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The Fortunes and Foibles of Exchange-Traded Funds: A Positive Market Response to the Problems of Mutual Funds

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THE FORTUNES AND FOIBLES OF
EXCHANGE-TRADED FUNDS: A POSITIVE MARKET RESPONSE
TO THE PROBLEMS OF MUTUAL FUNDS

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ABSTRACT

One of the most dynamic and complex new investment vehicles on the market today is the exchange-traded fund (ETF), a security that provides the diversification of a mutual fund but trades on a securities exchange like a stock. In just fifteen years, the number of ETFs has proliferated to well over 600, attracting more than half a trillion dollars in investment. The majority of that expansion has occurred in just the past two years, largely as a consequence of recent difficulties in the mutual fund industry. With ETF sponsors aggressively seeking to create novel kinds of ETFs and to add ETFs to retirement account menus, these funds are projected to continue growing at a pace far faster than hedge funds and mutual funds in the coming years.

Yet, for all this extraordinary growth, legal scholars have virtually ignored ETFs. This article seeks to establish a descriptive and conceptual framework for the scholarly discussion of these funds as they gain ever-greater prominence, for good or for ill, in the coming years. In exploring the structure, advantages, and shortcomings of ETFs, this article argues that ETFs are a positive market response to the shortcomings of mutual funds.

ETFs use a novel pricing mechanism that harnesses the utility of arbitrage to provide investors with accuracy, efficiency, tax advantages, and a range of investment choices, while insulating investors from many of the structural problems associated with mutual funds. Despite these advantages, critics decry their brokerage fees and vulnerability to harmful short-term trading. This article argues that the mutual fund industry and its recent spate of dramatic scandals contributed to the emergence of ETFs and concludes that mutual funds offer vivid warnings of the conflicts of interest that may come to afflict the ETF industry as it continues to grow.

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"The market for exchange-traded funds will grow at a 29 per cent clip over the next five years—outpacing all other investment products including hedge funds and mutual funds"

David Haywood, Financial Research Corporation¹

"There are 9,000 hedge funds, 8,000 mutual funds, and 500 ETFs. How can there be too many ETFs? We are just at the start"

Jonathan Steinberg, founder and CEO, WisdomTree Investments²

"Many things going on in exchange traded funds are bordering on insanity."

John C. Bogle, founder, Vanguard Group, Inc.³

I. INTRODUCTION

Fifteen years ago, not a single exchange-traded fund (ETF) existed in the United States. Today, well over six hundred do. And from containing nary a penny in investments at the time of their birth in the early 1990s, they now hold assets of more than half a trillion dollars.⁴ More remarkably,

¹Rebecca Knight, *ETFs Forecast to Outpace the Rest of Market*, FIN. TIMES (LONDON), Jan. 2, 2007, at 19 (citing David Haywood, *ETF Trends & Outlook: Strategic Developments for Index, Semi-Active, and Active ETF Solutions*, Aug. 15, 2006, available at http://www.frcnet.com/FreeResearch/FRC/pdf/FRC_Study ETF_Executive%20Summary.pdf).

²Deborah Brewster, *The Wisdom of Innovation*, FIN. TIMES (LONDON), July 23, 2007, at 9 (quoting Jonathan Steinberg).

³John Waggoner, *Great Minds Don't Think Alike About Index Funds*, USA TODAY, Apr. 16, 2007, at 4B (quoting John C. Bogle during an interview).

⁴See Inv. Co. Inst., *Exchange-Traded Fund Assets, December 2007*, Jan. 30, 2008, available at http://www.ici.org/stats/latest/etfs_12_07.html#TopOfPage [hereinafter ICI December 2007 Report]. The combined assets of ETFs crossed the \$500 billion threshold for the first time in August 2007. Compare Inv. Co. Inst., *Exchange-Traded Fund Assets, July 2007*, Aug. 30, 2007, available at http://www.ici.org/stats/etf/etfs_07_07.html#TopOfPage, with Inv. Co. Inst., *Exchange-Traded Fund Assets, August 2007*, Sept. 27, 2007, available at http://www.ici.org/stats/etf/etfs_08_07.html#TopOfPage (showing total assets of ETFs of \$507.112 billion in August 2007 and \$488.827 billion in July 2007).

the vast majority of this explosive growth has occurred in just the past two years, during which time the number of ETFs has more than tripled, from 201 to 629 funds, while their assets have more than doubled, from \$296 billion to \$608 billion.⁵ The rapid rise of ETFs coincides with—and owes much to—the recent difficulties of their related investment instruments and chief competition, mutual funds. Indeed, ETFs are natural successors to mutual funds, and their success is a positive market response to the shortcomings of mutual funds.

The first ETF, created in 1993, was designed to operate very much like a mutual fund, with one critical difference.⁶ Whereas both mutual funds and ETFs provide investors with access to an array of underlying securities through a single investment, mutual funds may be bought and sold at a price calculated just once a day, after the close of business. ETFs, on the other hand, and as their name suggests, can be traded on securities exchanges constantly while their prices are updated every few seconds throughout the business day.⁷ In this respect, the ETF is a sophisticated evolution of the mutual fund.

In order to make possible this novel pricing mechanism, ETF sponsors index their funds to benchmarks—such as the Standard & Poor's 500 Composite Stock Price Index (S&P 500)⁸—so that investors in an ETF can confirm that the price of the fund's shares at any given moment fairly equals the price of all the underlying securities in the fund's portfolio. Because a fund that merely tracks an existing index can be managed largely with algorithms and trading programs, as opposed to human discretion, the cost to run—and, accordingly, the price of investing in—these funds is

⁵See ICI December 2007 Report, *supra* note 4; INV. CO. INST., 2007 MUTUAL FUND FACT BOOK 1, 8 (47th ed. 2007), available at http://www.icifactbook.org/pdf/2007_factbook.pdf [hereinafter ICI FACT BOOK].

⁶Actively Managed Exchange-Traded Funds, Exchange Act Release No. IC-25258, 17 C.F.R. § 270 (Nov. 8, 2001), available at <http://www.sec.gov/rules/concept/ic-25258.htm> (discussing the operations of ETFs) [hereinafter Exchange Act Release].

⁷See, e.g., Standard & Poor's Depository Receipts (SPDRs) SPDR Trust, Series 1, Prospectus, at 2-5 (Jan. 26, 2007), available at https://www.ssgafunds.com/fund_doc/fund_doc_20060523_174046/SPDR_PROSPECTUS_2007.pdf [hereinafter SPDR Prospectus] (explaining the precise dynamics of the SPDR Trust, including a description of how SPDR shares are designed to track the value of stocks in the S&P 500 Index and are "listed for trading on the American Stock Exchange," and explaining that "[t]he Trust issues and redeems SPDRs only in specified large lots of 50,000 SPDRs or multiples thereof referred to as 'Creation Units'"); see also John Kimelman, *Fresh Pricing Is a Draw for Exchange-Traded Funds*, N.Y. TIMES, Nov. 9, 2003, at 6. "Exchange-traded funds can be traded throughout the day at constantly updated prices, a feature that may have particular appeal to investors who are troubled by the trading practices at many mutual funds." See Kimelman, at 6.

⁸See SPDR Prospectus, *supra* note 7, at 2-5.

often quite low. Intraday trading and cheap prices are just two of the appealing features of ETFs and account for the healthy, if unremarkable, growth of ETFs in their first decade of existence.

In recent years, however, ETFs have enjoyed more explosive growth thanks to the fact that ETFs are, by design, immune from many of the vulnerabilities of mutual funds.⁹ ETFs began to soar following the mutual fund industry's recent unpleasantness, beginning in September 2003, with widespread regulatory investigations into questionable practices such as market timing, late trading, front running, unfair valuation, and so forth.¹⁰ Although the mutual fund industry as a whole remains much larger than the ETF industry, ETFs are growing at a far faster pace.¹¹ The continued development of ETFs will very much be a story of whether they successfully improve upon the performance, integrity, and popularity of mutual funds as both sets of funds compete for lucrative new sources of investment from a common pool of investors.

Also fueling the boom of ETFs are several prominent financial economists who endorse the use of these funds and, in some cases, hold senior management positions with leading ETF sponsors.¹² For instance, Robert Shiller, author of *Irrational Exuberance*, is a backer of the fund sponsor, Claymore MACROShares.¹³ His colleague at Yale University, David Swensen, who oversees the University's outperforming endowment, encourages the use of ETFs in his book, *Unconventional Success*.¹⁴ Jeremy Siegel, a professor at the Wharton School of Business and the author of *Stocks for the Long Run*, is an adviser to WisdomTree, an especially innovative ETF sponsor.¹⁵ Burton Malkiel, the Princeton University economics professor and author of the bestseller, *A Random Walk Down Wall Street*, is also an enthusiast of ETFs.¹⁶ The support and zeal of such

⁹See Exchange Act Release, *supra* note 6, pt. II.C.

¹⁰See, e.g., ICI FACT BOOK, *supra* note 5, at 8; Mark Hulbert, *Why Mutual Funds Can't Keep Prices Fresh*, N.Y. TIMES, Feb. 8, 2004, at 7; Kimelman, *supra* note 7, at 6.

¹¹See ICI FACT BOOK, *supra* note 5, at 10; ICI December 2007 Report, *supra* note 4.

¹²See, e.g., John Authers, *Exchange-Traded Funds Could Prove the Investment of Choice, Unless Simplicity is Abandoned in the Race for Innovation*, FIN. TIMES (LONDON), Dec. 11, 2006, at 24.

¹³*Id.*; see also Press Release, *Claymore MACROShares: A New Oil Investment Opportunity* (Nov. 30, 2006), available at http://www.macromarkets.com/recent_news/articles/2006/11302006_CMshares.pdf (explaining Shiller's role as the architect of Claymore MACROShares).

¹⁴DAVID SWENSEN, *UNCONVENTIONAL SUCCESS* 206, 336-37 (2005).

¹⁵See Authers, *supra* note 12, at 24.

¹⁶See John Authers, *Index Prophets Part Ways on ETFs*, FIN. TIMES (LONDON), July 3, 2007, at 12. Professor Malkiel remarks that he is a proponent of ETFs: "I've been a fan of index funds since before index funds existed, so how could I not like ETFs?" *Id.* (quoting Professor Malkiel).

well-known financial experts have certainly encouraged the astonishing influx of both institutional and retail investment in ETFs.

By many accounts, the flow of assets into ETFs is projected to continue rising—to more than \$2 trillion—in the next few years.¹⁷ That forecast may increase dramatically, however, if ETF sponsors accomplish two of the industry's largest goals. First, sponsors are attempting to persuade the Securities and Exchange Commission (SEC) to approve several currently pending applications for a new species of actively managed ETF.¹⁸ If, as has already begun to happen, the SEC does so, actively managed versions of these funds could vault in popularity to challenge the hegemony of the \$12 trillion mutual fund industry.¹⁹ Second, if ETF sponsors can convince administrators of 401(k) and other retirement accounts—which hold savings of \$2.5 trillion²⁰—to adopt widespread use of ETFs in their menu of investment options, as is also beginning to occur already,²¹ these innovative investment vehicles may experience additional, truly phenomenal expansion.²² Of course, with any success that fund sponsors enjoy in increasing their assets under management, any perils or shortcomings of these relatively untested investment funds will be magnified commensu-rately.

When, from time to time, novel streams of financial speculation—such as mutual funds, venture capital funds, private equity funds, and hedge funds—branch off the enormous river of U.S. investment capital, these new courses can take several decades to swell with popularity and establish a recognized path. The speed and violence with which ETFs have burst forth, however, threatens an entirely new wave of unpredictability and volatility. Not every respected authority on investment funds finds this rapid emergence of ETFs encouraging. John Bogle, who founded Vanguard and pioneered the use of index funds, for example, is a strenuous detractor.²³

¹⁷Julie Segal, *Piggybacking on the ETF Boom*, INSTITUTIONAL INVESTOR, Aug. 2007, at 77.

¹⁸*Id.*

¹⁹See John Waggoner, *A Half-Hidden Manager*, USA TODAY, May 31, 2007, at 3B ("An ETF managed by Legg Mason's superstar Bill Miller or Fidelity's Will Danoff, for example, might become an instant hit.")

