Bond ETFs demystified

Subtleties in investment characteristics of bond ETFs are often misunderstood.

Bond ETFs have gained in popularity in the decade since their inauguration in Canada, but there are subtle differences in their investment characteristics that are often misunderstood.

Four of these characteristics will be examined in this article:

1. The potential for capital loss in a bond ETF, relative to a buy-and-hold strategy.
2. Non-Bond Holdings of bond ETFs.
3. Reported yields of bond ETFs.
4. Potential for capital loss.

Potential for capital loss

Many investors prefer individual bonds to exchange traded funds (ETFs) on the grounds that their principal is not at risk: burning default, a bond will mature at par, which is presumed to be the price paid. However, we need only put a client portfolio together using only par bonds—this is part of the attrac- tion of Guaranteed Investment Certificates (GICs), which are available in unlimited quantities from the chartered banks at any time.

Consider the case of an investor selling a bond below par in order to purchase a higher-priced issue with a higher coupon. In this case, there is downward pressure on the capital gain account but, since the higher coupon is received until maturity, this is balanced by upward pressure in the income account.

“Effects of a rise in yield on Ladder and ETF strategies” (this page) shows the investment results for two strategies: the “Ladder” strategy maintains a six-year bond ladder while the “ETF” strategy sells holdings one year prior to maturity and buys a four- year bond ladder. The six-year ladder is admittedly unusual, but the more standard five-year ladder has a lower duration than the ETF and will therefore normally outperform in the rising-yield envi- ronment we are about to examine—there’s nothing magical about that!

The decision is enormous to choose investment vehicle, and it is the choice of investment vehicle that is to be discussed.

In either case, the initial portfolio is created when all bonds yield 4%, immediately after creation there is a permanent shift such that all bonds in this year’s issue. It is assumed that coupon income is withdrawn. The increase in yields indeed causes a slight impairment of capi- tal in the ETF, but what is often not accounted for is that the income in the intervening period has been higher—potentially, some of the income received from the ETF has been return of capital. Had this excess income been reinvested in the fund, the end-value of the fund holdings would have been $599.73—the slight underperform- ance is due to the differing con- tent of the two sets of holdings. Had the ETF portfolio constructed for comparison purposes been con- verted exactly as well as duration matched, the results, including rein- vestment of excess income, would have been indistinguishable.

Non-Bond Holdings of Bond ETFs

The concept of indexing has gained such credence in the past few years that investors are encouraged to assume securities are included in any given index in such a way as to reflect both the index name and the universe of potential investments indicated by that name.

Unfortunately, fixed income is not subjected to the same degree of public inspection, discussion and understanding as equity. Additionally, most bond indices are developed and maintained by the sell-side, which has a natural propensity to incorporate new structure in order to make them easier to sell. A culture of nod- and-wink expectations divorced from the terms of the generally understood prospectuses has arisen with respect to many fixed income investment vehicles, similar to the implicit guarantees on Money Market Funds, discussed in the October 2009, edition of AER (“The future of money market regulation,” page 6).

Perhaps the most cynical example of index constituent manipula- tion was the attempt by the U.K. Treasury to get the Lloyds Bank contingent capital issue included in various bond indices. This issue was even more risky for holders than the Tier 1 Capital issues dis- cussed above because of the loss protection provided to holders from the equity outstanding at the time of issue. The effort failed, but it was a near-run thing.

Bond indices generally include three tiers of bank debt (for more about the tiers of bank debt, see the March, 2008 issue of AER).

**Senior debt:** the inclusion of this tier is entirely proper. The securities are backed by the full faith and credit of the issuer, holders may place the bank in bankrup- tucy if payments are a day late or a dollar short. It is no surprise the bon- d ETF has been return of capital. Had this excess income been reinvested in the fund, the end-value of the fund holdings would have been $599.73—the slight underperform- ance is due to the differing con- tent of the two sets of holdings. Had the ETF portfolio constructed for comparison purposes been con- verted exactly as well as duration matched, the results, including rein- vestment of excess income, would have been indistinguishable.

