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U.S. Multiemployer Pension Plan Stress Metrics: Previous Benefit Cost and Previous Benefit Cost Ratio

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Multiemployer pension plans (MEPP) in the U.S. generally cover private-sector union employees. For various reasons beyond the scope of this article, some multiemployer plans have large unfunded liabilities. In addition, most multiemployer plans have declining numbers of active participants.

This combination of dynamics is rather precarious, especially because of the way that contributions are determined. In short, contribution schedules are negotiated and agreed upon as an amount per unit of active participants' work, and they are negotiated and agreed upon for several years at a time.

To measure the financial stress that these dynamics impose on plans, the SOA developed two metrics: Previous Benefit Cost (PBC) and Previous Benefit Cost Ratio (PBCR).

A plan's PBC is the annualized cost of funding the unfunded liability over 15 years in level dollar amounts per active participant. The PBC determines unfunded liabilities by comparing unit credit liabilities with the market value of assets.

A plan's PBCR is the percentage that is the plan's PBC relative to the total annual cost of funding the plan, including current benefit accruals and administrative expenses (See figure 1).

Using Form 5500 data as of Nov. 14, 2017, our most recent study looks at these metrics results for 1999–2015 plan years, as well as preliminary results for 2016, based on a partial year of reporting. Data for 2015 includes 1,221 plans covering roughly 9.7 million participants and roughly 205,000 contributing employers.[1]

FUNDED STATUS

As a group, multiemployer pension plans carry significant unfunded liabilities regardless of how they are measured. Figure 2 shows that when using the actuarial methods and discount rates reported for minimum funding purposes, aggregate unfunded liabilities increased from about $129 billion for 2014 to about $133 billion for 2015. Most plans continued to have an unfunded liability on a funding basis.

Unfunded Current Liabilities, which are computed with legally prescribed discount rates that are generally lower than funding discount rates, increased slightly, from $496 billion in 2014 to $535 billion in 2015. Almost all plans had an unfunded liability

Figure 1
PBC and PBCR Illustration

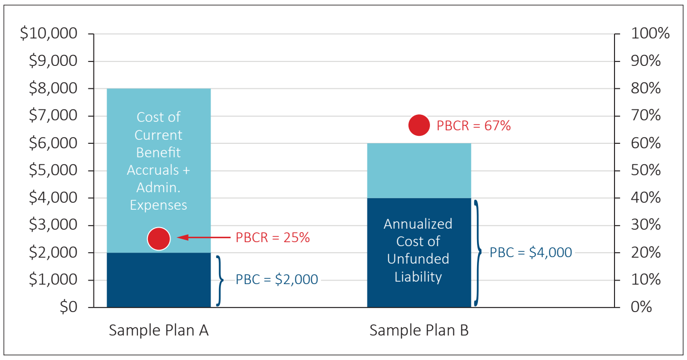
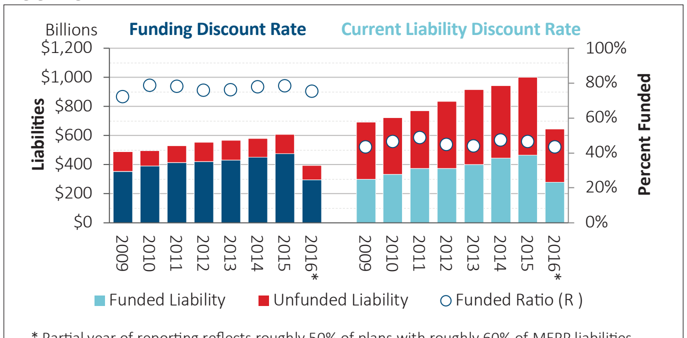
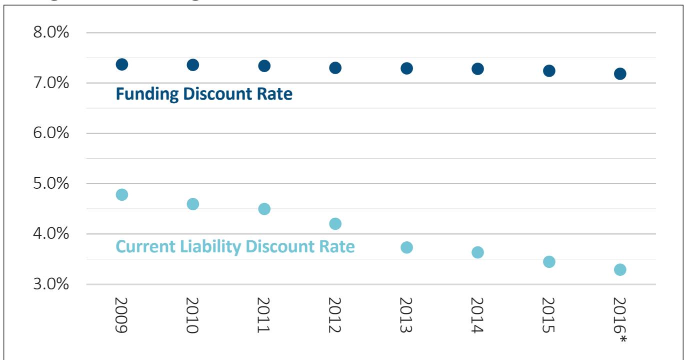


