

Milliman Analysis: Funded status improves by \$21 billion in September

The Milliman 100 PFI funded ratio increases to 94.5%, the highest since September 2008

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



The funded status of the 100 largest corporate defined benefit pension plans rose by \$21 billion during September as measured by the Milliman 100 Pension Funding Index (PFI). The deficit fell to \$90 billion—the first time since October 2008 that the PFI deficit is less than \$100 billion—primarily due to an increase in the benchmark corporate bond interest rates used to value pension liabilities. The funded status improvement was partially offset by investment losses in September. As of September 30, the funded ratio increased to 94.5%, up from 93.3% at the end of August. The last time we experienced a funding ratio this high dates back 10 years, to September 30, 2008, when the funded ratio was 99.4%. At that time, just prior to the global financial crisis, plans were nearly fully funded.

The market value of assets dropped by \$6 billion as a result of September's 0.14% investment loss. The Milliman 100 PFI asset value decreased to \$1,540 trillion from \$1,546 trillion at the end of August. By comparison, the 2018 Milliman Pension Funding Study reported that the monthly median expected investment return during 2017 was 0.55% (6.8% annualized).

HIGHLIGHTS

| | \$ BILLION | | | |
|----------------|------------|-------|---------------|-------------------|
| | MV | PBO | FUNDED STATUS | FUNDED PERCENTAGE |
| AUGUST | 1,546 | 1,657 | (111) | 93.3% |
| SEPTEMBER | 1,540 | 1,630 | (90) | 94.5% |
| MONTHLY CHANGE | (6) | (27) | +21 | 1.2% |
| YTD CHANGE | (15) | (146) | +131 | 6.9% |

Note: Numbers may not add up precisely due to rounding

The projected benefit obligation (PBO) decreased by \$27 billion during September, lowering the Milliman 100 PFI value to \$1.630 trillion from \$1.657 trillion at the end of August. The change resulted from an increase of 13 basis points in the monthly discount rate to 4.18% for September from 4.05% in August.

