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Are Bond ETFs Dangerous?

Abstract

Are bond ETFs a robust investment vehicle or are they fragile? This paper defines four potential scenarios where a flaw in the bond ETF structure would be responsible for a severe loss to investors. We discuss why some market observers are specifically concerned about bond ETFs. We describe how bond ETFs are traded, and assess their risk of dislocation. Our analysis of the evidence overwhelmingly supports the view that bond ETFs are generally robust.

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Exchange-traded funds (ETFs) have evolved over the last 15 years from a fast-growing but relatively marginal financial instrument to a major force in the capital markets, with worldwide assets totaling close to \$3 trillion.¹ In recent years, the proliferation of new ETF strategies has attracted the scrutiny of market observers and regulators alike. Several observers have expressed concerns about potential dislocations in the ETF market that would impose severe losses on investors. Some of these comments have been specifically aimed at bond ETFs. This paper reviews the presumed flaws of bond ETFs. A primary source of information in analyzing this issue was discussion with various market participants, both from inside and outside the ETF industry.

The first section defines product dislocation. The second section addresses why bond ETFs might be of particular concern. Section 3 reviews the structure of a bond ETF trade. Section 4 discusses the presumed flaws of bond ETFs. Section 5 discusses what happened with bond ETFs during the financial crisis of 2008-2009. Section 6 concludes the paper with a recap of our findings and a few recommendations for investors wanting to minimize the risks and maximize the return of their bond ETF holdings.

1. What is a product dislocation?

For the purposes of this paper, we will define product dislocation as an event wherein ***a flaw in the ETF structure is responsible for a severe loss*** to investors holding a bond ETF. We will address four dislocation scenarios:

- The investor suffers a major permanent loss because of the ETF structure.
- The ETF structure causes an investor to be unable to sell a position for several days or longer.
- The investor buys a position at an extreme premium or sells a position at an extreme discount, as compared to the fair value of the shares.
- The investor receives unfair treatment relative to other ETF holders.

2. Why worry about bond ETFs?

The bond market is best understood when compared to the stock market. While there is only one common stock for each issuer, companies can have several bond issues outstanding at the same time, each with its own characteristics. This is why there is a much greater variety of bonds than stocks available on the market. For example, the Royal Bank of Canada has one common stock, but the list of its outstanding bonds spans several dozen pages.

Furthermore, while stocks trade on a central marketplace (the stock exchange), bonds are mostly traded on a network of investors and investment dealers that trade directly with one another. In Canada, the transactions are private, and the information about past trades is not public. The U.S. market is different: While a large portion of transactions also take place outside a central market, investment dealers are obliged to publicly report their bond transactions.

Because of the multiplicity of issues and the lack of a central marketplace, the bond market is more fragmented than the stock market. In addition, investment dealers hold significant bond inventories and play a major role in providing liquidity to the market. For example, if an investor wants to sell \$1 million of a particular bond, he or she will call the investment dealer. If the dealer has another client who is a buyer of the same bond, the dealer may do a so-called “agency trade.” But because of the multiplicity of issues, it is actually rare that there will be a buyer and a seller for the same bond of the same size at the same time. Therefore, most of the time, the investment dealer will itself purchase the bond from the client and absorb it into its own inventory. The same principle holds true when the investor wants to buy: the investment dealer will sell the bond from its inventory or, if it does not have it in inventory, may decide to short-sell the bond to fill the client’s order.

¹ Source: Morningstar Direct. Data in U.S. dollars.

Following the financial crisis of 2008–2009, regulators have forced investment dealers (which in Canada are mostly owned by the major banks) to cut risk by reducing their inventory. Some market observers worry that this reduction in inventory could impact the liquidity of the bond market, leading to a “market freeze” situation, where investors would be unable to dispose of their bond holdings. Some observers appear to believe that such a market freeze could lead to the collapse of bond ETFs. **At this stage, it is important to note that we have seen no sensible explanation of how a collapse of bond ETFs could happen.**

3. How does a bond ETF transaction work?

There are two types of ETF transactions:

- A) **Secondary:** Existing ETF shares trade directly on an exchange. The transaction may take place between two investors or between an investor and a market maker. ***Roughly 80% to 85% of bond ETF transactions take place on the secondary market².***
- B) **Primary:** A primary market trade takes place when ETF orders are too large to be filled from the existing flows or when a price discrepancy between the ETF and its underlying bonds allows for an arbitrage profit. In this case, the **Designated Broker³ (DB)** will have to create or redeem ETF shares. Another major party to the ETF creation and redemption process is the **ETF provider⁴**. Every day, the ETF provider defines the **“basket” of securities** required to create or redeem a unit. While some bond ETFs hold several hundred bonds, the basket is a subset of the portfolio, typically consisting of 15 to 40 liquid bonds. The basket changes over time in order to build a portfolio that is diversified enough to mimic its underlying index and minimize tracking error.

