

Is your bond fund a wolf in sheep's clothing?

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"[The derivatives market] is so hard to understand that Federal Reserve Chairman Ben Bernanke required a face-to-face refresher course from hedge fund managers."

- Bill Gross, PIMCO

"One development that gives me and others some pause is the decline in the number of major derivatives dealers and its potential implications for market liquidity and for concentration of counterparty credit risk."

- Alan Greenspan, former Federal Reserve Chairman

"Derivatives are financial weapons of mass destruction, carrying dangers that... are potentially lethal."

- Warren Buffet, Chairman, Berkshire Hathaway

"My! What big teeth you have!"

- Little Red Riding Hood

Investors learn early on that bonds are synonymous with IOUs. When you buy a bond, goes the common wisdom, you make a cash loan to the issuer which will be paid back at a certain time at a designated interest rate. A bond fund, then, is understood to be a portfolio of various cash loans. There was a time when that was true. Now, however, investors may be surprised to learn that a bond fund can be so named without owning many bonds at all.

Bonds have traditionally been fairly straightforward to value and bond funds have experienced historically lower levels of volatility than equity asset classes. Their simplicity and steady stream of income have made them an essential part of the more stable, conservative portion of a diversified portfolio. However, even long before the explosion of creative derivative instruments that played a starring role in the crisis of 2008, bond funds had started to change. In the 1970s, you could look at the underlying portfolio of a bond fund and recognize the IOUs. But beginning in the 1980s and increasingly in the 1990s, bond funds began to incorporate a variety of derivative instruments. (See the table on page 2 for an illustration of the growth in the derivatives market.)

The worldwide derivatives market is estimated (as of the end of 2009) to be almost \$615 trillion (notional value), with almost \$450 trillion of that in interest rate contracts.* These markets dwarf both the worldwide stock and bond markets, estimated at \$82 trillion and \$44 trillion** respectively.

* Bank for International Settlements Semi-annual OTC Derivatives Statistics Report; December 2009

** The Asset Allocation Advisor, November 2009; www.aametrics.com

Nowadays, it is rare to find an actively managed bond fund that operates solely by using cash to purchase bonds. Some bond managers use only a small amount of derivative instruments, while in the well-known, so-called “mega-funds,” not only are managers virtually required to implement their strategies through derivatives in order to achieve scale, derivatives may even make up the majority of the portfolio. The question today is: given this change, do bond funds still offer stability to a portfolio?

Notional amounts outstanding of over-the-counter (OTC) derivatives (in billions of U.S. dollars)

December 1998	\$80,309
December 1999	\$88,202
December 2000	\$95,200
December 2001	\$111,178
December 2002	\$141,665
December 2003	\$197,167
December 2004	\$258,628
December 2005	\$299,261
December 2006	\$418,131
December 2007	\$595,738
December 2008	\$547,983
December 2009	\$614,674

Source: Bank for International Settlements, *Quarterly Review June 2010*

Why use derivatives in fixed income?

Derivative instruments allow a bond manager to obtain exposure in markets in which no physical securities exist, such as interest rate indexes, to substitute futures and swaps for actual physical positions, and to use small amounts of collateral rather than large cash outlays to gain market exposure. Following is a breakdown of the major types of derivatives a bond manager might use:

Futures: Futures may be used to substitute for physical securities. A futures contract may have a slightly different duration impact on the portfolio than the purchase of the underlying securities.

Swaps: Swaps serve a similar purpose to futures, but tend to be more flexible, allowing a manager to use them to quickly adjust duration in a portfolio. Most interest rate swaps are subject to a standardized International Swap and Derivatives Association (ISDA) Agreement, which reduces legal risk and includes provisions that make these instruments fairly liquid.

Credit default swaps: Credit default swaps (CDSs) are a type of insurance against the default of an issuer. A buyer pays annual premiums to a seller in exchange for the right to sell the face value of a bond in the event of a default. The buyer

reduces their credit risk and the seller increases their credit risk. By using CDSs, bond managers can increase or reduce the exposure to credit risk from a particular issuer without purchasing or selling any cash bonds. Credit default swaps are also often subject to ISDA Agreements.

Options: Fixed income options may be used for a variety of reasons, including generating income, hedging risk from rising interest rates while maintaining capital gains from falling interest rates, and capitalizing on anticipated interest rate shifts. Purchasing a call option allows the buyer the right to purchase a bond security at a fixed price; if interest rates fall and the price rises, the buyer is more likely to exercise this right. Conversely, a put option allows the buyer the right to sell at a particular price, providing protection in the case of rising interest rates. Managers may also choose to sell call and put options, generating additional income for the portfolio.

