

Milliman Analysis: Public pension funded ratio surges to 73.1% in Q4

\$60 billion improvement in funded status for public pensions paced by investment performance of 3.24% in the fourth quarter of 2017

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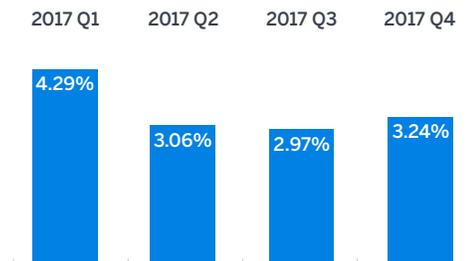
Q4 continued the robust trend in equity returns for calendar year 2017, fueling a \$60 billion improvement in the estimated funded status of the 100 largest US public pension plans in Q4, as measured by the Milliman 100 Public Pension Funding Index (PPFI). From the end of September 2017 through the end of December 2017, the deficit shrank from \$1.392 trillion to \$1.332 trillion. As of December 31, the funded ratio stood at 73.1%, up significantly from 71.6% at the end of September.

FUNDED RATIO



In aggregate, the PPFI plans experienced investment returns of 3.24% in the fourth quarter. Estimated returns ranged from a low of 1.55% to a high of 4.32%. The Milliman 100 PPFI asset value increased from \$3,517 trillion at the end of Q3 to \$3,615 trillion at the end of Q4. The plans generated investment income of approximately \$126 billion, but the plans collectively paid out approximately \$28 billion more in benefits than they took in through contributions from employers and plan members.

QUARTERLY INVESTMENT RETURNS



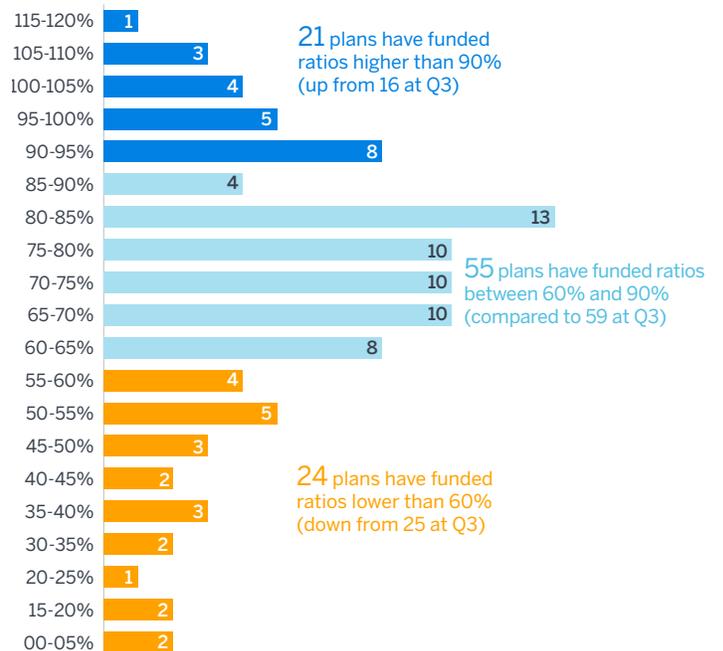
The total pension liability (TPL) increased from \$4.908 trillion at the end of Q3 to an estimated \$4.947 trillion at the end of Q4. Just as pension assets grow over time with investment income and shrink over time as benefits are paid, so too does the TPL grow over time with interest and shrink as benefits are paid. The TPL also grows as active members accrue pension benefits.

QUARTERLY FUNDED STATUS



Funded ratios improved across the board, with five more plans crossing the 90% funded mark by the end of Q4; there are now 21 plans above this mark, compared to 16 at the end of the Q3 and just 10 at the end of 2016. Among the more poorly funded pension plans, there has been less improvement. There are still 24 plans whose funded ratios fall below 60%, and 10 plans remain below 40% funded. One year ago, there were 25 plans with funded ratios lower than 60%, with 11 of those below 40%.

FUNDED RATIOS AT DECEMBER 31, 2017



About the Milliman 100 Public Pension Funding Index

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

The results of the Milliman 100 Public Pension Funding Index are based on the pension plan financial reporting information disclosed in the plan sponsors' Comprehensive Annual Financial Reports, which reflect measurement dates ranging from June 30, 2015 to December 31, 2016. This information was summarized as part of the Milliman 2017 Public Pension Funding Study, which was published on October 5, 2017.

This quarterly update reflects adjustments made as of the end of June 2017 as part of Milliman's annual Public Pension Funding Study, published in October, found here milliman.com/ppfs. The adjustments reflect updated publicly available asset and liability information gathered for the annual study.



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