

Fixed Income ETFs: Navigating Today's Trading Environment

Karen Schenone, CFA

Vice President, iShares Fixed Income Strategy

Khoabane Phoofolo

Vice President, iShares Capital Markets

Today's Speakers



Karen Schenone, CFA, is a fixed-income strategist within BlackRock's Fixed Income Portfolio Solutions group, focusing on the iShares suite of exchange-traded funds. She works directly with the iShares sales force to serve clients and assists in the product development process for new fixed-income ETFs.

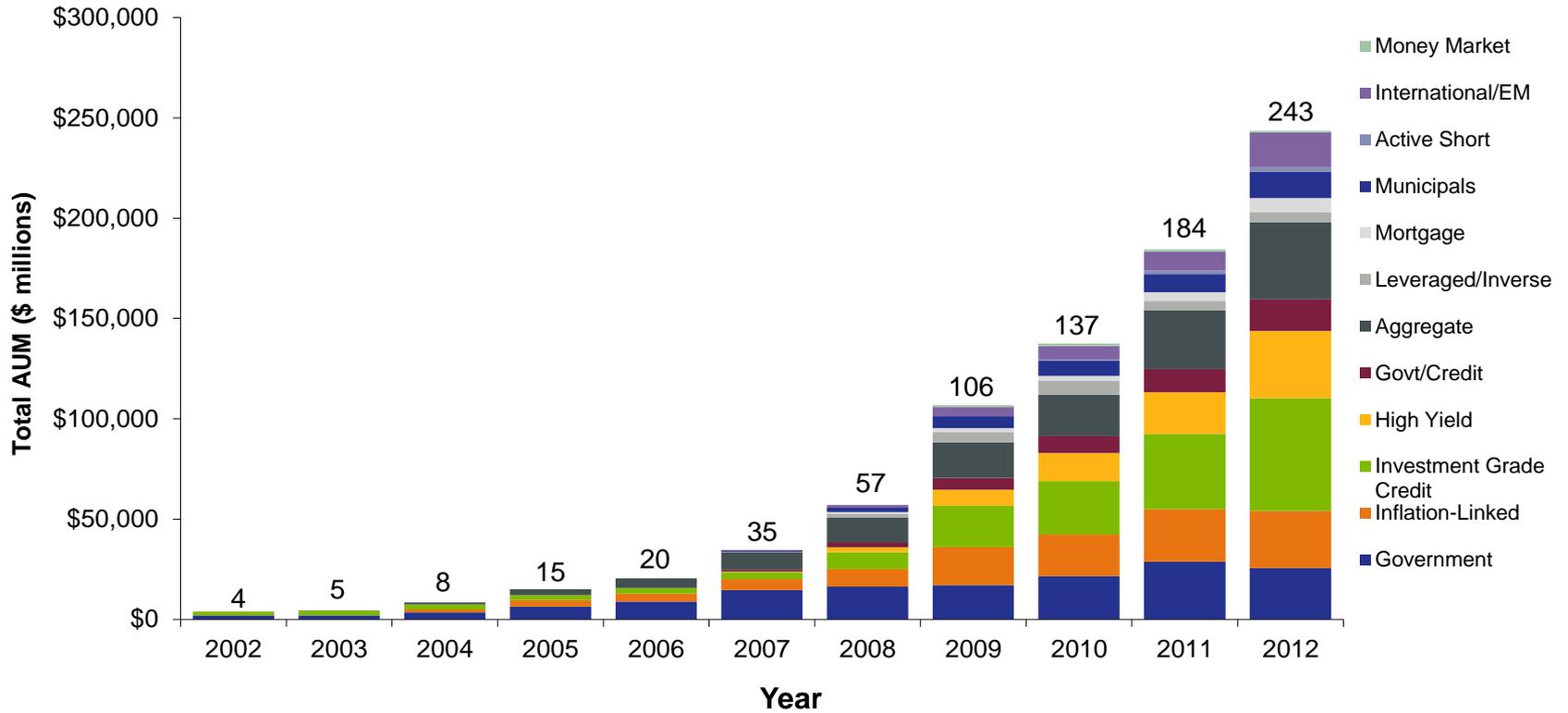
Prior to joining BlackRock, Mrs. Schenone was an investment research analyst at Laird Norton Tye and portfolio analyst at Washington Mutual Bank. She earned a BBA degree in finance from The University of Texas at Austin.



