

# Exchange-traded funds: Clarity amid the clutter

Vanguard commentary

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*Prepared by Vanguard's Investment Strategy Group*

- Over the past decade, exchange-traded funds (ETFs) have become popular among investors for their use in building investment portfolios. Although sometimes portrayed as unique instruments, ETFs are overwhelmingly similar to mutual funds, from both a regulatory and a structural standpoint.
- Investors have also used ETFs in a manner similar to the way they frequently use mutual funds, namely to create low-cost, broadly diversified investment portfolios, especially when implementing index-based strategies.
- ETFs provide important benefits stemming from the method by which investors transact in fund shares. The secondary market trading of ETFs serves as an additional source of intraday liquidity for market participants while intraday market prices reflect valuable information about market conditions.

Exchange-traded funds (ETFs) have become a sought-after option for U.S. investors, with U.S.-listed ETF assets totaling \$2.1 trillion as of June 30, 2015. Although this amount was much less than the \$12.5 trillion in total assets held by mutual funds as of that date, ETF assets grew at an annualized rate of 24.0% for the ten years ended June 30, versus 8.2% for mutual funds over the same period.<sup>1</sup>

ETFs' remarkable growth has been driven largely by two trends. The first is that financial advisors, who were among the early adopters of ETFs and who manage substantial assets held by affluent investors,<sup>2</sup> have been conducting a greater proportion of their practices on a fee basis, as opposed to a commission basis. According to Cogent Wealth Reports (2014; 2015), the percentage of advisor compensation from asset-based fees grew from 45% in 2007 to 60% in 2015. The second trend is the financial industry's emphasis on low-cost investing. Kinniry, Bennyhoff, and Zilbering (2013) noted that low-cost funds have received the majority of investor assets, in large part because of the popularity of index funds.

Most ETFs share many similar characteristics with mutual funds: They offer investors access to a particular market or investment strategy; they are pooled investment vehicles whose investors own a pro-rata share of fund assets and receive valuable benefits in return (e.g., diversification, economies of scale, professional money management, and convenience); they are primarily

regulated by the same laws; and they issue new shares and redeem existing shares to meet investor demand. Despite many similarities with mutual funds, however, there are differences. Most notably, when mutual fund investors buy and sell shares, they transact directly with the fund and receive the end-of-day net asset value (NAV) price, whereas ETF investors typically transact with each other through an exchange and receive an intraday market price, usually the moment the order is placed.

This research commentary first highlights the similar regulatory regime applicable to both ETFs and mutual funds. We then discuss how investors use ETFs in the same ways as mutual funds when constructing portfolios. Finally, we describe some of the benefits provided by ETFs that result from their exchange-traded nature.

### ETFs and mutual funds: A shared regulatory environment

The vast majority of ETFs (96% of assets, according to Morningstar, as of June 30, 2015) are organized and regulated as registered investment companies under the United States Investment Company Act of 1940 (1940 Act), the same legislation that governs mutual funds.<sup>3</sup> The 1940 Act imposes a host of investor protections, including those related to organizational structure and investment activities. This makes ETFs that are subject to the 1940 Act among the most stringently regulated investment products available in the United States.

*Notes on risk: All investing is subject to risk, including the possible loss of the money you invest. Past performance is no guarantee of future returns. Be aware that fluctuations in the financial markets and other factors may cause declines in the value of your account. There is no guarantee that any particular asset allocation or mix of funds will meet your investment objectives or provide you with a given level of income. We recommend that you consult a tax or financial advisor about your individual situation.*

*Funds that concentrate on a relatively narrow market sector face the risk of higher share-price volatility. Prices of mid- and small-cap stocks often fluctuate more than those of large-company stocks. Investments in securities issued by non-U.S. companies are subject to risks including country/regional risk and currency risk. Bond funds are subject to the risk that an issuer will fail to make payments on time, and that bond prices will decline because of rising interest rates or negative perceptions of an issuer's ability to make payments. U.S. government backing of Treasury or agency securities applies only to the underlying securities and does not prevent share-price fluctuations. High-yield bonds generally have medium- and lower-range credit quality ratings and are therefore subject to a higher level of credit risk than bonds with higher credit quality ratings. Diversification does not ensure a profit or protect against a loss in a declining market.*

<sup>1</sup> Source for all data in this paragraph is Morningstar, Inc., as of June 30, 2015.

<sup>2</sup> According to Spectrem (2015), 68% of mass-affluent investors (i.e., \$100,000 to \$1 million in household net worth), 81% of millionaires (\$1 million to \$5 million), and 81% of ultra-high-net-worth investors (\$5 million to \$25 million) use a professional advisor.