²⁰See Rebecca Knight, *ETF Providers Take Aim at the Defined Contribution Market*, FIN. TIMES (LONDON), Apr. 23, 2007, at 8.

²¹See Janet Kidd Stewart, *401(k) Options Worth Looking Over*, CHI. TRIB., Apr. 15, 2007, at 7 (mentioning that "a handful of companies offer ETFs in their 401(k) plans" but "[t]hat number is expected to grow as more providers enter the market").

²²See Knight, *supra* note 20, at 8.

²³See, e.g., JOHN C. BOGLE, THE LITTLE BOOK OF COMMON SENSE INVESTING 164-75 (2007). Bogle writes:

[T]he ETF is a *trader to the cause* of classic investing. I urge intelligent investors to stay the course with proved strategy. While I can't say that classic indexing is

Bogle and others fear that the largely untested ETFs suffer from intrinsic vulnerabilities that make them poor repositories of so much new investment.

So sudden has been the success of ETFs that industry analysts and commentators have yet to conduct much of an examination into how these funds will perform in a volatile and declining market, or to debate the utility of any increase or decrease in the regulation of this industry by the SEC. In fact, until recently, scholars have virtually ignored ETFs.²⁴ By exploring the advantages and shortcomings of these funds, this article seeks to develop a descriptive and conceptual framework for a scholarly discussion of ETFs as they gain ever-greater prominence, for good or for ill, in the coming years. In addition, this article explores some of the implications of the dramatic growth of ETFs, arguing that the mutual fund industry and its dramatic scandals both provided the impetus for the growth of the ETF industry and offer a vivid warning of the conflicts of interest and vulnerabilities that may come to afflict these funds as they continue to grow.²⁵

Part II of this article expands upon the development and structure of ETFs to explain precisely how they function. ETFs offer the same possibility of immediate diversification that has contributed to the popularity of mutual funds, but they also boast an innovative pricing mechanism that allows ETF shares to be traded throughout the business day. This pricing mechanism creates an arbitrage opportunity that both encourages liquidity in the market for ETF shares and ensures an alignment between the performance of a fund and its benchmark index. At the same time, these unique internal dynamics present a challenge to the creation and operation of an actively managed ETF. Because sponsors of ETFs, like their mutual fund counterparts, are compensated in large part by the amount of assets they manage, however, they have great financial incentives to

the *best* strategy ever devised, your common sense should reassure you that the number of strategies that are worse is infinite.

Id. at 174.

²⁴One of the few law review articles discussing ETFs appears in a student note published in 2004, prior to the industry's recent surge in growth. See Peter N. Hall, *Bucking the Trend: The Unsupportability of Index Providers' Imposition of Licensing Fees for Unlisted Trading of Exchange Traded Funds*, 57 VAND. L. REV. 1125 (2004). Outside of the arena of legal scholarship, financial and economic academics have published or posted a small number of articles on the topic. See, e.g., Beatrice Boehmer & Ekkehart Boehmer, *Trading Your Neighbor's ETFs: Competition or Fragmentation?*, Mar. 25, 2004, available at <http://ssrn.com/abstract=292128>; James M. Poterba & John B. Shoven, *Exchange Traded Funds: A New Investment Option for Taxable Investors* (MIT Dep't of Econ. Working Paper No. 02-07, Nov. 26, 2003), available at <http://ssrn.com/abstract=302889>.

²⁵For an analysis of the mutual fund industry and the recent allegations of malfeasance against investment advisers of those funds, see William A. Birdthistle, *Compensating Power: An Analysis of Rents and Rewards in the Mutual Fund Industry*, 80 TUL. L. REV. 1401 (2006).

solve this challenge. This section of the article concludes with an examination of the regulatory regime that currently governs ETFs.

Part III discusses the positive attributes of ETFs that have made them such an attractive investment for hedge funds, institutions, and retail investors. That section focuses on their trading flexibility, efficient operation and tax advantages, and the variety of their offerings in stocks, bonds, currencies, commodities, and other unusual investments.

Part IV considers some of the drawbacks of ETFs, including many of the potential problems that detractors fear will come to harm investors in less exuberant economic times. The flexibility that comes with an ability to trade ETFs on securities exchanges also ensures that they carry brokerage fees, assessed with every purchase and sale, which make them particularly unattractive for anyone who invests in regular installments or through dollar-cost-averaging. That is, the transaction costs of ETFs may make them unsuitable for some portion of the retirement account market.

Part V examines how ETFs have emerged as a salubrious market response to the difficulties with mutual funds. The novel internal dynamics of ETFs arm them with architectural protections from many of the inherent weaknesses of mutual funds. Moreover, the emergence of an alternative market solution is preferable to the imposition of several new regulatory rules to try to correct the problems with mutual funds.

Part VI explores the implications for growth in the ETF industry, particularly if fund sponsors ultimately succeed in developing ETFs that are attractive to defined contribution plans or are able to persuade the SEC to approve applications for actively managed ETFs. The expansion of this new industry will almost surely not come without growing pains, and the experience of mutual fund advisers may provide useful lessons for the sponsors of exchange-traded funds. In particular, the conflicts of interest that were such a source of weakness to mutual fund investment advisers may also prove to be the source of future difficulties for ETF sponsors and investors.

II. THE DEVELOPMENT AND STRUCTURE OF ETFs

A. *The Creation of Exchange-Traded Funds and Mutual Funds*

On Friday, January 22, 1993, the first ETF commenced operations by issuing 150,000 shares to be traded upon the American Stock Exchange

(Amex).²⁶ These shares, known as Standard & Poor's Depositary Receipts (SPDRs, pronounced "spiders"), represented ownership interests in an investment trust which, in turn, held a portfolio of shares of common stock in all the companies in the S&P 500, in substantially the same proportion as the index.²⁷ The fund had no affiliation with Standard & Poor's but, acknowledging the importance of the S&P 500 as a bellwether of the broader stock market, licensed the right to use the index's name and composition.²⁸ Accordingly, any investor who purchased a SPDR would, in a single share, be invested in the entire S&P 500, and the value of that SPDR would fluctuate in accordance with the rise and fall of the S&P 500.²⁹

Seventy years earlier, Massachusetts Financial Services (MFS) had created the first mutual fund—Massachusetts Investors Trust (MIT)—to provide a similar opportunity for individuals to invest in a broad swath of diverse securities through a single vehicle.³⁰ MIT, like most mutual funds, solicited investments from shareholders in exchange for shares in the fund. Using those investment proceeds, the adviser of the fund, MFS, purchased a portfolio of underlying securities for the fund. As with shares of ETFs, the price of shares in MIT appreciates or declines as the aggregate value of the fund's underlying portfolio rises or falls.³¹ The critical difference between an ETF and a mutual fund, however, is in their respective methods of pricing their fund shares.

Mutual funds are priced just once each day, after the close of business.³² At that time, the fund's investment adviser calculates the value of the fund's portfolio by multiplying the number of shares of each of the securities it owns by the respective closing prices of those shares. That aggregate product of the portfolio is then added to any cash or other assets owned by the fund, while liabilities—such as fees owed to the adviser or

²⁶See SPDR Prospectus, *supra* note 7, at 20.

²⁷See *id.*

²⁸For a complete analysis of the legal issues surrounding the licensing of intellectual property related to financial indices in the ETF industry, see Hall, *supra* note 24, at 1128. Hall argues that "the index providers' practice of imposing licensing fees on secondary exchanges for ETFs is without support in market regulation law, trademark law, or economic policy." *Id.*

²⁹See SPDR Prospectus, *supra* note 7, at 3 ("The value of SPDRs fluctuates in relation to changes in the value of the [S&P 500] Portfolio.").

³⁰See Massachusetts Investors Trust, Registration Statement (Form N-1A) § IV (Feb. 27, 2004), *available at* <http://www.sec.gov/Archives/edgar/data/63091/000095015604000074/d604691.txt>. "MFS is America's oldest mutual fund organization. MFS and its predecessor organizations have a history of money management dating from the founding of this fund in 1924." *Id.*

³¹See *id.* § II, app. C, Equity Securities.

³²See generally Paul G. Mahoney, *Manager-Investor Conflicts in Mutual Funds*, 18 J. ECON. PERSP. 161 (2004) (describing the structure and internal operation of mutual funds as well as the incentives and conflicts of mutual fund managers and brokers).

other service providers—are subtracted. The resulting sum is then divided by the total number of shares issued by the mutual fund to calculate the net asset value (NAV) of a single fund share. Clearly, this computation is made much easier if one waits until the price of each portfolio security has ceased fluctuating for the day.³³

Although the companies that provide investment advice to mutual funds may appreciate the comparative administrative ease of calculating a price after the stock market closes, investors in the fund may not find the prospect so attractive. For instance, if, shortly after the opening bell, a remarkable piece of bad news sends the market into a precipitous fall throughout the entire business day, a mutual fund investor can do no more than place a sell order and ride the price of the fund all the way down until the closing bell. Conversely, a mutual fund investor must react with similar sloth to any good news. In either case, mutual funds, by their very structure, stymie efforts to react expeditiously to dramatic changes in a market during a business day.³⁴

B. *The Pricing Mechanism*

Recognizing both the appeal of mutual funds as pools of diversified investments as well as their pricing limitations, an employee of the Amex, named Nathan Most, developed the mechanisms employed by the first ETF.³⁵ With the development of SPDRs, Most sought to provide investors with an opportunity to invest in a diversified investment vehicle via shares that traded at accurate prices throughout the business day.³⁶ To do so, he introduced creation units, large blocks of ETF shares (denominated in groups of 50,000 shares or greater) that an ETF issues and redeems to investors.³⁷ Typically, only large institutional investors and brokerage houses are capable of buying and selling such wholesale bundles of investments, which may be worth several millions of dollars. Indeed, to become eligible to trade directly with an ETF, an investor must enter into an agreement to become an "authorized participant" (AP) in the fund.³⁸

³³For a complete discussion of the structure and dynamics of mutual funds, including a detailed description of the mutual fund pricing process, see Birdthistle, *supra* note 25, at 1417-29.

³⁴*See id.*

³⁵*See* Obituaries, *Nathan Most*, THE TIMES (LONDON), Jan. 12, 2005, at 57. Most's obituary described him as "the inventor of the Exchange Traded Fund." *Id.*

³⁶*See id.*

³⁷*See* SPDR Prospectus, *supra* note 7, at 4; *see also* Exchange Act Release, *supra* note 6, pt. I.B (defining ETFs and explaining that they are only sold and redeemed in very large quantities).

³⁸*See* Ian Salisbury, *Investing in Funds: A Monthly Analysis—Exchange-Traded Funds:*

Unlike mutual funds, ETFs do not sell and buy their creation units for cash; instead, they require that these large institutional APs barter in-kind baskets of portfolio securities in exchange for the creation units. Any AP wishing to acquire a creation unit must therefore provide a "portfolio deposit" equal in value to the NAV of all the ETF shares contained in the creation unit. Before the market opens each day, the investment adviser or sponsor of each ETF will declare the contents of the portfolio deposit, which will largely replicate in microcosm the composition of the ETF's overall portfolio. In order to purchase a creation unit of SPDRs, for instance, an AP would need to provide a portfolio deposit consisting of a representative collection of investments in the S&P 500.³⁹

The transaction is reversed when an AP wishes to redeem ETF shares. The AP must assemble the ETF shares into creation units and then present them, bundled accordingly, to the fund in exchange for a "redemption basket" of the fund's underlying portfolio securities.⁴⁰ Thus, cash does not generally change hands in the purchase and sale of ETF shares between the fund and the largest investors—the APs—directly in privity with the fund.

But why would anyone choose to exchange perfectly good S&P 500 securities for a synthetic approximation thereof? One reason an institutional investor might do so would be to profit from a subsequent sale to smaller investors who do not have the wherewithal to purchase such a broad and expensive array of investments. Indeed, once institutional APs purchase blocks of ETF shares in these initial transactions with ETFs, they may then resell them on a securities exchange in a secondary transaction to retail investors. For this service, large investors such as brokerage houses can charge retail investors a transaction fee.⁴¹

For the retail investors, the shares in an ETF may, operationally, behave in ways similar to shares of an operating company. For instance, although it is possible for an investor to purchase shares of General Motors (GM) directly from the company through an initial public offering, an individual investor is far more likely to acquire and dispose of those GM shares at negotiated prices in transactions with other GM investors on a stock exchange. The investor will also pay brokerage fees for those transactions.

