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## Understanding Exchange-Traded Funds: How ETFs Work

### KEY FINDINGS

- » **An exchange-traded fund (ETF) is a pooled investment vehicle with shares that can be bought or sold throughout the day on a stock exchange at a market-determined price.** Like a mutual fund, an ETF offers investors a proportionate share in a pool of stocks, bonds, and other assets.
- » **Demand for ETFs has grown markedly in the United States.** From year-end 2003 to June 2014, total net assets have increased twelvefold, from \$151 billion to \$1.8 trillion, and the number of ETFs has increased from 119 to 1,364.
- » **Specific features of ETFs that investors find attractive, as well as general trends in investing and money management, have contributed to the growing popularity of ETFs.** These features include intraday tradability, transparency, tax efficiency, and access to specific markets or asset classes. ETFs also have gained favor due to the rising popularity of passive investments, increasing use of asset allocation models, and a move toward external fee-based models of compensation.
- » **The vast majority of ETFs are registered as investment companies under the Investment Company Act of 1940 (Investment Company Act) and are regulated by the Securities and Exchange Commission.** These ETFs are subject to the same regulatory requirements as other registered funds; however, they must first receive exemptive relief from certain provisions of the Investment Company Act before they can commence operations.
- » **Generally, the price at which an ETF trades on a stock exchange is a close approximation to the market value of the underlying securities that it holds in its portfolio.** Two primary features of an ETF's structure promote this fairly tight relationship: transparency and the ability for authorized participants (APs)—typically large financial institutions—to create or redeem ETF shares at net asset value at the end of each trading day.

- » **Creations and redemptions of ETF shares have safeguards that protect an ETF and its shareholders from a default by an AP.** Creations and redemptions processed through the National Securities Clearing Corporation (NSCC) have the same guarantee as a domestic stock trade. For ETF shares created and redeemed outside NSCC’s system, ETFs usually require APs to post collateral.
- » **On most trading days, the vast majority of ETFs do not have any primary market activity—that is, they do not create or redeem shares.** Instead, when accessing liquidity in ETFs, investors make greater use of the secondary market (trading shares) than the primary market (creations and redemptions transacted through an AP). On average, daily aggregate ETF creations and redemptions are a fraction (10 percent) of their total primary market activity and secondary market trading, and account for less than 0.5 percent of the funds’ total net assets.
- » **On average, daily creations and redemptions are a greater proportion (19 percent) of total trading for bond ETFs than for equity ETFs (9 percent).** Because bond ETFs are a growing segment of the ETF industry, many small bond ETFs tend to have less-established secondary markets. As more bond ETFs increase their assets under management, the secondary market for these products is likely to deepen naturally.
- » **Despite proportionately higher primary market activity for bond ETFs, the impact on their underlying portfolios from creations and redemptions has been limited.** Average daily creations and redemptions of bond ETFs were 0.34 percent of total net assets.

## Introduction

### The Growing Success of ETFs

Exchange-traded funds (ETFs) have been one of the most successful financial innovations in recent years. Since the introduction of ETFs in the early 1990s, demand for these funds has grown markedly in the United States, as both institutional and retail investors increasingly have found their features appealing. In the past decade alone, total net assets of ETFs have increased twelvefold, from \$151 billion at year-end 2003 to \$1.8 trillion as of June 2014 (Figure 1).<sup>1</sup>

With the increase in demand, sponsors have offered more ETFs with a greater variety of investment objectives. As of June 2014, there were 1,364 U.S.-registered ETFs, up from 119 at year-end 2003. Like mutual funds, ETFs are a way for investors to participate in the stock, bond, and commodity markets; achieve a diversified portfolio; and gain access to a broad array of investment strategies. Although total assets managed by stock, bond, and hybrid mutual funds are significantly larger (\$13.1 trillion) than those of ETFs (\$1.8 trillion), ETFs’ share of their combined assets has increased considerably—from less than 3 percent at year-end 2003 to a little more than 12 percent by June 2014.

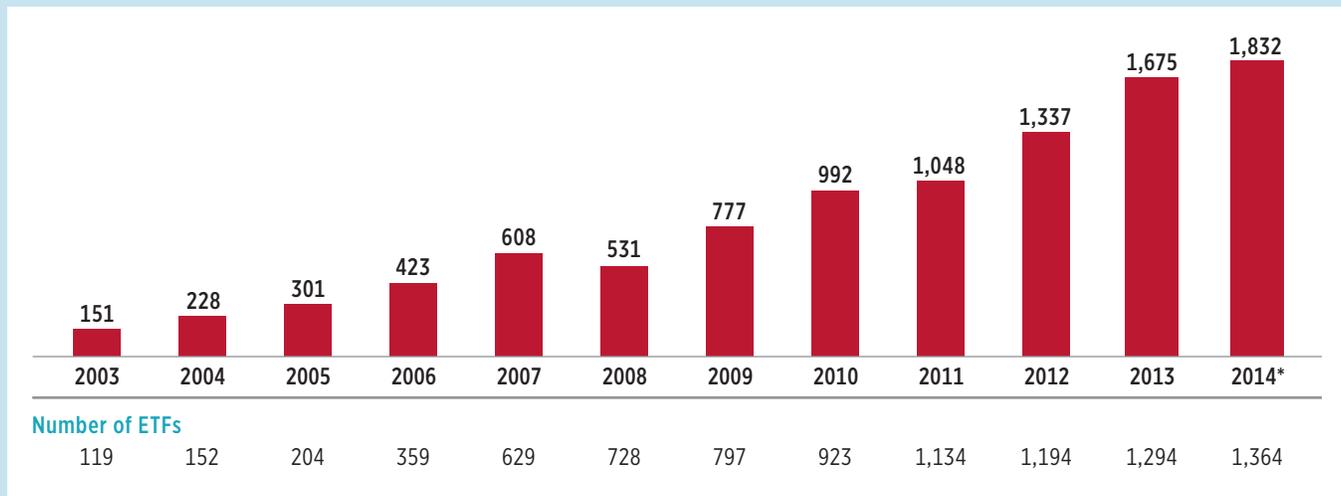
#### Abbreviation Key

AP	authorized participant	IIV	intraday indicative value
CFTC	Commodity Futures Trading Commission	NAV	net asset value
CR order	creation/redemption order	NSCC	National Securities Clearing Corporation
DTC	Depository Trust Company	PCF	portfolio composition file
DTCC	Depository Trust & Clearing Corporation	SEC	Securities and Exchange Commission
ETF	exchange-traded fund	S&P	Standard & Poor’s
ETN	exchange-traded note	UIT	unit investment trust
		T	trade date

FIGURE 1

## Total Net Assets and Number of ETFs

Billions of dollars, year-end 2003–2014\*



\*Data are through June 2014.

Note: Data for ETFs that invest primarily in other ETFs are excluded from the totals.

Source: Investment Company Institute

Several factors have contributed to the growing popularity of ETFs. Some of these factors are related to specific features of ETFs that investors find attractive, while others correspond to more recent general trends in investing and money management.

Specific features of ETFs that investors find attractive include:

**Intraday tradability.** An ETF is essentially a mutual fund that has a secondary market.<sup>2</sup> This means that investors buy or sell existing ETF shares at market-determined prices during trading hours on stock exchanges, in dark pools, or on other trading venues. This feature gives investors liquidity and quick access to different types of asset classes. Initially, ETFs were used primarily by institutional asset managers to “equitize” cash (i.e., turn cash holdings into an equity position while maintaining liquidity), thus reducing the drag on portfolio returns that usually accompanies cash positions. More institutional asset managers also have found ETFs to be a convenient tool to hedge against broad movements in the stock market and as a temporary parking place when rebalancing their portfolios or transitioning management of the fund from one manager to another.

**Price transparency.** Generally, the price at which an ETF trades in the secondary market is a close approximation to the market value of the underlying securities held in its portfolio. This fairly tight relationship makes ETFs a convenient and easy option for investors who want to minimize the possibility that the share price could trade at a substantial premium or discount to the net asset value (NAV) of the fund (as can happen in a closed-end fund).

**Tax efficiency.** Investors have been attracted to ETFs as typically only a small percentage have distributed capital gains. Since most ETFs track an index, they have lower portfolio turnover than actively managed funds and fewer realizations of capital gains. Also, ETFs more frequently use in-kind redemptions to reduce their unrealized gains (also known as *tax overhang*) by distributing securities that were purchased for less than their current value (commonly referred to as *low-basis securities*). Because these transactions are in-kind, the ETF does not incur any tax when the low-basis securities are redeemed. As a result, many ETF investors do not incur capital gains taxes until they sell their ETF shares.

*Access to specific markets or asset classes.* Demand for ETFs by institutional fund managers and retail investors has been spurred by the ability to gain exposure to specific markets or asset classes that would otherwise be difficult or impossible for them to attain. For example, some foreign markets require investors to have foreign investor status, a local bank account, and a local custodian to access their markets. Investors seeking these type of exposures can overcome these obstacles by simply buying an ETF that has exposure to those foreign markets as they would any other stock on an exchange. The ETF has either met all the requirements or achieved the exposure through other types of financial instruments that are not readily available to retail investors.

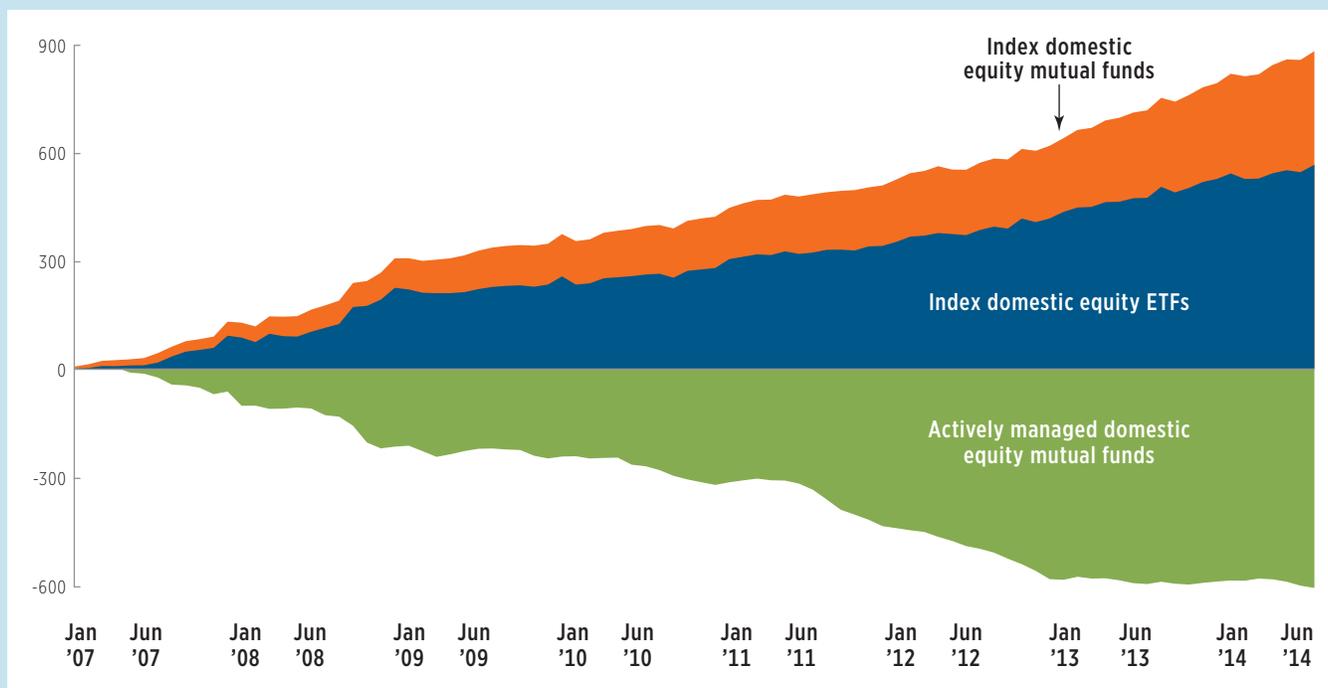
General trends that have contributed to the popularity of ETFs include:

*Rising popularity of passive investments.* Investor demand for index-oriented products, particularly in the domestic equity space, has been strong for the past several years. From January 2007 through June 2014, index domestic equity mutual funds and ETFs received \$855 billion in cumulative net new cash and reinvested dividends, while actively managed domestic equity mutual funds experienced an outflow of \$595 billion over the same period (Figure 2).

FIGURE 2

**Some of the Outflows from Domestic Equity Mutual Funds Have Gone to ETFs**

*Cumulative flows to and net share issuance of domestic equity mutual funds and ETFs, billions of dollars; monthly, 2007-2014\**



\*Data are through June 2014.

Note: Equity mutual fund flows include net new cash flow and reinvested dividends.

Source: Investment Company Institute

*Greater use of asset allocation models.* Retail investors have become increasingly aware of ETFs through their financial advisers. More financial advisers are moving toward the use of third-party asset allocation models to manage their clients' assets and find that ETFs are an efficient and cost-effective way to implement these investment strategies.

*Externalization of distribution fees.* Another related reason for an increase in the use of ETFs by financial advisers has been a trend toward a model of compensation based on external fees, in which the client pays the adviser directly for services, usually based on the amount of assets the adviser manages for the client. ETFs fit well in this business model because their expense ratios do not include charges for distribution, account servicing, or maintenance.

## Research Program

The size and scope of the ETF industry has grown and the use of ETFs has become more widespread across both institutional and retail investors. As a result, regulators, academics, and the media have taken more interest in how these products are structured, how they affect the markets for various asset classes, and how they behave under stressed market conditions. As part of its ongoing research program, the Investment Company Institute will publish papers that will closely examine many of these issues.

## Outline for This Report

The objective of this paper is to act as a primer, an in-depth explanation of the unique structure of ETFs. Before we can analyze questions—such as whether secondary market trading in ETFs amplifies general market volatility or transmits financial stress, or whether there is a link between the arbitrage mechanism used by authorized participants (APs) and other ETF investors and volatility in the underlying securities held by an ETF—we must first clearly understand how ETFs are structured. The second section of this paper provides a description of the different types of ETFs, how ETFs are created and by whom, and how

ETFs trade. The third section provides a detailed explanation of the regulatory framework for ETFs in the United States, focusing on those ETFs registered with the Securities and Exchange Commission (SEC) under the Investment Company Act of 1940 (Investment Company Act). The fourth section describes the clearing and settlement process by which ETF shares are created and redeemed in the primary market, describing the interactions between the AP, the ETF, and the ETF's agent through the National Securities Clearing Corporation (NSCC) and Depository Trust Company (DTC).

The final section of the paper examines the question of where investors access liquidity in ETFs. Do investors primarily use the creation/redemption mechanism available via an AP or do they prefer to trade with another investor on the secondary market? In the first case, creations or redemptions generate trading in the underlying securities; in the latter case, only ETF shares trade hands. To shed some light on this issue, we examine data on the relative size of primary market activity (creation and redemption) and secondary market trading in ETFs by broad investment objectives as well as by narrower asset classes, such as small-cap domestic equity, emerging markets equity, high-yield bond, and emerging markets bond.

## Understanding Exchange-Traded Funds

### What Is an ETF?

An ETF is a pooled investment vehicle with shares that can be bought or sold throughout the day on a stock exchange at a market-determined price. Like a mutual fund, an ETF offers investors a proportionate share in a pool of stocks, bonds, and other assets. ETFs that are regulated by the SEC under the Investment Company Act are generally subject to the same regulatory requirements as mutual funds and unit investment trusts (UITs).<sup>3</sup> Mutual fund shares are bought and sold at a single price—NAV—computed at the end of the day, and are sold through a variety of channels (including financial advisers, broker-dealers, or directly from a fund company). In contrast, most investors buy and sell ETF shares through a broker-dealer at market-determined prices, much like publicly traded stocks.<sup>4</sup>

ETFs have been available as an investment product for a little more than 20 years in the United States. The first U.S. ETF—a broad-based domestic equity fund tracking the S&P 500 index—was introduced in 1993 after a fund sponsor received SEC exemptive relief from several provisions of the Investment Company Act that would not otherwise allow the ETF structure.<sup>5</sup> Until 2008, exemptive relief was granted only to ETFs that tracked indexes. These ETFs, commonly referred to as *index-based ETFs*, are designed to track the performance of their specified indexes or, in some cases, a multiple or an inverse (or multiple of an inverse) of their indexes (commonly referred to as *leveraged* or *inverse ETFs*).