Figure 2
Aggregate Liabilities and Funded Status



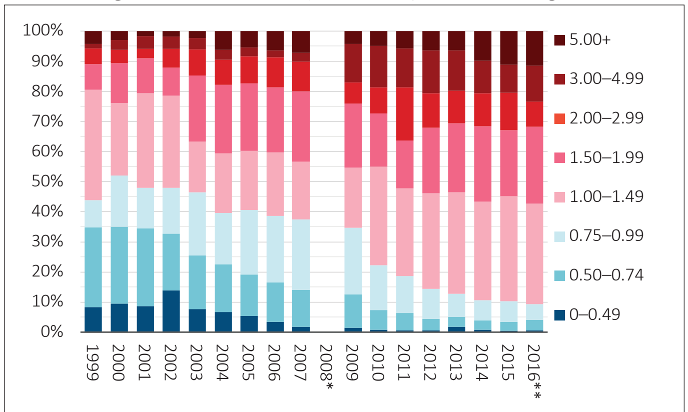
* Partial year of reporting reflects roughly 50% of plans with roughly 60% of MEPP liabilities.

Figure 3
Weighted Average Discount Rates



* Partial year of data reflects roughly 50% of plans with roughly 60% of MEPP system liabilities.

Figure 4
Dependency Ratio
Percentage of Plans In Dependency Ratio Ranges



* Data for 2008 is missing.
** Partial year of data reflects roughly 50% of plans with roughly 60% of MEPP system liabilities.

on a Current Liability basis. Refer to Figure 3 for a comparison of discount rates for funding purposes and Current Liability.

DEPENDENCY RATIO

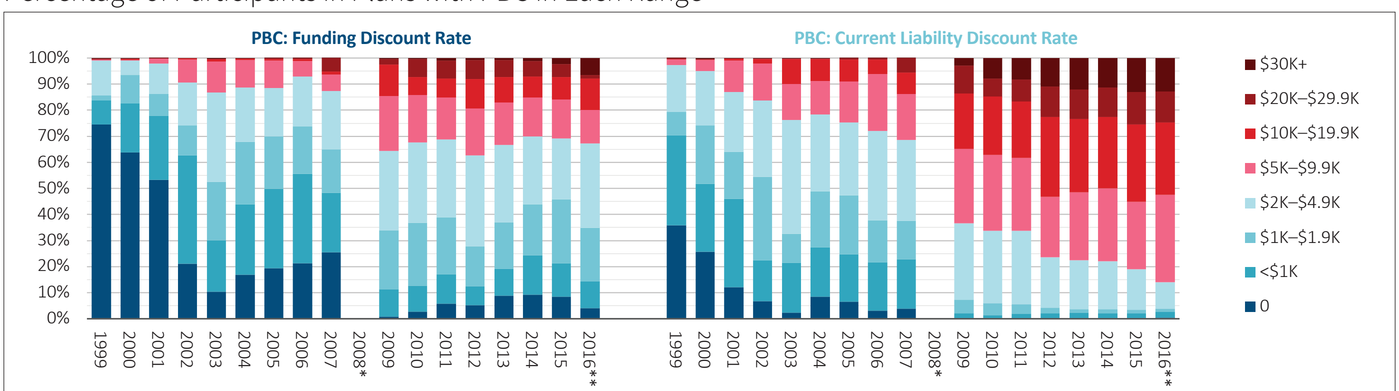
As previously mentioned, multiemployer plan contributions are typically a product of the number of active participants working and the pre-negotiated contribution rate. Therefore, if all other things are equal, plans with a greater number of inactive participants relative to active participants—a higher dependency ratio—will feel greater pressure to increase contribution rates.

Figure 4 shows that since 1999, inactive participants have outnumbered active participants, and the proportion of inactive participants steadily increased. In 1999, about 1 out of 10 participants was in a plan with a dependency ratio of 2.0 or greater, and 5.5 out of 10 were in plans with a dependency ratio of 1.0 or more. By 2015, 3 out of 10 participants were in plans with a dependency ratio of 2.0 or greater, and 9 out of 10 were in plans with a dependency ratio of 1.0 or more. Further, by 2015, one out of 10 participants was in a plan with a dependency ratio of 5.0 or more.