**Subordinated debt:** these, too, may be regarded as actual bonds in terms of the holders’ remedies for default by the issuer, but these remedies only become effective if the credit of the issuer is no longer good. This may seem obvious, but such issuers are sold and priced as if a call five years prior to maturity is certain. They are also incorporated into the indices and many portfo- lios on such a basis since refusing to call the issue on the expected date can have very serious consequences for the issuer, as Deutsche Bank found out in December 2008. However, it is increasingly unlikely regulators will allow banks to call such issues as expected if the issu- ing bank runs into trouble—which is precisely the time a call would be most gratefully received by the holders. One of the great attrac- tions of short-term debt is its abil- ity to be allowed to run off the books as credit deteriorates and this attribute is made somewhat dubious when, by refusing to call, the issue has what is effectively an extension option.

**Tier 1 Capital:** innovative Tier 1 Capital cannot be regarded as bonds. Their intent is to absorb losses while the issuer remains a going concern—completely anti- thetical to the degree of protection implied by the word bond. These instruments are equivalent to pre- ferred shares, dressed up as bonds to seduce the unwary.

Index investors—complainingly buying whatever is put in front of them by the index sponsor—can find such a lackluster approach to investments can backfire! “Composition by seniority of three popular bond ETFs,” this page) shows the composition of three popular bond ETFs.

One may rationally include bank subordinated debt in an uncon- strained bond portfolio on the grounds that it does meet the basic definition of “bond,” but there is less justification for including this type of debt based on the call date. Such a decision requires the belief that banks will continue to call these notes for the life of the note—(even if this is unrealistic—and that regulators will continue to allow such a call (even if the bank has run into trouble). In today’s secular world, it is unlikely to be seen that ETF sponsors are setting their funds’ investment policy bases on such heartfelt faith. Investors made more cynical by the events of the credit crunch may wish to demand extra yield to compensate for the extension risk inherent in these instruments.

Are the innovative Tier 1 Capital, well, these instruments, are, quite simply, not bonds. Investors should reduce their direct allocation to preferred shares by the amount of their indirect IT1C holdings.

**Dealer markup vs. management expense**

Many investors assume individual bonds will have an advantage over ETFs due to the fact that dealer markups on the purchase of individual bonds are only paid once, while the MER on ETFs is paid forever.

This is true as far as it goes, but a comparison can only be made fairly when we examine the size of the markups and express this amount in terms of a yield. When expressed as a yield, the markup can also be thought of as a continu- ous increase to the yield during the duration of the hold- ing of NAV. On June 30, 2009, the NAVs resultant from the continued on page 9

### Effects of rise in yields on Ladder and ETF strategies

<table>
<thead>
<tr>
<th>Year</th>
<th>Ladder Income</th>
<th>Ladder Value, Year End</th>
<th>ETF Income</th>
<th>ETF Value, Year End</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>24</td>
<td>586.59</td>
<td>24</td>
<td>586.38</td>
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<td>2</td>
<td>25</td>
<td>590.92</td>
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<td>3</td>
<td>26</td>
<td>594.46</td>
<td>26.86</td>
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<td>4</td>
<td>27</td>
<td>597.19</td>
<td>28.29</td>
<td>594.29</td>
</tr>
<tr>
<td>5</td>
<td>28</td>
<td>599.05</td>
<td>29.71</td>
<td>594.29</td>
</tr>
<tr>
<td>6</td>
<td>20</td>
<td>600</td>
<td>29.71</td>
<td>594.29</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>159</td>
<td>164</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Projected Income (%)</td>
<td>30</td>
<td>29.71</td>
<td></td>
</tr>
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</table>

