

How Did We End Up Here?

By the end of 2014, U.S.-registered investment companies exceeded \$18.22 trillion in managed assets. The three largest categories were mutual funds (MF: \$15.85 trillion), exchange-traded funds (including non-1940 Act funds, ETFs: \$1.98 trillion), and closed-end funds (CEFs: \$289 billion).¹ Every investor—from small households to large institutions—utilizes funds. In the year 2000, mutual funds accounted for more than 95 percent of assets invested in funds, with nearly \$7 trillion in assets spread throughout 8,370 investment companies. At that time, ETFs accounted for less than 1 percent of the \$7 trillion dollar market, with just 80 ETF investment companies sharing the \$66 billion in assets. Fast-forward to the end of 2014 and U.S. ETFs are nearing \$2 trillion in assets. This accounts for roughly 11 percent of all fund assets in the United States. Over 1,500 investment strategies are now vying for the ETF investor with a wide array of evolving products. We must ask ourselves important questions: How did we get here? Where are we going?

We live in a generation that demands innovation at rapid speeds. That new flat-screen television purchased yesterday is outdated before being removed from the box. The financial markets are not immune to such revolutionary demands of quick and efficient access to everything. What worked yesterday does not necessarily work today. Smart investors should always be looking for the optimal products and techniques to remain on top. The creation of the ETF is a prime example of successful financial market disruption.

Prior to the establishment of the ETF, investors did not have the exposure and access to the financial instruments, benchmarks, and investment strategies that the ETF now makes possible. Looking at new issuances and assets under management (AUM) among ETFs, CEFs, and mutual funds over the last decade, the numbers indicate that mutual funds may be losing their stranglehold on the industry. Exhibit 1.1 displays the new issuance in asset terms of the two major competing products, mutual funds and ETFs.

This can be contrasted with the flows into ETFs as compared to the flows out of Mutual Funds presented in Exhibit.1.2.

This chapter looks at the broad similarities and differences among mutual funds, closed-end funds, and exchange-traded funds. It examines

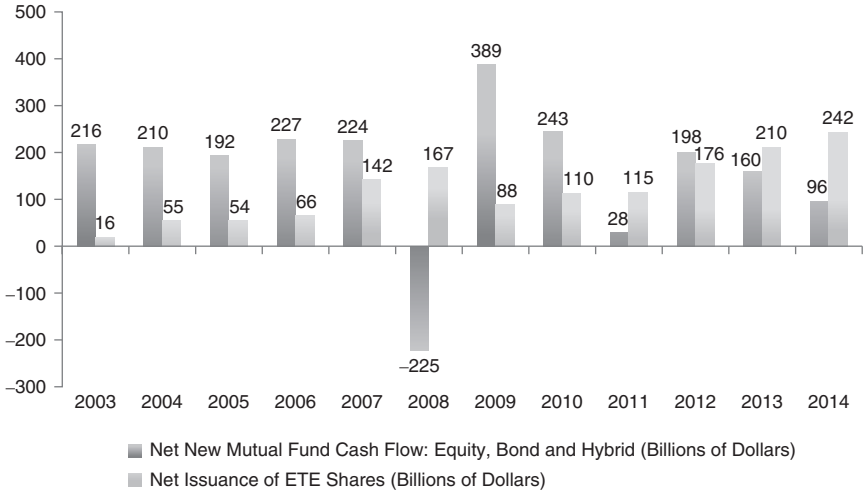


EXHIBIT 1.1 New Issuance of ETFs and New Cash Flow to Mutual Funds, 2003–2014, Billions of Dollars
 Source: ICI Factbook 2015

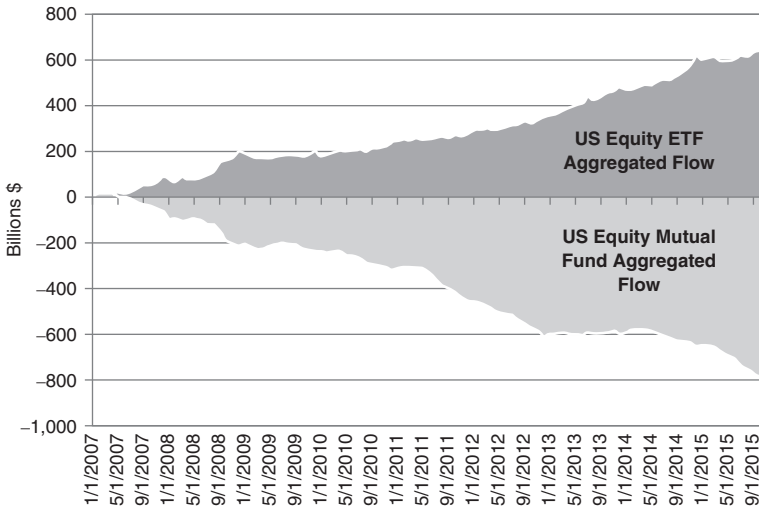


EXHIBIT 1.2 Flows into ETFs and out of Mutual Funds, 2007–2015, Billions of Dollars
 Source: KCG 2016

why the different features that ETFs possess have enabled them to experience rapid growth over the last several years. We take a brief look at the origin of ETFs and their rapid adoption. Finally, we will discuss what the future holds for this young product structure. Understanding the inception and development of these investment products is imperative before delving into the complexities of these new investment vehicles. In the next few chapters I will delineate how ETFs are initially developed and the ways they are brought to market. Part Two presents strategies for how to position them within your portfolio through efficient trading and understanding of the market. Part Three explains the more technical aspects of how to value ETFs.

THE HISTORY OF INVESTMENT PRODUCTS

This is a book about change. The use of exchange-traded funds is a revolutionary change for investors and for those in the investing business. Modern technology continues to shrink our world. The development of financial instruments is occurring at lightning speed. It is a challenging task to keep informed of the latest techniques and tactics. How did we arrive at modern investment products? A brief walk through history will deepen our understanding of available financial products and how they evolved.

The Birth of Money

The concept of securing wealth for the future by means of investment has always been relevant. The Code of Hammurabi, dating back to 1,750 BC, provides a legal framework for investing. This law aimed to classify the rights of debtors and creditors alike. Long before the invention of money, the barter system was in place. Bartering is the oldest method of trading; it is the concept of exchanging goods and services for other goods and services. It is recorded that ancient peoples have been bartering since 6,000 BC. This allowed for a wide array of products to be distributed across the globe without money. The exchange system of barter, however, had many shortcomings. It required two traders to have products or services of equal value who were also willing to trade at a given time. Another complication was establishing trust between traders and the products or services they offered. As society advanced, the limitations of the barter system yielded to the creation of currency and money.

Currency started by using popular commodities that had the ability to be split into portions. This allowed the accrual of currency in the form of livestock, wheat, beads, clay, bits of metals, and so on. Manufacturers and consumers could now hold commodities that could be traded at a later date.

As society advanced, the limitations of this system became magnified. Commodity currency was in limited supply and was often complicated to access for trade. The creation of coins was the next step in the advancement of monetary transactions. The first manufactured coins date back to China, India, and the Aegean Sea between 700–500 BC. As the demand for financial advancement grew larger, it served as the backbone of an advancing society. Stability increased with the issuance of gold and silver coins that maintained an innate value. It was not until the seventeenth century in London that modern banking was truly born.

