MULTIEMPLOYER PLANS – A PROPOSAL TO SPREAD THE PAIN

By Alicia H. Munnell, Jean Pierre Aubry, Wenliang Hou, and Anthony Webb*

Introduction

This *brief* – the fourth in a series on multiemployer pension plans – explores a contentious proposal to allow plans facing impending insolvency to cut accrued benefits of current workers and retirees to extend the life of the plan. Private sector multiemployer plans expanded benefits during the stock market boom in the 1990s and then lost substantial assets in the wake of two financial crises after the turn of the century. In addition, many plans are in industries, such as construction, hurt by the prolonged recession, and others face a shrinking pool of active workers. While the great majority of multiemployer plans have responded to these financial pressures by cutting future benefits for active workers and raising employer contribution rates, allowing them to navigate to relatively secure footing, a significant number of plans could run out of money in the next 20 years.¹ The Pension Benefit Guaranty Corporation (PBGC), which guarantees pension benefits for insolvent plans, does not have the resources to solve the problem. The question is whether giving distressed plans an additional tool - the ability to cut benefits of existing retirees would do more good than harm.

The discussion proceeds as follows. The first section describes the Central States Teamsters (CST) plan to show how a plan can employ all its currently available options and still be facing insolvency. The second section presents the details of the proposal to allow seriously distressed plans the option to cut accrued benefits to avoid insolvency. The third section presents an analytical model – using the CST as the example - that measures "total utility" under two alternative scenarios: 1) allowing the plan to continue as is, becoming insolvent in the next 10-15 years; and 2) permitting a reduction in accrued benefits to restore the plan to solvency. The results show that a 30-percent benefit cut, on average, could allow the CST to remain solvent indefinitely and increase the aggregate welfare of plan participants. The fourth section presents some real world concerns raised by opponents of the proposal. The final section concludes that the proposal merits serious consideration but, if adopted, its application would have to be carefully circumscribed. Most important, the PBGC, the U.S. Department of Labor (DOL), or any agency overseeing the administration of such cuts should

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Central States Teamsters

The Central States Teamsters pension fund, which covers roughly 410,000 participants – 70,000 actives and 340,000 retirees, survivors, and deferred vested participants – across the country, is one of the largest multiemployer pension plans.² About 1,800 employers contribute to this fund, the bulk of which are small businesses with less than 50 employees. Although these employers are in a variety of industries, historically they have been concentrated in trucking.³ The average benefit for current retirees is just over \$15,000 per year. Since 1978, as a result of a consent decree with the DOL, the CST has operated under U.S. District Court and DOL supervision.⁴

The history of the plan reflects the history of the trucking industry.⁵ In 1980, the plan had one retiree/ separated worker for every four active workers; today the ratio has reversed – nearly five retirees/separated workers for each active (see Figure 1). One major reason for this reversal is the increased competition and decreased margins following the deregulation of

Figure 1. Ratio of Inactive to Active Participants for Central States Teamsters, 1980-2012



Note: Because data from 1981-1998 are not available, data for these years were imputed by assuming linear growth in the ratio of inactives over actives from 1980-1999. *Sources*: 1980: Nyhan (2013); 1981-1998: Authors' calculations; and 1999-2012: U.S. Department of Labor Form 5500 (2012).

the trucking industry in the 1980s, which dramatically reduced the number of unionized trucking companies.⁶ The other is the exit of United Parcel Service (UPS) from the plan in 2007.

Because of the decreasing number of active workers relative to retired/separated participants, benefit payments have exceeded contributions since 1984. During the 1980s and 1990s, investment returns covered this gap, and assets continued to grow. But after the turn of the century, with the bursting of the dot-com bubble, returns turned negative and asset values declined. As a result, the plan started to use principal rather than income to pay benefits, further depleting the asset base. Employers exiting the CST also reduced the plan's revenue base, adding to its funding challenge.⁷

In response to the underfunding, the plan took a number of actions. It froze "early out" benefits and cut the rate of future pension accruals in half. Beginning in 2005, the trustees mandated contribution increases of about 8 percent per year. In addition, monies allocated for other areas were redirected to the pension fund. These actions increased income and reduced projected liabilities, and in January 2008 the actuaries projected that the plan would be fully funded by 2029.

