INCOME RESEARCH + MANAGEMENT

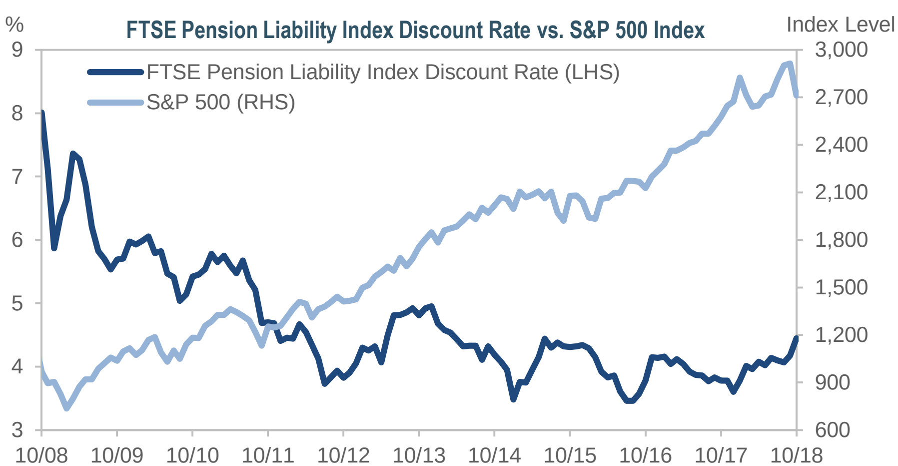
LDI MONITOR

October 31, 2018

LDI Highlights

- Corporate pension funded status fell by 1.1% during October to close the month at 93.4%.
    - The decline was driven by weak risk-market performance, as the S&P 500 Index returned -6.8% during October.
    - Partially offsetting poor equity results was a jump in long yields and spreads, which led to a 28bps increase in discount rates.
- Long duration supply was lighter than expected, at approximately $24 billion, coming entirely from issuers rated A or below.
- Long corporate spreads widened in sympathy with risk-market weakness, widening 13bps during October to close the month at 166bps.
- Over $13 billion of 20+ year Treasury bonds were stripped in October, which we view as an indicator of pension demand.

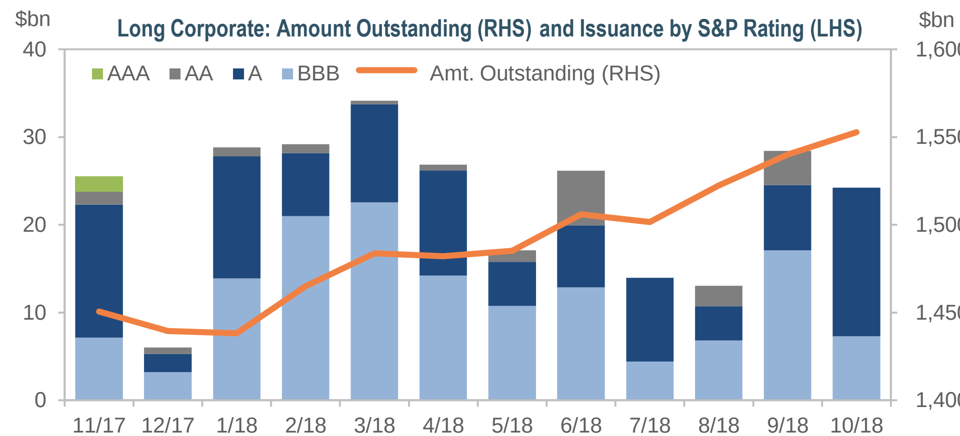
Rates Monitor	10/31/18	9/30/18	12/31/17
FTSE Pension Liability Discount Rate (%)	4.45	4.17	3.60
Bloom Barc Long Corporate Yield (%)	4.98	4.68	4.02
Bloom Barc Long Corporate A+ Yield (%)	4.64	4.36	3.69
Bloom Barc Long Corporate BBB Yield (%)	5.32	5.00	4.37
30 Year Swap Spread (bps)	-10	-7	-20



IR+M LDI Corner: Five Golden Percentage Points of Yield

- Yields on long duration credit are hovering near 5%, a level that could be a psychological tipping point for some investors.
    - The Bloomberg Barclays Long Credit Index yielded 4.98% as of October month-end, driven by a 5.37% yield on long BBB-rated bonds.
- Long credit yields have reached 5% only twice over the last seven years, and each time was driven by a distinct, negative catalyst.
    - In 2013, the Taper Tantrum sent yields soaring, and long credit yields broke through 5% for a short period of about six months.
    - The most recent period of 5% long credit yields was during late 2015 to early 2016, as the energy sector was under extreme pressure and downgrades were spiking; long energy spreads surpassed 500bps, a far cry from the 199bps spread as of October month-end.

Glidepath Monitor	10/31/18	9/30/18	12/31/17	12/31/14
Funded Status (%)	93.4	94.5	87.6	81.5
Long Corporate Spreads (bps)	166	153	137	186
Curve (Long Corp - Int. Corp) (bps)	70	69	64	79



Trailing 12 Month Long Corporate New Issuance (bn)

AAA	AA	A	BBB	*Total*
$1.7	$19.1	$111.5	$141.2	$273.5

Sources: Milliman (Historical numbers revised as of 3/31/18), FTSE Russell (formerly Citigroup), Bloomberg Barclays, Bloomberg, and JPMorgan