Behind all the ETF Trading, WALL ST. J., Sept. 10, 2007, at R7 (noting that "there are 55 authorized participants across the ETF industry, including brokerage dealers like those of Goldman Sachs and Merrill Lynch & Co. and specialists like Kellogg Group LLC and Susquehanna International Group LLP").

³⁹See SPDR Prospectus, *supra* note 7, at 4; see also Exchange Act Release, *supra* note 6, at pt. II.B.

⁴⁰See SPDR Prospectus, *supra* note 7, at 4.

⁴¹*Id.*

Note that not every ETF replicates the exact composition of its benchmark index.⁴² Instead, a fund sponsor may attempt to track the index using only a representative sample of the securities in that index.⁴³ If, for instance, a hundred stocks account for the overwhelming majority of the performance of the S&P 500, an ETF tracking that index might more efficiently attain its goals by trafficking in just that subset of securities. These "sampling strategies" may provide the ETF with greater flexibility and cost-effectiveness, though perhaps at the cost of perfect accuracy.⁴⁴

C. *The Utility of Arbitrage*

The reciprocal treatment by ETFs of these two separate but parallel currencies—ETF shares and the baskets of underlying index securities—creates an arbitrage opportunity for the institutional investors who trade in these investments. If, for example, an AP can pay less for 50,000 SPDRs trading on a stock exchange to assemble a creation unit than to acquire all the underlying S&P 500 stocks required in a portfolio deposit, then the AP can make a quick profit by buying the 50,000 SPDRs, redeeming them with the fund in exchange for a redemption basket of S&P 500 shares, and then selling those S&P 500 securities on a stock exchange for cash. Conversely, if the S&P 500 stocks are trading at prices lower than the SPDRs, the AP can make a similarly quick profit by purchasing the S&P 500 stocks required for a portfolio deposit, trading them to the ETF for a creation unit, and then selling the 50,000 ETF shares contained in that creation unit on a

⁴²Exchange Act Release, *supra* note 6, pt. II.A. Note also that not all ETFs track indices that are weighted according to market capitalization. Many of the most innovative ETF sponsors are launching funds "based on indices that weight companies by fundamental factors such as dividends and earnings." Brewster, *supra* note 2, at 9. The philosophy of this so-called "fundamentalist" approach to indexing is:

simply that over the long term, companies that pay dividends outperform companies that do not. Therefore, an index based on dividend-paying companies will outperform the S&P 500, which is weighed by the value of a company's shares. It believes that indices weighted by market capitalization tend to overweight overvalued companies and underweight the under-valued ones.

Id.

⁴³Exchange Act Release, *supra* note 6, pt. II.A.

⁴⁴*See, e.g.,* Simon Hildrey, *On the Trail of Exchange Traded Funds*, FIN. TIMES (LONDON), Aug. 13, 2007, at 5; *see also* Exchange Act Release, *supra* note 6, pt. II.A. The *Financial Times* reports:

An ETF may opt for full or partial replication . . . [U]nder full replication, all the stocks in the index are held by the ETF. . . . Partial replication is used for a large index such as MSCI World, in which an ETF may hold 60 to 70 per cent of the stocks. . . . [T]his succeeds in reducing trading costs but means the performance of the ETF may not fully match that of the underlying index.

See Hildrey, *supra*, at 5.

stock exchange for a higher price.⁴⁵

This potential for arbitrage provides institutional investors and brokerage houses with a second incentive to provide liquidity to the ETF market by purchasing and reselling ETF shares to retail investors. As we have already seen, brokerage houses may charge transaction fees with each purchase and sale of ETF shares, which also explains their presence in this market.

But, perhaps most important for the success of ETFs, this arbitrage mechanism places pressure on the pricing of ETF shares to track the underlying index to which an ETF is benchmarked. An arbitrageur who spies and attempts to exploit a deviation between the ETF and its underlying index will, through the pressure created by the supply or demand of buying or selling securities on open exchanges, force the two investments back into line with one another. Historically, this pricing mechanism has succeeded in ensuring that ETF shares do not trade at significant premiums or discounts to their underlying indices.⁴⁶ Most retail investors who do not intend to arbitrage ETF shares acquire ETFs in order to replicate as closely as possible these market indices. Therefore, the ability of arbitrage to ensure that an ETF accurately tracks its benchmark is of extreme importance.

D. *Passive Indexing Strategies*

A key component of the pricing and arbitrage mechanism of ETFs is transparency. In order for any ETF investor—whether arbitrageur or retail purchaser—to evaluate the accuracy of the price of ETF shares, the composition of the ETF must be known publicly. That is, only by comparing ETF shares to the corresponding prices of the underlying portfolio securities that the ETF holds can one ascertain whether the ETF shares are overpriced, underpriced, or accurately priced. Accordingly, sponsors of ETFs publicly link their funds to established benchmarks, such as the S&P 500.⁴⁷ Every potential investor in SPDRs knows that the ETF is attempting to replicate the performance and price of the S&P 500 stocks and can evaluate the performance of the ETF on those terms.

⁴⁵See SPDR Prospectus, *supra* note 7, at 1-4.

⁴⁶See, e.g., *id.* at 9 (providing a chart that illustrates the very similar performance of SPDR Trust shares and the underlying S&P 500 Index).

⁴⁷See Waggoner, *supra* note 19, at 3B. "For it all to work, big investors must be able to calculate the value of the underlying stocks. ETFs typically show the value per share of their holdings every 15 seconds. Large investors can quickly see whether it would be profitable to trade ETF shares for the underlying stocks." *Id.*

In the development of the ETF industry, the first funds linked themselves to the broadest and most well-known benchmarks available in the capital markets, such as the S&P 500, as we have seen, as well as the Dow Jones Industrial Average, the Nasdaq-100 index, the Russell 3000, and the Wilshire 5000 Total Market Index.⁴⁸ But as the popularity of ETFs has grown and the industry has saturated the most obvious benchmarks, sponsors have increasingly begun to launch funds that track even more arcane and narrow indices in niche sectors of the economy. In addition, ETFs have expanded beyond indices of common equity securities to track preferred shares, bonds, currencies, commodities, and futures.⁴⁹ Today, with over 500 different ETFs on the market, investors can use ETFs to invest in the economy of Malaysia,⁵⁰ the Swedish Krona,⁵¹ companies that specialize in metabolic-endocrine disorders,⁵² and more.

E. Challenges of Active Management

The chief limitation of an index-based ETF—no matter how specialized its index may be—is its ironbound connection to the index. Even though active human management of a fund may be more expensive than purely automated, passive investment programs, investors may appreciate the timely intervention of a thinking and experienced portfolio manager. So while an ETF indexed to residential real estate investment trusts (REITs), for instance, must necessarily endure the woes associated with subprime mortgages, the human portfolio manager of a mutual fund operating in the same area could conceivably take steps to reduce the mutual fund's exposure by, at a minimum, converting a significant portion of the fund to cash. The ETF would necessarily ride the financial

⁴⁸See Tom Lauricella et al., *Does this Innovation Make Sense?*, WALL ST. J., Jan. 4, 2007, at R1 (discussing the array of "broad-market ETFs").

⁴⁹See, e.g., Kazuhiro Shimamura, *Tokyo Stock Exchange Chases ETF Action—Commodity-Based Funds Among Those Under Study*, WALL ST. J., Aug. 29, 2007, at C13; see also Henry Smith, *Smart Ways of Tracking Over the Shorter Term*, FIN. TIMES (LONDON), July 2, 2007, at 12 (discussing the use of securities lending as a means of enhancing investment performance); John Spence, *Move Over ETFs, as ETNs Hit the Scene*, WALL ST. J., May 15, 2007, at C17 (discussing the creation of exchange-traded notes (ETNs) and their relative merits and limitations in comparison to ETFs that also track currencies).

⁵⁰iShares MSCI Malaysia Index Fund, Prospectus, at 25-27 (Jan. 1, 2007), available at http://www.ishares.com/material_download.jhtml?relativePath=/repository/material/download/s/prospectus/ishares_inc_row.pdf&.

⁵¹CurrencyShares Swedish Krona Trust, Prospectus, at 23-26 (June 23, 2006), available at <http://www.currencyshares.com/content/pdf/FXS-Prop.pdf>.

⁵²HealthShares Metabolic-Endocrine Disorders Exchange-Traded Fund, Prospectus, at 91-96 (Jan. 23, 2006), available at http://www.healthsharesinc.com/product/download_pdf/588.

difficulties down in value, while the mutual fund could mitigate its losses.

Beyond the perceived advantages of human discretion demonstrated by this example, active management also greatly expands the possible range of investment strategies for funds. Because active management allows a fund to be directed according to the investing philosophy of an individual portfolio manager, there could, in theory, be as many different funds as there are personal and idiosyncratic fund managers. The expansiveness of active management may account in part for the fact that American markets feature approximately 500 ETFs, which currently cannot be managed actively, but over 8,000 mutual funds, which can.⁵³

Perhaps not surprisingly then, ETF sponsors are attempting to devise—and to secure SEC approval for—actively managed ETFs. Multiple sponsors have filed applications with the SEC to launch actively managed ETFs,⁵⁴ and some industry analysts believe the SEC will soon approve their use. Any sponsor hoping to create such an actively managed ETF faces an inherent technical challenge, however, which the SEC has been brooding over for many years. In fact, in 2001, the SEC published a concept release soliciting suggestions on how to solve the central dilemma of active management: the need to reconcile a portfolio manager's desire to maintain secrecy over his or her investment strategy (which is, after all, the service for which customers pay the manager) with potential investors' demand for information necessary to evaluate the accuracy of the fund's share price.⁵⁵ After all, if investors do not know the composition of an actively managed ETF, they cannot determine whether the trading price of the fund's shares is fair. If, on the other hand, the manager publicizes his or her holdings and strategy, what is to prevent other managers—or the investors themselves—from simply replicating the strategy without paying the portfolio manager?

In its currently pending application for actively managed Treasury ETFs, one sponsor—Vanguard—has proposed a "sampling technique that involves generating a basket of deposit securities that duplicates 40% to 50% of the securities held in the investment portfolios."⁵⁶ Relying upon the

⁵³See generally Carla Fried, *Exchange-Traded Funds, in a Rainbow of Choices*, N.Y. TIMES, July 10, 2005, at 23 ("After all, it's not lost on marketers that more than 80 percent of investor money still goes to actively managed mutual funds.").

⁵⁴Bear Stearns and Vanguard have both filed applications for actively managed ETFs. See Thao Hua, *Bear Stearns could land 1st active ETF on U.S. shores*, PENSIONS & INVESTMENTS, Apr. 30, 2007, <http://www.pionline.com/apps/pbcs.dll/article?AID=/20070430/PRINTSUB/70427058/1031/TOC>.

⁵⁵Exchange Act Release, *supra* note 6 (evaluating the background of ETFs as well as the SEC's analysis of possible benefits and detriments of permitting actively managed ETFs).

⁵⁶Diya Gullapalli, *Moving the Market: Vanguard Makes Second Filing for "Actively*

liquidity of Treasuries, Vanguard asserts that the risk of such a fund's shares trading at greater premiums and discounts than passively managed ETFs is "only theoretical and unlikely to be realized given the predominantly 'plain vanilla' portfolio holdings."⁵⁷

F. *Fund Sponsors*

Given the similarities between mutual funds and ETFs, one might expect the sponsors of the newer ETFs to be well-established investment advisers of mutual funds. In fact, the two largest ETF sponsors—Barclays Global Investors and State Street Global Advisors⁵⁸—are relatively minor players in the mutual fund arena. Vanguard, one of the preeminent mutual fund advisers, has moved into third place in the ETF business, but only after something of a late start.⁵⁹ Because ETFs attract many of the same investors as mutual funds, mutual fund advisers may have initially considered them a threat or a product that would simply cannibalize existing customers. But as ETFs have grown ever larger, they have become an increasingly attractive business proposition to many mutual fund investment advisers.