In early 2008, the SEC granted exemptive relief to several fund sponsors to offer fully transparent actively managed ETFs that meet certain requirements. Each business day, these actively managed ETFs must disclose, on their publicly available websites, the identities and weightings of the component securities and other assets held by the ETF. Actively managed ETFs do not seek to track the return of a particular securities index. Instead, an actively managed ETF's investment adviser, like that of an actively managed mutual fund, may create a unique mix of investments to meet a particular investment objective and policy. As of June 2014, there were 78 actively managed ETFs with about \$15 billion in total net assets.

Both index-based and actively managed ETFs may use derivatives such as futures, forwards, options, and swaps, as well as traditional securities to meet their investment objectives.<sup>6</sup> For example, leveraged and inverse ETFs use various derivative instruments to track an index, or more specifically, a multiple or an inverse of an index, on a daily basis. Leveraged ETFs typically invest a sizable amount of their assets (more than 80 percent) in the securities of the target index with the remaining assets invested in cash or cash equivalents, against which the funds enter into derivatives transactions (typically futures and swaps) to obtain the remaining targeted exposure. Inverse ETFs invest primarily in cash or cash equivalents and derivatives to achieve their investment objective. As of June 2014, there were 190 leveraged and inverse ETFs with nearly \$35 billion in total net assets.

## Origination of an ETF

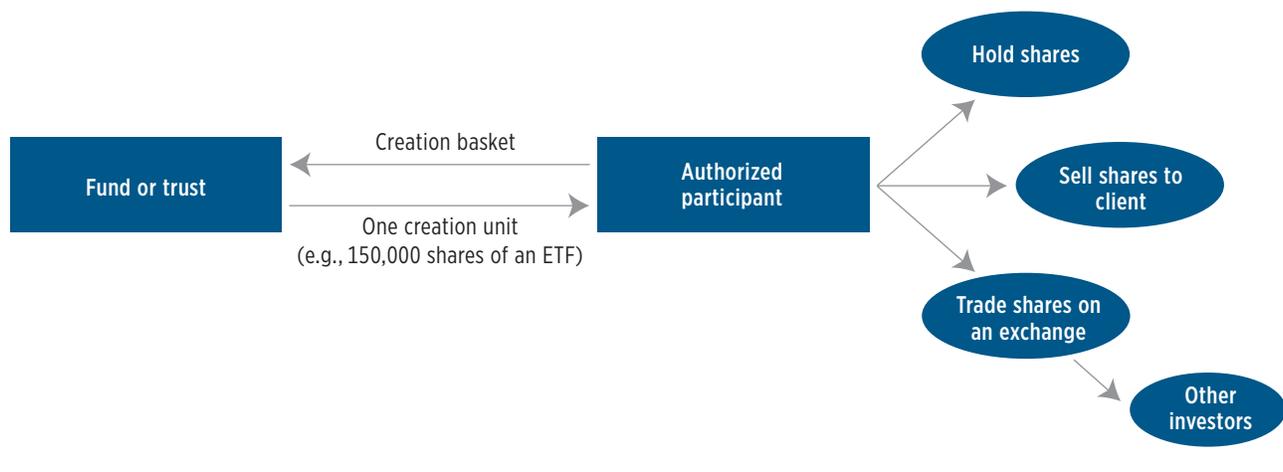
An ETF originates with a sponsor that chooses the investment objective of the ETF. In the case of an index-based ETF, the sponsor chooses both an index and a method of tracking it. Index-based ETFs track their target index in various ways. Many early ETFs tracked traditional, mostly capitalization-weighted indexes. More recently launched index-based ETFs follow benchmarks that use a variety of index-construction methodologies, with weightings based on market capitalization, as well as other fundamental factors, such as sales or book value. Others follow factor-based metrics—indexes that first screen potential securities for a variety of attributes, including value, growth, or dividend payments—and then weight the selected securities equally or by market capitalization. Other customized index approaches include screening, selecting, and weighting securities to minimize volatility, maximize diversification, or achieve a high or low degree of correlation with market movements.

An index-based ETF may replicate its index (that is, it may invest 100 percent of its assets proportionately in all the securities in the target index), or it may sample its index by investing in a representative sample of securities in the target index. Representative sampling is a practical solution for ETFs that track indexes containing securities that are too numerous (such as broad-based or total market stock indexes), that have restrictions on ownership or transferability (certain foreign securities), or that are difficult to obtain (some fixed-income securities).

The sponsor of an actively managed ETF also determines the investment objective of the fund and may trade securities at its discretion, much like an actively managed mutual fund. For instance, the sponsor may try to achieve an investment objective such as outperforming a segment of the market or investing in a particular sector through a portfolio of stocks, bonds, or other assets.

FIGURE 3

### Creation of ETF Shares



Note: The creation basket is a specific list of securities, cash, and/or other assets.

Each business day, ETFs are required to make available a portfolio composition file (PCF) that describes the makeup of the creation and redemption baskets for the next trading day. The creation/redemption basket is a specific list of names and quantities of securities, cash, and/or other assets. Often, baskets will track the ETF’s portfolio through either a pro rata slice or a representative sample, but, at times, baskets may be limited to a subset of the ETF’s portfolio and contain a cash component. For example, the composition of baskets for bond ETFs may vary day to day with the mix of cash and the selection of specific bonds in the baskets based on liquidity in the underlying bond market. Typically, the composition of an ETF’s daily creation and redemption baskets mirror one another.<sup>7</sup> Actively managed ETFs and certain types of index-based ETFs are required to publish their complete portfolio holdings daily, in addition to their creation and redemption baskets.<sup>8</sup>

### Creation and Redemption of ETF Shares

The creation/redemption mechanism in the ETF structure allows the number of shares outstanding in an ETF to expand or contract based on demand. When ETF shares are created or redeemed, this is categorized as primary market activity. Like mutual funds, primary market activity is aggregated and executed just once per day at NAV.

ETF shares are created when an AP, typically a large financial institution, submits an order for one or more “creation units” (Figure 3). A creation unit consists of a specified number of ETF shares that generally range in size from 25,000 to 200,000 shares. The ETF shares are delivered to the AP when the specified creation basket is transferred to the ETF.<sup>9</sup> The ETF may permit or require an AP to substitute cash for some or all of the assets in the creation basket, particularly when an instrument in the creation basket is difficult to obtain or transfer, or may not be held by certain types of investors. An AP also may be charged a cash adjustment and/or a transaction fee to offset any transaction expenses incurred by the fund. The value of the creation basket and any cash adjustment equals the value of the creation unit based on the ETF’s NAV at the end of the day on which the transaction was initiated. The AP can either keep the ETF shares that make up the creation unit or sell all or part of them to its clients or to other investors on a stock exchange.<sup>10</sup>

The redemption process is simply the reverse. A creation unit is redeemed when an AP acquires (through purchases or exchanges, principal transactions, or private transactions) the number of shares specified in the ETF's creation unit and returns the creation unit to the ETF. In return, the AP receives the daily redemption basket of securities, cash, or other assets. The total value of the redemption basket is equivalent to the value of the creation unit based on the ETF's NAV at the end of the day on which the transaction was initiated.

### How ETFs Trade

The price of an ETF share on a stock exchange is influenced by the forces of supply and demand. Though imbalances in supply and demand can cause the price of an ETF share to deviate from its underlying value, substantial deviations tend to be short-lived for many ETFs. Two primary features of an ETF's structure help promote trading of its shares at a price that approximates the ETF's underlying value: portfolio transparency and the ability for APs to create or redeem ETF shares at NAV at the end of each trading day.

Transparency of an ETF's holdings—either through full disclosure of the portfolio or through established relationships of the components of the ETF's portfolio with published indexes, financial or macroeconomic variables, or other indicators—enables investors to observe and attempt to profit from discrepancies between the ETF's share price and its underlying value during the trading day. ETFs contract with third parties (typically market data vendors) to calculate and publish a real-time estimate of an ETF's underlying value. This calculation, often called the intraday indicative value (IIV),<sup>12</sup> is based on the prior day's holdings and is disseminated at regular intervals during the trading day (typically every 15 seconds). APs, market makers, and other institutional investors also can make this assessment in real time using their own computer programs and proprietary data feeds.

When there are discrepancies between an ETF's share price and the value of its underlying securities, trading can more closely align the ETF's price and its underlying value. For example, if an ETF is trading at a discount to its underlying value, investors may buy ETF shares and/or sell

#### *What Is an Authorized Participant?*

An AP is typically a market maker or large institutional investor with an ETF trading desk that has entered into a legal contract with the ETF to create and redeem shares of the fund. The agreement provides the terms for settling creation and redemption transactions. In addition, APs are U.S.-registered self-clearing broker-dealers that can process all required trade submission, clearance, and settlement transactions on their own behalf and for their own account, as well as full participating members of the NSCC and DTC.<sup>11</sup> Currently, about 50 members of the NSCC and DTC have entered into AP agreements with ETFs.

APs do not receive compensation from an ETF or its sponsor and have no legal obligation to create or redeem the ETF's shares. Indeed, APs pay fees for any creation or redemption orders submitted to the fund's distributor. Generally, there is a nominal flat fee for a creation or redemption order of any size. For baskets that include a cash component, the fund may charge an additional variable asset-based fee to cover transaction costs incurred by the ETF to purchase or sell securities from the ETF's portfolio. APs derive their compensation from commissions and fees paid by clients for creating and redeeming ETF shares on their behalf and from any profits earned while engaging in arbitrage between an ETF's NAV and its market price.

the underlying securities. This change in demand for the ETF shares and the underlying securities should alter their respective prices and narrow the gap between the ETF share price and its underlying value. If the ETF is trading at a premium to its NAV, investors may choose to sell ETF shares or, alternatively, buy the underlying securities. These actions should reduce the ETF share price or raise the price of the underlying securities, bringing the prices of the ETF and its underlying securities closer together. This type of trading, often in conjunction with a corresponding hedge, is common among (but not limited to) market makers maintaining a two-sided market in ETFs.

The ability of APs to create or redeem ETF shares at the end of each trading day also helps an ETF trade at market prices that approximate the underlying market value of its portfolio. When a deviation between an ETF's market price and its NAV occurs, APs may create or redeem creation units in an effort to capture a profit. For example, when an ETF is trading at a premium, APs may find it profitable to sell short the ETF during the day while simultaneously buying the underlying securities. APs then deliver the creation basket of securities and/or cash to the ETF in exchange for ETF shares that they use to cover their short sales. When an ETF is trading at a discount, APs may find it profitable to buy the ETF shares and sell short the underlying securities. APs then return the ETF shares to the fund in exchange for the redemption basket of securities and/or cash, which they use to cover their short positions. These actions by APs, commonly described as *arbitrage opportunities*, help keep the market-determined price of an ETF's shares close to its underlying value.

## Regulatory Framework for ETFs in the United States

The vast majority of assets in ETFs are in funds registered with and regulated by the SEC under the Investment Company Act of 1940 (Figure 4). Other ETFs invest in commodity futures and are regulated by the Commodity Futures Trading Commission (CFTC), or invest solely in physical commodities and are regulated by the SEC under the Securities Act of 1933. In this section, we largely focus on the regulatory framework for ETFs registered under the Investment Company Act.

### ETFs Registered Under the Investment Company Act of 1940

An ETF that primarily invests in securities, as opposed to other assets, such as physical commodities or currencies, must register as an investment company under the Investment Company Act. Like other registered investment companies, they must follow strict limitations on their use of leverage and transactions with affiliates. They must maintain strict custody of fund assets, separate from the assets of the fund's adviser and any AP. ETFs, like other registered funds, also are subject to specific reporting requirements and disclosure obligations relating to investment objectives, risks, expenses, and other information in their registration statements and periodic reports.<sup>13</sup>

These ETFs generally are regulated under three additional securities laws:

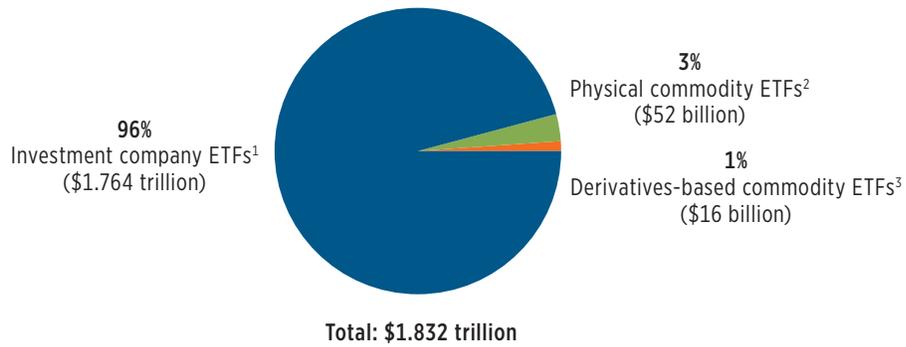
- » Securities Act of 1933 (Securities Act), which requires registration of the ETF's shares and the delivery of a prospectus,
- » Securities Exchange Act of 1934 (Securities Exchange Act), which regulates the trading, purchase, and sale of fund shares and establishes antifraud standards governing such trading, and
- » Investment Advisers Act of 1940, which regulates the conduct of fund investment advisers and requires those advisers to register with the SEC.<sup>14</sup>

FIGURE 4

## ETFs by Legal Structure

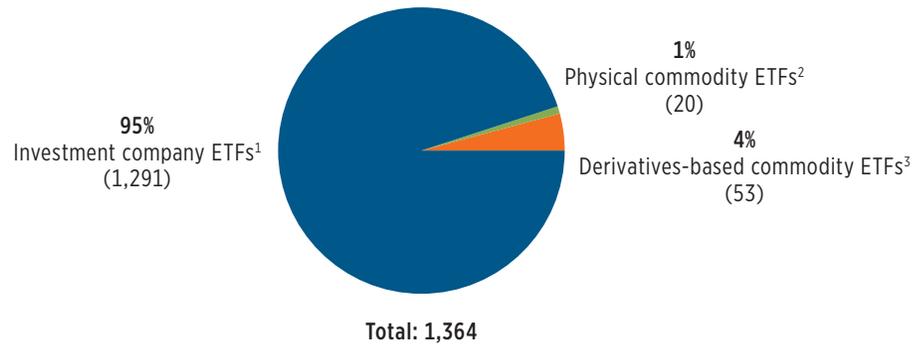
### Total net assets

Percentage of total net assets, June 2014



### Number of ETFs

Percentage of total number of ETFs, June 2014



<sup>1</sup> Registered under the Investment Company Act of 1940 and the Securities Act of 1933.

<sup>2</sup> Registered under the Securities Act of 1933.

<sup>3</sup> Registered under the Securities Act of 1933 and regulated by the Commodity Futures Trading Commission under the Commodity Exchange Act of 1936.

Note: Data for ETFs that invest primarily in other ETFs are excluded from the totals. Components may not add to the total because of rounding.

Source: Investment Company Institute

## ETFs Organized as Open-End Management Investment Companies

More than 85 percent of the assets in SEC-registered funds are held in more than 1,200 ETFs that are structured as registered open-end management investment companies—the same structure as mutual funds. These ETFs typically are organized as corporations or business trusts, with boards of directors (or trustees). ETFs organized as open-end companies typically issue several series of shares, each of which is a separate pool of assets and is offered as a separate ETF.<sup>15</sup> Unlike ETFs that are structured as UITs, as discussed below, open-end ETFs have greater flexibility with respect to portfolio management, investment of dividends, and the lending of portfolio securities.