Goldsmith Bankers

Banking in its modern form developed from the paper credit–money issued by the goldsmiths in London. It began as owners of gold and other valuables feared thievery from pillagers. In the 1640s, the outbreak of a civil war in England sent the masses searching for a reliable storage of wealth. The goldsmiths, who could appraise and safely store valuables, saw an opportunity for business. The goldsmiths started storing the gold in their vaults, charging a fee for this service. They issued a receipt to the depositor, which stated the amount of their holdings in the gold vault. The possibility of withdrawing gold with the issued receipt resulted in the creation of paper money and the modern banknote. As merchants feared traveling with gold, the goldsmiths issued notes to be used in its place. The record keeping and simplicity of these transactions laid the foundation for modern banking.

It was not long until the goldsmiths realized another opportunity for profit. The majority of gold, backed by notes, remained in the vault. The goldsmiths started loaning the gold of others, using the interest to fund the required withdrawals. Now, receipts were issued to those who borrowed money as well. The receipts of both the debtors and creditors of the goldsmith became widely accepted. The modern banknote had come into existence. The goldsmiths accumulated large amounts of wealth for supplementing the exchange of metallic money. It did not take long before the notes in circulation exceeded the stored gold and coins. The money supply of the capitalist economic system was no longer restricted by precious metals as a trust in paper currency propelled financial expansion.

The Inception of Investment Products

As the world technologically evolved, the opportunity to develop finance was sparked from a deeper trust in paper money and the banks that backed them. Investors were looking for new ways to grow wealth. The origin of the first investment trust seems to have been created by a Dutch merchant, Adriaan van Ketwich, in 1774. The name of Ketwich’s fund, “Eendragt

Maakt Magt,” translates to “unity creates strength.” His idea was simple. He would pool together funds from small investors. This concept of combined minimal capital that offered immense diversification had significant appeal. This idea of pooling resources and spreading risk set the groundwork for early structures of the mutual funds and closed-end investment companies. King William I of the Netherlands is credited with the first mutual fund, recorded in 1822.

This early structure was implemented in the Switzerland Investment Trust in 1849. Scottish investors rapidly adopted this style of investing in the 1880s. This conceptually simple design of investing found its way to France and Great Britain shortly after, and ultimately took root in the United States at the end of the nineteenth century. In those early days, mutual funds were called “stock trusts.” Stock trusts evolved into “investment companies.” The New York Stock Trust first debuted in 1889. The Boston Personal Property Trust, formed in 1893, was the first closed-end fund in the United States. The modern-day mutual fund was created in 1924 and launched in 1928.

As investors tinkered with the structure, design, and purpose of investment products, fund classification was born. An “investment company” is a company that issues securities and is primarily engaged in the business of investing in securities. An investment company invests the money it receives from investors on a collective basis, and each investor shares in the profits and losses in proportion to the investor’s interest in the investment company. The performance of the investment company will be based on (but not identical to) the performance of the securities and other assets that the investment company owns.²

The three largest types of investment products that fit the definition of investment companies are the mutual funds, exchange-traded funds, and closed-end funds. Exchange-traded funds are the newest and fastest growing category, and currently second largest in asset terms. We will examine the unique structure of each product, highlighting the benefits as well as the complications that they pose. Understanding the alternatives in the investment fund space will allow us to comprehend the multitude of needs that ETFs can satisfy in a given portfolio. It also enables us to understand how the ETF has evolved to encompass some of the useful features of earlier products while at the same time improving some of their structural drawbacks.

IN THE BEGINNING, THERE WERE CLOSED-END FUNDS

The first of the three investment companies we will speak about is the closed-end fund (CEF). The popularity of CEFs can be traced back to the British Investment Trust in the 1860s. CEFs were used in England to invest

in the infrastructure of the developing United States. This investment vehicle provided capital for the creation of U.S. railroads through its shares offered. The ability to pool investments and access more difficult-to-reach exposures quickly drew American interest to this investment vehicle. The Boston Personal Property Trust, formed in 1893, was the first CEF in the United States. As the Roaring Twenties rolled in, CEFs supported the economic prosperity. Investors of all scales flocked to advisory firms to take part in the action. CEFs allowed small amounts of capital to be collected to participate in large enterprises. Closed-end funds held a large percentage of total market capitalization at this time, with 4.5 billion in assets. As the sky seemed the limit, uninformed investors came rushing in, chasing the instant riches of the roaring stock market. These novice purchasers were susceptible to fraud, as many bought into CEFs with no viable investment objective. Significant manipulation transpired from the lenient regulations. Insiders inflated share prices, creating large profits as they sold their overvalued shares. Excessive speculation and the deception of insiders would ultimately contribute to the most devastating stock market crash in the history of United States.

The Wall Street Crash of 1929 ultimately ushered in the Great Depression. Closed-end funds were among the victims of the Great Crash. Extensive leverage, over-speculation, and lack of regulation were the sources of their demise. The Crash of 1929 opened the eyes of the public. Regulatory laws were created, and the Securities and Exchange Commission (SEC) formed in 1934 to enforce, create, and protect these rules. The Securities Act of 1933, the Exchange Act of 1934, and the Investment Company Act of 1940 regulated the closed-end fund investment company. The laws helped to protect all investors from fraud and other dangerous practices such as excessive leverage. Even with a new regulatory body and new guidelines, the title “closed-end fund” was severely tainted. The CEF structure would lay dormant for decades to come. The open-end mutual fund saw dramatic growth in the 1940s as investors steered clear from CEFs. It was not until 1984 that CEFs were reawakened. A few key structural factors distinguish CEFs.

Distinguishing Features of CEFs

The SEC outlines some of the traditional and distinguishing characteristics of closed-end funds:

- Closed-end funds generally do not continuously offer their shares for sale. Rather, they sell a fixed number of shares at one time (in an initial public offering), after which the shares typically trade on a secondary market, such as the New York Stock Exchange or the Nasdaq Stock Market.

- The price of closed-end fund shares that trade on a secondary market after their initial public offering is determined by the market and may be greater or less than the shares' net asset value (NAV).
- Closed-end fund shares generally are not redeemable. That is, a closed-end fund is not required to buy its shares back from investors upon request. Some closed-end funds, commonly referred to as interval funds, offer to repurchase their shares at specified intervals.
- The investment portfolios of closed-end funds generally are managed by separate entities known as "investment advisors" that are registered with the SEC.
- Closed-end funds are permitted to invest in a greater amount of "illiquid" securities than are mutual funds. (An illiquid security generally is considered to be a security that cannot be sold within seven days at the approximate price used by the fund in determining NAV.) Because of this feature, funds that seek to invest in markets where the securities tend to be more illiquid are typically organized as closed-end funds.