When the DB creates shares, the process starts with a large purchase order from a client. The DB then contacts several **bond desks⁵** (including its own bank’s desk) in order to source the basket of bonds at the best possible price. Once the purchase is complete, the DB delivers the basket of bonds to the ETF provider and receives new shares of the ETF in return, which the DB can then deliver to the client against the purchase amount. The difference in price between the basket and the ETF shares makes up the DB’s profit or loss.

When the DB redeems shares, it will buy shares from the investor, deliver the shares to the ETF provider in return for a basket of bonds, and then sell the bonds to the bond desks at the highest possible price. Once again, the difference in price between the basket and the ETF shares makes up the DB’s profit or loss.

4. Presumed flaws of bond ETFs

In this section, we try to address the main concerns—real or perceived—about bond ETFs.

- A) **A complete collapse of the ETF structure.** We have not found any way that such a scenario could occur. Even if both the secondary (stock) market and the primary (bond) market completely froze at the same time, ETF holders would still be entitled, with a property right on a bond portfolio. As soon as the market returned to normal, investors would recover their investment.

² Zapior, J., Atagu, E., *Five Interesting Questions about FI ETFs*, CIBC Spotlight on ETFs, March 2016.

³ The **Designated Broker** is a market maker who has the authority to create and redeem ETF shares. The DB is typically employed by one of the major banks.

⁴ The **ETF provider** is the firm that manages the ETF portfolio, such as iShares, Vanguard and BMO ETFs.

⁵ A **bond desk** is a business unit at an investment dealer firm (for example RBCDS, National Bank Financial, Goldman Sachs) that manages its bond inventory and takes the counterpart to the investors’ buy and sell orders.

- B) **A freeze of both the secondary and primary markets.**⁶ This situation is similar to a run-on-the-bank: Everyone wants to sell at the same time, and no one wants to buy. Once again, this disappearance of liquidity would not likely last long. A similar situation occurred in 2008. At that time, the market on corporate bonds became very illiquid, as transaction volumes collapsed. But during that time of extreme market stress, the market on bond ETFs never stopped working. More recent market events provide an even more positive light on bond ETFs.

In 2014–2015, the collapse of oil prices put extreme pressure on the high-yield bond market, due to a fast decline in the creditworthiness of bonds from the energy sector. According to several sources, on many occasions, the high-yield bond market became illiquid, with very few transactions taking place. At exactly the same time, the transaction volume in high-yield bond ETFs skyrocketed, as several investors transferred their trading activity where the liquidity was: the ETF market. In times of market duress, corporate bond ETFs become a preferred instrument for investors who want to either buy or sell corporate bonds.

In the end, a freeze or a market halt on bond ETFs is always possible. However, holding bonds directly or through mutual funds is not a solution to this problem: If the bond market freezes, it will do so for all investors, not just ETF holders.

- C) **A major buy or sell order on an ETF can't be absorbed by the market and can't get executed.**

First of all, every day, despite their high volume, ETFs rarely represent more than 2% of the volume on the underlying security. Let's look at an example from the equity ETF market. On any given day, the volume on the S&P500 SPDRs is enormous, as this ETF is regularly one of the most active securities in U.S. stock markets. The largest constituent stock in this ETF is Apple. Apple represents 3.2% of the index; therefore the SPDR-related volume on Apple is, at most, 3.2% of the volume on SPDR. Furthermore, at least 80% of this volume is traded on the secondary ETF market and does not generate creations or redemption. In a nutshell, ETF trading has little, if any, impact on the prices of individual stocks. The exact same logic applies to bond ETFs. Whether one looks at the actual size or the transaction volume, the bond ETF market is quite tiny compared to the underlying market for bonds. The fear that bond ETFs will at some point become "too big" just does not hold water.

The second important fact about large orders is that the investors placing this type of order are seasoned, experienced investors who understand that large trades, especially the more difficult ones, have to be worked out in collaboration with the DB, the ETF provider, and indirectly, with the bond desks. Very large creations are sometimes worked out over several days. Similar to placing a large trade in the underlying market, it may be more prudent to place large trades in an ETF over time. The investors who place these orders understand that immediate execution and reducing market impact is a trade-off, similarly to any sizable trade in the underlying market.

Lastly, the redemption of ETF shares involves the sale of the limited number of securities that make up the basket—not all the securities in the portfolio. The basket of securities is chosen every day (and sometimes is modified during the trading session) to minimize tracking error and provide a liquid alternative to create or redeem ETF shares. As a result, the fact that an ETF may hold some less liquid securities does not prevent it from operating creations and redemptions efficiently.

⁶ This section is documented based on discussions with ETF experts from iShares, Vanguard and BMO.

