



# WILL PENSIONS AND OPEBS BREAK STATE AND LOCAL BUDGETS?

By *Alicia H. Munnell and Jean-Pierre Aubry\**

---

## INTRODUCTION

The costs of state pension plans are much in the news. Generally, people lump together these unfunded liabilities and make alarming claims that all state plans are about to go bankrupt. The evidence, though, suggests otherwise. On the other hand, looking just at pension plans and just at states doesn't give the full picture of costs facing states and localities.

This *brief*, based on a recent paper, provides a comprehensive accounting of state and local government liabilities for pensions and other post-employment benefits (OPEB) and the fiscal burden that they pose.<sup>1</sup> In accordance with new accounting guidelines, the analysis apportions the relevant liabilities of state-administered cost-sharing plans to local governments for a more accurate picture of where the burden lies. It also includes debt service costs to provide a full picture of government revenue commitments to long-term liabilities. To gauge the level of the burden, pension, OPEB, and debt service costs are compared to each jurisdiction's own-source revenue.

The discussion proceeds as follows. The first section describes the scope of the analysis. The second section explains the methodology used for calculating the costs and choosing the revenue base. The third section presents the results for states, counties, and cities. The final section concludes that the outlook at the state and local level is extremely heterogeneous; a small minority face dire circumstances, but many jurisdictions appear to have their costs under control.

## GETTING THE FULL PICTURE

When it comes to public employee retirement costs, many commentators make sweeping claims in alarming language about the liabilities of state pension plans. For example, a quick Google search turns up phrases like "trillion-dollar hole" and "budget time bombs."<sup>2</sup> This assessment is both too sweeping and too narrow.

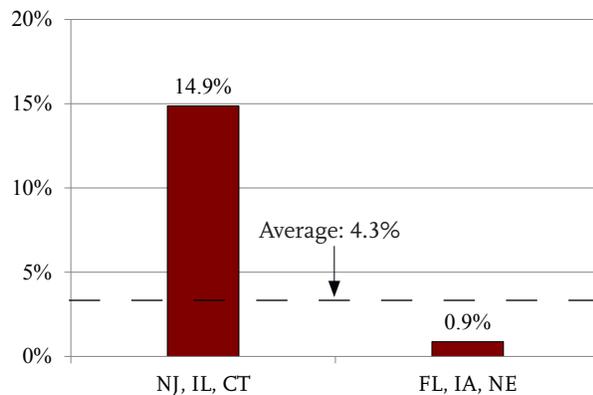
\* *Alicia H. Munnell is director of the Center for Retirement Research at Boston College (CRR) and the Peter F. Drucker Professor of Management Sciences at Boston College's Carroll School of Management. Jean-Pierre Aubry is associate director of state and local research at the CRR.*

LEARN MORE →

Search for other publications on this topic at:  
[crr.bc.edu](http://crr.bc.edu)

Looking at aggregate costs ignores the heterogeneity of the situation across governments. For example, New Jersey, Illinois, and Connecticut clearly have very large pension costs relative to their revenue base, but their situation is atypical (see Figure 1). The overall state average of 4.3 percent is far below that of the most troubled states; and Florida, Iowa, and Nebraska have a cost burden much lower than the average.

FIGURE 1. STATE PENSION COSTS AS A PERCENTAGE OF OWN-SOURCE REVENUE FOR STATES WITH HIGHEST AND LOWEST BURDENS, 2014



Sources: Authors' calculations based on FY 2014 financial reports and actuarial valuations; and U.S. Census Bureau (2014).

At the same time, focusing only on pensions and only on states ignores both the pension costs facing *local* governments and the *non-pension* costs facing both state and local governments (see Table 1). This

TABLE 1. FOCUS OF TYPICAL COMMENTARY ON RETIREMENT COSTS

Jurisdiction	Pensions	OPEBs	Interest costs
States	X		
Counties			
Cities			

Source: Authors' illustration.

analysis checks all the boxes in Table 1 by presenting a comprehensive view of long-term cost burdens for a large sample of state, city, and county plans.