## ETFs Organized as Unit Investment Trusts

Eight ETFs are structured as registered UITs under the Investment Company Act. They are among the earliest ETFs; the most recent was launched in 2002.<sup>16</sup> UITs are organized under a trust agreement or similar instrument, and have a trustee but not a board of directors. They must have fixed portfolios, and substitution of securities may take place only under limited circumstances. Additionally, UITs do not have investment advisers. ETFs structured as UITs, therefore, are generally limited to replicating (rather than sampling) the index they track, and may not participate in activities that require an investment adviser, such as selecting securities and engaging in securities lending. As a result, this structure is far less popular for newer ETFs. Still, because some of the earliest ETFs track the most widely used indexes, including the SPDR® Trust (replicating the S&P 500® index), the SPDR® Dow Jones Industrial Average<sup>SM</sup> ETF Trust (formerly the Diamonds Trust, and replicating the Dow Jones Industrial Average), and the PowerShares QQQ Trust<sup>SM</sup> (replicating the NASDAQ-100 index), this small group of ETFs holds substantial assets—nearly \$225 billion.

## Exemptive Relief Under the Investment Company Act of 1940

ETFs registered under the Investment Company Act are subject to the same regulatory requirements as other registered funds; however, unlike other types of funds, ETFs must first receive exemptive relief from certain provisions of the Investment Company Act before they can commence operations.<sup>17</sup> The core protections underlying the Investment Company Act, which are designed to protect investors from various risks and conflicts, still apply to Investment Company Act-registered ETFs. Broadly speaking, the relief granted to ETFs relates to the ability to create and redeem shares at NAV and in creation units with APs, while at the same time allowing ETF shares to trade on a secondary market (i.e., an exchange) at negotiated prices rather than at NAV. In contrast, mutual funds may only sell and redeem shares at NAV and must redeem shares presented by any shareholder. To grant an exemption, the SEC must find that it is “necessary or appropriate in the public interest and consistent with the protections of investors and the purposes fairly intended by the policy and provisions” of the Investment Company Act.<sup>18</sup>

The major elements of ETF exemptive relief are discussed below.

### Relief to Create and Redeem with Authorized Participants

As defined under the Investment Company Act, both mutual funds and UITs issue redeemable securities, which are themselves defined as securities that any holder may present to the issuer in exchange for approximately the holder’s share of the issuer’s current net assets. Since ETFs only redeem securities from APs in creation units, they require relief from these provisions to redeem fund shares bundled in creation units, rather than in individual shares, and to redeem only from APs rather than any fund shareholder.<sup>19</sup>

### Relief to Trade in the Secondary Market at Negotiated Prices

The Investment Company Act and its rules require redeemable securities to be sold at NAV.<sup>20</sup> An ETF requires exemptive relief to permit trading of shares at negotiated (secondary market) prices that may be different than the ETF's current NAV. Relief is provided for ETFs that comply with conditions that facilitate the arbitrage mechanism (such as transparency of the ETF's portfolio, disclosure of the ETF's IIV, and listing on a national securities exchange), which helps maintain the equilibrium between market price and NAV.

### Relief to Permit In-Kind Transactions with Certain Affiliates

The Investment Company Act prohibits affiliated persons of a fund from buying securities from or selling them to a fund in certain circumstances, which may capture the in-kind creation process that is fundamental to ETFs.<sup>21</sup> An affiliated person includes, among others, persons owning 5 percent of an issuer's outstanding voting securities.<sup>22</sup> As a result, until an ETF has created more than 20 creation units, every AP that purchases a creation unit is deemed an affiliate of the

fund. ETFs require exemptive relief from this prohibition to allow in-kind purchases and redemptions of creation units by persons affiliated with the ETF. Relief is only provided if it can be found that the terms of the transaction, including the consideration to be paid or received, are reasonable and do not involve overreaching on the part of any person concerned, and that the proposed transaction is consistent with the policies of the ETF and the general provisions of the Investment Company Act.

### Relief to Permit Additional Time for Delivering Redemption Proceeds

The Investment Company Act prohibits a fund from postponing the date of satisfaction of redemption requests for more than seven days.<sup>23</sup> ETFs trading in foreign markets may occasionally need additional time to transfer securities in-kind to a redeeming AP, particularly when foreign delivery cycles interact with foreign market holidays to cause additional delays. Some ETFs have received relief from this requirement; such relief is limited to specific situations that must be enumerated in the fund's prospectus or statement of additional information.

### Commodity ETFs

About 4 percent of ETF assets are held by commodity-based funds, which are not registered with or regulated as investment companies under the Investment Company Act. Rather, ETFs that *primarily* invest in commodities or commodity derivatives operate under one of two alternative regulatory structures.

#### Physical Commodity ETFs

A number of ETFs hold physical commodities, typically precious metals or currencies. These ETFs register their securities with the SEC under the Securities Act and are subject to regulation by the stock exchanges. They are structured as trusts and taxed as grantor trusts. Investors in these ETFs are taxed as though they own the underlying assets—that is, they are primarily taxed when they sell their investment—although there also may be tax consequences if the ETF sells commodities, such as to pay expenses.

#### Derivatives-Based Commodity ETFs

Other commodity ETFs invest in commodity derivatives, typically futures and/or options, to obtain exposure to commodities, including precious metals, oil and gas, and currencies. These ETFs are regulated primarily by the Commodity Futures Trading Commission as commodity pools. They also register their securities with the SEC under the Securities Act and are subject to regulation by the stock exchanges. They are typically structured as trusts and taxed as limited partnerships, which also have a number of tax implications, including that investors are taxed annually on gains even if the assets are not sold, as outlined on Internal Revenue Service Form K-1.

## Other Relief Granted to ETFs

The Investment Company Act prohibits a fund from investing in another fund in excess of the limits established by the Act.<sup>24</sup> Most, if not all, ETFs have received exemptive relief to permit other funds to invest in ETFs in excess of these limits, subject to conditions that address concerns about undue influence, excessive layering of fees, and overly complex structures.<sup>25</sup>

## Relief under the Securities Exchange Act

ETFs also must be granted relief from various Securities Exchange Act provisions and rules governing, among other things, certain activities of broker-dealers related to the distribution of ETF shares. The SEC has issued class relief for most types of ETFs that meet certain conditions, which obviates the need for these funds to obtain their own no-action relief. A detailed discussion of ETF relief granted to ETFs under the Securities Exchange Act is discussed in the appendix.

## Exchange Listing Process

ETFs list their shares on a national securities exchange. To do this, they must comply with the listing requirements of the chosen exchange. Section 19(b) of the Securities Exchange Act requires an exchange to obtain SEC approval for the listing or trading of any new ETF.<sup>26</sup> Rule 19b-4(e) creates an exception from this requirement for ETF shares that meet “generic listing requirements” that have already been approved by the SEC. This rule exception is the key difference between launching index-based and actively managed ETFs. The SEC has approved rules for many exchanges allowing index-based ETFs that meet the generic listing requirements to be listed without SEC approval.<sup>27</sup> The generic listing criteria for index-based ETFs typically pertain to individual and collective components underlying the index, including provisions relating to minimum market value, minimum trading volume, minimum diversification, and the minimum number of index components. For other ETFs, including actively managed ETFs, the exchange must file a proposed rule change under Rule 19b-4 using Form 19b-4 to obtain the necessary SEC approval to list the ETF.<sup>28</sup> After this, the SEC has 45 days, which can be extended by an additional 45 days, from the publication of the proposed rule to approve, disapprove, or institute proceedings relating to the proposed rule change.

### *Exchange-Traded Notes*

Exchange-traded notes (ETNs) are unsecured debt securities, which, like bonds, can be held to maturity by an investor. These securities are registered under the Securities Act but not under the Investment Company Act.

ETNs and ETFs are similar in that they both trade throughout the day on an exchange. Also, like many ETFs, an ETN’s value is linked to the performance of a given benchmark index or strategy; however, ETNs are not funds because they do not hold a pool of securities. Instead, an ETN’s value depends on the creditworthiness of the ETN provider. Thus, the value of ETNs can be affected by the credit rating of the ETN issuer. A downgrade in the issuer’s credit rating, for example, could cause the value of the ETN to decline.

## Clearing and Settlement of Primary Market ETF Shares

Since the financial crisis of 2008, regulators and policymakers have focused more on understanding the “plumbing” behind how securities are created or packaged and how trades are cleared and settled in order to identify potential vulnerabilities in the financial system. The creation of ETF shares may appear to some as a black box: the basket goes in and the ETF shares come out. The redemption of ETF shares is the reverse. This section attempts to shed some light on the mechanics of the creation process by providing a detailed description of the timeline for a domestic equity ETF starting from the day prior (date = T-1) to the submission of the creation/redemption order (CR order) through the settlement of the primary market transaction four days later (date = T+3). The creation process for municipal, domestic corporate fixed-income, and internationally focused ETFs with in-kind baskets is similar to that of domestic equity ETFs, but there are some differences, which are noted below. Circumstances in which settlement of ETF creations and redemptions may be delayed past T+3 also are discussed.

APs create and redeem ETF shares directly with the fund by exchanging the specified basket consisting of securities and/or cash for shares of the ETF and vice versa. This creation or redemption activity, which is considered part of the primary or new issue market, increases or decreases the number of shares outstanding of an ETF and contributes to the expansion or reduction of the ETF’s assets under management.<sup>29</sup> Primary market activity for ETF shares is analogous to an operating firm issuing new shares to raise additional capital for investment or retiring shares by buying them back.

The way an AP executes a creation or redemption of ETF shares, however, resembles a stock trade in the secondary market. An AP submits an order to create or redeem ETF shares much like an investor submits an order to his broker to buy or sell a stock. Also, similar to a stock trade, the CR order has three business days to clear and settle.<sup>30</sup> This means that the AP and the ETF exchange the basket and the ETF shares three business days after the order is submitted, the same as the investor who provides cash or stock to his or her broker in three days.

CR orders also have safeguards that protect an ETF and its shareholders from default by an AP. ETF primary market activity that is processed through NSCC has the same guarantee as a domestic stock trade (that is, NSCC becomes the central counterparty to the trade and should the AP default on its obligation, NSCC will cover the trade and make the ETF whole). For ETF primary market activity that is processed outside of NSCC, APs usually are required to post collateral to protect the ETF and its shareholders from failures by APs to deliver the agreed-upon securities or ETF shares.

Generally, whether a CR order is eligible to be processed through NSCC depends on the eligibility of the securities in the ETF’s basket. CR orders that are eligible to be processed through NSCC are for ETFs with baskets that are composed of securities also eligible to be processed through NSCC (such as domestic equities, municipal securities, and domestic corporate fixed-income securities) and/or cash. CR orders that are not eligible to be processed through NSCC are for ETFs with baskets that contain securities also not eligible to be processed through NSCC such as international securities, Treasuries, U.S. government agency securities, U.S. government sponsored mortgage-backed securities, and derivatives. If the ETF sponsor agrees, however, to allow cash in lieu of the ineligible securities in the basket, then the CR order would be eligible to be processed through NSCC.

The ETF sponsor and its custodian decide whether to process CR orders through NSCC. In practice, CR orders for ETFs with all-cash baskets and ETFs with baskets in which 100 percent of the components are NSCC-eligible are processed through NSCC—this means that CR orders for all domestic equity ETFs and a small number of municipal and domestic corporate fixed-income ETFs go through NSCC. For CR orders in which the basket contains any non-NSCC-eligible securities, sponsors tend to process these transactions completely outside NSCC and may require the AP to post collateral. CR orders for internationally focused ETFs and most domestic fixed-income ETFs are processed outside NSCC.<sup>31</sup>

### Date = T-1

At the end of each trading day, the ETF manager issues the PCF, which lists the names and corresponding quantities of securities and/or cash that will comprise the creation and redemption baskets for the next trading day. Figure 5 shows the actions in processing the PCF.

1. The ETF transmits the PCF to the ETF agent, which is the fund's custodian, but also often provides fund accounting, fund administration, and transfer agent services.<sup>32</sup>
2. The ETF agent, in turn, submits the PCF to NSCC by the 8:00 p.m. cutoff (all times are in eastern time (ET) unless otherwise indicated).
3. NSCC checks the PCF for errors and inconsistencies and sends a report back to the ETF agent that either acknowledges receipt and acceptance of the PCF or rejects the PCF.<sup>33</sup>
4. The PCF is available to APs through NSCC's ETF browser no later than 10:00 p.m.

### Date = T

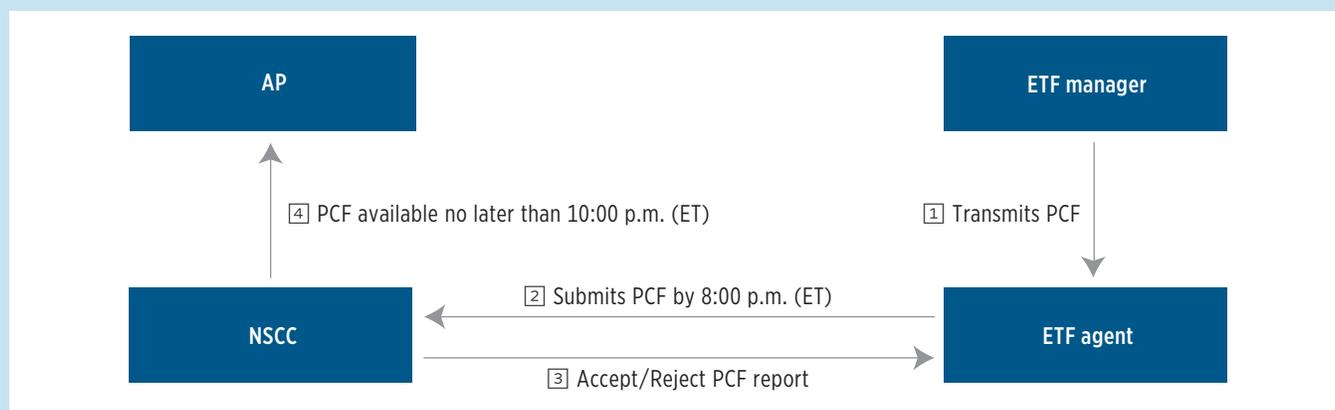
Figure 6 provides a schematic of the typical events that occur in the processing of a CR order on T.

1. An ETF manager, though its ETF agent, is able to modify a previously submitted PCF or submit a new PCF from midnight to noon on T through NSCC's supplemental process. This usually occurs when the previously submitted PCF contains an error. A PCF accepted by NSCC through the supplemental process replaces the previously accepted version and is displayed immediately after validation in NSCC's ETF browser; it is then distributed to APs in a data file shortly after the noon cutoff.
2. Through client demand and by trading on their own behalf in the securities markets, APs accumulate orders to create and redeem ETF shares.

