LDI IS IN OUR DNA

THE MULTI-SECTOR APPROACH: PART 2

The Case for Corporates

We believe that investment grade corporate bonds are often superior to US Treasuries in a pension portfolio. This paper explores the evidence and illustrates how taking incremental risk and owning corporate bonds has been a better strategy for plan sponsors than owning US Treasuries.

Higher Yield

US life insurance companies invest primarily in fixed income securities for a number of reasons, most notably because they generate cash flows that can be matched to their liabilities. Those same insurance companies tend to invest in corporate bonds rather than relatively less-risky US Treasuries. They do this with the belief that over time the corporate bonds will out-yield US Treasuries, after accounting for default losses.

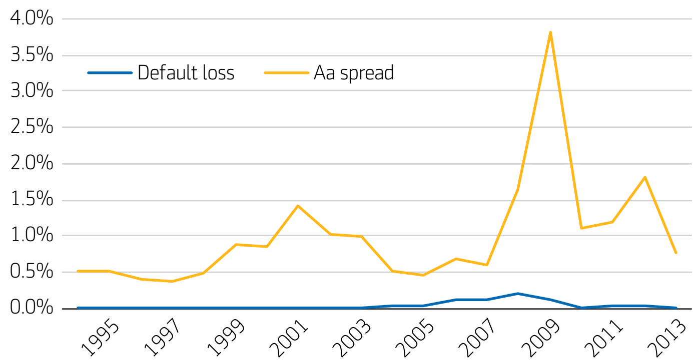
Assuming a buy-and-hold approach, we calculated the spread between corporate bond yields, represented by Bloomberg Barclays indices and adjusted for default losses, and duration-matched US Treasury yields. Our goal was to determine if corporate bonds provided enough spread to compensate investors for the default losses over each subsequent five-year period.[1]

Our results for the five-year periods starting with 1994 – 1998 and ending with 2013 – 2017 show that, for every investment-grade rating bucket, spreads more than covered annualized default losses.[2] The net spread (spreads less the annualized default loss) was positive for all ratings cohorts.

For example, Chart 1 shows the intermediate maturity, Aa component of the Bloomberg Barclays US Corporate Investment Grade Index spread and the annualized default loss for Aa-rated bonds. The lowest net spread, 40 bps, came in 1997, when there were no defaults over the subsequent five-year period. The analysis shows that even when default rates picked-up, like in 2009, the default losses were not enough to overwhelm the incremental yield offered by the riskier (vis-à-vis US Treasuries) corporate bonds.

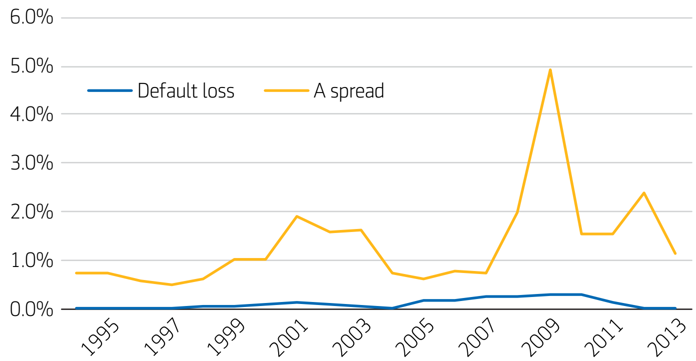
[1]The calculation used a 35% recovery assumption for defaulted bonds.
[2]Barclays' historical spread data starts in May 1993

