



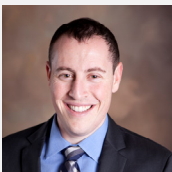
LDI Solutions

PENSION CURVE INSIDER

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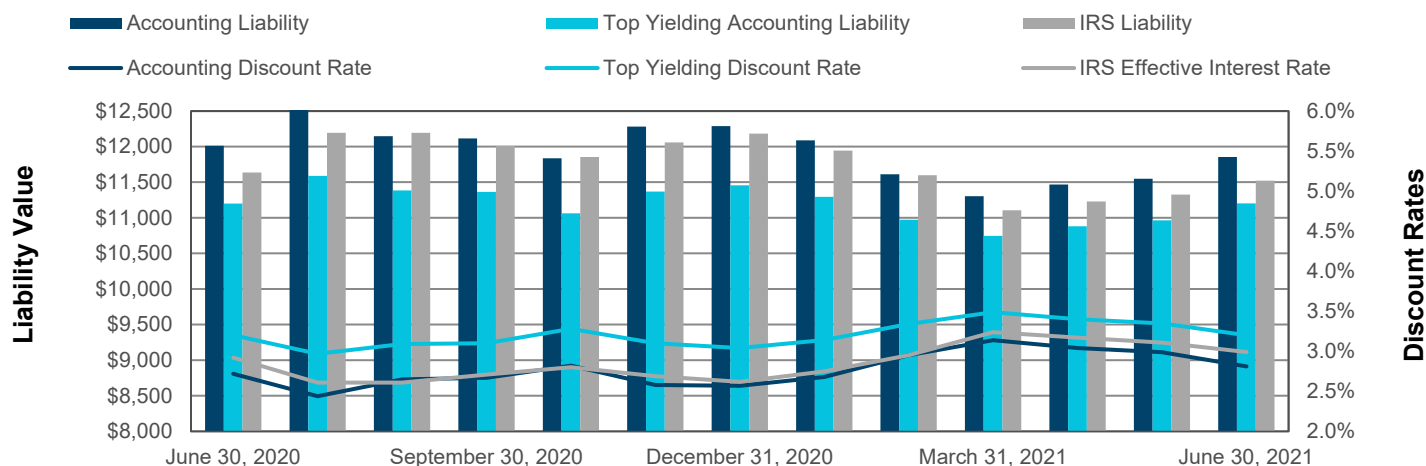
MONTHLY RECAP

June saw a decrease in long-term Treasury yields while short maturities were mostly flat. Marked-to-market discount rates followed long Treasuries lower. Discount rates based on the AA-rated spot curve fell 18 basis points while the top-yielding discount curve dropped slightly less. Investment grade spreads tightened marginally, continuing to hold levels that preceded the pandemic.

On a marked-to-market basis, plan liability values continued to increase as discount rates declined from the end of May. Rates based on the AA-rated index stand 9 basis points higher than June 2021, while top yielding AA-rated bonds are in line with a year ago as the yield premium began to compress last summer. The top-yielding curve provides 38 bps of additional yield relative to the broader market.

June brought a large number and value of new entrants to the AA-rated bond index, as over 8% of market value was added during the month. Amazon was upgraded to AA- at Fitch making 18 issues totaling a massive 39 billion USD of debt outstanding AA index eligible. Amazon bonds are evenly spread across the curve, but notable for pension investors there are several issues outstanding beyond 30 years to maturity including bonds maturing in 2057, 2060, and 2061. These new entrants helped stabilize rates longer than 35 years even as the rest of the curve decreased.

