

Volatile Environment: Impact on AA Bond Universes

April 2020

Today’s corporate pension plans use a variety of approaches to set their discount rates: yield curves, hypothetical bond portfolios and various subsets of the universe. Despite the variation, they all use the AA universe of bonds, consistent with decades-old guidance from the SEC. One key observation is that basing discount rates only on AA bonds represents an increasingly narrower slice of the investment grade universe. Although AA and AAA bonds represented greater than 40% of the investment grade universe in the early 1990s, they make up less than 10% of the investment grade universe today.¹

Given the evolution of the market over time, the AA universe has grown significantly more concentrated. Using the Bloomberg Barclay’s U.S. Corporate AA Index as a proxy for liability curves, over 42% of the index is represented by the top 5 issuers.² Due to the lack of scale and diversification, using this universe as a liability discounting basis can result in unexpected curve movements, especially in volatile environments.

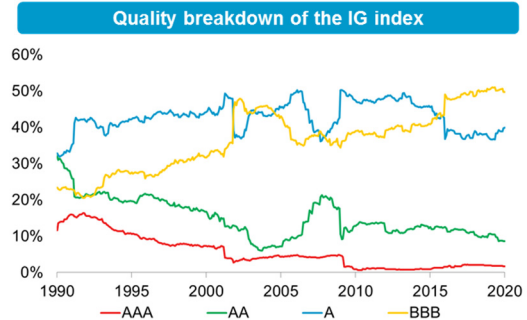
Liability implications – simple illustration

The volatility invoked by coronavirus fears and the potential economic impact to the economy have implications for liability discount curves. The swings we’ve experienced in Treasury yields and corporate bond spreads have the potential to materially influence liability characteristics via changes in the discount curve.

Assuming the changes illustrated in the table represent a liability discount curve universe, movements in the yield exhibited will have material effects for the plan’s liability.³ A well-designed LDI strategy could be beneficial in volatile environments to reduce the “noise” and more closely align the asset portfolio to the liability.

Another challenge brought on by the concentrated AA universe is the potential impact from downgrades. The issuers that exit the universe via a downgrade are typically the higher yielding bonds. The average yield of the remaining universe will generally fall, all else equal, resulting in a higher liability value. Let’s examine a simple illustration to demonstrate the potential impact a downgrade can have:

Our example assumes an issuer that makes up 7.5% of the AA universe is downgraded. Based on our assumed yields, the yield on the remaining universe drops by 6 basis points.⁴ To extrapolate this into a dollar impact, a \$1 billion liability with a 10-year duration will effectively increase by roughly \$6 million, simply by the universe of bonds changing. It is important to note that in practice, actuarial discount curve construction is more comprehensive than what is illustrated above.⁵ To the extent the downgrade results in wider spreads for that issuer’s bonds, the plan’s funded status will also be impaired due to a lower asset value.



Sources: Morgan Stanley as of December 31, 2019.

Issuer	Percentage
Apple Inc.	17.2%
WalMart Inc.	9.3%
Shell International	7.8%
Exxon Mobile	4.7%
Novartis Capital Corp	4.0%

Sources: Bloomberg, represents Bloomberg Barclays US Market Credit AA or better Index as of April 8, 2020.

	U.S. Corporate AA Index			U.S. Long Corporate AA Index		
	1/31/2020	2/28/2020	3/31/2020	1/31/2020	2/28/2020	3/31/2020
Yield to maturity	2.1%	1.9%	2.3%	2.9%	2.7%	3.0%
OAS (bps)	55	73	166	96	115	182

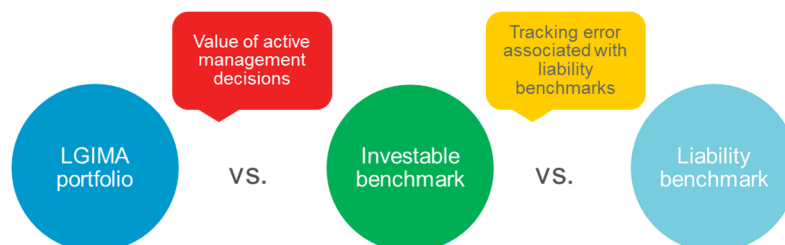
Sources: Bloomberg as of March 31, 2020.