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

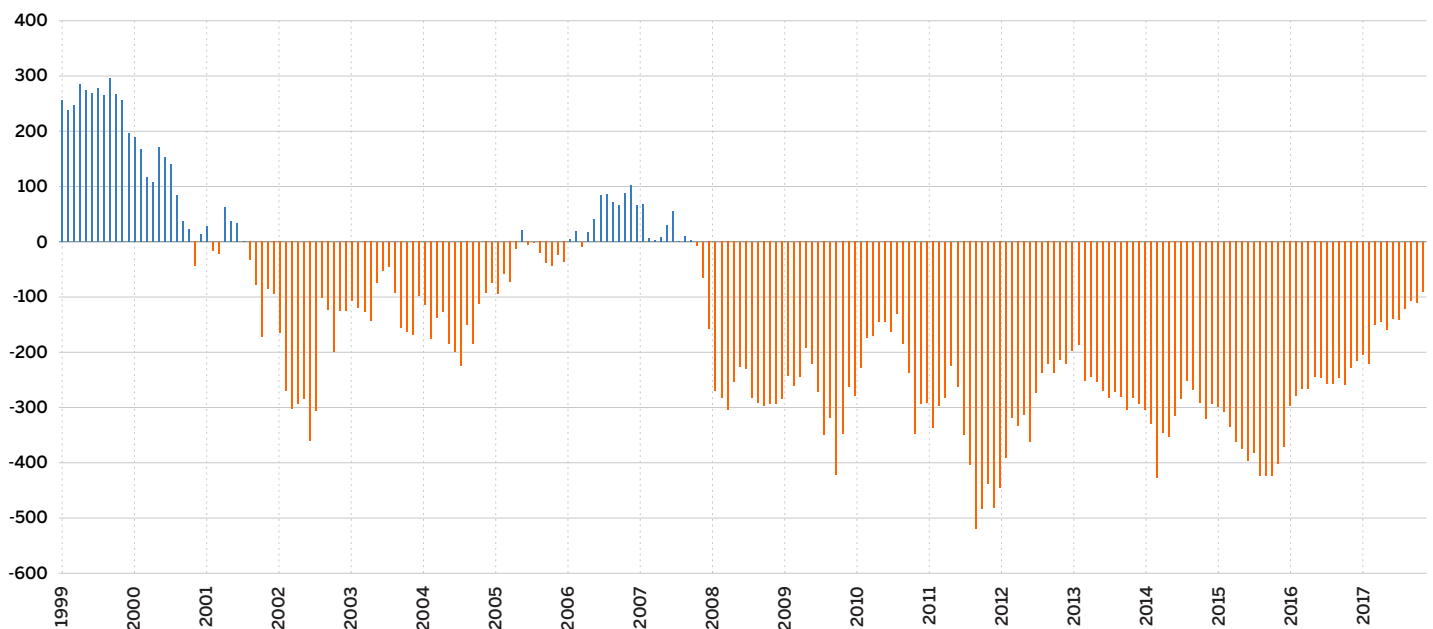
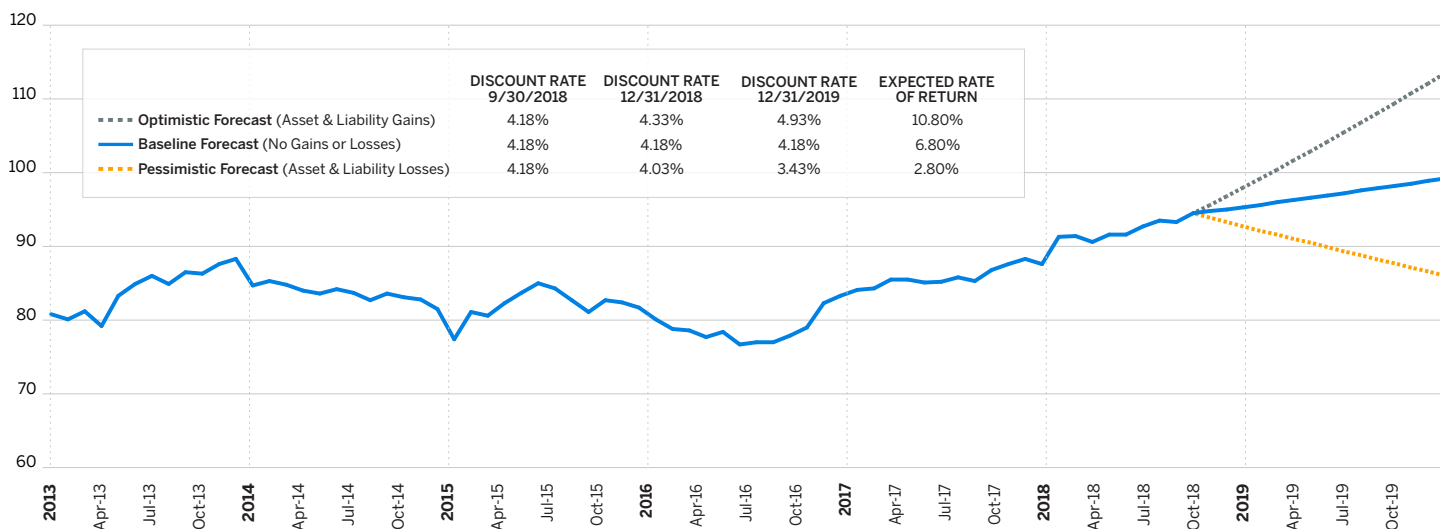


FIGURE 2: MILLIMAN 100 PENSION FUNDING INDEX — PENSION FUNDED RATIO



While September saw a notable funding increase for these corporate pensions, as of this writing we are aware of the extraordinary volatility and decline in the financial markets that has occurred during the first two weeks of October. The effects of this market volatility will be reflected in our Milliman PFI report for October 2018.

Third Quarter 2018 Summary

During the quarter ended September 30, 2018, the funded status deficit improved by \$31 billion. This was primarily due to above average investment experience and interest rate gains during the quarter. Asset gains in the third quarter were at 1.92% and discounts rates increased by six basis points. The funded ratio of the Milliman 100 companies rose to 94.5% at the end of September from 92.7% at the end of June.

Over the last 12 months (October 2017–September 2018), the cumulative asset return for these pensions has been 5.3% and the Milliman 100 PFI funded status deficit has improved by \$139 billion. The primary reason for the improvement in the funded status deficit has been discount rate gains over the past 12 months. Discount rates have risen from 3.69% as of September 30, 2017, to 4.18% a year later. The funded ratio of the Milliman 100 companies has increased over the past 12 months to 94.5% from 86.8%.

2018-2019 Projections

If the Milliman 100 PFI companies were to achieve the expected 6.8% median asset return (as per the 2018 Pension Funding Study), and if the current discount rate of 4.18% were maintained during years 2018 through 2019, we forecast the funded status of the surveyed plans would increase. This would result in a projected pension deficit of \$76 billion (funded ratio of 95.3%) by the end of 2018 and a projected pension deficit of \$13 billion (funded ratio of 99.2%) by the end of 2019. For purposes of this forecast, we have assumed 2018 aggregate contributions of \$48 billion and 2019 aggregate contributions of \$52 billion.