Closed-end funds come in many varieties. They can have different investment objectives, strategies, and investment portfolios. They also can be subject to different risks, volatility, and fees and expenses. Closed-end funds are subject to SEC registration and regulation, which subjects them to numerous requirements imposed for the protection of investors. Closed-end funds are regulated primarily under the Investment Company Act of 1940 and the rules adopted under that Act. Closed-end funds are also subject to the Securities Act of 1933 and the Securities Exchange Act of 1934.³

How CEFs Differ from ETFs

In the marketplace many comparisons between ETFs and mutual funds are made. This comparison is based on asset size. The large shift of investment assets to the more modern ETF structure has investors rethinking the dominant mutual fund market. The structure of ETFs, however, is more comparable to that of a closed-end fund. When one makes an investment decision, the conversation would not be complete without examining the closed-end fund segment of the market.

The way that closed-end funds trade is most relevant for their comparison with ETFs. This is where investors most often become confused. The critical difference between the two product types is in their creation and redemption feature. Although they both trade on exchanges in the secondary markets, CEFs issue a fixed number of shares only upon their IPO. ETFs, on the other hand, are designed for continuous issuance of new shares. As explained in the name, CEFs are closed-ended. This means that

a fixed number of shares are outstanding, whereas ETFs are considered to be open-ended and shares can be created and redeemed by the issuer at will.

A closed-end fund has a portfolio of constituents. Managers invest in a desired portfolio with the capital raised from the sale of shares at the IPO. The capital structure of a CEF determines if it will be leveraged. Leverage acts as a magnifier of the performance in a portfolio. As each CEF objective is distinct, the underlying constituents and the leverage will differ as will the return it yields. Leverage turns out higher returns in a winning portfolio but deepens the losses of failed investments. The combination of a portfolio's return with the assumed leverage it undertakes minus liabilities gives us net asset value (NAV). Net asset value is the value of an entity's assets after subtracting the value of the liabilities. Generally, closed-end funds *do not* trade at their NAV. The *inability* to exchange CEFs for the underlying basket of constituents they represent forces price determination based on the laws of supply and demand. Price is determined by the desire of buyers and seller to possess the portfolio, leverage, and cash flow management a particular CEF offers. The price is said to be at a "premium" or "discount" to the NAV when it is trading above or below the NAV, respectively. Premiums indicate the market's confidence in the basket of underlying securities to yield above-average returns or the confidence in the investment manager. Discounts signal the investor's doubts in the structure of the product. High fund fees, excessive leverage, lack of liquidity, and irrelevance to buyers usually cause discounts among closed-end funds.

The key distinction between a CEF and ETF is their relationship with the underlying basket of securities. In its simplest form, one would be indifferent to holding the ETF shares versus the underlying basket it represents. This distinct function is referred to as being fungible. "Fungibility" is the condition of being able to exchange two assets for each other. The fact that you can buy ETF shares and sell its basket creates perfect arbitrage. One asset equals the other, allowing ETFs to trade at NAV. The ETF structure economically represents the positions of the underlying basket of securities. This consistently serves to narrow any discount that would potentially develop between the two assets. I will discuss ETF discounts and premiums as well as the power of this fungible investment later.

This ability to exchange assets does not exist in CEFs. It is not arbitrage when you are trading a closed-end fund versus its underlying basket. They are not fungible. Nor is the exact underlying basket of the CEF published daily like in an ETF. There is no direct conversion of one for the other that would enable you to actually capture the spread. If a market anomaly causes an ETF to trade away from its basket value, the investment community refers to the ETF as trading like a closed-end fund.

People typically pursue four types of trades in the CEF arena when they are trying to achieve outsized market returns:

1. Discount trading and investing
2. Following activist investors
3. CEF/ETF conversion trades (spread trades)
4. High yield/distribution capture

Discounts and Premiums of CEFs

Typically the discounts or premiums of a CEF are long term and are related to the nuances of the product structure. The fixed number of shares issued at the IPO means that price of the CEF will typically trade at a premium or discount. Investor demand for the limited supply of CEF determines the market price of the underlying asset class. There is almost nothing that the average investor can do about the discount or premium except to trade intelligently. Many retail investors have grown comfortable with the CEF product type over the years, drawn into the products by deep discounts. A deep discount, however, does not help performance unless there is some form of discount-narrowing event. And many investors have come into the CEF product type in an IPO at a price slightly above NAV only to see those products move to a discount to NAV and remain there. Exhibit 1.3 shows you the long-term discount that might exist throughout the life of a closed-end fund. In the chart you can see the long-term discount averaging between 5 and 10 percent over the last 15 years. This is for equity CEFs listed in the United States.

The persistent fact that the majority of CEFs are trading at a discount is solved for investors via the entrance of the ETF to the markets. The structure

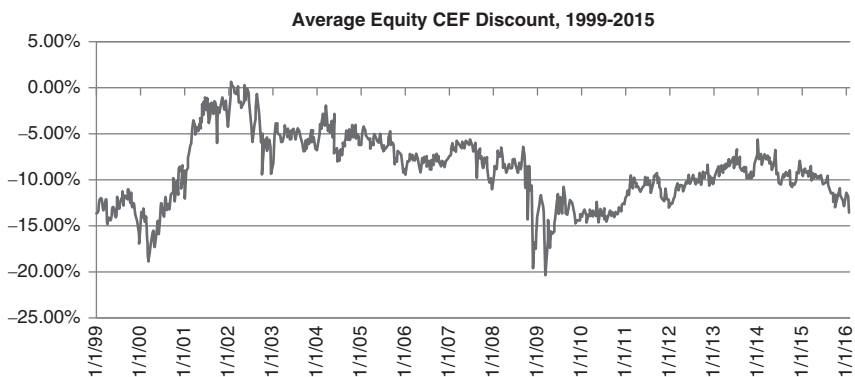


EXHIBIT 1.3 Average Equity CEF Discounts

Source: WallachBeth Capital, Bloomberg

of an ETF allows for arbitrage pressure when it is trading at a different value than the underlying, forcing away discounts and premiums. This is because an ETF can be exchanged for its underlying basket. This feature of the ETF protects investors from its trading away from the NAV of its underlying basket. This is why ETFs continue to trade around NAV. CEFs do not have this protective feature. Investors need to be compensated for undertaking the risk of a CEF trading at a discount. CEF investors should therefore only be willing to pay a discount for the CEF security. Currently, some equity CEFs are seeing consistent discounts as deep as 15 percent. If a CEF and ETF offered the same exposure at the same price per share, all else being equal, an investor should choose an ETF. This is because the structure of an ETF contains less risk of dislocation from the value of the underlying assets. Later in the book I go into the detail of creation and redemption and of trading arbitrage with an ETF.

Now that we understand why a large percentage of CEFs trade at a discount, how do we explain the ones that trade at a premium? Currently about 20 percent of CEFs trade above their NAV. To clarify what that means, a fund having \$100 worth of assets might be trading at \$130 in the secondary market (on the exchange). So an investor buying the fund is paying 30 percent more to buy the shares of the fund as opposed to buying its underlying basket of securities. Trading at a premium can occur from the investor's desire for high yield and distribution. CEFs often are associated with high yield, as leverage is implemented in the capital structure. When the market appears to have no ceiling, investors flock to exchanges to buy limited shares of leveraged CEFs. Premiums can have a snowball effect, as market sentiment can drag premiums dangerously high. Distribution and yield are not always the same with CEFs. Distribution among CEFs is returned capital to investors, even when the fund is not producing income from the underlying basket of securities.