Perhaps because the business entities that create, establish, and oversee ETFs do not actually provide investment advice to the funds—rather, computer algorithms direct the buying and selling of fund shares in accordance with funds' benchmark indices—they are known in the business as "sponsors," not advisers. But, although management fees for these passively managed funds are, on average, lower than actively managed mutual funds, the ETF business is hardly a nonprofit enterprise. On the contrary, the ETF business has proven extremely lucrative to Barclays and State Street, whose management fees are applied to hundreds of billions of dollars in assets under management. Multiplying one estimate of the industry's average fee of 52 basis points, or 0.52%, by the total assets in ETFs of approximately half a trillion dollars, we can estimate that the ETF industry generates more than \$2.5 billion in annual management fees for fund sponsors.⁶⁰ Given the industry's relatively low fees, however, sponsors must operate large funds in order to realize material profits, which explains

Managed" ETFs, WALL ST. J., June 27, 2007, at C3.

⁵⁷*Id.*

⁵⁸See Tom Lauricella, *Fund Fight: State Street Aims to Reclaim its Past ETF Glory*, WALL ST. J., July 3, 2007, at R1 (discussing the competition between the two largest ETF sponsors, as well as the third-place ETF provider, Vanguard Group).

⁵⁹*Id.*

⁶⁰See Eleanor Laise, *Before You Drive that Hot ETF . . . ; They're Spiffy and Alluring, But an Owner's Manual is Essential for Novices*, WALL ST. J., June 4, 2007, at R1 (citing a Morgan Stanley estimate of the average expense ratio for a U.S. stock ETF).

the significant first-mover advantage of Barclays and State Street.⁶¹ This phenomenon may also explain why smaller ETF sponsors are attempting to acquire permission for actively managed funds, whose comparatively higher fees would allow sponsors to realize profits without having to acquire such a large market share.

But management fees are not the only source of revenue for ETF sponsors. With the portfolio deposits they receive from investors, ETFs accumulate enormous reserves of portfolio securities. Sponsors can lend these securities to other actors in the capital markets for a fee. Any investor who wishes to sell a security short, for instance, will need to borrow shares initially before replacing them at the conclusion of the short-sale transaction. The fees from these lending programs can be—and often are—used to boost the performance of the ETF or to compensate the sponsor, depending on the terms of the ETF's underlying trust.⁶²

On the other side of the ledger, ETF sponsors may be responsible for discharging the expenses associated with operating a fund. To do so, they typically use management fees to pay "the cost of transfer agency, custody, fund administration, legal, and other services."⁶³

G. State and Federal Regulation

ETFs are typically organized as business or statutory trusts under the state laws of Massachusetts, New York, or Delaware,⁶⁴ and then are registered as investment companies under the federal securities laws.⁶⁵ The Investment Company Act of 1940⁶⁶ does not expressly contemplate ETFs,

⁶¹See Smith, *supra* note 49, at 12.

⁶²*Id.*

⁶³*Id.*

⁶⁴In contrast, the mutual fund industry, which has historically and predominantly used Massachusetts business trusts as the business entity of choice, the ETF industry prefers to use Delaware statutory trusts for new funds. See Telephone Interview with Robert J. Borzone, Jr., Partner, Ropes & Gray LLP, in N.Y., N.Y. (Oct. 22, 2007).

⁶⁵See Shefali Anand, *When an ETF is Not an ETF; Legal Structures and Regulators Can Vary, While Tax Implications May Not Be Clear*, WALL ST. J., June 23, 2007, at B1. The *Wall Street Journal* reported:

The typical stock ETFs are set up under the same law as mutual funds—the Investment Company Act of 1940, which has several requirements meant to protect individual investors.

For instance, each fund or ETF must have a board with a majority of independent directors, whose job is to watch over the fund's adviser on behalf of investors in the fund.

Id.

⁶⁶Pub. L. No. 768, 54 Stat. 789 (codified as amended at 15 U.S.C. §§ 80a-1 to 80a-64)

so many ETF sponsors create their funds as either open-end funds or unit investment trusts.⁶⁷ In order to depart from the standard mutual fund structure and to offer their distinctive feature of intraday pricing, ETF sponsors first must obtain a variety of statutory exemptions from the SEC for their funds.⁶⁸

[hereinafter Company Act]. The Investment Company Act is often referred to as simply the Company Act or the 1940 Act.

⁶⁷See Investment Company Governance, Investment Company Act Release No. 26,520, 69 Fed. Reg. 46,378 (Aug. 2, 2004).

⁶⁸See Diya Gullapalli, *SEC to Hasten Process to Clear ETF Approvals*, WALL ST. J., Dec. 11, 2006, at C7 (discussing the SEC approval process and exemptive orders required by ETF sponsors prior to launching a new fund).

Normally, for instance, an investment company such as a mutual fund is not permitted to redeem its shares only in wholesale blocks and must instead redeem any amount of fund shares presented to the fund by an investor.⁶⁹ In order for ETFs to use creation units, therefore, they must receive exemptive regulatory relief from the SEC. Similarly, an investment company's shares are usually bought and sold only in transactions between the company—typically, a mutual fund—and any individual or entity wishing to invest in the fund.⁷⁰ Thus, once again, an ETF must obtain permission from the SEC in order to arrange for its shares to be traded on a secondary stock exchange, such as Amex or NASDAQ. In addition, ETFs also require permission to waive the requirement of providing every individual purchaser of fund shares on those secondary exchanges with a prospectus detailing the operation, risks, fees, and minutiae of the fund, as is typically required when a mutual fund sells shares to an investor.⁷¹

By compiling this battery of regulatory exemptions, ETF sponsors have carved out the regulatory space their funds need in order to offer intraday pricing, and the SEC has willingly acceded to their requests. In order to offer active management of ETFs, however, sponsors will require additional exemptive relief, which the SEC has not yet seen fit to grant, notwithstanding the Commission's having spent at least six years considering the request nor expert predictions of imminent approval.

III. POSITIVE ATTRIBUTES OF ETFs

ETFs have burst onto the investing scene in just a few short years for a variety of good reasons. Not only do they provide a similar degree of access to investment diversification, they do so at competitive prices and with the added benefit of intraday trading.

A. *Flexibility and Exchange Trading*

Perhaps the most immediately striking characteristic of ETFs is their eponymous innovation: the ability to trade like a typical security throughout the business day at real-time prices on a stock exchange. Prior to the advent of ETFs, an investor seeking broad market or sector diversification via a single investment instrument would be limited to mutual funds, which are priced just once a day.⁷²

⁶⁹ See Company Act, *supra* note 66, § 11.

⁷⁰ See *id.*

⁷¹ See *id.*

⁷² Closed-end mutual funds also trade on stock exchanges and therefore require similar

The limits of mutual funds' system of "forward pricing," as it is known, are manifest.⁷³ Investors in mutual funds have no way of reacting to positive or negative news during the business day. So, if shortly after the opening bell, for example, the Federal Reserve were to unexpectedly lower the federal funds rate on overnight loans between banks, thereby triggering an immediate and sustained rise in the broader stock market, mutual fund investors would be unable to participate in any general and sustained rise. Instead, they would be forced to wait until the close of business that day to purchase any shares in a mutual fund, at which point the gains would very likely have already been incorporated into the price of the fund's shares.⁷⁴

Conversely, if shortly after the opening bell, an earthquake were to strike a major financial center, sending national and global markets into a sustained decline, anyone invested in broad-based mutual funds would once again be compelled to wait until the close of business to sell. Of course, by that time, the shares of the mutual fund would have already sustained the losses precipitated by the negative news and it would be too late for an investor in those funds to avoid the decline.⁷⁵

With ETFs, however, investors can react immediately to positive or negative news by purchasing or selling ETF shares as soon as they receive the information. Setting aside any limitations suggested by the efficient capital markets hypothesis upon anyone's possibility of beating the market in such circumstances,⁷⁶ a savvy and responsive ETF investor may be able to profit from rises or to avoid declines in the market through swift ETF transactions.⁷⁷ A SPDR will, for the most part, react to positive or negative financial developments in just the same manner as the broader S&P 500, providing intraday exposure to market fluctuations.

ETF shares resemble stocks and provide flexibility to investors in other ways as well. Investors can, for example, place market, stop, or limit orders on ETF shares, thereby exerting a good deal of precise control over the purchases and dispositions of the holdings in their portfolios. In the same way, investors may also sell ETF shares short in order to bet against the movements of broad market indices or to hedge against the performance of other holdings in their portfolios.⁷⁸ Similarly, investors may purchase

exemptive relief from the SEC.

⁷³See Birdthistle, *supra* note 25, at 1420-21.

⁷⁴See *id.*

⁷⁵See *id.*

⁷⁶See generally Lynn A. Stout, *The Mechanisms of Market Inefficiency: An Introduction to the New Finance*, 28 J. CORP. L. 635, 657 (2003) (providing a description of an ETF transaction).

⁷⁷See Ruth Sullivan, *ETFs Increase in Popularity*, FIN. TIMES (LONDON), Aug. 20, 2007, at 2 ("The number of institutional investors worldwide using exchange traded funds listed on international exchanges has increased significantly in the past year.").

⁷⁸*Id.*

ETF shares on margin and buy or sell options on ETF shares.⁷⁹

B. *The Array of Investment Options*

The flexibility of ETF shares allows both institutional and retail investors to use these funds in the construction of sophisticated and varied portfolios.⁸⁰

Because of the intraday pricing feature of ETFs, investors obviously may use ETF shares to time market movements in order to bet on upward or downward swings in stock exchanges. Similarly, institutional investors holding uninvested cash during periods between investment activities—such as private equity funds that have received but not yet invested the funds of their limited partners—may choose to equitize that cash by using ETF shares to invest the funds in broad market indices for short periods of time.⁸¹

Moreover, the expanding array of ETFs provides ETF investors with access not only to broad swaths of the marketplace, providing very easy diversification, but also to exotic underlying investments that might otherwise be inaccessible to relatively unsophisticated investors.⁸² For example, ETFs now provide exposure to derivatives, futures,⁸³ commodities,⁸⁴ currencies,⁸⁵ and preferred stock.⁸⁶ Many retail investors may have no other means of participating in such investments.⁸⁷

⁷⁹See Exchange Act Release, *supra* note 6, pt. II.C.

⁸⁰See Sullivan, *supra* note 77, at 2. Deborah Fuhr, a managing director at Morgan Stanley, states: "[ETFs] are seen as offering low-cost beta and a good selection of exposure to international and emerging market indices. They are also liquid and easy to understand." *Id.*

⁸¹See Smith, *supra* note 49, at 12 ("ETFs are used by transition managers for equitizing cash or as short-term investment vehicles. And traders make use of ETFs for hedging their investments in illiquid asset classes.").

⁸²For a discussion of the range and narrow focus of some recently launched ETFs, see Rob Carrick, *ETFs for Everyone*, GLOBE AND MAIL, Apr. 23, 2007, at B15 (discussing funds that specialize in preferred shares, down markets, valuable patents, and more).

⁸³See Smith, *supra* note 49, at 12 ("Like futures, ETFs trade in real time and can be shorted. Unlike futures, they don't have maturities to be rolled over or margin requirements to be taken care of.").

⁸⁴See, e.g., Shimamura, *supra* note 49, at C13 (discussing the creation of ETFs, such as "the \$1.4 billion Franklin Gold & Precious Metals Fund," which tracks the value of gold).

⁸⁵ETF sponsors have created a new and related investment product, called "exchange-traded notes," which specialize in currency speculation. See Spence, *supra* note 49, at C17 (discussing the creation of ETNs and their relative merits and limitations in comparison to ETFs that also track currencies).

⁸⁶See Shimamura, *supra* note 49, at C13 (discussing the growing popularity of ETFs in Japan, which has led to the launch of ETFs on the Tokyo Stock Exchange, Asia's largest).

⁸⁷ETF sponsors may develop more funds that behave like the so-called "lifecycle funds" in the mutual fund industry. See, e.g., Jeff D. Opydyke, *Target-Date Funds Shake Up the Mix*, WALL

An investor may therefore easily use ETFs to construct a core-and-satellite portfolio, purchasing passive and broad-based ETFs in a diverse pattern of asset allocation as the portfolio's core, while choosing more specialized, niche ETFs as satellites in an effort to boost the portfolio's performance.⁸⁸

C. *Efficiency and Costs*

Because of the nature of their structure and management, ETFs generally charge low fees and expense ratios, which further endear them to investors.⁸⁹ ETFs that passively track broad market indices have relatively little need for management by human portfolio managers. In fact, the composition of indices often remains unchanged for long periods, typically varying only on those rare occasions when the index adds or removes a stock. Accordingly, ETFs suffer very few of the transaction costs associated with the turnover of portfolio securities, which is not the case with mutual funds, particularly when such funds are actively managed.