Then came the collapse of financial markets in 2008, reducing the plan's funded ratio dramatically. Under the Pension Protection Act of 2006 (PPA), the CST was certified to be in the "critical zone" and required to adopt a "rehabilitation plan." The rehabilitation plan raised the early retirement age (to 57) for new retirees and eliminated early retirement benefits for some workers and, on the contribution side, made changes to help retain currently contributing employers.⁸ The plan also included significant increases in the contribution rate through 2027.

Despite these changes and positive investment returns over the last few years, the actuarial funded ratio as of the 2013 valuation was 47.6 percent; the current ratio was 33.3 percent.⁹ The plan is projected to become insolvent in the next 10-15 years, the precise date depending on investment and withdrawal experience.¹⁰ The plan's options are extremely limited. To avoid insolvency it would have to earn very high returns each and every year – an unlikely outcome. On the benefit side, additional cuts to future accruals of active workers would do little to help, because actives account for only a small portion of the plan's liabilities, and such cuts could actually accelerate insolvency by causing employers to withdraw from the plan. On the contribution side, the rate has already doubled and even if it were feasible to maintain an annual 8-percent increase in contributions, such a path would merely postpone insolvency. Partitioning the plan to transfer the burden of orphaned workers to the PBGC is not currently a viable option, and previous legislative attempts to broaden partitioning authority have been unsuccessful (see Box 1). In short, the plan does not have any more tools at its disposal.

Box 1. Create Jobs and Save Benefits Act of 2010

This legislation would have broadened the PBGC's authority to partition multiemployer plans. Under the provisions, multiemployer plans facing insolvency would have been able to transfer to a separate plan – backed by the PBGC – both the vested benefits and assets of all orphaned participants, whether through bankruptcy or otherwise. This type of partition would have allowed the CST to avoid insolvency.

Any type of partition legislation would require funding for the PBGC, because the agency does not have the resources to take on such an effort. In fact, the PBGC's own multiemployer insurance fund is projected to be exhausted in the next 10 years – before the projected insolvency of the CST.

The Create Jobs and Save Benefits Act of 2010 did not pass, and no similar bills have been proposed.

The Proposal

In response to the plight of the CST and a significant minority of other plans, the National Coordinating Committee for Multiemployer Plans convened the Retirement Security Review Commission. The Commission's 2013 report ("Solutions not Bailouts") proposed, among other things, allowing plans facing insolvency to reduce accrued benefits for current workers and retirees.¹¹ The Commission – a group consisting of representatives from multiemployer plans, employers, and unions – and other experts noted that this flexibility was essential because: 1) the most severely troubled plans – given their demographics – will be unable to avoid insolvency using traditional methods; and 2) benefit reductions – to the level of PGBC guarantees – will occur in any case in the event of plan insolvency, and will be more severe if the insolvency occurs after the exhaustion of the PBGC's multiemployer insurance fund.

Recognizing that suspending accrued benefits in the absence of plan insolvency breaks the social contract and violates one of the basic tenets of the Employee Retirement Income Security Act of 1974 (ERISA), the proposal limits the circumstances under which it can be applied. In order to be eligible for benefit suspensions, a severely troubled plan must meet three criteria. First, including the impact of any rehabilitation initiative, the plan is projected to become insolvent within 20 years, and the ratio of inactive participants to active participants exceeds 2 to 1; or the plan is expected to become insolvent within 15 years. Second, after the benefit suspensions, the plan is projected to avoid insolvency. Plans not able to forestall insolvency - those in declining industries and with high ratios of retirees to workers - would not be eligible. Third, sponsors and trustees have taken all reasonable measures to improve the plan's funded position and turn to benefit suspensions as a last resort.

In order to access this tool, plans must apply to the PBGC for approval. The presumption is that the sponsors and trustees have performed due diligence in the absence of evidence to the contrary.¹² The PBGC also must approve the proposed distribution of suspensions among affected participant populations to ensure that the benefit reductions are distributed fairly across the participant population and that the most vulnerable segments of the population are protected.

The proposal places several limitations on the potential cuts to benefits. Participants cannot have their benefits reduced to less than 110 percent of the PBGC guarantee. The cuts must not exceed the level required to avoid insolvency. And finally, any future improvement of benefits for active workers must be accompanied by restoration of suspensions for retirees of equal liability value.

