IR+M INCOME RESEARCH + MANAGEMENT

LDI MONITOR

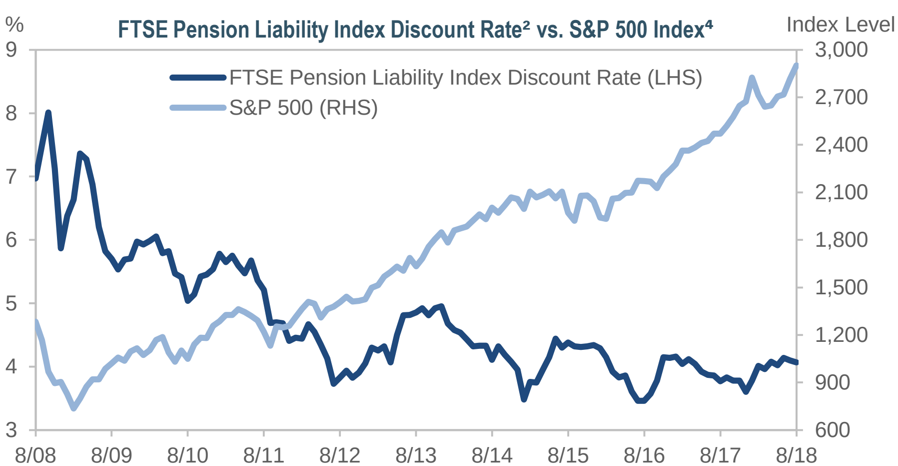
August 31, 2018

LDI Highlights

- Corporate pension funded status fell 0.1% during August to close the month at 93.3%, just below the post-crisis high.[1]
    - The decrease was driven by a modest decline in high-quality, long-term rates, which led to a 3bps decline in discount rates.[2]
    - The S&P 500 Index posted a return of 3.3% during August.[4]
- Supply remained quiet during August, as long corporate issuers priced approximately $13 billion, with roughly half from BBB-rated issuers.[5]
- Long corporate spreads reversed course, moving 10bps wider during August to close the month at 165bps.[3]
- Corporate spread curves steepened after flattening during July, as the difference between long corporate and intermediate corporate spreads widened to 75bps.[3]

Rates Monitor	8/31/18	7/31/18	12/31/17
FTSE Pension Liability Discount Rate[2] (%)	4.07	4.10	3.60
Bloom Barc Long Corporate Yield[3] (%)	4.60	4.60	4.02
Bloom Barc Long Corporate A+ Yield[3] (%)	4.26	4.28	3.69
Bloom Barc Long BBB Corp Yield[3] (%)	4.95	4.94	4.37
30 Year Swap Spread[4] (bps)	-5	-4	-20

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

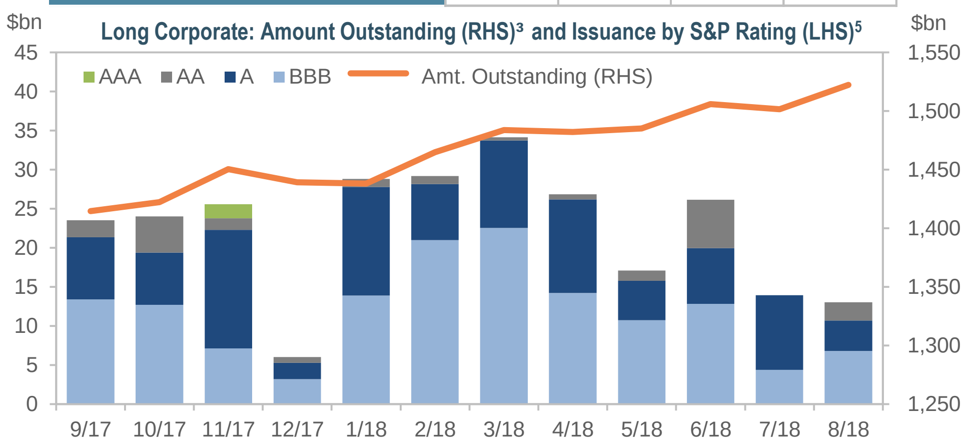


IR+M LDI Corner: Will Pension Contributions Become Old News?

- While the Tax Cuts and Jobs Act of 2017 lowered the corporate tax rate to 21% from 35% in January 2018, plan sponsors were able to deduct pension contributions at the higher 35% corporate tax rate until September 15th, 2018.
- With the extended deadline, some were concerned that there would be a spike in activity leading up to September 15th, followed by a sizeable decline.
    - Through the beginning of September, we actually saw a steady and robust level of contributions from plan sponsors. Record activity in the Treasury STRIPS market throughout the year also pointed to a steady pace of plan contributions, rather than a last-minute rush.
    - However, as we head into the fourth quarter, contribution activity may start to dwindle in response to the lower rate of tax savings now in effect.
- While the tax benefit of making pension contributions will be smaller going forward, plan sponsors will continue to be incented to make pension contributions to reduce the impact from steadily climbing PBGC variable-rate premiums.

Glidepath Monitor	8/31/18	7/31/18	12/31/17	12/31/14
Funded Status[1] (%)	93.3	93.4	87.6	81.5
Long Corporate Spreads[3] (bps)	165	155	137	186
Curve[3] (Long Corp - Int. Corp) (bps)	75	68	64	79

Long Corporate: Amount Outstanding (RHS)[3] and Issuance by S&P Rating (LHS)[5]



Trailing 12 Month Long Corporate New Issuance[5] (bn)

AAA	AA	A	BBB	*Total*
$1.7	$22.0	$101.7	$142.9	*$268.4*

[1]Milliman (Historical numbers revised as of 3/31/18); [2]FTSE Russell; [3]Bloomberg Barclays; [4]Bloomberg; [5]JP Morgan