In addition, ETFs do not conduct anything close to the number of transactions with retail investors that mutual funds do.⁹⁰ Mutual funds must process all the purchases and redemptions of every single investor in their fund, large or small; those transactions generate significant costs associated with shareholder recordkeeping and managing accounts. ETFs, on the other hand, conduct far fewer large scale transactions, with investors wealthy and sophisticated enough to traffic in creation units, portfolio deposits, and redemption baskets. All other transactions involving ETF shares take place on secondary stock exchanges and, therefore, do not generate expenses that

ST. J., Aug. 30, 2007, at D1. The *Wall Street Journal* reported:

Target-date funds, also known as lifecycle funds, hold an ever-changing mix of other stock and bond funds with the goal of serving as the only investment an employee needs in a 401(k) plan. The closer the employee gets to retirement age, the more conservative the fund's investments become, in theory locking in the gains from an earlier, riskier mix of holdings in the fund.

Id.

⁸⁸See Eleanor Laise, *The Risks of Betting Big on ETFs*, WALL ST. J., Feb. 3, 2007, at B1 (discussing how investors can construct an entire portfolio comprising only of ETFs).

⁸⁹ETF fees are low in part because the costs to run an ETF are low, but also because ETF sponsors compete aggressively for certain fund investors. See, e.g., Diya Gullapalli, *ETF Price War Looms as Vanguard Looks to Catch Up—New Product Takes Aim at Big Barclays Fund*, WALL ST. J., July 7, 2007, at B1. The *Wall Street Journal* reported:

In coming weeks, Vanguard Group plans to roll out an ETF designed to directly undercut one of the biggest products on the market, from rival Barclays Global Investors, a unit of Barclays PLC. . . . The Vanguard fund will have an expense ratio of 0.15%, which is less than half the cost of the BGI fund.

Id.

⁹⁰See generally Karen Damato, *For Index Funds, the Devil is in the Detail*, WALL ST. J., Sept. 7, 2004, at C1 (discussing fees, expenses, and cash-drag on mutual funds and ETFs).

the fund must bear. Of course, those secondary transactions do involve brokerage fees for investors, which is a cost of buying and selling ETF shares not captured in the funds' expense ratios.

An investor who wishes to construct a long-term investment portfolio from a large lump sum of savings can do so extremely cheaply and efficiently with the purchase of relatively few ETFs. By acquiring substantial amounts of enough ETF shares to satisfy the asset-allocation requirements of sound portfolio theory, an investor might avoid iterative brokerage fees and then take full advantage of the low management fees of ETFs, which are, on average, lower than the expense ratios of mutual funds.⁹¹

Each mutual fund and ETF will experience difficulty realizing an identical or superior return compared to its benchmark index because, unlike a theoretical index, real funds incur practical management and operational costs that impose a drag on the funds' performance. ETFs possess two attributes that enable them to offset some of this drag and to boost their efficiency with respect to their underlying indices. First, unlike benchmarks, ETFs can charge fees from lending their portfolio securities to other market participants who would like to use those securities to, for instance, engage in short-sale transactions. Second, in comparison to mutual funds, ETFs can operate with far lower cash reserves on hand. Mutual funds typically maintain a significant cash reserve of up to 5% to use in redeeming any investor who wishes to sell shares back to the fund. As we have seen, however, ETFs do not redeem their shareholders in cash but, rather, in-kind through redemption baskets of portfolio securities. Any fund that is more fully invested will experience less "cash-drag," which gives another performance advantage to ETFs over mutual funds.⁹²

D. *The Tax Advantage*

The pricing mechanism of ETFs not only allows for intraday trading of fund shares, but also has the added benefit of providing shareholders with extremely favorable tax treatment.⁹³ To appreciate this tax advantage, first consider the operations of a typical mutual fund: a mutual fund purchases portfolio securities using the cash new investors pay into the fund, and then

⁹¹*See id.*

⁹²*See id.*

⁹³*See* Sara Robinson, *Amex Considers Mutual Fund Trading*, N.Y. TIMES, Sept. 19, 1999, at B8. "Exchange-traded funds are inherently tax-efficient. Because they create and redeem their shares through the exchange of stock, rather than cash, they avoid distributing capital gains to shareholders." *Id.*

sells those securities either to pursue a particular investment strategy or to redeem shareholders who wish to leave the fund. To the extent that the value of portfolio securities have appreciated in value while owned by the fund, these transactions are clearly realization events that may generate considerable capital gains liabilities for the fund, which in turn distributes those costs to shareholders of the fund.⁹⁴

An ETF, on the other hand, grows primarily through the accretion of in-kind portfolio deposits of underlying securities from investing shareholders and then redeems those shareholders by returning securities in redemption baskets. Unlike mutual funds, ETFs will rarely, if ever, alter investment strategies and therefore, will rarely require direct purchases or sales of portfolio securities.⁹⁵ To the extent that any of the securities contributed by investors to an ETF have significantly appreciated while owned by the fund, the fund can prioritize the redemption of its securities to rid itself of those with the highest potential unrealized capital gains first. Then, if an ETF is for some reason obliged to sell any securities, its tax liabilities will be minimized to the greatest extent possible. Accordingly, ETFs incur comparatively few taxable purchases and sales of securities and, in turn, pass fewer capital gains liabilities on to their shareholders.⁹⁶

IV. LIMITATIONS OF ETFs

As the extraordinary growth of ETFs demonstrates, a great swath of the investing public has been largely persuaded of the many compelling attributes of ETFs. But not everyone is convinced. As ETFs have gained greater prominence, investing experts such as John C. Bogle have begun to point out shortcomings with these funds.⁹⁷ Moreover, as the rapid expansion of ETFs has begun to saturate the market, fund sponsors are launching increasingly exotic species of funds, the growth of which has prompted a fresh wave of criticism.⁹⁸

⁹⁴*See id.*

⁹⁵*See* James J. Eccleston, *Nothing Alien about ET Funds*, CHI. DAILY L. BULL., Nov. 8, 1999, at 6. "ETFs can satisfy redemptions by investors much more favorably than mutual funds by being able to transfer out securities in-kind to the redeeming investors." *Id.*

⁹⁶*See id.*

⁹⁷*See, e.g.*, Gullapalli, *supra* note 89, at B1. "Mr. Bogle has voiced concern about trading costs and misuse of narrowly focused ETFs that don't track broad market swaths." *Id.*

⁹⁸For an extensive discussion of the potential perils of investing in ETFs, see Laise, *supra* note 60, at R1 (discussing potentially cheaper investment options, layers of complex trading costs, potential investor confusion from the wide array of ETFs, tracking error, the lack of performance histories, and the unsuitability of some funds for small investors).

A. *Comparing the Total Performance of ETFs and Mutual Funds*

Although ETFs have quickly garnered a reputation as cost-effective investments, they are certainly not without fees and expenses of their own.⁹⁹ As we have seen, the sponsor of every ETF charges a management fee for running the fund.¹⁰⁰ Although these fees are for the most part relatively low, they are not negligible for every ETF. Indeed, some ETFs that specialize in rather unorthodox investments, such as illiquid fixed-income securities or extremely narrow sectors containing only a few issuers, may charge management fees of well over 100 basis points.¹⁰¹

In addition, the fact that retail investors must buy and sell ETFs on exchanges means that those investors will have to pay brokerage fees.¹⁰² Although brokerage fees can be amortized into relative insignificance if an investment is held for many years, such fees may impose a prohibitive expense on retirement accounts or commendable investment strategies such as dollar-cost averaging.¹⁰³ Any type of savings strategy that involves purchasing a relatively small amount of investments at regular intervals may be incapable of overcoming the costs of ETF brokerage fees.

Buying ETFs—or, indeed, any investment whose price is negotiated on an open exchange—also means that ETF investors bear the burden of absorbing costs that result from bid-and-ask spreads—that is, the “gaps between the price buyers are willing to pay and sellers are willing to accept.”¹⁰⁴ These spreads are typically exacerbated when the market undergoes unusual volatility and may be suffered most keenly by smaller or more specialized ETFs whose shares experience thin trading volume.¹⁰⁵

In some respects, discussions regarding the dynamics of ETF fees are needlessly abstract. Particular factors—such as structure and management—certainly may explain how and why ETFs' fees are often lower than corresponding mutual funds. And other factors—such as trading fees—may explain why the cost of ETF investing may be higher than one expects. But surely only one consideration matters in the final analysis: the

⁹⁹See Gullapalli, *supra* note 89, at B1.

¹⁰⁰*Id.*

¹⁰¹Smith, *supra* note 49, at 12.

¹⁰²John C. Bogle, “Value” Strategies, Commentary, WALL ST. J., Feb. 9, 2007, at A11.

¹⁰³*Id.*

¹⁰⁴Diya Gullapalli, *Challenge for ETF Trading: Bumpy Markets Gums It Up*, WALL ST. J., Sept. 4, 2007, at C1.

¹⁰⁵See *id.* (comparing the 1.6% average spread of “the tiny \$3 million HealthShares Infectious Disease ETF” with the 0.02% average spread of “[s]ome of the biggest, most heavily traded ETFs, including Barclays Global Investors’ \$17 billion iShares S&P 500 ETF and \$46 billion iShares MSCI EAFE ETF” over the same time period).

empirical results of ETF performance.

The *Wall Street Journal* recently commissioned Morningstar to conduct just such a study comparing the performance of some of the largest and most well-known ETFs with mutual funds offering similar investment strategies. The report concluded:

Big, low-cost index funds from Boston-based Fidelity Investments and Vanguard Group Inc., Malvern, Pa., outperformed the ETFs in most of the comparisons we set up. For the 40 time periods studied, the mutual funds prevailed in 34—including a sweep of the one-, three-, and 10-year after-tax categories.¹⁰⁶

What may be more remarkable about these results is that the mutual funds outperformed the ETFs before taking into account the brokerage fees that investors must pay to buy and sell ETFs on stock exchanges—fees that are typically absent from mutual fund transactions.¹⁰⁷

With the panoply of structural advantages that allows ETFs to function with such operational efficiency and inherent tax advantages, how is it possible that they failed to outperform mutual funds?¹⁰⁸ First, note that only the highest-performing mutual funds did better than ETFs.¹⁰⁹ Those mutual funds are operated in ways very similar to ETFs; that is, they are linked to broad market indices and passively managed.¹¹⁰ Most mutual funds—which are actively managed—have expense ratios higher than the average ETF.¹¹¹

Second, as with ETFs, the investment advisers of mutual funds can also use strategies such as stock lending to boost their funds' performance and, moreover, "may have a greater incentive to try to earn back a portion of their expenses."¹¹² Because ETFs are widely purchased by institutional investors attempting to hedge against the market,¹¹³ the sponsor of an ETF may believe that "outperformance of all other index funds can take a

¹⁰⁶Ian Salisbury, *A Close Race, a Surprising Finish; Against Sleek ETF Rivals, Top Index Mutual Funds Use Ultra-Low Costs to Gain Performance Edge*, WALL ST. J., May 7, 2007, at R1.

¹⁰⁷*Id.*

¹⁰⁸*Id.*

¹⁰⁹*Id.*

¹¹⁰*See* Salisbury, *supra* note 106, at R1.

¹¹¹*Id.* ("ETFs do have low costs when judged against mutual funds across the board, many of which have higher expenses because they employ a staff of analysts to pick stocks.")

¹¹²*Id.*

¹¹³*See, e.g.,* Sullivan, *supra* note 77, at 2.

backseat to predictability of the return."¹¹⁴ Indeed, a spokeswoman for Barclays notes that "[o]utperforming the index is not going to do any good for short sellers."¹¹⁵

Third, unlike ETFs, mutual funds can "buy[] stocks ahead of anticipated additions to their index."¹¹⁶ But, as a senior manager at State Street Global Advisors points out, aggressive mutual fund managers who adopt such techniques incur additional risk absent from ETFs in order to boost their performance.¹¹⁷ And "[w]hile tactical moves may improve results one year, they can just as easily backfire the next."¹¹⁸

The surprise of this study is that the very best performing mutual funds can outperform ETFs. But one of its other findings is that *the average* ETF with a given investment strategy outperforms *the average* corresponding mutual fund.¹¹⁹ Perhaps this conclusion suggests that while an informed investor may be able to do better than ETFs by selecting the very best mutual funds, the uninformed investor is more likely to find higher performance amongst typical ETFs than with typical mutual funds.

