Education

Q1 2020

Q&A on Fixed Income ETF Liquidity

Liquidity is a measurement of trading activity and how easy it is to buy or sell an asset — and like the tide, it can "go out." However, ETFs' structure can deliver portfolio benefits during periods of changing tides and market stress.

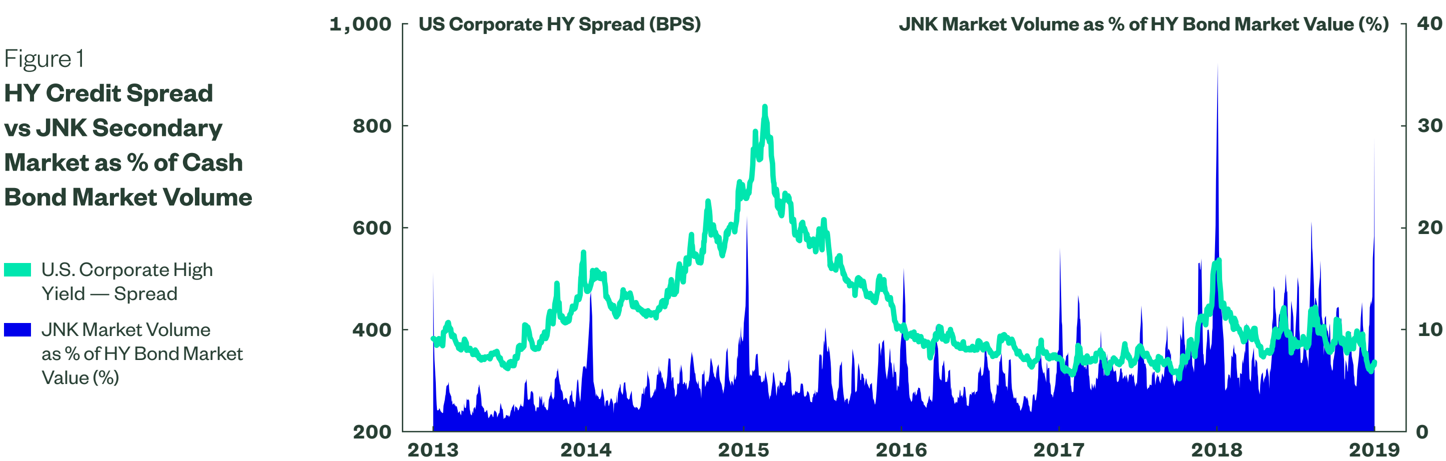
A pioneer in the ETF market, State Street Global Advisors has identified the following key questions about liquidity of fixed income ETFs that may be important to investors:

How Is a Passive Fixed Income ETF Affected by an Uptick in Volatility or a Selloff in Risk Assets?

Fixed income ETFs, at a minimum, are as liquid as their underlying securities because the ETF shares can be exchanged for a basket of the underlying bonds via the creation/redemption process (referred to as a primary market transaction). However, many fixed income ETFs have also developed robust secondary markets (the trading of the ETF shares on stock exchanges), where buyers and sellers freely interact. Market liquidity becomes paramount during periods of volatility, and this is where fixed income ETFs can provide the most useful benefits.

As highlighted in Figure 1, when credit spreads widened and overall bond market volatility spiked, fixed income high-yield ETF volumes, as illustrated by the SPDR Bloomberg Barclays High Yield Bond ETF (JNK), increased. Additionally, the increase in ETF volumes resulted in ETFs representing a larger share of the overall high-yield cash bond security market volume, as the primary market volumes tightened. Increasing ETF liquidity when underlying bond markets become illiquid benefits investors looking to reallocate capital during periods of stress.

Figure 1
HY Credit Spread vs JNK Secondary Market as % of Cash Bond Market Volume



Source: Bloomberg Finance, L.P., State Street Global Advisors, as of 12/31/2019.
Cash Bond Market is derived from the FINRA Trace 144a HY Volume and FINRA Trace Market Breadth High Yield Index. Values represent a 5 day moving average. **Past performance is not a guarantee of future results.**

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What Are the Benefits of Owning a Fixed Income ETF (Either Passive or Active) Versus a Fixed Income Mutual Fund During a Liquidity Event?

