

Milliman analysis: 2021 ends with strong fourth quarter deficit reduction

Milliman 100 PFI funded ratio ends 2021 at 99.6%, the closest it's been to full funding since 2008

Forecast for end of year 2022 and 2023

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Year in review

Corporate pension plans experienced a win-win year in 2021, with an investment gain of 8.33% alongside increasing discount rates and a cumulative liability return (e.g., the projected benefit obligation decrease) of -1.96%. The result was a staggering \$183 billion improvement in the funded status deficit of the Milliman 100 Pension Funding Index (PFI), the second-largest in the report's history (exceeded only by the \$204 billion improvement in 2013).

In 2021, corporate pension asset returns continued their upward trajectory seen in 2020. Unlike 2020, however, discount rates also increased overall for the year, driving down plan liability valuations. The PFI discount rate rose 34 basis points in 2021, ending at 2.80% as of December 31, compared to 2.46% at the end of 2020. For reference, the discount rate at year-end 2020 was the lowest year-end discount rate recorded in the 21-year history of the PFI. The year 2021 marks the fourth time discount rates have risen in the last 10 years.

HIGHLIGHTS

	\$ BILLION			
	MV	PBO	FUNDED STATUS	FUNDED PERCENTAGE
NOVEMBER	1,824	1,872	(48)	97.5%
DECEMBER	1,842	1,849	(7)	99.6%
MONTHLY CHANGE	+18	(23)	+41	2.1%
YTD CHANGE	+64	(120)	+183	9.3%

Note: Numbers may not add up precisely due to rounding

Assets outperformed expectations during 2021, posting a cumulative annual return of 8.33%, which comes on the heels of 2020's strong investment gain of 11.56%. For comparison, the 2021 Milliman Pension Funding Study (PFS) reported that the monthly median expected investment return during 2020 was 0.50% (6.2% annualized). Similar to 2019 and 2020, 2021 was very favorable for equity investment classes. Investment returns have been above PFS expectations in seven of the last 10 years.

