



ETF trading and liquidity

A deeper dive

“Liquidity” is broadly defined as the relative ease with which a security can be bought or sold without impacting its price. For individual stocks, liquidity is often defined by trading volume and the bid/ask spread. High trading volumes and narrow spreads indicate that a stock can be bought or sold in significant volume without impacting (or moving) its price. But in the case of exchange-traded funds (ETFs), because of their unique structure, trading volume isn’t the only—or even primary—indicator of liquidity. Uncovering the full measure of ETF liquidity requires a deeper dive into the mechanics of the creation and redemption process and the role of authorized participants (APs) and market makers.

Sources of ETF liquidity

It's frequently heard that ETFs trade "just like" stocks. While it's true that both ETFs and stocks trade on exchanges during trading hours, there are key differences between the two in terms of what drives trading, liquidity, and pricing.

Primary and secondary market liquidity

Individual stocks tend to have a static number of shares in circulation. The price of the stock at any given moment is determined by the forces of supply and demand. More buyers than sellers will push the price up and vice versa. For this reason, average daily trading volume is generally a clear indicator of stock liquidity.

However, unlike stocks, an ETF that has a low average daily trading volume on an exchange (otherwise known as the secondary market) does not necessarily indicate limited liquidity. As with a traditional mutual fund, the number of shares of an ETF in circulation can change on any trading day as a result of the product's open-ended structure—meaning that shares can be added or subtracted to balance supply and demand in the market.

This mechanism—referred to as "creation and redemption"—allows the share price of an ETF to be only momentarily tethered to supply and demand while staying grounded in the value of the assets held by the fund over the longer term.

An ETF that is thinly traded on an exchange (otherwise known as the secondary market) does not necessarily indicate limited liquidity. That's because ETFs combine many of the same attributes of traditional mutual funds and individual stocks to provide investors with two levels of liquidity: primary and secondary.

Creation and redemption: Primary liquidity

The creation and redemption process is restricted to large broker-dealers known as authorized participants (APs). APs effectively act as wholesalers for the ETF, transacting directly with the ETF issuer—often referred to as "the primary market"—and making shares of the ETF available to investors in smaller quantities through stock exchanges—sometimes referred to as the "secondary market." AP transactions with an ETF issuer are done in bulk amounts, known as "creation units," typically containing at least 25,000 shares.

To create additional shares of an ETF, an AP typically will purchase all the securities that constitute the ETF in appropriate proportion to the overall portfolio and will then exchange this "basket" of securities with the ETF issuer for one or more creation units of the ETF.

To redeem shares of an ETF, an AP will accumulate enough shares of the ETF to constitute a creation unit and will then exchange them with the ETF issuer for a basket of securities of equivalent value.

Key terms

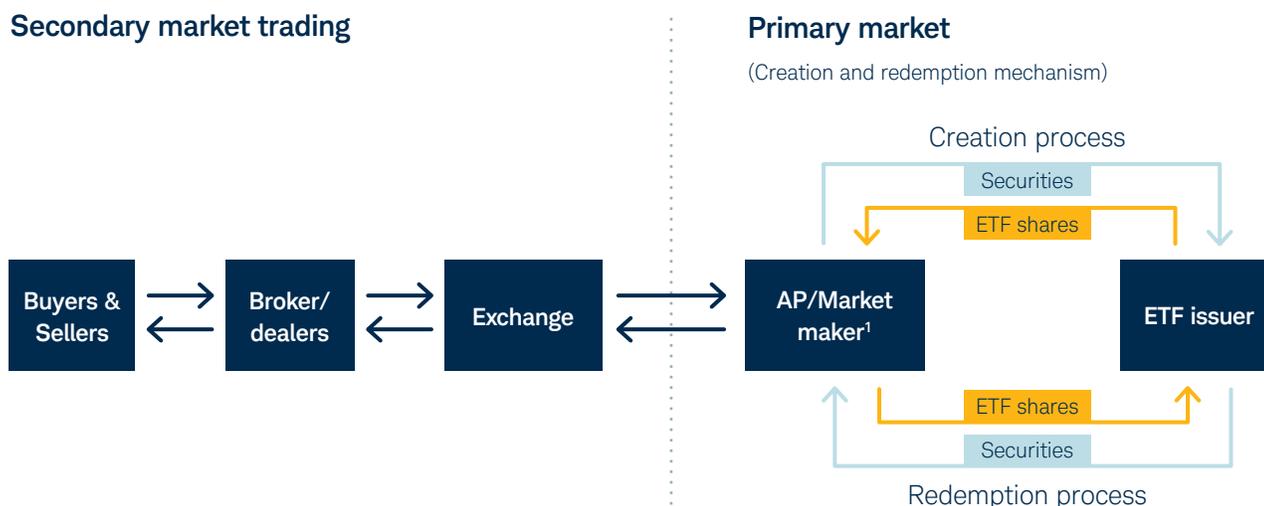
Authorized participants Large institutions that transact directly with the ETF provider to create or redeem shares of an ETF.