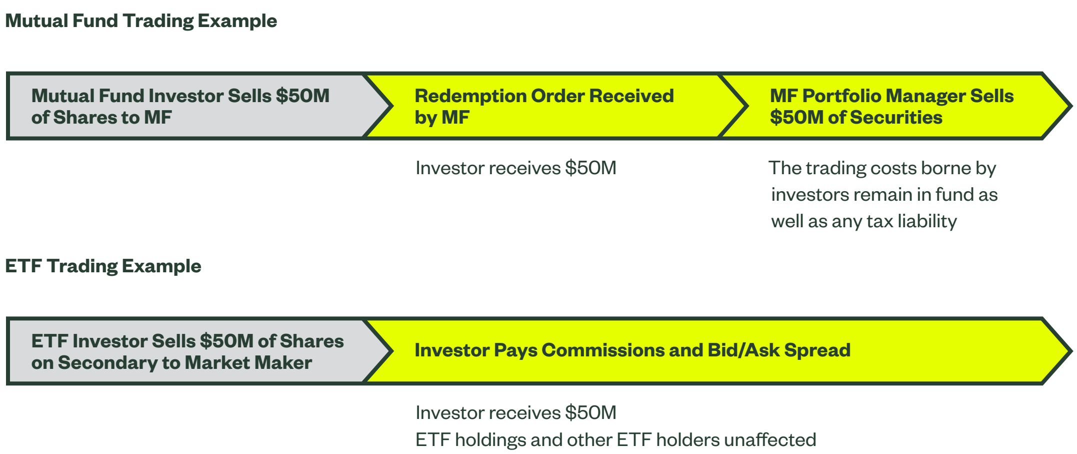
ETFs and mutual funds both seek to offer diversification and daily buying and selling opportunities. However, during a liquidity event, the ETF structure may offer several advantages, including:

- ETFs provide both primary (creation/redemption at Net Asset Values (NAV)) and secondary/intraday trading. The presence of a liquid secondary market offers price transparency and the ability to liquidate positions often without touching the primary market. Mutual funds can only be redeemed at the market close, when the fund manager would have to trade into a depressed primary market to raise enough capital to fulfill any redemption requests.

- The transaction costs (bid/ask spread) of an ETF are borne only by the "transactor," not passed on to other fund shareholders. Mutual fund investors are not so fortunate; they absorb the cost when other investors exit or enter the fund. For instance, as the seller's proceeds are valued at NAV, the remaining fund shareholders bear the trading costs of raising the necessary funds to meet the parting client's redemption. Figure 2 illustrates the hidden costs beyond the expense ratio that a mutual fund investor may face.

- Sales of mutual fund shares settle Trade Date + 1 day (T+1). Both primary and secondary ETF trades settle T+2, as do the underlying bonds. Therefore, mutual funds have a natural liquidity mismatch that managers must account for, which may pose potential issues in a significant selloff.

