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DYNAMICS OF FIXED INCOME ETF TRADING

STATE STREET GLOBAL ADVISORS®
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Fixed income ETFs have provided investors of many types, from large institutions to retail investors, an alternative tool to access the cash bond market. In this piece, we highlight several key aspects of the fixed income ETF trading dynamics to better assist investors in harnessing the utility of these instruments when implementing investment strategies.

ETF Liquidity

Since the first fixed income ETF product launched in 2002 there has been tremendous growth, not only in assets under management but also with increased secondary market liquidity. This aspect of secondary market liquidity is a driving force behind the potential benefits fixed income ETFs can provide over individual securities or mutual funds. For instance, on screen liquidity for ETFs that track niche areas of the market, such as high yield, trade at spreads roughly 40x tighter than the underlying basket of constituents. Furthermore, these tight spreads are accompanied by an abundance of volume on the secondary market as shown in Figure 1 by the SPDR Bloomberg Barclays High Yield Bond ETF (JNK), which has a 30-day trading volume of more than 14 million shares ($231M notional).

Fixed income ETFs expand upon their liquidity providing framework during volatile markets. We have seen high yield ETF volume and credit spreads to move in tandem during volatile times For example, as shown in Figure 2, when the price of oil precipitously fell in the second half of 2014, it sparked contagion fears within the markets, specifically in high yield. However, during this time, JNK provided a high level of market liquidity by trading as much as 19 million shares ($779 million notional), nearly twice as much as its previous 30 day daily average. In essence, during volatile times fixed income ETFs can provide liquidity and price discovery for market participants when the underlying bond markets might not be reacting as quickly.

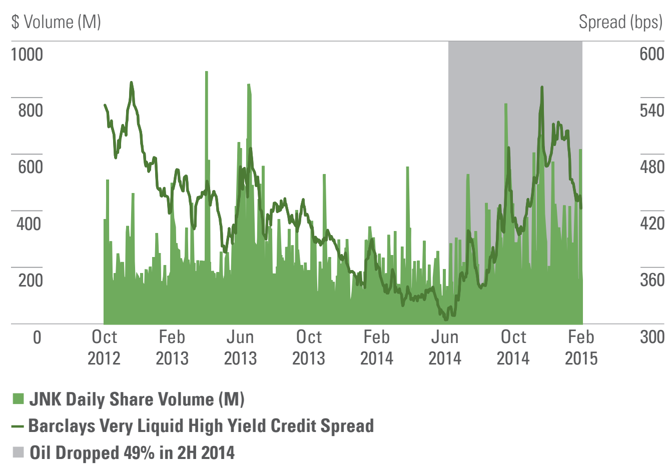
The liquidity in the secondary market, along with the creation and redemption mechanism, provides investors with the potential to transact at fair and orderly prices with minimal market impact. Figure 3 provides a decomposition of actual large block trades transacted in the market where over $50 million of JNK was traded 2–3bps below or above the best bid or offer at the time of execution. A tight spread on an ETF is important, however, a tight spread with robust order flow is an essential tool in fixed income trading.

Figure 1: Market Liquidity

	JNK	SJNK	SCPB
AUM	9,534.28	2,466.84	4,459.45
Average 30 Daily Share Volume (M)	14.53	1.86	1.00
Average 30 Daily $ Volume ($M)	231.29	15.22	13.05
Average 30 Day Bid Ask Spread (bps)(%)	0.03	0.05	0.04
Basket Bid Ask Spread (bps)(%)	2.04	1.81	0.38