FIGURE 1: MILLIMAN 100 PENSION FUNDING INDEX — PENSION SURPLUS/DEFICIT

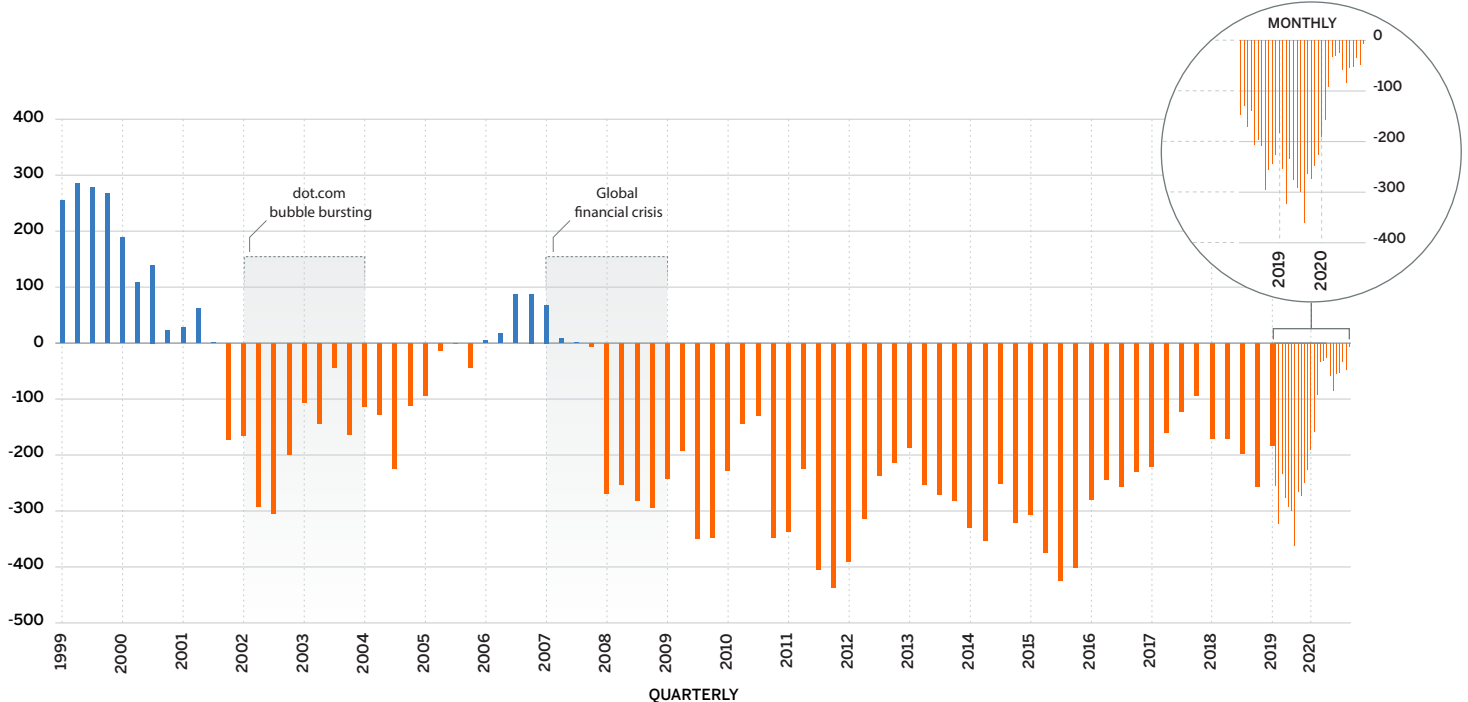
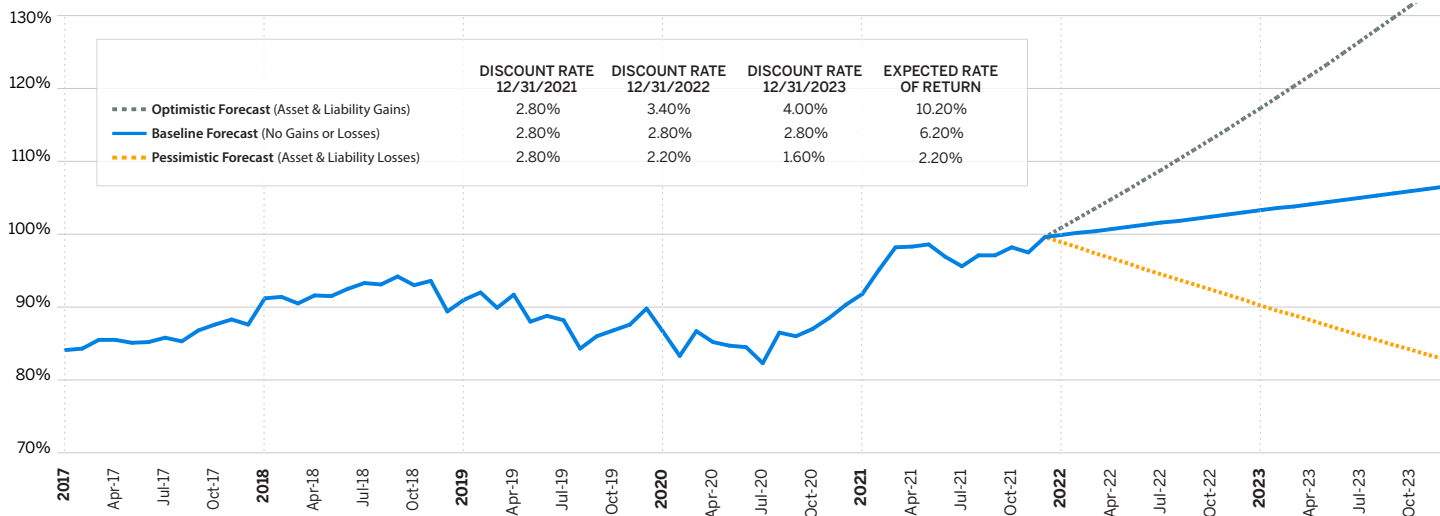


