

An Introduction to Exchange-Traded Funds (ETFs)

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(I have changed my views on some points made in the original paper and new developments have enriched ETF opportunities. Some of these changes and developments are discussed in footnotes added to the present version.)

Abstract

The phenomenal growth of Exchange-Traded Funds (ETFs) is a frequent topic in the financial press. These funds, with assets more than doubling each year since 1995, have been warmly embraced by most advocates of low-cost index funds. Vanguard, the leading advocate of index funds, has announced plans to add exchange-traded share classes to a number of its domestic index funds. Most of the press coverage has correctly noted the major advantages of ETFs – low-costs, intra-day trading and high tax efficiency with no material premiums or discounts to the funds' intra-day net asset value. However, there is a fair degree of misunderstanding about how ETFs work, what sectors of the market are good candidates for ETFs and what sectors are not, why the expense ratios tend to be low, and how most of the funds manage to avoid significant capital gains distributions. This paper attempts to answer these and other questions frequently asked by investors.

A Brief History of ETFs

Exchange-Traded Funds, referred to by friends and foes alike as “ETFs,” are outstanding examples of the evolution of new financial products. We begin by tracing the history of the ETFs’ antecedents – the proto-products that led to the current generation of exchange-traded funds and set the stage for products yet to come. After describing how ETFs were developed and how they work, we speculate on the course evolution will take in producing new varieties of exchange-traded funds.

Portfolio Trading

The basic idea of trading an entire portfolio in a single transaction did not originate with the TIPS or SPDRS which are the earliest examples of the modern portfolio-traded-as-a-share structure. It originated with what has come to be known as portfolio trading or program trading. In the late 1970s and early 1980s program trading was the then revolutionary ability to trade an entire portfolio, often a portfolio consisting of all the S&P 500 stocks, with a single order placed at a major brokerage firm. Some modest advances in electronic order entry technology at the NYSE and the Amex and the availability of large order desks at some major investment banking firms made these early portfolio or program trades possible. At about the same time, the introduction of S&P 500 index futures contracts at the Chicago Mercantile Exchange provided an arbitrage link between the futures contracts and the traded portfolios of stocks. It even became possible, in a trade called an exchange of futures for physicals (EFP) to exchange a stock portfolio position, long or short, for a stock index futures position, long or short. The effect of these developments was to make portfolio trading either in cash or futures markets an attractive activity for many trading desks and for many institutional investors.

As a logical consequence of these developments affecting large investors, there arose interest – one might even say demand – for a readily tradable portfolio or basket product for smaller institutions and the individual investor. Futures contracts were relatively large in notional size and the variation margin requirements for carrying a futures contract were cumbersome and relatively expensive for a small investor. Perhaps even more important, there are approximately ten times as many securities salespeople as futures salespeople. The need for a security, i.e., an SEC-regulated portfolio product, that could be used by

individual investors was apparent. One of the first such products introduced were the Index Participation Shares, known as “IPS.”

Index Participation Shares (IPS)

The Index Participation Shares were a relatively simple, totally synthetic, proxy for the S&P 500 Index. While other indexes were also available, S&P 500 IPS began trading on the American Stock Exchange and the Philadelphia Stock Exchange in 1989. IPS traded with a level of activity that showed significant public interest, in spite of a lawsuit by the Chicago Mercantile Exchange (CME) and the Commodity Futures Trading Commission (CFTC) which charged that these instruments were futures contracts. As futures contracts, they would be required by law to trade on a futures exchange regulated by the CFTC, not on a securities exchange. In spite of the cloud cast by this litigation, IPS volume and open interest were growing. The IPS were, candidly, much like a futures contract; but they were margined and collateralized like stocks. Like futures, there was a short for every long and a long for every short. IPS were carried and cleared by the Options Clearing Corporation and they provided a return essentially identical to the long or short return on the underlying shares in the index with an appropriate quarterly credit for dividends on the long side and a debit for dividends on the short side.

