

The Pension Analytics Group

**Multiemployer Solvency Crisis:
Adjustments to the PBGC's Benefit Guarantee
To Reduce Pressure on the Guarantee Fund**

1. Overview

Using the Multiemployer Pension Simulation Model (MEPSIM¹), we project that about 130 multiemployer pension plans covering 2.1 million participants will become insolvent over the next 20 years, and that the Pension Benefit Guaranty Corporation's (PBGC) multiemployer guarantee fund² -- the backstop against such insolvencies -- will itself be exhausted by 2027.

Three main options are available to prevent the fund's exhaustion: (1) empower plans to take stronger actions to avoid or delay insolvency; (2) reduce the level of the PBGC's benefit guarantee, and/or (3) increase the revenue flowing into the fund, either through premium increases or by securing additional revenue sources. We addressed Option One in a prior paper³, and will now address Option Two, while Option Three will be addressed in a future a future paper.

The adjustments to the guarantee that we examine within this paper have a significant downward impact on the present value of projected PBGC assistance payments, but the impact is not sufficient to prevent the exhaustion of the guarantee fund. Given the large number of plans heading towards insolvency, it is unlikely that a single policy action is available to stabilize the guarantee fund. Rather, several simultaneous actions will be required, among which a reduction of the guarantee can be considered.

We begin, in Section Two, by reviewing the benefit guarantee provided under current law. In Section Three, we evaluate the impact, on both plan participants and the PBGC, of possible modifications to the guarantee, the goal being to delay the insolvency of the guarantee fund. In Section Four, we examine how reducing the guarantee could increase the number of plans eligible for benefit cuts under the Multiemployer Pension Reform Act (MPRA). In Section Five, we examine the effects of cutting benefits down to guaranteed levels a few years before a plan's projected insolvency date, as opposed to waiting until a plan completely exhausts its assets as prescribed under current law. In Section Six, we conclude.

2. PBGC's Multiemployer Benefit Guarantee

When a multiemployer plan exhausts its assets, benefits are cut back to guaranteed levels, and the PBGC provides the plan with assistance payments sufficient to cover the plan's cash shortfall. The level of guaranteed benefits is quite modest, equal to 100% of the first \$11 of the "monthly benefit rate", plus 75% of the benefit rate between \$11 and \$44. No coverage is provided above \$44. The monthly benefit rate is an individual's monthly pension divided by their total years of service.

Table One provides examples of benefit levels before and after the application of the guarantee. Consider the example with a monthly benefit equal to \$900. We have assumed that this benefit was accrued across 30 years of service, so the benefit rate is \$900 divided by 30 years, or \$30 per year. The guarantee covers the first \$11 of the

¹ MEPSIM was developed by the Pension Analytics Group and is available online at www.PensionAnalytics.org.

² For a description of the PBGC's multiemployer insurance program, see <https://www.pbgc.gov/prac/multiemployer>.

³ The paper is entitled "Multiemployer Solvency Crisis: Assessing Plans' Capacity for Self-Stabilization", and is available online at www.PensionAnalytics.org/Our_Papers.html.

benefit rate, plus 75% of the gap between \$11 and \$30, which, when totaled, produces a guaranteed benefit rate of \$25.25. This rate, when multiplied by 30 years of service, produces a guaranteed benefit of \$758 per month or \$9,090 annually. Thus, the ratio of the individual’s reduced-to-unreduced benefit is 84% (\$758 divided by \$900).

Table 1. Examples of Benefits Before and After Application of the Guarantee

Monthly Benefit for 30 Years of Service	Benefit Rate	Guaranteed Rate	Guaranteed Benefit	Reduced / Unreduced Benefit
\$300	\$10	\$10	\$300	100%
900	30	25	758	84%
1800	60	36	1072	60%
3000	100	36	1072	30%

Note: we have rounded the guaranteed rate and benefits to the nearest dollar.

The guarantee does not have an age threshold below which benefits are uncovered. Rather, the guarantee reflects each plan’s retirement eligibility criteria. Therefore, compared to a plan with a retirement age of 65, a plan with a retirement age of 60 effectively enjoys a richer guarantee, with coverage not only for ages above 65, but also for ages between 60 and 65.

