

# UNDERSTANDING ETF LIQUIDITY AND TRADING

ETFs offer attractive features—access to a broad range of asset classes, sectors and styles in a liquid, transparent and cost-effective vehicle. But before using that vehicle, it’s helpful to understand how it works, especially the sources of ETF liquidity and the mechanics of trading them. Understanding these points may help you improve execution when buying and selling ETFs.

## Here we cover:

- The ETF creation/redemption process
- A key cost of trading ETFs—bid/ask spread and what factors affect it
- Buying and selling ETFs—types of orders and ways to access all available sources of liquidity

## The Primary Market—Creation/Redemption of ETF Shares

Most investors trade ETFs on stock exchanges in the **secondary market**. But the actual creation and redemption of ETF shares occur in the **primary market**, between the ETF and authorized participants (APs)<sup>1</sup>—the only parties who transact directly with the ETF. The APs’ ability to continuously create and redeem shares allows them to meet the supply and demand needs of investors, making them key liquidity providers in the secondary market.

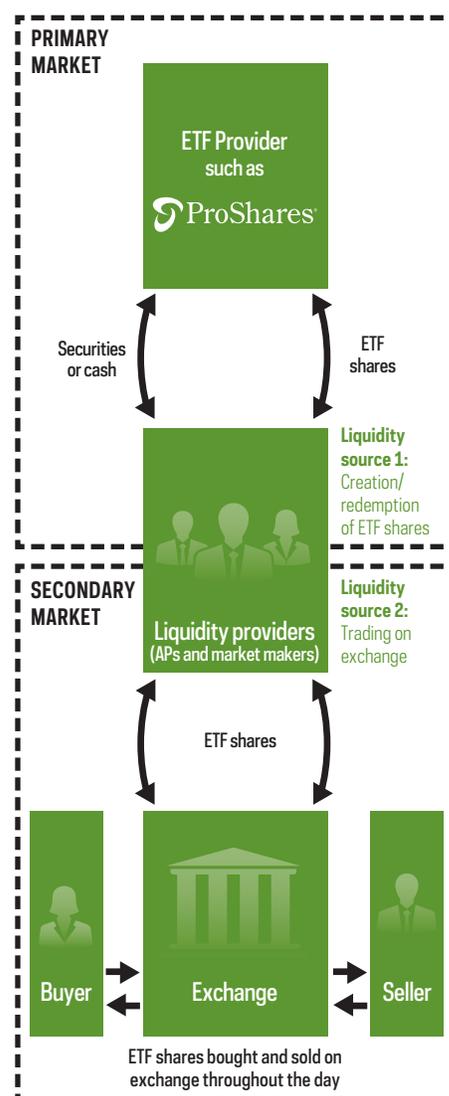
**Creation.** This is how APs introduce new ETF shares to the secondary market.

- **In-kind**—The AP creates ETF shares in large increments—known as **creation units**—by acquiring the securities that make up the benchmark the fund tracks in their appropriate weightings and amounts to reach creation unit size (blocks ranging from 25,000 to 100,000 fund shares). The AP then delivers those securities to the ETF in exchange for ETF shares.
- **Cash**—Alternatively, APs can create ETF shares by exchanging the appropriate amount of cash for ETF shares, for what’s known as a **cash create**. Often, ETF shares are created using a combination of securities and cash.
- The AP then offers the ETF shares for sale in the secondary market, where they are traded between buyers and sellers on an exchange.

**Redemption.** This follows the same process in reverse.

- The AP redeems ETF shares in large increments—known as **redemption units**—by acquiring them in the secondary market and transferring them to the ETF in exchange for the underlying securities or cash (or both) in the appropriate weightings and amounts.

ETF Creation and Redemption: Two Sources of Liquidity to Help Improve Execution



<sup>1</sup>An AP is a U.S. registered, self-clearing broker/dealer who signs an agreement with an ETF provider or distributor to become an authorized participant of a fund.