Chart 1 – Aa/Treasury spreads vs Aa annualized default loss



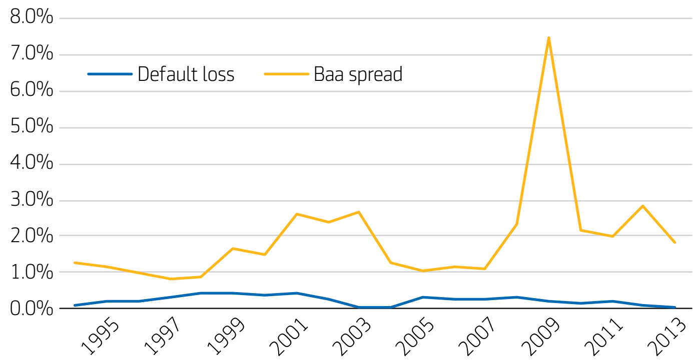
Sources: Aegon Asset Management US, Barclay's POINT, Moody's as of 2013.
Caption: Rolling 5-year forward periods. Spread to US Treasuries of intermediate duration (3-9 years), Aa-rated component of the Bloomberg Barclay's US Corporate Investment Grade. Index. Annualized default loss is approximated using a 35% recovery rate and 5% discount rate.

Chart 2 – A/Treasury spreads vs A annualized default loss



Sources: Aegon Asset Management US, Barclay's POINT, Moody's as of 2013.
Caption: Rolling 5-year forward periods. Spread to US Treasuries of intermediate duration (3-9 years), A-rated component of the Bloomberg Barclay's US Corporate Investment Grade Index. Annualized default loss is approximated using a 35% recovery rate and 5% discount rate.

Chart 3 – Baa/Treasury spreads vs Baa annualized default loss

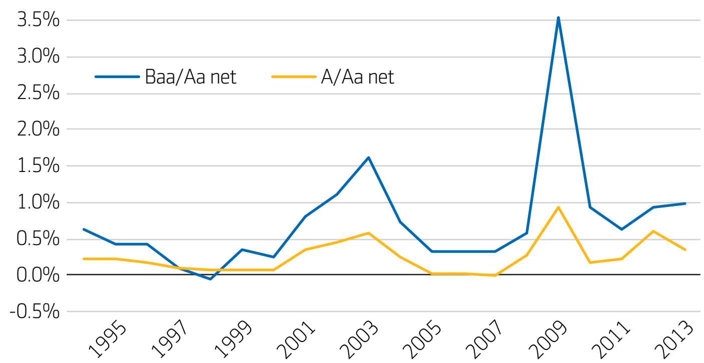


Sources: Aegon Asset Management US, Barclay's POINT, Moody's as of 2013.
Caption: Rolling 5-year forward periods. Spread to US Treasuries of intermediate maturity (3-9 years), Baa-rated component of the Bloomberg Barclay's US Corporate Investment Grade Index. Annualized default loss is approximated using a 35% recovery rate and 5% discount rate.

A plan sponsor could reasonably want to invest their pension portfolio in only Aa-rated bonds, if the discount rate on the liabilities is based on a Aa corporate bond index. However, the universe of Aa corporate bonds is limited, making it impractical to invest exclusively in this rating bucket. Our analysis suggests it makes sense to invest across the investment-grade rating spectrum. Chart 4 helps illustrate the potential benefits of investing in A and Baa-rated bonds.

A-rated corporate bonds out-yielded Aa corporate bonds on a net basis for every five-year rolling period. There was one five-year period (starting in 1998) where Baa bonds underperformed Aa bonds, and it was only by 7 bps.

Chart 4 – Baa/Aa spread & A/Aa spread (net of defaults)



Sources: Aegon Asset Management US as of 2013, Barclay's POINT, Moody's.
Caption: Rolling 5-year forward periods. Baa less Aa spreads and A less Aa spreads, net of defaults.

Opportunity for a More Stable Funding Ratio

Not only have corporate bonds tended to out-yield US Treasuries, net of default losses, but also as we demonstrate here, investment-grade corporate bonds have been better than US Treasuries at helping to minimize funding ratio volatility.

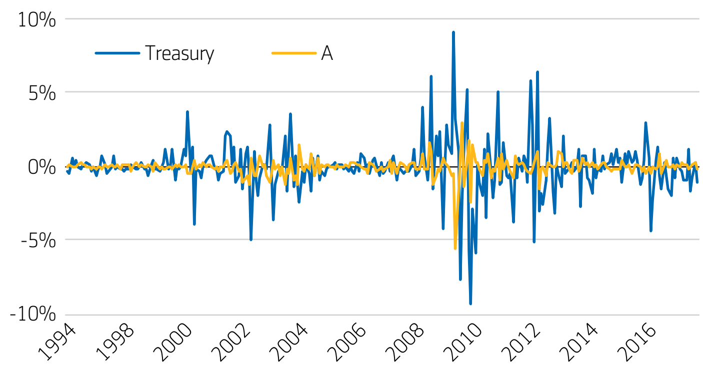
The value of pension liabilities is often determined by discounting the liability cash flows using Aa-rated corporate bond index yields. The remainder of the paper pertains to the situation where pension fund liabilities are valued at Aa yields.

