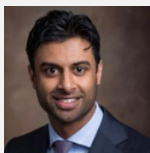




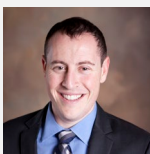
LDI Solutions

PENSION CURVE INSIDER

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Jason DaCruz, CFA
Solutions Analyst
jason.dacruz@troweprice.com
(410) 345-2059



Justin Harvey, ASA, CFA
Head of Analysis,
Multi-Asset Solutions
justin.harvey@troweprice.com
(410) 345-6847

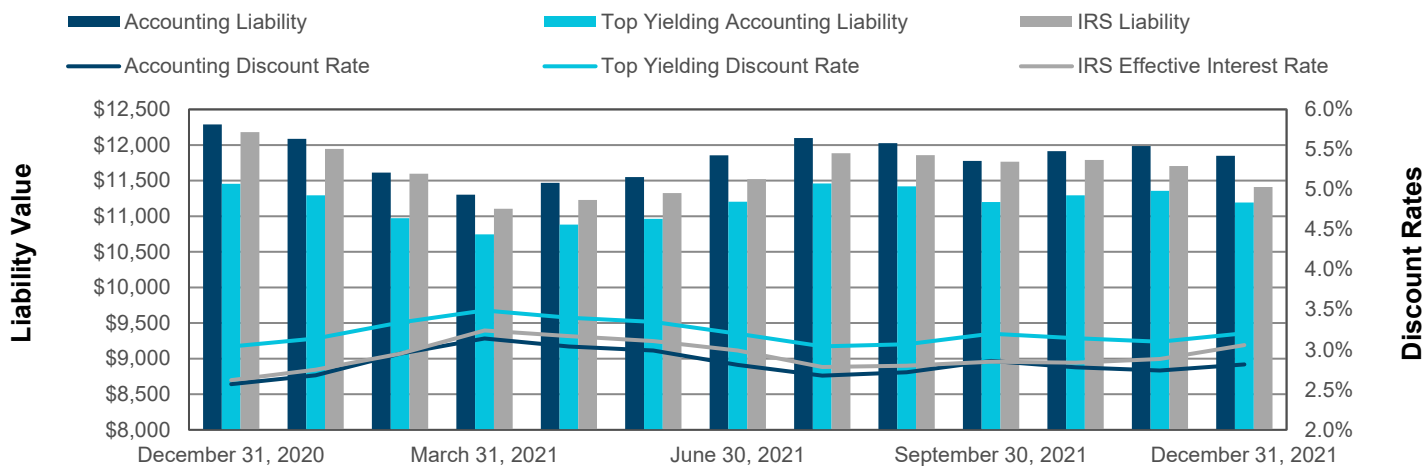
MONTHLY RECAP

Treasury yields moved higher during the month of December, as markets shrugged off concerns for the Omicron variant and the Federal Reserve announced an accelerated timetable for asset purchase tapering. Despite elevated volatility in other parts of financial markets, corporate spreads remained stable through the month.

Plan liability values decreased slightly on a marked-to-market basis, reversing November's increase. Discount rates for a sample plan liability rose by 8 basis points based on the AA-rated spot curve and 11 basis points using the top-yielding curve. At month end, the top-yielding curve provided 39 basis points of additional yield versus the broader AA-rated universe.

December was quiet from an issuance perspective, with only \$2.0B in new bonds entering the index during the month. New issues had a negligible upward impact on the intermediate to long end of the curve. No turnover occurred due to credit rating changes, though a handful of bonds exited due to other index inclusion criteria.