<sup>3</sup> Although the terms *ETF* and *exchange-traded product (ETP)* are sometimes used interchangeably, an ETF is a type of ETP. ETPs constitute a broad class of exchange-listed financial products that seek to provide investors with exposure to financial instruments, financial benchmarks, or investment strategies across many asset classes. ETPs include both exchange-traded notes (ETNs) and ETFs. ETNs are not funds, but, rather, unsecured debt instruments not subject to the robust protections associated with the 1940 Act. ETFs constitute a diverse class of financial products that may be regulated by the 1940 Act (e.g., as an open-end investment company or unit investment trust) or may not be regulated by the 1940 Act (e.g., as a grantor-trust ETF or partnership ETF). Since, similar to mutual funds, most ETFs are structured as open-end investment companies, the regulation discussion in this paper refers explicitly to ETFs that are regulated by the 1940 Act as open-end investment companies.

To begin operations, ETFs and mutual funds must be registered with the U.S. Securities and Exchange Commission (SEC). Each fund typically maintains a board of directors composed primarily of independent directors—elected by shareholders—who act as fiduciaries to the fund and oversee the fund’s activities. In particular, the board of directors hires a management firm to manage the fund’s assets. This firm provides management services to the fund and is obligated to act as a fiduciary and in the fund’s best interest. The fund’s assets are held by a custodian (typically a U.S. bank) and are segregated both from the asset manager and the bank’s assets. To the extent the management firm or bank were to go bankrupt, ETF and mutual fund investors have a legal right to the fund’s assets.

The 1940 Act also governs a fund’s activities. For instance, it requires funds to hold at least 85% of their net assets in liquid assets and to value portfolio holdings on a daily basis. In addition, funds are limited to a simple capital structure that constrains the use of leverage, either explicitly through borrowing money, or implicitly through activities such as short sales, securities lending, and derivative transactions that could create leverage. For example, funds are generally limited to borrowing only from a bank and must maintain a 300% asset-coverage ratio for all such borrowings. All 1940 Act ETFs and mutual funds must comply with the disclosure-based provisions of the 1940 Act, the Securities Act of 1933 (1933 Act), and associated SEC rules.<sup>4</sup> These provisions require ETFs and mutual funds to disclose material information via fund prospectuses and annual reports to help investors make informed investment decisions.

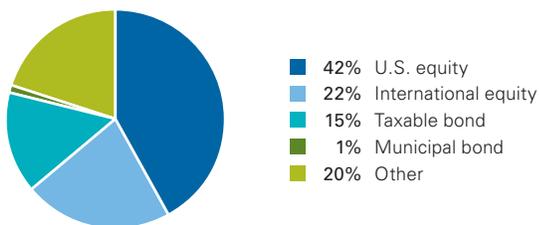
All 1940 Act funds are furthermore subject to regulation under the U.S. Internal Revenue Code. From a shareholder’s perspective, taxation of 1940 Act ETFs and mutual funds is the same. For example, capital gains or losses on the sale of ETF and mutual fund shares by investors are subject to the same capital gains taxation rules. Equivalent taxation also applies with respect to buying and selling of securities by the portfolio manager of an ETF or mutual fund: When an ETF or mutual fund distributes any gains generated on the sale of portfolio securities to its shareholders, short-term capital gains are taxed to shareholders at ordinary income tax rates, and long-term capital gains are taxed to shareholders at the lower long-term capital gains rates. In addition, any net investment income (for example, interest or dividends received by a fund on its portfolio securities) paid out by both are treated as current income and generally taxed to shareholders at ordinary income-tax rates, although for ETFs or mutual funds that invest in dividend-paying stocks, some or all of these distributions may be taxable to shareholders at the currently lower qualified dividend rates.

### Using ETFs to implement investment strategy

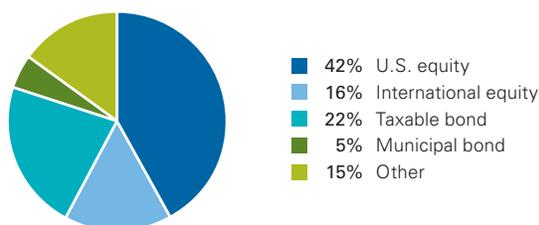
The fundamental purpose of a fund, whether an ETF or a conventional mutual fund, is to facilitate diversified access to a particular investment strategy. Both structures conveniently enable investors to construct their portfolios in accordance with their asset allocation. **Figure 1** shows how investor allocations using ETFs are very similar to those using mutual funds.

