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U.S. Multiemployer Pension Plan Contribution Indices

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Introduction and Executive Summary

Funding multiemployer pension plans involves many intricate factors, including collective bargaining, complex funding regulations, investment returns, discount rates and other actuarial assumptions. Regardless of the intricacies, the ultimate goal is to provide the plan with enough assets to pay participants' benefits when they come due.

The Society of Actuaries (SOA) is pleased to provide an update to its annual study of contribution indices among multiemployer pension plans in the United States. Contribution indices are metrics for measuring whether pension plan contributions—absent other influences—reduced unfunded liabilities or met other benchmarks, such as regulatory requirements. Using publicly available Department of Labor Form 5500 filings as of Nov. 14, 2017, this study updates results through 2015, with 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 employers.[1]

Highlights of the update include:

- In 2015, more plans received sufficient contributions to maintain their unfunded liabilities as measured with funding discount rates—78% in 2015 compared with 76% in 2014. Also, more plans met a 15-year funding pace—55% in 2015, up from 50% in 2014. Preliminary results for 2016 indicate fewer plans meeting these benchmarks, in part because unfunded liabilities increased in 2016 due to of lower-than-expected investment returns during 2015.
- Although about 85% of plans received more contributions for 2015 than required by federal law, 22% of plans received insufficient contributions to maintain existing unfunded liabilities computed on the same basis, down from about 26% for 2014. This occurs primarily because regulations reduce the minimum required contribution by the "Credit Balance," a mechanism for recognizing that a plan's past contributions were more than the minimum required.[2]
- For the second consecutive year, aggregate contributions met the benchmark for eliminating unfunded liabilities within 15 years when using funding-basis discount rates. However, when using Current Liability discount rates, contributions continue to fall significantly short of the level needed to maintain existing unfunded liabilities.
- Aggregate unfunded liabilities increased slightly from about $129 billion for 2014 to about $133 billion for 2015, when measured with the actuarial discount rates, cost and asset methods used for funding purposes. Most plans continued to have an unfunded liability on this funding basis. Using Current Liabilities, which are computed with much lower discount rates that vary from year to year, unfunded liabilities increased from $496 billion in 2014 to $535 billion in 2015. Note that Current Liability discount rates were slightly lower for 2015 than for 2014, generally causing liabilities to increase slightly.

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[1] Refer to the Data and Methods section of this study for more information on the data included as well as Form 5500 filing due dates.
[2] Internal Revenue Code §§431-432 and accompanying regulations set forth funding requirements for multiemployer pension plans.

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Contribution Indices

A plan's contribution index is the ratio of its actual employer contribution to a plan-specific benchmark. A contribution index that exceeds 1.0 means that the contribution exceeded the benchmark, while a contribution index of less than 1.0 means the contribution fell short of the benchmark. When a plan does not have an unfunded liability, it has neither a benchmark nor a contribution index.

This study considers four benchmarks that represent the contribution needed to:

- Satisfy the minimum required contribution (MRC),[3]
- Satisfy the MRC before recognizing any Credit Balances,[4]
- Maintain the unfunded liability (normal cost plus interest on the unfunded liability),[5] and
- Eliminate the unfunded liability in 15 years (normal cost plus 15-year amortization of the unfunded liability).