FIGURE 2: MILLIMAN 100 PENSION FUNDING INDEX — PENSION FUNDED RATIO



Overall, the year-end 2021 funded ratio soared to 99.6%, up from 90.3% at the end of 2020. Plan assets were up nearly \$64 billion for the year and plan liabilities decreased \$120 billion due to the aforementioned rising discount rates. The \$183 billion funded status gain during 2021 resulted in a year-end funded status deficit of \$7 billion. The Milliman 100 plans haven't been this close to full funding since September 2008 when the funded status deficit was \$6.7 billion.

The projected asset and liability figures presented in this analysis will be adjusted as part of Milliman's annual 2022 PFS, including summarizing and reporting the most recent plan sponsor U.S. Securities and Exchange Commission (SEC) financials. The 2022 PFS will also reflect reported pension settlement and annuity purchase activities that occurred during 2021. De-risking transactions generally result in reductions in pension funded status because the assets paid to the participants or assumed by the insurance companies as part of the risk transfer are larger than the corresponding liabilities that are extinguished from the balance sheets. To offset this decrease, many companies engaging in de-risking transactions make additional cash contributions to their pension plans to improve the plan's funded status.

Taking a closer look by quarter, 2021 was off to a momentous start, with discount rates hitting their peak of 3.12% for the year at the end of March—the only month that saw discount rates above 3.00% for the year. During the first quarter, the funded status deficit improved from \$190 billion to \$33 billion, with the funded ratio landing at 98.2% as of March 31, 2021. Declining discount rates ensued during the second quarter of 2021 and the funded status declined as plan liabilities escalated. The funded ratio fell to 96.9% as of June 30 despite strong market returns. The funded status deficit had a net improvement of \$4 billion during the third quarter based on overall positive investment returns, along with discount rates that inched upward from their lowest point of the year, at 2.59%, seen at the end of July.

The funded ratio settled at 97.1% as of September 30. The fourth quarter of 2021—while not as good as the first quarter of 2021—posted above average returns and further discount rate increases. December's \$18 billion increase in market value brings the Milliman 100 PFI asset value to \$1.842 trillion at year-end 2021. The Milliman 100 PFI liability value fell to \$1.849 trillion at the end of December 2021 based on the monthly decline of \$23 billion. The funded ratio climbed to 99.6% by the end of the year, approximately 9.3% ahead of where it started off in January. The Milliman 100 plans are back on the cusp of full funding for the first time since August 2008 when the funded ratio was 100.3%.

Pension plan accounting information disclosed in the footnotes of the Milliman 100 companies' annual reports for the 2021 fiscal year is expected to be available during the first quarter of 2022 and will be published, along with our comprehensive recap, in April as part of the 2022 Milliman PFS.

2022-2023 projections

If the Milliman 100 PFI companies were to achieve the expected 6.2% median asset return (as per the 2021 PFS), and if the current discount rate of 2.80% were maintained during 2022 and 2023, we forecast that the funded status of the surveyed plans would increase. This would result in a projected pension surplus of \$54 billion (funded ratio of 103.0%) by the end of 2022 and a projected pension surplus of \$118 billion (funded ratio of 106.5%) by the end of 2023. For purposes of this forecast, we have assumed 2022 and 2023 aggregate annual contributions of \$28 billion.

Under an optimistic forecast with rising interest rates (reaching 3.40% by the end of 2022 and 4.00% by the end of 2023) and asset gains (10.2% annual returns), the funded ratio would climb to 116% by the end of 2022 and 135% by the end of 2023. Under a pessimistic forecast with similar interest rate and asset movements (2.20% discount rate at the end of 2022 and 1.60% by the end of 2023 and 2.2% annual returns), the funded ratio would decline to 91% by the end of 2022 and 83% by the end of 2023.

