

Milliman Analysis: Public pension funded ratio falls back in Q1, lowering to 71.4%

First quarter 2018 funded status declines by \$93 billion due to -0.75% return on aggregate public pension assets

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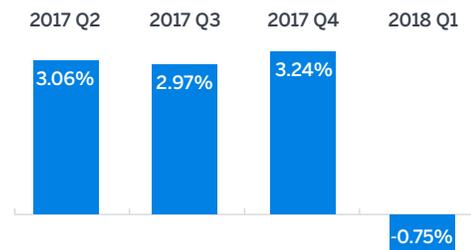
The robust gains of Q4 2017 have essentially been washed away in Q1 2018 as a sharp increase in volatility for equity markets caused a \$93 billion setback in the estimated funded status of the 100 largest U.S. public pension plans, as measured by the Milliman 100 Public Pension Funding Index (PPFI). From the end of December 2017 through the end of March 2018, the deficit grew from \$1.332 trillion to \$1.425 trillion. As of March 31, the funded ratio stood at 71.4%, down significantly from 73.1% at the end of December.

FUNDED RATIO



In aggregate, the PPFI plans experienced investment returns of -0.75% in the first quarter. No plans appear to have made it through the quarter unscathed - estimated returns ranged from a low of -1.91% to a high of -0.03%. The Milliman 100 PPFI asset value decreased from \$3.615 trillion at the end of Q4 to \$3,560 trillion at the end of Q1. The plans lost investment market value of approximately \$27 billion on top of approximately \$28 billion flowing out, as benefits paid out exceeded contributions coming in from employers and plan members.

QUARTERLY INVESTMENT RETURNS



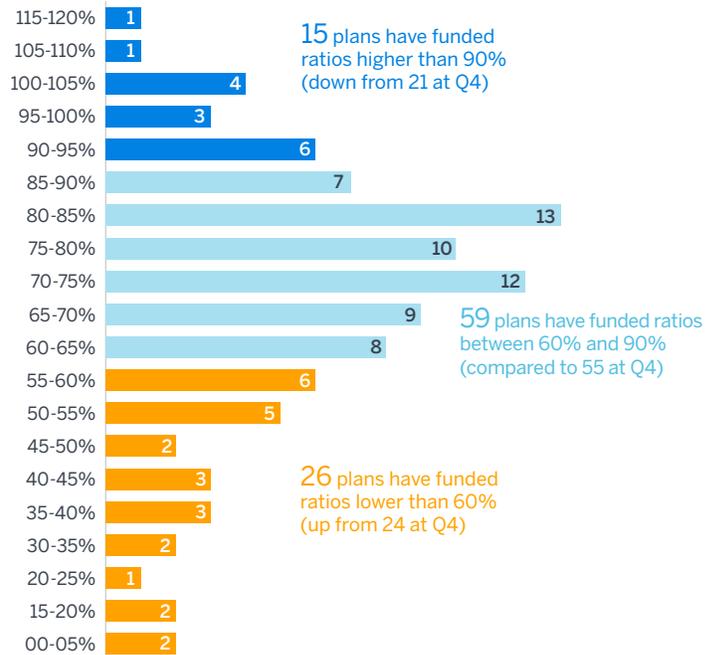
The total pension liability (TPL) increased from \$4.947 trillion at the end of Q4 to an estimated \$4.985 trillion at the end of Q1. Just as pension assets grow over time with investment income and shrink over time as benefits are paid, so too does the TPL grow over time with interest and shrink as benefits are paid. The TPL also grows as active members accrue pension benefits.

QUARTERLY FUNDED STATUS



Funded ratios shifted lower this quarter, with six plans dropping below the 90% funded mark; there are now just 15 plans above this mark, compared to 21 at the end of the Q4. At the lower end, there was an increase this quarter in the number of the more poorly funded pension plans. There are now 26 plans whose funded ratios fall below 60%, and 10 plans remain below 40% funded.

FUNDED RATIOS AT MARCH 31, 2018



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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