Khoabane Phoofolo, is a Vice President in the US iShares Capital Markets Group. He is responsible for delivering market insights, execution services, and product structure expertise to iShares institutional and intermediary broker dealers clients.

Prior to joining Capital Markets in 2009, Mr. Phoofolo was a Transition Strategist in BlackRock's Transition Management Group, where he was responsible for helping Pension, Foundation, and Endowment clients tactically trade investments. In his current role in Capital Markets, he has applied the same conceptual framework to help build iShares Pre-and Post-Trade platforms.

Today nearly \$250 billion is invested in fixed income ETFs

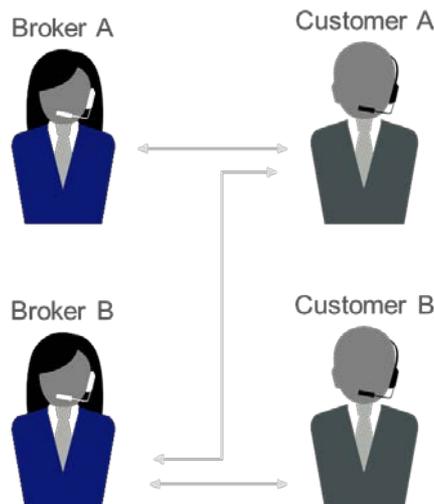


iShares is the leading provider of fixed income ETFs globally

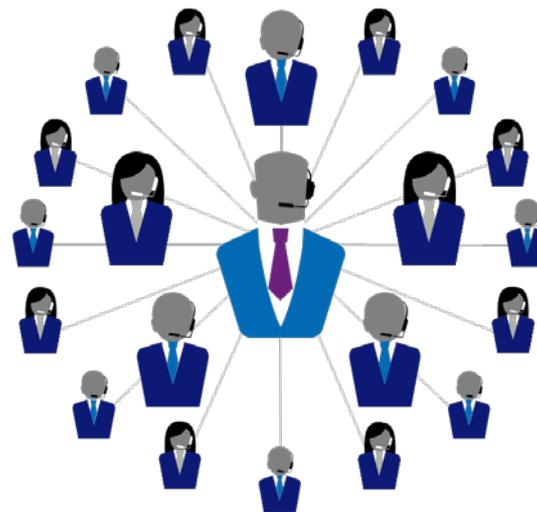
Sources: FactSet, Bloomberg, BlackRock, as of 2/28/2013. iShares has 56% market share.

OTC Bond Market vs. On Exchange Equity Market

Bond markets



Equity markets



- In the “over-the-counter” (OTC) bond market, buyers and sellers negotiate one-on-one to reach a deal.
- Bonds can be hard to find, and an investor may get different prices from different brokers.
- **This opaqueness—“Where can I find bonds? Can I get a good price?”—is a defining characteristic of the OTC bond market.**

- Most stocks are traded on centralized exchanges, such as the NYSE.
- Through the exchange, investors can easily see execution prices throughout the trading day.
- Fixed income ETFs provide transparency to the bond market, allowing investors to trade bonds like stocks

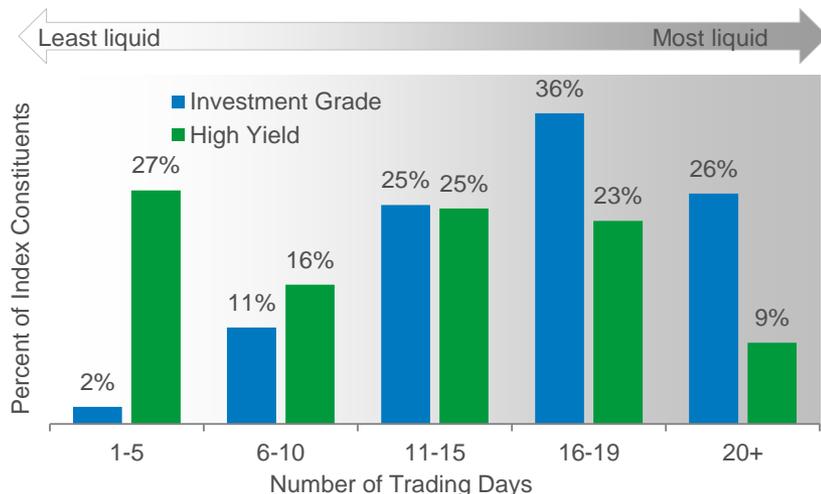
Fixed income ETFs allow investors to trade bonds like stocks