**Figure 1. ETF and mutual fund investors allocate assets similarly**

a. Allocation of ETF assets



b. Allocation of mutual fund assets



**Notes:** Data as of June 30, 2015. “Other” category represents sector-equity, commodities, alternative, and allocation funds as defined by Morningstar.

**Sources:** Vanguard calculations, based on data from Morningstar, Inc.

<sup>4</sup> The SEC is the primary regulator of U.S. mutual funds and ETFs subject to the 1940 Act. Among other oversight functions, the SEC conducts both periodic and special examinations of funds’ compliance controls, operations, and compliance with regulatory requirements.

As part of the portfolio-construction process, investors can choose to implement their allocations using an index-based or actively managed strategy.<sup>5</sup> Some of the hallmark characteristics of indexing include broad diversification and low costs. ETFs have often been touted for low costs, and although it is true that their expense ratios tend to be lower than those of mutual funds, the reduction in cost mostly reflects the difference between indexing and active management. This is because 99% of ETF assets follow index-based strategies, whereas just 19% of mutual fund assets follow index strategies (source: Morningstar, Inc., as of June 30, 2015). Because most index funds cost less than actively managed funds, most index ETFs and index mutual funds have expense ratios that are lower than those of active ETFs and active mutual funds. **Figure 2** illustrates that the expense-ratio advantage has more to do with indexing than whether or not the vehicle is an ETF.

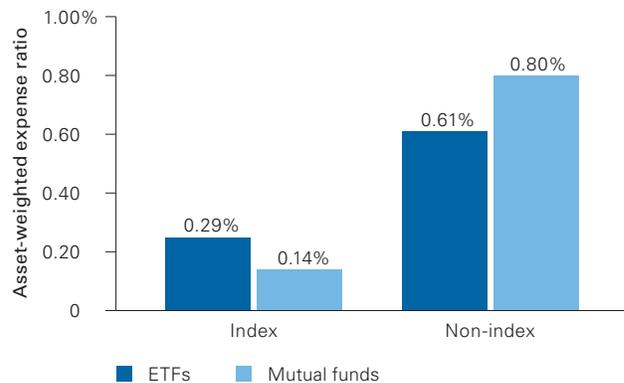
**ETFs provide additional benefits to market participants**

ETFs differ from mutual funds largely because of the way investors transact in fund shares, and as a result provide the additional benefits of on-exchange liquidity and market-based prices. Secondary market transactions represent an additional source of liquidity for investors while market-based prices reveal valuable information about market conditions. These benefits are explained further in the paragraphs following.

**Secondary markets provide additional source of intraday liquidity**

ETFs provide investors the flexibility to trade shares intraday, and the intraday trading is recorded as trading volume on U.S. stock exchanges.<sup>6</sup> However, the overwhelming majority of this trading reflects secondary market transactions (i.e., trading of ETF shares between two market participants), and only a limited amount of this trading volume by market participants results in primary market trading (i.e., trading in the underlying securities market). The secondary market provides investors with an additional source of liquidity, meaning they can trade a broad portfolio of securities without trading in the underlying market.

**Figure 2. Cost differences are due more to investment strategy than product structure**



**Notes:** Data as of June 30, 2015. According to Morningstar, index mutual funds and index ETFs are defined as vehicles that track a particular index and attempt to match the returns of that index. Non-index vehicles include actively managed vehicles.

**Sources:** Vanguard calculations, based on data from Morningstar, Inc.

During the course of the trading day, investor orders to buy and sell ETF shares are matched on an exchange with the help of market makers. At the end of the trading day, if market makers have a net short position in shares of an ETF (i.e., they sold more than they bought) or a net long position (i.e., they bought more than they sold), they might decide to offset those positions by seeking to create new shares or redeem the existing shares. ETF creations and redemptions are usually executed once per day at their net asset value at 4 p.m., Eastern time.<sup>7</sup>

**Figure 3a** shows the percentage of daily equity ETF trading volume conducted solely on the secondary market. The median ratio was 94%, suggesting that for every \$1 in trading volume, only 6 cents resulted in primary market trading. Put another way, 94% of the trading volume resulted in no portfolio management impact and no trading in underlying securities (**Figure 3b** shows the same analysis for bond ETFs—median ratio was 83%). The Investment Company Institute (2015) found similar results for equity ETFs (91%) and bond ETFs (81%).

<sup>5</sup> See Philips et al. (2015), for a discussion of indexing.

<sup>6</sup> For the month of June 2015, the average daily trading volume of all ETFs in the United States was \$72.5 billion (sources: Vanguard calculations, based on ArcaVision data).