FIGURE 5

### Processing of the ETF Portfolio Composition File (PCF)

Date = T-1

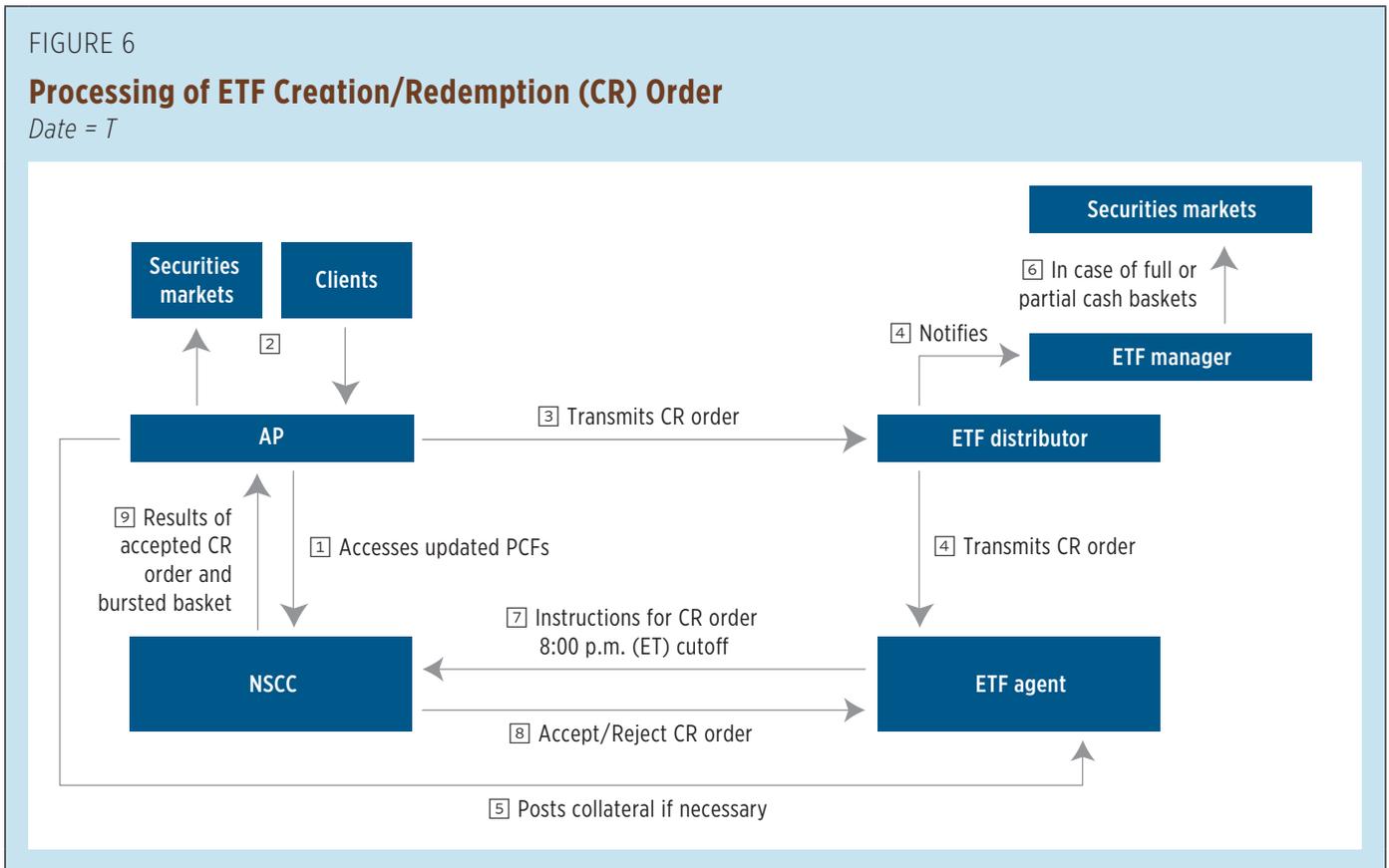


3. APs can submit one netted order to the ETF's distributor before the order deadline for that particular ETF, although some APs may submit orders throughout the day. Cutoff times for CR orders generally vary by asset class. For example, a domestic equity ETF that has an entirely in-kind basket usually has a 4:00 p.m. deadline. Cutoff times for domestic equity ETFs that have all-cash baskets tend to be somewhat earlier, usually 3:30 p.m. Domestic fixed-income ETFs, which predominantly have optimized baskets—a combination of cash and securities—can have deadlines that are 30 to 90 minutes prior to the close of the bond markets. Cutoff times for CR orders for U.S.-listed ETFs that invest in international securities vary depending on the local market trading hours and how much, if any, overlap there is with U.S. stock market trading hours.
4. When a CR order is sent to the ETF distributor, the distributor, in turn, transmits the CR order to the ETF agent and notifies the ETF manager.
5. For CR orders not processed through NSCC, the AP and either the ETF agent or the ETF sponsor interact directly, and the AP—in some cases—posts collateral as required by the contract signed with the ETF. Use of collateral is common with CR orders involving internationally focused ETFs.<sup>34</sup> ETFs require cash collateral to protect current ETF shareholders from an AP's failure to deliver either the underlying securities for a creation or the ETF shares for a redemption.
6. For ETFs with partial or full cash baskets, the ETF manager generally needs time at the end of the trading day to purchase securities with the incoming cash from creations or to sell securities to provide the outgoing cash for redemptions. These end-of-day transactions allow the ETF manager to minimize the fund's tracking error with its target or benchmark index.

FIGURE 6

### Processing of ETF Creation/Redemption (CR) Order

Date = T



7. The ETF agent is responsible for delivering instructions to NSCC to create or redeem ETF shares by NSCC's 8:00 p.m. deadline. The instructions identify the AP, the number of units to be created or redeemed, and any cash amount. Even if an ETF has an in-kind redemption basket, a small cash component may be necessary to balance out the transaction in some instances. For example, an AP may receive or have to pay the net of accumulated dividends and accrued fund expenses as of the market close on T when redeeming ETF shares. Also, a cash adjustment (positive or negative) may be required to equate the value of the securities in the creation or redemption basket to the NAV of the ETF on the market close of T.<sup>35</sup>
8. After receipt of the CR order, NSCC validates the eligibility of the AP and the ETF agent to transact in the particular ETF and then checks the CR order for errors.
9. Shortly after the 8 p.m. cutoff, NSCC distributes a file with the accepted creation and redemption instructions to the ETF agent and the AP. These instructions serve as the contract for the creation or redemption activity. The contract shows the closing price on T for each of the components of the basket—this is called “bursting the basket,” with each component constituting a separate transaction in NSCC's system—as well as any cash amount to be paid by the AP for the CR order. The transaction fee owed by the AP for the CR order is processed through NSCC but is not guaranteed if the AP defaults on the transaction. At this point, the CR order is considered “locked-in.”

### Date = T +1

Although the CR order is locked-in, the contract can be cancelled or modified if there are errors, the same as if a trading error were to occur in a secondary market transaction. Therefore, during the day on T+1, the ETF agent and the AP each reconcile the information in the instructions file that NSCC distributed on T with their own records. Any inconsistencies, such as discrepancies in closing prices or in quantities in any of the basket components or creation units, are flagged, investigated, and rectified. These issues are worked out between NSCC, the AP, and the ETF agent and, if necessary, the instructions file is modified to reflect any corrections.

Similar to stock transactions, NSCC guarantees the settlement of all locked-in transactions in NSCC-eligible securities at midnight of T+1. NSCC acts as the central counterparty between the AP and the ETF agent. Should either the ETF agent or the AP fail to fulfill its obligations under the contract, NSCC will make the non-defaulting party whole either for the ETF shares or for the NSCC-eligible securities and any cash in the basket.

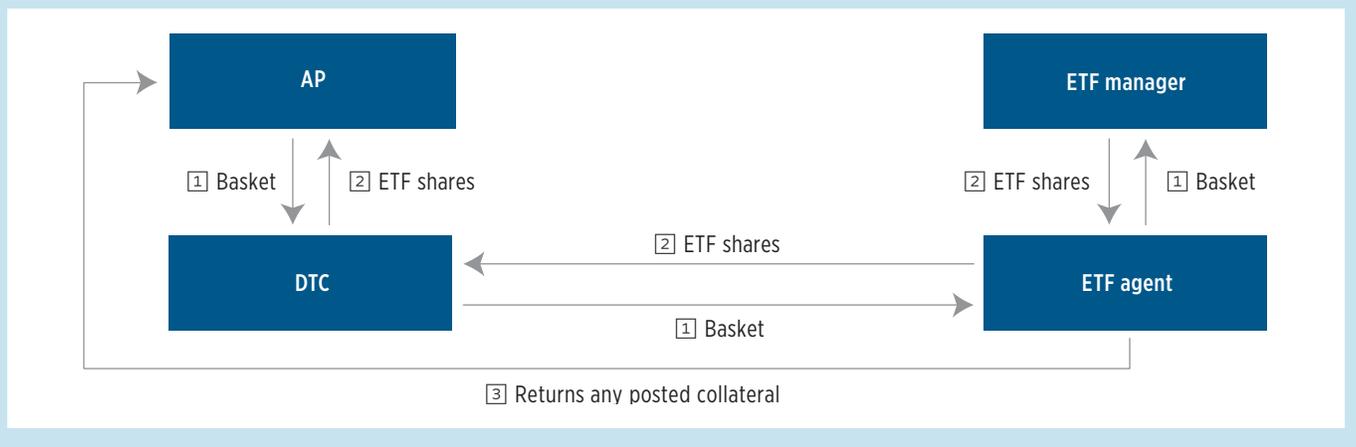
### Date = T + 2

Late in the evening of T+1 or early the morning of T+2, NSCC distributes, to the ETF agent and the AP, their consolidated trade summary reports showing for each of them the net money and net securities (broken down by individual security) due to settle on the following business day. The trade summary report combines all primary market transactions (creations and redemptions of ETF shares) and all secondary market transactions in NSCC-eligible securities (burst basket transactions from the instructions file, and any other trades due to settle on T+3) into a netted report. NSCC also sends DTC net settlement instructions on NSCC-eligible securities.

FIGURE 7

## Settlement of ETF Share Creation

Date = T+3



### Date = T + 3

Late in the evening of T+2, NSCC provides the necessary security information so that DTC can begin to sweep the electronic books of the ETF agent and the AP to see if the securities are available in the firms' accounts with DTC to settle the transactions. DTC repeats this process in real time until 3:10 p.m. (ET) on T+3 (Figure 7).

1. For an ETF share creation, DTC will electronically transfer ownership of the basket consisting of NSCC-eligible securities and/or cash from the AP to the ETF agent, which will then allocate those securities to the ETF.
2. At the same time, DTC electronically transfers ownership of the ETF shares from the ETF agent acting on behalf of the ETF to the AP.
3. For CR orders processed outside NSCC, the transfer of ownership of the basket takes place outside NSCC and DTC. For example, in the case of an internationally focused ETF, one or more international clearing agencies will transfer the basket components to the ETF agent directly. The ETF agent then authorizes DTC to transfer the ETF shares to the AP and returns the collateral to the AP.

For ETF share redemptions, the transfer of ownership of the basket and ETF shares is reversed.

Like all securities, sometimes the settlement of primary market ETF shares may be delayed past T+3. Although these transactions are reported as “failures to deliver” by NSCC to the SEC, SEC rules require clearing firm participants, such as broker-dealers, to take prompt action to resolve failures in all equity securities, including ETFs.<sup>36</sup>

Most often, primary market ETF redemptions that are delayed past T+3 occur because an AP has failed to deliver the ETF shares to DTC for transfer to the ETF agent. The AP may be unable to deliver the ETF shares by T+3 for several reasons, including the following.

- » Market makers, which can include APs acting as market makers or agents to market makers, have up to three additional days to settle trades (a total of T+6) if their failure to deliver is the result of bona fide market making.<sup>37</sup> This mismatch in timing can create delays in the settlement of both primary market ETF redemptions and secondary market ETF trades, as market makers often use ETFs to hedge their inventories.
- » The AP or the AP's clients (if the AP is acting as an agent in the redemption) have loaned out the ETF shares and cannot recall them by the T+3 settlement date.

- » If the AP is acting as an agent in the transaction, the AP is relying on the client to deliver the ETF shares to the AP so that they can be transferred to DTC to complete the transaction by T+3. If clients fail to deliver the ETF shares to the AP, the redemption may be delayed.

If an AP does not deliver the ETF shares by T+3, what happens next depends on whether the redemption order was processed through NSCC.

- » If the redemption order was processed through NSCC, the ETF shares will be recorded as a failure to deliver, requiring the AP to post collateral to NSCC for the mark-to-market adjustment on the missing ETF shares and, then, purchase or borrow the ETF shares to close out the position. This is exactly the same procedure in any other NSCC-eligible security that has not been delivered by T+3. Because the ETF has its own security identification number, NSCC's system separates the settlement of the ETF shares from the settlement of the NSCC-eligible securities in the basket. The basket will be transferred to the AP from the ETF agent on T+3 as long as the ETF agent has placed the basket in their account at DTC. Because NSCC is the counterparty to the obligation, the ETF is guaranteed to receive the delayed ETF shares if the AP defaults. As a second layer of protection to fund shareholders, APs are legally required, according to their contract with the ETF sponsor, to settle their CR orders.

- » For non-NSCC-eligible ETFs, if the AP has already posted collateral with the ETF agent on T, the amount of the collateral is adjusted for the delayed ETF shares. If the AP has not posted collateral, the ETF agent requires the AP to do so in order to complete the transaction. Once the collateral is determined to be sufficient, the ETF agent authorizes DTC to transfer the basket of securities and/or cash to the AP.

Primary market ETF share creations processed through NSCC are rarely delayed because one of the responsibilities of the ETF agent is to ensure that the ETF shares are at DTC by T+3. Again, because the ETF has its own security identification number, NSCC's system separates the ETF settlement from the settlement of the NSCC-eligible securities in the basket. The ETF shares will be transferred from the ETF agent to the AP at T+3, but the ETF agent may not receive all of the NSCC-eligible securities in the basket if the AP has not delivered them. As with the delayed ETF shares (described above), the missing securities are reported as a failure to deliver. The AP posts collateral to NSCC and is required to obtain the missing securities for delivery. In addition, the ETF has its contractual agreement to force the AP to settle the transaction.

Primary market ETF share creations not processed through NSCC also are rarely delayed because of the widespread use of collateral. Generally, if an AP is missing some of the basket securities at T+3, collateral—if not already posted on T or T+1—will be required before the ETF agent will authorize DTC to transfer the ETF shares to the AP.

## Primary Market Activity and Secondary Market Trading in ETF Shares

Investors seeking to gain or shed exposure to broad market indexes, particular sectors or geographical regions, or specific rules-based investment strategies find that ETFs are a convenient, cost-effective tool to achieve these objectives. These investors can access ETFs in two markets: the primary market via creations and redemptions through APs, and the secondary market on exchanges that list ETFs (e.g., NYSE Arca, NASDAQ, and BATS), in dark pools, and in other trading venues via trading with other investors through market makers or liquidity providers.

The results of ICI's analysis indicate that for most ETFs, investors use the secondary market more than the primary market. Investors involved in many of these ETF secondary market trades generally are not motivated by arbitrage (i.e., the desire to exploit differences between the market price of the ETF and its NAV). These investors do not interact with the ETF directly and do not create transactions in the underlying securities because only the ETF shares are trading hands.

This section examines daily creations and redemptions for all ETFs from January 3, 2013, to June 30, 2014, and shows them relative to the total of their daily primary market activity and secondary market trading and relative to their previous month-end total net assets. Daily creations and redemptions are estimated for each ETF by multiplying the daily change in the shares outstanding by the daily NAV. Aggregate daily creations and redemptions are computed by adding creations and the absolute value of redemptions across all ETFs for each day. We also group the ETFs by broad asset classes (equity, domestic equity, international equity, bond, domestic bond, and international bond) and narrower asset classes (such as large-cap equity, small-cap equity, emerging markets equity, domestic high-yield bond, and emerging markets bond), and show the results for each particular asset class.

On average, daily aggregate creations and redemptions for all ETFs are a fraction (10 percent) of their total primary and secondary market trading and involve less than 0.5 percent of aggregate ETF total net assets (Figure 8). These proportions vary from day to day, with aggregate daily creations and redemptions relative to their total trading ranging from 4 percent to 25 percent; relative to total net assets, this activity ranges from 0.16 percent to 1.40 percent. In addition, on any given day, the vast majority of ETFs do not have any creations or redemptions (i.e., zero primary market activity).

On average, aggregate ETF creations and redemptions are substantially less than their collective primary and secondary market trading across the various asset classes on a daily basis. On average, \$53.7 billion in equity ETFs was traded in the secondary market each day over the period from January 3, 2013, to June 30, 2014. In contrast, equity ETFs had average daily primary market activity of \$5.4 billion, about one-tenth of the average daily value of trading in the secondary market. Daily aggregate creations and redemptions of equity ETFs constitute only 0.36 percent of their total net assets, on average. Even within narrower equity classifications, these results are consistent. For small-cap equity ETFs, aggregate daily creations and redemptions were 9 percent of their total trading and 0.62 percent of their total net assets. For emerging markets equity, aggregate daily creations and redemptions were 6 percent and 0.25 percent, respectively.