3. Potential Modifications of the Guarantee to Reduce Pressure on the Guarantee Fund

The benefit guarantee is not generous. For a plan participant with 30 years of service, the maximum guarantee is merely \$1072 per month, equal to an annual benefit of \$12,870. Consequently, reducing the guarantee may seem like a relatively harsh approach for stabilizing the guarantee fund. However, given the enormous pressure placed on the guarantee fund, we would be remiss not to examine options for reducing the coverage of the guarantee⁴.

Using MEPSIM, we ran simulations of eight possible structures for the guarantee:

Table 2. Design Options for the Benefit Guarantee

Option	First Bend Point	Second Bend Point	Guarantee Between 1 st and 2 nd Points	Guarantee’s Age Threshold
1a	\$11	\$44	75%	Plan’s Retire Age
2a	\$11	None	0%	Plan’s Retire Age
3a	\$20	None	0%	Plan’s Retire Age
4a	\$30	None	0%	Plan’s Retire Age
1b	\$11	\$44	75%	67
2b	\$11	None	0%	67
3b	\$20	None	0%	67
4b	\$30	None	0%	67

Notes: (i) option 1a is current law; (ii) under the “b” options, the guarantee rate is reduced by 5% for each year an individual retires before the age of 67.

⁴ In terms of pension protection, this benefit should be coupled with accrued Social Security benefits to determine the extent to which these cuts would place retirees in poverty.

Option 1a is the current-law benefit guarantee, which covers 100% of the first \$11 of the benefit rate, and 75% of the benefit rate between the bend points of \$11 and \$44. In terms of protecting participants' welfare, the formula's use of bend points is inefficient. The marginal utility of income declines as income increases -- the first hundred dollars of monthly earnings are more critical than the second, and the second hundred dollars is more critical than the third, etc. Therefore, reducing the second bend point could increase the efficiency of the formula, as well as provide the resources to increase the first bend point. Options Two through Four (in Table Two) take this approach to its logical conclusion, by eliminating the second bend point altogether.

The "b" set of guarantee options further focuses the PBGC's resources, by reducing the guaranteed benefit rate by 5%, geometrically, for each age of retirement before 67. Thus, an individual retiring at 65 would experience a 9.7% cut of their guaranteed rate, and an individual retiring at 60 would experience a 30.2% cut⁵. This approach creates an incentive for plans to increase their retirement ages and, in the case of insolvent plans, creates an incentive for participants to defer receipt of guarantee payments until the age of 67. As a byproduct, the PBGC's resources will be more effectively targeted, reducing assistance payments directed towards the youngest retirees.

Using MEPSIM and the baseline assumptions presented in Appendix A, we projected the multiemployer system under each of the eight guarantee options described in Table Two:

Table 3. Projected Present Value of PBGC Assistance Payments as a Function of Benefit Guarantee Structure

	Structure of Benefit Guarantee				Year of PBGC Fund Exhaustion	Insolvencies Before 2037		All Insolvencies	
	First Bend Point	Second Bend Point	Guarantee Between 1 st and 2 nd Points	Guarantee's Age Threshold		PV of Claims (Billions)	PV Claims, as % of Current Law	PV of Claims (Billions)	PV Claims, as % of Current Law
1a	\$11	\$44	75%	Plan Ret Age	2027	\$78.3	100%	\$184.7	100%
2a	11	None	0%	Plan Ret Age	2032	34.8	44%	80.3	43%
3a	20	None	0%	Plan Ret Age	2029	63.2	81%	146.0	79%
4a	30	None	0%	Plan Ret Age	2028	78.6	100%	181.7	98%
1b	11	\$44	75%	67	2028	64.1	82%	146.7	79%
2b	11	None	0%	67	2033	28.3	36%	63.7	34%
3b	20	None	0%	67	2029	51.5	66%	115.8	63%
4b	30	None	0%	67	2028	64.3	82%	144.3	78%

Under our baseline assumptions, we project 131 insolvent plans across the next 20 years, and 453 insolvent plans if the time horizon is extended to 50 years.