Liquidity—iShares ETFs help address challenges with bond trading

Most bonds do not trade daily

- ▶ The underlying bond market can be very illiquid and individual bonds can trade very infrequently
- ▶ Most investment grade and high yield corporate bonds have historically traded fewer than half the days each month (see below)

Average number of days bonds in the indexes traded each month

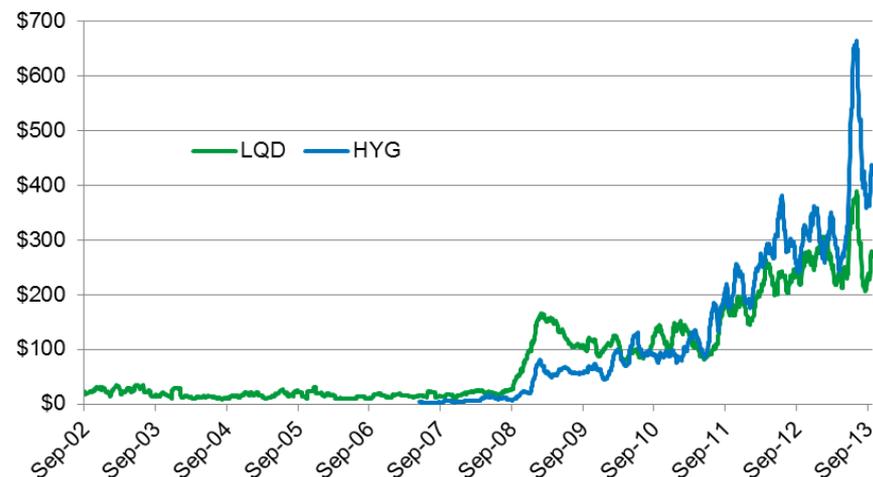


Source: BlackRock, Markit iBoxx, TRACE. Data from 1/1/2012 to 12/31/2012 for the Markit iBoxx \$ Liquid High Yield Index ("high yield") and Markit iBoxx \$ Liquid Investment Grade Index ("investment grade"). There can be no assurance that an active trading market for shares of an ETF will develop or be maintained.

iShares Bond ETFs Trade Daily

- ▶ LQD (iShares iBoxx \$ Investment Grade Corp) and HYG (iShares \$ High Yield Corp) have had increasing trading volumes.
- ▶ Because ETFs trade on an exchange, investors can access bonds as easily as they can access stocks

