation with evidence that the turnover of ETF shares is much higher than that of stocks; he also highlights that across available ETFs, there is a wide range of turnover. Looking at data as of the end of August 2015, he finds an annualized turnover of 859% for his tally of $1.687 trillion of ETF assets of BlackRock, Vanguard, and State Street, which represents some 80% of ETF assets and whose largest products are traditional index strategies. Other sponsors that have ETFs that are used predominantly in active strategies or are based on active views have $134 billion in assets, with turnover averaging around 2,000% a

year. Bogle contrasts this statistic with the 100 largest US stocks, which have a turnover rate of 117%.

If we look more closely at these statistics, we see that the data translate into an average holding period of 30 trading days, or about 1.5 months, for the ETFs of the sponsors with the largest assets and primarily traditional index strategies. That does not sound like speculative, frantic trading, especially when we consider that the volume statistics include the activity of liquidity providers that arbitrage the ETFs with the underlying securities to keep prices in line. Indeed, it seems quite reasonable for a vehicle that is used by a substantial group for rebalancing and cash equalization along with liquidity overlay. Even the trading activity of the “most active ETF sponsors” relative to assets translates into an average holding period of 10 trading days, or two weeks, when dividing dollars of assets by dollars of turnover in Table 2 of Bogle’s article. For tactical strategies implemented with ETFs, a horizon of one to two weeks should not be surprising and can at times probably be even shorter, depending on the volatility of market conditions.

Looking at the 100 largest stocks, a similar calculation shows that their shares outstanding turn over, on average, every 208 trading days, or nine months, a striking contrast with ETFs. But stocks are different in that many shares of public companies are more costly to trade and are held by owner/managers, company founders, or company buyback programs. In addition, even though stock investors hold positions, on average, for longer terms than ETF investors, Bogle and others have shown that bottom-up stock selection has consistently underperformed indexes.

Why Do ETFs Trade More in Volatile Markets?

Concerns have been raised in the financial media about a connection between ETF trading activity and volatility. Although it is hard to assess any cause-and-effect relationship, there is a logical basis for ETF volume to rise with volatility. If we look at markets, both bottom-up and top-down investment strategies drive trading activity and investment decisions, with the primary examples being asset allocation and stock and bond selection by discretionary managers. Over time, the tide ebbs and flows between bottom-up and top-down investors dominating financial markets. Top-down managers tend to trade in order to rebalance to target weights and to invest new cash flows or withdraw for financial obligations. When major new macroeconomic information enters the financial markets, investors often elect to reevaluate their asset allocation as

outlooks and risk tolerances change—which is typically when market turbulence and volatility increase and when ETFs can become a larger part of trading activity.

The footprint of investors who choose to react and trade in response to more volatility and dynamic market conditions shows up in a higher percentage of trading activity in ETFs and futures and relatively less activity in stock investing. Some investors shorten their investment horizons and are more inclined to rebalance their strategies as financial market conditions move front and center, accompanied by a higher rate of macro information flows with greater volatility. Risk preferences may change, resulting in transactions from both risk-averse and opportunistic investors. The portion of equityholders who want to transact may increase sharply in face of this new macro uncertainty.

Other investors, especially those with a more bottom-up orientation, may choose to stay on the sidelines until the outlook becomes clear and more stable. Investors who take a longer view may wish to have more complete information on the impact of new macroeconomic conditions on individual companies before they act. As these more deliberate and patient market participants move to the sidelines during times of uncertainty and turbulence, the marketplace can become dominated by the abundant shorter-horizon “macro” investors looking to reduce their risk profile or to take advantage of opportunities in the marketplace. Their implementation tools of choice are typically the liquid ETFs, the largest stocks, and futures and other derivatives.

Obstacles to ETF and Indexing Growth

Notwithstanding this rosy outlook for the growth of index strategies through ETFs, several key obstacles can slow down their continued adoption. If both large and small investors want to use exchange-traded products as a major part of their investment process, they must be confident that they can rebalance or shift holdings during both normal and turbulent market conditions. Exchange market structures were designed for stock trading, have become very fragmented with greater competition, and are still adapting to changes as they become dominated by electronic trading and discretionary market making. Circuit breaker rules to slow down trading in very volatile market conditions with large order imbalances, built largely to accommodate stock volatility, do not reflect the key elements of support for trading of stock portfolios and index arbitrage with the underlying stocks or with derivatives markets. When a large number of stocks in an ETF are closed for trading, ETF market makers will logically step away

from making quotes for ETFs, reducing liquidity in these products dramatically. With respect to fixed income, volatility, and commodities, the underlying security or derivative trades in a market structure different from that of the ETF, which complicates both the arbitrage process and the price discovery process. Improved coordination is needed for any rules related to closing and reopening products across stock/ETF exchanges as well as futures and options exchanges.