Under an optimistic forecast with rising interest rates (reaching 4.33% by the end of 2018 and 4.93% by the end of 2019) and asset gains (10.8% annual returns), the funded ratio would climb to 98% by the end of 2018 and 114% by the end of 2019. Under a pessimistic forecast with similar interest rate and asset movements (4.03% discount rate at the end of 2018 and 3.43% by the end of 2019 and 2.8% annual returns), the funded ratio would decline to 93% by the end of 2018 and 86% by the end of 2019.

MILLIMAN 100 PENSION FUNDING INDEX — SEPTEMBER 2018 (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 |
|--------------|------|------------------------|------------------------------------|---------------|-------------------------|--------------|
| SEPTEMBER | 2017 | 1,510,478 | 1,739,278 | (228,800) | N/A | 86.8% |
| OCTOBER | 2017 | 1,528,863 | 1,744,652 | (215,789) | 13,011 | 87.6% |
| NOVEMBER | 2017 | 1,540,006 | 1,744,398 | (204,392) | 11,397 | 88.3% |
| DECEMBER | 2017 | 1,555,289 | 1,775,721 | (220,432) | (16,040) | 87.6% |
| JANUARY | 2018 | 1,576,415 | 1,727,191 | (150,776) | 69,656 | 91.3% |
| FEBRUARY | 2018 | 1,536,732 | 1,680,622 | (143,890) | 6,886 | 91.4% |
| MARCH | 2018 | 1,529,451 | 1,688,946 | (159,495) | (15,605) | 90.6% |
| APRIL | 2018 | 1,524,230 | 1,663,183 | (138,953) | 20,542 | 91.6% |
| MAY | 2018 | 1,531,432 | 1,672,278 | (140,846) | (1,893) | 91.6% |
| JUNE | 2018 | 1,523,655 | 1,644,368 | (120,713) | 20,133 | 92.7% |
| JULY | 2018 | 1,537,819 | 1,645,155 | (107,336) | 13,377 | 93.5% |
| AUGUST | 2018 | 1,546,386 | 1,657,345 | (110,959) | (3,623) | 93.3% |
| SEPTEMBER | 2018 | 1,539,931 | 1,629,977 | (90,046) | 20,913 | 94.5% |

PENSION ASSET AND LIABILITY RETURNS

| END OF MONTH | YEAR | ASSET RETURNS | | | LIABILITY RETURNS | |
|--------------|------|---------------|--------------|---------------|-------------------|--------------|
| | | MONTHLY | YEAR-TO-DATE | DISCOUNT RATE | MONTHLY | YEAR-TO-DATE |
| SEPTEMBER | 2017 | 0.72% | 8.26% | 3.69% | -0.80% | 6.80% |
| OCTOBER | 2017 | 1.22% | 9.58% | 3.66% | 0.62% | 7.46% |
| NOVEMBER | 2017 | 0.73% | 10.38% | 3.67% | 0.29% | 7.78% |
| DECEMBER | 2017 | 0.99% | 11.48% | 3.53% | 2.10% | 10.04% |
| JANUARY | 2018 | 1.64% | 1.64% | 3.74% | -2.39% | -2.39% |
| FEBRUARY | 2018 | -2.25% | -0.64% | 3.96% | -2.34% | -4.67% |
| MARCH | 2018 | -0.19% | -0.84% | 3.91% | 0.86% | -3.85% |
| APRIL | 2018 | -0.06% | -0.89% | 4.03% | -1.16% | -4.96% |
| MAY | 2018 | 0.76% | -0.14% | 3.99% | 0.92% | -4.09% |
| JUNE | 2018 | -0.23% | -0.37% | 4.12% | -1.30% | -5.34% |
| JULY | 2018 | 1.22% | 0.84% | 4.11% | 0.42% | -4.94% |
| AUGUST | 2018 | 0.84% | 1.69% | 4.05% | 1.11% | -3.88% |
| SEPTEMBER | 2018 | -0.14% | 1.55% | 4.18% | -1.28% | -5.10% |

About the Milliman 100 Monthly Pension Funding Index

For the past 18 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 2017 fiscal year and for previous fiscal years. This pension plan accounting disclosure information was summarized as part of the Milliman 2018 Pension Funding Study, which was

published on April 19, 2018. 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