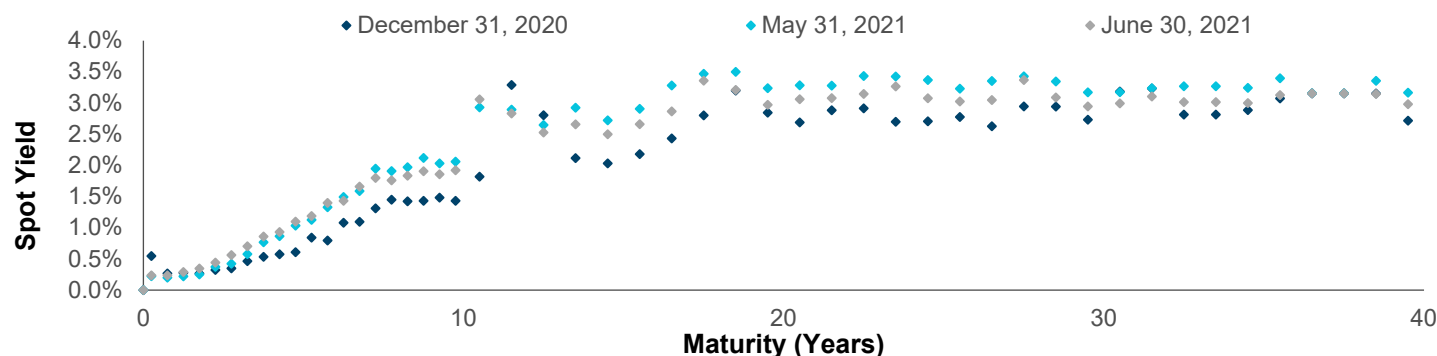
LIABILITY IMPACT



Yield Curve	Liability Value 6/30/21	Discount Rate 6/30/21	Liability Value 5/31/21	Discount Rate 5/31/21	Liability Value 12/31/20	Discount Rate 12/31/20
Accounting Yield Curve	\$11,855	2.81%	\$11,548	2.99%	\$12,288	2.57%
Top Yielding Accounting Curve	\$11,203	3.20%	\$10,964	3.35%	\$11,456	3.04%
IRS Yield Curve	\$11,521	2.99%	\$11,325	3.11%	\$12,182	2.62%

Sources: Bloomberg Barclays. 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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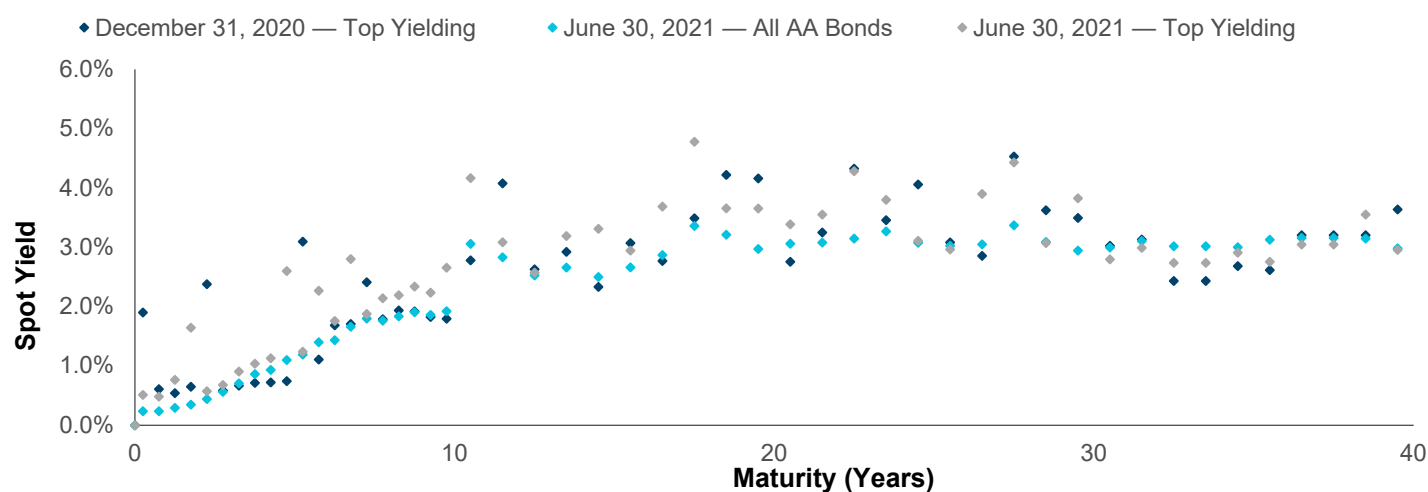
Issuer	Event	Curve Impact
Amazon	Upgrade (18 bonds)	Amazon was upgraded to AA- at Fitch in June, bringing 18 bonds totaling a massive 39B USD in issuance into the AA credit universe. The issues were spread evenly across the curve with 3 issues maturing in over 30 years being particularly relevant to pension investors and increasing rates beyond 35 years.

Sources: Bloomberg Barclays. Bloomberg Index Services Ltd. Copyright 2021, Bloomberg Index Services Ltd. Used with permission. T. Rowe Price.

	New Issues	Other Bonds Entering	Downgrades	Other Bonds Exiting
June 2021				
Count	10	27	0	3
Market Value (\$M)	\$6,489	\$52,496	\$0	\$2,398
Market Value (%)	0.92%	7.42%	0.00%	0.38%
2021 YTD				
Count	65	30	25	13
Market Value (\$M)	\$59,244	\$55,602	\$25,666	\$17,286
Market Value (%)	8.77%	7.90%	3.84%	2.63%