	Weighted average yield	Weighting in universe of bonds	\$ Yield
Total AA universe	3.00%	1,000	30.0
Company XYZ	3.75%	75	2.8
Rest of universe	2.94%	925	27.2
Discount rate impact of downgrade			-0.06%

\$ Yield = Weighted Average Yield * Universe Weighting. Sources: Bloomberg as of March 31, 2020.

Investable benchmarks

LDI strategies often aim to hedge the market-related risks embedded in the liability benchmark, namely interest rates and credit spreads. However, as detailed above, there are factors that will result in liability changes that are not directly hedgeable. We refer to these components as “uninvestability” which results in tracking error between the investment portfolio and the liability. Therefore, even if an LDI program offers a 100% hedge against interest rate and credit spread risk, the plan will still be subject to some form of uninvestability. Other causes can stem from changes in actuarial assumptions (such as life expectancy) or actual plan experience. The actuarial curves themselves also result in uninvestability, as bonds coming in and out of the universe and the mathematical techniques used to develop the curve cannot be practically replicated in a portfolio.



In response to the inherent uninvestable component of a liability return, LGIMA has a number of clients that use a market-based liability benchmark (based on a broader bond universe). In addition, we have developed an investable benchmark alongside the liability benchmark as an attribution tool. By isolating the investable components of the liability, a plan sponsor can better monitor the success of the LDI solution. This type of framework can result in a more transparent, investable benchmark to help explain the tracking error between the LDI strategy and the liability return. LGIMA recommends a dual performance framework where the investable benchmark complements the liability benchmark, as opposed to replacing it. If interested, we can pass along additional information related to our own “Custom Investable Benchmark” or to market-based approaches to liability benchmarking.

Active credit management

LGIMA recommends actively managing credit portfolios to allow for the opportunity to generate excess returns. Within an LDI context, an emphasis on avoiding downgrades and defaults within the asset portfolio is extremely important. Earlier in this piece, we illustrated the potential impact to the liability from downgraded bonds leaving the discount curve universe. This becomes more relevant in times like today where volatility is the norm for markets. Successfully avoiding downgrades and defaults and navigating a volatile credit environment can help preserve the plan’s funding ratio.

LGIMA’s credit investment process rigorously combines a detailed bottom-up focus with important inputs from a top-down perspective. Alpha generation in our portfolios primarily comes from cash bonds through asset allocation, sector rotation, and security selection while running the strategy duration neutral. As highlighted above, avoiding downgrades and defaults is one of our core investment principles and is especially important for client portfolios managed in an LDI context. A deeper dive into LGIMA’s active credit management process and philosophy will be further detailed in the next piece of our thought series.

For further information about LGIMA, find us at www.lgima.com.

1. Source: Bloomberg as of December 31, 2019.
2. Bloomberg, represents Bloomberg Barclays US Corporate AA Index as of April 8, 2020.
3. Table illustrates Bloomberg Barclays index characteristics as of month-end dates shown in the table.
4. Source: LGIMA, for illustrative purposes only.
5. Each pension plan’s discount rate is determined using the plan’s actuarial cashflows or projected benefit payments. A shorter duration plan will effectively have a lower discount rate (assuming an upward sloping yield curve). In addition, the debt maturity structure of the downgraded issuer is important to consider as the potential impact to the overall yield of the universe will depend on the maturity profile of the issuer’s bonds within the universe. For example, a 5bp decrease in the 30-year spot rate due to a downgrade will be more impactful than 5bp decrease in the 3-year spot rate. All in all, we used a simple example for illustration purposes. There are numerous factors that will play a role in reality.

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