FIGURE 8

**Summary of Primary Market Activity and Secondary Market Trading Across the ETF Industry**

Daily; January 3, 2013–June 30, 2014

Investment objective	Number of ETFs <sup>1</sup>	Total net assets (\$ billions) <sup>1</sup>	Primary market <sup>2</sup>	Secondary market		
			Average daily creations/redemptions (\$ millions)	Primary market relative to total net assets <sup>3</sup> (percent)	Average daily volume (\$ millions)	Primary market relative to total trading <sup>4</sup> (percent)
<b>Equity</b>	<b>1,021</b>	<b>\$1,489</b>	<b>\$5,366</b>	<b>0.36%</b>	<b>\$53,691</b>	<b>9%</b>
Domestic	548	1,049	4,447	0.42	43,113	9
Large-cap	113	462	1,993	0.43	27,459	7
Small-cap	60	88	545	0.62	5,709	9
Other domestic	375	498	1,908	0.38	9,945	16
International	473	440	920	0.21	10,577	8
Emerging markets	180	150	381	0.25	6,051	6
Other international	293	290	539	0.19	4,526	11
<b>Bond</b>	<b>247</b>	<b>273</b>	<b>931</b>	<b>0.34</b>	<b>4,026</b>	<b>19</b>
Domestic	194	254	867	0.34	3,802	19
Domestic high-yield	27	46	149	0.32	738	17
Municipal	35	13	19	0.15	101	16
Other domestic	132	195	698	0.36	2,964	19
International	53	19	64	0.33	224	22
Emerging markets	20	11	46	0.42	169	22
Other international	33	8	18	0.21	55	24
<b>Total</b>	<b>1,268</b>	<b>1,762</b>	<b>6,297</b>	<b>0.36</b>	<b>57,717</b>	<b>10</b>

<sup>1</sup> Number of ETFs and total net assets are as of June 2014.

<sup>2</sup> Daily creations or redemptions for each ETF are estimated by multiplying the daily change in shares outstanding by the daily NAV from Bloomberg. Aggregate daily creations and redemptions are computed by adding creations and the absolute value of redemptions across all ETFs in each investment objective each day. Average daily creations and redemptions are the average of the aggregate daily creations and redemptions over the 375 daily observations in the sample.

<sup>3</sup> Computed as the ratio of average daily creations and redemptions (column 3) to total net assets (column 2).

<sup>4</sup> Computed as the ratio of average daily creations and redemptions (column 3) to the sum of average daily creations and redemptions (column 3) and average daily volume (column 5).

Note: Data exclude currency ETFs, ETFs not registered under the Investment Company Act of 1940, hybrid ETFs, and ETFs that invest primarily in other ETFs.

Sources: Investment Company Institute and Bloomberg

Bond ETFs are a growing segment of the ETF industry. While large bond ETFs have relatively liquid secondary markets, newer or smaller bond ETFs have less-established secondary markets because they have not yet matured enough to warrant multiple market makers or liquidity providers. An investor with a large ETF trade (relative to the average daily trading volume of the ETF) will tend to use an AP to create and redeem ETF shares in order to minimize disruption and price impact in the secondary market for the ETF. These large-trade investors are clients of the AP and pay a fee or commission to the AP for this service. As a result, client demand is a somewhat larger component of primary market activity for bond ETFs than for equity ETFs. Bond ETFs had average daily creations and redemptions of \$931 million, or 19 percent, of their average daily total trading. Average daily creation and redemption activity was 17 percent of their total trading for domestic high-yield bond ETFs and 22 percent for emerging markets bond ETFs. As more bond ETFs grow their assets under management, the secondary market for these products may deepen naturally as more investors buy or sell bond ETFs in the secondary market rather than through an AP.

Despite proportionately higher primary market activity for bond ETFs, the impact on their underlying portfolios from the creations and redemptions has been limited—average daily creations and redemptions of bond ETFs over the period were only 0.34 percent of total net assets. Average daily primary market activity was 0.32 percent of total net assets for domestic high-yield bond ETFs and 0.42 percent for emerging markets bond ETFs.

Certainly, aggregate ETF creations and redemptions will account for larger-than-average proportions of total primary and secondary market trading and of total net assets on some days than on other days. To obtain a sense of variation over time, we examined each day's aggregate creations and redemptions relative to their total trading and relative to total net assets from January 3, 2013, to June 30, 2014. We show these time series plots for a subset of equity asset classes (domestic large-cap, domestic small-cap, and emerging markets) and for all bond ETFs along with the narrower asset classes of domestic high-yield bond and emerging markets bond.

The top panel of Figure 9 shows that aggregate daily creations and redemptions relative to total trading for domestic large-cap equity ETFs ranged from 0.7 percent to 26 percent, with the median at 6 percent (meaning that for half of the days in the sample period this ratio was below 6 percent). Creations and redemptions of domestic small-cap equity ETFs relative to total trading ranged from 0.6 percent to 35 percent with a median of 7 percent (middle panel). The range for emerging markets equity ETFs was about the same as domestic large-cap—0.3 percent to 26 percent with a median of 4 percent (bottom panel).

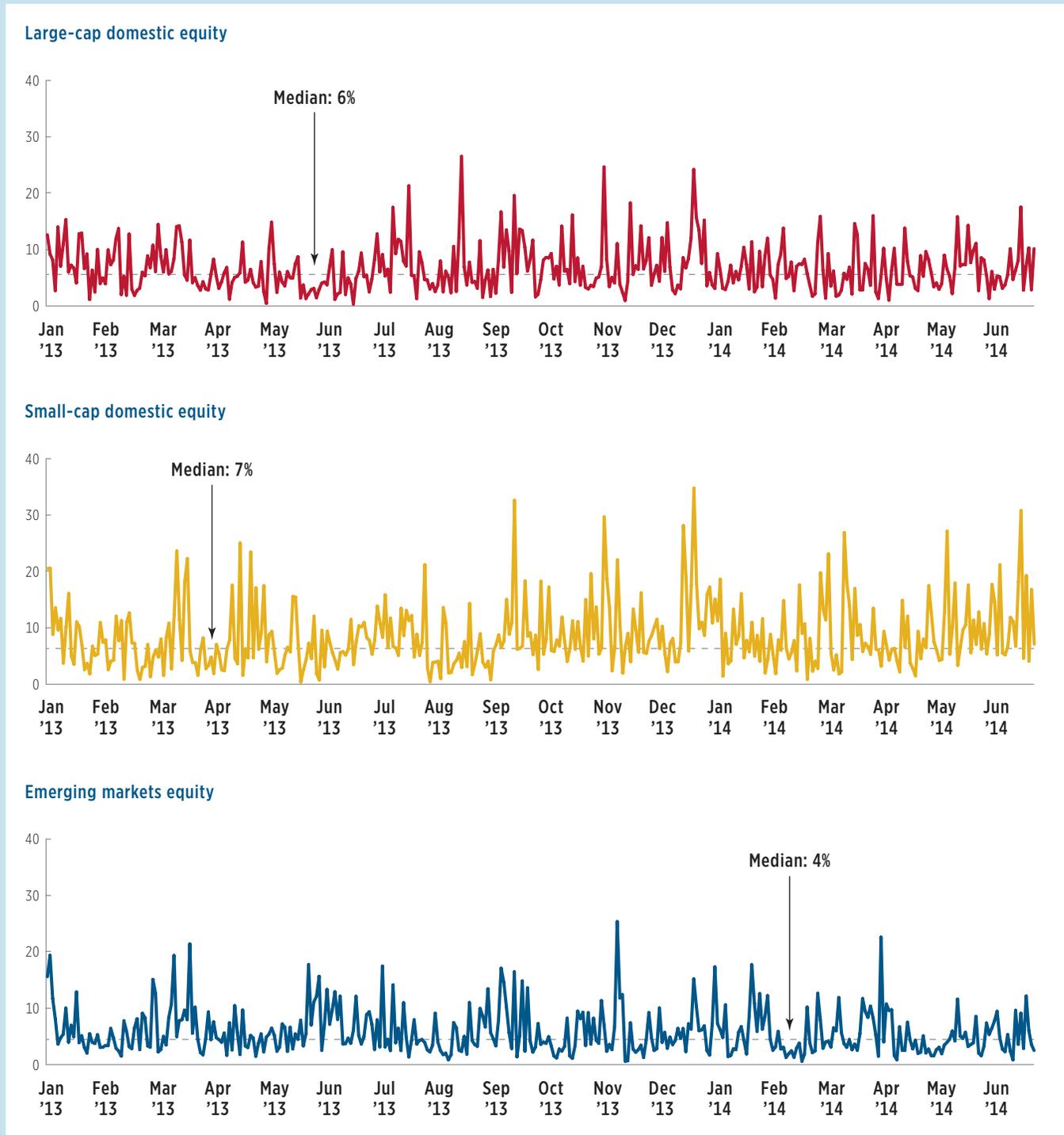
Aggregate daily ETF creations and redemptions relative to previous month-end aggregate total net assets tended to be quite small over the 18-month period for domestic large-cap, domestic small-cap, and emerging market equity ETFs (Figure 10). For domestic large-cap equity ETFs, this measure ranged from 0.08 percent to 2.03 percent, with the median at 0.46 percent (top panel). Creations and redemptions of domestic small-cap equity ETFs relative to their total net assets ranged from 0.04 percent to 3.53 percent with a median of 0.55 percent (middle panel). The range for emerging market equity ETFs was lower—0.01 percent to 1.50 percent with a median of 0.17 percent (bottom panel).

FIGURE 9

## Equity ETF Creations and Redemptions Account for Small Share of Their Total Trading on Most Days

Aggregate ETF Primary Market Activity Relative to Sum of Primary Market Activity and Secondary Market Trading for Various Equity Investment Objectives

Percent; daily, January 3, 2013–June 30, 2014



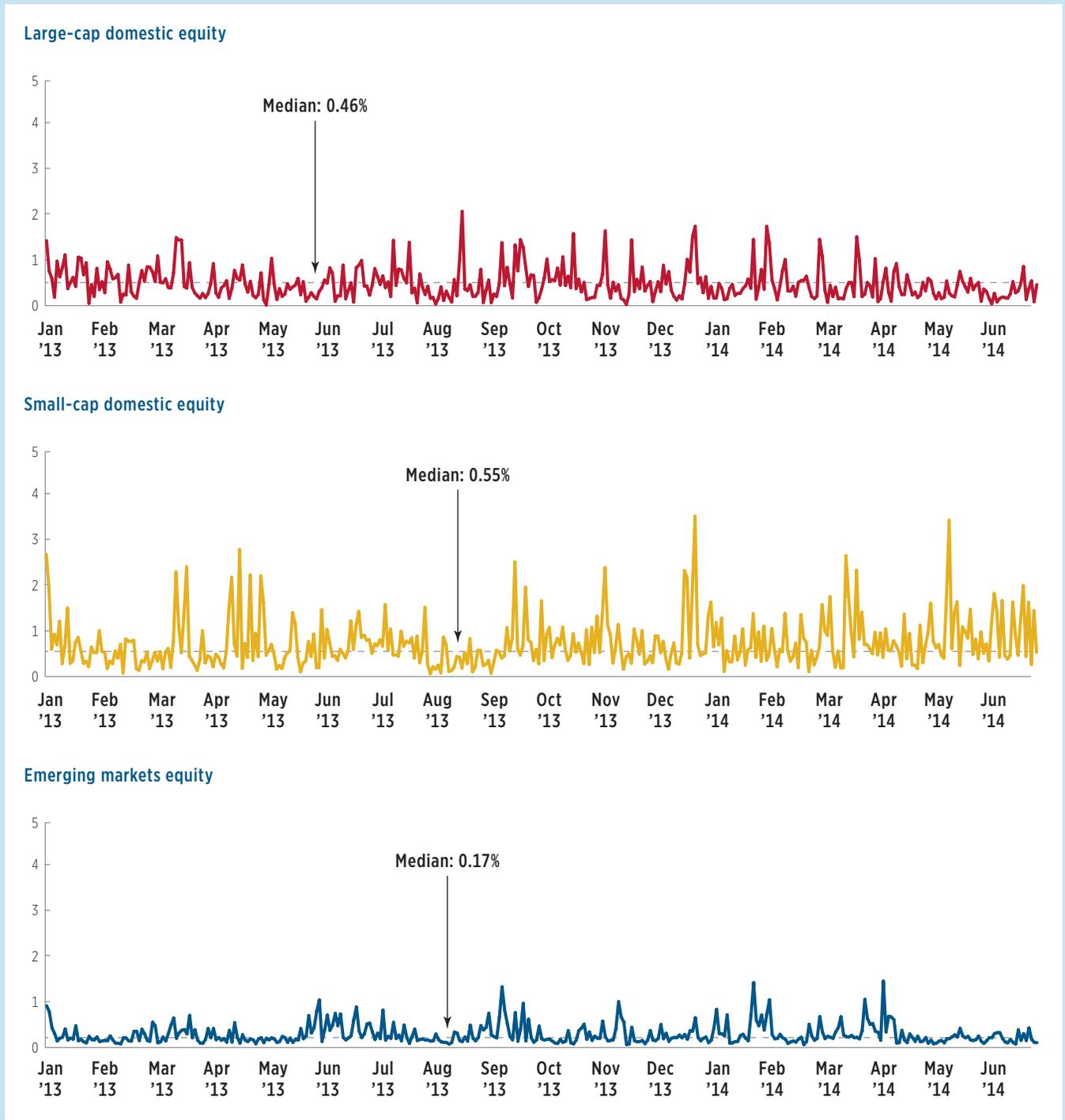
Note: Daily creations or redemptions for each ETF are estimated by multiplying the daily change in shares outstanding by the daily NAV from Bloomberg. Aggregate daily creations and redemptions are computed by adding creations and the absolute value of redemptions across all ETFs in each category each trading day. There are 375 daily observations in the sample. Data exclude ETFs that invest primarily in other ETFs.

Sources: Investment Company Institute and Bloomberg

FIGURE 10

### Daily Equity ETF Creations and Redemptions Tend to Be a Small Share of Funds' Assets Aggregate ETF Primary Market Activity Relative to Total Net Assets for Various Equity Investment Objectives

Percent; daily, January 3, 2013–June 30, 2014



Note: Daily creations or redemptions for each ETF are estimated by multiplying the daily change in shares outstanding by the daily NAV from Bloomberg. Aggregate daily creations and redemptions are computed by adding creations and the absolute value of redemptions across all ETFs in each category each trading day. There are 375 daily observations in the sample. Data exclude ETFs that invest primarily in other ETFs.  
Sources: Investment Company Institute and Bloomberg

For all types of bond ETFs, aggregate daily creations and redemptions relative to their total primary and secondary market trading ranged from 5 percent to 49 percent with the median at 17 percent (Figure 11, top panel). The maximum (49 percent) was on February 4, 2014. Of the 43 bond ETFs that had primary market activity that day, 34 had creations totaling \$5.0 billion and nine bond ETFs had redemptions totaling \$200 million. This \$5.0 billion in creations was large compared to the \$3.1 billion in average daily volume over the past 30 trading days in these ETFs and likely contributed to some investors' decisions to buy these ETFs via the creation channel with an AP rather than on the secondary market.

For domestic high-yield bond ETFs, aggregate daily creations and redemptions relative to total trading ranged from 0 to 47 percent with a median of 16 percent (middle panel). The high point—47 percent—occurred on July 3, 2013. Of the six domestic high-yield bond ETFs that had primary market activity that day, three had creations totaling \$243 million and three had redemptions totaling \$46 million. Although domestic high-yield bond ETFs had relatively liquid secondary markets with \$1.3 billion in average daily volume for the 30 trading days prior, July 3 was an especially light day of trading likely because of the early closing in advance of the holiday—only \$323 million in these ETFs changed hands in the secondary market. Some investors may have decided to buy the ETF shares through a creation with an AP rather than disrupt the secondary market on a thinly traded day.