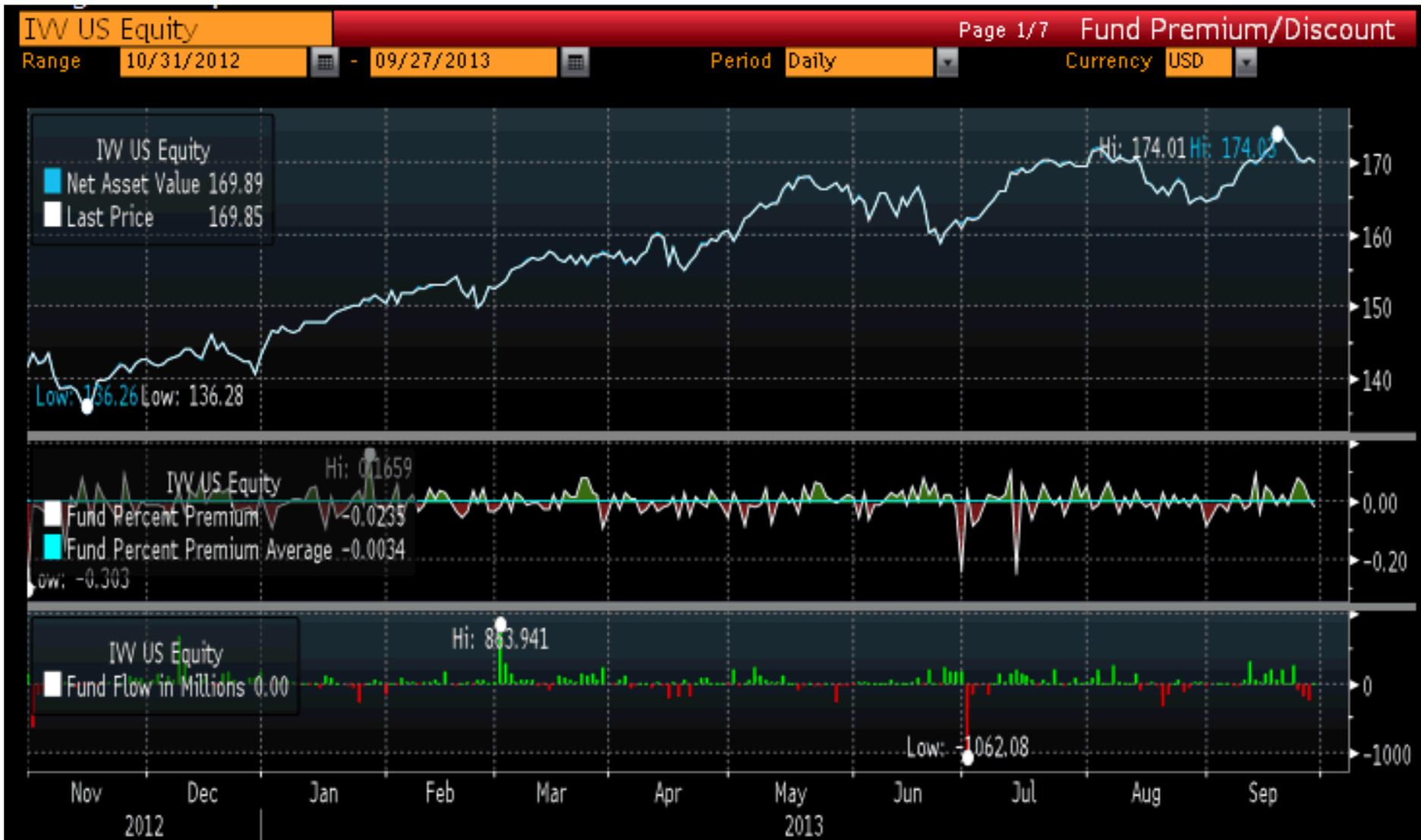
30-Day Average Volume (\$MM)



Sources: Bloomberg, as of 9/30/2013.

iShares ETFs offer investors the ability to get in and out

Trading Behavior: US Equities (IVV)



Source: Bloomberg as of 9/30/2013. Past performance does not guarantee future results.

Trading Behavior: US Treasuries (TLT)

TLT US Equity Page 1/7 Fund Premium/Discount

Range 10/31/2012 - 09/27/2013 Period Daily Currency USD



Source: Bloomberg as of 9/30/2013. Past performance does not guarantee future results.

Trading Behavior: High Yield Bonds (HYG)



Source: Bloomberg as of 9/30/2013. Past performance does not guarantee future results.



Four drivers of premiums / discounts in fixed income ETFs

NAV

- ▶ Underlying bonds marked to the **bid side** of OTC bond market to calculate ETF NAV
- ▶ ETF trades at **market clearing price**

ETF Supply and Demand

- ▶ Balance of exchange flows drive where ETF trades relative to underlying bond market
- ▶ Sales: ETF moves closer to bid side of bond market (NAV)
- ▶ Purchases: ETF moves closer to offer side of bond market (potential share creation)

Cost of Share Creation

- ▶ If demand > exchange liquidity, new shares will likely be created
- ▶ Cost of creation is approximately the underlying bond market bid / offer spread
- ▶ ETF price incorporates the marginal cost of share creation