Quantifying the Options

The question is whether plan beneficiaries, in the aggregate, will be better or worse off in a world where the CST exhausts its assets in 10-15 years or in one where the plan avoids insolvency by cutting the accrued benefits of all participants, thereby allowing the plan to pay more to future beneficiaries.¹³ To answer

this question requires projecting benefits that will be paid to members of the CST under the current arrangement and under one that reduces accrued benefits for existing workers and retirees. (To understand what a reduction to the Commission guarantee level would mean for average benefit amounts, see Box 2.) The answer also requires some way to "value" the different arrangements, which means melding the actuarial model of the CST with a welfare analysis.

Box 2. Proposed Cuts for CST

As of 1/1/2013, the average monthly benefit was \$1,131 (based on an annual benefit of \$15,252 for pensioners and \$4,446 for other beneficiaries), and our estimate of years of service is 20. For calculating the PBGC guarantee, the monthly benefit rate is \$56.55 (\$1,131/20 years).

The PBGC guaranteed benefit equals:

- 100% of the first \$11.00 = \$11.00; plus
- 75% of the next \$33 = \$24.75; resulting in
- (11.00 + \$24.75) x 20 years of service = \$715 per month.

Thus, the PBGC guarantee would be \$715 and the Commission guarantee would be \$786.50 (110 percent of \$715), resulting in about a 30-percent reduction.

Modeling Central States Teamsters

Modeling the CST involves projecting annual contributions, benefits, and asset levels. Because these flows depend on the number of participants, the first step is to project actives, separators, and retirees in each year. Data used in the modeling exercise primarily come from the plan's 1/1/2013 actuarial report. The report provides the total number of existing participants and the distribution by age and tenure for current active employees. For current separated and retired members, the age distribution is based on the New York State Teamsters plan.¹⁴ For new employees, the age distribution is assumed to equal that of the current actives with one year or less of tenure. We assume that the total number of active participants declines by 1 percent each year, equivalent to the most recent annual decline in active employment. The annual population of actives, separators, and retirees is projected over time using the plan's age/tenurespecific assumptions for separation, retirement, and mortality.

Future annual benefits paid to existing active workers and new hires are based on their projected tenure at retirement and the plan's benefit formula. For existing separated workers, future benefits are based on their tenure at separation. And for existing retirees, future benefits are equal to the current level of benefit payments reported in the actuarial valuation. This process yields liabilities for existing active workers, separated workers, and retirees that are very close to those reported in the actuarial valuation.

Crucial to the analysis is the plan's exhaustion date. To calculate this exhaustion date, we adopt the CST assumption of a 7.5-percent nominal rate of return on assets, and assume annual contributions based on the projected active population in each year and the average annual contribution per active reported in the actuarial valuation. Our model projects that the CST's assets will be exhausted 11 years from the date of the valuation (1/1/2013), which aligns perfectly with the 2024 exhaustion date reported in the valuation.

Welfare Analysis

Once the benefits have been projected for existing actives, separators, and retirees, as well as new hires, the task is to "value" the benefits received. One approach would be to compare the present value of benefits under the status quo with the present value under the proposed reform.¹⁵ Such a comparison, however, may provide a misleading indication of the effect on the total welfare of plan participants. For welfare, it matters how much people value their benefits. For example, if current retirees have low incomes - and therefore high marginal utilities of consumption - relative to future retirees, then the welfare losses they experience from benefit cuts may exceed the welfare gains of future retirees, and total welfare will decline, even though the total present value of benefits increases. To address this concern, we therefore undertake a welfare analysis of the proposed reform.

The welfare analysis assumes that preferences are represented by a conventional utility function with diminishing marginal utility. This assumption means that the first unit of consumption yields more utility than the second and subsequent units.¹⁶ The actuarial model does not incorporate investment risk; it uses a constant 7.5-percent nominal (5-percent real) return.¹⁷ A few additional assumptions are required to make the welfare calculations. First, we assume that plan members receive Social Security benefits. Second, if vested members separate from the plan before age 62, they take a second job and retire at age 62, claiming both Social Security and pension benefits at that time.¹⁸ Third, we disregard any savings that the employees might undertake on their own.¹⁹

Under the base case, the system becomes insolvent in 11 years and actives accrue no further benefits. From that point forward, we model two possible base case scenarios. The first scenario assumes that employers make no further contributions and participants receive no further benefits.²⁰ The second scenario assumes that employers continue their contributions, and these contributions fund accrued benefits. At current levels, contributions would cover only about half of benefits owed to current retirees, with nothing left over for separators or actives.²¹ The base case also assumes that the PBGC multiemployer insurance fund is exhausted, and participants receive no benefits from the PBGC insurance program.

