

**LDI Market Updates**

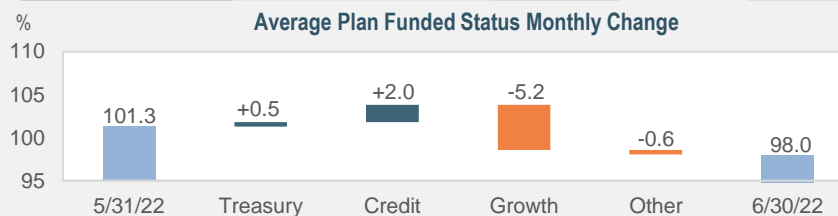
- Discount rates increased by 0.26% in June, from 4.03% to 4.29%.
- Investors continued to remain cautious amid persistent inflationary concerns, tightening monetary policy, and renewed worries of a slowdown in global growth, pushing long corporate spreads 24bps wider, from 162bps to 186bps.
- Issuance remained light in June, with only \$15 billion issued, the lightest month of issuance since December 2020.

Rates Monitor	06/22	05/22	MoM Change	12/21	YTD Change
IR+M Average Plan Discount Rate (%)	4.29	4.03	0.26	2.61	1.68
Bloomberg Long Corp Yield (%)	5.11	4.75	0.36	3.10	2.01
Bloomberg Long Corp A+ Yield (%)	4.73	4.41	0.32	2.87	1.86
Bloomberg Long Corp BBB Yield (%)	5.51	5.09	0.42	3.32	2.19
Long Corp Spreads (bps)	186	162	24	130	56
Curve (Long Corp - Int Corp) (bps)	47	50	(3)	61	(14)

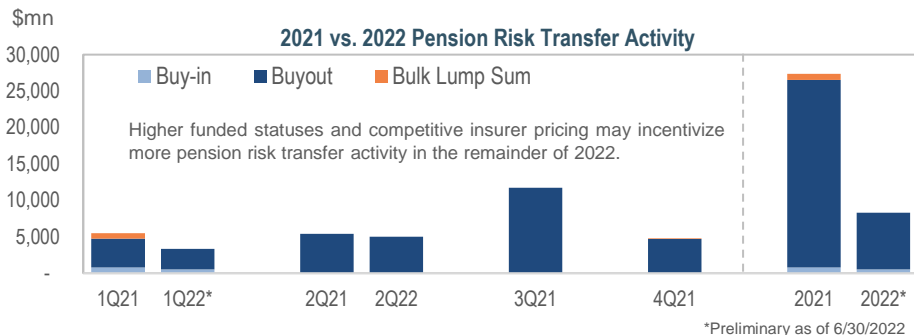
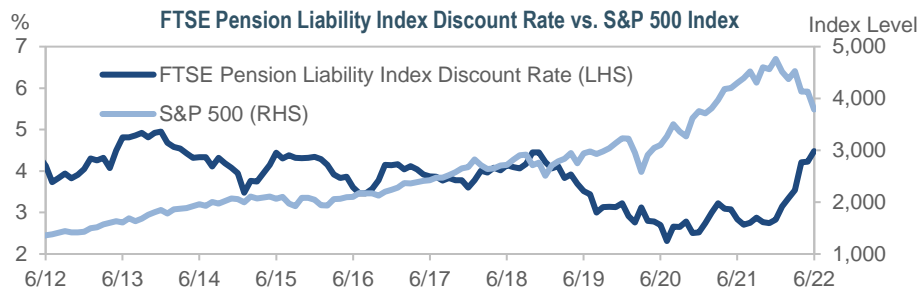
**IR+M Funded Status Monitor**

- Our sample Average Plan funded status decreased by 3.3% during June, closing at 98.0%; despite higher discount rates, negative growth asset returns pushed the funded status lower.

Funded Status (%)	06/22	05/22	MoM Change	12/21	YTD Change
Average Plan	98.0	101.3	(3.3)	101.9	(3.9)
End Stage Plan	104.9	105.4	(0.5)	106.8	(1.9)
Young Plan	89.6	93.7	(4.1)	92.2	(2.6)



Other includes contributions, expenses, benefit accruals, and liability profile changes.