Aggregate daily creations and redemptions relative to total primary activity and secondary market trading for emerging markets bond ETFs varied more over the period—0 to 60 percent with a median of 19 percent (bottom panel). The maximum (60 percent) occurred on June 3, 2014. Of the four emerging markets bond ETFs that had primary market activity, three had creations totaling \$324 million and one had a small redemption of less than \$3 million. The \$324 million in creations was more than double the \$153 million in average daily volume over the past 30 trading days in these ETFs.

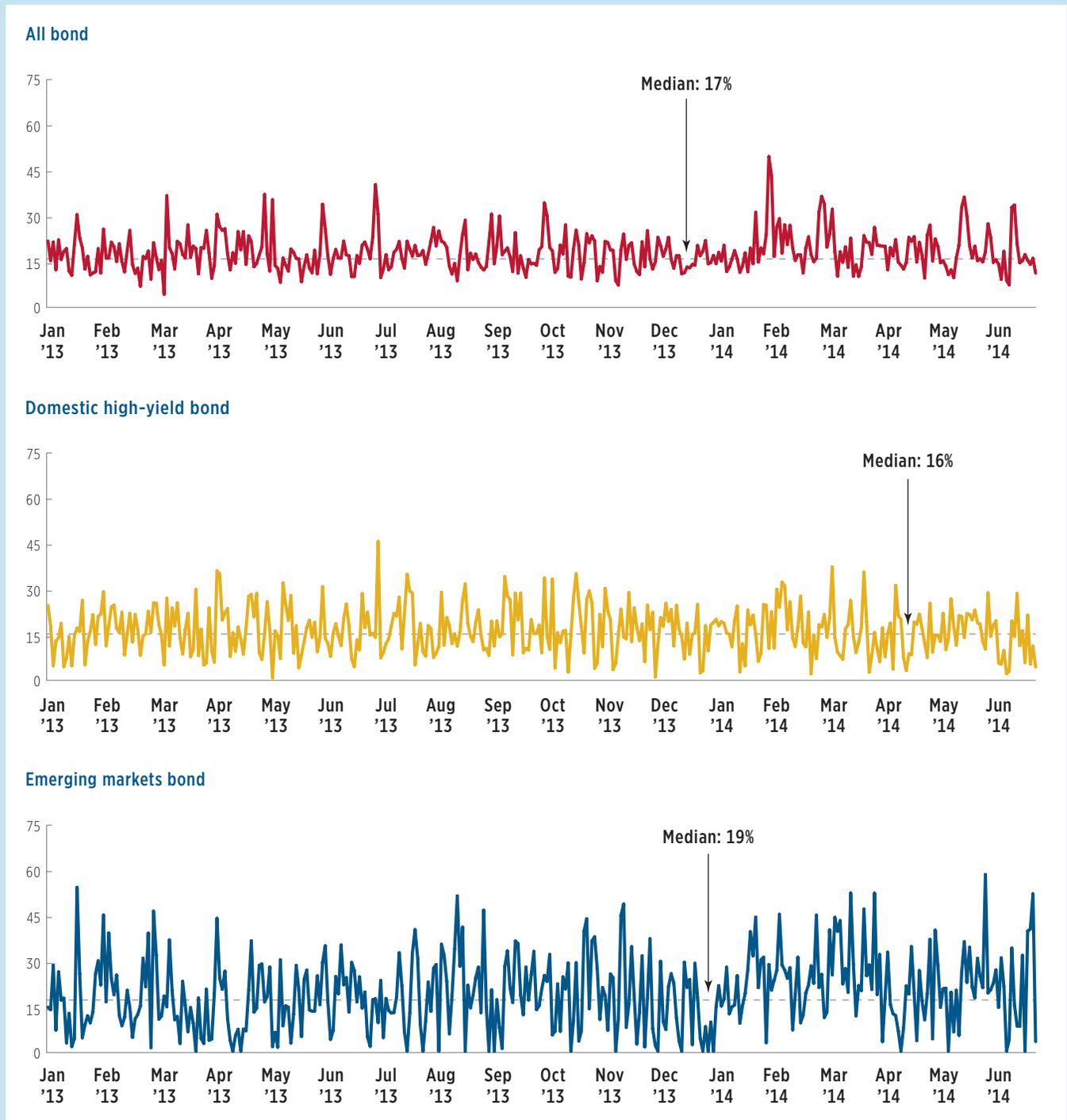
Nevertheless, aggregate daily creations and redemptions for the various types of bond ETFs involved a small proportion of their total net assets. For all bond ETFs, aggregate primary market activity relative to total net assets ranged from 0.08 percent to 2.85 percent with the median at 0.31 percent (Figure 12, top panel). For domestic high-yield bond ETFs and emerging markets bond ETFs, daily aggregate primary activity relative to total net assets ranged from 0 to 1.69 percent with a median of 0.32 percent (middle panel) and from 0 to 3.20 percent with a median of 0.32 percent (bottom panel), respectively.

FIGURE 11

### Daily Bond ETF Creations and Redemptions Are a Higher Share of Their Total Trading

Aggregate ETF Primary Market Activity Relative to Sum of Primary Market Activity and Secondary Market Trading for Various Bond Investment Objectives

Percent; daily, January 3, 2013–June 30, 2014



Note: Daily creations or redemptions for each ETF are estimated by multiplying the daily change in shares outstanding by the daily NAV from Bloomberg. Aggregate daily creations and redemptions are computed by adding creations and the absolute value of redemptions across all ETFs in each category each trading day. There are 375 daily observations in the sample. Data exclude ETFs that invest primarily in other ETFs.

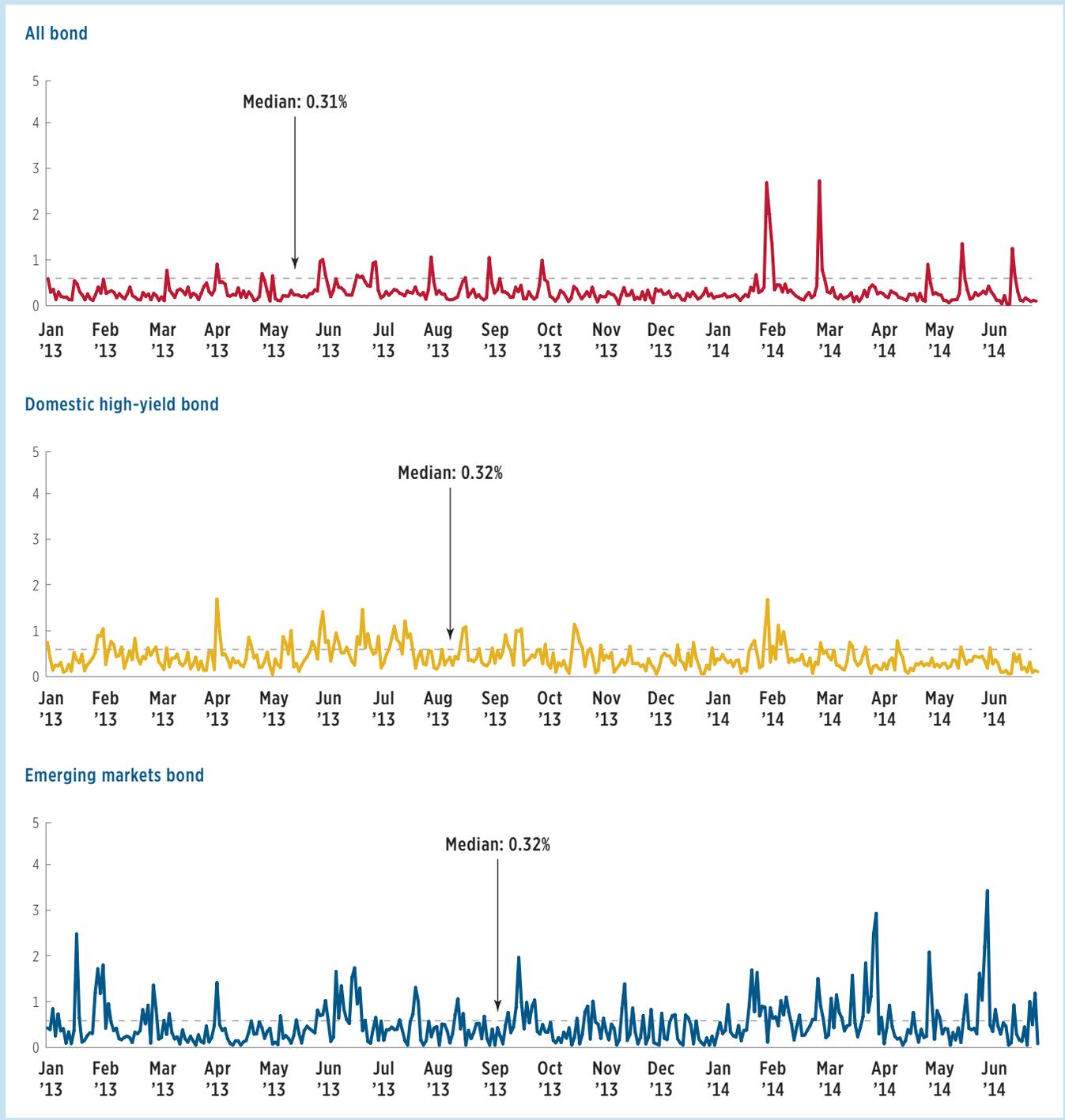
Sources: Investment Company Institute and Bloomberg

FIGURE 12

### Daily Bond ETF Creations and Redemptions Are a Small Share of Funds' Assets

#### Aggregate ETF Primary Market Activity Relative to Total Net Assets for Various Bond Investment Objectives

Percent; daily, January 3, 2013–June 30, 2014



Note: Daily creations or redemptions for each ETF are estimated by multiplying the daily change in shares outstanding by the daily NAV from Bloomberg. Aggregate daily creations and redemptions are computed by adding creations and the absolute value of redemptions across all ETFs in each category each trading day. There are 375 daily observations in the sample. Data exclude ETFs that invest primarily in other ETFs.

Sources: Investment Company Institute and Bloomberg

The vast majority of ETFs do not have any creations or redemptions on a daily basis. Figure 13 shows the distribution of primary market activity to their total trading for each ETF for each day in the sample grouped by domestic large-cap equity, domestic small-cap equity, emerging markets equity, all bond, domestic high-yield bond, and emerging markets bond. Of the 21,549 fund days (observations) for domestic small-cap equity ETFs, 83 percent did not have any primary market activity; of the 60,542 fund days for emerging markets equity, 89 percent did not have any primary market activity. Seventy-four percent of fund days in the domestic high-yield category and 85 percent in the emerging markets bond category did not have any creations or redemptions. Also, in each of the investment classifications, when daily creations and redemptions did occur, they were, for the most part, 2 percent or less of the ETFs' total net assets (Figure 14).

## Conclusion

The rapid growth of ETFs has led to questions by regulators, the media, and academics about the operations and regulatory regime of these products, and about how investors access liquidity in ETFs. This paper, the first in ICI's series on understanding ETFs, addressed the operational and regulatory questions by describing the unique structure of ETFs. In summary, ETFs are created by a sponsor that decides the investment objective of the funds and whether the ETF is actively managed or index-based. ETFs are similar to mutual funds, but trade intraday on an exchange, which means that the price of the ETF may not necessarily be the fund's NAV. Through their ability to create and redeem ETF shares at NAV, however, APs help keep the price of the ETF aligned with its underlying value. The vast majority of ETFs are registered under the Investment Company Act and could not exist without relief from some of the Act's provisions—relief that among other things allows the ETF to create and redeem shares only through APs and trade shares in the secondary market at negotiated prices.

In addition, the paper provided a detailed description of the mechanics of the primary market ETF share creation and redemption process over the T+3 settlement cycle. Creation and redemption orders processed through NSCC receive the same guarantee against default as a domestic stock trade. For CR orders that are not processed through NSCC, funds typically require APs to post collateral when creating and redeeming shares to protect ETF shareholders from the possibility that an AP will fail to deliver the agreed-upon securities or the ETF shares.

Lastly, the paper explored how investors access liquidity in ETFs by analyzing creations and redemptions relative to total trading across all ETFs and across narrower investment objectives such as small-cap equity, emerging markets equity, high-yield bond, and emerging markets bond. The results show that investors use the secondary market (trading existing ETF shares) more than the primary market (creations or redemptions transacted through an AP). On average, daily aggregate ETF creations and redemptions are a fraction (10 percent) of their total primary market activity and secondary market trading, and account for less than 0.5 percent of the funds' total net assets. Indeed, the vast majority of ETFs do not have any creations or redemptions on a daily basis. This holds true even for small-cap equity, emerging markets equity, high-yield bond, and emerging markets bond ETFs. Although average daily creations and redemptions for bond ETFs are a greater proportion (19 percent) of their total trading than for equity ETFs (9 percent), bond ETFs are a growing segment of the ETF industry and the secondary market for these products is likely to deepen naturally as they gain size. Nevertheless, despite proportionately higher primary market activity for bond ETFs, the impact on their underlying portfolios from creations and redemptions has been limited.

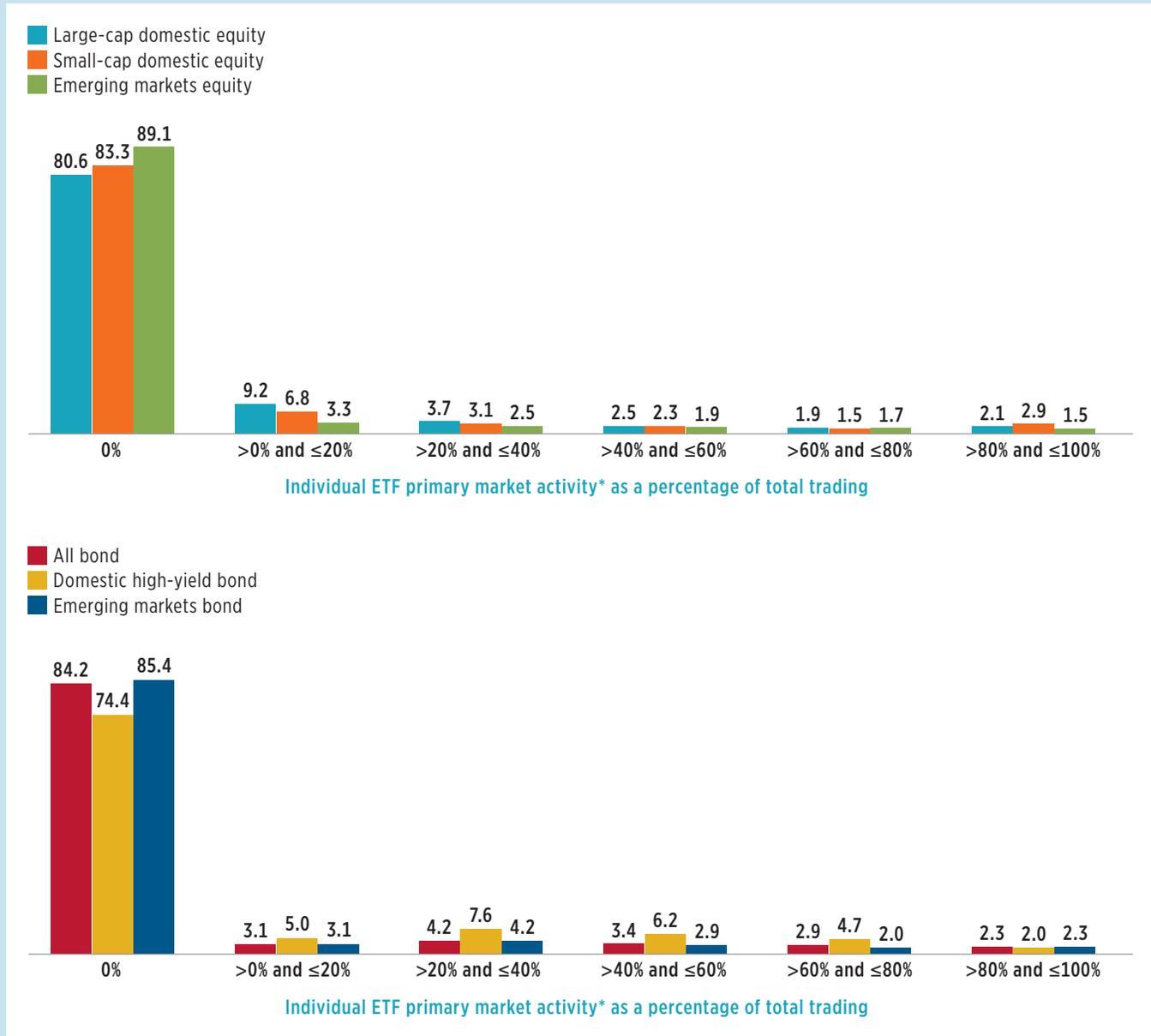
Future ICI papers will examine what role, if any, secondary market trading in ETFs plays in amplifying general market volatility or transmitting financial stress; explore whether there is a link between the arbitrage mechanism used by authorized participants and other ETF investors to volatility in the underlying securities held by an ETF; and provide information on fees and expenses of ETFs.

