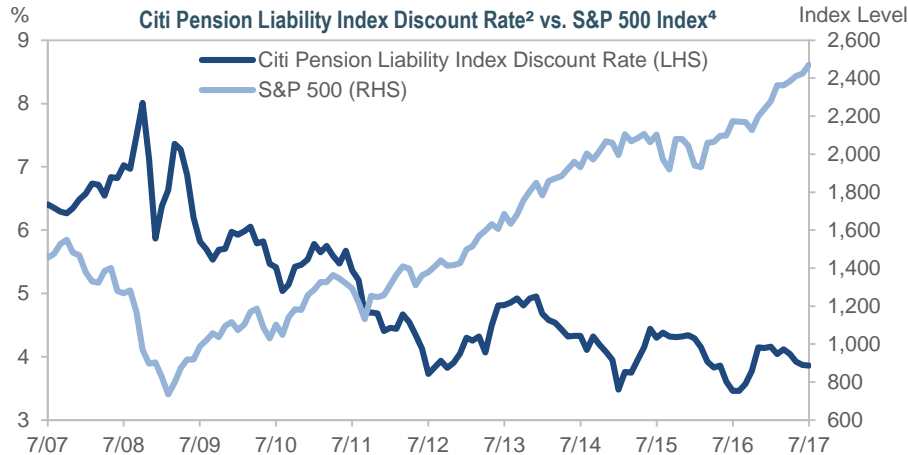


LDI Highlights

- Corporate pension funded status increased for the first time since March, as solid investment gains overshadowed a 1bp drop in discount rates.¹
 - The measure gained 0.2% to 83.7%, and discount rates ended the month at 3.86%.
- Demand remained strong for long corporate bonds during July, and supply rebounded from a slow June.³
 - Long supply accounted for 30% of July issuance as robust demand for long paper contributed to a 2bps drop in long corporate yields while spreads were 6bps tighter.⁶
 - During 2016, \$23 billion in 20-year corporate issuance was brought to market; year-to-date 2017 issuance is \$22 billion.

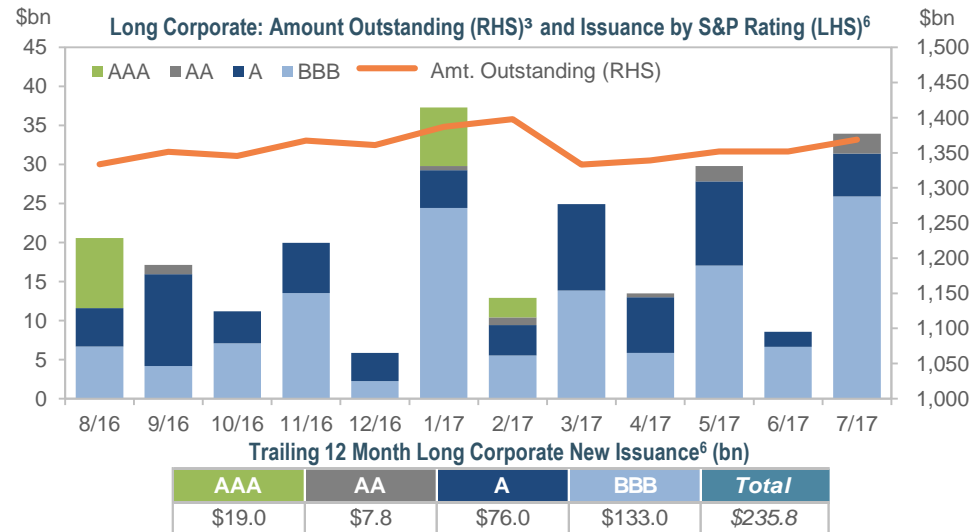
Rates Monitor	7/31/17	6/30/17	12/31/16
Citigroup Pension Discount Rate ² (%)	3.86	3.87	4.14
Bloom Barc Long Credit Yield ³ (%)	4.23	4.26	4.55
Bloom Barc Long Corporate Yield ³ (%)	4.22	4.24	4.54
Bloom Barc Long BBB Corp Yield ³ (%)	4.57	4.60	4.93
30 Year Swap Rate ⁴ (%)	2.56	2.54	2.63
Long BBB Corp. Yield ³ - Citi Pension Discount Rate ² (bps)	71	73	79



IR+M LDI Corner: Is the Treasury Seeing 20/20?

- The US Treasury is currently considering auctioning a 20-year tenor, which would have several implications for LDI investors and long-end buyers.
- For long-end buyers, a 20-year current coupon Treasury bond would provide a transparent risk-free reference point, helping to more accurately price 20-year corporate bonds.
- From an LDI implementation perspective, the new issue would potentially provide a more liquid alternative for key rate matching, while the increased market focus on this portion of the curve could improve overall liquidity of bonds in this tenor.
- As demand for corporate bonds of this tenor has been robust, we believe long-end buyers would welcome a 20-year Treasury bond. Additionally, it is likely that market participants would be more welcoming of a new 20-year tenor than a new 50-year tenor, which the Treasury is also considering.

Glidepath Monitor	7/31/17	6/30/17	12/31/16	7/31/16	7/31/14
Funded Status ¹ (%)	83.7	83.5	83.3	77.0	83.7
Long Credit Rates ⁵ (%)	4.23	4.26	4.55	3.98	4.57
Long Credit Spreads ⁵ (bps)	151	157	167	206	149
Curve ³ (Long Cred - Int. Cred) (bps)	170	164	180	190	234
Curve ³ (Long G/C - Agg) (bps)	114	109	134	135	175



¹Milliman (Historical numbers revised as of 3/31/17); ²Citigroup; ³Bloomberg Barclays; ⁴Bloomberg; ⁵Long rates and long spreads represented by Bloomberg Barclays Long Credit Index yield and spread; ⁶JP Morgan
 All data in the above commentary is as of 7/31/17. 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.