U.S. Multiemployer Pension Plan Stress Metrics

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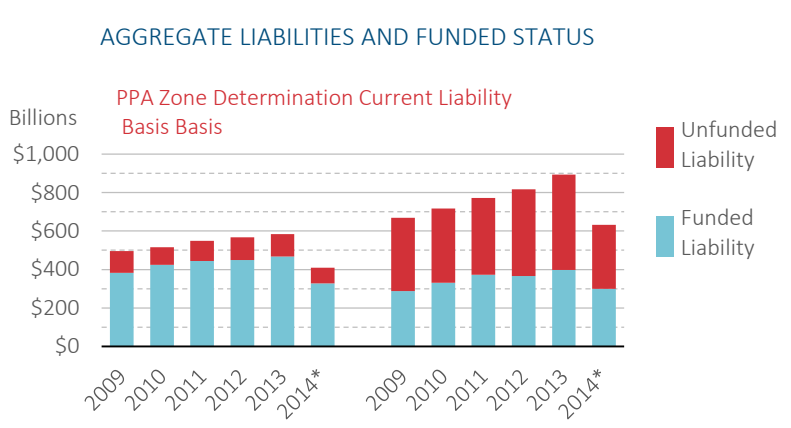
In August 2015, the Society of Actuaries introduced two metrics for measuring the financial stress imposed on pension plans by the combination of unfunded liabilities and declining numbers of active participants: Previous Benefit Cost (PBC) and Previous Benefit Cost Ratio (PBCR).[1] This article presents updated metric results across the multiemployer pension plan (MEPP) system in the United States for 2009—2014. Results are based on Department of Labor Form 5500 data as of Jan. 5, 2016, which includes approximately 60% of MEPPs reporting for 2014; plans identified as frozen are excluded from this analysis.

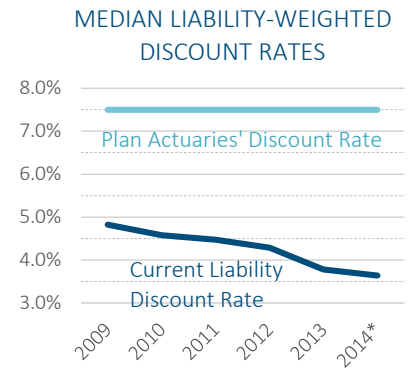
Here are highlights of the updated results:

- While stress levels remain high, both PBC and PBCR show slight downward trends—indicating slight reductions in stress—for much of the system. In general, plans below the median show greater reductions in stress.
- Plans with stress levels above the median, however, generally show increased stress levels.
- Over 2009–2013 (the most recent complete year of reporting) unfunded liabilities as measured under the Pension Protection Act of 2006 for zone determination remained essentially flat at $115 billion. However, when measured on a Current Liability basis, unfunded liabilities grew from $380 billion for 2009 to approximately $500 billion for 2013.[2]
- The ratio of inactive participants to active participants continued to increase, compounding the stress in this system. In 2009 there were 1.40 inactive participants per active participant, while early indications for 2014 show an increase to 1.75.[3]

Aggregate MEPP Liabilities and Funded Status

The MEPP system carries significant unfunded liabilities regardless of how they're measured. Aggregate unfunded liabilities for 2013—the most recent complete year of reporting—ranged from $115 billion on the basis used to determine "status" or "zone" under the Pension Protection Act of 2006 to $500 billion on a Current Liability basis.[2] Most MEPPs had an unfunded liability on both bases.





* Data as of January 5, 2016, reflecting roughly 60% of plans reporting.

[1] Society of Actuaries, "Multiemployer Plan Stress Metrics," August 2015, http://www.soa.org/Research/Research-Projects/Pension/research-2015-08-multiemployer-plan-stress-metrics.aspx .

