INCOME RESEARCH + MANAGEMENT

LDI MONITOR

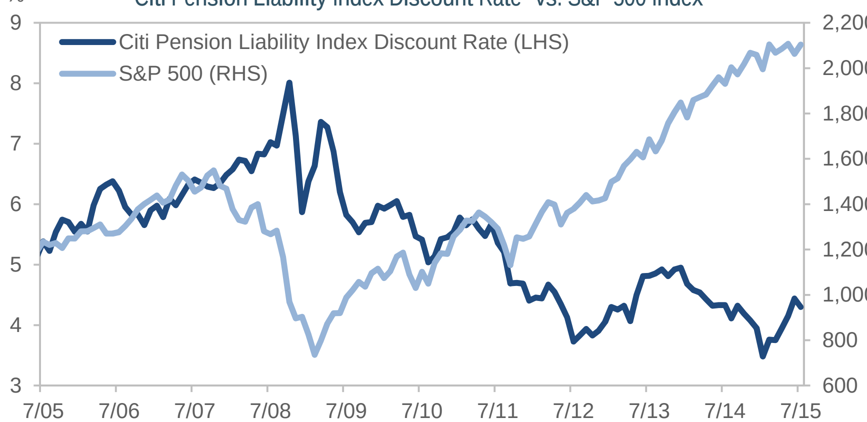
July 31, 2015

LDI Highlights

- After four straight months of improvement, corporate pension funded status declined during July, dropping 0.7% to 84.8%[1].
    - Discount rates fell by 14bps, the largest monthly decline since January, following long-dated Treasury yields lower.
    - Equities rebounded from negative returns in June, returning 2.1% amidst better-than-expected earnings.
- Long corporate spreads increased to 213bps[3], the widest level in the past three years, as heavy issuance, shareholder-friendly activity, and weakness in commodity prices negatively impacted the sector.
- After steepening sharply during the first four months of the year, the 10s30s spread curve has since flattened to 42bps[2], roughly the same level it began 2015.

Rates Monitor	7/31/15	6/30/15	12/31/14
Citigroup Pension Discount Rate[1] (%)	4.30	4.44	3.95
Barclays Long Credit Yield[3] (%)	4.82	4.90	4.40
Barclays Long Corporate Yield[3] (%)	4.84	4.93	4.42
Barclays Long BBB Corporate Yield[3] (%)	5.28	5.32	4.80
30 Year Swap Rate[4] (%)	2.76	2.92	2.70
Long BBB Corp. Yield[3] – Citi Pension Discount Rate[1] (bps)	98	88	85

Citi Pension Liability Index Discount Rate[1] vs. S&P 500 Index[4]

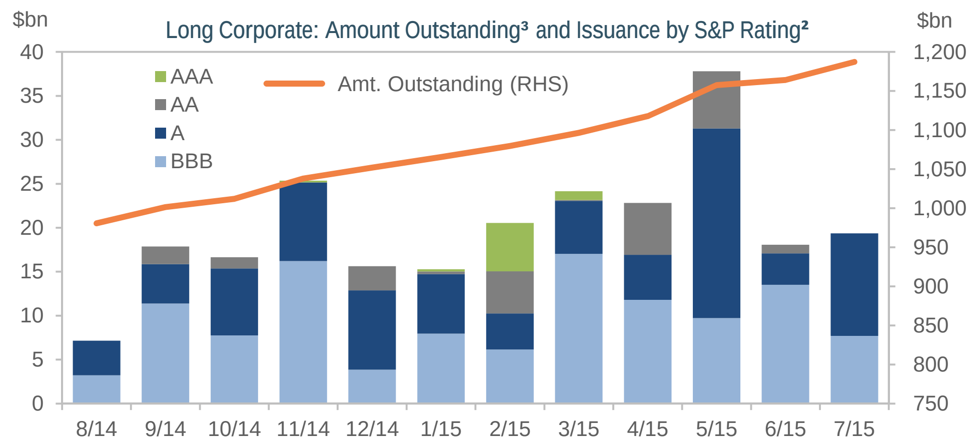


IR+M LDI Corner: Managing Credit Exposure While De-risking

- Corporate pension plans continued to de-risk in 2014, despite persistent low rates. At the end of the year, the 50 largest corporate pension plans averaged allocations of 37% to equities and 41% to fixed income[6], a reversal of the prior year's allocations.
- As plans de-risk by reducing equity holdings, the implicit credit-spread exposure in their risk-seeking portfolio declines. Plan sponsors seeking to hedge corporate liabilities often offset this impact by adding credit-spread exposure to their hedging portfolio.
- To achieve this, plan sponsors may reduce their government bond exposure in favor of corporate or credit allocations. Today's wide spread levels potentially make this an attractive time to transition to a more credit-focused benchmark.
- With the potential for a large number of buyers to enter the space, plan sponsors may wish to consider how long current spread levels will persist, and whether they may benefit from adding to their credit exposure ahead of the herd.

Glidepath Monitor	7/31/15	6/30/15	12/31/14	7/31/14	7/31/12
Funded Status[1] (%)	84.8	85.5	81.5	83.7	71.3
Long Credit Rates[5] (%)	4.82	4.90	4.40	4.57	4.29
Long Credit Spreads[5] (bps)	213	202	185	149	206
Curve[3] (Long Cred - Int. Cred) (bps)	224	234	199	234	215

Long Corporate: Amount Outstanding[3] and Issuance by S&P Rating[2]



Trailing 12 Month Long Corporate New Issuance[2] (bn)

AAA	AA	A	BBB	*Total*
$6.9	$24.6	$92.9	$116.3	*$240.7*

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