<sup>7</sup> The process by which ETFs issue and redeem new shares is actually quite similar to that of mutual funds. Mutual funds accept buy and sell orders throughout the day. At the end of the day, only the difference between the buy orders and sell orders results in net share issuance or redemption. Shares are issued or redeemed once per day at their net asset value, at 4 p.m., Eastern time.

Figure 3a. The majority of equity ETF trading volume is conducted on the secondary market

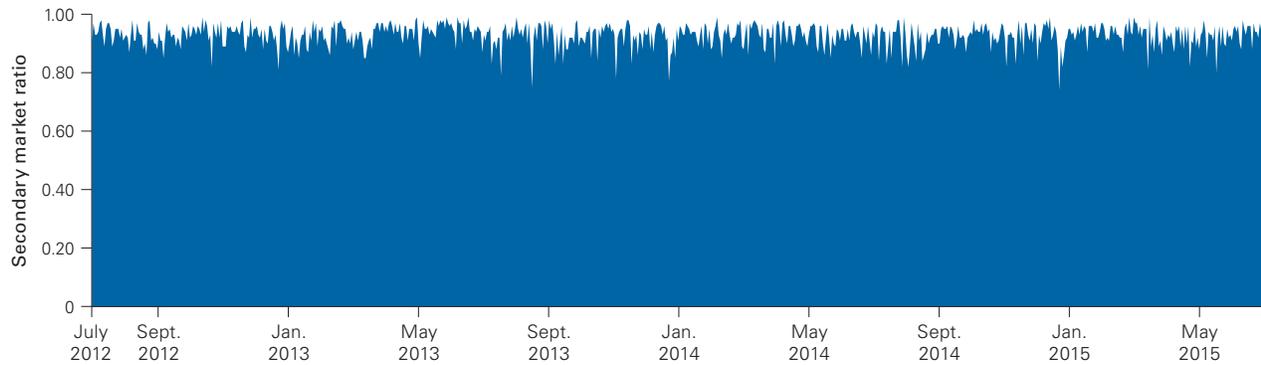
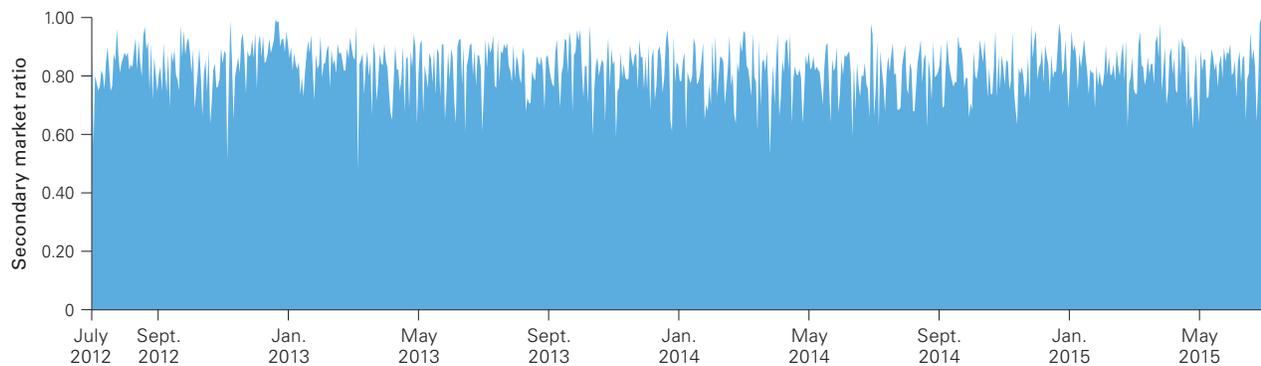


Figure 3b. The majority of bond ETF trading volume is conducted on the secondary market



**Notes:** Data cover the period July 1, 2012, through June 30, 2015. Ten largest equity ETFs and bond ETFs by assets were used here as proxies. Secondary market ratio measured as secondary activity divided by the sum of primary market and secondary market activity. Primary market activity computed as daily creations or redemptions for each ETF, estimated by daily change in shares outstanding times net asset value.

**Sources:** Vanguard calculations, based on daily data from Bloomberg Inc.

**Market prices reveal valuable information about market conditions**

An ETF’s market price can deviate from the value of its underlying securities, revealing important information about market conditions. The creation and redemption mechanisms of ETFs generally keep the market price close to the currently observed or implied value of an ETF’s underlying securities (see the box, “Creation and redemption of ETF shares,” on page 7). Any small differences between the two—known as “premiums” (when the market price is greater than the value of the underlying securities) and “discounts” (market price is lower than the value of the underlying securities)—are largely influenced by transaction costs in the underlying securities’ markets, time-zone differences across global markets, and intraday investor supply and demand for the ETF shares.