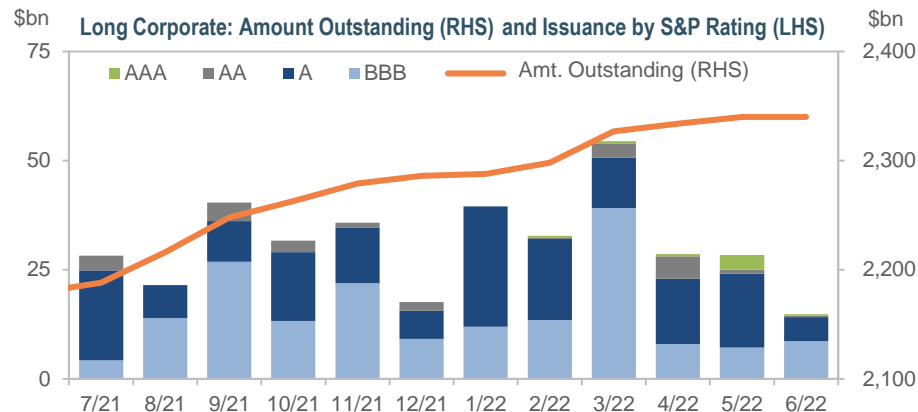


**IR+M LDI Corner – The Case for Activating Active in LDI**

- We believe [active management](#) is a valuable LDI tool; the alpha and downside protection versus passive strategies may lead to more effective liability hedging.
  - Liabilities are downgrade and default immune. Therefore, active management can mitigate basis risk when bonds fall out of the liability discount rate calculation by avoiding issuers with deteriorating fundamentals. We think solid credit selection is crucial especially for later-stage, credit-focused plans where funded status protection is key.
  - Active managers can reduce transaction costs by minimizing turnover and taking advantage of new issue concessions. Excess returns can offset plan administrative expense (including PBGC premiums) and potentially contribution requirements.
  - We manage all our strategies, including our LDI solutions, to be duration and curve neutral. We continue to believe predicting the direction and magnitude of future interest rate moves are very difficult and has only increased as of late with Fed uncertainty.
- Active management may have added relevance today given elevated market volatility. Active LDI approaches can provide downside protection, help plan assets keep pace with liability returns, and minimize asset-liability tracking error.

### Second Quarter 2022 Corporate Issuance

- The weaker market tone and higher borrowing costs kept many issuers on the sideline for much of the quarter.
  - Long corporate supply totaled almost \$70 billion in the second quarter and accounted for roughly 25% of total supply volume.
  - Issuers were primarily rated A or better, as investors were less supportive of lower-quality issuers.
- Year-to-date issuance of \$199 billion was 6% behind last year's pace but well above pre-COVID historical averages.
  - The average first half year issuance total prior to 2020 was \$140 billion but averaged almost \$300 billion in 2020 and 2021.
- Issuers were forced to price new debt with a higher concession compared to last year, with new issue concessions averaging almost 12bps this year versus 2bps in 2021.



**Trailing 12 Month Long Corporate New Issuance (bn)**

AAA	AA	A	BBB	Total
\$5.0	\$23.6	\$167.5	\$177.5	\$373.6

### Largest Long-Dated USD Investment Grade Deals

Ticker	Issuer Name	Maturity	Issue Date	Average Rating	Amount Issued (\$bn)	Yield at Issue (%)	Spread at Issue (bps)	Concession to Outstanding (bps)	Order Book (\$bn)	Oversubscription Level (times)
ICE	Intercontinental Exchange Inc	11	5/12/2022	A-	1.5	4.61	175	20	5.5	3.7
		30	5/12/2022	A-	1.5	5.04	200	20	6.3	4.2
		40	5/12/2022	A-	1.0	5.24	220	20	3.9	3.9
AMZN	Amazon.com Inc	30	4/11/2022	AA-	2.5	3.97	115	10	4.4	1.8
		40	4/11/2022	AA-	1.3	4.12	130	10	2.9	2.3
WFC	Wells Fargo & Co	31	4/18/2022	A+	3.3	4.61	168	10	7.1	2.2
UNH	UnitedHealth Group Inc	30	5/17/2022	A	2.0	4.81	160	7	7.5	3.8
		40	5/17/2022	A	1.0	5.01	180	15	4.4	4.4
CSLAU	CSL Finance PLC	20	4/20/2022	A-	0.5	4.63	155	N/A	3.8	7.6
		30	4/20/2022	A-	1.0	4.77	185	N/A	4.7	4.7
		40	4/20/2022	A-	0.5	4.97	205	N/A	3.2	6.3
JBSSBZ	JBS USA LUX SA / JBS USA Food Co / JBS USA Finance Inc	11	6/6/2022	BBB-	1.3	5.93	288	18	2.7	2.2
		30	6/6/2022	BBB-	0.8	6.60	338	25	1.7	2.3

# IR+M DISCLOSURE STATEMENT

## Disclosures:

Sources: Moody's PFaroe, Milliman, FTSE Russell (formerly Citigroup), Bloomberg, JPMorgan and Pension & Investments. All data in the above commentary is as of 6/30/22. 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 but IR+M makes no guarantee as to the accuracy or completeness of the underlying third-party data used to form IR+M's views and opinions. This report is for informational purposes only and is not intended to provide specific advice, recommendations, or projected returns for 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. Moody's Analytics PFaroe® product used by IR+M includes market data and other information sourced from third parties under license. Certain licensors require Moody's Analytics to make disclosures to, or to obtain acknowledgements or agreements from, IR+M and parties receiving the information from IR+M, which is effected by the disclosures and disclaimers available at <https://static.pfaroe.com/DisclosuresAndDisclaimers/index.html>.

## IR+M Funded Status Monitor Assumptions:

Detailed methodology and assumptions for the IR+M Funded Status Monitor can be found at:

<https://www.incomeresearch.com/wp-content/uploads/2022/02/IRM-Funded-Status-Monitor-Whitepaper-2022.pdf>.

	End Stage	Average	Young
<b>Target Liability Duration (Years)</b>	8-10	12-14	15-17
<b>Funded Ratio at Inception (i.e., 12/31/2019)</b>	100.0%	89.8%	80.0%
<b>Asset Allocations</b>	End Stage	Average	Young
<b>US All Cap Equity</b>	8%	27%	38%
<b>International Equity</b>	2%	17%	22%
<b>US REITS</b>	0%	2%	5%
<b>Private Equity</b>	0%	4%	5%
<b>Growth Assets Allocation</b>	10%	50%	70%
<b>Long Government Fixed Income</b>	5%	10%	10%
<b>Long Credit Fixed Income</b>	30%	25%	10%
<b>Intermediate Government Fixed Income</b>	5%	5%	5%
<b>Intermediate Credit Fixed Income</b>	50%	10%	5%
<b>Fixed Income Allocation</b>	90%	50%	30%