B. Short-Term Speculation

What bothers John C. Bogle most about ETFs is the myopic and harmful investing behavior that he believes they encourage amongst investors.¹²⁰ He concludes that "if long-term investing was the paradigm for the classic index [mutual] fund, trading ETFs can only be described as short-term speculation."¹²¹ The ability to trade a fund intraday is less a useful tool than a dangerous temptation to engage in day trading, he argues.¹²² More-over, trading has overtaken diversification as "the driving force in the ETF world," he insists, citing advertisements for SPDRs, that promised: "Now, you can trade the S&P 500 all day long, in real time."¹²³

Emotions, Bogle suspects, encourage "performance-chasing investors" to become their own worst enemies.¹²⁴ Citing some of the higher performing funds of late, he states that the "annualized share turnover of

¹¹⁴Salisbury, *supra* note 106, at R1.

¹¹⁵*Id.*

¹¹⁶*Id.*

¹¹⁷*Id.*

¹¹⁸Salisbury, *supra* note 106, at R1.

¹¹⁹*Id.*

¹²⁰Bogle, *supra* note 102, at A11.

¹²¹*Id.*

¹²²*Id.*

¹²³*Id.*

¹²⁴Bogle, *supra* note 102, at A11.

these sectors averages an astonishing 2500%."¹²⁵ Bogle does not explain what proportion of this turnover is attributable to the investment strategies of professional and institutional investors such as hedge funds and what proportion is attributable to the retail investors for whom he expresses concern.

Overlooking the generality of his grievance, Bogle does helpfully point out this vulnerability for ETFs. While mutual funds suffered from their architectural weaknesses (which permitted market timing, late trading, and other deleterious behavior), ETFs are also inherently at risk: the ability to trade ETFs all day long may tempt rapid and unsuccessful day trading by overly optimistic retail investors.¹²⁶ Of course, the performance of investments in a mutual fund also can be—and has been—harmed by rapid trading.

C. Saturation and Niche Volatility

As the number of ETFs on the market has ballooned in recent years, sponsors seeking to bring new funds to the market have been forced to choose whether to compete with well-established funds indexed to well-known benchmarks or to offer more specialized funds that track increasingly narrow niche indices. Although sponsors have done both, the increasing availability of myriad arcane and narrow funds has created the most consternation amongst industry observers.¹²⁷ The *Wall Street Journal* reports:

Critics have warned in recent months that ETF companies' efforts to distinguish themselves with new products have led to offerings that are too narrowly focused for most small

¹²⁵*Id.*

¹²⁶Bogle does concede that, when used appropriately, ETFs may perform just as well as broad-based index funds. "In fairness, if they are not traded, they can often be the equal of the classic index funds." *Id.*

¹²⁷*See, e.g.,* Steven Syre, *ETF Market Takes Off, but Wealth of Choices Makes Investors Wary*, BOSTON GLOBE, July 1, 2007, at E1. "This is an industry that has had Miracle-Gro sprinkled on it in the past two years,' says James Lowell, publisher of the Forbes ETF Advisor, a newsletter for exchange traded fund investors. "There are just too many products out there." *Id.* *See also* Carrick, *supra* note 82, at B15. Carrick reports:

There's a growing sense that ETF providers are getting carried away with some of the new products they're introducing. "They're using a 'throw it against the wall and see what sticks approach,'" said Tyler Mordy, head of research at Hahn Investment Stewards and editor of a publication called ETFocus. "It's getting ridiculous."

Id.

investors' purposes. Many ETFs are praised for their broad diversification of holdings, but with more than 500 offerings today, the inexperienced can be tempted to play tiny niches, a potentially dangerous tactic.¹²⁸

Bogle also complains that these new funds contradict the benefits of diverse index investing. "[S]urely holding small segments of the market offers less diversification and commensurately more risk," he observes.¹²⁹

The narrower a fund becomes, the fewer underlying securities may be available for inclusion in its portfolio.¹³⁰ This lack of diversification can cause the ETF to behave more like an individual stock than like a mutual fund. In a narrow sector, one particular operating company may account for a dominant market share, and therefore, its performance may impose a disproportionate impact on the returns of any ETF invested in that sector. Moreover, when only a few companies operate in a particular investment sector, ETFs and other investment funds attempting to invest in that sector may drive the price of those companies artificially higher, not because of faith in the value of any particular company, but simply because of the need to hold those shares in the fund. Similarly, the creation of ETFs to track the value of commodities such as silver and gold has driven up the price of those holdings.¹³¹ The securities of esoteric investment niches, such as foreign issuers or micro-cap companies, are also more likely to be traded with only thin volume and are thus susceptible to the volatility of dramatic price swings.¹³²

¹²⁸Diya Gullapalli, *As ETFs Seek Niches, Risks Rise; Returns Are Often at the Top of the Performance Rankings—and the Bottom*, WALL ST. J., July 3, 2007, at R1.

¹²⁹Bogle, *supra* note 102, at A11; *see generally* Authers, *supra* note 16, at 12 (quoting Bogle in a broader discussion of ETFs, who claims, "after all the selection challenges, the timing risks, the extra costs, and the added taxes, typical ETF investors have absolutely no idea what relationship their investment return will have to the return earned by the stock market").

¹³⁰For a general discussion of the perils of niche investing by ETFs, *see* Gullapalli, *supra* note 104, at C1. "Often, mutual-fund sponsors hesitate to launch such niche products because it is tough to support trading, record keeping and other chores with a small asset base while keeping the expense ratio reasonable." *Id.*

¹³¹*See, e.g.,* Carolyn Cui & James T. Areddy, *The World Melts for Gold*, WALL ST. J., Jan. 19, 2008, at B1 ("Their [ETF investors] rush to invest has helped fuel soaring prices—gold crossed \$900 an ounce for a time in the past week, and there are some calls for \$1,000—while adding volatile new dynamics to the market.")

¹³²*See* John Spence, *Boom Time for ETFs Prompts Questions; Fast Growth Worries Some, Especially as More Funds Target Narrow Sectors*, WALL ST. J., June 28, 2007, at C13. The *Wall Street Journal* reports:

Many of the new products tend to track areas of the market that have done well recently, but when the inevitable downturn hits, investors may run for the exits. As a result, ETFs with smaller asset pools run by niche providers may be forced to liquidate. Such a development, Mr. Genoni [a product manager at Vanguard

With this combination of vulnerabilities, a Morningstar researcher has observed that the proliferation of increasingly specialized ETFs may be "just a more cost-effective means of producing a bad investor experience."¹³³

D. *Lack of a Track Record*

The ETF industry, as a whole, is still quite immature, having existed for fewer than fifteen years. Moreover, the vast majority of ETFs currently available have come to market in just the past two years. Investors seeking to invest in ETFs then, may have a very difficult time finding meaningful track records to examine prior to investing in a fund.¹³⁴

Indeed, the two leading researchers of funds, Morningstar and Lipper, do not even rate ETFs that are less than three years old.¹³⁵ Thus, the majority of funds in this industry are not professionally rated by the industry standards. Without professional guidance, retail investors will be left largely to their own, untrained devices in researching ETFs for investment.¹³⁶

Any ETF sponsor incapable of providing a concrete record of results over a significant period of operations is offering more a promise than a demonstrable business model. Assumptions may be proven incorrect over time, while certain sponsors may prove more adroit at minimizing bid-ask spreads or boosting fund performance through stock-lending programs. Only after viewing several years of results will an investor have a realistic sense of the expertise of the management of a particular fund and appreciate the difference between theoretical indices and actual investment results.

E. *Tracking Error*

Perhaps the most fundamental shortcoming of any ETF is its failure

Group Inc.] said, "could leave a black eye for the ETF industry."

Id.

¹³³Gullapalli, *supra* note 104, at C1.

¹³⁴*See, e.g.,* Diya Gullapalli, *Why Hot Funds Are Tripping Up Some Investors; ETFs, Which Are Meant to Track Benchmarks Increasingly Go Astray*, WALL ST. J., Apr. 19, 2007, at 1 (discussing the problems of short track records and noting that "several newer ETFs with short track records are failing to match the hypothetical rates of return they would have achieved in previous years if they had existed then").

¹³⁵Eleanor Laise, *Green Thumb: New Tools for Picking the Top ETFs*, WALL ST. J., June 9, 2007, at B1.

¹³⁶Perhaps not surprisingly, the market has begun to respond with the creation of research and advice services that provide advice on selecting ETFs to retail investors. *See id.* ("Now, a handful of new tools can help investors separate winners from losers, and even show how they stack up against comparable mutual funds.").

to adhere reliably to the index to which it is purportedly benchmarked.¹³⁷ Should SPDRs cease to replicate the S&P 500, for instance, they would stop serving as a useful investment alternative to the S&P 500 and undermine much of their *raison d'être*. Yet management fees, taxes, and other subtle sources of investment friction create a divergence between the performance of every ETF and its benchmark. Thus, it is less the existence and more the magnitude of this tracking error that should concern an investor.¹³⁸

Tracking error will vary from fund to fund, based on the particular way in which a fund is managed and may therefore distinguish even ETFs that purport to track the very same index. The *Financial Times* explains this by way of example:

For example, Lipper calculates that the Lyxor CAC 40 ETF had an annualized tracking error of 2.33 per cent in 2005 and 1.99 per cent in 2006. In contrast, the Indexis ETF tracking the same index recorded annualized tracking errors of 5.44 per cent and 4.16 per cent for 2005 and 2006 respectively, while the EasyETF CAC 40 registered 4.29 per cent and 2.24 per cent.¹³⁹

Various factors influence the degree of tracking error in an ETF. First, a fund may choose to replicate the entire composition of its underlying index or to use only a representative sample of those securities in its portfolio. Although the latter approach may be more cost-effective, it can obviously lead to a greater divergence in performance. Sometimes, full replication may be impossible: if an index includes a stock that accounts for 50% of the index, for instance, ETFs may be barred from investing anywhere near that level of its portfolio in that stock by SEC or self-imposed rules that require greater diversification.¹⁴⁰

Second, currency fluctuations may create a disparity in returns for a benchmark comprising only foreign stocks if the fund itself is denominated

¹³⁷For a general discussion of tracking error, see Gullapalli, *supra* note 104, at C1. "In recent months, however, some ETFs have begun diverging widely from the performance of the benchmarks they are supposed to follow." *Id.*

¹³⁸See Eleanor Laise, *Indexing & ETFs: ETFs Get a Tough Market Test*, WALL ST. J., Aug. 19, 2007, at A2 (discussing the performance of ETFs following the 1,100 point drop in the Dow Jones Industrial Average in the month ending August 16, 2007, and noting that, although many funds "performed exactly as expected," not all did; in fact, "many investors in more exotic ETFs that focus on narrow industry segments or employ complex strategies to produce some multiple of an index's gains may have been unpleasantly surprised by those funds' performance").

¹³⁹Hildrey, *supra* note 44, at 5.

¹⁴⁰*Id.* (discussing full and partial replication).

in U.S. dollars.¹⁴¹

Third, the particular costs a fund incurs will create greater or lesser drag on the fund's performance. Thus, "[t]racking error will be affected by transaction costs, custody costs, the foreign exchange impact of investing in overseas securities and differences in the timing of dividend payments, among other factors."¹⁴²

Tracking error may be most pronounced during volatile markets, such as those of this recent summer.¹⁴³ The *Wall Street Journal* reports that "[w]hile the Standard & Poor's 500-stock index dropped roughly 9% in the month ended Aug. 16, many ETFs produced double-digit gains or losses."¹⁴⁴ Funds that engage in leverage to increase their returns, either positively or negatively, are particularly vulnerable to tracking error.¹⁴⁵

The novelty of ETFs has, in many respects, disguised some of their limitations. While many of their positive attributes have been intuitively or immediately obvious, their weaknesses have tended to emerge only over time, as different cycles in the market have placed ETFs under different kinds of pressure. In addition, the explosive expansion of this industry has created large numbers of new funds that are squeezing into increasingly narrow investment niches and looking less and less like the prototypical broad-based index fund. As the industry matures and develops a track record for these hundreds of new offerings, the true range of their vulnerabilities will become more apparent.