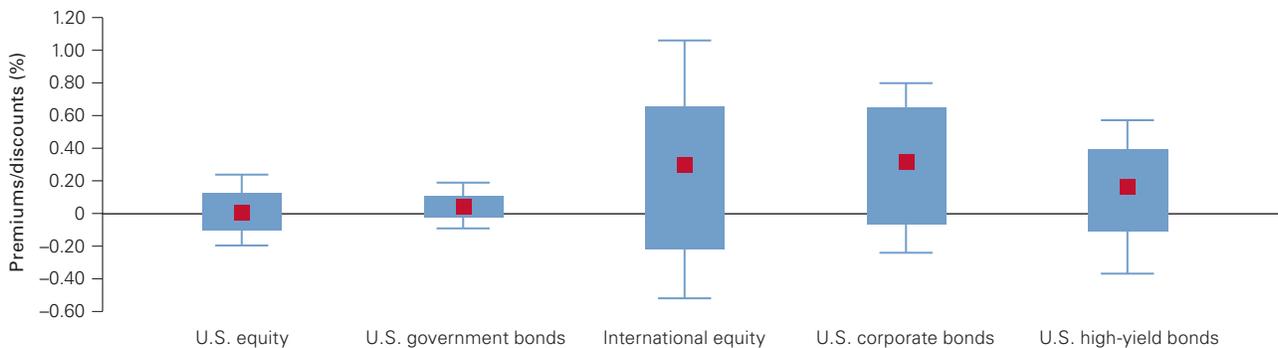
Underlying market transaction costs substantially influence the existence of premiums and discounts. What investors infer from the existence of premiums and discounts can be somewhat misleading because transaction costs are more transparent with ETFs than with traditional mutual funds. In fact, not only are such

costs more transparent, but they are externalized, meaning the costs associated with trading ETFs in the market are passed along to the investor. When trading ETFs, the investor bears the cost of his or her own transaction.

During times of equilibrium, markets essentially have balanced supply and demand. In such an environment, an ETF’s market price would likely be at a small premium. The premium would reflect various costs faced by the market maker, including those to transact in the underlying market as well as fees related to the creation or redemption of ETF shares. **Figure 4** provides insight into how the average premiums/discounts in ETFs tend to be a function of underlying market transaction costs. In the five categories shown, the median premium/discount, indicated in the figure by the red square, rises in accordance with the general level of transaction costs in the respective underlying markets. U.S. equities are extremely liquid and have minimal transaction costs, as do U.S. government bonds. International equities have slightly higher transaction costs than either of the former.

**Figure 4. ETF premiums/discounts are a function of transaction costs and time-zone differences**

Historical premium/discount distribution



**Notes:** Dataset includes all available ETFs from July 1, 2012, through June 30, 2015, in each category as defined by Morningstar. “U.S. equity” represents Large, Mid, and Small, as well as Growth, Value, and Blend, Morningstar categories; “U.S. government bonds” represents Short, Intermediate, and Long U.S. government bond Morningstar categories; “International equity” represents Foreign Large, Mid, and Small, as well as Growth, Value, and Blend, Morningstar categories; “U.S. corporate bonds” and U.S. high-yield bonds” represent their respective Morningstar categories. Each blue box represents 5th–95th percentiles; whiskers represent 0.5%–99.5% of observations; and red squares represent median value for each category, using daily data from Bloomberg. For an evaluation of premiums/discounts and trading volume during the 2007–2009 financial crisis, see **Figures A-1 and A-2**, respectively. For an evaluation of premiums/discounts and trading volume during the 2013 “taper tantrum,” see **Figures A-3 and A-4**, respectively. **Sources:** Vanguard, based on data from Morningstar, Inc., and Bloomberg Inc.

Figure 4 also illustrates how the variability of the premium/discount is largely a reflection of time-zone differences between an ETF's trading hours and the trading hours of the underlying securities, as well as the propensity of the underlying market's transaction costs to fluctuate. In the case of time-zone differences, the effects can be seen notably with international stock ETFs; with fluctuating levels of transaction costs, the effects can be seen notably with U.S. corporate bond ETFs and U.S. high-yield bond ETFs. Each of these effects is discussed next.