Alas, success eluded the IPS. A federal court in Chicago found that the IPS were indeed illegal futures contracts and had to be traded on a futures exchange if they were traded at all. The stock exchanges began to close down IPS trading and investors were required to liquidate their IPS positions in an orderly manner.

While a number of efforts to find a replacement product for IPS that would pass muster as a security were underway in the United States, another effort achieved success first in Toronto. There, the TIPs, (Toronto Stock Exchange Index Participations) were introduced.

Toronto Stock Exchange Index Participations (TIPs)

TIPs were a warehouse receipt-based instrument designed to track the TSE-35 index and, later, the TSE-100 index as well. The TSE-100 product was initially called HIPs. These

products traded actively and attracted substantial investment from Canadians and from international indexing investors. TIPs were truly unique in their expense ratio. The ability of the trustee to loan out the stock in the TIPs portfolio and frequent demand for stock loans on shares of large companies in Canada led to what was, in effect, a negative expense ratio at times.

The TIPs were a victim of their own success. They proved costly for the Exchange and for some of its members who were unable to recover their costs from investors. Early in 2000, the Toronto Stock Exchange decided to get out of the portfolio share business and TIPs positions were liquidated or rolled into a BGI 60 stock index share at the option of the TIPs holder. The BGI fund was relatively low cost, but not as low cost as the TIPs, so a large fraction of the shares were liquidated.

While the TIPs were flourishing in Toronto, two other portfolio share products were under development in the United States: Supershares and SPDRs.

Supershares

Supershares were a product of Leland, O’Brian, Rubenstein Associates (LOR) and, in the post-1987 environment, were often referred to by skeptics as being “from the folks who brought you portfolio insurance.” Supershares were a complex product using both a trust and a mutual fund structure – one inside the other. Supershares were a high cost product, particularly after a fee was extracted to compensate the creators and sponsors. The complexity of the product, which permitted division of the Supershares into a variety of components, some with option and option-like characteristics, made sales presentations long and confusing for many customers. The Supershares never traded actively, and the trust was eventually liquidated.

Standard & Poor’s Depository Receipts (SPDRS)

SPDRS (pronounced “spiders”) were developed by the American Stock Exchange approximately in parallel with Supershares, although their introduction was deferred until after the Supershares were offered. SPDRs are a relatively simple unit trust with an S&P 500 portfolio, that, unlike the portfolios of most U.S. unit trusts, can be changed as the

index changes. The reason for the selection of the unit trust structure was the Amex's concern for costs. A mutual fund must pay the costs of a board of directors, even if the fund is very small. The Amex was uncertain of the demand for SPDRs and did not want to build a more costly infrastructure than was necessary. While SPDRs are the essence of simplicity relative to Supershares, they are more complex than TIPs and IPS, and the education process has been a long one. SPDRs traded reasonably well on the Amex in their earlier years, but only in the late 1990's did SPDR asset growth become truly exponential, as investors began to look past the somewhat esoteric in-kind share creation and redemption process and focused on the investment characteristics and tax efficiency of the SPDRS themselves. Today, the S&P 500 SPDRs have more assets than any other index fund except the Vanguard 500. On the other hand, estimates range from 70 to 90% as the amount of traditional index fund money that goes into S&P 500 portfolios while the S&P 500 SPDR, in spite of its role as the original U.S.-based ETF, has appreciably less than half of all ETF assets. Clearly, there is more to exchange-traded funds than an alternative to conventional index funds.

World Equity Benchmark Shares (WEBS) – renamed iShares MSCI Series

The WEBS are important for two reasons. First, they are foreign index funds, that is, funds holding stocks not issued by U.S.-based firms. Second, they are one of the earliest exchange-traded index products to use a mutual fund as opposed to a unit trust structure. If you are going to do a large number of similar products, the mutual fund structure can be considerably less costly than doing a separate unit trust for each product. The mutual fund structure has more investment flexibility and there are some other differences in dividend reinvestment and stock lending, but most of these differences are in the process of being eliminated. We would expect most new funds to use the mutual fund structure, but competitors' whispers that the SPDRs and other ETFs structured as unit trusts suffer from an evil affliction called "dividend drag" are gross exaggerations.