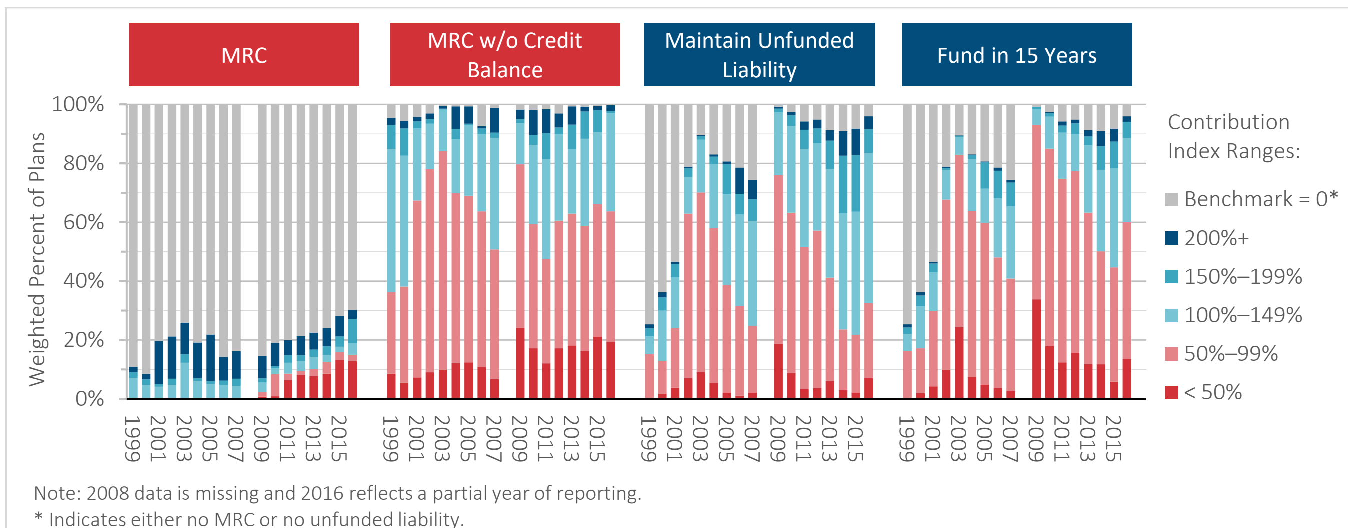
The contribution indices for maintaining the unfunded liability and funding within 15 years are computed at two discount rates, reflecting different perspectives for multiemployer pension plan liabilities:

- Funding discount rate, which typically represents a long-term average expected return on plan assets, and
- Current Liability rate, which uses an average of 30-year Treasury rates, as prescribed by law.[6]

Figure 1 illustrates by year the percentage of plans with contribution indices that fall within given ranges when liabilities are measured using funding discount rates. Note that all distributions are weighted by the number of plan participants.

Figure 1

CONTRIBUTION INDICES USING FUNDING DISCOUNT RATES



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[3] Internal Revenue Code §§431-432 and accompanying regulations set forth funding requirements for multiemployer pension plans.

[4] This study includes as a benchmark the MRC before recognizing any Credit Balances as a partial explanation of how plans with significant unfunded liabilities might have a very small or no MRC. Credit Balances are a mechanism by which plans can recognize that past contributions exceeded minimum requirements. The Pension Protection Act of 2006 put in place supplemental mechanisms that generally strengthen multiemployer pension plan funding rules. The Society of Actuaries does not intend this benchmark as commentary on the appropriateness of Credit Balances or any of the multiemployer pension plan funding rules.

[5] For contribution indices, unfunded liabilities are computed using the unit credit actuarial cost methods and the market value of assets. Using these methods for contribution indices is not intended to provide commentary on their appropriateness for funding multiemployer plans or for any other purpose.

[6] Internal Revenue Code Revenue Code §431 prescribes Current Liability assumptions for multiemployer pension plans.

