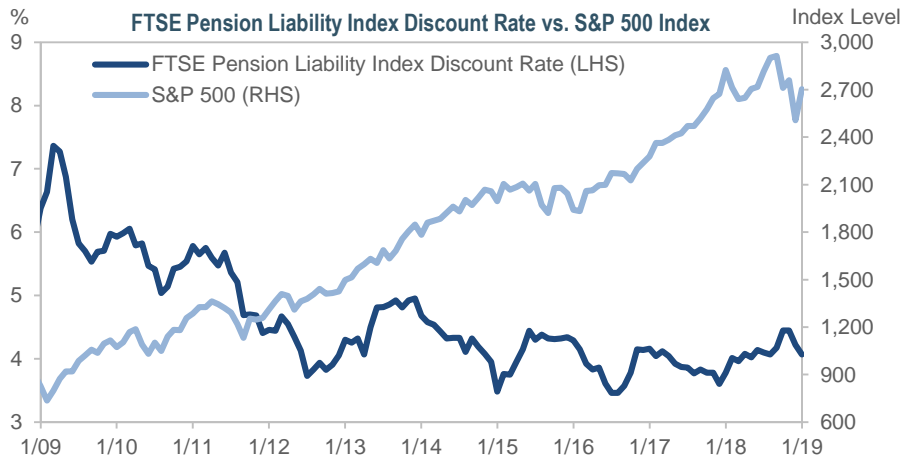


LDI Highlights

- Corporate pension funded status improved by 1.3% during January to close the month at 91.0%.
  - A rebound in equity markets fueled the increase, as the S&P 500 Index returned over 7%, which nearly retraced the December plunge.
  - Discount rates fell by 15bps to close the month at 4.07%, which partially offset equity-market strength.
- Issuance picked back up during the month, with long-duration supply totaling \$27.6 billion, of which over half came from BBB-rated issuers.
- The rally in equity markets found its way over to corporate credit markets, as long corporate spreads tightened by 22bps to 178bps.
- Spread curves steepened modestly, as the difference between long corporate and intermediate corporate spreads widened by 4bps.

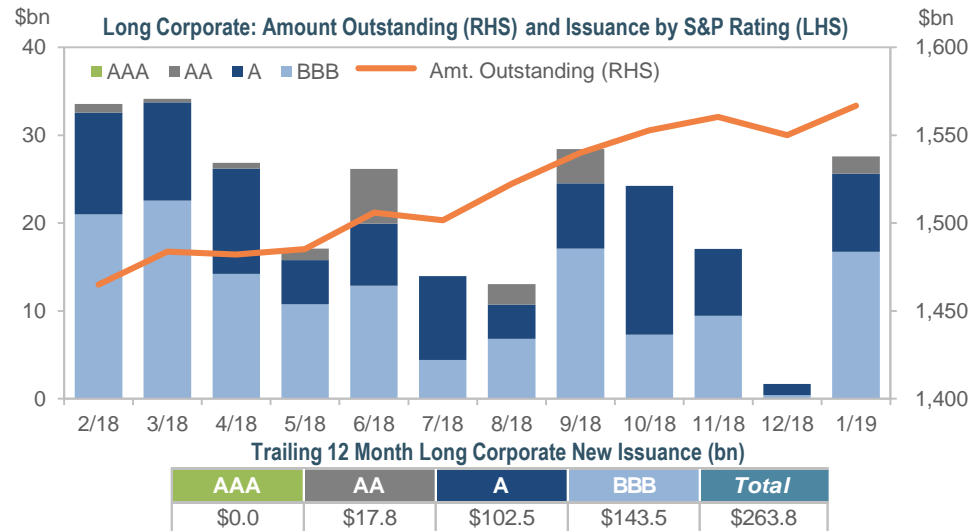
Rates Monitor	1/31/19	12/31/18	12/31/17
FTSE Pension Liability Discount Rate (%)	4.07	4.22	3.60
Bloom Barc Long Corporate Yield (%)	4.66	4.91	4.02
Bloom Barc Long Corporate A+ Yield (%)	4.19	4.40	3.69
Bloom Barc Long Corporate BBB Yield (%)	5.09	5.36	4.37
30 Year Swap Spread (bps)	-20	-17	-20



IR+M LDI Corner: BBB Mindful of Investment Time Horizon

- In December 2018, long BBB-rated corporates underperformed long AA-rated corporates by approximately 1.4%; however, weakness from BBBs quickly reversed, as long BBBs outpaced long AAs by 1.4% this year through the first week of February.
- For many plan sponsors, this short-term volatility will have been evident in both their hedging asset performance and funded status at year-end.
  - Liabilities are typically valued using AA-rated discount rates, whereas hedging assets may include BBB-rated bonds, reflecting broad IG indices.
- For plans with longer time horizons, the inclusion of BBB-rated credit in long duration fixed income portfolios could be additive to long-term performance.
  - Long BBBs outpaced long AAs by almost 3% over the past ten calendar years.
  - However, BBBs may introduce short-term funded status volatility. Plans with shorter time horizons may wish to minimize funded status volatility by taking a higher-quality approach to long duration credit allocations.

Glidepath Monitor	1/31/19	12/31/18	12/31/17	12/31/14
Funded Status (%)	91.0	89.7	87.6	81.5
Long Corporate Spreads (bps)	178	200	137	186
Curve (Long Corp - Int. Corp) (bps)	73	69	64	79



Sources: Milliman (Historical numbers revised as of 3/31/18), FTSE Russell (formerly Citigroup), Bloomberg Barclays, Bloomberg, and JPMorgan

All data in the above commentary is as of 1/31/19. Yields are represented as of the aforementioned date and are subject to change. The views contained in this report are those of IR+M and are based on information obtained by IR+M from sources that are believed to be reliable. This report is for informational purposes only and is not intended to provide specific advice, recommendations for, or projected returns of any particular IR+M product. No part of this material may be reproduced in any form, or referred to in any other publication, without express written permission from Income Research & Management.