A product similar to WEBS was introduced on the NYSE at about the same time WEBS appeared on the Amex. For a variety of reasons, the most important of which were

structural flaws in the product, these “Country Baskets” failed and the trust was liquidated.

In addition to WEBS, a variety of additional ETF products are now available. The Mid-Cap SPDRs actually came before WEBS, and the DIAMONDS and Nasdaq 100 trusts were introduced later. The Select Sector SPDRs used a mutual fund structure similar to the WEBS and were introduced in late 1998. Of these products, the Nasdaq 100 and the Sector SPDRs deserve a closer look.

NASDAQ 100 Index Tracking Stock

In spite of the name, the Nasdaq 100 Trust is not a tracking stock as the term is used in the United States -- and, from a strictly technical point of view, it's not even a stock. The basic unit of trading, however, is a “share” and the Nasdaq 100 Trust is more like the original SPDR than most of the other currently traded ETFs. The reason for focusing on the Nasdaq 100 Trust is its spectacular success, partly as a result of a sound marketing effort by Nasdaq, but primarily because of the spectacular performance in recent years of stocks listed on the Nasdaq market. The Nasdaq 100, perhaps more than any of the other ETF products, illustrates the variety of applications and reasons for investment in exchange-traded funds.

Sector SPDRs

The Sector SPDRs provide another interesting perspective on the ETF world. Although each stock in the S&P 500 is assigned to a Sector SPDR, the balance of investor interest has been very different from sector capitalization weights. Investor interest has been greatest in the Technology Sector SPDR, followed at a considerable distance by the Financial Sector SPDR and at a great distance by all the other sectors. These sector funds have served, at least initially, primarily as a mechanism for expressing a strongly held view about a particular segment of the market. In part because their relatively low share prices increase transaction costs somewhat, Sector SPDRs have not yet caught on as the basis for weighting a portfolio more heavily in sectors favored from a fundamental perspective or less heavily if the sector is relatively unattractive. The very slow start of the iShares Dow

Jones sector funds suggests a need for more information, education and appropriate allocation tools to help individual investors and their advisors to develop interest in sector funds.

BGI iShare Funds

Barclays Global Investors, a major institutional index manager, launched iShares in a bid to develop a retail branded family of financial products. Apart from the S&P 500 component of the iShares offering and the former WEBS which BGI has served as investment advisor for approximately four years, many observers feel that BGI has yet to demonstrate that it can succeed in the ETF market. As of mid-September 2000, BGI accounted for more than 80% of the number of ETFs and less than 12% of ETF assets.¹

How the First ETF Generation Works

For the typical retail or even institutional investor, purchasing and selling ETF shares is the essence of simplicity. The trading rules and practices are those of the stock market. Shares are purchased and sold in the secondary market, much like stocks or closed-end funds, rather than being purchased from the fund and resold to the fund.

Because they are traded like stocks, ETFs can be purchased or sold any time during the trading day, not just at a 4:00 p.m. Net Asset Value (NAV) as determined by the fund and applied to all orders received since the prior day's determination of NAV. While the opportunities for intra-day trading may not be important to every investor, they certainly have appeal to many investors during a period when there is concern about being unable to get out of a position before the market close when prices are volatile.