V. A POSITIVE MARKET RESPONSE TO MUTUAL FUNDS

In the first decade of their existence in the United States, ETFs grew steadily to approximately 120 funds and \$150 billion in assets.¹⁴⁶ Then, in

¹⁴¹*Id.*

¹⁴²*Id.*

¹⁴³See Tom Lauricella & Diya Gullapalli, *Shorting Out: Fast-Money Crowd Embraces ETFs, Adding Risk for Individual Investors*, WALL ST. J., Mar. 17, 2007, at A1. "Although ETFs are often advertised as an easy way for investors to jump in and out of the market, those who sold during the U.S. day [on February 27, 2007] would have lost significantly more than the actual index they thought they were mirroring." *Id.*

¹⁴⁴Laise, *supra* note 135, at B1.

¹⁴⁵See Diya Gullapalli & Ian Salisbury, *New ETFs Don't Please Everyone; Leveraged Funds Are a Hit, but Can Be Tricky*, WALL ST. J., May 26, 2007, at B2. They report: Some leveraged funds seek to double the daily performance of a market index before fees and expenses, for instance increasing 2% on a day the Standard & Poor's 500-stock index goes up 1%. Other inverse and double-inverse products seek the opposite effect—falling by 1% or 2% respectively on a day the index they track increases by 1%.

Id.

¹⁴⁶See ICI FACT BOOK, *supra* note 5, at 8, 10.

September 2003 (the tenth anniversary of ETFs), New York Attorney General Eliot Spitzer announced an investigation into the possible illegal market timing of mutual funds.¹⁴⁷ That press conference triggered several years of exhaustive regulatory investigations into almost all aspects of the mutual fund industry, leading to billions of dollars in payments by investment advisers to the SEC and state regulatory bodies to settle allegations of widespread malfeasance. Those investigations, in turn, prompted the SEC staff to draft a raft of new regulations to address the shortcomings of mutual funds and caused academics to explore much of what went wrong in the industry.¹⁴⁸

The thoroughgoing unpleasantness in the mutual fund industry also triggered a rapid acceleration in the growth rate of ETFs as mutual fund investors fled possibly tainted investment products for the perceived safety of ETFs.¹⁴⁹ Rather than waiting for the new regulations to fix mutual funds, ETF investors viewed these new funds as a salubrious market response to the failure of mutual funds.

Indeed, the structure and operation of ETFs endow them with many characteristics that render them immune to several of the most notorious vulnerabilities of mutual funds, such as market timing, late trading, unfair valuation, and hidden fees and expenses.¹⁵⁰

A. Market Timing

¹⁴⁷See Press Release, Office of N.Y. State Att'y Gen. Eliot Spitzer, *State Investigation Reveals Mutual Fund Fraud* (Sept. 3, 2003), available at http://www.oag.state.ny.us/press/2003/sep/sep03a_03.html.

¹⁴⁸See, e.g., Lucian Bebchuk, et al., Conference, *The \$7 Trillion Question: Mutual Funds & Investor Welfare*, *Mutual Funds & Corporate Governance*, 1 J. BUS. & TECH. L. 55 (2006); John C. Bogle, Conference, *The \$7 Trillion Question: Mutual Funds & Investor Welfare*, *Reflections on the Evolution of Mutual Fund Governance*, 1 J. BUS. & TECH. L. 45 (2006); Mercer E. Bullard, *The Mutual Fund as a Firm: Frequent Trading, Fund Arbitrage and the SEC's Response to the Mutual Fund Scandal*, 42 HOUS. L. REV. 1271 (2006); James D. Cox & John W. Payne, *Mutual Fund Expense Disclosures: A Behavioral Perspective*, 83 WASH. U. L.Q. 907 (2005); Tamar Frankel, *How Did We Get Into This Mess?*, 1 J. BUS. & TECH. L. 133 (2006); Donald C. Langevoort, *Private Litigation to Enforce Fiduciary Duties in Mutual Funds: Derivative Suits, Disinterested Directors and the Ideology of Investor Sovereignty*, 83 WASH. U. L.Q. 1017 (2005); Martin E. Lybecker, *Enhanced Corporate Governance for Mutual Funds: A Flawed Concept that Deserves Serious Reconsideration*, 83 WASH. U. L.Q. 1045 (2005).

¹⁴⁹See generally Birdthistle, *supra* note 25, at 1404-11 (explaining the source of allegations of malfeasance in the area of mutual funds by extending the managerial power theory of executive compensation to the mutual fund industry).

¹⁵⁰See Kimelman, *supra* note 7, at 6. "Several investigations into mutual fund trading practices are continuing, and Congress and the Securities and Exchange Commission are considering ways to change the industry's practices. Because of their constant repricing, exchange-traded funds, which track stock and bond indexes, have been conspicuously immune to these problems." *Id.*

Perhaps the most well-known allegation made by the SEC and state regulators against the investment advisers of mutual funds was that the advisers were complicit in market timing their own funds. Because mutual funds are priced just once a day, typically at the close of the New York stock markets at 4:00 p.m. eastern time, some funds may use stale prices for their underlying securities when calculating the fund's NAV.¹⁵¹

Consider, for instance, a mutual fund that invests in stocks on the Tokyo Stock Exchange (TSE). At 4:00 p.m. eastern time, the TSE has been closed for fourteen hours—with another four hours to go before it reopens—and therefore, the prices of TSE stocks will not have changed during that time. If, however, Japan has experienced extremely positive or extremely negative financial news during the fourteen hours between the close of the TSE and the calculation of the U.S. mutual fund's daily NAV, the price the mutual fund charges for its shares will be either far too high or far too low, at least until the shares are priced again the next day using fresh prices from the TSE. Cognizant of this vulnerability in mutual fund pricing, sophisticated institutional investors such as hedge funds sought to move large amounts of cash in and out of mutual funds quickly to profit through this time zone arbitrage. Thus far, this kind of market timing is not per se illegal.¹⁵²

In their public prospectuses, however, many mutual funds avowed policies against allowing the timing of their funds.¹⁵³ Market timing was often voluntarily prohibited by investment advisers because market timing greatly complicates the operation of funds by portfolio managers, who must scramble to invest or divest large blocks of stocks to accommodate institutional market timers, and because market timing dilutes the returns of long-term fund investors in favor of short-term investors who capture immediate returns from their timing activity. Regulators alleged that investment advisers, in contravention of their publicly filed prospectuses, nevertheless permitted large institutional investors to market time their mutual funds in exchange for particular forms of payment to the adviser. In these illicit quid pro quo arrangements, market timers would typically make and hold large investments in certain other funds advised by the same investment adviser, who would receive management fees therefrom to offset any administrative difficulties in the time fund. Whereas the investment adviser was compensated for its trouble in this scheme, the other, long-term

¹⁵¹See Hulbert, *supra* note 10, at 7 (discussing the appeal of ETFs as an alternative to mutual funds and their limitations).

¹⁵²See Birdthistle, *supra* note 25, at 1455.

¹⁵³See *id.*

investors in the timed fund were not.¹⁵⁴

A fund whose shares are priced constantly throughout the day and react more or less immediately to publicly disclosed information—such as good or bad news in the Japanese economy—cannot be market timed. An ETF is just such a fund. The practice of market timing relies upon the forward pricing scheme to calculate the NAV of mutual funds and the use of stale prices in that computation. The inherent pricing scheme of ETFs simply does not permit this kind of timing arbitrage. Furthermore, as Professor Burton Malkiel has pointed out, the rapid timing of purchases and redemptions of ETF shares by sophisticated institutional investors has no effect on—and certainly does not hurt—other investors in the fund.¹⁵⁵

B. *Late Trading*

Another allegation made against mutual fund investment advisers was that, again in exchange for compensation, they allowed favored clients to late trade their funds.¹⁵⁶ Unlike market timing, late trading is per se illegal, no matter what a fund's prospectus might purport to allow or to prohibit.¹⁵⁷ Late trading involves placing an order to buy or sell mutual fund shares after 4:00 p.m., when the markets have closed and the price of fund shares has been calculated.¹⁵⁸

Not only does late trading allow investors to know exactly whether a fund's price has dropped (making it a good day to buy) or risen (making it a good day to sell), but it also allows investors to react to any financial news that arises after the close of business.¹⁵⁹ If, for instance, dramatically negative news is announced at 4:01 p.m., any investor who placed a sell order on mutual fund's shares for that day would escape from the fund before the price fell the next day to reflect the bad news.¹⁶⁰ And, similarly, buying after learning of good news would enable an investor to acquire fund shares for an artificially low price and to generate immediate profits if the shares

¹⁵⁴See *id.*

¹⁵⁵See Authers, *supra* note 16, at 12. Professor Malkiel states: "There are those who really believe they can time the market and trade in and out—I don't think they can, but there are those who believe that. If they do that within a mutual fund framework, they create costs for people sitting in the mutual fund." *Id.* The *Financial Times* reports further: "In an ETF, short-termists are free to do their own thing, without damaging fellow shareholders who want to 'buy and hold,' [Professor Malkiel] argues." *Id.*

¹⁵⁶See Birdthistle, *supra* note 25, at 1458-60.

¹⁵⁷*Id.* at 1455-58.

¹⁵⁸*Id.* at 1458-59.

¹⁵⁹*Id.* at 1459.

¹⁶⁰Birdthistle, *supra* note 25, at 1459.

were then sold shortly thereafter.¹⁶¹

But how is late trading possible if mutual fund orders must be made before 4:00 p.m., and fund shares are priced at 4:00 p.m.? In fact, the technical and recordkeeping steps necessary to process mutual fund transactions take several hours to administer, as information on purchase and sale orders is gathered from brokerage houses across the country and aggregated by the fund's back-office administrators.¹⁶² During that time, complicit intermediaries can "lose" or "find" orders favorable to important clients, if they so choose.¹⁶³

Again, the radically different pricing apparatus of ETFs insulates them against this kind of machination. Only the slow, cumbersome process of aggregating and calculating client orders renders mutual funds susceptible to this kind of manipulation. The trading of ETF shares happens almost instantaneously on stock exchanges continuously throughout the day, making the process far more transparent and free from manipulation.¹⁶⁴

C. Fair Valuation

If a mutual fund holds in its portfolio an underlying investment that is highly illiquid, the process of determining the fund's NAV quickly becomes complicated.¹⁶⁵ Consider, for example, a mutual fund that invests in a small, private company—perhaps a recently founded technology venture.¹⁶⁶

Since the shares in that company do not trade publicly, investors such as the mutual fund can determine the shares' value only occasionally, perhaps when the company holds a new round of financing or when the company commissions an external auditor to make an appraisal.¹⁶⁷ In the weeks, months, or years between those valuation events, the last-known price of the company's stock may become very stale.

If during that time the company has successfully prosecuted a new patent, for instance, the value of its shares will almost certainly have increased, notwithstanding the unchanged and artificially low last-known price.¹⁶⁸ Similarly, if the company has become the target of serious litigation, the value of its shares will very probably have decreased, again

¹⁶¹*Id.* at 1458-60.

¹⁶²*Id.* at 1459.

¹⁶³*Id.* at 1458-60.

¹⁶⁴See Hall, *supra* note 24, at 1127.

¹⁶⁵Birdthistle, *supra* note 25, at 1456-58.

¹⁶⁶*Id.* at 1458.

¹⁶⁷*Id.*

¹⁶⁸*Id.*

notwithstanding the artificially high last-known price.¹⁶⁹ Because mutual fund advisers are compensated by management fees that are computed as function of the assets they manage, an artificially high calculation of those assets will lead to inappropriately high management fees for the investment adviser.¹⁷⁰ Accordingly, investment advisers are legally obliged to "fair value" the investments in their portfolio, if reliable market prices are not available.¹⁷¹

The fair valuation process may involve using third-party appraisers, reasonable proxies, or computational models to derive a current and more reasonable value for rarely priced investments.¹⁷² Of course, this backup valuation process often involves a certain degree of judgment and discretion. Another of the charges leveled against mutual fund investment advisers in the late imbroglio was that they exercised this judgment in their own favor and to the detriment of shareholders in the fund.¹⁷³

ETFs avoid the perils of unfair valuation by trafficking in publicly traded investments.¹⁷⁴ Any investor who wishes to purchase a creation unit from an ETF must, of necessity, present the fund with a basket of securities representing the overall holdings of the ETF.¹⁷⁵ All the participants in this system will, therefore, be cognizant of recent and reliable prices for each of the ETF's component investments. The fund sponsor will not be at liberty to substitute its self-interested judgment to compute the NAV of the ETF and thereby charge an artificially inflated management fee.