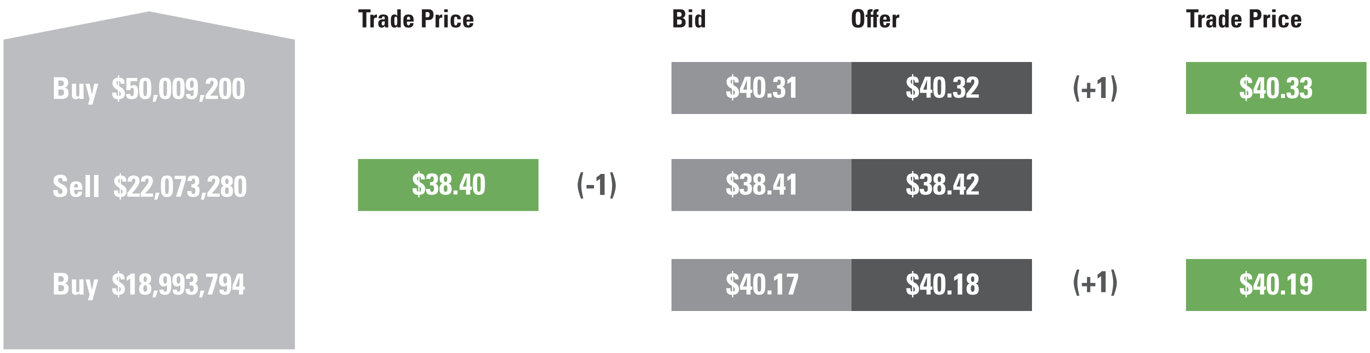
Source: State Street Global Advisors (SSGA), Bloomberg, Barclays as of 2/25/2016.
Past performance is not a guarantee of future results.

Figure 2: High Yield ETF Trading Volumes vs. High Yield Spreads



Source: SSGA, Bloomberg, Barclays as of 2/28/2015.

Figure 3: Anatomy of an ETF Trade



The information contained above is for illustrative purposes only.

Net Asset Value (NAV) and Premium/Discount

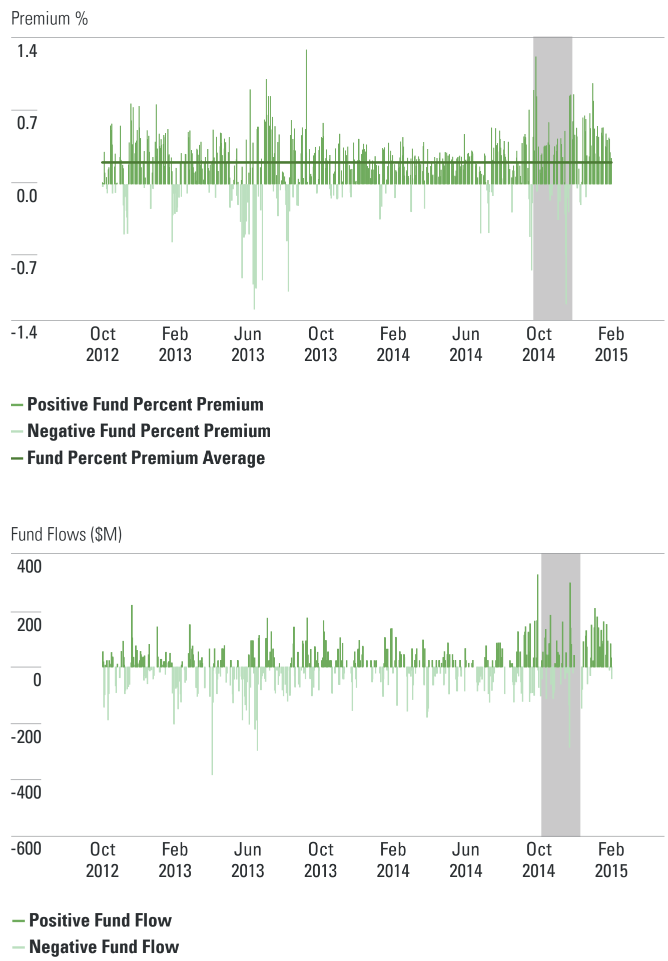
As a result of the dynamics of fixed income pricing, bond based ETFs generally trade at a premium to NAV. The reason is that the ETF will most often trade at the midpoint of the underlying basket bid ask spread, while the NAV is priced on the bid side of the market. During fear driven market environments (taper tantrum, debt ceiling debate, oil sell off), fixed income ETFs may see their premiums diminish and begin trading at a discount to NAV. In this case, the discount conveys market sentiment and, also reflects the risk market makers face to sell the underlying cash bonds.

