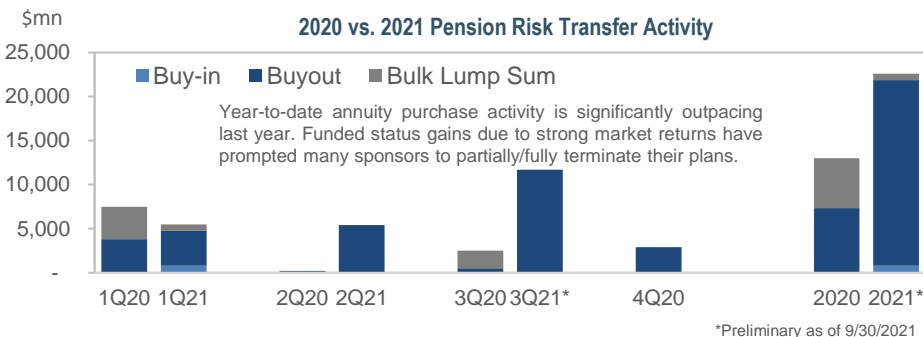
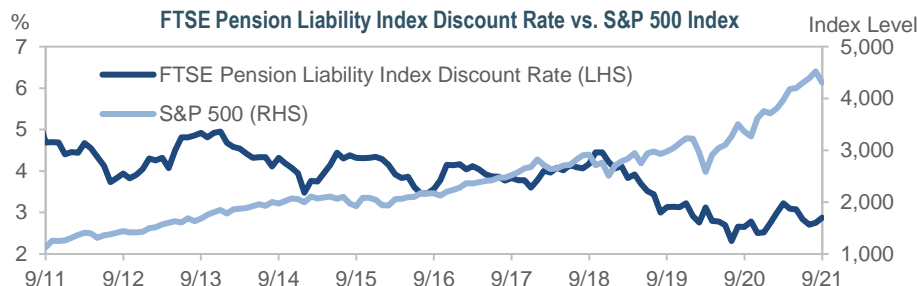


LDI Market Updates

- Discount rates increased in September by 0.12%, to 2.61% from 2.49%.
- Long corporate yields jumped back above 3%, as Treasury rates increased across the curve after the FOMC meeting towards the end of the month.
- BBB-rated issuers opportunistically issued long-duration bonds as yields moved higher, accounting for over 65% of this month's \$40 billion total.
- Despite long corporate spreads tightening 2bps in September, spreads widened 5bps off the year-to-date tights in 3Q, from 117bps to 122bps.

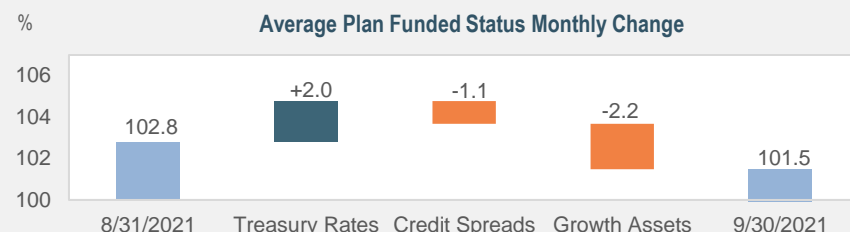
Rates Monitor	09/21	08/21	MoM Change	12/20	YTD Change
IR+M Average Plan Discount Rate (%)	2.61	2.49	0.12	2.22	0.39
Bloomberg Long Corp Yield (%)	3.14	2.99	0.15	2.78	0.36
Bloomberg Long Corp A+ Yield (%)	2.91	2.76	0.15	2.49	0.42
Bloomberg Long Corp BBB Yield (%)	3.35	3.21	0.14	3.07	0.28
Long Corp Spreads (bps)	122	124	(2)	140	(18)
Curve (Long Corp - Int Corp) (bps)	62	62	0	72	(10)



IR+M Funded Status Monitor

- Our sample Average Plan funded status decreased by 1.3% during September, closing at 101.5%; despite higher discount rates, negative growth assets returns pushed its funded status lower month-over-month.