FIGURE 13

### Vast Majority of ETFs Do Not Have Any Creations or Redemptions on a Given Day

#### Distribution of Individual ETF Primary Market Activity\* Relative to Sum of Primary Market Activity and Secondary Market Trading for Various Investment Objectives

Percentage of total fund days from January 3, 2013, to June 30, 2014



\*Daily creations or redemptions for each ETF are estimated by multiplying the daily change in shares outstanding by the daily NAV from Bloomberg.

Note: Fund days are calculated by adding the total number of ETFs in each category on each day across the total trading days from January 3, 2013, to June 30, 2014. There are 38,357 fund days in large-cap equity; 21,549 fund days in small-cap equity; 60,542 fund days in emerging markets equity; 80,982 fund days in all bond ETFs; 8,410 fund days in domestic high-yield bond; and 6,217 fund days in emerging markets bond. Data exclude ETFs that invest primarily in other ETFs.

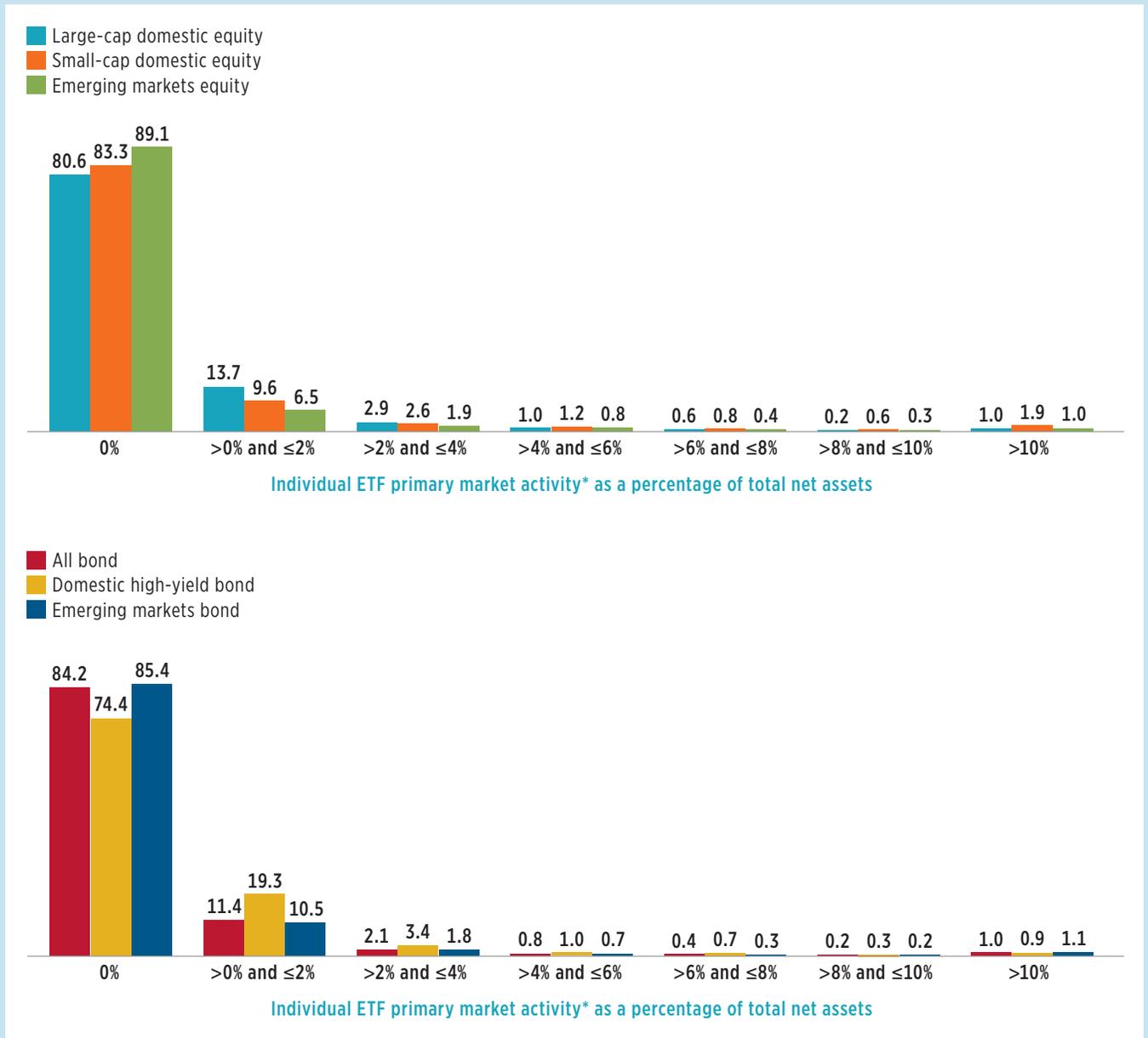
Sources: Investment Company Institute and Bloomberg

FIGURE 14

### When Daily ETF Creations or Redemptions Occur, Most Are Two Percent or Less of Fund Assets

#### Distribution of Individual ETF Primary Market Activity\* Relative to Total Net Assets for Various Investment Objectives

Percentage of total fund days from January 3, 2013, to June 30, 2014



\*Daily creations or redemptions for each ETF are estimated by multiplying the daily change in shares outstanding by the daily NAV from Bloomberg.

Note: Fund days are calculated by adding the total number of ETFs in each category on each day across the total trading days from January 3, 2013, to June 30, 2014. There are 38,357 fund days in large-cap equity; 21,549 fund days in small-cap equity; 60,542 fund days in emerging markets equity; 80,982 fund days in all bond ETFs; 8,410 fund days in domestic high-yield bond; and 6,217 fund days in emerging markets bond. Data exclude ETFs that invest primarily in other ETFs.

Sources: Investment Company Institute and Bloomberg

## Appendix

### ETF Relief Under the Securities Exchange Act

ETFs also must be granted relief from various Securities Exchange Act provisions and rules governing, among other things, certain activities of broker-dealers related to the distribution of ETF shares. The SEC has issued class relief for most types of ETFs that meet certain conditions, which obviates the need for these funds to obtain their own no-action relief.<sup>38</sup>

#### Relief to Extend Margin on ETF Shares

The Securities Exchange Act generally prohibits a broker-dealer that participates in distributing a new issue of a security from extending credit to customers in connection with the new issue within 30 days of the distribution. ETFs have received relief to permit APs and broker-dealers to extend credit on ETF shares beginning 30 days after an ETF is launched, provided the APs and broker-dealers do not receive any payment, compensation, or other economic incentive from the ETF to promote or sell the ETF's shares.<sup>39</sup>

#### Relief to Exclude Certain Information from Customer Confirmations

Rule 10b-10 requires a broker-dealer effecting a transaction in a security for a customer to give or send written notification to the customer disclosing the information specified in the rule. Compliance with Rule 10b-10 would be very burdensome for an ETF, as it would be required to provide detailed information about each of the securities (potentially hundreds or thousands) comprising the creation or redemption basket. ETFs, therefore, have sought and obtained relief from the rule's requirements to allow broker-dealers to exclude certain information from the confirmations about the creation or redemption of shares in creation units provided that all information required by the rule will be furnished upon request in a timely manner.

#### Relief from Requirement to Provide Advance Notice of Corporate Actions

Rule 10b-17 requires an issuer of a class of publicly traded securities to give notice of certain specified corporate actions (e.g., dividend distributions, stock splits, or rights offerings) relating to the class of securities. The requirement does not

apply to redeemable securities issued by mutual funds or UITs. Since ETFs only redeem securities from APs in creation units rather than individual shares, it is not clear that the exemption for mutual funds or UITs is applicable. As a result, ETFs have sought, and the SEC has granted, relief from this requirement.

#### Relief from Certain Tender Offer Provisions

Rule 14e-5 prohibits a person from directly or indirectly purchasing, or arranging to purchase, securities of a cash tender offer or exchange offer except as part of that offer. Without relief, the rule could be read as restricting the ability of a dealer-manager of a tender offer for a particular security included in an ETF's portfolio from purchasing and redeeming ETF shares directly with the ETF or in secondary market transactions during the tender offer period. As a result, ETFs have sought, and the SEC has granted, relief from this requirement.

#### Relief from Disclosure of Broker Relationships

Rule 15c-5 requires a broker-dealer to disclose to its customers any control relationship between the broker-dealer and the issuer of the security being purchased or sold. Similarly, Rule 15c-6 requires a broker-dealer effecting a transaction with a customer in connection with a distribution in which the broker-dealer is interested to disclose the existence of such an interest to its customer. ETFs require relief to confirm that these rules do not require disclosure of a broker-dealer's relationship with any issuer of a security held in the ETF's portfolio.

#### Regulation M (Rules 101 and 102) Anti-Manipulation Considerations

Regulation M is an anti-manipulative rule that is intended to prohibit the manipulation of stock prices during the course of a distribution of a security. Redeemable securities issued by mutual funds and UITs are exempt from Regulation M. Since ETFs only redeem securities from APs in creation units, they require relief confirming that persons that may be deemed to be participating in a distribution of ETF shares may bid for or purchase ETF shares during their participation in such distribution. Relief also is needed to permit ETFs to redeem shares during the continuous offering of their shares.

## Notes

- <sup>1</sup> Data for ETFs that invest primarily in other ETFs are excluded from this total and from all of the analysis in this report. As of June 2014, there were 44 such ETFs with \$3.6 billion in total net assets under management.
- <sup>2</sup> Not all ETFs are structured as mutual funds. See descriptions of the various legal structures of ETFs on pages 9–12.
- <sup>3</sup> The vast majority of assets in ETFs are held by funds that are registered with the SEC under the Investment Company Act, as mutual funds or UITs. The regulatory framework governing ETFs registered under the Investment Company Act is discussed in more detail on pages 9–13. A description of ETFs not registered under the Investment Company Act is provided on page 12.
- <sup>4</sup> For an explanation of how ETFs trade, see pages 8–9.
- <sup>5</sup> For an explanation of the regulatory framework for U.S. ETFs, including the SEC's exemptive process, see pages 9–13.
- <sup>6</sup> In March 2010, the SEC announced that it was reviewing funds' use of derivatives and that it had imposed a moratorium on new and pending exemptive applications for actively managed ETFs proposing to make "significant investments in derivatives," as well as leveraged ETFs. See SEC Staff Evaluating the Use of Derivatives by Funds (March 25, 2010), available at [www.sec.gov/news/press/2010/2010-45.htm](http://www.sec.gov/news/press/2010/2010-45.htm). In a December 2012 no-action letter, the SEC staff announced that it would no longer defer consideration of exemptive applications for actively managed ETFs that propose to invest in derivatives. See Moratorium Lift, SEC No-Action Letter (December 6, 2012), available at [www.sec.gov/divisions/investment/noaction/2012/moratorium-lift-120612-etf.pdf](http://www.sec.gov/divisions/investment/noaction/2012/moratorium-lift-120612-etf.pdf). The policy change did not apply to leveraged ETFs. In a December 2012 speech, Norm Champ, the director of the SEC's Division of Investment Management, noted that although the SEC would no longer defer applications related to actively managed ETFs that would use futures, options, or swaps, it would still defer such applications related to leveraged ETFs. See Remarks to the ALI CLE 2012 Conference on Investment Adviser Regulation: Legal and Compliance Forum on Institutional Advisory Services (December 6, 2012), available at [www.sec.gov/News/Speech/Detail/Speech/1365171491966#.U7GCoUB1pvk](http://www.sec.gov/News/Speech/Detail/Speech/1365171491966#.U7GCoUB1pvk). Despite lifting its moratorium on reviewing applications for actively managed ETFs that use derivatives, sponsors wishing to launch new funds still face long waiting periods for SEC approval. This is primarily because there are no generic listing standards applicable to actively managed ETFs, so each listing needs to be approved by the SEC. For more information on the exchange listing process, see page 13.
- <sup>7</sup> An ETF portfolio manager may choose, at times, to differentiate the creation and redemption baskets. For example, an index-based ETF may require different securities for the creation and redemption baskets when the index is rebalancing to avoid taking in securities that are leaving the index. For ETFs seeking to replicate an equal-weighted index, the portfolio manager may decide to include securities that are underweight relative to the target index in the creation basket and exclude those same securities from the redemption basket. Some ETFs also have the ability to use custom in-kind creation and redemption baskets that allow the ETF to accept or provide substitute securities as needed (e.g., to reduce tracking errors in index funds or limit taxable distributions).
- <sup>8</sup> The SEC is considering a number of applications from firms proposing to offer new types of actively managed ETFs that seek to avoid the daily disclosure of holdings, while offering alternative forms of transparency in order for investors to price the ETF's shares such that they reflect the market value of the underlying securities in the funds' portfolios. To date, the SEC has not granted regulatory approval for any of these types of actively managed ETFs.
- <sup>9</sup> The clearing and settlement process of primary market ETF shares (i.e., ETF shares that are created or redeemed) is discussed in more detail on pages 14–19.
- <sup>10</sup> APs and other ETF investors also may trade ETF shares in off-exchange transactions at negotiated prices, which is similar to the treatment of other listed securities.
- <sup>11</sup> NSCC, a subsidiary of the Depository Trust & Clearing Corporation (DTCC), clears and settles virtually all broker-to-broker equity and corporate and municipal debt securities transactions in the United States. DTC, also a subsidiary of DTCC, is one of the world's largest securities depositories.
- <sup>12</sup> This estimate also is sometimes called an *intraday optimized portfolio value (IOPV)* or an *indicative net asset value (INAV)*.
- <sup>13</sup> For a comprehensive overview of the regulatory regime for U.S. mutual funds, see [www.ici.org/pdf/14\\_ici\\_usfunds\\_regulation.pdf](http://www.ici.org/pdf/14_ici_usfunds_regulation.pdf).
- <sup>14</sup> As discussed on page 11, ETFs that are organized as UITs do not have an investment adviser.
- <sup>15</sup> At least one ETF sponsor has received SEC exemptive relief to organize each ETF as a class of shares of a multiclass mutual fund.
- <sup>16</sup> The SEC has not received an application for a new ETF to be organized as a UIT since 2002.