Conclusions about CEFs

The closed-end fund market still offers some benefits. Discounts, premiums, leverage, and distribution, however, make it hard for the average investor to gauge the risks of this type of investment company. Many users of CEFs were also early adopters of the ETF structure. Some similarities were recognized in the ETF, but their added benefits are diametrically altering the marketplace. The explosion of ETF types pursuing active management, leverage, and hard-to-reach asset classes is now putting forth a full attack on the CEF market. The asset numbers in CEFs, as displayed in Exhibit 1.4, show stagnation and tell a tale about the potential future of that product set.

With only approximately 289 billion in CEF assets spread over approximately 568 funds, a very large convergence trade will continue to play out

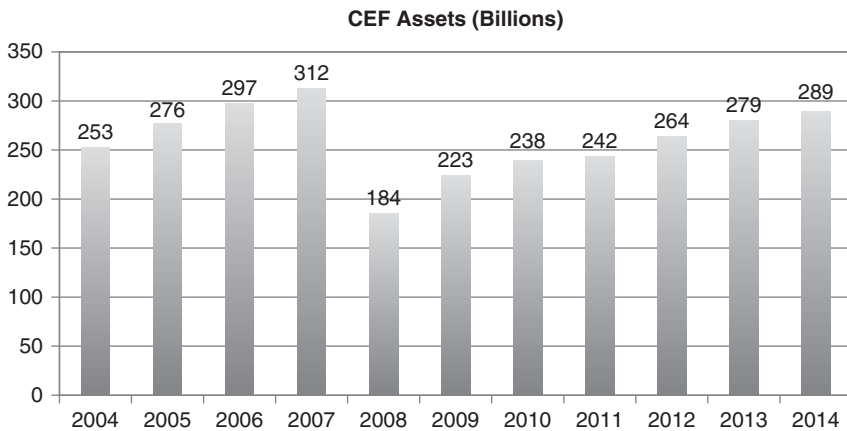


EXHIBIT 1.4 Total Assets in CEFs (Billions)

Source: ICI Factbook 2015

over the next decade as the two products become even more closely intermingled. I would expect many assets to continue to shift from the CEF structure into that of the ETF.

There are some discounts and premiums that move with a high degree of volatility and those that are more stable. In Exhibit 1.5, I show an example of a fund that trades at a persistent premium over time. You can see the premium and discount chart for the closed-end fund over the past ten years. The fund moved to a small and then growing premium over time since launch. There has been some volatility in that premium, even moving to a small discount at times; but, in general, a buyer of the fund would have to pay a significant premium to the value of the assets to buy shares of the fund.

Some discounts also seem to be reasonably stable and would therefore offer investors a small measure of comfort only to break down at some point. This is the greatest risk if you are attempting to take advantage of discount anomalies in CEFs: that something may occur in a fund and a discount may move against you dramatically. In Exhibit 1.6 you can see a fund that was trading at a slight discount in 2006 move to a more dramatic discount throughout the end of 2007 into 2009. The fund has basically never recovered and has traded at a deeper discount through 2015. If you had been long the fund and perhaps short some form of hedge that was designed to mimic the movements of the NAV of the fund, you would be losing significantly due to the underperformance of the fund price.

Due to the growth and expansion of the ETF market, many new opportunities have arisen to trade the two asset classes against each other. Several

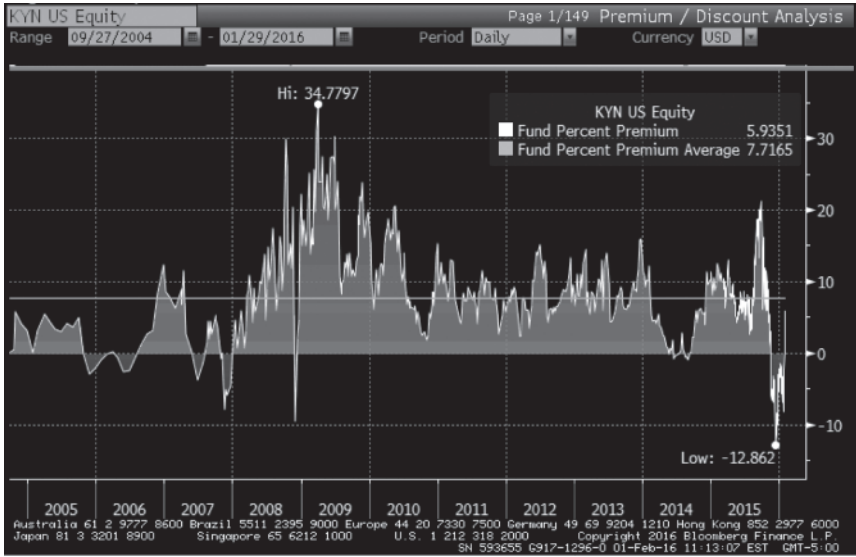


EXHIBIT 1.5 A CEF Trading at a Premium
 Source: Bloomberg

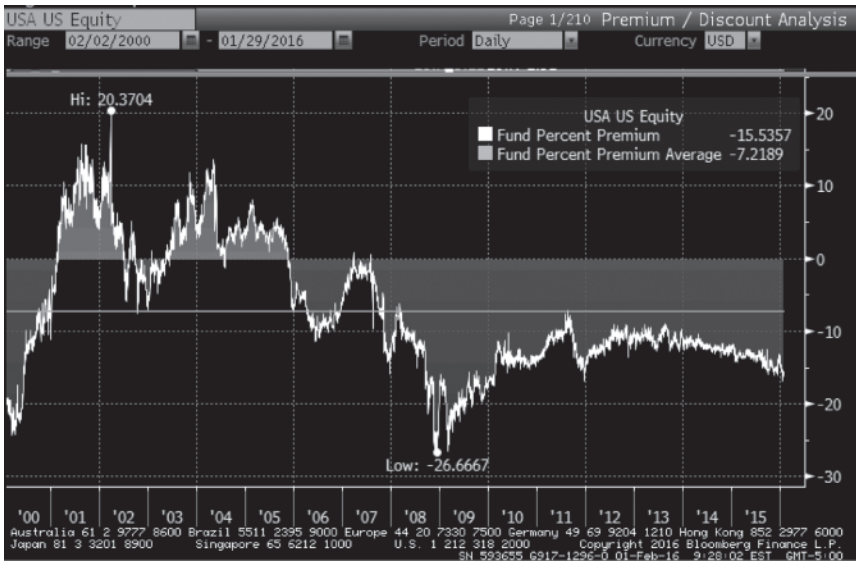


EXHIBIT 1.6 A CEF Trading at a Discount
 Source: Bloomberg

examples of CEFs converting to the ETF structure exist, and likely many more are forthcoming. In 1996 Morgan Stanley and Barclays teamed up and listed 17 products called World Equity Benchmark Shares (WEBS) on the American Stock Exchange (Amex). The June 1996 issue of *Derivatives Strategy* magazine wrote: “WEBS’ exchange-traded index funds represent a clear assault on offshore single-country funds (closed or open).”⁴ Those products still exist but have been rebranded as a part of the iShares suite of ETFs and have experienced great asset growth. One of the notable funds in the beginning of this convergence trade was the Claymore Raymond James SB-1 Fund (RYJ). This was a CEF issued by Claymore Advisors (one of the few issuers of both ETFs and CEFs) with a statement in its prospectus that mandated a conversion vote to an ETF if the fund traded at a discount greater than 10 percent over a specific time period. This fund has since converted to the ETF structure and has become a case study for how the same fund works in both structures. That fund conversion helped to significantly and permanently reduce the persistent discount of the CEF and was closely watched as a model for potential future conversions.