Primary market transactions in ETFs, that is, trades when shares are bought and sold with the fund itself as a party to the trade, consist of in-kind creations and redemptions in large size. For example, the 500 SPDR creation unit is 50,000 SPDR shares and creation/redemption occurs only in multiples of 50,000 SPDR shares. There have been

¹ As of the end of July, 2003, BGI accounted for 70% of the number of ETFs and less than 37% of ETF assets in the United States.

several occasions when creation and redemption of SPDR shares has resulted in asset flows of \$1 billion dollars in or out of the SPDR Trust in a single day. Exchange specialists, market makers, and arbitrageurs create SPDR shares by depositing a stock portfolio that essentially matches the S&P 500 in content and is equal in value to 50,000 SPDR shares plus or minus a cash component designed to make the values exchanged exactly equal on the day the SPDRs are created. The same large market participants redeem SPDRs by depositing SPDRs in 50,000 share multiples and receiving an S&P 500 portfolio plus or minus balancing cash. The discipline of possible creation and redemption at each day's market closing NAV is a critical factor in the maintenance of SPDR shares at a price very, very close to net asset value, not just at the close of trading, but intra-day. A proxy for intra-day net asset value per share is continuously disseminated for each ETF throughout the trading day to help investors check the reasonableness of bids and offers on the exchange.

An extremely important feature of the creation and, more particularly, the redemption process is that redemption-in-kind does more than provide an arbitrage mechanism to assure a market price quite close to net asset value. Redemption in kind also enhances the tax efficiency of the fund. One of the problems with a conventional mutual fund is that, while it can require shareholders to take a redemption in kind on large redemptions, most funds are reluctant to do this, and most shareholders have fund positions considerably smaller than the \$250,000 minimum usually required for redemption in kind. As a consequence, most redemptions of conventional mutual fund shares are for cash, meaning that an equity fund faced with significant fund holder redemptions is required to sell shares of portfolio stocks, frequently shares that have appreciated from their original cost. When gains taken to obtain cash for redemptions are added to gains realized on merger stocks that leave the index for a premium over the fund's purchase price, many conventional index funds distribute substantial capital gains to their shareholders, even though the continuing shareholders who pay taxes on these distributions have made no transactions, and the fund, looked at from a longer perspective, has been a net buyer of most or all of its index's component securities.

The in-kind redemption process for exchange-traded funds enhances tax efficiency in a simple way. Low cost shares of each stock in the portfolio are delivered against redemption requests. In contrast to a conventional fund which would tend to sell its highest cost stocks first, leaving it vulnerable to substantial capital gains realizations when a portfolio company is acquired at a premium and exits the index and the fund, the lowest cost stock is tendered to ETF shareholders redeeming in multiples of 50,000 shares. The shares remaining in the portfolio have a relatively higher cost basis which means that acquired companies generate smaller gains when they leave the index.

Creation and redemption are processes which most exchange-traded fund shareholders do not need to understand beyond the notion that they contribute to fund tax efficiency and prevent material price premiums or discounts. It is important to mention one other point about redemption, however, because it occasionally causes confusion. The redeeming shareholder does not acquire the fund's cost basis in the stocks received in a redemption. The fund's basis is the fund's basis and the shareholder's basis is the shareholder's basis. There is no necessary or usual link between the two. In other words, a redeeming shareholder pays taxes based on his basis in the fund shares, not the fund's basis in the portfolio basket that it tenders him upon redemption.

One further feature of the existing exchange-traded funds which causes a degree of misunderstanding and which seems to create an expectation that all ETFs will be extremely low cost funds requires an explanation. First, the existing ETFs are all index funds. Index funds generally have lower manager's fees than actively-managed funds, whatever their share structure. Second, while ETFs do enjoy somewhat lower operating costs than their conventional fund counterparts, the principal reasons for low costs are (1) the opportunity to have a somewhat larger fund because of the popularity of the exchange-traded fund structure, and, most importantly, (2) the elimination of the transfer agency function – that is, the elimination of shareholder accounting – at the fund level.

An exchange-traded fund has one shareholder: the Depository Trust Company. If you want a share certificate for a SPDR or WEBS position, you are out of luck. Certificates are not available. The only certificate is held by the Depository Trust Company, and it is, if

you will allow a little poetic license, “marked to market” for increases and decreases in shares as creations and redemptions occur.