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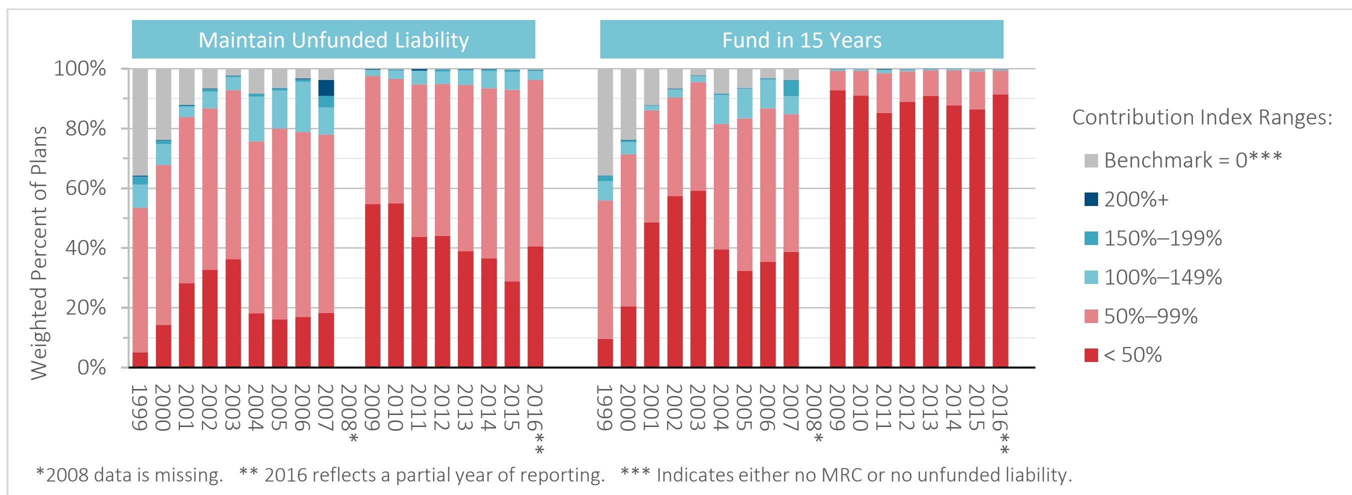
Over the period studied, employer contributions generally greatly exceeded the MRC. Note that for nearly 75% of plans, the MRC for 2015 is zero, even though most of those plans have unfunded liabilities. Funding regulations allow for offsetting Credit Balances when computing the MRC. Credit Balances are a mechanism for recognizing that previous contributions exceeded minimum requirements. However, if MRC regulations did not recognize their Credit Balances, only about 40% of plans' contributions would have exceeded the MRC.[7]

This year's results show an increase in the number of plans that received sufficient contributions to maintain their unfunded liabilities as measured with funding discount rates—78% in 2015 compared with 76% in 2014. Also, more plans met a 15-year funding pace—55% in 2015, up from 50% in 2014. Preliminary results for 2016 indicate fewer plans meeting these benchmarks, in part because unfunded liabilities increased in 2016 because of lower-than-expected investment returns during 2015.

Figure 2 shows the percentage of plans with contribution indices that fall within given ranges on a Current Liability basis. Again, distributions are weighted by plan participants. In 2015, only 7% of plans received enough contributions to maintain the existing unfunded Current Liability, and less than 1% of plans received enough to meet a 15-year funding pace. These results are very similar to 2014 results. Preliminary results for 2016 indicate slightly fewer plans meeting these benchmarks. Note that unfunded Current Liabilities were generally greater in 2016 than 2015 because of lower interest rates for discounting the liabilities as well as lower market return during 2015.

Figure 2

CONTRIBUTION INDICES USING CURRENT LIABILITY DISCOUNT RATES



Aggregate Contributions and Benchmarks

Taking a broader view, Figure 3 shows total contributions across all plans against total benchmarks. Note that discount rates are shown beneath the horizontal (*X*) axis. On a funding discount rate basis, actual contributions in 2014 and 2015 exceeded 15-year funding pace benchmarks and significantly exceeded the MRC. Note that the aggregate MRC was less than the amount required to maintain the aggregate unfunded liability—a result of the Credit Balance provisions in the minimum

[7] Internal Revenue Code §§431-432 and accompanying regulations set forth funding requirements for multiemployer pension plans. The Pension Protection Act of 2006 put in place supplemental mechanisms and processes that generally strengthen multiemployer pension plan funding rules and may supersede MRC rules. This study includes as a benchmark the MRC before recognizing any Credit Balance as a partial explanation of how plans with significant unfunded liabilities might have a very small or no MRC. The Society of Actuaries does not intend this benchmark as commentary on the appropriateness of multiemployer pension plan funding rules.