The regulatory structure for ETFs needs to become more integrated and more focused on the product's hybrid features as a tradable fund product. In the United States, most ETFs are regulated by the SEC under both the rules of the Investment Act of 1940 and the rules that apply to primary stock offerings and secondary market exchange-traded securities. But given the importance of ETFs in capital markets and as an asset management product, the time may have come to consider whether using rules designed for stocks and mutual funds is adequate and operationally efficient. Access to efficient and low-cost investment tools is critical to the financial welfare of savers and investors seeking to maximize their retirement income. We need to make sure that regulation provides protection as well as a framework for improving the investment opportunity set for asset allocation and risk management.

Conclusion: The Value Proposition of Index Strategies vs. the Market Index Portfolio

The financial marketplace consists of a diverse set of participants. Some hold positions for seconds and others for years. Some are highly informed, expert institutional investors focused on specific types of investing. Others have a big-picture focus, looking to capture broad trends and risk premiums with index products that meet many of their investing needs. Some direct all their energies to holding the best stocks, whereas others prefer to select asset classes, themes, sectors, or industries. Each type of investor depends on the presence of the others to provide liquidity and to drive prices to appropriate levels.

As Bogle states in his article, the "triumph of indexing" has been demonstrated by both mutual fund and ETF investors around the globe increasingly accepting the value proposition of index strategies. Although the original catalyst for the S&P 500 Index mutual fund was an intellectual argument for holding the broad market portfolio, a major force in the success of indexing has been the superior performance of rules-based, nondiscretionary strategies. Another key contributor to this success has been

the lower relative cost of indexing compared with discretionary strategies as well as, in most cases, greater liquidity and transparency.

The concept of a market portfolio of risky assets is too theoretical to be a viable investment choice because all investors are “local” and have different choice sets in terms of access costs, tax regimes, and availability.[16] Thus, investors are happy to apply the proven concept of indexing whenever feasible, given the liquidity of the underlying securities. We should celebrate this development as the next step in the evolution of the “triumph of indexing” and seek opportunities to increase the use of ETFs in portfolio management and to adapt our exchange structures and regulatory frameworks to accommodate this growth.

I would like to acknowledge the pioneering contribution of John Bogle in translating the call to action by Dr. Paul Samuelson into the 1975 launch of the Vanguard 500 index fund. This fund represents one of the most significant financial innovations of the last 50 years by providing individual investors access to the favorable relative performance of index investing with low fees. I would also like to thank Executive Editor Stephen J. Brown for suggestions on the direction and content of this Viewpoint.

Notes

[1] John C. Bogle, “The Index Mutual Fund: 40 Years of Growth, Change, and Challenge,” Financial Analysts Journal, vol. 72, no. 1 (January/February 2016): 9–13.

[2] Bogle, “The Index Mutual Fund,” 9.

[3] Bogle, “The Index Mutual Fund,” 11, 12.

[4] Bogle, “The Index Mutual Fund,” 13.

[5] Bogle, “The Index Mutual Fund,” 12.

[6] For more information on ETF features and strategies, see Joanne M. Hill, Dave Nadig, and Matt Hougan, A Comprehensive Guide to Exchange-Traded Funds (ETFs) (Charlottesville, VA: CFA Institute Research Foundation, 2015).

[7] William F. Sharpe, “Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk,” Journal of Finance, vol. 19, no. 3 (September 1964): 425–442.

[8] Bogle, “The Index Mutual Fund,” 10.

[9] Eric Balchunas, “The ETF Files: How the U.S. Government Inadvertently Launched a $3 Trillion Industry,” Bloomberg Markets (7 March 2016).

[10] US SEC, The October 1987 Market Break, SEC Division of Market Regulation (February 1988): 18.

[11] Most and Bloom took their idea to Bogle with the intention of using the S&P 500 Vanguard mutual fund as the basis for a basket-trading vehicle but were rebuffed; they then turned to custodian and index manager State Street. For Bogle’s account, see Bogle, “The Index Mutual Fund,” Note 4.

[12] Email from James Ross to Joanne Hill (10 February 2016).

[13] Greenwich Associates, “Institutional Investment in ETFs: Versatility Fuels Growth” (Q1 2016).

[14] Greenwich Associates, “Institutional Investment in ETFs,” 15.

[15] Bogle, “The Index Mutual Fund,” 13.

[16] Joanne M. Hill, “Alpha as a Net Zero-Sum Game,” Journal of Portfolio Management, vol. 32, no. 4 (Summer 2006): 24–32.