Shareholder accounting for ETFs is maintained at the investor’s brokerage firm, rather than at the fund. This creates no problems for the shareholder, although it does have some significance for the distribution of exchange-traded funds. One of the traditional functions of the mutual fund transfer agent is to keep track of the salesman responsible for the placement of a particular fund position, so that any ongoing payments based on 12b-1 fees or other marketing charges can be made to the credit of the appropriate salesman. There is no way for the issuer of an ETF to keep track of salesmen because these funds are fully DTC eligible securities. They do not carry the record keeping information needed to use the DTC Fund/SERV process. They are, in a word, just like a stock – and a stock with no certificates at that. The elimination of the individual shareholder transfer agency function reduces operating costs by a minimum of five basis points and probably by much more in most cases. Transfer agency costs of 35 basis points are possible in small funds with substantial shareholder turnover. ETF expenses tend to reflect the cost savings on this function.

If shareholder accounting costs are the only difference, a simple breakeven analysis can compare ETF and conventional fund costs if a shareholder does not value intra-day trading or improved tax efficiency. The trading price of an exchange-traded fund will be subject to a bid-asked spread (although these are very narrow on most products) and a brokerage commission. The result is that anyone planning to retain a fund position for more than a very short period of time and/or anyone who values the intra-day purchase and sale features of the exchange-traded funds will find the combination of lower expense ratio and flexibility more attractive than a conventional mutual fund share.

What Are the Essential Characteristics of the Market Underlying an ETF?

To date, all ETFs are based on equities and, with the exception of a hiccup affecting the Malaysian WEBS, the underlying markets have a high degree of liquidity. By liquidity we mean that a significant quantity of shares can be traded without much market impact. We

expect underlying market liquidity to be a universal characteristic of exchange-traded funds going forward. Any time you are dealing with a large scale creation or redemption of shares, whether in cash or in kind, the underlying market must be highly liquid under most circumstances. In a period of market turmoil, liquidity will be compromised, but an occasional incident can be handled effectively within the pricing and creation/redemption processes used by these funds. Even outside the U.S., as the WEBS have amply demonstrated, liquidity in equity markets is generally good, the occasional contretemps involving a government that decides to regulate its markets in an unusual way (i.e., Malaysia) notwithstanding.

Another feature of the underlying markets behind existing ETFs is narrow bid-asked spreads. Narrow spreads are a common feature of trading on the NYSE, the Amex, and the Nasdaq National Market System. When you get into the so-called bulletin board stocks and into many fixed income markets, spreads can be substantially wider. Wide spreads and illiquidity are inimical to the use of a market as an underlying source of exchange-traded fund portfolios. Good price data reporting is characteristic of equity markets nearly everywhere, but good, real-time price data is not necessarily available for fixed income markets. Until this changes, opportunities for fixed income funds will be limited.²

Finally, modest clearing and settlement costs and uniform settlement procedures for all of the markets or sub-markets included in a fund are quite important. It is not an accident that the WEBS were single country funds. Most countries have a singular clearing and settlement process for the stocks issued by companies domiciled in that country. In some cases, stocks can only be transferred on the books of a bank or other transfer agent located in the country of issue. Increasingly, particularly in the European Community, there are efforts underway to harmonize and integrate clearing and settlement procedures so that any security purchased or sold anywhere in Europe will pass through a common clearing process. This is not yet in place. Until it is in place, the notion of creating and redeeming fund shares in kind in a truly multi-national market fund will be ugly.

² Fixed income markets have become substantially more liquid and more transparent since this was written.

Economics of Open-End ETFs for Market Participants

Taking a look at various market participants, we see that ETFs change the economics for nearly everyone. Not every existing participant in, say, the closed end fund market or the conventional mutual fund market will find the new world order of exchange-traded funds promises to improve his personal economic opportunities, but most participants should be able to adapt and prosper.