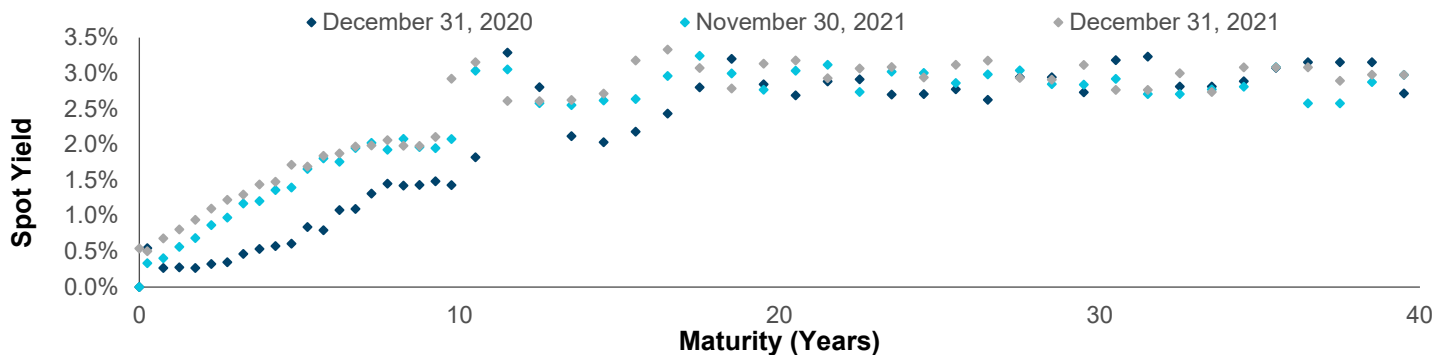
LIABILITY IMPACT



Yield Curve	Liability Value 12/31/21	Discount Rate 12/31/21	Liability Value 11/30/21	Discount Rate 11/30/21	Liability Value 12/31/20	Discount Rate 12/31/20
Accounting Yield Curve	\$11,849	2.82%	\$11,986	2.74%	\$12,288	2.57%
Top Yielding Accounting Curve	\$11,192	3.21%	\$11,357	3.10%	\$11,456	3.04%
IRS Yield Curve	\$11,411	3.06%	\$11,794	2.83%	\$12,182	2.62%

Sources: Bloomberg. Bloomberg Index Services Ltd. Copyright 2021, Bloomberg Index Services Ltd. Used with permission. IRS, and T. Rowe Price. Sample plan cash flows have a liability of \$10,000 at 4.0% discount rate.

ACCOUNTING CURVE



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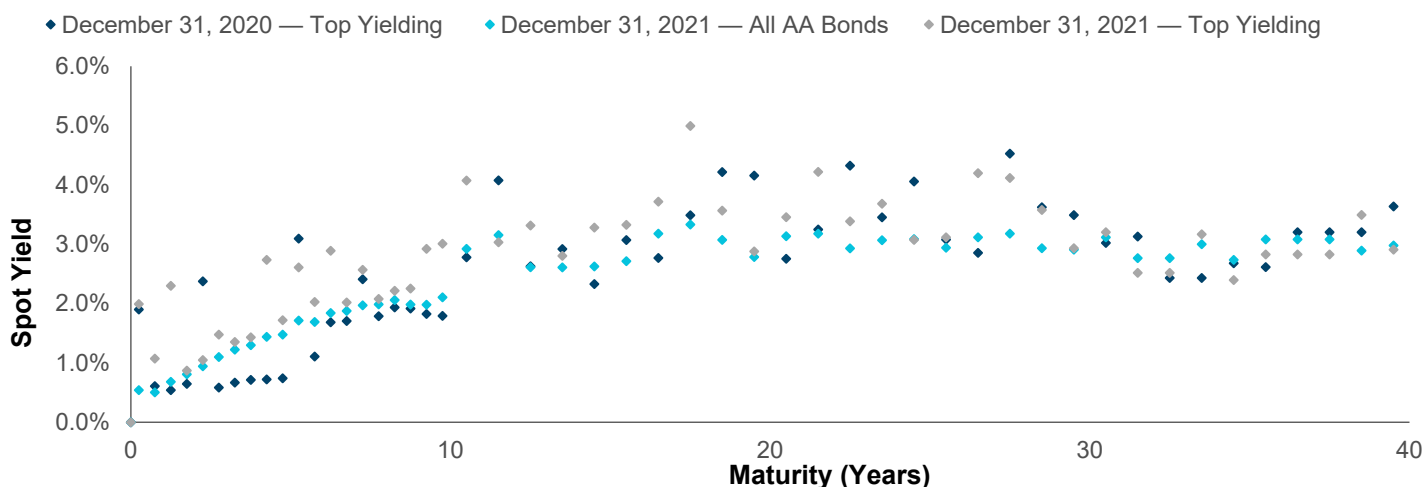
Issuer	Event	Curve Impact
BlackRock, Inc.	New Issue (1 Bond)	BlackRock, the New York based asset management firm, issued a senior unsecured bond dated to mature in 2032. The \$1.0B offering was the largest issue during the month, and traded slightly wide of similarly-dated issues at month end.
Sales Tax Securitization Corporation (City of Chicago)	New Issue (1 Bond)	The City of Chicago sold another issue in a series of Sales Tax Securitization Bonds during December, dated to mature in 2042. Issued through the Sales Tax Securitization Corporation special purpose entity, the bond is supported by a portion of the city's sales tax revenues. The bond traded wide of its maturity segment in the index.
Multiple	Exits (5 Bonds)	Five bonds exited the universe during the month, due to redemption activity or call provisions. Four of the bonds, totalling \$3.5B at the start of the month, were subject to repurchases by their issuers which brought outstanding amounts below the index inclusion minimum. One bond, worth \$1.3B at month end, fell out of the index due to a call provision with an exercise date option within five years.