This is important because there are many opportunities to trade ETFs and CEFs in conjunction with each other. For those CEF specialists who were pursuing strategies in which they tried to capture discount moves, the ETF was a great initial hedging tool. An educated investor or advisor was able to build portfolios combining both wrappers in the early days of ETFs, while the product offerings were still limited. This is true even today. You can pursue arbitrage opportunities between the two asset classes or rotate positions between the two for investment purposes.

Given the similarities, it makes sense that recent developments in technology and changes in mindset that have driven growth in ETFs have helped the CEF marketplace to grow as well. This trend, however, is beginning to reverse.

MUTUAL FUNDS

The Massachusetts Investors Trust is credited with the inception of the first modern mutual fund in 1924. Again, it focused on pooled investing to reduce risk by diversification. The structure, however, notably distinguished it from the popular CEF of the time. The open-ended mutual fund required the buy-back of shares from investors at the end of each trading day. The mutual fund had humble beginnings with only 19 funds compared to the 700 CEFs in 1929. The market crash of 1929 followed by the Great Depression halted investment companies. As the SEC instituted safeguards to protect investors, confidence in the market and its products slowly returned. Then came the

Investment Company Act of 1940, which established rules and regulations around mutual funds and those that managed them. The legislations sparked a dramatic rise in the popularity of the open-ended fund. It became the investment tool of choice as investors lost confidence in the CEF, as it was associated with the Great Depression.

The economy surged after World War II, and 100 mutual funds existed by 1951. The 1960s mutual funds aimed to capture the high-tech stock with aggressive growth funds. During this period mutual funds held approximately 90 percent of their assets in stocks. By 1970 there were approximately 350 mutual funds with 48 billion in assets. The combination of high inflation and a bearish market in the early 1970s made these stock-driven mutual funds less attractive, and assets shrank from investor redemptions. Financial innovators were now challenged to create new varieties of mutual funds to appeal to investors in transforming markets. Bruce Bent created the first money market fund, the Reverse Fund, in 1971. The money market funds invested in short-term debt securities such as U.S. treasury bills and commercial paper. Savers and investors alike were given access to high money market yields in the high interest rate environment. Next, Vanguard's John Bogle launched the first index fund, First Index Investment Trust, in 1976. It tracked the S&P 500 and is currently functioning as the Vanguard 500 Index Fund with about 200 billion in assets. Index mutual funds allowed investors of all sizes to match or track the components of a market index. Soon after came municipal bond mutual funds that offered tax exemptions. The evolution and modernization of mutual funds allowed for their continued success. In 1982, the mutual fund assets comprised 76 percent of assets in money market funds, 8 percent in bond funds, and 16 percent in stock funds.⁵ The 1980s brought IRA and 401(k) corporate retirement plans that were largely powered by mutual funds. The 1990s had money managers scrambling to implement unique strategies in the mutual fund world to continue to grow the product set. Wider arrays of products were born, with elite managers controlling billions of dollars each. In the year 2000, mutual funds were owned by 49 percent of U.S. households with more than 8,000 funds having a combined seven trillion in assets under management.

Mutual funds still have the largest assets under management of any type of investment company: At the end of 2014 almost \$16 trillion in assets spread across 9,260 mutual funds, according to the Investment Company Institute. There are four broad categories of mutual funds: equity, bond, money market, and hybrid. According to the ICI, approximately 89 percent of fund assets are held by households referred to as "retail investors." In the chart in Exhibit 1.7 you can see the breakdown of where the assets are in the mutual fund product set.

Over half (52 percent) of U.S. mutual fund assets are in equity funds. Bond funds consist of 22 percent of assets, and money markets account for

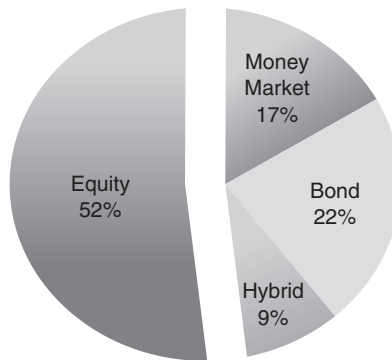


EXHIBIT 1.7 Mutual Fund Assets
Source: ICI Factbook 2015

17 percent. The remaining 9 percent are in hybrid funds that invest in a mix of stocks and bonds. There are essentially two types of mutual funds from a fund management perspective: actively managed or index linked. Actively managed funds represent a significant majority of the industry, with funds guided by portfolio managers whose aim is to guide the portfolio to generate alpha for investors. “Alpha” in the context of mutual fund performance is the percent of outperformance a fund attains over its benchmark. Index funds, as implied in the name, are funds with the sole goal of replicating an index. Unlike actively managed funds, the management nature of an index fund is passive. Once fabricated, an index fund simply offers exposure to the return of a given index. A frictionless index fund would yield the exact same return of the index it replicated, for better or worse. Mutual funds have experienced popularity in funds that track an index. At the end of 2014, 2.1 trillion of net assets were spread across 382 index mutual funds with 148 billion in net new cash flow comprised of 61 B in domestic equity, 38 B in world equity, and 49 B in bond and hybrid. Keep in mind that since 2000, the percentage of index equity mutual funds has doubled. Index equity mutual funds accounted for only 20 percent of all mutual fund assets at the end of 2014. It is important to note the popularity of index-based investment vehicles, as we begin to see the introduction and growth of ETFs.

Index and Actively Managed MFs

Investors need to understand that the 2T ETF market will not engulf the entire 18T MF market overnight. The appropriate comparison to be made, however, is between index mutual funds against the ETF market. The ETF

market has evolved very differently, with significant majority, more than 90 percent of the outstanding funds being index based and focused on equities. The maturity of the mutual fund market gives some indication of where the growth will be in ETFs going forward. The majority of ETFs are index-linked funds with significant benefits compared to the traditional index-based mutual fund. In 2016 we see index-based ETF assets roughly equal to those of index-based mutual funds. As assets in those products continue to grow, I would expect to see the overwhelming majority to adapt to the ETF structure going forward.

ETFs have only recently been allowed to pursue forms of active management within portfolios. Investor preferences have changed, contributing to the growth of index-based funds both as a percent of the mutual fund market and as ETFs. There is still a significant amount of actively managed assets in the mutual fund arena that, if brought to market in an ETF wrapper, could provide unique benefits to investors. We should continue to see several paths of growth over coming years: the fixed income ETF space, the actively managed space, and the liquid alternatives space, which will all encroach on assets in actively managed mutual funds. We will now examine some of the characteristics of mutual funds to understand the beneficial changes that ETFs bring to investors.

What Is a Mutual Fund?