If the guarantee were set at \$11 a month, and an age threshold of 67 were established, total expected claims would be reduced by about two-thirds relative to claims anticipated under current-law, as shown in Option 2b. Under this option, a participant with 30 years of service would receive an assistance payment equal to \$330 a month, assuming that they deferred the first payment until age 67. If they elected to begin receiving payments at age 65, their monthly payment would be reduced to \$298.

Relative to options 2a and 2b, options 3a and 3b are more expensive, but remain significantly less costly than the current-law guarantee. Under these options, a participant with 30 years of service, and with a benefit rate greater than or equal to \$20, would receive a monthly payment of \$600 a month. For Option 3b, the payment would be reduced if the participant elected to receive benefits before age 67.

Option 4a generates about the same total claims as current-law, but it more effectively targets the PBGC's limited resources. Consider a plan with a benefit rate of \$30. Under current-law, \$25.25 of the \$30 is guaranteed, but

⁵ The 9.7% cut was computed as follows: $1 - 0.95^{(67 - 65)}$. The 30.2% cut was computed as follows: $1 - 0.95^{(67 - 60)}$.

under Option 4a the entire \$30 is guaranteed. Thus, participants with relatively low unit benefits will fare better under option 4a than under current-law, while the opposite is true for participants with higher unit benefits.

4. Reducing the Guarantee Could Increase the Effectiveness of MPRA

The simulation results presented in Table Three do not include the effects of any voluntary benefit cuts that might occur via the Multiemployer Pension Reform Act (MPRA), which ostensibly provides troubled plans with greater leeway to cut accrued benefits. In practice, however, few plans can qualify for MPRA. Generally, by the time a plan is within 20 years of insolvency – an eligibility criterion defined in the Act – the cuts required to avoid insolvency are not permissible under MPRA, because the resulting benefits would be below MPRA’s minimum allowable threshold, equal to 110% of the level of guaranteed benefits. The guarantee, therefore, mutes the potential effects of MPRA.

If the benefit guarantee were reduced, and if MPRA’s benefit floor remained equal to 110% of the guarantee, then a greater number of plans could implement benefit cuts under MPRA, and the number of projected insolvencies would be reduced. To test this theory, we used MEPSIM to estimate the number of plans for which an across-the-board⁶ benefit cut of 25% or less would be permissible under MPRA. We capped the benefit cut at 25% because, in our view, a larger cut is unlikely to be voluntarily implemented by a plan. We evaluated the current-law guarantee, as well as each of the proposed alternatives:

Table 4. Reducing the Guarantee Increases the Number of Plans that Qualify for MPRA

Benefit Guarantee	First Bend Point	Second Bend Point	Guarantee Between 1 st and 2 nd Points	# of Plans for Which a 25% Benefit Cut is Permitted Under MPRA
1a or 1b	\$11	\$44	75%	22
2a or 2b	11	None	0%	73
3a or 3b	20	None	0%	43
4a or 4b	30	None	0%	25

Under current-law, we estimate that only 22 plans have a realistic chance of obtaining relief under MPRA. However, if the second bend point of the guarantee were eliminated, and the first bend point remained at \$11, the number of plans would shoot upwards, from 22 to 73, as shown for Option Two. This result arises because there are a significant number of plans whose benefit rates are only slightly above the existing guarantee level. Lowering the guarantee gives these plans greater space in which to cut benefits, assuming the MPRA benefit floor remains equal to 110% of the guarantee.

Therefore, we re-computed the simulation results presented earlier in Table Three, this time including the effects of MPRA. Specifically, we cut the accrued benefits of any plan that could qualify for relief under MPRA with an across-the-board benefit cut of 25% or less. The results are shown in Table Five.

Under the current-law guarantee (1a), we estimate that MPRA may reduce claims on the PBGC by less than three billion dollars, from \$184.7 billion to \$182.0 billion. With a reduced guarantee, however, MPRA’s impact could be significantly larger. For example, under Option 2b, total claims are reduced by more than \$10 billion, from \$63.7 billion to \$53.5 billion.