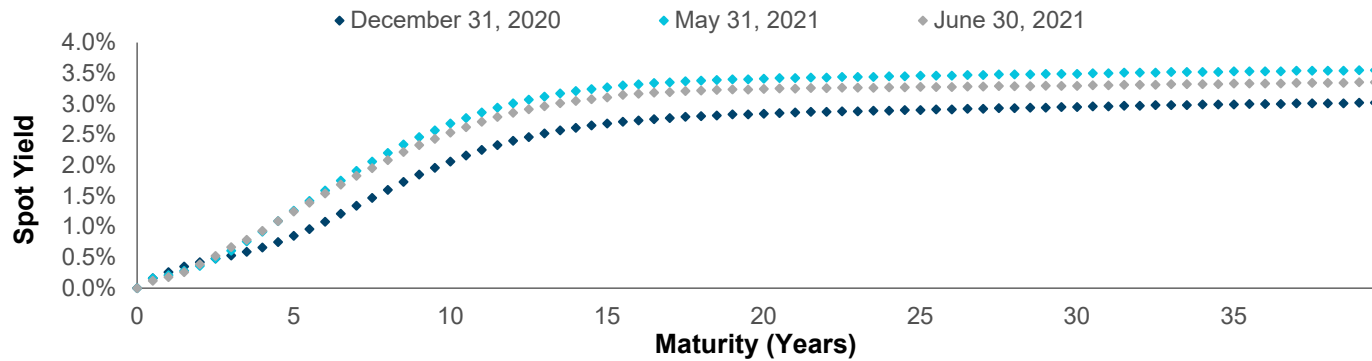
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TOP YIELDING ACCOUNTING CURVE



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IRS CURVE

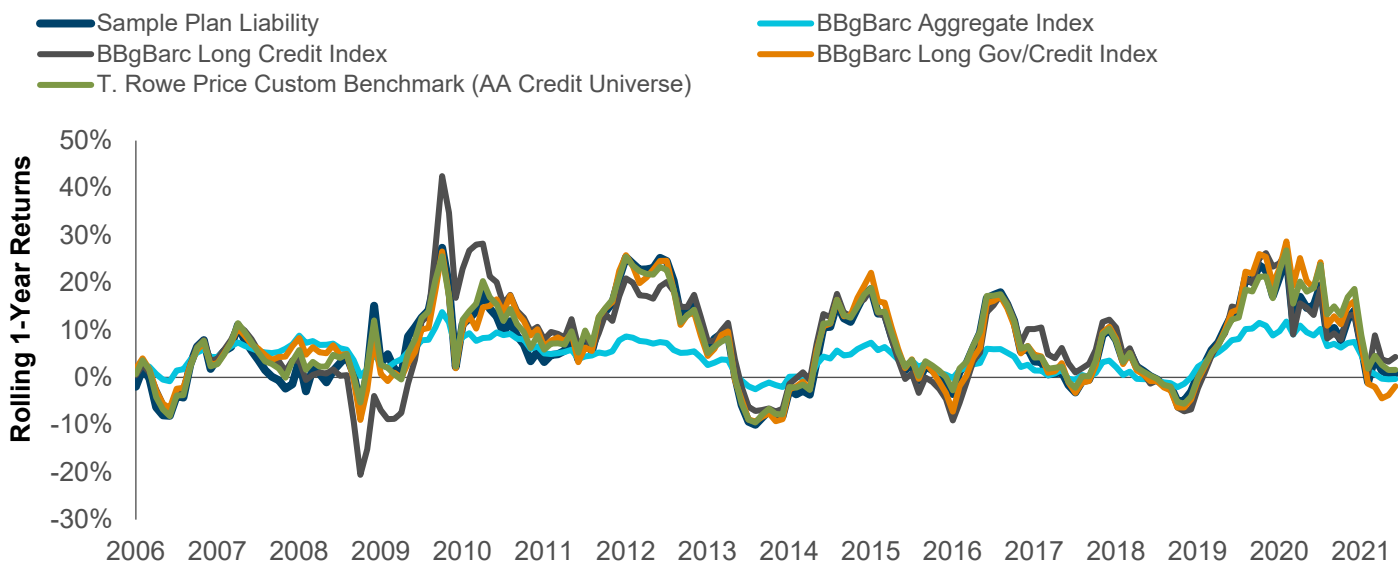


Sources: IRS and T. Rowe Price

Dates	AAA Corporate OAS (basis points)	AA Corporate OAS	A Corporate OAS	BBB Corporate OAS
May Monthly Average	62	45	65	106
June 1, 2021	58	42	63	105
June 15, 2021	59	41	62	102
June 30, 2021	57	40	61	99
June Monthly Average	59	40	61	99

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ONE-YEAR ROLLING RETURNS AND TRACKING ERROR



	June 2021 Return	YTD Total Return	Annual Tracking Error Relative to Liability	Average Monthly Return Difference from Liability
Hypothetical Sample Plan Liability	2.84%	-2.41%	NA	NA
BBgBarc Aggregate Index	0.70%	-1.60%	6.66%	1.45%
BBgBarc Long Credit Index	3.55%	-2.49%	4.42%	0.91%
BBgBarc Long Gov/Credit Index	3.56%	-4.63%	3.21%	0.65%
Hypothetical T. Rowe Price Custom Benchmark	2.82%	-2.05%	2.04%	0.33%

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 June 30, 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 BBgBarc 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 BBgBarc 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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