

## The Biggest Cause of Underperformance in Fixed Income Index Funds

*How traditional bond funds disadvantage long-term, buy-and-hold investors.*

Matthew J. Patterson  
Managing Director

In index-based ETFs with relatively illiquid underlying holdings, such as corporate bond ETFs, portfolio turnover is the invisible performance killer. It drives negative tracking error and eats into investor returns. Yet the costs associated with portfolio turnover are not disclosed by sponsors of corporate bond ETFs and go largely ignored by the investment community.

That's not to say that sponsors of corporate bond ETFs don't talk a good game when it comes to minimizing portfolio turnover. For example, the objective of the SPDR Barclays Capital High Yield Bond ETF (NYSE Arca: JNK) indicates that its approach is to "provide portfolios with low portfolio turnover, accurate tracking and lower costs."

Reality paints a different picture, however. Consider the reported portfolio turnover statistics for the four largest pure corporate bond ETFs in the United States (excluding credit bond ETFs that include non-corporate exposure in their portfolios):

ETF Name	Ticker	AUMs (billions)	Portfolio Turnover %
Ishares iBoxx \$ Investment Grade Corporate Bond Fund	LQD	\$12.9	79%
Vanguard Short-Term Corporate Bond Index Fund	VCSH	\$1.2	68%
iShares iBoxx \$ High Yield Corporate Bond Fund	HYG	\$8.2	67%
SPDR Barclays Capital High Yield Bond ETF	JNK	\$7.2	53%

Those figures in the "Portfolio Turnover %" column are not typos. They were taken directly from the most recent annual reports for each of the listed ETFs. And the figures exclude portfolio turnover associated with in-kind creations and redemptions, so they aren't being inflated by transactions that generate no transaction costs.

### Index Minimum Maturity Rules Drive High Portfolio Turnover

The shockingly high levels of portfolio turnover in corporate bond ETFs largely stems from an arcane rule of index construction that was created by the first-ever bond index, the Lehman Aggregate Bond Index, and subsequently adopted by most of its predecessors, including all of the indices tracked by the corporate bond ETFs in the table

above. This rule of index construction, called a minimum maturity rule, excludes bonds from indices when the bonds reach a certain minimum maturity.

Minimum maturity rules make sense for investment banks that deal in bonds and wish to facilitate purchases and sales of bonds by customers who track their indices. They make little sense for investors in corporate bond ETFs. One of the primary benefits of investing in bonds is the return of principal upon maturity. Minimum maturity rules throw this benefit out the window and instead force fund managers to sell every bond (and pay associated transaction costs) when it reaches a certain minimum maturity.

Costs associated with high portfolio turnover can be significant. In an earlier white paper, I used data compiled from Trace, FINRA's bond transaction reporting system, to estimate the bid-ask spreads of 70 of the largest corporate bonds in the universe of securities that are eligible for inclusion in the BulletShares USD Investment Grade Corporate Bond Indices. The results were not pretty. The median spread between prices paid by dealers versus prices received by dealers for these bonds was approximately 50 basis points (0.50%). And these were the most liquid corporate bonds in the market. Bid-ask spreads on less liquid issues, including most high yield corporate bonds, are likely much higher.

While significant, bid-ask spreads only partially capture the costs of high portfolio turnover in corporate bond ETFs. Because all of the indices tracked by the corporate bond ETFs in the table above are rules-based and transparent, sophisticated investors can and do front-run the indices, selling bonds they know are going to be deleted from the indices and temporarily driving down the prices of such bonds just as corporate bond ETFs are forced to sell them. It has been estimated that such index front-running costs Russell 2000 index funds 38 basis points (0.38%) of performance on an annual basis. Such costs are likely even higher for corporate bond ETFs.

### **Minimizing Portfolio Turnover Through Improved Bond Indexing Techniques**

A recently developed fixed income indexing methodology, maturity-targeted bond indexing, addresses the issue of high portfolio turnover in corporate bond ETFs by holding bonds until they mature. Unlike traditional bond indices, maturity-targeted bond indices target a particular year of maturity and do not employ minimum maturity rules. This approach results in indices with very low turnover and bond-like cash flow characteristics, where principal is redeemed and returned to investors at the conclusion of an index's designated year of maturity.

The first maturity-targeted bond ETFs launched in January 2010 and there are now 17 such ETFs trading on U.S. exchanges. Of these, 11 have published semiannual reports

containing partial-year portfolio turnover figures. The table below presents the portfolio turnover statistics reported by these 11 ETFs in their semiannual reports:

ETF Name	Ticker	AUMs (millions)	Portfolio Turnover %
Guggenheim BulletShares 2011 Corporate Bond ETF	BSCB	\$30	3%
Guggenheim BulletShares 2012 Corporate Bond ETF	BSCC	\$43	2%
Guggenheim BulletShares 2013 Corporate Bond ETF	BSCD	\$50	3%
Guggenheim BulletShares 2014 Corporate Bond ETF	BSCE	\$31	1%
Guggenheim BulletShares 2015 Corporate Bond ETF	BSCF	\$22	0%
Guggenheim BulletShares 2016 Corporate Bond ETF	BSCG	\$19	0%
Guggenheim BulletShares 2017 Corporate Bond ETF	BSCH	\$35	0%
iShares 2012 S&P AMT-Free Municipal Series	MUAA	\$25	1%
iShares 2013 S&P AMT-Free Municipal Series	MUAB	\$25	0%
iShares 2014 S&P AMT-Free Municipal Series	MUAC	\$25	0%
iShares 2015 S&P AMT-Free Municipal Series	MUAD	\$23	0%
iShares 2016 S&P AMT-Free Municipal Series	MUAE	\$18	0%
iShares 2017 S&P AMT-Free Municipal Series	MUAF	\$23	2%

While final judgment should perhaps be reserved for the empirical support only posterity can provide (starting with full-year data), early indications suggest that corporate bond ETFs designed to hold bonds until they mature generate dramatically lower portfolio turnover than corporate bond ETFs designed to sell all bonds before they mature. Investors concerned about the extremely high levels of portfolio turnover in their traditional corporate bond ETFs have a low-turnover alternative in maturity-targeted bond ETFs.

**Matthew J. Patterson**  
**[matthew.patterson@accretiveasset.com](mailto:matthew.patterson@accretiveasset.com)**