INCOME RESEARCH + MANAGEMENT

LDI MONITOR

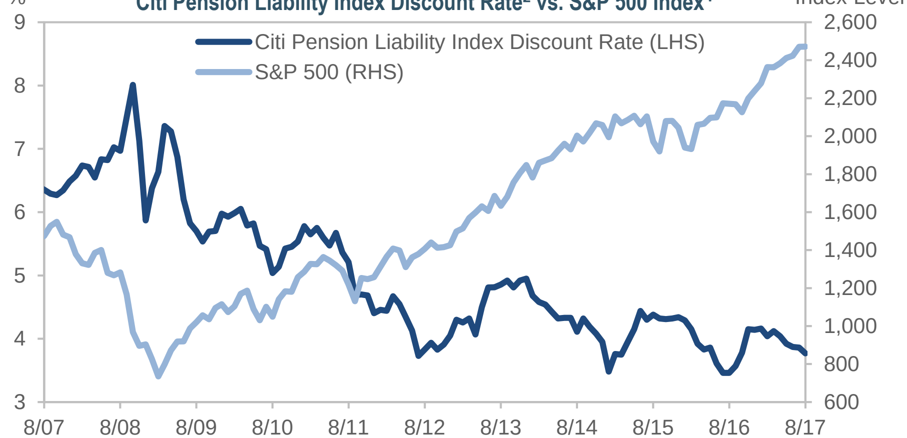
August 31, 2017

LDI Highlights

- Corporate pension funded status declined 0.7% to 83%, its lowest level year-to-date, as discount rates fell and equity markets were mostly flat.[1]
  - The Citigroup Pension Discount Rate dropped 9bps during the month to 3.77%, its lowest level since October 2016.[2]
- Long corporate issuance remained elevated during August at over $30 billion, accounting for 30% of total issuance for the second consecutive month and matching the highest level since 2000.[6]
  - Long BBB-rated issuance made up 80% ($24bn) of the total; the three largest deals were Enterprise Products (EPD) at $1.7bn, Kraft Heinz (KHC) at $1.5bn, and Capital One (COF) at $1.3bn.[4]
- Long corporate spreads widened 10bps during the month, as heavy supply and increased geopolitical fears weighed on the market.[3]

Rates Monitor	8/31/17	7/31/17	12/31/16
Citigroup Pension Discount Rate[2] (%)	3.77	3.86	4.14
Bloom Barc Long Credit Yield[3] (%)	4.14	4.23	4.55
Bloom Barc Long Corporate Yield[3] (%)	4.15	4.22	4.54
Bloom Barc Long BBB Corp Yield[3] (%)	4.51	4.57	4.93
30 Year Swap Rate[4] (%)	2.38	2.56	2.63
Long BBB Corp. Yield[3] – Citi Pension Discount Rate[2] (bps)	74	71	79

Citi Pension Liability Index Discount Rate[2] vs. S&P 500 Index[4]

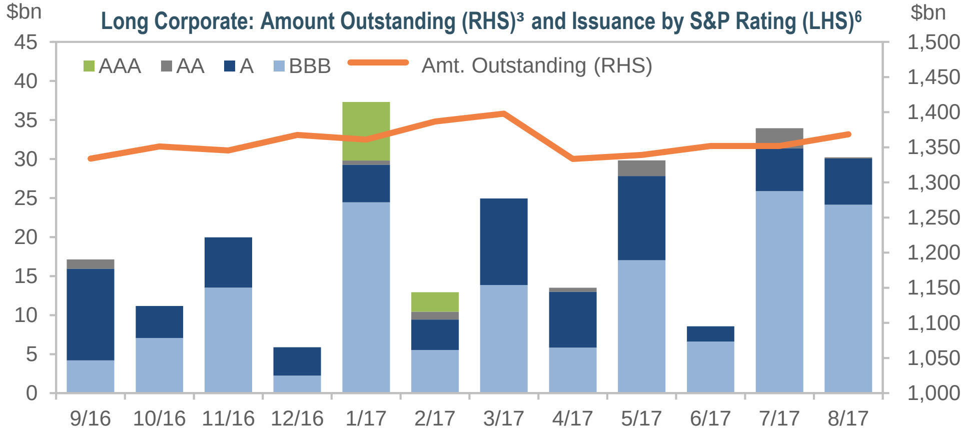


IR+M LDI Corner: What's Driving Derisking?

- Many sponsors aim to derisk their plans as funded status improves. The discount rate used to value the liabilities is a significant driver of funded status movements; however, in the current low-rate environment, there are other factors driving increased derisking activity.
- Sponsor contributions are perhaps the most likely source of funded status improvements, with many sponsors contributing at higher-than-required levels to reduce variable-rate PBGC premiums. Some plan sponsors have gone further by issuing debt to fund additional plan contributions. This process is commonly known as "borrow-to-fund".
- Regulatory impacts are often the wildcard in predicting sponsor behavior, and the effect can be hard to anticipate. However, the potential for tax reform and the recent changes to pension accounting methodology could be a tail wind to further derisking
- For more on this subject, please read our recent mailer "What's Driving Derisking?" which is available on our website: www.incomeresearch.com/whats-driving-derisking/

Glidepath Monitor	8/31/17	7/31/17	12/31/16	8/31/16	8/31/14
Funded Status[1] (%)	83.0	83.7	83.3	77.0	82.7
Long Credit Rates[5] (%)	4.14	4.23	4.55	3.96	4.38
Long Credit Spreads[5] (bps)	161	151	167	196	153
Curve[3] (Long Cred - Int. Cred) (bps)	167	170	180	182	226
Curve[3] (Long G/C - Agg) (bps)	111	114	134	129	166

Long Corporate: Amount Outstanding (RHS)[3] and Issuance by S&P Rating (LHS)[6]



Trailing 12 Month Long Corporate New Issuance[6] (bn)

AAA	AA	A	BBB	*Total*
$10.0	$7.9	$77.0	$150.5	*$245.4*

[1]Milliman (Historical numbers revised as of 3/31/17); [2]Citigroup; [3]Bloomberg Barclays; [4]Bloomberg; [5]Long rates and long spreads represented by Bloomberg Barclays Long Credit Index yield and spread; [6]JP Morgan