Retail customers will generally save money from the elimination of fund shareholder accounting. Also – to the extent that initial ETF products have been primarily index funds – the inherently lower fee structure of an index fund should lead to a lower cost structure for the retail customer. The retail customer will also enjoy an increase in choices of service levels in terms of product selection and product management. For example, it is possible to buy a broad-based index fund at what promises to be an extremely low expense level, particularly for the S&P 500 products. It will also be possible to buy very sophisticated asset allocation or custom managed products at a significantly higher fee. Fee structures will usually be more transparent than they have been in the past, and the retail customer will be able to judge far better than he has at any time in the past what services he needs and whether they are worth the price he is asked to pay for them.

In short, costs will be clearer up front than they have been before. Aside from the savings on shareholder accounting, there is no reason to expect systematically lower expense ratios on products offering comparable value to the investor. Sales organizations that want to offer high margin products will still find plenty of load funds to choose from. ETFs will not eliminate any conventional product or fee structure.

The broker – by “broker” we mean the salesperson who deals with the retail customer – and his firm face a more complex situation than any of the other service providers. Load products may be harder to sell in an environment where exchange-traded funds are active and widely available in a variety of flavors designed to appeal to any investor’s taste. This is nothing new and unique in terms of the broker’s experience. Load funds have grown increasingly difficult to sell, as no-load funds have increased their market share relative to

products with an up-front or deferred sales charge. Nonetheless, investors have continued to show a willingness to pay for added value.

The flexibility and increasing diversity of exchange-traded fund offerings provides a new opportunity for many brokers who have the ability to find and to offer value-added services. There are opportunities for a wider range of wrap accounts that provide asset allocation services and fund selection for a single fee that includes commissions on the purchase and sale of exchange-traded fund shares. There are also opportunities for asset allocation packaged products, either in a fund of funds format, or in a unit investment trust or defined portfolio wrapper where the unit investment trust invests in exchange-traded funds selected to provide a better risk-return pattern than the investor might get from a random selection of funds or from the purchase of a single fund. Creative brokers and advisors will find more opportunities to add value and extract revenues with ETFs and ETF-related products than they are likely to find with more traditional products.

From the perspective of the fund manager, ETFs should create far more opportunities than they create problems. Other things equal, net ETF fees to the investment advisor should be very similar to fees for conventional funds. Having said this, to the extent that assets grow more rapidly as a result of the fund being an exchange-traded fund or having a class of exchange-traded shares, the average size of the fund will probably be larger than the average size of a comparable conventional fund, meaning that costs are spread over a larger portfolio. To the extent that the advisory fee is unchanged or declines slightly as the portfolio grows, the new structure should give rise to better dollar profits and better profit margins.

An interesting feature that deserves note is the importance of short sellers in determining the size of assets under management and fund manager profitability. If you regularly examine the short interest reports for the Amex, you will find that many exchange-traded funds have very large short interests. The short interest for the typical stock is around 1-2% of its capitalization. The short interest in the 500 SPDR is regularly about 10% of all shares outstanding and the Nasdaq 100 short interest is typically over 25% of its

capitalization.³ There have been occasions when the short interest in the Nasdaq 100 has exceeded its capitalization (that is actually possible). The significance of the large short interest is that, for the most part, fund shares held by individual investors are not loaned out to short sellers by the broker carrying the account. The consequence is that a number of arbitrageurs and market makers will take positions in the fund shares, hedge them in an appropriate manner, and lend the hedged shares to short sellers for an incremental return over prevailing short term interest rates. The fund share purchases of these arbitrageurs will increase the size of the fund, increasing the assets on which the fund manager receives a fee.

Most other service providers, specifically custodians, administrators, distributors, etc. are not likely to be significantly affected by the exchange trading process and the creation and redemption mechanism described earlier. With the exception of the transfer agent, whose shareholder accounting function is largely eliminated, the service providers will continue to operate as usual with the same kinds of competitive pressures they have faced for a number of years.