Funded Status (%)	09/21	08/21	MoM Change	12/20	YTD Change
Average Plan	101.5	102.8	(1.3)	91.8	9.7
End Stage Plan	110.8	110.8	0.0	102.8	8.0
Young Plan	92.7	94.2	(1.5)	80.0	12.7

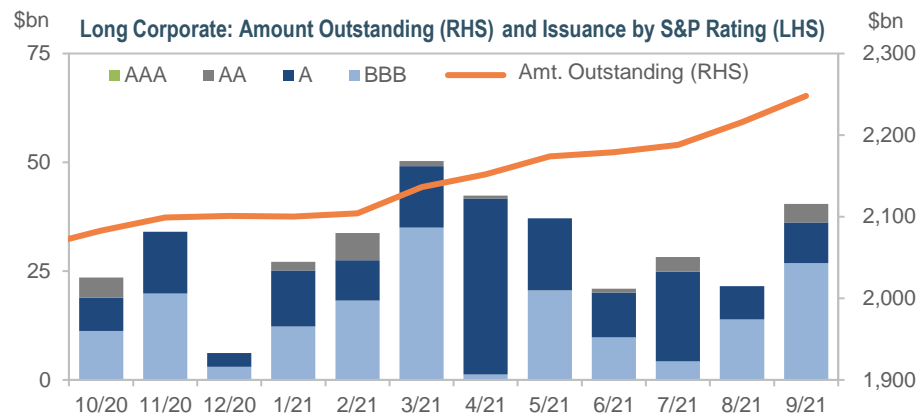


IR+M LDI Corner: Fed Up With Predicting Rates

- Interest rates are driven by a variety of factors and are difficult to predict; the growing impact of the Delta variant and impending debt ceiling breach are currently two of the most-watched factors.
- We do not position our portfolios for specific interest rate forecasts. However, we monitor the Federal Reserve (Fed) as monetary policy decisions significantly impact interest rates and fixed income markets. The Fed made several important announcements at its recent meeting, pointing towards rising rates in the future:
 - Half of the FOMC members believe a rate hike will be appropriate next year, with an additional six hikes penciled in by the end of 2024.
 - A taper announcement is expected at its next meeting, with the taper likely concluding by mid-2022. The Fed has been a major buyer of Treasuries, which has helped keep rates low. With reduced demand from the Fed, yields may need to rise to attract other buyers. See our [infographic](#) for more information.
- We maintain a duration neutral posture, and instead look to add value through asset allocation and security selection. We anticipate continued interest rate uncertainty and believe our philosophy is well suited for LDI mandates where the objective is to mitigate funded status volatility, regardless of how market conditions evolve.

Third Quarter 2021 Corporate Issuance

- The primary market was well-supported by foreign buyers due to favorable exchange rates and inflows from pension plans that looked to de-risk from equities to long bonds.
- Long corporate supply was limited at the beginning of the quarter but accelerated in September as Treasury rates jumped.
 - Long issuance slowed from the second quarter (\$110 billion) and totaled roughly \$90 billion.
 - Year-to-date supply of \$300 billion trailed 2021's pace of \$493 billion, but already surpassed the second-highest annual total of \$298 billion set in 2019.
- Liability management continues to be popular among long-duration issuers, as companies are able to tender or exchange higher-coupon bonds for lower-coupon bonds.



Trailing 12 Month Long Corporate New Issuance (bn)

AAA	AA	A	BBB	Total
\$0.0	\$23.2	\$166.0	\$176.1	\$365.3

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)
AAPL	Apple Inc	30	7/29/2021	AA+	1.8	2.71	77	2	4.8	2.7
		40	7/29/2021	AA+	1.4	2.86	92	2	3.9	2.8
INTC	Intel Corp	20	8/10/2021	A+	0.8	2.81	90	0	2.7	3.6
		30	8/10/2021	A+	1.3	3.07	105	0	4.7	3.8
AMGN	Amgen Inc	20	8/5/2021	BBB+	1.2	2.82	105	10	2.8	2.4
		30	8/5/2021	BBB+	1.4	3.03	115	10	3.3	2.4
WMT	Walmart Inc	20	9/8/2021	AA	1.0	2.50	62	7	3.5	3.5
		30	9/8/2021	AA	1.5	2.67	72	7	4.7	3.1
TMUS	T-Mobile USA Inc	31	8/10/2021	BBB-	1.3	3.41	140	5	3.7	2.8
		39	8/10/2021	BBB-	0.7	3.60	155	5	2.3	3.3
BAC	Bank of America Corp	31	7/15/2021	A	2.0	2.97	103	3	6.3	3.2
BRKHEC	PacifiCorp	31	7/7/2021	A+	1.0	2.94	98	10.5	1.4	1.4
	MidAmerican Energy Co	31	7/20/2021	A+	0.5	2.73	85	0	1.1	1.7

IR+M DISCLOSURE STATEMENT

Disclosures:

Sources: Milliman, FTSE Russell (formerly Citigroup), Bloomberg, JPMorgan, and Pension & Investments. All data in the above commentary is as of 9/30/21. 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%