INCOME RESEARCH + MANAGEMENT

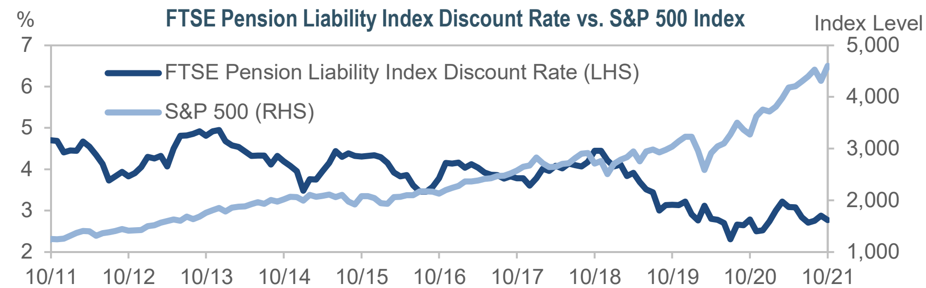
LDI MONITOR

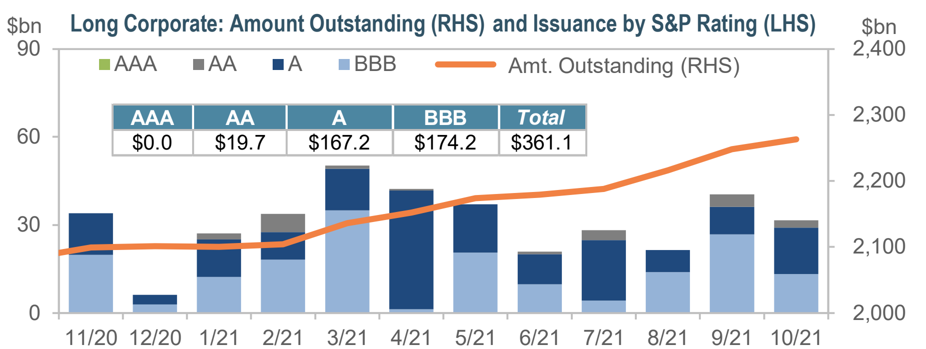
October 31, 2021

LDI Market Updates

- Discount rates decreased in October by 0.04%, from 2.61% to 2.57%[1].
- The S&P 500 reached another all-time high, the 59th in 2021, after increasing by almost 7%, while long corporates outperformed Treasuries by 0.18%.
- Long corporate spreads closed the month 1bp wider, from 122bps to 123bps, after being range-bound, oscillating between 121bps and 125bps.
- Issuance totaled almost $32 billion, the heaviest October on record for long bond supply; year-to-date, roughly $333 billion of long bonds have priced.

Rates Monitor	10/21	09/21	MoM Change	12/20	YTD Change
IR+M Average Plan Discount Rate (%)	2.57	2.61	(0.04)	2.22	0.35
Bloomberg Long Corp Yield (%)	3.07	3.14	(0.07)	2.78	0.29
Bloomberg Long Corp A+ Yield (%)	2.83	2.91	(0.08)	2.49	0.34
Bloomberg Long Corp BBB Yield (%)	3.29	3.35	(0.06)	3.07	0.22
Long Corp Spreads (bps)	123	122	1	140	(17)
Curve (Long Corp - Int Corp) (bps)	59	62	(3)	72	(13)



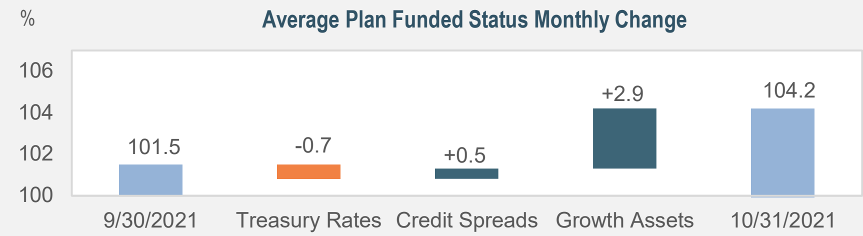


[1] Single effective discount rate shown is for the IR+M Average Sample Plan, calculated from the FTSE Pension Discount Curve.

IR+M Funded Status Monitor

- Our sample Average Plan funded status increased by 2.7% during October, closing at 104.2%; despite slightly lower discount rates, strong growth assets returns pushed its funded status higher month-over-month.

Funded Status (%)	10/21	09/21	MoM Change	12/20	YTD Change
Average Plan	104.2	101.5	2.7	91.8	12.4
End Stage Plan	112.7	110.8	1.9	102.8	9.9
Young Plan	95.2	92.7	2.5	80.0	15.2



IR+M LDI Corner: So You Gotta Let Me Know, Should ESG Stay or Should It Go?

- As anticipated, the DOL[2] proposal issued on October 14, 2021 would formally allow the use of ESG factors in selecting retirement plan investments by ERISA[3] fiduciaries. This would reverse the 2020 rules which discouraged ESG investing.
  - The new proposal acknowledges ESG factors may often impact the risk and return profiles of investments, and a fiduciary's duty of prudence may require an assessment of such factors in their selection criteria.
  - The prior language that ESG concerns could only be used as a "tie-breaker" has been removed along with the documentation burden to prove that such ESG factors have a "pecuniary" benefit.
  - ESG funds are allowable as a QDIA[4] in defined contribution plans, provided they meet all other required standards.
- While the degree to which this increases ESG adoption remains to be seen, hesitation may linger as ESG has become a partisan issue.
- At IR+M, we believe consideration of ESG factors helps long-term investors, including retirement plan fiduciaries, monitor and reduce risk. For this reason, we leverage our robust ESG analysis as a risk mitigation tool embedded within our investment process.

[2] Department of Labor
[3] Employee Retirement Income Security Act of 1974
[4] Qualified Designated Investment Alternative

IR+M DISCLOSURE STATEMENT

Disclosures:

Sources: Milliman, FTSE Russell (formerly Citigroup), Bloomberg, and JPMorgan. All data in the above commentary is as of 10/31/21. 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®" and Bloomberg Indices are service marks of Bloomberg Finance L.P. and its affiliates, including Bloomberg Index Services Limited ("BISL"), the administrator of the index (collectively, "Bloomberg") and have been licensed for use for certain purposes by IR+M. Bloomberg is not affiliated with IR+M, and Bloomberg does not approve, endorse, review, or recommend the products described herein. Bloomberg does not guarantee the timeliness, accurateness, or completeness of any data or information relating to any IR+M product.

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/2021/01/IRM-Funded-Status-Monitor-2021.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	12%	27%	38%
International Equity	3%	17%	22%
US REITS	0%	2%	5%
Private Equity	0%	4%	5%
Growth Assets Allocation	15%	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	45%	10%	5%
Fixed Income Allocation	85%	50%	30%