⁶ An “across-the-board” benefit cut is applicable to all participants, including current retirees.

Table 5. Present Value of PBGC Assistance Payments, Both With and Without Impact of MPRA Relief

	Structure of Benefit Guarantee				Insolvencies Before 2037		All Insolvencies	
	First Bend Point	Second Bend Point	Guarantee Between 1 st and 2 nd Points	Guarantee's Age Threshold	PV of Claims (Billions) Excluding MPRA Impact	PV of Claims (Billion) Including MPRA Impact	PV of Claims (Billions) Excluding MPRA Impact	PV of Claims (Billion) Including MPRA Impact
1a	\$11	\$44	75%	Plan Ret Age	\$78.3	\$76.1	\$184.7	\$181.4
2a	11	None	0%	Plan Ret Age	34.8	26.9	80.3	64.8
3a	20	None	0%	Plan Ret Age	63.2	56.7	146.0	137.4
4a	30	None	0%	Plan Ret Age	78.6	76.9	181.7	177.3
1b	11	\$44	75%	67	64.1	62.3	146.7	144.1
2b	11	None	0%	67	28.3	21.9	63.7	51.3
3b	20	None	0%	67	51.5	46.1	115.8	108.8
4b	30	None	0%	67	64.3	62.8	144.3	140.9

5. Impact of Cutting Benefits to Guaranteed Levels Before a Plan Exhausts its Assets

Under existing legislation, benefits are reduced to guaranteed levels only after a plan has first exhausted its assets. This is like waiting to press a car's brakes until after it has slammed, at full speed, into a brick wall. Furthermore, the collision is not an unpredictable event, but rather can be anticipated well in advance, because by the time a plan is within ten years of projected insolvency, its fate is virtually locked-in.

The impact on the PBGC's bottom line could be dramatically reduced by implementing cutbacks a few years *before* a plan's projected date of insolvency. This policy change would reduce the rate at which a plan burns through its remaining assets, thereby pushing its insolvency date further into the future. For some plans, insolvency would be avoided altogether.

To test this concept, we simulated four options. Under the first option, benefits are cutback to guaranteed levels when a plan is within one year of projected insolvency. Under the second, third, and fourth options, the period is increased to three, five and ten years, respectively.

Table 6. Impact of Cutting Benefits to Guaranteed Level Before a Plan Exhausts its Assets

Cutbacks Implemented "X" Years Before Projected Insolvency	Year of PBGC Fund Exhaustion	Insolvencies Before 2037			All Insolvencies		
		# of Insolvent Plans	PV of Claims (Billions)	PV Claims, as % of Current Law	# of Insolvent Plans	PV of Claims (Billions)	PV Claims, as % of Current Law
0	2027	131	\$78.3	100%	453	\$184.7	100%
1	2029	124	74.7	95%	358	164.7	89%
3	2031	111	66.8	85%	331	149.7	81%
5	2032	96	45.1	58%	306	132.8	72%
10	2035	76	30.8	39%	251	94.9	51%

The results indicate that accelerated cutbacks would have a significant downward impact on claims. For example, if cutbacks were implemented five years before projected insolvency, total projected claims would be reduced from \$185 billion to \$133 billion.

Accelerated cutbacks could be combined with any of the policy options we explored earlier in this paper. For example, in Table Seven we show the effect of implementing accelerated cutbacks as well as changing the guarantee to a flat benefit rate of \$20.

Table 7. Impact of Cutting Benefits to Guaranteed Level Before a Plan Exhausts its Assets