- <sup>17</sup> This process entails the filing of a detailed application by an ETF's sponsor with the SEC and the granting of an exemptive order that establishes conditions or requirements with which the ETF must comply in exchange for the relief granted. In March 2008, the SEC proposed Rule 6c-11 under the Investment Company Act, which would codify many of the exemptions typically granted to index-based ETFs and certain exemptions that have been granted to actively managed ETFs that disclose, on a daily basis, the identities and weightings of the securities held by the ETF on its website. If adopted, the rule would permit ETFs that meet the rule's conditions to begin operating without the expense and delay of obtaining an exemptive order from the SEC. See Exchange-Traded Funds, Proposed Rule, SEC Release Nos. 33-8901 and IC-28913 (March 11, 2008), 73 FR 14618 (March 18, 2008).
- <sup>18</sup> See Investment Company Act Section 6(c).
- <sup>19</sup> Open-end ETFs require relief from Section 5(a)(1) (defining *open-end company*) and 2(a)(32) (defining *redeemable security*). UIT-structured funds require relief from Section 4(2) (defining *unit investment trust*) and Section 26(a)(2)(C) to permit the UIT to pay certain expenses directly out of the assets of the trust. Open-end ETFs that operate as a separate share class of a multiclass fund also have obtained relief from Section 18(f) and (i). Section 18 of the Investment Company Act generally prohibits a mutual fund from issuing more than one class of shares representing an interest in the same investment portfolio. Although Rule 18f-3 permits mutual funds to issue multiple classes of shares, it does not contemplate the limited redeemability and exchange trading features of ETFs. As a result, relief from Section 18 is necessary in order for an existing mutual fund to add a new ETF class.
- <sup>20</sup> See Investment Company Act Section 22(d) and Rule 22c-1.
- <sup>21</sup> See Investment Company Act Sections 17(a)(1) and 17(a)(2).
- <sup>22</sup> See Investment Company Act Section 2(a)(3).
- <sup>23</sup> See Investment Company Act Section 22(e).
- <sup>24</sup> See Investment Company Act Sections 12(d)(1)(A) and 12(d)(1)(B).
- <sup>25</sup> Many mutual funds have previously received similar exemptive relief to create funds of funds.
- <sup>26</sup> Specifically, Section 19(b) requires an exchange to get approval from the SEC for "any proposed rule or proposed change in, addition to, or deletion from" existing rules of the exchange. The listing or trading of a new securities derivative product qualifies as a proposed rule change. The SEC has deemed ETFs to be "derivative products" for this purpose. See Securities Exchange Act Release 40761 (December 8, 1998).
- <sup>27</sup> See, e.g., NYSE Arca Rule 5.2(j)(3); NASDAQ Rule 5705(b)(3); BATS Exchange Rule 14.11(c).
- <sup>28</sup> Specifically, the SEC's Division of Trading and Markets will review any Form 19b-4 filing under the Securities Exchange Act and the rules thereunder to ensure that the proposed rule is "designed to prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade...and, in general, to protect investors and the public interest" in accordance with Section 6(b)(5) and is "in the public interest and appropriate for the protection of investors" in accordance with Section 11A(a)(1)(C)(iii).
- <sup>29</sup> The terms *creation/redemption* and *primary market* will be used interchangeably.
- <sup>30</sup> For some ETFs, such as Treasury ETFs or ETFs with all-cash baskets, creations and redemptions can be transacted on a shortened settlement cycle (e.g., T+1 or T+2) rather than the standard T+3 settlement cycle.
- <sup>31</sup> Although virtually all municipal and domestic corporate fixed-income securities are NSCC-eligible, many domestic fixed-income ETFs do not—or are not able to—use NSCC for their creations and redemptions because their baskets often contain one or more non-NSCC-eligible securities. For example, many fixed-income indexes contain Treasury securities which are cleared and settled through Fedwire and not NSCC. Although sponsors of domestic fixed-income ETFs could allow cash in lieu of the non-NSCC-eligible securities, many prefer to maintain consistency in their settlement processing.
- <sup>32</sup> The ETF agent must be a full settling member of NSCC and DTC. Also, some ETF sponsors permit the ETF agent to generate the PCF.
- <sup>33</sup> In rare instances when an error occurs, the ETF agent may submit multiple PCFs before the deadline. The last PCF accepted by NSCC will be the final version that is available to APs. For ETFs that did not need to submit a new PCF or alternatively had their PCF rejected and were unable to resubmit another file for acceptance by the deadline, their PCF from the previous trading day is carried forward. APs must subscribe to the secure ETF browser at NSCC in order to obtain the daily PCFs in a data file. Also, most, if not all, ETF sponsors have a secure file transfer protocol site for APs to login and access their funds' daily creation/redemption baskets. In addition, some ETF sponsors provide supplemental information on market values, prices, currency denominations, accrual factors, derivatives, and other information in these files that may be helpful to APs and market makers to price the ETF.

- <sup>34</sup> Internationally focused ETFs generally require collateral (posted on T or T+1) because the timing of clearing and settlement in another country may not coincide with the T+3 settlement cycle in the United States. These ETFs typically have to authorize settlement instructions in advance of receiving the ETF shares or basket securities and require collateral from the AP to ensure against the AP failing to deliver the agreed-upon ETF shares or securities. Domestic fixed-income ETFs generally do not require APs to post collateral at T because the ETF shares and the basket securities have the same T+3 settlement cycle. These ETFs can withhold settlement instructions until the AP delivers the ETF shares or securities on T+3. If the AP fails to deliver the ETF shares or securities on T+3, the AP will be required to post collateral in order to complete the transaction.
- <sup>35</sup> A discrepancy may occur if the basket is not an identical replication of the ETF's portfolio holdings, which is considered in the calculation of the ETF's NAV.
- <sup>36</sup> Under Rule 204(a) of Regulation SHO under the Securities Exchange Act, subject to certain limited exceptions, if a participant of a registered clearing agency (i.e., a broker-dealer) fails to deliver securities to a clearing agency for clearance and settlement on a long or short sale in any equity security by settlement date (i.e., T +3), it must immediately purchase or borrow securities to close out the failure to deliver position by the beginning of regulator trading hours on the settlement day following the settlement date (i.e., T +4).
- <sup>37</sup> Rule 204(a)(3) provides that, subject to certain conditions, failures resulting from certain bona fide market making activity must be closed out by the beginning of regular trading hours on the third settlement day after settlement date (i.e., T+6).
- <sup>38</sup> For index ETFs, the SEC has issued class no-action relief for items related to margin, broker confirmations, tender offers, disclosure of broker relationships, and Regulation M. See, e.g., The American Stock Exchange, SEC No-Action Letter (August 17, 2001) and Class Relief for Exchange-Traded Index Funds, SEC No-Action Letter (October 24, 2006) (expanded class relief for index-based ETFs that cannot meet one or more of the conditions in the 2001 class letter). Similarly, the SEC has indicated that ETFs that are not tied to an index no longer need to submit requests for no-action relief with respect to margin, broker confirmations, and disclosure of broker relationships. See, e.g., Wisdom Tree Trust, SEC No-Action Letter (May 9, 2008); see also AdvisorShares Trust, SEC No-Action Letter (June 16, 2011) (class relief for ETFs of ETFs).
- <sup>39</sup> Similarly, Rule 11d1-2 provides an exemption from Section 11(d) (1) by permitting a broker-dealer to extend credit to a customer on newly sold mutual fund shares or UIT units after the customer has owned the shares or units for 30 days.

## Glossary

**actively managed exchange-traded fund.** This type of fund does not seek to track the return of a particular index. Instead, the fund's investment adviser creates a unique mix of investments and may trade securities at its discretion to meet a particular investment objective and policy. See also **exchange-traded fund (ETF)**. Contrast **index-based exchange-traded fund**.

**arbitrage opportunity.** A period of time when an investor can take advantage of a price difference between two or more markets by simultaneously buying and selling securities to make a profit after transaction costs. For ETFs, arbitrage opportunities exist when the market price of the ETF is above or below its real-time net asset value, which is primarily determined by the market prices of the securities held in the ETF's portfolio.

**authorized participant (AP).** An entity, usually an institutional investor, that submits orders to the ETF for the creation and redemption of ETF shares in specific large blocks called **creation units**.

**central counterparty.** An entity that interposes itself as the buyer to every seller and the seller to every buyer to guarantee that a trade will eventually settle even if the original buyer or seller defaults.

**Commodities Exchange Act of 1936.** This act provides regulation for the trading of commodity futures in the United States and requires them to be traded on an organized exchange.

**Commodity Futures Trading Commission (CFTC).** An independent U.S. government agency that regulates futures and option markets.

**continuous net settlement.** A fully automated book-entry accounting system used by the National Securities Clearing Corporation (NSCC) that centralizes the settlement of security transactions and maintains an orderly flow of security and money balances between participants. Within CNS, each security is netted to one position per participant with NSCC as its central counterparty.

**creation/redemption basket.** A specific list of names and quantities of securities or other assets that may be exchanged for shares of the ETF. The creation/redemption basket typically mirrors the ETF's portfolio or contains a representative sample of the ETF's portfolio. The contents of the creation/redemption basket are made available to authorized participants on a daily basis through the portfolio composition file.

**creation/redemption order (CR order).** An order to create or redeem a specified number of creation units of a particular ETF. An authorized participant submits the CR order to the ETF's distributor.

**creation unit.** A specified number of shares issued by an ETF in large blocks, generally between 25,000 and 200,000 shares. Authorized participants that buy creation units either keep the ETF shares that make up the creation unit or sell all or part of them on a stock exchange.

**Depository Trust Company (DTC).** A subsidiary of the Depository Trust & Clearing Corporation (DTCC) that provides securities movements for NSCC's net settlements and settlement for institutional trades (which typically involve money and securities transfers between custodian banks and broker-dealers), as well as money market instruments.

**discount.** An ETF is said to be selling "at a discount" when the share price of the ETF is less than the market value of its underlying securities.

**ETF agent.** An organization, usually a bank, that serves as the ETF's custodian by safeguarding the securities and other assets of the ETF. An ETF agent also often provides fund accounting, fund administration, and transfer agent services.

**ETF distributor.** The entity in charge of selling (also called distributing) ETF shares; often is an affiliate of the ETF's sponsor. ETF distributors are registered under the Securities Exchange Act of 1934 as broker-dealers, and are subject to strict rules governing how they offer and sell securities to the authorized participant. The distributor's services are provided pursuant to a contract with the fund, and the distributor's compensation is typically tied, in part, to the assets of the fund. Also known as the *principal underwriter*.

**exchange-traded fund (ETF).** An investment company, typically a mutual fund or unit investment trust, whose shares are traded intraday on stock exchanges at market-determined prices. Most investors buy or sell ETF shares through a broker just as they would the shares of any publicly traded company.

**in-kind creation or redemption.** Instead of selling or buying securities, a portfolio manager of an ETF exchanges securities and shares of the ETF with authorized participants who wish to redeem or create ETF shares.

**index-based exchange-traded fund.** This type of fund is designed to track the performance of a specified index (for example, the S&P 500), or in some cases, a multiple of or an inverse (or multiple of an inverse) of an index. See also **exchange-traded-fund (ETF)**. Contrast **actively managed exchange-traded fund**.

**intraday indicative value (IIV).** A real-time estimate of an exchange-traded fund's (ETF) intraday value. Third-party providers calculate and disseminate this measure every 15 to 60 seconds during securities market trading hours. Also sometimes referred to as *indicative optimized portfolio value (IOPV)* or *intraday value*.

**inverse exchange-traded fund.** This type of fund seeks to produce the opposite return of a particular stock, bond, or commodity index. Some inverse ETFs may be leveraged to magnify performance.

**Investment Advisers Act of 1940 (Advisers Act).** Regulates investment advisers. Requires all advisers to registered investment companies and other large advisers to register with the SEC. The Advisers Act contains provisions requiring fund advisers to meet recordkeeping, custodial, disclosure, reporting, and other regulatory responsibilities.

**investment company.** A corporation, trust, or partnership that invests pooled shareholder dollars in securities appropriate to the organization's objective. Mutual funds, closed-end funds, unit investment trusts, and exchange-traded funds are the main types of SEC-registered investment companies.

**Investment Company Act of 1940 (Investment Company Act).** Regulates the structure and operations of investment companies through a combination of disclosure requirements and restrictions on day-to-day operations. Among other things, the Investment Company Act addresses investment company capital structures, custody of assets, investment activities (particularly with respect to transactions with affiliates and other transactions involving potential conflicts of interest), and the duties of fund boards.

**leveraged exchange-traded fund.** This type of fund seeks to provide shareholders with magnified exposure to a particular stock, bond, or commodity index. Most leveraged ETFs attempt to magnify daily index returns by a multiple of two (2x) or three (3x).

**market data vendors.** Entities that publish real-time data on a daily basis.

**market maker.** An entity that quotes both a buy price (bid) and a sell price (ask) in a security or other financial instrument held in inventory, hoping to make a profit on the difference between the bid and ask prices. Official market makers under certain circumstances are allowed three additional days to settle their trades (T+6 settlement). Other entities can act in a market making capacity without being official market makers. These entities are commonly referred to as *liquidity providers*.

**locked-in.** A term that refers to the matching of a transaction between a buyer and a seller in which all the details of the transaction (name of security, price, and quantity) are confirmed. The National Securities Clearing Corporation (NSCC) confirms trade details with participating members, legally binding them to complete the transaction.

**mutual fund.** An investment company registered with the SEC that buys a portfolio of securities selected by a professional investment adviser to meet a specified financial goal (investment objective). Mutual funds issue redeemable securities, meaning that the fund stands ready to buy back its shares at their current net asset value. Also known as an *open-end fund*.

**National Securities Clearing Corporation (NSCC).** A subsidiary of the Depository Trust & Clearing Corporation (DTCC) that provides clearing, settlement, risk management, central counterparty services, and a guarantee of completion for certain transactions for virtually all broker-to-broker trades involving equities, corporate and municipal debt, American depositary receipts, exchange-traded funds, and unit investment trusts. For more information, see [www.dtcc.com](http://www.dtcc.com).

**net asset value (NAV).** The per-share value of an investment company, calculated by subtracting the fund's liabilities from the current market value of its assets and then dividing by the number of shares outstanding.

**primary market.** Capital market that deals with issuing of new securities. Exchange-traded funds can increase or decrease the number of shares outstanding through the creation (sale) of new shares or redemption (purchase) of existing shares through the primary market. These creation/redemption transactions are conducted by an authorized participant who interacts directly with the exchange-traded fund.

**premium.** An ETF is said to be selling "at a premium" when the share price of the ETF is greater than the market value of its underlying securities.

**portfolio composition file (PCF).** A file disseminated by the ETF at the end of each business day that describes the makeup of creation/redemption baskets for the next trading day.

**redeemable securities.** Securities that any holder may present to the issuer in exchange for approximately his/her share of the issuer's current net assets.

**secondary market.** A financial market in which previously issued financial instruments such as stocks, bonds, exchange-traded funds, options, and futures are bought and sold.

**Securities Act of 1933 (Securities Act).** Regulates public offerings of securities, including investment company shares. The Securities Act also requires that all investors receive a current prospectus that describes the fund.

**Securities and Exchange Commission (SEC).** The primary U.S. government agency responsible for the regulation of day-to-day operations and disclosure obligations of registered investment companies.

**Securities Exchange Act of 1934 (Securities Exchange Act).** Regulates the trading, purchase, and sale of securities, including investment company shares. The Securities Exchange Act also regulates broker-dealers, including investment company principal underwriters and others that sell investment company shares, and requires them to register with the SEC.

**self-clearing broker-dealer.** An entity that processes all required trade submission, clearance, and settlement transactions on its own behalf and for its own account, and that is a full settling member of the National Securities Clearing Corporation and Depository Trust Company.

**T+3 settlement cycle.** The post-trade clearance and settlement cycle begins on the date the trade is executed, referred to as T. Three business days later, net sellers must deliver the securities to net buyers and net buyers must pay the net sellers. Broker-dealers instruct their settling banks to send or receive funds (through the Federal Reserve System) to or from Depository Trust Company (DTC) as the National Securities Clearing Corporation's agent. Securities generally do not change hands physically. DTC transfers ownership between broker-dealers' accounts by book-entry electronic movements.

**unit investment trust (UIT).** UITs issue a specific, fixed number of redeemable shares. A UIT does not actively trade its investment portfolio, instead buying and holding a set of particular investments until a set termination date, at which time the trust is dissolved and proceeds are paid to shareholders.

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