

Bond Market Liquidity (or Why you Should Buy Bond ETFs Instead)

The hidden costs of investments in individual bonds are likely greater than you think.

Matthew J. Patterson
Managing Director

As demographic factors and poor equity returns prompt many financial advisors to make greater use of fixed income investments in their clients' portfolios, ETF product developers have been seeking to capitalize on growing interest in this asset class by rolling out a steady stream of new bond ETFs over the past year. Despite the recent success of bond ETFs, however, individual bonds continue to be the most popular means of accessing the fixed income markets, with holdings of individual bonds representing more than 50% of individual investors' corporate and municipal bond investments as recently as 2008.

Financial advisors who work with high net worth clients point to a number of reasons for the continuing popularity of individual bonds. Perhaps most significantly, they note that the predetermined cash flows of individual bonds make them particularly useful for developing outcome-oriented portfolios that address the specific future cash flow needs of clients.

But the benefits afforded by individual bonds come with significant costs that likely outweigh such benefits. Because the bond market is an over-the-counter market transacted (even in this day and age) largely over the telephone, liquidity is the exception rather than the rule and investors lack access to the level of price transparency that they take for granted in the exchange-traded equity markets.

Just how illiquid is the bond market? It's not easy to say. For most of its history, trade information on the bond market was simply not available to the general public. If you wanted to know what your dealer paid for the bond that he sold to you, the Mercedes Benz parked out in his parking lot was about the only indicator you had. In 2002, FINRA (then known as NASD) took a large step toward introducing price transparency to the bond market by launching TRACE, a corporate bond reporting system on which FINRA members (which basically includes all U.S. bond dealers) are required to report over-the-counter secondary market transactions in bonds.

A Day in the Life of the Bond Market

To get a feel for what the liquidity of the bond market looks like on a random day, I compiled trade information from September 29, 2010 for each of the top ten holdings of the following seven corporate bond indices:

- BulletShares USD Corporate Bond 2011 Index (NYSEArca: BSCBB)
- BulletShares USD Corporate Bond 2012 Index (NYSEArca: BSCBC)
- BulletShares USD Corporate Bond 2013 Index (NYSEArca: BSCBD)
- BulletShares USD Corporate Bond 2014 Index (NYSEArca: BSCBE)
- BulletShares USD Corporate Bond 2015 Index (NYSEArca: BSCBF)

- BulletShares USD Corporate Bond 2016 Index (NYSEArca: BSCBG)
- BulletShares USD Corporate Bond 2017 Index (NYSEArca: BSCBH)

Each of these seven BulletShares USD Corporate Bond Indices is market-value weighted and excludes any corporate bonds with a par amount outstanding of less than \$500 million. In theory, the top ten holdings of these seven BulletShares USD Corporate Bond Indices should be among the most liquid corporate bonds available on the secondary market. A complete list of the top 10 holdings of each of the BulletShares USD Corporate Bond Indices can be found at www.bulletshares.com.

Of the 70 bonds that comprise the top ten holdings of the 2011-2017 BulletShares USD Corporate Bond Indices, trade data consisting of both buys from customers and sales to customers were not available for 12 bonds. Trade data for the other 58 issues in the sample are summarized below:

9-29-2010 Trade Data – Top 10 Holdings from BulletShares USD Corporate Bond Indices	
Buys from Customers	516
Sells to Customers	445
Total Trades (Excluding Inter Dealer Trades)	961
Average Buy Price / Sell Price Spread Per Issue	0.61%
Median Buy Price / Sell Price Spread Per Issue	0.49%

In other words, the data suggest that on average an investor will pay a dealer a 0.61% markup to acquire what should be the most liquid investment grade corporate bonds on the secondary market. Compare this markup to the typical bid-ask spreads of the most widely traded corporate bond ETFs, which are generally less than .05%, and it becomes apparent that investors pay a high price to transact in individual bonds. Indeed, bid-ask spreads for even the most lightly traded corporate bond ETFs rarely come close to

matching the spread between average purchase and sale prices for individual bonds reflected in the table above.

The reality for most bond investors is likely worse than the figures above suggest. The data used to calculate the figures above include all TRACE-reported trades from September 29, 2010, including trades having an aggregate value in excess of \$1 million. When trades having an aggregate value in excess of \$1 million are stripped from the data, the spread between average purchase and sale prices widens.

But merely excluding large trades from the sample does not tell the whole story of just how illiquid the bond market is for the smaller investor. As it turns out, sales to customers are largely concentrated in a relatively small subset of bonds. For example, the top 10 bonds when ranked based on number of sale-to-customer transactions (and excluding \$1M+ transactions) accounted for approximately 54% of all sale-to-customer transactions. The average spread between purchase and sales prices for these ten bonds was 1.08%. In other words, the markups charged by dealers to clients are wider for those bonds that are most likely to be available to purchase.