**Effect of time-zone differences.** Most ETF NAVs—and stock-index values—are calculated using the closing prices of the underlying securities in their local markets. However, many local markets close before the U.S. markets, meaning the local prices of international stocks are stale as trading continues in U.S. stock markets. Price-affecting information continues to enter the global marketplace, but does not affect the underlying stocks in an international stock ETF's portfolio, because the markets in which they trade are closed. In the meantime, international stock ETFs continue to trade in the United States, and market participants engage in what is known as "fair-value pricing," meaning that participants set prices on these ETFs based on what the underlying international stocks would likely be worth if their local markets were still open for trading. Thus, the ETF's market price more accurately represents the value of the underlying stocks in the portfolio.

**Effect of transaction costs.** Corporate and high-yield bond ETFs are more subject to changing levels of transaction costs and investor demand than the other listed categories of ETFs largely due to the over-the-counter nature of trading of these bonds. To the extent that there is greater relative demand to buy an ETF, the ETF's market price could rise, causing premiums to grow. The opposite is true given increased demand to sell an ETF. Given greater relative pressure to sell an ETF, the ETF's market price could drop, causing premiums to fall or possibly leading to the emergence of a discount.

### Creation and redemption of ETF shares

ETF shares are created and redeemed by an entity known as an "authorized participant," or "AP," typically a large broker-dealer. Each business day, the ETF publishes a "creation basket"—a list of names and quantities of securities or other assets. To create ETF shares, an AP delivers the creation basket to the ETF and receives in return a "creation unit," a large block of ETF shares (typically 50,000). Under certain circumstances, the AP may provide cash in lieu of some or all of the securities, along with a transaction fee to offset the cost to the ETF of acquiring them. Upon receiving the ETF shares, the AP may sell some or all of them in the secondary market.

A creation unit is liquidated when an AP returns the specified number of shares to the ETF in exchange for the "redemption basket" (generally comprising the same list of securities as that in the creation basket). If the AP receives cash in lieu of securities, the AP typically pays a transaction fee to offset the cost to the ETF of liquidating the securities.

The creation and redemption mechanisms help ETF shares trade at a price close to the market value of their underlying assets. When rising demand for the shares causes them to trade at a higher price (i.e., at a premium), the AP may find it profitable to create shares by buying the underlying securities, exchanging them for ETF shares, and then selling those shares into the market. Similarly, when falling demand for the ETF shares causes them to trade at a lower price (i.e., at a discount), an AP may buy shares in the secondary market and redeem them to the ETF in exchange for the underlying securities. These actions by APs, commonly described as "arbitrage activities," help keep the market-determined price of an ETF's shares close to the market value of the underlying assets.

During times of lower liquidity in the underlying markets, these premiums or discounts could expand. However, if the size of the premium or discount were to exceed the heightened transaction costs of the underlying market, market makers and authorized participants would have an incentive to engage in the creation or redemption of new shares. It's important to be aware that even though the level of the premium or discount can vary, the ETF's bid-ask spread itself can still remain tight. In fact, the bond ETF bid-ask spread is often tighter than the spread on the underlying bonds, because the ETF consolidates the many different bonds in the underlying strategy into a standardized, tradable unit, concentrating liquidity. As previously mentioned, this liquidity in the shares of the bond ETF adds to the liquidity of the underlying bond market, since market participants can buy and sell bond market exposure by trading solely in the shares of the ETF.

When analyzing premiums and discounts, it's critical to note that a mutual fund portfolio manager trying to buy or sell the same basket of securities as those found in an ETF may also be facing the same transaction costs. However, mutual fund investors do not see those costs in real time; rather, the costs are captured as part of the fund's NAV. In addition, investors trying to trade individual bonds in smaller quantities would likely face even higher transaction costs—especially in the non-U.S. Treasury sectors of the bond market (see Bennyhoff, Donaldson, and Tolani, 2012). That is why premiums and discounts in ETFs—especially bond ETFs—are largely a reflection of the externalization of transaction costs.

In summary, the divergence of market price from net asset value among international stock ETFs and bond ETFs is a natural outcome of the relationship between an ETF and its underlying securities. This serves to reveal valuable information about market conditions (as investors trade at mutually agreed-upon prices). There are times when market conditions result in larger deviations between current and stale security pricing or in higher transaction costs.

## Conclusion

ETFs offer an attractive and efficient way for investors to implement an investment strategy. ETFs' broad acceptance in the market can be tied to their fundamentally similar characteristics with mutual funds, including their organizational structure, their strict regulatory framework, and, for many ETFs, their index-based nature. As a result, investors have used ETFs and mutual funds for similar purposes. ETFs also possess important features stemming from the method by which investors transact in fund shares. Notably, secondary markets serve as an additional source of intraday liquidity for investors. Moreover, ETF market prices reveal valuable information about market conditions, including the level of transaction costs in the underlying markets and, with respect to international stock ETFs, a more current value of that ETF's underlying securities. This means that the trading of ETFs represents an on-exchange source of liquidity at a mutually agreed-upon price between market participants.