D. *Hidden Fees and Expenses*

Because mutual funds handle a variety of administrative tasks associated with their funds' investors, they charge a variety of fees.¹⁷⁶ Mutual funds or their agents are responsible for tracking the purchase and sale of all fund shares, for generating statements to investors, for maintaining safe custody of the fund's assets, and for promoting the sale of fund shares to intermediaries such as brokers and dealers.¹⁷⁷ For each of these services, mutual funds charge transfer agency fees, account

¹⁶⁹Birdthistle, *supra* note 25, at 1458.

¹⁷⁰*Id.* at 1457.

¹⁷¹*Id.* at 1456-58.

¹⁷²*Id.* at 1458.

¹⁷³Birdthistle, *supra* note 25, at 1456-58.

¹⁷⁴*See* Hall, *supra* note 24, at 1126.

¹⁷⁵*Id.* at 1127.

¹⁷⁶Birdthistle, *supra* note 25, at 1463.

¹⁷⁷*Id.* at 1424-28.

maintenance fees, custodian fees, 12b-1 fees, and more.¹⁷⁸ Occasionally, mutual fund advisers opt to waive some of these fees for limited periods.¹⁷⁹ Accordingly, the fee and expense table contained in the prospectus of a typical mutual fund which must record all these permutations can be an extraordinarily convoluted read.

ETFs, by contrast, are relatively free from layers of disparate fees. Often, they charge only a single management fee, from which they discharge any and all of their operational obligations. This one fee makes pricing comparison amongst ETFs comparatively straightforward for investors.

Even as a bullish market has dissipated much of the negative press surrounding mutual funds since 2003, ETFs remain more attractive to many who might previously have invested in mutual funds, and these newer funds now attract the majority of new investments in indexed investment funds.¹⁸⁰

VI. IMPLICATIONS OF THE GROWTH OF ETFs

As the ETF industry continues its dramatic debut and rapid march upon the \$2 trillion mark, which some analysts believe it will reach by 2010, two possible developments may place even greater importance upon the study of positive and negative attributes of ETFs. First, administrators may grant ETFs access to the menus of investment options available to investors in retirement accounts, such as pensions, 401(k)s, and other defined contribution plans. Second, the SEC may grant applications that have already been filed by fund sponsors for the formation of actively managed ETFs. Should either or both of these eventualities come to pass, the amount of money—and, perhaps more importantly, the proportion of retirement savings—invested in these new investment vehicles will grow even more rapidly. The effect of this additional stress on a largely untested industry is a matter of conjecture but, if the elder siblings of ETFs—mutual funds—are any guide, the ETF industry may soon become the scene of crime and punishment.

A. *Gaining Access to Retirement Accounts*

Currently, \$2.5 trillion are invested in retirement savings accounts.¹⁸¹ Those accounts are typically overseen by a plan administrator, who

¹⁷⁸See ICI FACT BOOK, *supra* note 5, at 47.

¹⁷⁹Birdthistle, *supra* note 25, at 1444.

¹⁸⁰See ICI FACT BOOK, *supra* note 5, at 37.

¹⁸¹See Knight, *supra* note 20, at 8.

chooses what investments to include in a menu of choices for plan participants. Mutual funds have long dominated this field, and most 401(k) plans, for example, provide employees with a choice of funds in which to invest. If a fund sponsor can persuade the administrator to include ETFs in the relatively limited choice of options, ETFs would almost certainly enjoy a rapid increase in assets under management. To date, however, two impediments have stood in the way of the inclusion of ETFs: the presence of mutual funds and the brokerage fees associated with ETFs.

ETF sponsors will need to persuade plan administrators that ETFs can offer plan participants something that mutual funds cannot.¹⁸² One of the chief selling points of ETFs—their ability to trade rapidly and in real time—may be unlikely to impress trustees who are charged with overseeing plans intended to safeguard retirement assets for the long term. In addition, the 8,000 mutual funds currently on the market provide an equal if not greater number of investment options as the 500 ETFs available.

Similarly, brokerage fees may be an additional expense that retirement plan administrators will not wish to impose upon their plans' participants. Currently, many investment advisers offer no-load mutual funds, which investors can purchase and redeem without paying transaction fees.¹⁸³

But the allure of this potential market is a powerful one. The retirement market is large and may soon expand considerably. The recent Pension Protection Act of 2006¹⁸⁴ authorized plan administrators to switch the default on participants' accounts from uninvested to invested. That is, previously, any employee who saved money to a retirement plan would be required to make an affirmative choice to have those funds invested in anything other than cash or a money market account. But many employees are either too busy or unsophisticated to manage their retirement accounts effectively.¹⁸⁵ Accordingly, large amounts of retirement assets sat uninvested. With this new federal legislation, however, plan administrators can arrange to have funds invested in a relatively conservative set of broad-based index funds. This legislation is likely to improve the return on the savings of many future retirees, though it also has a healthy effect on the profits of those default index funds' investment advisers.

Given these substantial financial incentives, ETF sponsors are diligently lobbying plan administrators to add ETFs to their fund menus.¹⁸⁶ In that effort, some sponsors have taken steps to reduce or eliminate the

¹⁸²*See id.* ("Owen Concannon, a senior analyst at Financial Research Corporation, the Boston-based data company, says that because mutual funds are so entrenched in the Dollars 2,500bn 401(k) market, it will be hard to convince plan sponsors to seek out an alternative investment option.").

¹⁸³*See id.*

¹⁸⁴Pension Protection Act of 2006, Pub. L. No. 109-280, § 1213(d)-(e), 120 Stat. 780 (2006).

¹⁸⁵For an example of materials directed towards retail investors to increase their familiarity with investing options, see New York Stock Exchange, *What You Should Know About Exchange Traded Funds*, NYSE INFORMED INVESTOR SERIES (2006), available at http://www.nyse.com/pdfs/what_you_should_know_about_etfs.pdf.

¹⁸⁶*See Knight, supra* note 20, at 8 ("WisdomTree Investments, the Delaware-based ETF provider, recently opened a new business unit dedicated to bringing ETFs to DC [defined contribution] programmes.").

brokerage fees associated with their funds, so as to remove impediments from dollar-cost averaging. These efforts appear to be making some sort of headway, as some administrators have begun to acquiesce.¹⁸⁷

B. *Securing Permission to Offer Actively Managed ETFs*

Active management is another source of possible growth in the ETF industry.¹⁸⁸ In the mutual fund context, the vast majority of funds are actively managed, even though there are a significant number of passive index funds also. Many market analysts project that the number of ETFs and the amount of assets invested therein would both jump dramatically if the SEC authorized the use of active management. As we have seen, active management faces a number of technical difficulties in the ETF context—chiefly, the ability to reconcile a fund manager's interest in keeping the fund's composition and investment strategy secret with the need for investors to know whether the price of fund shares accurately reflects the value of the fund's portfolio.¹⁸⁹

The pending applications—filed by Vanguard, among others—propose sampling strategies that would disclose a substantial proportion of the fund. Claiming that the disclosed portion would be representative of the undisclosed portion, the sponsors argue that investors can thereby evaluate the value of the entire portfolio without knowing every detail about the fund's composition and strategy. To date, these applications have been made for funds that would track Treasury securities, which are relatively fungible and, the applicants suggest, ideal ingredients for this kind of ETF.¹⁹⁰

¹⁸⁷*See id.* ("Exchange traded funds will soon be available as investment options for US defined contribution plans.").

¹⁸⁸*See* Syre, *supra* note 127, at E1. Syre explains:

If someone figures out how to make the actively managed ETF succeed, the market for exchange traded funds may be in for another boom era, says [ETF manager Jim] Ross at State Street. "If the active ETF comes to fruition in a form that works and major mutual fund companies adopt it, you're going to see thousands of ETFs."

Id.

¹⁸⁹*See* Waggoner, *supra* note 19, at 3B. Waggoner explains:

But the transparency that makes an index ETF so appealing is anathema for active managers. If other investors can see that a manager is buying, say, IBM, they'll start to buy IBM, too. Then the fund manager will have to settle for a higher price for IBM. And other investors will enjoy the benefit of the manager's savvy—without paying for it.

Id.

¹⁹⁰*Id.* Waggoner also discusses other possible solutions to the difficulty of active management:

Again, despite obstacles, ETF sponsors are aggressively pursuing expansion into untapped new fields of assets that active management would make available. The existing pattern of ETF growth, when combined with the possibility of successfully gaining entrance to retirement accounts and the market for active management, suggests that the ETF industry will continue its breakneck expansion.

C. *Future Vulnerabilities from Conflicts of Interest*

What can we expect from this future growth? If all goes well, ETF entrepreneurs will be rewarded for developing a helpful new means of investment, and investors will indicate their satisfaction with the services ETFs provide by sending their assets to them to satisfy a wide variety of investing needs. But perhaps it is naïve to assume that such explosive growth will occur without growing pains. Indeed, it is difficult to forget that ETFs owe a significant portion of their popularity and success to the debacles of their older siblings, mutual funds. Perhaps the experience of difficulties in the mutual fund industry might provide instructive warnings for the ETF industry.

The unifying theme of the allegations of malfeasance in the mutual fund industry was the investment advisers' decision to succumb to the temptations created by conflicts of interest. When confronted by institutional investors who wished to market time mutual funds, for instance, investment advisers were forced to choose between the financial health of long-term investors in those funds and their own revenues, which the market timers were promising to increase. Similarly, late trading also involved a quid pro quo between investment advisers and the investors who asked those advisers to abet illegal trading in exchange for increased assets under management, which led directly to increased revenues from management fees.¹⁹¹

One of the great successes of the ETF industry has been the ability to create a market—rather than a regulatory or litigated—solution to much of the mutual fund difficulties. Nevertheless, ETFs are not free from their own possible conflicts of interest. One particular source of vulnerability involves the stock lending plans, whereby ETFs lend their stocks to other

An actively managed ETF could delay revealing its holdings. But the longer the delay, the more likely that the ETF's market price will vary widely from the value of its holdings. And even with long delays—say, a week—freeloaders could watch the fund's share price fluctuate relative to its most recent disclosed portfolio. And they could figure out which stocks the ETF is buying and selling.

Id.

¹⁹¹See Birdthistle, *supra* note 25, at 1460.

market participants in exchange for a fee. Since many ETFs hold themselves out as vehicles for tracking a benchmark, their sponsors are under no affirmative duty to boost returns with the proceeds of these stock lending plans. Competitive market forces may encourage ETF sponsors to use the proceeds to increase fund returns, but the mutual fund precedent demonstrates that market forces may not succeed in disciplining investment advisers who choose to direct such proceeds directly into their own pockets.

Another possible pitfall for ETFs may be the dystopia predicted by Bogle.¹⁹² If, as he fears, investors saving for retirement do in fact manage to hurt themselves and their savings by aggressively trading their accounts in and out of ETFs, the ETF may be discredited as a savings vehicle.

VII. CONCLUSION

The ETF industry presents a fascinating opportunity to study the growth and development of a promising young specimen of financial innovation. When the mutual fund stumbled, prompting litigators and regulators to begin drafting complaints and regulations, many investors found a solution to the troubles in ETFs. With ETFs now headed quickly towards a potentially awkward adolescence in which they will be forced to take on important new responsibilities—particularly as the SEC is beginning to approve actively managed ETFs—the pressure of these novel and significant developments may expose weaknesses in their design and execution with profound financial consequences. By beginning with a thorough understanding of their structure, benefits, and shortcomings, scholars can expand upon this theoretical examination of ETFs to ascertain the strengths and weaknesses of ETF's architecture before these funds are asked to take the strain of huge new infusions of investment.

¹⁹²See BOGLE, *supra* note 23, at 168-71.