The two base case insolvency options are then compared with one in which benefits are cut by an average of 30 percent – the cut required to ensure solvency to the plan.²² The reduction is applied to the benefits of active and separated participants, as well as retirees. Cuts are applied on a case-by-case basis, with benefits below 110 percent of the PBGC limit seeing no reduction and those above being reduced by more than 30 percent. As a result, many older retirees see little or no reduction in their benefits, while some active participants see significant cuts.

Results

Figure 2 shows the impact of the benefit cut on the present value of benefits for five specific groups: 1) current retirees age 75 and older; 2) current retirees under 75; 3) current separators; 4) current actives; and 5) new hires.²³ Compared to the base case in which employers make withdrawal liability payments in the form of continuing contributions, the reform does not change the total expected present value of benefits, but - by spreading the pain - it does affect the outcome for different groups.²⁴ The expected present value of (mostly younger) retirees' benefits declines substantially, while the present values of the lifetime benefits payable to current participants and new hires all increase. Compared to the base case where employer contributions cease, the reform brings more money into the system and mitigates the losses for retirees.

FIGURE 2. IMPACT ON THE PRESENT VALUE OF BENEFITS OF THE COMMISSION PROPOSAL UNDER ALTERNATIVE Scenarios, by Participant Group, Billions



Source: Authors' calculations.

Applying welfare analysis alters the picture a bit. While retirees see their benefits decline in net present value terms, their welfare under the Commission proposal – in the aggregate – is essentially unchanged (see Table 1). The reason is that retirees receive smaller but steady benefits, which allows them to better smooth consumption over their lifetimes.

TABLE 1. IMPACT OF THE COMMISSION PROPOSAL ONPVFB and Welfare, under Alternative Scenarios

Member type	Employers continue contributions		Employers cease contributions	
	PVFB	Welfare	PVFB	Welfare
Retirees				
Age 75 and older		No change	No chang	ge +
Under age 75	_	No change	-	No change
Current separators	+	+	+	+
Current actives	+	+	+	+
New hires	+	+	+	+
Total	No chang	e +	+	+

Source: Authors' calculations.

To get a sense of whether the increase in aggregate welfare is meaningful or not, it can be expressed in terms of a lump-sum payment to all participants. The approach is to essentially reduce the benefits of those who enjoy an increase in utility under the reform until the total level of utility for the population as a whole equals that of the status quo. The present value of these benefits is then distributed among all the participants as a lump sum.²⁵ It turns out that the overall welfare gain is equivalent to each participant receiving about \$3,000. The magnitude of this "extra money" suggests that the gain in welfare from keeping the plan solvent is significant.²⁶

While the results of our CST analysis may be reassuring to proponents of the proposal, several caveats should be kept in mind. First, although the CST does achieve the PBGC definition of solvency, it would be operating on virtually a pay-as-you go basis. Second, the analysis assumes the plan consistently earns 7.5 percent on its assets. Third, the analysis was applied to only one plan; the effects of the Commission proposal on other plans may show different patterns. One conclusion is clear, however. Were the proposal to be enacted, the administering government agency - either the PBGC or the DOL - should have access to complete plan data and perform Monte Carlo simulations to determine whether the benefit cut will have a high probability of ensuring not only solvency but also a reasonable level of funding.

The Opponents

Allowing plans the flexibility to reduce accrued benefits would compromise one of the founding tenets of ERISA and could impose significant hardship on some retirees. Not surprisingly, this proposal has run into a barrage of criticism from many unions (including the Teamsters), pension advocacy groups, and others. AARP, one of the critics, has clearly articulated the key concerns in a 2013 congressional testimony, which is summarized here.²⁷ AARP fundamentally opposes cutting retiree benefits and has argued that the Commission too easily dismissed alternatives to cutting accrued benefits and that more protections for participants and beneficiaries are needed before the proposal can be considered as an alternative to insolvency.

