LDI MONITOR

October 31, 2020

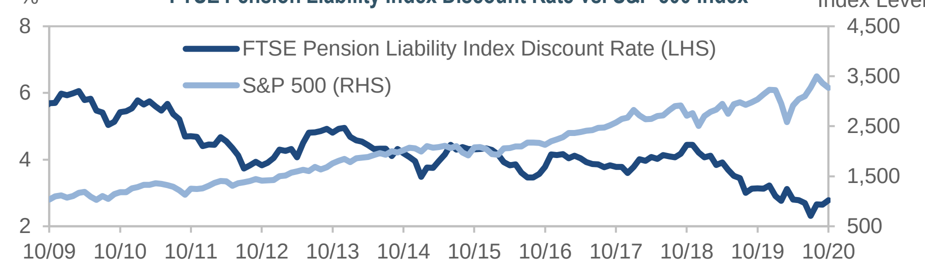
INCOME RESEARCH + MANAGEMENT

LDI Highlights

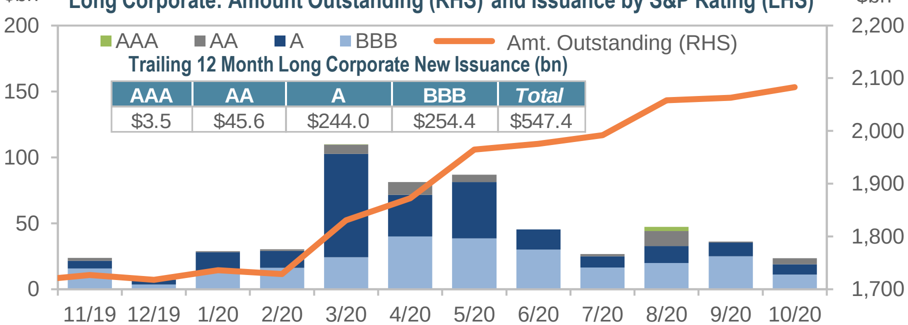
- Discount rates increased by 0.12%, from 2.31% to 2.43%.
- The S&P 500 Index fell by over 2.5% in October amid a resurgence in coronavirus cases that caused risk assets to underperform.
- Continued investor demand for yield, both domestically and from overseas, helped push long corporate spreads 11bps tighter month-over-month to 177bps.
- Long corporate issuance slowed and totaled roughly $24 billion, providing another positive technical for spreads.

Rates Monitor	10/20	09/20	MoM Change	12/19	YTD Change
IR+M Average Plan Discount Rate (%)	2.43	2.31	0.12	3.00	(0.57)
Bloom Barc Long Corp Yield (%)	3.12	3.06	0.06	3.60	(0.48)
Bloom Barc Long Corp A+ Yield (%)	2.76	2.68	0.08	3.25	(0.49)
Bloom Barc Long Corp BBB Yield (%)	3.49	3.46	0.03	3.94	(0.45)
Long Corp Spreads (bps)	177	188	(11)	136	41
Curve (Long Corp - Int Corp) (bps)	83	85	(2)	66	17

FTSE Pension Liability Index Discount Rate vs. S&P 500 Index



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



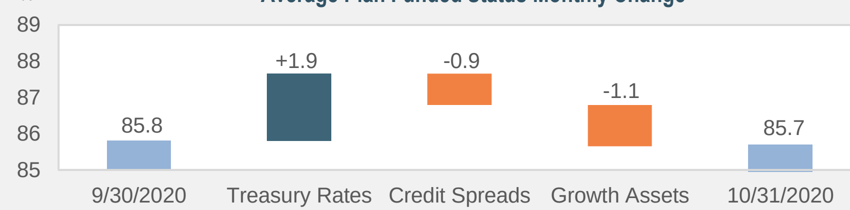
AAA	AA	A	BBB	*Total*
$3.5	$45.6	$244.0	$254.4	$547.4

IR+M Funded Status Monitor

- Our sample average plan funded status decreased by 0.1% during October, closing at 85.7% - negative growth asset returns were offset by higher discount rates.

Funded Status (%)	10/20	09/20	MoM Change	12/19	YTD Change
Average Plan	85.7	85.8	(0.1)	89.8	(4.1)
End Stage Plan	99.2	99.0	0.2	100.0	(0.8)
Young Plan	74.2	74.4	(0.2)	80.0	(5.8)

Average Plan Funded Status Monthly Change



IR+M LDI Corner: Do Settle for Less

- As interest rates are expected to remain lower for longer, a bulk lump sum window may present an attractive “arbitrage” opportunity. Lump sums will likely be valued at higher discount rates than rates in effect at year-end.
  - Lump sum rates are determined from a historic lookback period. For calendar year plans, market-based 417(e) rates from Q4 2019 apply.
  - The plan assets for participants who take lump sums could be settled for less than their associated year-end reported financial liabilities.
- 2020 year-to-date bulk lump sum activity totals $5.7bn, outpacing each of the prior 8 years. Prior to this, 2012 held the record at $3.9bn. Lump sum windows gained popularity in 2012 when regulations changed the bases for lump sum rates making these offerings more cost effective.
- The plan’s actuary can provide a likely range of cost savings from a balance sheet perspective and PBGC premium reduction to inform decision-making.
- As a LDI manager, we would look to provide any needed liquidity to pay out benefits. After the offering has concluded, we would review the updated liability profile for any material changes that would impact your LDI strategy.

IR+M DISCLOSURE STATEMENT

Disclosures:

Sources: Milliman, FTSE Russell (formerly Citigroup), Bloomberg Barclays, Bloomberg, JPMorgan, and Pensions & Investments. All data in the above commentary is as of 10/31/20. 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. BLOOMBERG® is a trademark and service mark of Bloomberg Finance L.P. and its affiliates (collectively "Bloomberg"). BARCLAYS® is a trademark and service mark of Barclays Bank Plc (collectively with its affiliates, "Barclays"), used under license. Bloomberg or Bloomberg's licensors, including Barclays, own all proprietary rights in the Bloomberg Barclays Indices. Neither Bloomberg nor Barclays approves or endorses this material, or guarantees the accuracy or completeness of any information herein, or makes any warranty, express or implied, as to the results to be obtained therefrom and, to the maximum extent allowed by law, neither shall have any liability or responsibility for injury or damages arising in connection therewith.

IR+M Funded Status Monitor Assumptions:

Detailed methodology and assumptions for the IR+M Funded Status Monitor can be found at:
http://www.incomeresearch.com/wp-content/uploads/2020/10/IRM-Funded-Status-Monitor.pdf.

	End Stage	Average	Young
Target Liability Duration (Years)	8-10	12-14	15-17
Funded Ratio at Inception (i.e., 12/31/2019)	100.0%	89.8%	80.0%

Asset Allocations	End Stage	Average	Young
US Equity	15%	27%	38%
International Equity	5%	17%	22%
US REITS	0%	2%	5%
Private Equity	0%	4%	5%
Growth Assets Allocation	20%	50%	70%
Long Government Fixed Income	5%	10%	10%
Long Credit Fixed Income	30%	25%	10%
Intermediate Government Fixed Income	5%	5%	5%
Intermediate Credit Fixed Income	40%	10%	5%
Fixed Income Allocation	80%	50%	30%