## CALCULATING THE COST BURDEN

Estimating the burden of pensions and OPEBs on government revenue requires three steps. The first is to allocate to cities and counties their share of the liabilities and assets of state-administered plans, following recent guidance from the Governmental Accounting Standards Board (GASB). The second is to calculate the true cost of pension and OPEB benefits, which includes choosing a reasonable discount rate and an adequate schedule for paying off the existing unfunded liability. The third is to select the appropriate revenue base to which to compare the costs.

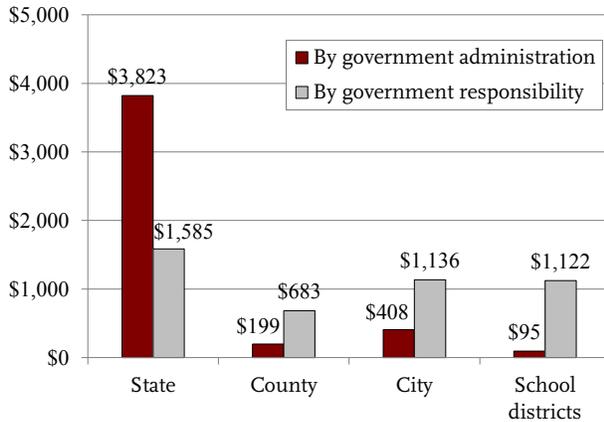
## APPLYING GASB GUIDANCE ON COST SHARING

As of 2015, GASB Statement 68 requires local governments that participate in "cost-sharing" plans administered at the state level to report their share of the plan assets and liabilities on their balance sheets.<sup>3</sup> Similar guidance will soon apply to OPEBs when GASB 75 goes into effect.<sup>4</sup>

While government financial reports began including cost-sharing data for pensions in 2015, our exercise uses 2014 data because it is the latest available for many cities and counties. As a result, we estimate the cost-share allocation based on a city's or county's Annual Required Contribution (ARC) for a given state plan as a percentage of the plan's total ARC. If ARC information is unavailable, the apportionment is based on the ratio of a locality's actual contributions to the state plan's total actual contributions.

Accounting for cost-sharing results in a dramatic reorganization of pension liabilities, with more than half the liabilities in state plans shifting to the local level (see Figure 2, on the next page). With respect to OPEBs, the shift (not shown) is much less dramatic because, unlike pensions, the responsibility for administering the OPEB plans that cover local workers generally rests at the local, rather than the state, level.

FIGURE 2. DISTRIBUTION OF PENSION LIABILITY BEFORE AND AFTER GASB 68, IN BILLIONS



Sources: Authors' calculations based on FY 2014 financial reports and actuarial valuations; and U.S. Census Bureau (2014).

CALCULATING COSTS OF PENSIONS AND OPEBS

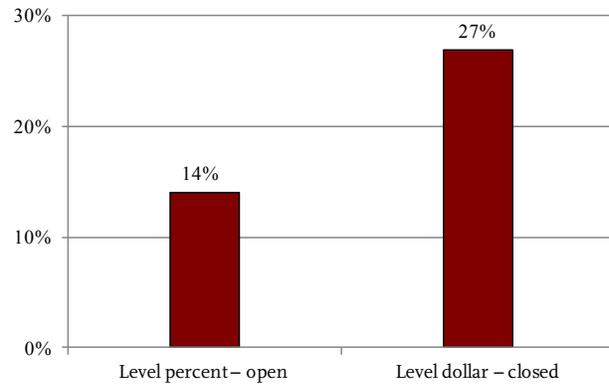
Calculating annual pension and OPEB costs requires two steps. The first is selecting an interest rate for discounting future benefit promises. The second is determining a cost concept that leads to actually funding the plan. Based on these two decisions, the reported data are then adjusted accordingly, for an apples-to-apples comparison between pension and OPEB costs.