One point affecting custodian/administrators does need attention. There are currently only a limited number of National Securities Clearing Corporation (NSCC) participants who are fully qualified to serve as custodian/administrators of exchange-traded index funds based on US stocks, and using the in-kind creation/redemption process. The creation/redemption process is based on the NSCC settlement guarantee for securities traded under its continuous net settlement (CNS) process. NSCC stands ready to guarantee the delivery of shares into or out of an exchange-traded fund and to guarantee the delivery of fund shares themselves to the party due to receive them. Today only three or four banks are fully vetted by NSCC to handle this process.

Open Ending a Closed-End Fund into an ETF Has Only Limited Possibilities

One of the objections to open ending a closed end fund has always been that there is a large potential tax penalty for shareholders who stay in the fund as liquidating shareholders

³ These ETF short interests as a percent of capitalization are substantially larger today.

leave and the fund is required to sell appreciated securities, realizing a distributable capital gain. The high probability of a capital gain distribution encourages otherwise satisfied shareholders to leave because they are convinced they will be disadvantaged by cash redemptions that follow open ending. The result is often destruction of the fund and realization of everyone's capital gains.

In some cases, this specific problem can be avoided by converting a closed-end fund into an exchange-traded fund with creation and redemption only in kind and only for large blocks (creation units) of fund shares. To the extent that shareholders redeem when a closed-end fund is converted to an in-kind redemption ETF, the departing shareholders redeem in kind for portfolio securities. Small or mid-sized investors will be able to sell at a market price that will be extraordinarily close to net asset value by simply selling on the exchange. The redemption-in-kind process totally eliminates the tax penalty for shareholders who stay because there will be no need to sell appreciated securities in the fund for cash to meet redemptions. This way of open-ending the fund eliminates the discount without an inevitable asset drain because shareholders can be educated to the fact that if they stay with the fund, they are not going to be faced with a capital gain distribution from the sale of low-cost securities inside the fund. While exchange-traded funds have been one of many factors making it increasingly difficult to issue a new closed-end fund, they are also the key to converting a few closed-end funds into something that can continue to operate on an efficient basis – and perhaps even attract additional assets.

In considering the applicability of this approach to a specific fund, keep in mind the comments above on the necessary characteristics of the market underlying an exchange-traded fund. This open ending will not work if the underlying market is illiquid. Today, single-country equity funds that could get SEC approval to use the ETF process for an actively-managed fund would be the only viable candidates.

Increasing the Variety of ETFs Available

There are a number of things in the works for incremental changes to existing products and new products with varying degrees of potential. There are a number of filings with the SEC to add an exchange-traded share class to a conventional index fund. This process is

moving forward at a relatively slow pace, because the SEC recognizes that this step has enormous implications for the entire mutual fund industry. To the extent that an existing fund has an exchange-traded share class, funds which adopt this structure will have an advantage in attracting assets over funds which do not adopt it. The implications are fairly clear. Sometime over the next few months this step should be approved for Vanguard, the first fund group that filed for this feature. A substantial share of index mutual fund assets will soon be in or transferable into exchange-traded shares.

More than any other single feature, adding an ETF share class to conventional index funds will transform the fund landscape. Even if a particular shareholder does not want to hold an ETF share, an index fund that has an ETF share class will be more tax-efficient and have lower operating costs than a fund that has only conventional shares. Any index fund that wants to attract new money will have to have an ETF share class.⁴ This change has significant implications for many service providers. Unless a custodian/administrator is able to utilize the NSCC creation/redemption process for a domestic fund with the new share class, the fund will probably move its business to another organization that can provide this service. It does not require rocket science to add this capability, but it is something that takes time and testing to accomplish.

Cash creations and redemptions are likely to be a feature of some new ETF products, even in a few cases where an exchange-traded share class is added. This change does not have enormous significance because existing ETFs have always had the ability to permit or require cash creations or redemptions. Nonetheless, it does have implications for an increase in flexibility for some funds and, perhaps in a few cases, tightening of trading spreads.

