Insights
Defined Benefit

May 2020

Don't Let Tighter Spreads Leave Your Plan Behind

Rising credit spreads offset both falling Treasury yields and plunging equity markets over the past quarter, sparing corporate defined benefit plans from a worse outcome than might have been feared.

Over the past quarter, the typical corporate defined benefit (DB) plan may have experienced a modest erosion in funded status. However, the factor that helped DB plans, rising credit spreads which led to declines in liability values, is quickly turning into a challenge as declining spreads and interest rates are both driving liability values back higher. Understanding this risk – and managing plan asset strategy accordingly — will enable plan sponsors to navigate what we expect to be a continued period of market volatility.

The Bloomberg Barclays U.S. Corporate Long AA Index (the "Long AA Corp Index") is a reasonable proxy to analyze historical spread volatility associated with the discount rates used by corporate plan sponsors. The duration of the Index is 16.3,[1] reflective of many plans' liabilities and the long history of the data available allows us to observe how the yield of the index and its components — duration equivalent Treasury yields and the implicit credit spreads — respond to different events over time. As of April 15, the yield on the Long AA Corp Index was 2.81% and the option adjusted spread was +169 basis points (bps) compared to 3.13% and 84 bps, respectively, at the end of 2019.

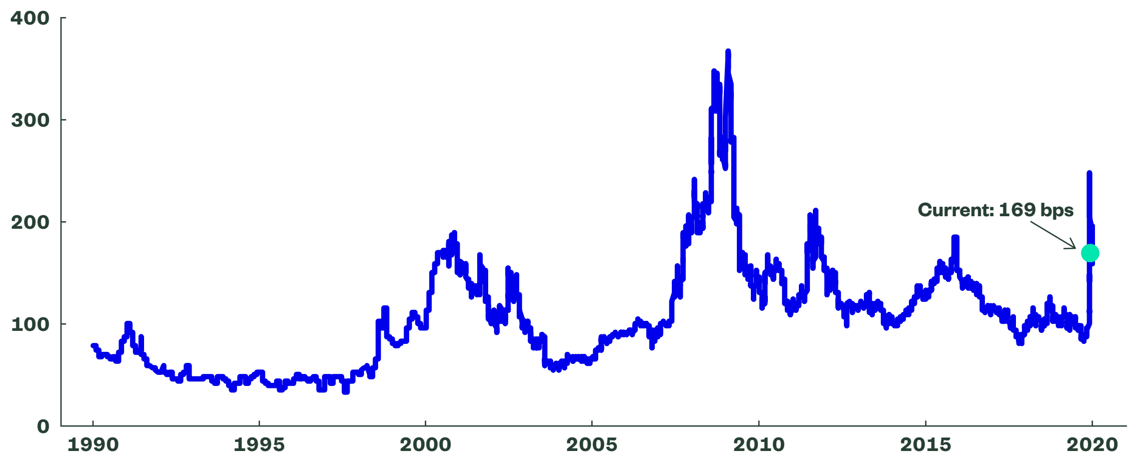
Figure 1
Bloomberg Barclays U.S. Corporate Long AA Index

	12/31/2019	01/31/2020	02/28/2020	03/23/2020	03/31/2020	04/15/2020
Option Adjusted Spread	84	96	115	248	179	169
Duration Equivalent Treasury Yield	2.29%	1.90%	1.55%	1.21%	1.21%	1.12%
Yield to Worst	3.13%	2.86%	2.70%	3.69%	3.00%	2.81%
Effective Duration	15.83	16.15	16.43	15.66	16.26	16.32

Source: Bloomberg Barclays as of April 16, 2020.

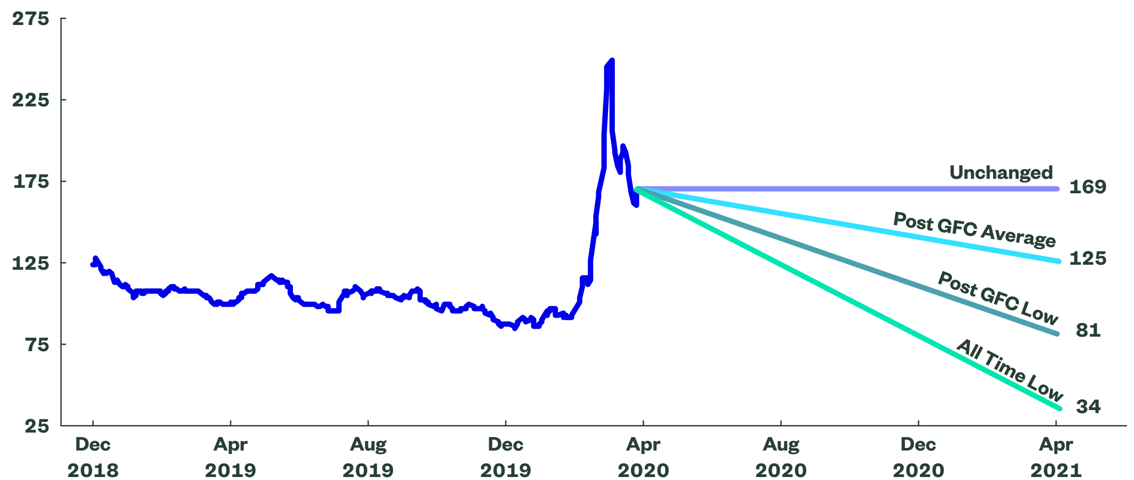
A look at the long term history of the spread on the Long AA Corp Index puts the current level in perspective. Spreads are wider than 90% of all historical observations, and remain wide of their long term average level of 105. While the risk remains for spreads to move wider from here, history tells us that such moves are both rare and limited in duration: during the Global Financial Crisis (GFC) the average spread on the Long AA Corp Index passed through the current level of 169 bps on 11/09/2008, peaked at 367 on 03/19/2009 and was back to 167 by 07/31/2009. While the economic picture today is quite gloomy, the US Federal Reserve and the European Central Bank have opened their floodgates and are supplying the market with trillions of dollars of liquidity designed to stabilize the markets. There may be near-term downside to credit markets, but these actions suggest there is more upside than down. Further, the Fed's quantitative easing-driven purchases of US Treasury securities will keep significant downward pressure on interest rates, thereby raising the potential for US 10-year and 30-year Treasury rates to move closer to zero.