Fixed Income ETF NAVs may not always reflect the true market price during times of stress as certain underlying securities trade infrequently. In other words, ETFs can act as a principal price discovery vehicle for what the capital markets view as fair value. Figure 4 highlights the premium and discount mechanism during times of stress.

Between October 2012 and February 2015, the SPDR Bloomberg Barclays Short Term High Yield Bond ETF (SJNK) traded at an average premium of 26 basis points (0.26%). However, when negative oil related sentiment pushed credit markets lower in the second half, the premium evaporated and turned into a discount. The ETF traded below NAV for multiple days as the market reassessed fair value for high yield instruments in real time. Once the primary market adjusted to the environment, the ETF reverted back to trading within its normal premium range.

Figure 4: ETF Discovery Tools

Premium vs. Discount



Source: SSGA, Bloomberg as of 2/28/2015.

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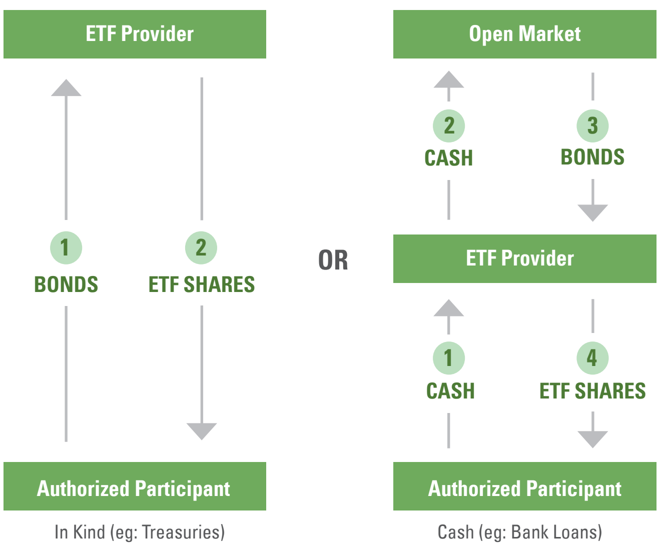
Creation and Redemption

The primary method for creating or redeeming most fixed income ETFs is in-kind, where an Authorized Participant (AP) stands between the market and the ETF sponsor. For a creation, the AP delivers the underlying basket to the sponsor in exchange for shares of the ETF (for redemptions it is the opposite). Various methods exist for creating or redeeming ETF shares. These methods include cash or a combination of both in-kind and cash. In the case of cash creations, the AP delivers cash plus a variable fee to the fund sponsor. In return, the AP receives the ETF shares to then trade on the open market or deliver to a client seeking to gain exposure to the ETF. Lastly, APs may also work with fund sponsors to execute custom create (redeem) baskets, primarily sourced from existing dealer inventory, that properly represents the overall risk contained within the ETF holdings.

Figure 5: In-Kind vs. Cash Create/Redeem Process



Source: SPDR ETF Capital Markets Group.
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Bloomberg Tool

Bloomberg, in conjunction with State Street Global Advisors, launched a tool in the fourth quarter of 2014 to help automate the workflow and process for creations and redemptions in fixed income ETFs. Fixed income ETFs are becoming not only a trading vehicle for the transfer of risk, but also a tool for the efficient transfer of assets. While initially designed for the AP community, this tool is designed to provide for a cost effective method for transforming individual bond holdings into ETF shares.

About SPDR Capital Markets

We are responsible for building relationships with SPDR ETF authorized participants, market makers, liquidity providers, execution trading desks/platforms and stock exchanges. Our team plays an active role in promoting competitive markets and maintaining the SPDR ETF liquidity ecosystem.

Given our insight into primary and secondary market activity as well as our access to a wide variety of pre-trade liquidity analytics tools, the SPDR Capital Markets team is dedicated to working closely with clients to help educate them about the nuances of ETF execution and ultimately ensure they are equipped with the knowledge necessary to most effectively trade SPDR ETFs.

Learn More

Please contact the SPDR ETF Capital Markets Group with any questions regarding ETF liquidity and execution at **SPDRCapitalMarketsUS@ssga.com**

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