Fixed Income Market Volatility and Liquidity

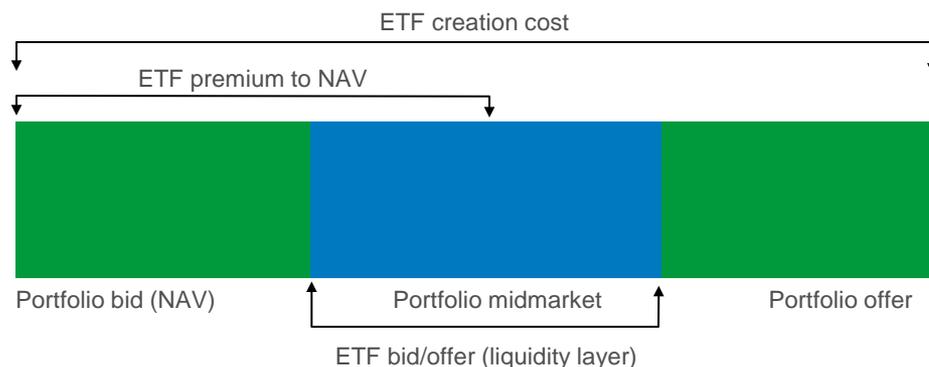
- ▶ NAV = average bid of the underlying bonds in the portfolio; does not account for a portfolio execution
- ▶ In volatile / illiquid markets the difference between the average bond price and a portfolio execution may be significant. Average price \neq price of the average
- ▶ This leads to premiums or discounts outside of average underlying market bid / offer spread

Bond ETF premiums and discounts

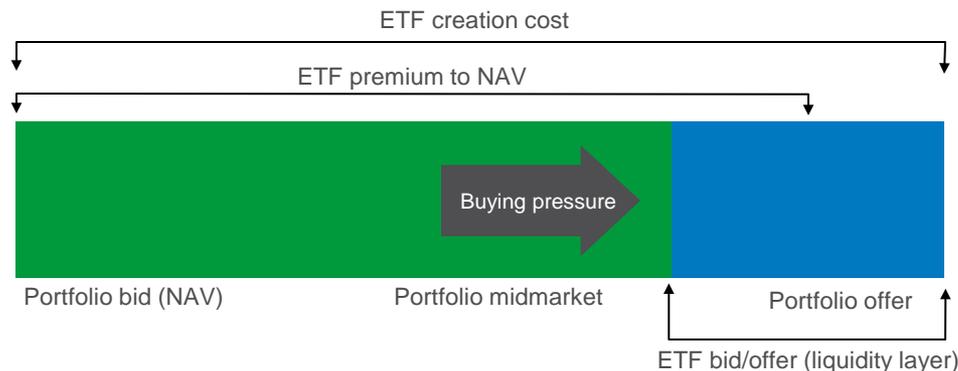
- Fixed income ETFs trade at a premium to NAV under most market conditions
- The underlying portfolio NAV is calculated using the bid side of the underlying market and the ETF bid/offer spread should generally fall between the underlying portfolio bid/offer spread
- If there is significant buying or selling demand in the ETF, the ETF spread will move towards the underlying portfolio offer or bid price
- When the ETF price reaches the underlying bid or offer price, authorized participants are likely to redeem or create new shares to arbitrage
- Current and historical premium or discount for bond ETFs (or other iShares ETF) are available on iShares.com using the “Premium/Discount” tool or in Bloomberg using:

TICKER <EQUITY> NAV

ETF pricing in a balanced market



ETF pricing with strong buy demand

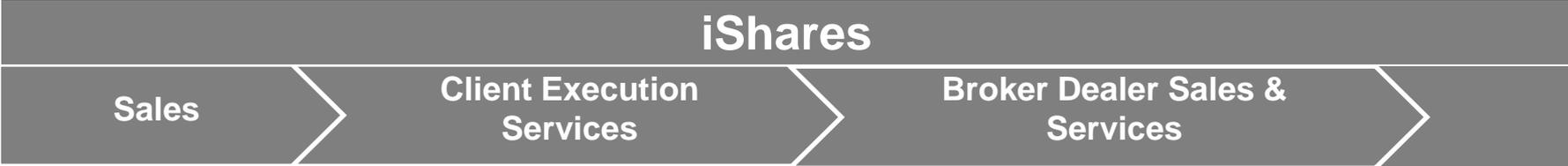


For illustrative purposes only. Although market makers will generally take advantage of differences between the NAV and the trading price of shares of ETFs through arbitrage opportunities, there is no guarantee that they will do so.