Mortgage derivatives: A variety of types of mortgage derivatives exist with varying ranges of risk from fairly stable to highly volatile.

Structured notes: These are notes which pay a coupon and principal at maturity, but which link those payments to fluctuations in the price of another asset such as a commodity, currency, or index.

Counterparty risk and operational risk

Exchange-traded derivatives are contracts that are sold on major exchanges, such as the New York Stock Exchange. These instruments, which are guaranteed by the exchange, are regulated and are typically fairly standard. Over-the-counter (OTC) derivative instruments are those that are created outside of the regular exchanges. OTC derivatives can involve any two or more counterparties and there is a nearly limitless flexibility to the terms of the contracts. OTC derivative instruments carry with them unique risks, different from those inherent in exchange-traded derivatives.

With OTC derivatives, there are no longer only two parties, the issuer and the buyer. There are multiple parties, the number depending on the nature of the derivative. This adds a layer of counterparty risk: not only is there the risk of default of the bond issuer, but there is the risk of default of the counterparties involved. This is mitigated in part by the exchange of collateral between parties as the value of the position changes. Additionally, there may be operational risks involved in using various forms of collateral rather than cash, such as those relating to the frequency of margin calls, the time it takes for collateral transfer, the quality of collateral, and the difficulty of pricing complex illiquid instruments on a daily basis. Counterparty risk can be meaningfully mitigated through the use of ISDA contracts and can be carefully managed by being selective about which brokers and agencies a manager works with.

The ISDA ranks counterparties as equal to senior debt holders in terms of claims on a defaulting party. The buyer takes the risk the seller will default, a risk that is independent of — and can subordinate — the credit quality of the underlying bonds (e.g. a bond fund that enters into a default swap on a AAA-rated reference entity with an A-rated counterparty may be purchasing the economics of the AAA debt, but those economics may be subordinated to the A-rated counterparty risk in the event of a counterparty default). All else being equal, dealing with a more creditworthy counterparty will result in reduced counterparty risk. While the derivatives market attempts to price this risk into transactions, it has thus far done a poor job of discriminating between sellers of different creditworthiness. This counterparty risk, alongside other risks inherent in the OTC derivatives market (liquidity, operational, valuation, etc.), means that there is bound to be at least a slightly higher degree of risk with a derivative instrument than there would be in purchasing a cash bond.

All of this may be considered theoretical in most market environments. But in the mayhem of 2008, when the solvency of all the top derivatives dealers' was being called into question, it began to matter tremendously.

Are all bond funds fit for the stability basket?

At Arnerich Massena, bonds fall into the “stability” asset category, along with cash and absolute return. After the crisis of 2008, in which derivatives, particularly credit default swaps, played the part of the villain, investors have questioned whether bond funds that utilize these instruments can continue to be categorized as “stable” investments in all market

environments. While we do believe they still belong in this category, we also look for specific characteristics in bond managers that allow us to be comfortable with this designation.

Firstly, we look for bond managers who have a reasonable, well-defined counterparty and operational risk management infrastructure in place. This includes the ability to measure, monitor, and control for the various non-investment-based risks inherent in OTC derivatives. We spend considerable time with managers reviewing their counterparty contracts and understanding their philosophy and practices in regards to managing collateral. We also evaluate a manager's valuation policy and practices to understand how they account for these risks.

Secondly, we shy away from managers who gravitate toward overly complex or opaque derivatives. It is possible to find bond fund managers who trade in derivative bond instruments but maintain a high degree of simplicity and transparency. Straightforward deals with standardized agreements and legal protections against counterparty risk can mitigate the overall risk these instruments may add to the portfolio.

We also tend to avoid managers who use OTC derivatives for the sole purpose of gaining leverage. While leverage can amplify gains (and losses), it also complicates the operational and legal profile of a fund. We prefer to look for managers who can deliver outperformance without undue leverage in as simple a way as possible.

A bond fund in the stability asset category should be built like a house of bricks, not straw. We believe that the careful and limited application of certain derivatives instruments can be beneficial to a portfolio. But their overwhelming use can erode the very stability characteristics we seek in this asset class, and in a way that is highly correlated to overall market risk. Rather than recognizing these effects when the markets are huffing and puffing, we believe clients should be discussing this issue with their advisors today. Appearances can be deceptive (My! What big teeth you have!) and performance through stable markets alone should not be the only means by which to measure the stability of your bond fund.

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