If an Aa-rated name undergoes a ratings migration, then it will not be in the next Aa corporate index used to discount pension liabilities. What this means is that even if a pension fund could be invested in a cash-flow matched Aa index there would still be risk of funding ratio volatility due to ratings migration of Aa-rated names. Despite this, we believe that a cash-flow-matched Aa-rated corporate bond portfolio is the portfolio one could design to best limit funding ratio volatility.

To illustrate that an asset portfolio of investment grade corporate bonds has been superior to US Treasuries for minimizing funding ratio volatility, we present evidence in the following series of charts. What these charts show is how corporate bond returns, across the investment grade spectrum, have exhibited less volatility than US Treasury returns relative to an Aa liability benchmark.

In Chart 5, note how much less volatile A-rated corporate returns were than US Treasury returns, relative to Aa-rated corporates. Long-dated US Treasury excess returns (over Aa corporates) have a monthly standard deviation of 1.65%, while the standard deviation is only 0.62% for A-rated corporates. In other words, A-rated corporates were significantly more correlated to Aa-rated corporates than US Treasuries.

Chart 5 – Long US Treasury and A-rated corporate bond monthly excess returns over Aa-rated bonds



Sources: Aegon Asset Management US, Barclay's POINT, Moody's as of 12/2017.
Caption: Monthly excess total returns over the Bloomberg/Barclays Aa-rated corporate bond index for long (duration 9+ years) U.S. Treasuries and A-rated corporates.

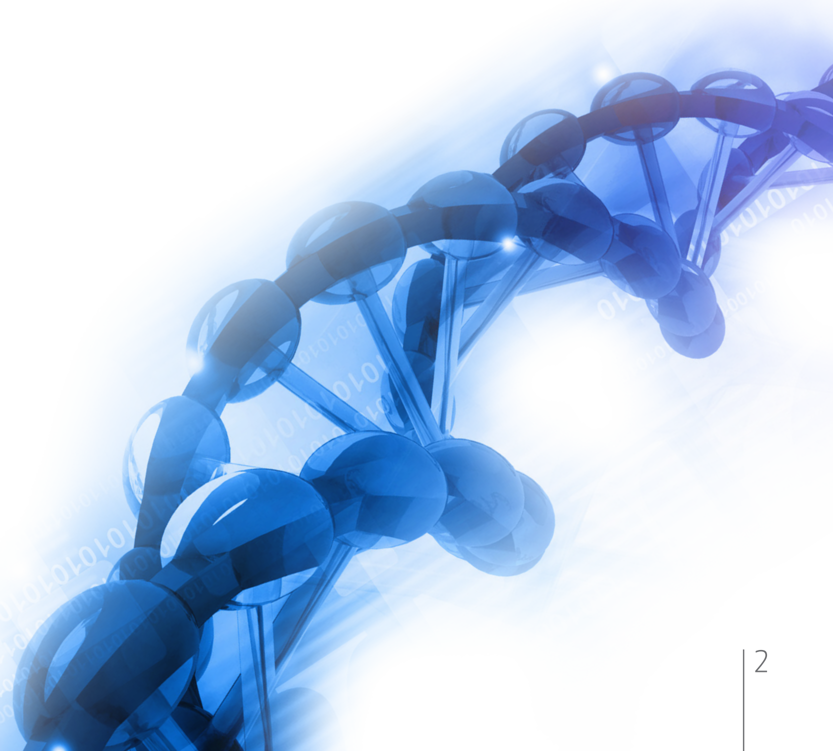
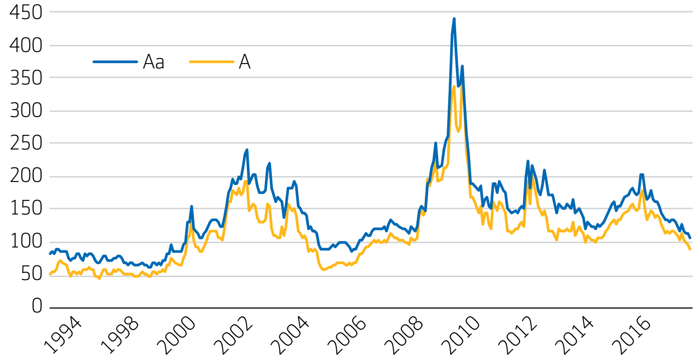