Creation unit The minimum number of ETF shares required to transact directly with the ETF issuer. This is typically at least 25,000 shares.

Primary market The exchange of securities for shares of an ETF that occurs directly between authorized participants and ETF providers

Secondary market The national markets system (e.g., the stock exchanges and other venues where listed securities can be traded). Shares of ETFs are continuously bought and sold throughout the day on an exchange or other trading venue by investors.

How the creation and redemption process influences an ETF's share price



Arbitrage is the key to fair prices

APs engage in the creation and redemption process for one of two primary reasons: (1) to capture commissions from a buyer or seller who is not an AP but wants to buy or sell ETF shares in bulk or (2) to earn a profit by selling ETF shares at a premium to the value of the basket of securities purchased to create new shares (or the opposite transaction—sell the basket of securities at a premium to the value of the ETF shares purchased to redeem shares).

This second reason, known as “arbitrage,” is defined as making a profit by trading similar products at different prices. This profit opportunity, unique to ETFs, is essential for ensuring that an ETF's share price in the secondary market remains tightly correlated to the value of the securities held in the ETF portfolio itself—the ETF's intrinsic fair value.¹

To the extent that the ETF share price strays from the fair value of the portfolio securities, APs will arbitrage the difference.

An additional layer of liquidity

An ETF should always be at least as liquid as its underlying holdings. The primary market (i.e., the buying and selling of an ETF's portfolio of securities to support the creation and redemption process) determines the product's minimum liquidity level. Trading daily on an exchange provides an additional level of liquidity due to the natural daily trading activity that occurs in this secondary market.

Summary

Although transactions in both primary and secondary markets have significant impact on the liquidity of an ETF, other factors should be considered as well, such as the market environment and the periodic imbalance of buyers and sellers. To determine the liquidity of an ETF, investors must look beyond the volume of ETF shares being traded and understand the unique creation and redemption mechanism of ETFs that allows shares to adjust to market demand.



We're always here to help

ETF Know:How is a full-spectrum curriculum of ETF tools, resources, and insights created for all levels of ETF expertise. This educational program offers you a 360-degree view of ETF investing, with tactical steps to help support your business—from client engagement to portfolio implementation.

To learn more about ETF Know:How and how it can help advance your ETF expertise, call 877-824-5615 or visit schwabfunds.com.

Investment returns will fluctuate and are subject to market volatility, so that an investor's shares, when redeemed or sold, may be worth more or less than their original cost. Unlike mutual funds, shares of ETFs are not individually redeemable directly with the ETF. Shares of ETFs are bought and sold at market price, which may be higher or lower than the net asset value (NAV).

¹ Intrinsic Fair Value (IFV) is not the market price of an ETF, but a proprietary valuation of what an ETF is worth, taking into account a number of factors, such as value of the underlying securities, creation costs, market volatility, and others. This value is not calculated or published by Charles Schwab Investment Management, Inc. or any of its affiliates; rather, it is calculated by professional market makers and/or APs and may differ for each firm.

The information and content provided herein is general in nature and is for informational purposes only. It is not intended, and should not be construed, as a specific recommendation, or legal, tax, or investment advice, or a legal opinion. Tax laws are subject to change, either prospectively or retroactively. Individuals should contact their own professional tax and investment advisors or other professionals to help answer questions about specific situations or needs prior to taking any action based upon this information.

Charles Schwab Investment Management, Inc. (CSIM), is the investment advisor for Schwab ETFs. Schwab ETFs are distributed by SEI Investments Distribution Co. (SIDCO). SIDCO is not affiliated with CSIM.

©2018 Charles Schwab Investment Management, Inc. All rights reserved. JUT (0818-8C36)
MKT77269-02 (08/18)

00216275