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	New Issues	Other Bonds Entering	Downgrades	Other Bonds Exiting
December 2021				
Count	4	--	--	5
Market Value (\$M)	\$2,060	--	--	\$3,479
Market Value (%)	0.3%	--	--	0.51%
2021 YTD				
Count	112	41	36	24
Market Value (\$M)	\$98,711	\$66,452	\$33,905	\$26,457
Market Value (%)	14.41%	13.9%	4.88%	3.86%

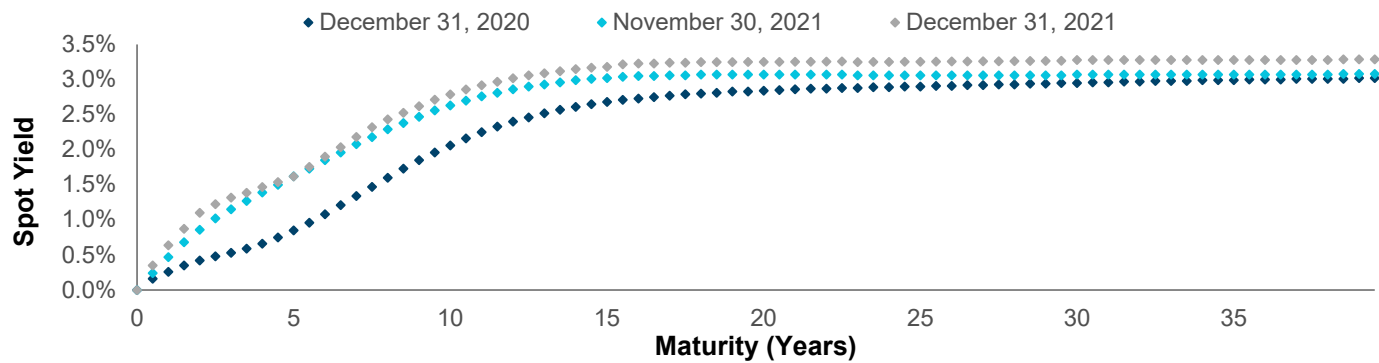
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TOP YIELDING ACCOUNTING CURVE



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IRS CURVE

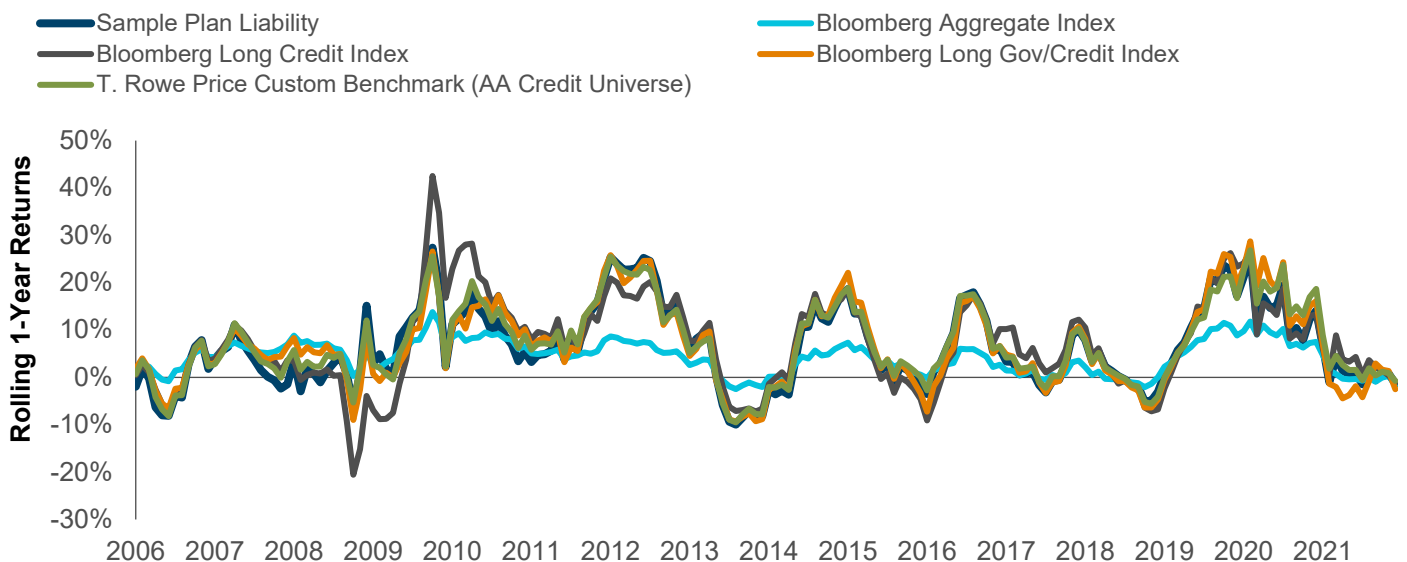


Sources: IRS and T. Rowe Price

Dates	AAA Corporate OAS (basis points)	AA Corporate OAS	A Corporate OAS	BBB Corporate OAS
November Monthly Average	64	49	71	109
December 1, 2021	78	55	80	121
December 15, 2021	72	53	77	118
December 31, 2021	65	49	73	112
December Monthly Average	70	52	76	116