Figure 2
US Long AA Corp Spreads Over Time



Source: Bloomberg Barclays. All time low measured from 01/01/1990 through 04/15/2020 Post GFC period is from 12/31/2009 through 04/15/2020.

Figure 3
...And Potential Tightening Scenarios



Source: Bloomberg Barclays. All time low measured from 01/01/1990 through 04/15/2020 Post GFC period is from 12/31/2009 through 04/15/2020.

We've defined several scenarios to quantify the potential that narrower spreads and/or lower Treasury yields might have on liability values. This analysis takes on a one-year horizon and assumes that interest rate and spread levels shift to scenario levels at the horizon date. We have based the analysis on a sample pension liability with a duration of 18.25 and a Discount Rate of 2.82% on a GAAP accounting/PBO (Projected Benefit Obligation) basis and applying the FTSE SOA (Society of Actuaries) discount curve. We've modeled spread changes by applying the below spread scenarios to the Long AA Corp Index.

- Spreads could remain unchanged from current levels, although history suggests that spreads in this range have been more transitory in nature.
  - — While it is possible to see further spread dislocation to wider levels, it would likely be a shorter term phenomena than the one-year horizon modeled here
- Corporate bond spreads are mean-reverting by nature and a pull toward the mean could suggest a level approximately 40 bps tighter than current levels based on the average of the past 10 years.
- The tightest spread levels post GFC was 81 bps, and the market spent long periods of time at similar levels following the GFC.
- The all-time low in spread for the Long AA Corp Index was 34 bps on 07/31/1997. While that might seem extreme, consider that the Fed and the ECB have both committed to significant purchases of corporate bonds. Investors reaching for yield but unwilling to take lower quality credit risk have the potential to compress spreads tighter than the lows seen in 2018–2020.

Scenarios for US Treasury rates are less straightforward so we have modeled both rising and falling scenarios. Changes in Treasury rates are based on parallel shifts in interest rates but applying a zero lower bound: key rate points will shift no lower than zero.

- Treasury rates have the potential to move lower amid extensive quantitative easing and other Fed-sponsored purchases of US Treasury securities.
  - — Should the US bond market follow the same path as those of Japan and Europe during extensive Central Bank buying, a flattening of the curve with zero interest rates is a likely outcome.
- Treasury rates also have the potential to rise should markets begin to price in inflation related to the collective stimulus brought about through quantitative easing, the Fed liquidity programs, and the $2 trillion CARES act.
  - — US Treasury debt issuance will be rising steeply and the cost to finance these programs could lead to higher rates.

Figure 4

Projected PBO Liability Return (12m)*	Treasury Rates Scenarios (change in bps)***				
Corporate Spread Scenarios**	**-100 (%)**	**-50 (%)**	**0 (%)**	**+50 (%)**	**+100 (%)**
All Time Low (34bps)	58.0	44.4	31.3	19.5	8.8
Post-GFC Low (81bps)	45.0	32.5	20.6	10.0	0.5
Post-GFC Average (125bps)	33.8	22.4	11.7	2.1	-6.3
Unchanged (169bps)	23.6	13.3	3.6	-4.9	-12.1

* On April 15, 2020, BBG/Barclays Long Corporate Aa OAS was 169bps. Ten-year OTR Treasury yield was 63bps.
** All-Time is from 06/30/1989–04/15/2020. Post-GFC period is from 12/31/2009–04/15/2020. Corporate Spread scenarios on BBG/Barclays Long Corporate Aa OAS. FTSE/SOA Discount Curve is projected as the sum of Treasury Rate Scenarios & Aa Corporate Spread Scenarios (beta-adjusted by 0.94 to account for the higher quality nature of the FTSE/SOA Discount Curve).
*** Parallel shift to Treasury Curve with a ZLB (Zero Lower Bound).

The implication for plan sponsors is that there are a number of scenarios that could lead to sharply rising liability values. A likely scenario is a move toward the long term average spread on high quality corporate bonds, accompanied by a further drop in US Treasury yields as we work through a global recession. In this scenario, sponsors may see liability values rise by more than 20%. In such an outcome, an allocation to long-dated high quality corporates should keep pace with liabilities. The question plan sponsors and consultants will need to assess is how might alternative investments fare in such a scenario?

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Endnotes

1 Source: Bloomberg Barclays, as of 15 April 2020.

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