AARP highlights three alternatives to cutting accrued benefits. The first is mergers and alliances, an approach included in the Commission report, whereby troubled and healthy plans could be combined. AARP accepts that funding rules under the PPA and the PBGC's restrictive interpretation of its authority act as serious barriers to allowing mergers, but argues that these barriers be eliminated. The second alternative is partitions, but AARP – like everyone else – acknowledges that this process would require additional funding for the PBGC. The third alternative is increased funds for the plans and for the PBGC. Two proposals would require large banks and investment houses, which contributed to the financial meltdown, to now help these plans. Alternatively, AARP mentions raising PBGC premiums to \$120 and/or having participants contribute, say, \$120 as well. The question is whether any of these options to generate new revenues is realistic. The Commission proposal is based on the political judgment that no further government support will be forthcoming.

AARP then turns its attention to the specific details of the Commission proposal. First, AARP views the proposed requirements for enabling benefit suspensions as too vague. The proposal requires that insolvency will occur within 20 years, that the cuts would restore solvency, and that plan sponsors and trustees must exercise due diligence in determining that suspensions are necessary, including having taken all reasonable steps to improve a plan's funded position. AARP would like "reasonable steps" spelled out. It would also like to see more specificity in terms of standards and procedures to satisfy the due diligence requirements.

AARP also worries about conflicts of interest. The trustees may be more interested in protecting active employees, who contribute to the plan, pay union dues, and vote for union leadership, than deferred vested employees, who no longer contribute, pay dues, or vote; and the retirees, who may no longer contribute or pay dues, and may not have a vote or representation among the plan trustees. Similarly the PBGC, which oversees the approval process, is not a disinterested party. It has every incentive to do all it can to prevent a plan from becoming insolvent. AARP would like a stronger and more independent approval process.

To strengthen protections for participants, AARP recommends modifying the Commission proposal in several ways. First, consideration of the status of retirees must be an explicit factor that is part of any evaluation of due diligence and fairness. Second, the plan should establish a clear priority in how any proposed benefit suspensions would be handled in order to protect retirees and near-retirees. Third, any benefit cuts should also be expressly limited; for example, no cuts to those with benefits of \$10,000 or less, or limits on cuts for those of older age. Fourth, while cuts in optional, adjustable, or "ancillary" benefits should come before cuts in core pension benefits,

benefits for surviving spouses (the 50-percent joint and survivor annuity) should not be considered "ancillary." Fifth, once solvency is achieved, the benefits of retirees are restored first, before any improvement in benefits to active participants.

Finally, since the Commission's current proposal is contrary to one of the most central and fundamental tenets of ERISA and would be a bad precedent for pension law generally, it should be made clear that any permitted reductions are confined only to the unique and difficult circumstances currently faced by multiemployer plans.

Conclusion

The Commission proposal is a last-ditch effort to save a small, but significant, number of multiemployer plans from insolvency. It is based on the group's understanding from the leadership of both parties that the federal government is not going to rescue the plans directly or provide the PBGC with the funds to partition out orphaned workers or help in other ways. Based on those assumptions, the Commission proposal tries to balance competing interests: maintaining the support of active workers; keeping employers from exiting the plans (and attracting new employers); and ensuring that benefits exceed what participants would get under insolvency. Our analysis suggests that, using widely accepted preference parameters, overall welfare would be higher in a world where the accrued benefits of all participants were reduced in order to return the plan to solvency. However, these calculations highlight the sensitivity of the outcome to assumptions and shows that the CST – while achieving solvency – would be operating virtually on a pay-as-you-go basis.

The Commission proposal does violate the central anti-cutback provision of ERISA and could set a dangerous precedent. So, if the proposal were enacted, its applicability would have to be carefully circumscribed. Most importantly, the PBGC, the DOL, or any agency overseeing the administration of these cuts should have access to the detailed plan data underlying the actuarial plan reports, and perform stochastic modeling of returns to assure that the painful remedy would result in not only solvency, but also a reasonable level of funding. 8

1 Pension Benefit Guaranty Corporation (2014).

2 The full name is Central States Southeast and Southwest Areas Pension Fund.

3 Other industries include warehouse, food processing distribution (including grocery, dairy, bakery, brewery, soft drinks) and building and construction.

4 Under the consent decree, the U.S. District Court appoints an independent special counsel to the pension fund who has unrestricted access to the fund's records, attends meetings of the Board of Trustees, and submits quarterly reports to the Court and to the DOL concerning the pension fund's activities. In addition, the pension fund's investments are managed by major financial institutions initially screened by the DOL and approved by the U.S. District Court.

