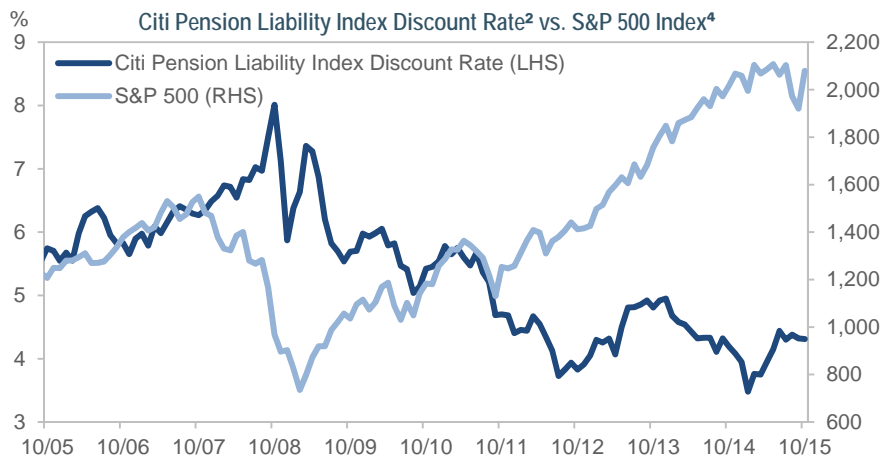


LDI Highlights

- After four consecutive months of decline, corporate pension funded status rebounded in October, increasing by 1.6% to 83.3%¹.
 - The measure was driven higher by a material increase in asset values due to equity market returns of over 8%⁴; liability discount rates were largely unchanged.
- October's \$98bn in corporate issuance tipped the year-to-date total to over \$1 trillion, surpassing 2014's record issuance total⁶.
 - Long-corporate issuance has comprised roughly 21% of this year's total, the highest percentage on record.
- Demand for long-corporate bonds has remained strong in the face of record issuance, as newly issued long-corporate bonds have been, on average, 3.6 times oversubscribed⁴.

Rates Monitor	10/31/15	9/30/15	12/31/14
Citigroup Pension Discount Rate ² (%)	4.31	4.32	3.95
Barclays Long Credit Yield ³ (%)	4.86	4.92	4.40
Barclays Long Corporate Yield ³ (%)	4.87	4.92	4.42
Barclays Long BBB Corporate Yield ³ (%)	5.38	5.44	4.80
30 Year Swap Rate ⁴ (%)	2.55	2.52	2.70
Long BBB Corp. Yield ³ - Citi Pension Discount Rate ² (bps)	107	112	85



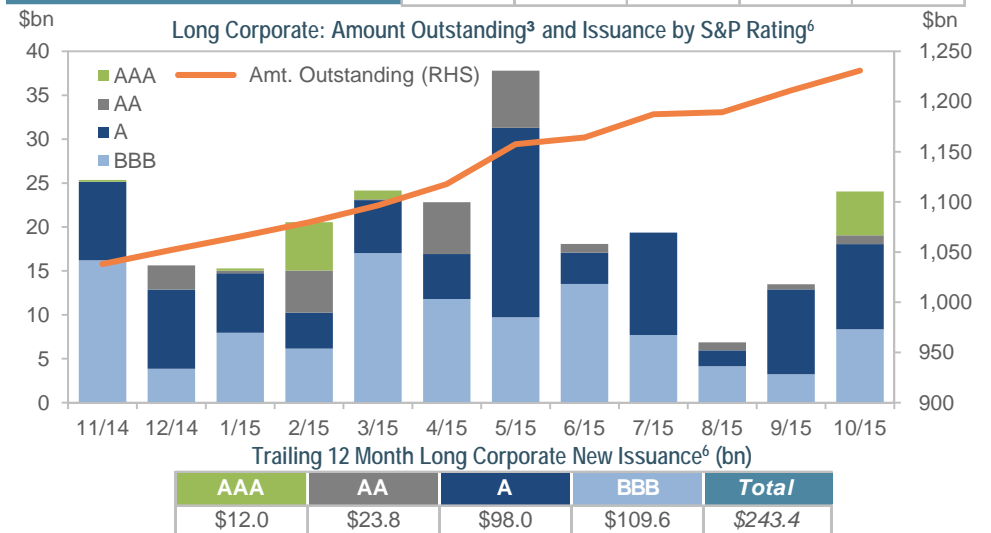
LDI MONITOR

October 31, 2015

IR+M LDI Corner: The Road To Success, But Who's Reading The Map?

- For many plan sponsors, the common aim of their LDI strategy is to develop an effective road map outlining the journey to their end-goal, be it risk transfer or the establishment of a hibernation portfolio.
- LDI journeys often focus on investment decisions, such as: glidepath and trigger design, asset allocation and the appropriate benchmarks to meet the sponsors' de-risking needs at each stage. However, sponsors can sometimes overlook the importance of dedicating a similar amount of time and diligence to the operational and governance aspects of LDI.
- Considerations such as how sponsors monitor their LDI progress and reflect changes in a timely manner can have a significant bearing on the success of the LDI program. Even with the best plan in the world, failing to execute the strategy can lead to missed opportunities.
- To help them meet their goals, IR+M works with clients to bring a practical approach to the design, implementation and execution of their fixed income LDI portfolios.

Glidepath Monitor	10/31/15	9/30/15	12/31/14	10/31/14	10/31/12
Funded Status ¹ (%)	83.3	81.7	81.5	83.1	73.2
Long Credit Rates ⁵ (%)	4.86	4.92	4.40	4.51	4.22
Long Credit Spreads ⁵ (bps)	218	230	185	168	176
Curve ³ (Long Cred - Int. Cred) (bps)	222	231	199	224	237
Curve ³ (Long G/C - Agg) (bps)	170	178	151	171	186



¹Milliman; ²Citigroup; ³Barclays; ⁴Bloomberg; ⁵Long rates and Long spreads represented by Barclays Long Credit Index yield and spread; ⁶JP Morgan

All data in the above commentary is as of 10/31/15. 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.