A mutual fund is an investment company that pools the money of investors to collectively purchase a collection of stocks, bonds, and other securities. The basket of underlying constituents is referred to as a portfolio. The companies that issue these mutual funds appoint a manager to administer the investments. The simple idea is to provide smaller amounts of capital access to easy diversification with a single purchase. An investor is buying a stake in a portfolio of his choice. One might be able to access once hard-to-reach exposures and the replication of a superstar manager's portfolio. Mutual funds allow smaller investors to partake in the action of the global markets. Minimum investments can get one a portfolio consisting of a hundred companies throughout the world.

From an investor's standpoint the mutual fund is easy. They simply send in a dollar investment to the mutual fund company. They then see shares of that mutual fund show up in their account, if they used a brokerage account, or they get a statement directly from the company showing their fund position. The portfolio manager of the fund takes in the new cash and allocates it across the portfolio to purchase new assets. The costs of that trading go into the fund, and all investors in the fund impact the NAV. This is important to understand: Both when entering and exiting mutual funds, the actions of

any one investor can impact the other investors in the fund because of the impact to NAV that occurs.

Your mutual fund position is marked once daily at the closing price of the underlying assets, the NAV. All investors in the fund have the same price (NAV) for daily marking purposes. When you come into and out of the fund, you also get that same daily NAV as your execution price. When cash is coming into or out of the fund, the mutual fund manager tries to convert that cash to underlying assets by making purchases and sales at the close of the market so as not to impact tracking of the fund. This can have two impacts: In a volatile market, if you choose to get out of your mutual fund in the morning, you are still going to get the closing day's price of the assets, NAV, so you are not able to tailor your position intraday; in addition, during volatile markets, mutual fund portfolio managers will typically try to move large amounts of assets near the closing bell so as to not generate tracking within the fund. This can lead to large imbalances at a time of day when liquidity and pricing are more volatile.

THE CREATION OF THE ETF

ETFs are essentially a form of mutual fund that includes a variety of more modern features. This notion is sometimes overlooked by investors who voice concerns about moving from the comfort of the mutual funds they know and love. To me it seems akin to holding onto your black-and-white television because you've had it for a while instead of embracing those new-fangled color models.

Exchange-traded funds are a relatively new type of investment fund compared to the CEF and MF we discussed. The ETF in the United States was listed in 1993 on the NYSE. It was named the SPDR S&P 500 Trust, and it was designed to track the S&P 500. At the writing of this book at the end of 2015, there were more than 1,800 ETFs in the United States and 4,400 globally, with just more than two trillion in assets in the United States and almost three trillion invested in the products globally. An exchange-traded fund is a pooled investment vehicle that is listed on a stock exchange; this allows its shares to be bought and sold at a market-determined price throughout the entire trading day. They are governed by the same rules as any listed stock and provide transparency and a central gathering place for all their underlying asset classes. One of the main attractions of ETFs is the ability to provide exposure to areas that were previously too expensive and/or difficult to reach. ETFs can track the performance of an underlying index, commodity, or basket of assets. If you want to track a specific index, you no longer have to purchase shares in each of the constituent companies.

This avoids large dealing costs. Now, with ETFs, you simply purchase a single share that will track the fortunes of the entire index. This structure can be applied to investing in precious metals, commodities, and other unique assets. ETFs combine many of the benefits of funds and shares alike. As ETFs trade on the stock market, you can buy and sell the shares throughout the day. It trades similar to an ordinary stock, as supply and demand fluctuates the price. Like a fund, an ETF invests in a selection of assets on your behalf, but no longer does one need to toil over recreating of indexes for a portfolio. An investor simply has to pick an ETF that offers the desired exposure required. Most ETFs in the market today track a particular market index, but that is evolving toward products unlinked to indexes. ETFs package an investment strategy neatly into one exchange-listed security.

The growth of assets in exchange-traded products and the development of the ecosystem of businesses supporting that growth have been stunning in recent years. Numerous factors have contributed to this growth, from the Wall Street marketing engines to the regulatory changes providing for significant structural advantages to the growth of electronic trading. What is rarely mentioned, however, is that investors have simply been demanding a way to invest that is easy to understand and at a lower fee. The main tranche of the ETF market provides this, along with a level of transparency and other benefits unavailable in previous products. The market for financial products was ripe for disruption and ETFs are a tool for satisfying that demand.

Let's look at the characteristics of this product structure and why it is taking the investment world by storm. In Exhibits 1.1 and 1.2 you were able to see the dramatic asset growth and flows into the products. There are some defining characteristics that lead investors to use these products, either for new portions of their portfolios or to convert over their entire investment strategies. The main ones are:

1. Transparency
2. Exchange listing
3. Tax efficiency
4. Lower fees
5. Diversity

In the following sections I'll go through these main characteristics and explain them in detail.

Transparency

If I had to choose one characteristic that adds value to all users of ETFs, it would be transparency of the portfolio. Transparency of the portfolio provides protection against risks for all investors.

When transparency is mentioned as a defining characteristic, it may take a minute of personal product inventory for an investor to realize that there is no other fund product available that provides a daily accounting of exactly what the fund holds. Before ETFs, portfolio holdings were typically only released on a quarterly or semiannual basis. ETFs make their portfolio publicly available daily. This has a host of positive ramifications from eliminating style drift to creating the basis for an “arbitrage” that keeps the trading price right around fund value. Actually, one would have thought transparency should have been the gold standard in investment products from their very beginning.

When talking about the transparency of ETFs, it is important to understand that the majority of assets are in index-tracking products. Daily transparency works well for index tracking. A majority of mutual fund assets, however, are in what is called actively managed funds. These are funds that have a portfolio manager whose intention is to manage the holdings of the fund to perform better than some specified benchmark. One of the most prevalent arguments for not disclosing a daily portfolio is a fear that investors would purchase the portfolio themselves instead of putting assets into the fund. That may be true if it were more economical for investors to do that and gain efficiency. Another argument is that the disclosure would drive costs to the fund higher because of the “front-running.” In reality it would probably drive the management fees for those funds lower in order for them to compete, as it would become apparent how similar many of the active strategies are as they struggle to achieve outsized returns. We are already starting to see that happen, slowly squeezing the industry.

In addition, portfolio managers of actively managed funds may be concerned about investors backing into their “magical” proprietary strategies. These concerns do not outweigh the benefits to clients of knowing what is in a fund portfolio on a daily basis. Currently, there are active ETFs available that are providing baskets daily without announcing changes before they occur. That is working very well as a model, and the assets in those funds are growing rapidly. I agree with the BlackRock goal of “daily disclosure of holdings and exposures.”⁶ as defined in their recent recommendations on the ETF product set.

Exchange Listing

Exchange listing is not all about liquidity; that is just one of several benefits. There are three major benefits of exchanging listing:

1. Standardization
2. Intraday trading
3. Liquidity

Standardization is proving to be a tremendous benefit to holding multi-asset portfolios all within the same account structure. This was impossible just a few years ago. Now you are able to keep your bond position wrapped in an ETF structure within your investment account, instead of having two separate pieces of your portfolio with attendant complications. And you can include your commodities piece and your alternative selections as well. Trading in the products also becomes standardized. If you understand how ETFs trade, you'll be able to trade easily in all parts of your portfolio from within the same account, probably using the exact same tools.

