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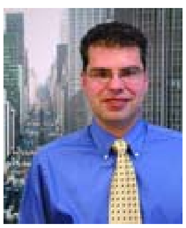
ING Investment Weekly

Long Duration Strategies Using Corporate Bonds



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In my most recent article on March 9, 2009, I offered an opinion about two alternatives that corporate pension plan sponsors might confront in implementing a long duration investment strategy. Rather than investing directly in long duration corporate bonds, I argued that in the current economic environment it is preferable to employ a strategy based on portfolios of corporate bonds benchmarked to a shorter duration broad corporate bond index and supplemented by the use of derivatives to extend duration as needed. I concluded that such a portfolio would be more diversified and more liquid, would be quicker to implement and would therefore offer more protection against possible default risk. In this article, I provide additional arguments in favor of that conclusion.

I compared the monthly liability growth rates during the January 2007-March 2009 period to 1) the monthly returns of a long corporate bond index and to 2) the monthly returns of a broad corporate bond index combined with a 30-year interest rate swap to match the duration of the long corporate bond index.

The monthly liability growth rates were calculated as the sum of 1) the interest cost on the liability (i.e., one-twelfth of the discount rate at the beginning of the month) and 2) the change in value in liabilities, as a percentage of the starting liability, due to the change in the discount rate during the month. I ignored the service cost (i.e., the cost of an additional year of service) for this exercise as it would not impact the conclusion. The discount rate is the single equivalent interest rate based on a sample pension plan's liability cash flows discounted using spot rates derived from an A-Aaa corporate bond yield curve at the beginning of each month from January 2007 to March 2009.

As you can see from the graphs and table on page 2, implementing a long duration investment strategy based on benchmarking to a broad corporate bond index and combined with derivatives to extend the duration as needed, produces results superior to investing in long corporate bonds directly.

This is particularly true if you compare the following metrics in the table: 1) average annual returns, 2) the annualized standard deviation of the returns and 3) the largest cumulative difference in growth rates between the asset benchmarks and the liability. The only metric slightly in favor of the long corporate bond index is the correlation to the liability but the advantage is small (i.e., 0.96 vs. 0.93).

Also, a strong argument in favor of the broad corporate bonds plus derivatives is demonstrated during periods of low equity returns (i.e., January 2000-March 2003 and July 2007-February 2009; see graphs 2 and 3), when it is most needed by plan sponsors with a high equity allocation.

Currently, the spread on 30-year interest rate swaps is negative (i.e., -37 basis points as of April 22, 2009 vs. +55 basis points in average over the last 10 years). If those spreads were to revert to their long-term average without any changes in the A-Aaa spreads, the investment return on that particular swap would be negative without a corresponding impact on the value of the liability. However, instead of using a 30-

year interest rate swap, interest rate futures or swaps with shorter maturity could be used. For example, the spread on 12-year interest rate swaps was +29 basis points as of April 22, 2009 (vs. +71 basis points in average over the last 10 years).

In summary, implementing a long duration investment strategy based on a portfolio of corporate bonds, benchmarked to a broad corporate bond index and combined with derivatives to extend the duration as needed, produces superior results than investing in long corporate bonds directly. ■

Sample Pension Plan: Monthly Data from January 1997 through March 2009

	Liability	Barclays Long US Corporate Index	Barclays US Corporate Index + 30-Year Swap Index
# of Monthly Observations	147	147	147
Average Notional Amount as % of Dollar Invested	N/A	N/A	34.2%
Standard Deviation	N/A	N/A	4.4%
Average Duration	12.8	10.2	10.2
Standard Deviation of Duration	0.83	0.99	0.99
Average Annual Returns	7.56%	5.47%	7.42%
Annualized Standard Deviation of Returns	11.2%	9.6%	8.8%
Minimum Return	-10.3%	-11.2%	-8.8%
Maximum Return	18.0%	14.1%	11.7%
Correlation vs. Liability	N/A	0.96	0.93
Correlation Between the Two Asset Benchmarks	N/A	0.90	N/A
Largest Cumulative Difference vs. Liability	N/A	-57%	-26%

Source: ING Investment Management; Merrill Lynch; Barclays Capital

Two Step Approach Produces Superior Results When Implementing A Long Duration Investment Strategy