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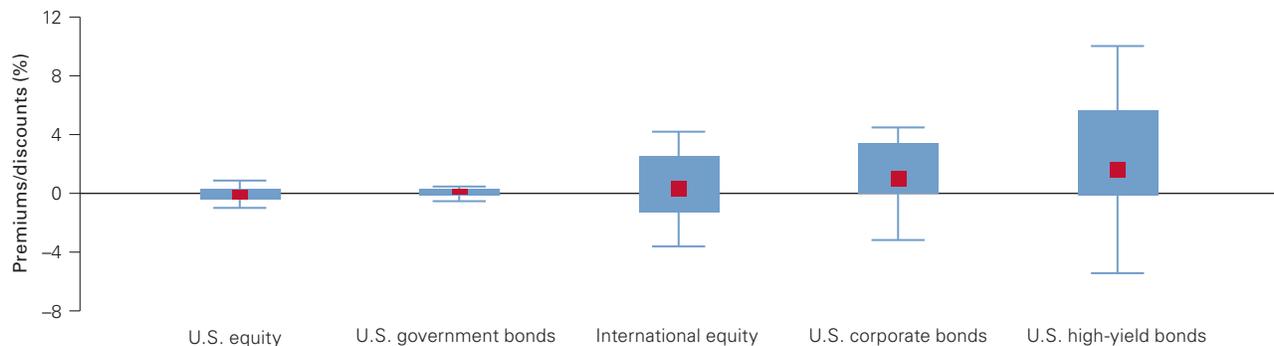
U.S. Securities Act of 1933, as amended through U.S. Public Law 112-106, 112th Cong., April 5, 2012; available at [www.sec.gov/about/laws/sa33.pdf](http://www.sec.gov/about/laws/sa33.pdf).

**Appendix. Premiums/discounts and trading volume of ETFs during 2007–2009 global financial crisis and ‘taper tantrum’ of May–June 2013**

Figure A-1 measures premiums/discounts across five ETF categories, specifically during the global financial crisis of 2007–2009. The relationships between the average and variability of premiums/discounts and the fund category are shown to be similar to findings displayed earlier in Figure 4: The median premium/discount rises in accordance with the liquidity characteristics of the underlying markets. Also, the relative variability of premiums/discounts across the five categories is similar

to that in Figure 4 (though each category exhibits greater variability when compared to itself). There are more extreme levels of discount observations in Figure A-1’s earlier time period, highlighting the difficult conditions in the bond market. However, even during this period of increased transaction costs, U.S. corporate bond ETFs and U.S. high-yield bond ETFs posted discounts on only 6% and 5% of the 392 days, respectively.

Figure A-1. ETF premium/discount relationships during 2007–2009 financial crisis were similar to those in Figure 4



**Notes:** Dataset includes all available ETFs in each category as defined by Morningstar (see notes to Figure 4 for fund representation by category) during the global financial crisis, defined here as the period October 1, 2007, through March 31, 2009. Each blue box represents 5th–95th percentiles; whiskers represent 0.5%–99.5% of observations; red squares represent median value for each category.

**Sources:** Vanguard calculations, based on data from Morningstar, Inc., and Bloomberg Inc.

Figure A-2. Bond ETF trading volume remained robust on ‘discount days’ during 2007–2009 financial crisis

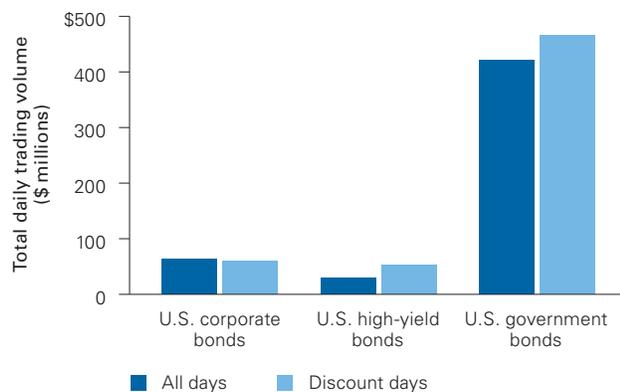


Figure A-2 compares total daily trading volume of bond ETFs on all days during the 2007–2009 global financial crisis with those days during the defined period on which they traded at a discount. Despite the challenging bond market conditions, market participants were able to use ETFs to transact in these asset classes at a mutually agreed-upon price.