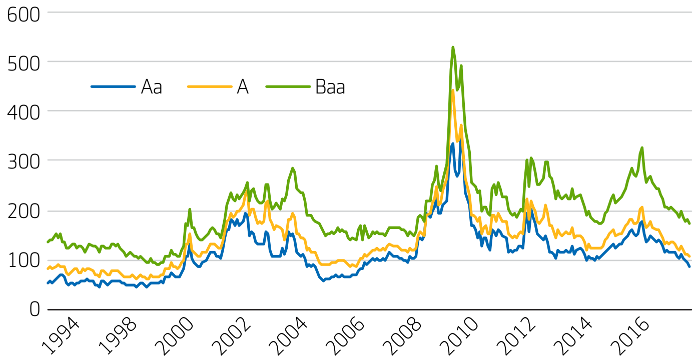
Chart 6 – A and Aa spreads (to Treasuries) are highly correlated



Sources: Aegon Asset Management US, Barclay's POINT, Moody's as of 12/2017.
Caption: A-and-Aa-rated corporate bond spreads (to US Treasuries).

You can see this same relationship by comparing the A and Aa spreads (over US Treasuries). Note how closely the spreads track each other; the correlation is .98.

Chart 8 – Baa, A, and Aa spreads (to Treasuries) are highly correlated

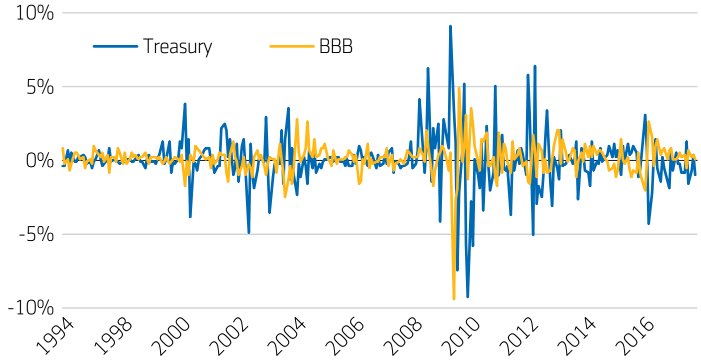


Sources: Aegon Asset Management US, Barclay's POINT, Moody's as of 12/2017.
Caption: Baa, A, and-Aa-rated corporate bond spreads (to US Treasuries).

The same story bears out for Baa-rated corporate bonds as seen in Chart 7.

The monthly standard deviation of excess returns compared to Aa-rated corporates was 1.09% for Baa, compared to 1.65% for US Treasuries.

Chart 7 –Long US Treasury and Baa-rated corporate bond monthly excess returns over Aa- rated bonds



Sources: Aegon Asset Management US, Barclay's POINT, Moody's as of 12/2017.
Caption: Monthly excess total returns over the Bloomberg/Barclays Aa-rated corporate bond index for long (duration 9+ years) US Treasuries and Baa-rated corporates

The correlation of Baa spreads to Aa spreads is .92.

We expect long-term yield pickup net of defaults on A and Baa-rated corporate bonds over US Treasuries. We also have observed lower potential funding ratio volatility by investing in A and Baa-rated corporates over US Treasuries. We believe the evidence presented here supports decisions by plan sponsors to pursue a higher strategic allocation to corporates, and away from US government bonds.

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