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# The Secondary Market—Costs and Mechanics of Trading ETF Shares

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**Costs of Trading.** In the secondary market, firms that specialize in buying and selling ETF shares—APs or market makers<sup>2</sup> (liquidity providers)—trade them to provide market liquidity and make a profit. This profit margin is embedded in the bid/ask spread, which reflects the implicit costs of trading ETFs.

**Bid/ask spread** is the difference between the bid—the highest price at which a buyer is willing to buy shares—and the ask—the lowest price at which a seller is willing to sell ETF shares. Three key factors impact the bid/ask spread:

- **Creation/redemption fees** charged by the ETF provider to the AP.
- **Spread of the underlying securities**—The bid/ask spread and liquidity of the securities that make up the ETF affect the liquidity and the bid/ask spread of the ETF itself. When there are many bids and offers on a security, it is easy to buy and sell, thus the bid/ask spread tends to be tight. When securities are less liquid, the spread is wider, making the cost to acquire them higher. The higher the cost of acquiring the underlying securities, the wider the ETF bid/ask spread.
- **Risk or hedging costs**—Holding ETFs entails certain risks, which need to be hedged. Liquidity providers use a variety of financial instruments, including futures, options and other ETFs, to hedge this risk. The more instruments they have to choose from, the lower their hedging costs and the lower the bid/ask spread. The higher the risk, the wider the spread.

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$$\text{ETF bid/ask spread} = \text{Creation/redemption fees} + \text{spread of underlying securities} + \text{risk}$$

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**Mechanics of Trading.** To fully consider an ETF's total costs, it is important to understand the dynamics of trading. In general, two types of orders are commonly used to trade ETF shares:

- **Limit order**—Buy or sell ETF shares at a specified price. One way investors decide at what price to enter a limit order is to look at the IOPV<sup>3</sup> as a guidepost. Limit orders may help investors get the best price, but there's a risk the order will not be filled.
- **Market order**—Buy or sell immediately at the prevailing price available at the time. With market orders, execution may be faster, but the investor has limited control over the execution price.

While a large number of transactions are executed using limit or market orders, investors often find their order is larger than the quoted market. There may be "hidden" liquidity within the quote that can be accessed in the market using limit or market orders. However, in some cases, it may make sense to execute trades directly through a liquidity provider. How and when to place an ETF order can depend on many factors, including price sensitivity, level of urgency and overall goals for the portfolio. Determining what factors matter most can help determine the best execution strategy.

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All ETFs charge annual operating expenses, paid as a percentage of the value of the fund. Commissions are typically charged on both the purchase and sale of an ETF. Brokerage commissions will reduce returns. In addition, funds are purchased and sold through a brokerage account, and there may be additional fees to open and maintain the account. ProShares are distributed by SEI Investments Distribution Co., which is not affiliated with the funds' advisor or sponsor. ©PSA 2013-5906

## Executing Large Orders—Tapping Into Deeper Pools of Liquidity

There are two common ways to execute larger trades directly with liquidity providers, both allowing investors to access deeper pools of liquidity than those offered in the quoted secondary market alone:

- **Risk trade**—A liquidity provider will quote a price for an ETF at a given size. If that price is accepted, the trade is executed and the liquidity provider assumes the market risk of providing the liquidity at execution.
- **Create/redeem**—For orders that are large enough, it may make sense to work with an AP to create or redeem shares. This type of transaction is usually executed at either the closing market price of the ETF or at the NAV of the ETF plus fees or commissions.

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## Questions?

Our capital markets experts can help. Call us at 866.776.5125.

Learn more about our ETFs at ProShares.com.

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<sup>2</sup> A market maker is a broker/dealer that buys and sells securities (or ETFs) from its own inventory to facilitate trading in those securities. Most APs are market makers, but not all market makers are APs.

<sup>3</sup> IOPV is the Indicative Optimized Portfolio Value—the intraday net asset value of the basket of underlying securities.