When spreads between purchase and sale prices are calculated on a trade-weighted basis (as opposed to calculating an average spread for each issue and then calculating an average spread per issue), it becomes apparent that wider spreads in more heavily traded bonds have a significant negative impact on individual investors by pushing average per-trade spreads wider:

9-29-2010 Trade Data – Top 10 Holdings from BulletShares USD Corporate Bond Indices (\$1M+ Trades Excluded)	
Average Buy Price / Sell Price Spread Per Buy Transaction	0.75%
Average Buy Price / Sell Price Spread Per Sale Transaction	0.91%
Median Buy Price / Sell Price Spread Per Trade (ex Interdealer)	0.82%

Minimizing Transaction Costs in Fixed Income Investing

The lesson for financial advisors and individual investors is that the hidden costs of individual bonds are likely greater than you think. To illustrate how spreads between bond purchase and sale prices impact investment returns, consider a hypothetical investor

seeking to allocate \$10,000 of capital to intermediate-term corporate bonds either in the form of an individual bond or a bond ETF. If we assume that the investor faces a markup of 0.91% on individual bonds available to purchase and a .05% bid-ask spread on a bond ETF that holds a diversified portfolio of corporate bonds, it should be apparent that purchasing the bond ETF will entail fewer transaction costs.

The analysis is not quite so simple, however. The value of the bond ETF is not necessarily equal to the value of its net assets. This is because bond ETFs trade on exchanges at market prices that often deviate from their net asset values. Recently, as they have become more popular, bond ETFs have tended to trade at premiums to net asset value. For example, during the second quarter of 2010, iShares iBoxx \$ Investment Grade Corporate Bond Index Fund (NYSEArca: LQD), the largest corporate bond ETF in the U.S., traded at an average premium to net asset value of 0.44% (as calculated using the mid-point of the bid-ask spread).

Adding this cost to the costs of acquiring the bond ETF would cause the value of bonds held by our hypothetical investor in each of these two investment choices to look as follows:

	Individual Bond	Bond ETF
Capital to Invest:	\$10,000	\$10,000
Transaction Costs:	(\$90)	(\$5)
Bond ETF Premium to NAV:	(\$0)	(\$42)
Value of Bonds:	\$9,910	\$9,953
Costs as % of Trade:	0.90%	0.47%

Notice that the impact of the bond ETF premium to net asset value appears smaller in the table above than the 0.44% premium discussed in the preceding paragraph. Since the convention of using the mid-point of the bid-ask spread to determine the size of the premium has the effect of incorporating half of the transaction costs into the premium, we

can back out half of the transaction costs in calculating the costs associated with the premium to net asset value.

Even taking into account the premium to net asset value at which a bond ETF might trade, purchasing a bond ETF to gain access to the corporate bond market is significantly less costly to the individual investor than purchasing an individual bond. But what if our hypothetical investor's plans change and he needs to liquidate his investment before the individual bond matures? That's when things really get ugly if he holds an individual bond.

Because our hypothetical investor needs to sell securities, he will again incur transaction costs. When he goes to sell the bond ETF, however, he will recapture the premium to net asset value that he paid when he acquired the bond ETF. Even if his transaction costs on selling the individual bond are only 0.75% (the average spread per dealer purchase transaction calculated above), he will still end up far better off having invested in the bond ETF:

	Individual Bond	Bond ETF
Value of Bonds:	\$9,910	\$9,953
Transaction Costs:	(\$74)	(\$5)
Bond ETF Premium to NAV:	\$0	\$42
Cash Proceeds:	\$9,836	\$9,990
Costs as % of Round-Trip Trade:	1.64%	0.10%

One caveat to keep in mind is that the figures above assume that the bond ETF continues to trade at a premium to net asset value. In the short run, this may be a reasonable assumption. In the long run, however, bonds in general may fall out of favor and bond ETFs may go from trading at premiums to trading at discounts.

Of course, in such an environment, spreads between purchase and sale prices of individual bonds would also likely widen, so it is not at all clear that an investment in a bond ETF would suffer disproportionately relative to an investment in an individual bond in the event of a bond market downturn.

One alternative an investor in an individual bond has in the event of a bond market downturn is to simply hold onto the bond until it matures. In this respect, investors in individual bonds can avoid paying transaction costs to liquidate their investments in the event that spreads between purchase and sale prices of bonds become unreasonable.

The maturity feature afforded by individual bonds is not exclusive, however. Several ETF sponsors have launched or announced plans to launch maturity targeted bond ETFs that seek to return investment capital to investors on a predetermined future date. With the proliferation of bond ETFs that cater to a variety of investment styles, including the outcome-oriented approaches favored by many sophisticated financial advisors, the case for investing in individual bonds grows weaker with each passing day.

Matthew J. Patterson
matthew.patterson@accretiveasset.com