PBC DISTRIBUTION

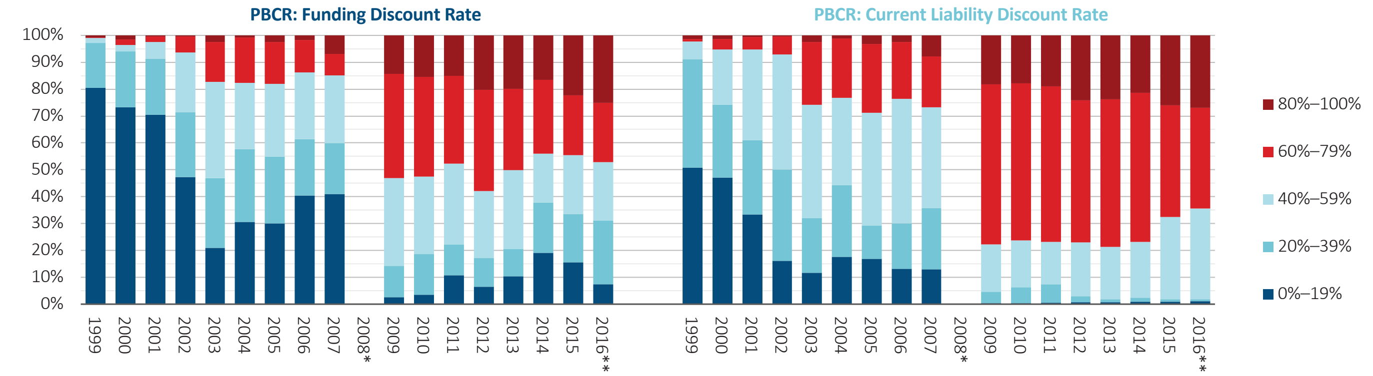
Figure 5 shows the percentage of plans whose PBCs fall within given ranges. The distribution is weighted by participants in order to better represent the system as a whole. In general, PBCs have increased significantly since 1999.

Figure 5
Distribution of Plans by PBC Ranges
Percentage of Participants in Plans with PBC in Each Range



* Data for 2008 is missing
** Partial year of data reflects roughly 50% of plans with roughly 60% of MEPP system liabilities.

Figure 6
Distribution of Plans by PBCR Ranges
Percentage of Participants in Plans with PBCR in Each Range



* Data for 2008 is missing.
** Partial year of data reflects roughly 50% of plans with roughly 60% of MEPP system liabilities.

When using the funding discount rate, the percentage of plans in the higher PBC ranges has held fairly constant since 2009, although the percentage of plans in the highest PBC range has increased during the last couple of years. In other words, the plans with higher stress levels have found little relief, and stress levels are increasing among the most stressed plans. While the number of plans among the least stressed has been growing, it remains small.

When using the Current Liability discount rate, the percentage of plans with the highest PBCs has slowly increased, while the percentage of plans with lowest PBCs has steadily fallen. Current Liability PBCs have generally increased primarily because Current Liability discount rates steadily fell while funding discount rates stayed the same or fell only slightly. Refer to Figure 3 for the average discount rates during this period.

PBCR DISTRIBUTION

Figure 6 shows PBCR distributions across all plans, weighted by the number of participants. Since 2009, annualized costs of unfunded liabilities outweigh the cost of current participants' benefit accruals for over half of plans.

When using funding discount rates, since 2009, the percentage of plans with PBCRs of 60% or more has generally decreased very slightly, but relief has been limited. However, the percentage of plans at the lowest stress levels increased, indicating that some of the least stressed plans have been able to further reduce their stress levels.

Using the lower Current Liability discount rates, since 2009 the percentage of plans at higher stress levels has fallen slightly. However, the percentage of plans with PBCRs in the least stress level is almost nonexistent because almost all plans have an unfunded Current Liability.

COMPLETE REPORT

The SOA's complete research report on PBC and PBCR, which includes descriptions of data and methods, is available at *https://www.soa.org/research-reports/2016/2016-multi-pension-plan-stress-metrics/*.

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ENDNOTES

1 Many participants have earned benefits under more than one multiemployer plan, and many employers contribute to more than one of these plans. This study reflects the sum of reported counts reported for each plan.