Milliman analysis: February's drop in assets and discount rates result in the 2020 funded status deficit worsening by \$147 billion since year-end 2019

Milliman 100 PFI funded ratio plummets to 82.2%

Zorast Wadia, CFA, FSA, MAAA, EA Charles Clark, ASA, MAAA, EA



The funded status of the 100 largest corporate defined benefit pension plans fell by \$71 billion during February as measured by the Milliman 100 Pension Funding Index (PFI). The funded status deficit swelled to \$347 billion from \$276 billion at the end of January 2020 due to a decrease in the benchmark corporate bond interest rates used to value pension liabilities. Since year-end 2019, the PFI funded status deficit has worsened by \$147 billion overall.

The funded status drop was exacerbated by the precipitous decline in investment returns during February, reversing the market rally enjoyed over the prior four months. As of February 29, the funded ratio fell to 82.2%, down from 85.5% at the end of January. For perspective, the last time the Milliman PFI funded ratio was this low was November 30, 2016 (at 82.3%).

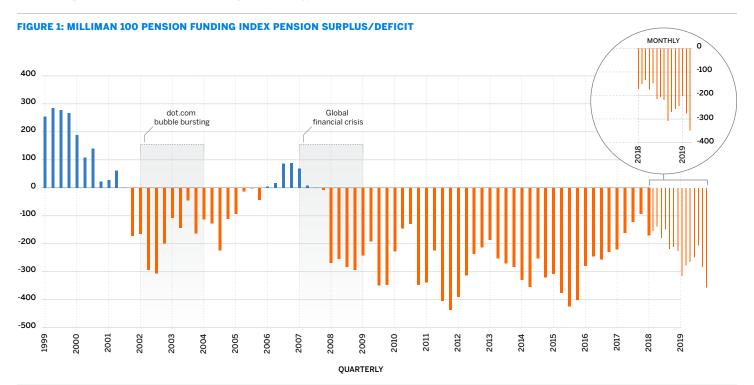
The market value of assets fell by \$28 billion as a result of February's sharp market decline. The Milliman 100 PFI asset value decreased to \$1.602 trillion at the end of February based on a monthly return of -1.48%. By comparison, the 2019 Milliman Pension Funding Study reported that the monthly median expected investment return during 2018 was 0.53%

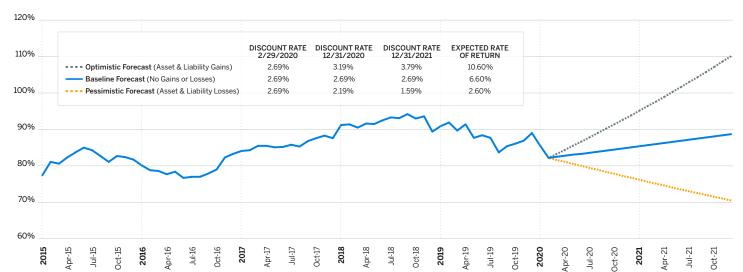
HIGHLIGHTS	\$ BILLION		_	
	MV	РВО	FUNDED STATUS	FUNDED PERCENTAGE
JANUARY	1,630	1,906	(276)	85.5%
FEBRUARY	1,602	1,949	(347)	82.2%
MONTHLY CHANGE	(28)	+43	(71)	-3.3%
YTD CHANGE	(16)	+131	(147)	-6.8%

Note: Numbers may not add up precisely due to rounding

(6.6% annualized). The expected rate of return for 2019 will be updated in the 2020 Milliman Pension Funding Study, due out later during April of 2020.

The projected benefit obligation (PBO), or pension liabilities, increased to \$1.949 trillion at the end of February. The change resulted from a decrease of 16 basis points in the monthly discount rate, to 2.69% for February from 2.85% for January 2020. February's discount rate is the lowest recorded in the 20-year history of the Milliman 100 PFI.





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

Over the last 12 months (Mar. 2019 – Feb. 2020), the cumulative asset return for these pensions has been 10.1% but the Milliman 100 PFI funded status deficit has worsened by \$214 billion. The funded status loss is the result of the steep decline in discount rates during most of 2019 and continuing into 2020. Discount rates one year ago were 4.08% compared to 2.69% as of February 29, 2020 signifying a 139 basis point drop.

The projected asset and liability figures presented in this analysis will be adjusted as part of Milliman's annual 2020 Pension Funding Study including summarizing and reporting the most recent plan sponsor SEC financial. The 2020 PFS will also reflect reported pension settlement and annuity purchase activities that occurred during 2019. De-risking transactions generally result in reductions in pension funded status since 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 effect, many companies engaging in de-risking transactions make additional cash contributions to their pension plans to improve the plan's funded status.