Figure 2
Trading Costs for Mutual Funds vs. ETFs

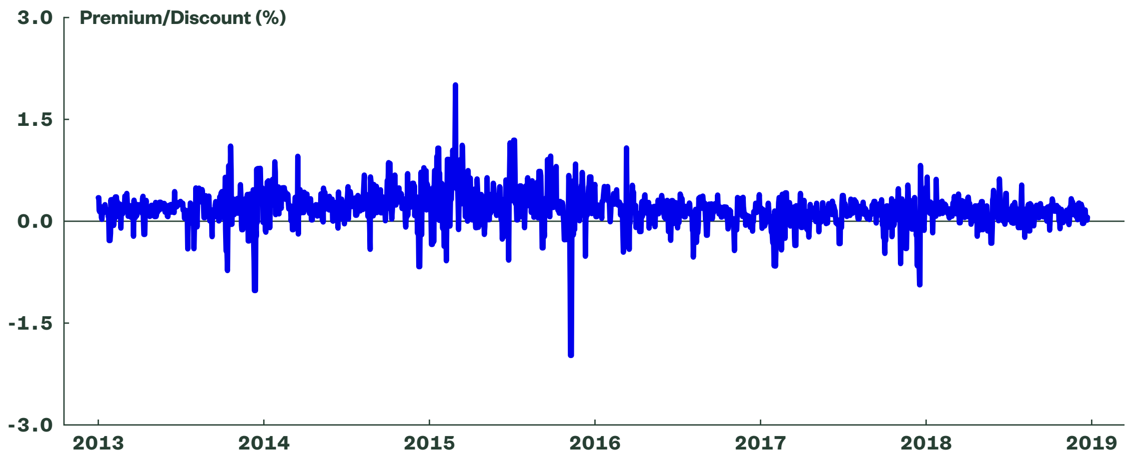


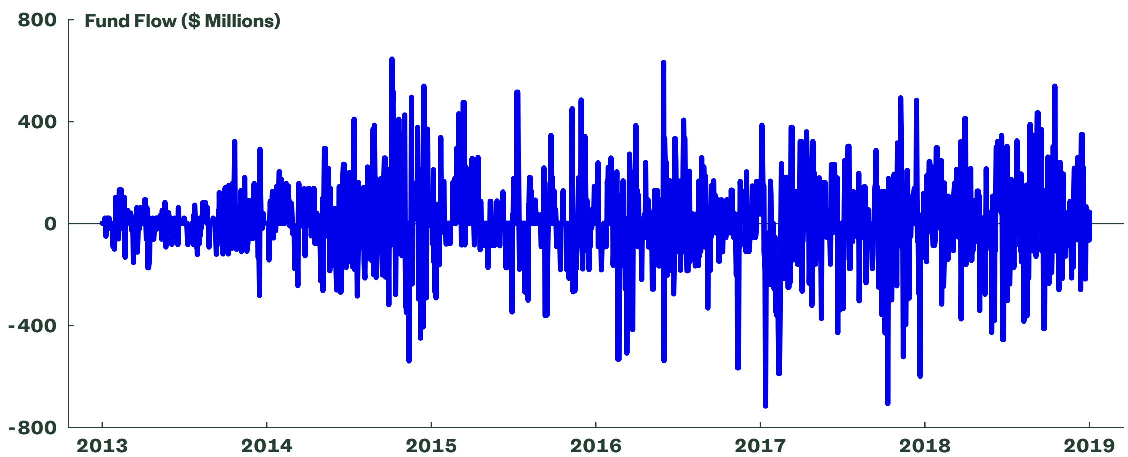
The information contained above is for illustrative purposes only.

Why Does an ETF Trade at a Premium or a Discount?

Many ETF sponsors use bid prices of individual bonds to calculate their fixed income ETF NAVs. In contrast, individual bonds and ETFs typically trade closer to the midpoint between the bid and ask (a bid price is lower than a midpoint in the bid/ask relationship). As a result, fixed income ETFs generally trade at a premium to their NAV. During times of market stress and/or heavy selling pressure, ETFs may trade at a discount to NAV, conveying market sentiment and reflecting the risk market makers face to sell the underlying cash bonds. In periods of stress, ETF shares trading on the exchange reflect the current consensus of the ETF's value, established by many investors interacting to express buy and sell interest in real time. In contrast, many individual bonds do not trade at all on a given day. This could cause the ETF shares to appear to trade at a discount to the NAV, as the NAV may be slower than the market to react to price volatility.

Figure 3
ETFs as Price Discovery Tools — JNK





Source: Bloomberg Finance, L.P., State Street Global Advisors, as of 12/31/2019.
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Does the Price Movement of the ETF Lead the Underlying Bond Market?

An ETF's market price represents — transparent fashion — the level at which risk can be transferred from a seller to a buyer. Due to the number of bonds in the market and a lack of a centralized exchange or uniform closing price, bonds that do not trade on a regular basis may not reflect the true value of the underlying market.