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ONE-YEAR ROLLING RETURNS AND TRACKING ERROR



	December 2021 Return	YTD Total Return	Annual Tracking Error Relative to Liability	Average Monthly Return Difference from Liability
Hypothetical Sample Plan Liability	-0.95%	-1.34%	NA	NA
Bloomberg Aggregate Index	-0.26%	-1.55%	6.58%	1.43%
Bloomberg Long Credit Index	-0.37%	-1.18%	4.36%	0.89%
Bloomberg Long Gov/Credit Index	-0.82%	-2.51%	3.17%	0.64%
Hypothetical T. Rowe Price Custom Benchmark	-0.99%	-0.73%	2.01%	0.32%

Sources: Bloomberg Index Services Ltd., T. Rowe Price; Analysis by T. Rowe Price. Performance shown in graph and tables above shown from February 1, 2005 through December 31, 2021.

Past performance cannot guarantee future results. Custom Benchmark returns do not reflect the deduction of management fees. Please refer to the disclosure at the end of the article for important additional information.

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GLOSSARY

IRS Yield Curve: Plan sponsors of qualified defined benefit pension plans use this yield curve to determine funding requirements per IRS regulations. These funding requirements are disclosed on form 5500 annually. Yields on AAA, AA, and A corporate securities determine the yield curve for discounting purposes. The yield curve is not a marked-to-market curve representing any single date, but rather an average yield over the course of the entire month. For more information on the IRS methodology, please see treasury.gov/resource-center and irs.gov/Retirement-Plans.

Accounting Yield Curve: US GAAP requires pension plan sponsors to disclose pension obligations using “fixed-income debt securities that receive one of the two highest ratings given by a recognized ratings agency”. As a proxy for bonds useable for accounting purposes, we use the constituents of Bloomberg AA credit universe to develop the accounting yield curve shown. Please see fasb.org for more information.

Top Yielding Curve: Since the US GAAP rules allow the use of a fairly broad range of securities for accounting purposes, some plan sponsors use an optimized yield curve approach to value their pension liabilities on the disclosure dates. Bonds trading at higher yields than other bonds of similar maturity tend to be used for this purpose. To quantify the effectiveness of this approach, T. Rowe Price developed a yield curve using the highest yielding bonds designed to meet SEC requirements at each node.

Annual Tracking Error Relative to Liability: Calculated as the standard deviation of return differences between a fixed income index and a set of cash flows discounted using the accounting yield curve. The liability return has two components: an interest cost component analogous to roll return on a bond, and yield change component analogous to price return on a bond. The table shows annualized ex-post tracking error.

Average Monthly Return Difference: Similar to the tracking error metric, this metric demonstrates how closely a fixed income benchmark tracks a set of liability returns. We calculate this measure by simply averaging the difference in returns over the period shown.

Sample Plan Liability: Pension plan sponsors must account for the cost of their retirement plan on their financial statements. The amount of this liability can fluctuate over time based on several factors, including benefits earned, benefits paid out, mortality experience, and most significantly, interest rates. The Sample Plan is intended to be a representative defined benefit pension plan and does not reflect the cash flows from any specific plan.

T. Rowe Price Custom Benchmark: An index of fixed income securities created using T. Rowe Price proprietary methodology that attempts to replicate interest rate exposures embedded in a pension plan’s liability structure.

To learn more, please visit troweprice.com

Important Information

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The illustrations presented are hypothetical and used to demonstrate capabilities. Certain assumptions have been made for modelling purposes and with the benefit of hindsight and are unlikely to be realized. The specific issuers and bond issues mentioned in this document had significant impact on liability curves calculated using Bloomberg index universes. The modelling used for plan and benchmark development has certain inherent limitations. Benchmark construction may not reflect all material economic and market factors that could have impacted implementation or weighting decisions if the modelled plan actually existed during the time period presented. Actual T. Rowe Price Custom Benchmark characteristics, including (among other things) yield, annualized return, liability-relative tracking error and average monthly returns difference relative to plan liability may differ substantially from the hypothetical scenario presented.

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