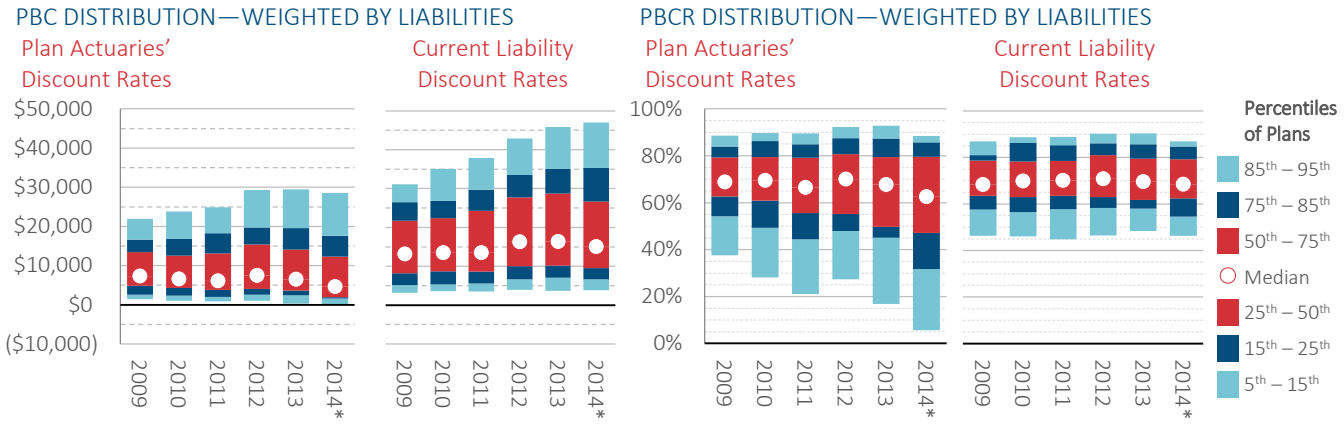
[2] Current Liability basis uses the Unit Credit cost method, discount rates based on an average of Treasury discount rates and the market value of assets. The basis for zone determination under PPA uses the Unit Credit cost method with the plan actuary's discount rate and the actuarial value of assets.

[3] Inactive participants include retirees as well as participants no longer accruing benefits but not yet retired; frozen plans have been excluded from analysis.

Previous Benefit Cost (PBC) and Previous Benefit Cost Ratio (PBCR)

A plan's PBC represents the annualized cost of its unfunded liability per active participant. For example, a PBC of $10,000 means that the annualized cost of the plan's unfunded liability is $10,000 per active participant. A plan's PBCR represents the annualized cost of its unfunded liability as a portion of its total annualized cost, including the cost of current benefit accruals and administrative expenses.[4] A PBCR of 75% indicates that three-quarters of a plan's annualized cost is attributable to its unfunded liability.

Distributions of PBCs and PBCRs across the MEPP system are shown below. The distributions are weighted by liabilities in order to better represent the metrics across the system as a whole. Median discount rates for each basis are shown on the previous page.



	Median	Median	Median	Median
2009	$7,286	$13,173	68.8%	68.4%
2010	6,616	13,453	69.5%	69.8%
2011	6,060	13,475	66.6%	70.1%
2012	7,478	16,266	70.1%	70.8%
2013	6,503	16,343	67.8%	69.5%
2014*	4,597	15,050	62.6%	68.5%

* Data as of Jan. 5, 2016, reflecting roughly 60% of plans reporting.

When valued at plan actuaries' discount rates, most PBC levels decreased since 2011. However, the highest end of the PBC distribution generally increased over the period studied. Early indications for 2014, however, point toward slight reductions at the high end of the distribution.

When valued at Current Liability discount rates, which declined markedly over these years, the entire distribution of PBC levels consistently shifted upward—indicating increasing stress levels—until 2014. Reflecting approximately 60% of the system reporting for 2014, PBCs for all but the most-stressed plans shifted slightly downward from 2013, indicating a slight improvement in stress imposed by unfunded liabilities.

With median PBCR levels consistently above 50% regardless of the discount rates used, stress resulting from unfunded liabilities was generally high. PBCRs exceeded 80% for nearly 25% of the system, regardless of the discount rate used to measure liabilities. Early indications hint at slightly reduced stress levels for 2014, which would continue a trend that started in 2012.

The PBCR distribution at Current Liability discount rates was more consistent across time than at plan actuaries' discount rates. This is primarily because when using plan actuaries' discount rates, unfunded liabilities of many plans were declining, so the bottom half of the PBCR distribution stretches out. But when valued at the much lower Current Liability discount rates, unfunded liabilities generally remained high or increased over this period.