Getting Best Execution

Understanding the Ecosystem

Capital Markets interfaces with each part of the trading ecosystem to ensure liquidity



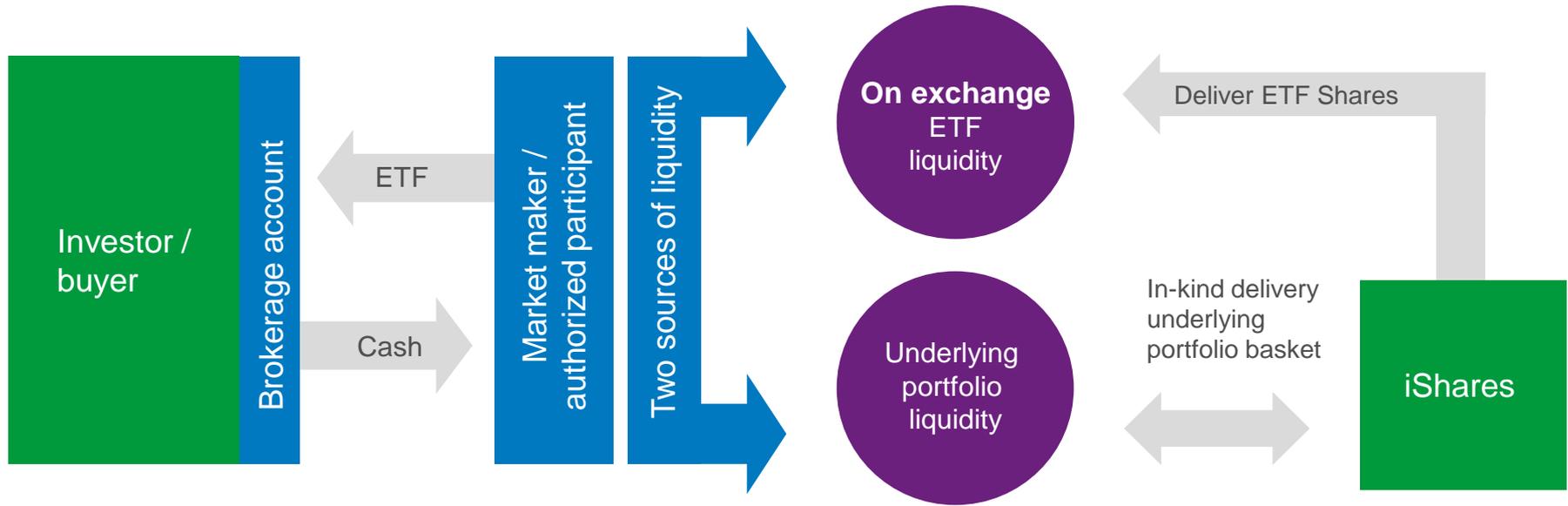
Primary Market Trading

Creating an ETF

- ▶ If there are not enough shares of the ETF trading in the market, more shares can be created by sourcing the underlying market
- ▶ An authorized participant can create units of an ETF by sourcing the underlying components
- ▶ The ETF can then be bought and sold in the market

Redeeming an ETF

- ▶ Similarly, an authorized participant can redeem units of an ETF and receive the underlying components
- ▶ The underlying shares can then be bought and sold in the market