For example, some high-yield bonds do not trade regularly on the secondary market. However, ETFs that track those markets do trade regularly. During periods of higher volatility, the on-exchange and more transparent secondary market for trading ETF shares will display the market's sentiments earlier than the opaque, over-the-counter and more fragmented trading of the high-yield bond market. In this case, ETFs act as a price discovery tool as a result of their transparency, liquidity and efficient trading, as illustrated in Figure 3.

If There Are Redemptions in an ETF, Does the Issuer Become a Forced Seller of Bonds?

No, the primary method of creation and redemption activity in most State Street Global Advisors fixed income ETFs is an in-kind transfer of securities vs. the ETF. An in-kind redemption occurs when an Authorized Participant (AP) delivers the ETF to State Street in return for the underlying bonds. The ETF does not sell the bonds, but rather, transfers them to the AP, who then uses them as inventory or for a variety of other purposes based on their needs or the needs of their other trading counterparts (i.e., their clients). This is an important distinction, as the risk associated with pricing an ETF by an AP or market maker is aligned with their ability to sell bonds (execute a hedge) in the underlying market.

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Glossary

Basis point 1/100th of 1 percent.

Bid/Ask Spread The difference in price between the highest price that a buyer is willing to pay for an asset and the lowest price for which a seller is willing to sell it.

Creation and Redemption Process The process whereby an ETF issuer takes in and disburses baskets of assets in exchange for the issuance or removal of new ETF shares.

Liquidity The degree to which an asset or security can be bought or sold in the market without affecting the asset's price. Liquidity is characterized by a high level of trading activity.

Net Asset Value (NAV) The calculated assets minus liabilities divided by shares outstanding. NAV is the straightforward account of the actual assets in the fund.

Option-adjusted spread (OAS) Represents a measure of income. Spread represents the portion of the bond's yield that compensates investors for taking credit risk. OAS adjusts the spread to take into account embedded options within the bond (if any).

Primary Market The market where shares of an ETF are created or redeemed.

Secondary Market A market where investors purchase or sell securities or assets from or to other investors, rather than from the issuing companies themselves. The New York Stock Exchange and the NASDAQ are secondary markets.

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Important Risk Information

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ETFs trade like stocks, are subject to investment risk, fluctuate in market value and may trade at prices above or below the ETFs' net asset value. Brokerage commissions and ETF expenses will reduce returns. Although ETF shares may be bought and sold on the exchange through any brokerage account, ETF shares are not individually redeemable from the Fund. Only Authorized Participants may acquire ETFs and tender them for redemption through the Fund in Creation Unit Aggregations. Please see the prospectus for more details.

The funds presented herein have different investment objectives, costs and expenses. Each fund is managed by a different investment firm, and the performance of each fund will necessarily depend on the ability of their respective managers to select portfolio investments. These differences, among others, may result in significant disparity in the funds' portfolio assets and performance. For further information on the funds' portfolio assets and performance. For further information on the funds, please review their respective prospectuses.

Diversification does not ensure a profit or guarantee against loss.

Frequent trading of ETFs could significantly increase commissions and other costs such that they may offset any savings from low fees or costs.

Non-diversified funds that focus on a relatively small number of securities tend to be more volatile than diversified funds and the market as a whole.

Bonds generally present less short-term risk and volatility than stocks, but contain interest rate risk (as interest rates rise, bond prices usually fall); issuer default risk; issuer credit risk; liquidity risk; and inflation risk. These effects are usually pronounced for longer-term securities. Any fixed income security sold or redeemed prior to maturity may be subject to a substantial gain or loss.

Passively managed funds hold a range of securities that, in the aggregate, approximates the full Index in terms of key risk factors and other characteristics. This may cause the fund to experience tracking errors relative to performance of the index.

While the shares of ETFs are tradable on secondary markets, they may not readily trade in all market conditions and may trade at significant discounts in periods of **market stress**.

Investing in **high-yield fixed income securities**, otherwise known as "junk bonds", is considered speculative and involves greater risk of loss of principal and interest than investing in investment grade fixed income securities. These Lower-quality debt securities involve greater risk of default or price changes due to potential changes in the credit quality of the issuer. These investments may have difficulty in liquidating an investment position without taking a significant discount from current market value, which can be a significant problem with certain lightly traded securities.

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