### Composition by seniority of three popular bond ETFs

<table>
<thead>
<tr>
<th></th>
<th>XCB</th>
<th>CBO</th>
<th>ZCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Debt (including securitizations)</td>
<td>87%</td>
<td>75%</td>
<td>78%</td>
</tr>
<tr>
<td>Regulatory Subordinated Debt</td>
<td>9%</td>
<td>13%</td>
<td>16%</td>
</tr>
<tr>
<td>Innovative Tier 1 Capital</td>
<td>4%</td>
<td>12%</td>
<td>7%</td>
</tr>
</tbody>
</table>

### Bid-offer spreads on brokerage bond offerings

<table>
<thead>
<tr>
<th>Term</th>
<th>Corporate Bid-Offer Spread</th>
<th>Canada Bid-Offer Spread</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1 year</td>
<td>0.82%</td>
<td>No offerings</td>
</tr>
<tr>
<td>1-2 years</td>
<td>0.74%</td>
<td>0.60%</td>
</tr>
<tr>
<td>2-3 years</td>
<td>0.57%</td>
<td>0.42%</td>
</tr>
<tr>
<td>3-4 years</td>
<td>0.44%</td>
<td>0.31%</td>
</tr>
<tr>
<td>4-5 years</td>
<td>0.41%</td>
<td>0.24%</td>
</tr>
</tbody>
</table>
Traditional and alternative asset returns in 2008

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The relationship between asset classes is the key to properly diversifying the portfolio, and it is well accepted that those historical relationships broke down in 2008. Although everything fell in unison, it stemmed from liquidation and unwinding of leverage as opposed to the relationships between asset classes losing validity.

Yes, 2008 was difficult, but it was also an anomaly and should not give rise to an across-the-board dismissal or denigration of the tenets of asset allocation.

Asset performance during different economic conditions

To build "all-weather" portfolios, it’s worth thinking about diversification as a strategy to provide the right type and degree of exposure to match prevailing economic conditions (see “Probability of economic environments,” this page). There have been three types of economic conditions over the last 45 years:

- non-inflationary growth
- inflationary growth
- recession

Different assets will perform differently during different economic conditions. Granted, that’s not exactly a breakthrough concept, but looking at your portfolio through this lens may help you arrive at a better diversified portfolio. Non-inflationary growth is certainly the dominant period wherein you have benign inflation, growing GDP, and often low or declining interest rates, all fuelling leveraged GDP growth.

In this economically favourable environment, traditional equity investing can be well rewarded. In fact, it can be a veritable tailwind for equities. You certainly want the benefit of equity exposure in your portfolio—both developed market and emerging market equities—in an environment like this.

Recession is also a reality. The flight to quality and liquidity that typifies recessionary environments often means low-risk treasury bonds provide leadership while riskier assets can—and often will—experience declines.

The major other environment— inflationary growth—is something all portfolios should be prepared to encounter. Whether or not you think inflation is a real threat, it makes sense to address tomorrow’s risks today. Historically, inflation has had a negative impact on the following investable assets:

- Fixed income has historically underperformed when interest rates rise.
- Equities have historically underperformed as a whole during periods of rising and/or high inflation. However, some equities can do well in an inflationary environment if it coincides with a robust economy.
- Domestic currency as an inflationary environment is usually a primary catalyst in causing inflation.

Some investable assets that may actually benefit from inflation:

- real estate;
- inflation-protected debt securities such as floating-rate loans and real-estate bonds;
- hard currency like gold or other precious metals; and
- commodity prices usually rise with rising inflation as they seem to function as a natural inflation hedge.

Whatever economic environment comes next, it will provoke many opinions and questions. Are we out of recession? Is runway inflation coming next with the decline of fiat currencies? Is a deflation spiral coming at us? Is gold going to US$2,000 an ounce?

The debate about whether inflation or deflation will hit the global economy next (or any other prognostication about economic and market conditions, for that matter) should not be about guessing the correct answer. Instead, it should focus on which collection of asset strategies will build a well-diversified portfolio that balances risk across assets and excels in a variety of market conditions.

So, is diversification dead? Absolutely not! The concept may have taken a hit in 2008, but it’s as relevant as ever.