Intraday trading of exchange-traded funds has been the characteristic that presents itself as both a blessing and a curse. The mutual fund industry has the benefit of never having to explain to a client the concept of how to achieve best execution. They rarely even need to explain away poor trading practices within the performance of a portfolio. While beneficial, both liquidity and intraday trading of ETFs remain misunderstood by many. I've been trading in ETFs for almost 15 years, and I am still answering basic questions about liquidity and trading. Every new client has a learning curve about how to achieve a good execution in the products.

The execution portion of the equation is a very important part of the investment process. The ETF industry has given investors the ability to manage their own executions. But with this responsibility the learning curve is proving to be steeper than the industry expected. It is critical to become an advocate for yourself and your clients when trading ETFs. Advances in execution due-diligence and strategies when managing a portfolio of ETFs can save millions of dollars annually.

For many investors, the intraday trading aspect of ETFs is not that important, nor should it be. This is why I have broken it out from liquidity as a separate factor. If you are using an investment process that instructs you to buy a fund today, hold it for some extended period based upon various parameters, and then sell it, then trading intraday, except on those execution days, is like a good insurance policy. It is there if you ever need it, but most of the time you won't. There are some ancillary benefits, however, to adding intraday trading to different types of investments. For instance, if you're trading in ETFs with foreign underlying, the intraday trading of a fund in the United States adds an additional time zone for trading the foreign assets. Many ETFs now trade 24 hours per day in the various markets around the world, and in different tax structures. This has added tremendous flexibility and price discovery to the management of portfolios.

As the trading industry evolves from an engine based upon making profits on spreads and trading to a process-driven business based upon customer service and liquidity, the customer experience in ETFs will continue to improve. Several of the large customer execution-providers are offering

commission-free ETF trading on many of the products. Essentially we are seeing a full-scale change in the way equities orders are executed because they now include ETFs. ETFs trade differently than stocks, although they share similar characteristics, so the major execution platforms servicing advisors are retooling. You will read more about this, including the growth of liquidity aggregators to agency executions of baskets with a transfer to ETF shares.

The listing of a product on an exchange and exposing it in a standardized format to a wider variety of market participants can increase liquidity and decrease spreads beyond what was previously available. You can often see examples in the market where the ETF price is actually trading between the “bid” and “ask” spread of the underlying basket. This is because the exchange provides a central meeting and pricing place for all investors in that strategy. The benefit of being able to access liquidity within the bid and ask of the underlying assets is an advantage not available to mutual fund portfolio managers or their investors.

This does not happen in every product, but the trading that takes place in some of the highest volume ETFs has had the effect of causing the ETF itself to trade at a tighter spread than its underlying basket, and in much greater size than would be expected. In Exhibit 1.8 you can see a market price and the indicative value (IV) of the SPDR S&P 500 ETF Trust (SPY).

If you look at the spread column, you can see that the basket is showing an implied ETF spread of four cents wide. However, the fund is showing a trading spread of only one cent wide. The fund is trading at a tighter spread than would be available if you traded the basket. This anomaly becomes much more pronounced in some products that trade high volumes and international baskets. This is partly caused by the gathering of a wide variety of market participants with different perspectives into the same products. The advantages of this are also evident as products are developed that provide access to formerly hard-to-access asset classes. In many cases the ETF is becoming a vehicle to aid liquidity growth in the underlying. Bringing together multiple different investor types into one standardized vehicle definitely centralizes some product liquidity. As you can see in Exhibit 1.4, the

EXHIBIT 1.8 SPY Price and Basket Values

	Bid	Ask	Spread	Last
SPY Price	\$119.25	\$119.26	\$0.01	\$119.25
SPY IV Basket Value	\$119.22	\$119.27	\$0.04	\$119.24

Source: Bloomberg

wide array of ETF users come together in the products on an equal playing field. There are no multiple share classes or alternative structures for institutions versus smaller investors.

The tighter spreads are also possible because of the arbitrage available when you have two products, the basket and the ETF, that can be converted easily into each other. This is known as being fungible. There is a lot of competition in the trading industry to capture any spread between the ETF price and the basket price. This is beneficial for investors because as those trading firms compete, they drive spreads ever tighter. There are also alternative trading vehicles like futures and options that trade in conjunction with some ETFs. For investors the centralizing of users into ETFs is also beneficial because the products will sometimes present tighter spreads and more liquidity than had previously existed.

Tax Efficiency

I will outline the basics of why ETFs are different than other investment products in terms of their tax consequences. Since each individual situation is different, you should consult your own tax attorney or accountant regarding your personal tax situation. I am also discussing the funds in a normal taxable environment. The situation can change when the funds are held in tax-deferred accounts and other structures.

Tax efficiency of the ETF structure is another major characteristic of the product that is helping to drive growth. To simplify this discussion, I have determined three subcategories:

1. Tax efficiencies within the portfolio management process
2. Tax efficiencies within the distribution process
3. Structural differences that affect tax efficiency

The major tax advantage of the ETF structure within the portfolio management process derives from the concept of in-kind “creation” and “redemption.” I will cover the details of how creation and redemption work in Chapter 2, but will now explain the differences between ETFs and their mutual/closed-end fund cousins.

When investors add assets to mutual funds, the portfolio managers take in cash from the investors and then purchase the underlying basket of assets. The reverse happens when an investor wants to redeem shares of the mutual fund. At that point, the mutual fund manager has to raise cash to deliver back to the investor. In general they need to sell assets that the fund holds. This selling of assets typically generates a taxable event for the mutual fund. Funds do hold certain cash reserves to accommodate some redemption, but

this can lead to performance lag, so is done only sparingly. There may be some other minor management techniques, but at its essence, when investors come into and out of mutual funds, the portfolio managers are buying and selling the underlying assets. This is creating taxable events within the funds that will have to be distributed among the remaining shareholders. Then, at some point in the future, depending on the distribution schedule, the mutual fund will make distributions of short- and long-term capital gains that will be taxable events for shareholders.

The way a typical equity ETF takes in and disburses assets is quite different. It surprises me how many users of ETFs have still not firmly grasped how the ETFs take in assets, unwind assets, and even make money on those assets. The first stage is taking in assets. An ETF transacts on two levels in the markets, the primary and the secondary market.

When an ETF is trading, the process of taking in new assets actually begins away from the ETF portfolio itself, in the secondary market. When there is an influx of investors who want to buy the ETF, the liquidity-providing community will sell the shares of the ETF to those buyers. They then typically buy the shares in the underlying basket to hedge their trading books. As this continues throughout the trading day, the liquidity providers are getting larger short positions in the ETF; and at the same time they are continually growing their long exposure to the underlying basket. At the end of the trading day, the liquidity-providing community will assess their own trading portfolios and take actions to clean up their balance sheets. This is where the magic happens in the ETF structure. If the liquidity provider has done everything correctly, they have two positions on their trading book: short the ETF and long a basket of stocks that represents perfect creation units of the ETF portfolio. They can then effect a creation. In this process the liquidity provider will deliver the basket of underlying assets to the ETF issuer's portfolio management agent, and there will be new shares of the ETF issued. This is a primary market transaction that is not considered a trade or taxable event by the ETF portfolio. It is separate and distinct from the secondary trading activity that was taking place throughout the day. Sometimes, but more rarely, a liquidity provider will create shares first with the intention of selling them into the market.