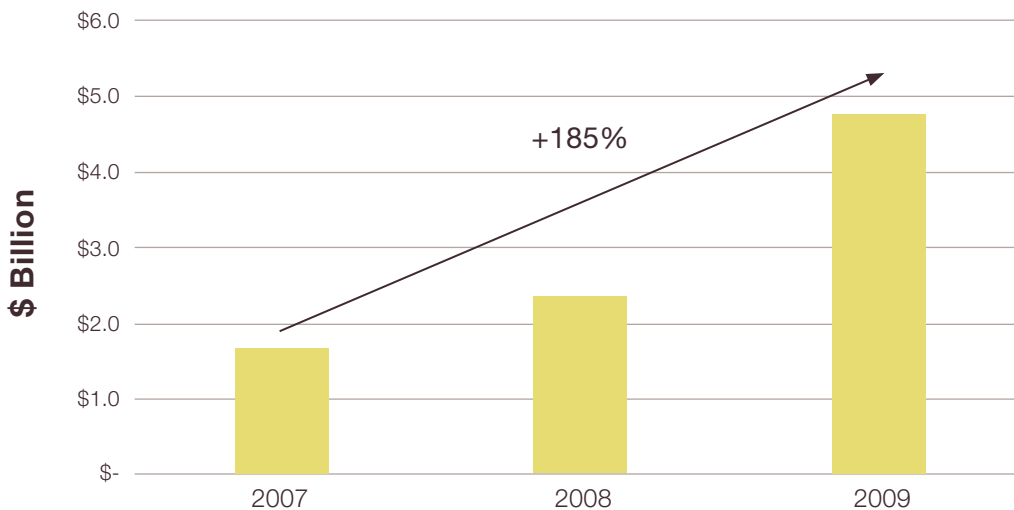
- D) **A major shareholder buys or sells a block of ETF shares under very advantageous conditions, resulting in a loss of value to other shareholders.** According to our sources, the bid/ask spreads on bond ETFs remain narrow most of the time, even during periods of high stress. The combination of narrow bid/ask spreads and high volumes indicates that the price is right. Furthermore, a recent Vanguard paper states that, for the period from July 2012 to June 2015, in the U.S. market, the median investment-grade corporate bond has traded at a premium of between 0.30% and 0.40% and that the median high-yield corporate bond ETF has traded with a premium of less than 0.20%. Government bond ETFs have traded at a median premium of roughly 0.05%. These premiums may not be ideal, but they can be reduced by trading carefully.

5. What happened to bond ETFs in 2008–2009?

Much of our reading and many of our conversations with industry participants arrive at one conclusion: During the financial crisis, corporate (investment-grade and high-yield) bond ETFs were often more liquid than the underlying securities market.

Another fact supporting the viability of bond ETFs is that, while bond ETFs did exist pre-2008, it was really during the financial crisis that investors adopted them. Chart 1 below displays the assets under management of all bond ETFs outstanding in the Canadian market at the end of 2007 (before the crisis), 2008 and 2009 (after the crisis). Assets under management grew by 185% in the midst of the most turbulent period in 70 years.

CHART 1: CANADIAN BOND ETF ASSETS 2007–2009⁷



Source: Morningstar Direct.

⁷ As of December 31 of each year.

6. Conclusion and recommendations

We have investigated as many potential flaws as possible in the structure of bond ETFs. Our research did not uncover any major weakness. On the contrary, it reinforced our confidence in the bond ETF structure for these major reasons:

- Most of the ETF volume occurs on the secondary market, and does not involve the purchase or sale of actual bonds.
- Large transactions are worked out over time. No one expects a very large bond creation or redemption to happen instantly without a major price concession.
- Bid/ask spreads are generally tight.
- ETF bond baskets (underlying to creations and redemptions) are narrower and more liquid than their corresponding ETF portfolio.
- The creation/redemption process and the competition between ETF providers, Designated Brokers and other market makers incentivize market participants to price ETFs properly and to minimize tracking error.
- When the market was at its most dysfunctional, during the 2008–2009 financial crisis, bond ETFs traded actively and gained in popularity.
- None of the claims we have seen over the years about the presumed fragility of bond ETFs have been backed by evidence.

While we believe most bond ETFs are structurally safe, caution is always appropriate. Investors may find the following strategies helpful in getting the most value from bond ETFs:

- **Look under the hood.** Bond ETFs, like any investment vehicle, are as good as their underlying investments. What's the proportion of top-quality government bonds in the portfolio? What's the proportion of typically riskier corporate bonds? Are there major concentrations in one sector or one issuer? What's the credit rating of the corporate securities? Are there any exotic bonds such as asset-backed securities in the portfolio? In a solid bond portfolio, the name of the game is quality and diversity.
- **Trade carefully.** Acquire bond ETFs at the smallest possible premium above Net Asset Value, and if possible, buy at a discount. Use only limit orders and avoid market orders. Execute trades when the market is stable.
- **Favor ETFs with a reasonable secondary volume.** The creation and redemption of ETFs generate costs, which are borne by the transacting investor. If you have a choice between several bond ETFs that meet your investment objectives, favour the one with the most active secondary volume.

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