5 This discussion is based on Nyhan (2013).

6 Of the 50 largest employers that participated in the CST in 1980, only four remain in business today. More than 600 trucking companies have gone bankrupt and thousands have gone out of business without filing for bankruptcy. As a result, roughly 50 cents of every benefit dollar goes to pay benefits to "orphaned" participants, those left behind when employers exit.

7 In 2003, the bankruptcies of Consolidated Freightways and Fleming Foods meant that \$403 million of withdrawal liabilities went unpaid. In 2007, UPS withdrew from the CST plan and paid a withdrawal liability of \$6.1 billion, which represented its portion of the CST's unfunded liability as of that date. Because this payment was calculated near the peak of the market, it did not capture the growth in the unfunded liability that occurred with the onset of the financial crisis.

8 In 2011, the CST received approval from the PBGC to apply a "hybrid" withdrawal liability method, which, for employers willing to pay their existing liability, essentially limits their future liability to underfunding generated by their own employees. About 60 employers have paid or committed to pay for their existing liabilities and promised to continue to contribute to the CST under the hybrid withdrawal arrangement.

9 The actuarial view averages asset values over a period of time and uses the expected return on plan assets as the discount rate for calculating liabilities. The current view is based on the market value of plan assets, a liability calculated using a four-year average yield on 30-year Treasuries as the discount rate, and a standardized mortality table. In its own reporting, the PBGC adjusts the current view numbers using a discount rate equivalent to that of a group annuity contract.

10 A plan is insolvent when it does not have sufficient assets to pay pension benefits at the PBGC guaranteed level for a full plan year.

11 DeFrehn and Shapiro (2013).

12 After receiving an application, the PBGC will have 180 days to approve or deny the request. If the PBGC does not act within this time period, the application will be deemed to have been approved.

13 In fact, this exercise has already been done by CST actuaries. Nyhan (2013) reports that the actuaries found that, under the Commission proposal, benefits paid out to CST participants over the next 50 years would be much greater than if the plan were to go insolvent.

14 Using New York State Teamsters for separators may not be ideal as the CST separators are made up mainly of UPS workers. For the CST actuarial report, see Segal Consulting (2013). For the New York State Teamsters acturial report, see Horizon Actuarial Services (2013).

15 As long as the discount rate used in the present value calculation is no higher than the rate of return on plan assets, policies that postpone or prevent exhaustion must increase the expected present value of total benefits.

16 It is a constant relative risk aversion utility function with a coefficient of risk aversion of 2. A coefficient of risk aversion of 2 lies at the low end of the range reported in the literature, which tends to cluster between 2 and 10 depending in part on whether the estimates are derived from portfolio theory, purchases of insurance, economic experiments, or preferences over lotteries (Chetty 2003). 17 In order not to bias the results of the welfare analysis in favor of proposals that postpone insolvency, we assume that the rate of time preference equals the real return rather than the standard 3 percent.

18 Because the majority of CST's current vested separators are UPS employees, they are assumed to retire at the UPS retirement age, which is 65.

19 Forward-looking employees might respond to the impending demise of their plan by increasing personal savings so that they can smooth the marginal utility of consumption. In practice, most plan members have relatively low incomes and save little outside of their plan.

20 Since insolvency would likely trigger a mass withdrawal, employers would face withdrawal liability payments to pay off obligations. However, historically, these payments have fallen far short of the amount required to pay accrued benefits.

21 Assuming an average contribution per active of \$8,302, and an annual decline in the active population of 1 percent, the present value of contributions made after the plan becomes insolvent equals about \$6.7 billion – about 40 percent of the present value of remaining retiree benefits at the point of plan exhaustion. In practice, there may be a small timing mismatch, and some contributions will not be received in time to meet the obligations to current retirees. 22 The analysis spans a 100-year period from the date of the valuation.

23 The impact of previously enacted benefit cuts to address CST's funding challenges are outside the scope of this analysis. For example, in 2003, future accruals were cut in half for active participants.

24 We terminate the calculation in 1/1/2113, 100 years from the valuation date, and include the expected present value of 1/1/2113 plan assets in the expected present value of benefits for future actives.

25 An alternative, which yields a similar result, is to make equal percentage cuts in all members' post-reform benefits until post-reform utility has been reduced to the pre-reform level.

26 Maintaining solvency also brings participants additional benefits not incorporated in the analysis, such as mortality risk pooling and professional investment management.

27 Certner (2013).

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