MILLIMAN 100 PENSION FUNDING INDEX — DECEMBER 2021 (ALL DOLLAR AMOUNTS IN MILLIONS)

END OF MONTH	YEAR	MARKET VALUE OF ASSETS	PROJECTED BENEFIT OBLIGATION (PBO)	FUNDED STATUS	CHANGE IN FUNDED STATUS	FUNDED RATIO
DECEMBER	2020	1,778,545	1,968,688	(190,143)	N/A	90.3%
JANUARY	2021	1,763,665	1,921,148	(157,483)	32,660	91.8%
FEBRUARY	2021	1,759,939	1,851,360	(91,421)	66,062	95.1%
MARCH	2021	1,756,294	1,789,278	(32,984)	58,437	98.2%
APRIL	2021	1,790,570	1,821,118	(30,548)	2,436	98.3%
MAY	2021	1,803,855	1,829,032	(25,177)	5,371	98.6%
JUNE	2021	1,820,981	1,878,342	(57,361)	(32,184)	96.9%
JULY	2021	1,832,534	1,916,518	(83,984)	(26,623)	95.6%
AUGUST	2021	1,844,448	1,898,593	(54,145)	29,839	97.1%
SEPTEMBER	2021	1,806,442	1,859,659	(53,217)	928	97.1%
OCTOBER	2021	1,840,611	1,874,311	(33,700)	19,517	98.2%
NOVEMBER	2021	1,824,093	1,871,696	(47,603)	(13,903)	97.5%
DECEMBER	2021	1,842,107	1,849,174	(7,067)	40,536	99.6%

PENSION ASSET AND LIABILITY RETURNS

END OF MONTH	YEAR	ASSET RETURNS			LIABILITY RETURNS	
		MONTHLY	YEAR-TO-DATE	DISCOUNT RATE	MONTHLY	YEAR-TO-DATE
DECEMBER	2020	2.15%	11.56%	2.46%	0.36%	13.73%
JANUARY	2021	-0.46%	-0.46%	2.62%	-2.08%	-2.08%
FEBRUARY	2021	0.17%	-0.29%	2.88%	-3.28%	-5.29%
MARCH	2021	0.18%	-0.11%	3.12%	-2.98%	-8.11%
APRIL	2021	2.34%	2.23%	2.98%	2.15%	-6.13%
MAY	2021	1.12%	3.37%	2.94%	0.80%	-5.38%
JUNE	2021	1.33%	4.74%	2.74%	3.06%	-2.49%
JULY	2021	1.01%	5.80%	2.59%	2.38%	-0.17%
AUGUST	2021	1.02%	6.88%	2.65%	-0.59%	-0.76%
SEPTEMBER	2021	-1.70%	5.06%	2.78%	-1.70%	-2.44%
OCTOBER	2021	2.27%	7.45%	2.72%	1.14%	-1.33%
NOVEMBER	2021	-0.53%	6.88%	2.72%	0.21%	-1.12%
DECEMBER	2021	1.36%	8.33%	2.80%	-0.85%	-1.96%

ABOUT THE MILLIMAN 100 MONTHLY PENSION FUNDING INDEX

For the past 21 years, Milliman has conducted an annual study of the 100 largest defined benefit pension plans sponsored by U.S. public companies. The Milliman 100 Pension Funding Index projects the funded status for pension plans included in our study, reflecting the impact of market returns and interest rate changes on pension funded status, utilizing the actual reported asset values, liabilities, and asset allocations of the companies' pension plans.

The results of the Milliman 100 Pension Funding Index were based on the actual pension plan accounting information disclosed in the footnotes to the companies' annual reports for the 2020 fiscal year and for previous fiscal years. This pension plan accounting disclosure information was summarized as

part of the Milliman 2021 Pension Funding Study, which was published on April 7, 2021. In addition to providing the financial information on the funded status of U.S. qualified pension plans, the footnotes may also include figures for the companies' nonqualified and foreign plans, both of which are often unfunded or subject to different funding standards than those for U.S. qualified pension plans. They do not represent the funded status of the companies' U.S. qualified pension plans under ERISA.

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