Pension plan accounting information disclosed in the footnotes of the Milliman 100 companies' annual reports for the 2019 fiscal year is expected to be available during the first quarter of 2020 as part of the 2020 Milliman Pension Funding Study. We expect to publish our comprehensive recap during April of 2020 as part of the 2020 Milliman Pension Funding Study.

2020-2021 Projections

If the Milliman 100 PFI companies were to achieve the expected 6.6% median asset return (as per the 2019 pension funding study), and if the current discount rate of 2.69% were maintained during years 2020 through 2021, we forecast that the funded status of the surveyed plans would increase. This would result in a projected pension deficit of \$289 billion (funded ratio of 85.1%) by the end of 2020 and a projected pension deficit of \$218 billion (funded ratio of 88.7%) by the end of 2021. For purposes of this forecast, we have assumed 2020 and 2021 aggregate annual contributions of \$50 billion.

Under an optimistic forecast with rising interest rates (reaching 3.19% by the end of 2020 and 3.79% by the end of 2021) and asset gains (10.6% annual returns), the funded ratio would climb to 94% by the end of 2020 and 110% by the end of 2021. Under a pessimistic forecast with similar interest rate and asset movements (2.19% discount rate at the end of 2020 and 1.59% by the end of 2021 and 2.6% annual returns), the funded ratio would decline to 77% by the end of 2020 and 71% by the end of 2021.

MARCH 2020

MILLIMAN 100 PENSION FUNDING INDEX — FEBRUARY 2020 (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
FEBRUARY	2019	1,502,098	1,635,088	(132,990)	N/A	91.9%
MARCH	2019	1,523,066	1,697,476	(174,410)	(41,420)	89.7%
APRIL	2019	1,536,084	1,681,005	(144,921)	29,489	91.4%
MAY	2019	1,517,461	1,730,603	(213,142)	(68,221)	87.7%
JUNE	2019	1,562,001	1,767,860	(205,859)	7,283	88.4%
JULY	2019	1,564,400	1,783,382	(218,982)	(13,123)	87.7%
AUGUST	2019	1,579,960	1,886,605	(306,645)	(87,663)	83.7%
SEPTEMBER	2019	1,579,790	1,849,450	(269,660)	36,985	85.4%
OCTOBER	2019	1,593,067	1,850,540	(257,473)	12,187	86.1%
NOVEMBER	2019	1,604,040	1,846,884	(242,844)	14,629	86.9%
DECEMBER	2019	1,618,321	1,818,830	(200,509)	42,335	89.0%
JANUARY	2020	1,630,327	1,906,007	(275,680)	(75,171)	85.5%
FEBRUARY	2020	1,602,438	1,949,497	(347,059)	(71,379)	82.2%

PENSION ASSET AND LIABILITY RETURNS

END OF MONTH Y		ASSET RETURNS			LIABILITY RETURNS	
	YEAR	MONTHLY	YEAR-TO-DATE	DISCOUNT RATE	MONTHLY	YEAR-TO-DATE
FEBRUARY	2019	0.98%	4.56%	4.08%	0.05%	2.02%
MARCH	2019	1.67%	6.30%	3.78%	4.19%	6.30%
APRIL	2019	1.13%	7.50%	3.85%	-0.60%	5.66%
MAY	2019	-0.95%	6.49%	3.61%	3.31%	9.16%
JUNE	2019	3.21%	9.91%	3.45%	2.50%	11.89%
JULY	2019	0.42%	10.37%	3.37%	1.22%	13.26%
AUGUST	2019	1.26%	11.76%	2.95%	6.11%	20.18%
SEPTEMBER	2019	0.25%	12.04%	3.09%	-1.66%	18.19%
OCTOBER	2019	1.10%	13.27%	3.08%	0.38%	18.63%
NOVEMBER	2019	0.95%	14.35%	3.09%	0.12%	18.77%
DECEMBER	2019	1.15%	15.66%	3.20%	-1.20%	17.35%
JANUARY	2020	0.98%	0.98%	2.85%	5.09%	5.09%
FEBRUARY	2020	-1.48%	-0.51%	2.69%	2.56%	7.78%

About the Milliman 100 Monthly Pension Funding Index

For the past 19 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 2018 fiscal year and for previous fiscal years. This pension plan accounting disclosure information was summarized as

part of the Milliman 2019 Pension Funding Study, which was published on April 16, 2019. 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.

CONTACT

Zorast Wadia

zorast.wadia@milliman.com

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