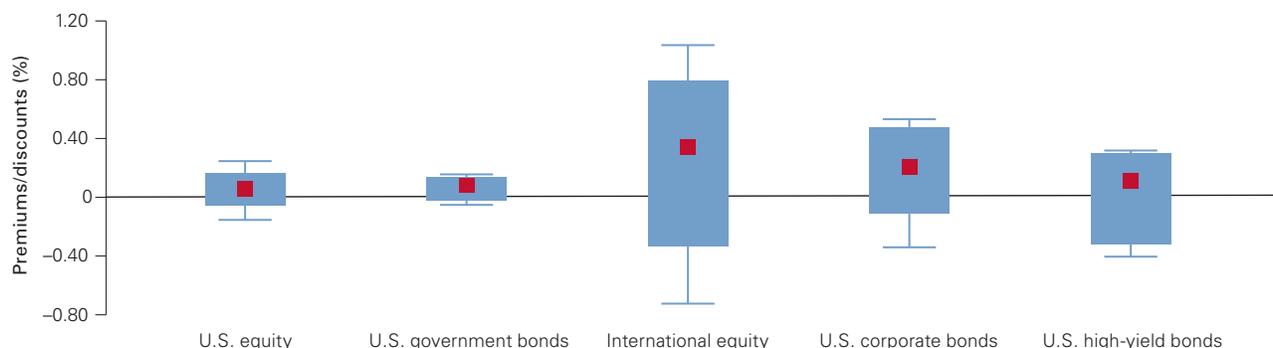
**Notes:** Dataset includes all available ETFs in each category as defined by Morningstar (see Notes to Figure 4 for fund representation by category) during the global financial crisis, defined here as the period October 1, 2007, through March 31, 2009.

**Sources:** Vanguard calculations, based on data from Morningstar, Inc., and Bloomberg Inc.

Figures A-3 and A-4 mirror the analysis performed in Figures A-1 and A-2, but instead using the time period of May through June 2013, known as the “taper tantrum,” when government bond yields soared globally when the U.S. Federal Reserve suggested it might start slowing its bond purchases later that year. In Figure A-3 the relationships between the median and variability of premiums/discounts and the fund category are again similar to our earlier findings in Figure 4. In particular, as this period most directly affected fixed

income markets, the figure shows that the most extreme premium/discount observations remained similar to those seen in Figure 4. During this period, corporate bond ETFs and high-yield bond ETFs posted discounts on 19% and 37% of the 43 days, respectively, though at levels of minimal magnitude. Figure A-4 shows that, notwithstanding the challenging market environment, participants transacted in greater amounts on “discount days.”

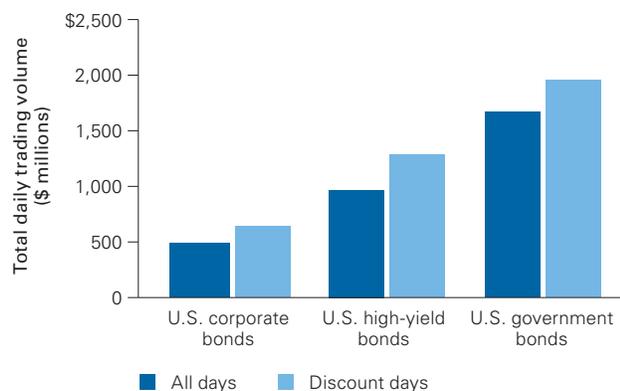
Figure A-3. ETF premium/discount relationships during ‘taper tantrum’: May–June 2013



Notes: Dataset includes all available ETFs from May 2013 through June 2013 in each category as defined by Morningstar (see Notes to Figure 4 for fund representation by category). Each blue box represents 5th–95th percentiles; whiskers represent 0.5%–99.5% of observations; and red squares represent median value for each category.

Sources: Vanguard calculations, based on data from Morningstar, Inc., and Bloomberg Inc.

Figure A-4. Bond ETF trading volume remained robust on ‘discount days’ during ‘taper tantrum’: May–June 2013



Notes: Dataset includes all available ETFs from May 2013 through June 2013 in each category as defined by Morningstar (see Notes to Figure 4 for specific fund representation by category).

Sources: Vanguard calculations, based on data from Morningstar, Inc., and Bloomberg Inc.

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***Vanguard ETF® Shares are not redeemable with the issuing fund other than in very large aggregations worth millions of dollars. Instead, investors must buy and sell Vanguard ETF Shares in the secondary market and hold those shares in a brokerage account. In doing so, the investor may incur brokerage commissions and may pay more than net asset value when buying and receive less than net asset value when selling.***



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