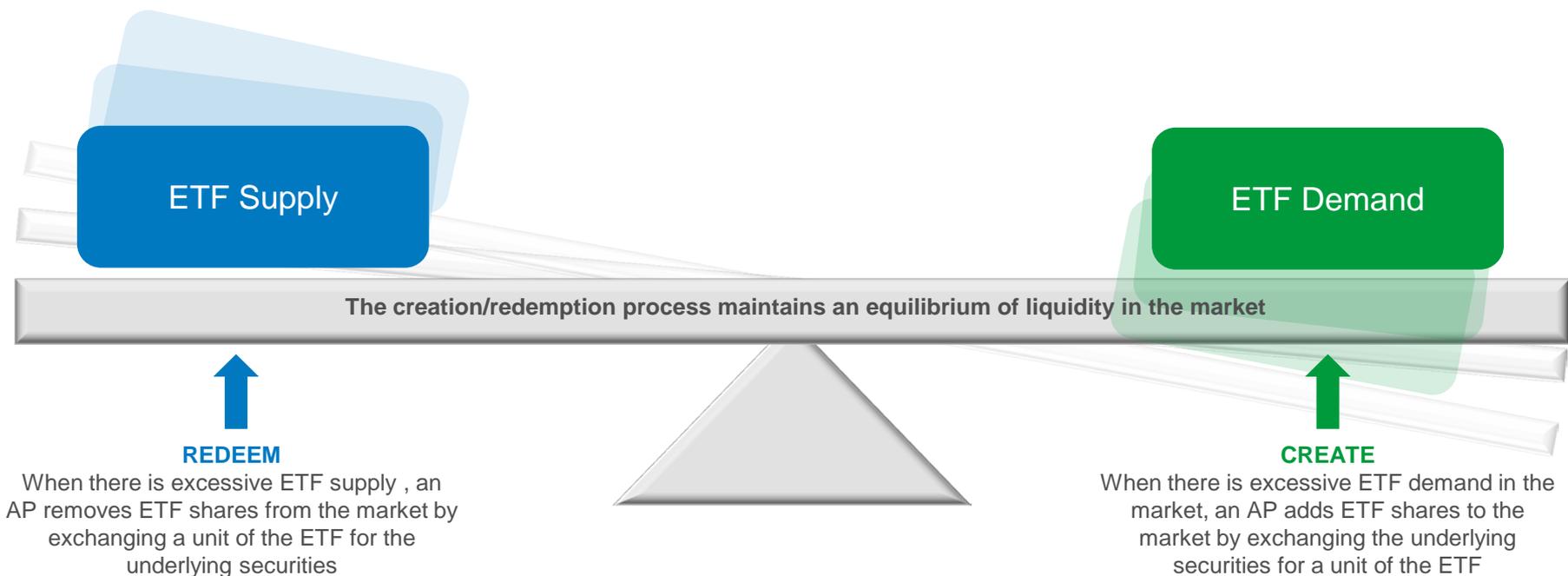


Shares of the iShares Funds may be sold throughout the day on the exchange through any brokerage account. However, shares may only be redeemed directly from a Fund by Authorized Participants, in very large creation/redemption units.

Creation and Redemption Process

The ability to trade an ETF in the secondary market and create and redeem an ETF in the primary market creates an equilibrium of liquidity

- ▶ The supply and demand of an ETF is managed by the market participants
- ▶ If a large order is placed to buy, the ETF market compensates and the market participants react accordingly to create more units of the ETF
- ▶ Similarly if a large order is placed to sell, the ETF market compensates and the market participants will react accordingly to redeem units of the ETF