Unlike the PBC distribution, the increase in unfunded liabilities as Current Liability discount rates declined did not push the PBCR distribution up. This is primarily because as discount rates declined, both the annualized cost of unfunded liabilities *and* the cost of current

[4] PBC and PBCR measure unfunded liability using the Unit Credit cost method and market value of assets; annualized cost of the unfunded liability is defined as a 15-year level-dollar amortization payment on the unfunded liability.

benefit accruals increased. Further, the annualized cost of unfunded liabilities was typically greater or even much greater than the cost of current benefit accruals. As the annualized cost of unfunded liabilities increased, the total annualized cost of the plan increased. So as a *portion* of the total annualized cost of a plan, the annualized cost of the unfunded liability hardly changed.

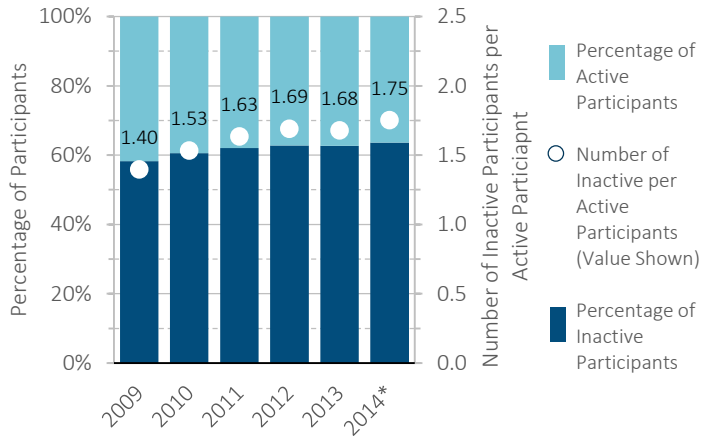
Participant Trends

Unfunded liabilities reflect benefits earned by both active and inactive participants. Contributions to MEPPs are typically negotiated and paid as a rate that is a function of active participants—for example, an amount per hour or week worked. Therefore, all other things being equal, a plan with fewer active participants relative to inactive participants will feel greater pressure on its contribution rates.[5]

Consequently, looking at the number of inactive participants per active participant can also provide some insight about the stress on the system imposed by its unfunded liabilities.

The graph below left shows that in aggregate the proportion of inactive participants in this system has been increasing while the proportion of active participants has been decreasing. The graph below right shows that a small but significant percentage of plans have very high ratios of inactive participants per active participant. For about 25% of plans, the ratio has exceeded 2.0 since 2009. For roughly 10% of plans, the ratio has exceeded 3.5 since 2011, and for some plans, the ratio has exceeded 7.0 since 2011.

AGGREGATE MEPP PARTICIPANTS



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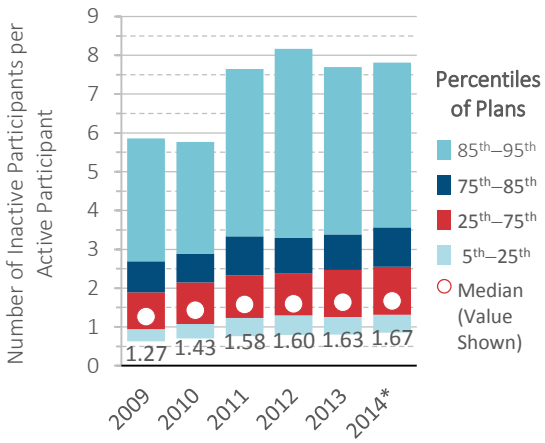
DISTRIBUTION OF NUMBER OF INACTIVE PARTICIPANTS PER ACTIVE PARTICIPANT—WEIGHTED BY LIABILITIES



* Data as of Jan. 5, 2016, reflecting approximately 60% of plans reporting.

Data and Methods

Analysis is based on publicly available data from the Department of Labor Form 5500 as of Jan. 5, 2016. Plans identified as frozen were excluded. Other than adjustments for obvious errors, data were used as reported. The use of the reported values is not intended to provide commentary on the appropriateness of the underlying assumptions for funding these plans or any other purpose.

Liabilities were estimated by adjusting plans' reported Current Liabilities for reported plan actuaries' discount rates using assumptions for duration and convexity that were developed to represent the MEPP system as a whole and may not be appropriate for any given plan. Modifications to the assumptions and methods used may result in different numerical outcomes, but the overall conclusions are likely to be similar. Different assumptions and methods may be more appropriate for analysis of a specific plan or small set of plans.

[5] *Supra,* note 3.

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