Cutbacks Implemented "X" Years Before Projected Insolvency	Year of PBGC Fund Exhaustion	Insolvencies Before 2037			All Insolvencies		
		# of Insolvent Plans	PV of Claims (Billions)	PV Claims, as % of Current Law	# of Insolvent Plans	PV of Claims (Billions)	PV Claims, as % of Current Law
Accelerated cutbacks to guaranteed levels							
0	2027	131	\$78.3	100%	453	\$184.7	100%
1	2029	124	74.7	95%	358	164.7	89%
3	2031	111	66.8	85%	331	149.7	81%
5	2032	96	45.1	58%	306	132.8	72%
10	2035	76	30.8	39%	251	94.9	51%
Accelerated cutbacks + guaranteed benefit rate changed to \$20							
0	2029	131	63.2	81%	453	\$146.0	79%
1	2032	108	49.3	63%	271	104.1	56%
3	2035	83	44.6	57%	217	92.6	50%
5	2036	70	34.8	44%	189	84.8	46%
10	2036	65	32.5	41%	164	78.5	42%

6. Conclusions

Projections indicate that the multiemployer guarantee fund will run out of money in the near future. None of the options we examined for reducing the guarantee can significantly alter this outcome.

It would be a mistake, however, to focus solely on the fund’s projected date-of-insolvency as a means for assessing the impact of a policy change. Rather, a more meaningful yardstick is the reduction in the present value of claims on the PBGC. If an adjustment to the guarantee reduces projected claims by \$20 billion, for example, then we are \$20 billion closer to solving the funding problem, even if the guarantee fund’s projected date-of-insolvency shifts by only a year or two.

Given the large number of plans heading towards insolvency, it is unlikely that a single policy action is available to stabilize the guarantee fund. Rather, several simultaneous actions will be required, among which a reduction of the guarantee can be considered. If additional revenue sources are obtained for the guarantee fund, and/or plans are given greater power to cut accrued benefits, then a reduction of the guarantee may be unnecessary, or perhaps merely a small reduction will be needed.

In a future paper, we will present a menu of policy packages, each of which will be sufficient to stabilize the guarantee fund. Included in this menu will be a package that relies heavily on reductions of the guarantee, as well as a package that leaves the existing guarantee intact.

Appendix A. Baseline Assumptions

Our baseline assumptions are as follows:

Baseline Assumptions		
	Through 2025	After 2025
Return on plan assets	6.0%	6.0%
Rate of increase of the number of active workers	-1.5%	0.0%
Rate of increase of contributions-per-worker	1.5%	0.0%
Rate of increase of each plan's unit benefit	0.0%	0.0%
Rate of increase of the PBGC's guaranteed benefit	0.0%	0.0%

- To set our baseline assumption for asset returns, we reviewed the latest medium and long-term capital market forecasts by Vanguard, the McKinsey Global Institute, and JP Morgan. Together, these reports suggest that, for a portfolio allocated 60% to equity and 40% to bonds, a realistic expected return over the next 25 years is 6%. Therefore, we adopted 6% as our baseline assumption for the rate-of-return.
- Between 2001 and 2015, the total number of active workers declined at an average rate of 1.5%. We have assumed this trend will continue through 2025, after which the number of workers is assumed to be stable. We adopted the stabilization assumption with caution, bearing in mind that if, in fact, the decline in active workers ends up continuing, we will be understating the likely insolvencies and attendant costs to the PBGC.
- We assume contributions-per-worker increase annually by 1.5% through 2025, then remain level.
- Each plan's unit benefit is assumed constant across time.
- The level of the PBGC's benefit guarantee is assumed to remain unchanged.
- We use a rate of 2.55% for discounting the projected stream of PBGC assistance payments. This rate value was determined as a level-equivalent of the full Treasury yield curve from July 3, 2017 for discounting projected assistance payments. We used the projected assistance stream from a baseline run for this purpose, but also found the equivalence-value quite insensitive to assumption changes.
- We assume that a plan continues to pay contributions until it becomes insolvent, after which contributions cease. We also assume that benefit accruals cease on the date of insolvency.
- After a plan exhausts its assets, we assume that it continues to pay premiums to the PBGC, but at merely 25% of the level observed just prior to insolvency.
- To simulate the effects of establishing an age threshold for guaranteed benefits, we assume that the average age of retirement across the multiemployer plan universe is 62.
- For the policy scenarios in which benefits are cut-back to guaranteed levels "N" years before a plan exhausts its assets, the cut-backs are not accompanied by a corresponding reduction of contributions. Rather, contributions are assumed to remain unchanged.