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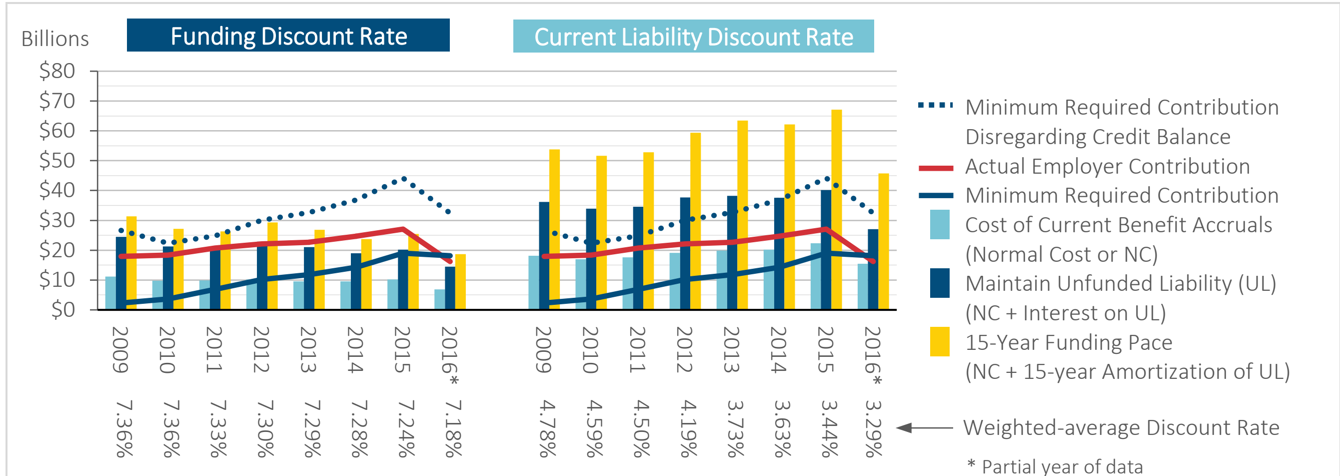
funding regulations. Figure 3 shows that if regulations did not offset Credit Balances, using the funding basis definition of unfunded liabilities, the minimum required contribution would be sufficient to fund unfunded liabilities within 15 years.

Figure 3

AGGREGATE CONTRIBUTIONS AND BENCHMARKS



Aggregate Liabilities and Funded Status

The multiemployer pension system carries significant unfunded liabilities, as Figure 4 shows. For the most recent complete year of reporting, 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 this funding basis. Note that the actuarial methods may include asset smoothing. Factors affecting unfunded liabilities include contributions, plan changes, assumptions changes and/or favorable financial and demographic experience compared with the actuarial assumptions and are beyond the scope of this study.

Current Liabilities are computed with much lower discount rates that vary from year to year (see Figure 5) and are compared with the market value of assets. Unfunded liabilities increased slightly, from $496 billion in 2014 to $535 billion in 2015. The increase stemmed from lower discount rates, as well as other factors that were only partially offset by any favorable financial and/or demographic experience. Almost all plans had an unfunded liability on a Current Liability basis.