There will probably be leveraged index ETFs, similar to some of the conventional open-end leveraged index funds now on offer, but using the exchange-traded format. It is difficult to say when this will occur, but we see no particular obstacle to the use of

⁴ Adding an exchange-traded share class to a conventional index fund does not now seem to be the answer. (See [www.etfconsultants.com/publications.htm/ETFs or Conventional Funds.pdf](http://www.etfconsultants.com/publications.htm/ETFs%20or%20Conventional%20Funds.pdf))

leverage. After all, the Commission has approved conventional leveraged index funds. It is hard to visualize any situation where a new exchange-traded share class or exchange trading of all shares of a leveraged index fund should be an issue.

Enhanced index funds will probably arrive relatively soon. One might argue that some of the former WEBS are already enhanced index funds. Certainly there will be a number of quantitative enhancement techniques and other arrangements proposed in the coming months.

Fixed income funds are more difficult to manage in an ETF framework than most equity funds simply because of the spotty price reporting and the relatively wide spreads for anything except certain Treasury securities. Families of fixed income ETFs may be a routine fixture as the structure of the underlying fixed income markets changes radically within the next 24 months. The changes coming in fixed income markets make those occurring in equities and options pale by comparison.

Finally, some brief words on actively-managed funds. An actively-managed exchange-traded fund can work in one of two ways. The portfolio can be disclosed or it can be hidden from public view as most actively-managed portfolios are hidden today. If the portfolio is disclosed, that is, if any change in the portfolio is published promptly after the change is made, an actively-managed fund presents few if any issues that are not already answered in filings for index fund products. This kind of disclosure should present no problems for certain active specialty funds.

In the majority of cases, active managers are going to be reluctant to let the world know what changes they have made in their portfolio as soon as they make them. As a consequence, most actively-managed funds will continue to have undisclosed portfolios. With an undisclosed portfolio there are two issues that must be resolved. One is the issue of disseminating a proxy for intra-day net asset value. This can probably be done in a number of ways, although there are some legal and regulatory obstacles that may prevent the fund management organization itself from directly disclosing the intra-day NAV proxy. Of considerably greater importance and a higher level of difficulty is the need for the

exchange specialist and market makers – both on the exchange and elsewhere – to make markets in a fund security with an unknown underlying portfolio.

Fortunately, there are ways of dealing with this obstacle. For example, a service organization could develop and publish a hedging portfolio with a known tracking error relative to the updated fund portfolio that could be used by specialists, market makers and even arbitrageurs to manage the risk of their positions. In the months and years ahead, the objections and obstacles to wider use of the ETF format will be overcome. Eventually, we would expect nearly all equity index funds to have an ETF share class. Within a few years, many new actively-managed funds will be ETFs.

One note of caution on actively-managed ETFs is worth mentioning. Whereas all holders of shares in an index fund should benefit in one way or more from the addition of an exchange-traded share class, it is not clear that every shareholder of an existing actively-managed fund will want the fund to add an ETF share class. As suggested above, some additional portfolio information will have to be revealed to facilitate pricing and market making in actively-managed ETFs. This additional disclosure could be contrary to the interests of non-taxable shareholders of an actively-managed fund who were concerned about this information being used to trade against the interests of fund shareholders. In our litigious society, an actively-managed ETF will probably be a new fund with a single class of shareholders.⁵

No one should expect the shares of the typical actively-managed ETF to trade as actively as the shares of some of the index-based funds, particularly those based on benchmarks like the S&P 500 or high performance indexes like the Nasdaq 100. Nonetheless, actively-managed funds can benefit from exchange trading, and the growth of these funds can be quite dramatic with the exchange trading feature as a useful addition to any other advantages that the manager and management process may offer.

⁵ I now view this issue very differently. See www.etfconsultants.com/publications.htm/Converting_Actively-Managed_Funds_to ETFs.pdf