To understand why, think about the liquidity provider who is in the ETF market daily. There may be days when they are selling ETFs and buying baskets all day; but since they know they will be doing similar things the following day, they don't process a creation order.

The ETF shares do not increase. The activity in the secondary market can have varying effects on the primary markets, which I'll discuss further throughout this book. At this point the ETF has grown the assets it is managing, and that growth has been represented to the public via an increase

in the shares outstanding number. Now let's look at what is going to happen in the reverse situation. In our hypothetical example, there are sellers in the market. Investors want to do nothing but sell the ETF shares. All day long they are selling the ETF to liquidity providers who are in turn selling shares across the underlying basket of the ETF. This is the key transference between liquidity in the ETF and activity in the underlying baskets. In this reverse example, at the end of the day the liquidity provider may have a large position of long the ETF and short the underlying basket in perfect unit sizes. Remember, if done correctly this is a perfectly hedged position, so there is no market exposure; but there are financing fees on the various long and short positions. To manage their balance sheet costs and exposures the liquidity provider decides to effect redemption of the ETF shares. In this case the liquidity provider will be delivering the shares of the ETF back to the ETF issuer, and the issuer will be delivering perfect units of the underlying basket back to the liquidity provider. The ETF shares outstanding will decrease because those ETF shares are no longer in existence and tradable in the marketplace. The assets in the fund have also decreased because the underlying shares that represented those assets have been delivered out. This is all very tax efficient for the ETF.

This primary market transaction is not considered to be a trade and is, therefore, not creating a taxable event for the ETF. The in-kind creation and redemption process enables the delivery and receipt of shares into and out of the portfolio, but they are not considered to be trades for tax purposes. This is a critical concept that I refer to as a piece of the structural alpha of the products.

Lower Fees

A look at the two main competitors to ETFs, mutual funds and closed-end funds, reveals stark differences in the fees they charge to investors and how they generate those fees. Like ETFs, both competing products charge management fees as a percentage of the assets under management of the fund.

A CEF launches via an IPO. The sales team for the fund gets paid in the form of a sales commission based on how many shares of the offering it sells. This diminishes the risk that the CEF will launch and not have enough shares outstanding to generate breakeven fees. Once sold, those shares are not redeemable except under certain circumstances (activism and other types of open endings). Management fees are generated on the full amount of fund assets from the first day of trading. Before the fund has generated anything in terms of performance or even traded a single share, there are enough assets locked in indefinitely to pay the fees.

CEFs have an interesting place in the investing world. After they issue their fixed amount of shares via the IPO, the markets take over the pricing

relationship between the fund and its NAV. There are only two things that can happen next:

1. The fund can be well received, causing many people to want to buy more shares and causing it to move to a premium: meaning the price of the fund will be higher than the actual value of the assets in the fund. At that point, the CEF issuer either can institute a rights issue to get more shares out to the marketplace to satisfy demand or can launch a similar fund and have the sales team sell it to clients for another IPO.
2. Alternatively, the CEF can move to a discount to NAV: meaning that the price of the fund is lower than the assets in the fund. If you bought shares in the IPO and the fund has moved to a discount, you will now be facing a loss on your position. If you are a new buyer of the fund, you are essentially buying the assets on sale, because as a group they are trading cheaper via the fund than if you bought them each in the open market. Many investors who buy CEFs at the IPO typically pay a premium for the shares to account for the selling commission; then a majority of CEFs move to a discount, causing a loss for those investors.

The process by which investors utilize mutual funds is interesting as well. Investors essentially deliver cash to the fund company. The fund company then issues new shares of the fund to account for the position of the investor. In many, if not all, cases mutual fund companies know a lot about their investors, because they are direct holders of the shares. The companies can use this identifying information to tailor specific marketing to those investors, and you can track what other positions they may have in their portfolio. You can pay your sales force based on clearly delineated asset flows, enabling them to get compensated directly on assets raised from investors. In some cases, customers in mutual funds are paying a front-end load just to get into a mutual fund. This is basically a fee to make the investment. It is hard to comprehend why investors would pay for the right to make a specific investment before seeing any of the returns of the fund. This explains why net new assets in funds with loads have been negative for the five years leading up to 2015, according to ICI. Many of the assets invested in mutual funds are in what are known as actively managed funds, with a specific fund manager managing the assets. Investors believed that these managers would be able to beat the market over time and therefore were worthy of higher fees. Many actively managed mutual funds have fees that can be upwards of 1 percent of the assets in the fund. You can find lower fees in the index portion of the mutual fund marketplace but that makes up only about 10 percent of the asset base in the products.

The introduction of ETFs to the marketplace has brought with it a significant reduction in the fees that investors need to pay to attain a wide variety of easy-to-manage exposures as building blocks for a portfolio. The asset-weighted expense ratio for ETFs as of July 2015 was 30 basis points, or .30 percent. Many ETF assets are in index tracking funds, but the number and breadth of those indexes are increasing almost daily. More recently there has been incredible compression in the index funds that brings exposure to the largest and most followed indexes, with firms like Vanguard and Schwab and BlackRock continually bringing pricing lower on the core building blocks of an investor's portfolio. You can purchase an S&P 500 Index fund for approximately .03 percent in early 2016. This is significantly lower than what was available before the introduction of ETFs to the marketplace. In addition, you get significantly more transparency into the portfolio of holdings of the fund; and via the ETF structure, you as an investor in the fund are unaffected by the activities of other investors in the same fund.

This is of critical importance to investors and enables them to maintain their positions without fear of gains being distributed to other investors who are entering and exiting the ETF, as is experienced when investing in mutual funds.

Diversity of Product

A plethora of exposures are currently offered across the several thousand exchange-traded funds. Wide arrays of ETF products allow investors to get very specific desired exposure. This might range from major indexes to fixed income in foreign markets, to leveraged commodity bets and every nuance in between. ETFs are also changing the way investors view traditional benchmarks. No longer are ETFs beholden to existing index strategies. The industry has evolved to question how every index is constructed and its benefit for the investor. ETF managers are not only working with traditional index providers but are creating new indexes based around modern financial thinking with access to greater data than ever available before. The very concept of beta exposure created many years ago, the idea of confining a core part of the portfolio to the most well-known indexes, has come into question as a portfolio management technique. In the early days of indexing it was difficult to create indexes and monitor them and provide returns, and even to do the necessary research involved in testing their efficacy. Now that process has become much easier and is enabling the generation of thousands of new indexes providing scores of new investment themes that can be put into an ETF wrapper. Advances in technology are driving the evolution of investment products. ETFs are leading to massive changes in the portfolios of investors.

CONCLUSION

It is human nature to invent, evolve, and explore with more efficiency. ETFs were born from an investment segment that looked to pool investments and gain hard-to-reach exposures. ETFs continue to further democratize investment and do it cheaper and more efficiently. ETFs give investors more power over index investing than ever before. It is our duty, as investors, to understand the new products and learn how to use them properly in striving for investment returns. Welcome to the future!

NOTES

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