Figure 4

AGGREGATE LIABILITIES AND FUNDED STATUS

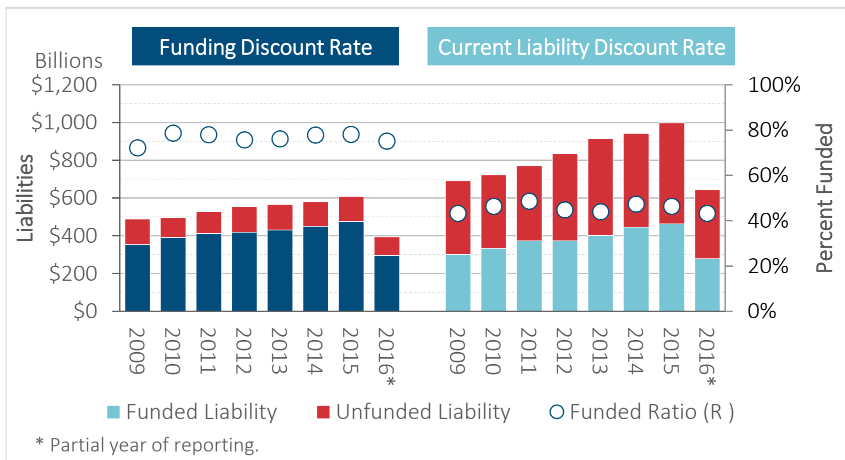
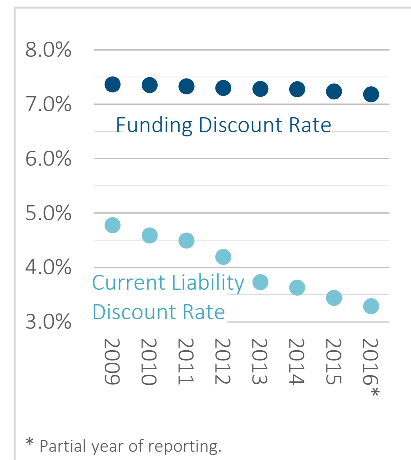


Figure 5

WEIGHTED AVERAGE DISCOUNT RATES



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Data and Methods

Tabulations and analyses are based on publicly available data from the Department of Labor Form 5500 as of Nov. 14, 2017 which reflects completed reporting for plan years through 2015 and a partial year of reporting for 2016. Note that with typical extensions, Form 5500 is generally due 9½ months after the end of the plan year. For example, for a plan year that runs from Jan. 1, 2016 through Dec. 31, 2016, Form 5500 is due Oct. 15, 2017.

Other than exclusions or 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 and methods for funding these plans or for any other purpose.

Refer to Table 1 for a summary of the plans included in this study and note the following items about the data:

- With typical extensions, Form 5500 is generally due 9½ months after the end of the plan year. For example, for a plan year that runs from Jan. 1, 2016 through Dec. 31, 2016, Form 5500 is due Oct. 15, 2017. Most plans file on or immediately before the deadline. Thus 2016 data reflects primarily plans with calendar year plan years plus any plans that filed earlier than required.
- Data for the 2008 Schedule MB is missing from the Department of Labor database, consequently all 2008 data is excluded from this study.
- The authors' criteria for errors and missing data differ slightly from some previous analyses, so results for previously published years may differ slightly.
- 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 for each plan.

Table 1
SUMMARY OF DATA INCLUDED

Plan Year	Excluded Number of Plans	Included in Study Number of Plans	Number of Participants (Millions)	Number of Contributing Employers
1999	52	583	3.96	N/A
2000	76	1,185	6.90	N/A
2001	79	1,220	8.16	N/A
2002	58	1,248	8.45	N/A
2003	44	1,268	8.53	N/A
2004	38	1,284	8.60	N/A
2005	33	1,306	9.18	N/A
2006	34	1,304	9.25	N/A
2007	34	1,308	9.39	N/A
2008	N/A	N/A	N/A	N/A
2009	134	1,197	9.37	219,486
2010	147	1,173	9.33	212,539
2011	100	1,203	9.57	214,660
2012	96	1,208	9.38	205,714
2013	100	1,194	9.68	208,144
2014	61	1,216	9.76	203,082
2015	42	1,221	9.74	204,767
2016	20	631	6.63	110,411

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For computing contribution indices for measuring whether contributions reduced unfunded liabilities using funding discount rates, the authors used the unit credit liability reported for years after 2008 for zone determination under the Pension Protection Act of 2006. For years prior to 2008, the authors estimated unit credit liabilities by adjusting Current Liability for different discount rates. In previous iterations of this study, the authors estimated unit credit liabilities for all years. As a result, some of the figures in this study may not match previously published figures for some years, although the general outcome remains the same.

The techniques and assumptions used were developed for the multiemployer sector as a whole and may not be appropriate for any given plan or small set of plans. Modifications to the assumptions and methods used may result in different numerical outcomes, but the overall conclusions are likely to be similar.

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