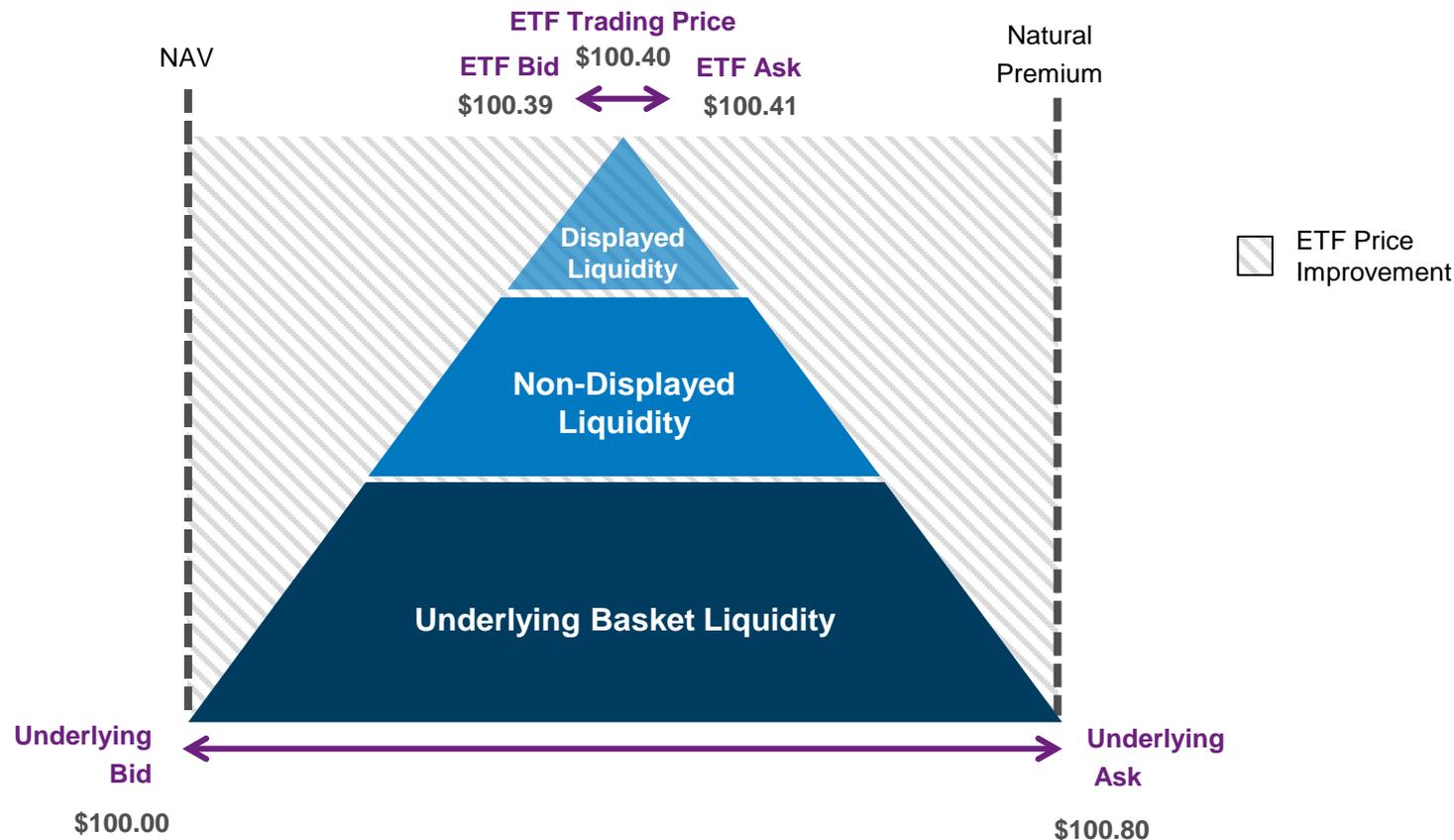


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Fixed Income ETF Trading Behavior

The direction of secondary market trading volume on the exchange (i.e. buying or selling pressure) dictates where the ETF market price trades relative to the underlying bonds

Arbitrage opportunities anchor ETF pricing to the underlying value of the basket



For illustrative purposes only.

Although market makers will generally take advantage of differences between the NAV and the trading price of iShares Fund shares through arbitrage opportunities, there is no guarantee that they will do so.

- ✓ Use limit orders
- ✓ Check premiums and discounts
- ✓ Pay attention to bid-offer spreads
- ✓ Avoid trading at the open and end of the trading day

Carefully consider the Funds' investment objectives, risk factors, charges and expenses before investing. This and other information can be found in the Funds' prospectuses, and, if available, the summary prospectuses which may be obtained by visiting www.blackrock.com or www.iShares.com. Read the prospectus carefully before investing.

Investing involves risk, including possible loss of principal.

Bonds and bond funds will decrease in value as interest rates rise and are subject to credit risk, which refers to the possibility that the debt issuers may not be able to make principal and interest payments or may have their debt downgraded by ratings agencies. High yield securities may be more volatile, be subject to greater levels of credit or default risk, and may be less liquid and more difficult to sell at an advantageous time or price to value than higher-rated securities of similar maturity. An investment in the Fund(s) is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency.

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Shares of iShares Funds are bought and sold at market price (not NAV) and are not individually redeemed from the Fund.

Mutual funds and iShares Funds are obliged to distribute portfolio gains to shareholders by year-end. These gains may be generated due to index rebalancing or to meet diversification requirements. Trading shares of the iShares Funds will also generate tax consequences and transaction expenses. Certain traditional mutual funds can be tax efficient as well.

When comparing stocks or bonds and iShares Funds, it should be remembered that management fees associated with fund investments, like iShares Funds, are not borne by investors in individual stocks or bonds. The annual management fees of iShares Funds may be substantially less than those of most mutual funds. Buying and selling shares of iShares Funds will result in brokerage commissions, but the savings from lower annual fees can help offset these costs.

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