*Choosing a discount rate.* In 2014, the nominal, long-term return assumption used by state and local pension plans to discount promised benefits averaged 7.6 percent, ranging from 6.25 percent to 8.50 percent. These assumptions are well in line with historical returns, particularly over longer periods. However, many investment experts suggest that future equity returns could be considerably below historical averages, and returns on bonds are at historically low levels. To be conservative and consistent with a recent analysis of state retirement cost burdens by Michael Cembalest of J.P. Morgan, we adopt a nominal return of 6 percent for both pensions and OPEBs.<sup>5</sup>

*Selecting the concept.* For both pensions and OPEBs, the annual required payment consists of two components – one to cover costs of benefits accruing in the current year (the normal cost) and another to amortize the plan's unfunded actuarial liability. Two prob-

lems arise, however. First, many plans do not receive their required contribution, either as the result of a policy choice given competing priorities or because the plan is subject to a statutory contribution rate. Second, in a number of cases, the amortization payment is structured in such a way that the unfunded liability will never be paid off. Specifically, sponsors set the amortization payment as a fixed percentage of future payrolls, which results in low payments in the initial years of amortization that are scheduled to increase – typically over 30 years – with payroll growth. In a number of instances, however, sponsors annually reset the 30-year period so that they are always in the early years of the amortization, continually making low payments and very little progress against the unfunded liability. A better alternative is to use a closed 30-year amortization period with level dollar payments. Figure 3 shows how a more rigorous contribution requirement increases the funded ratio.

FIGURE 3. PERCENTAGE-POINT INCREASE IN STATE/LOCAL FUNDED RATIOS STARTING FROM 73 PERCENT, AFTER PAYING FULL ARC FOR 30 YEARS



Source: Authors' calculations.

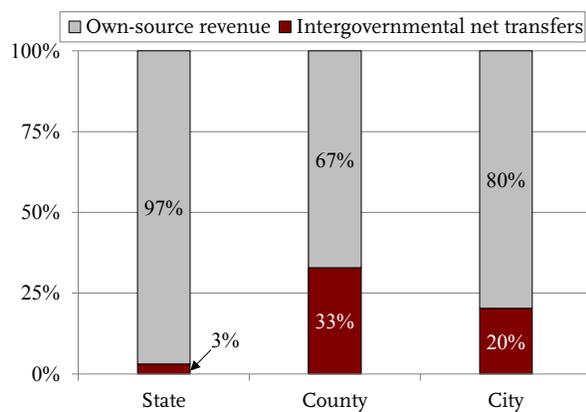
SELECTING THE APPROPRIATE REVENUE BASE

The final step is to select the appropriate revenue base. The decision is more difficult than it first appears, because each level of government receives not only revenue it raises itself but also transfers from higher levels of government, and it pays money to lower levels. Thus, one could use either own-source revenue or net revenue (own-source plus net transfers). At the state level, the decision is relatively easy;

the money the states receive from the federal government roughly equals the amount the states pay to local governments. That is, own-source and net revenues are roughly the same. Therefore, we use own-source revenue at the state level.<sup>6</sup>

Deciding on a revenue base for counties and cities is more difficult, because these entities get, on average, 33 percent and 20 percent of their revenues from other governments (see Figure 4). For counties,

FIGURE 4. SOURCES OF TOTAL NET REVENUE FOR STATES, COUNTIES, AND CITIES



Source: Authors' calculations from U.S. Census Bureau (2014).

most of the money comes from the state; for cities, a substantial share also comes from the federal government. Using own-source revenue as the denominator overstates the drain on the locality's total resources, but provides a sense of the tax increase required if pension or OPEB costs come in higher than expected. Therefore, to be conservative and consistent across governmental entities, we report costs as a percentage of own-source revenue.<sup>7</sup>

## RESULTS

The results provide cost burdens for pensions, OPEBs, and debt service for each of the 50 states, for 178 counties, and for 173 cities in our sample.

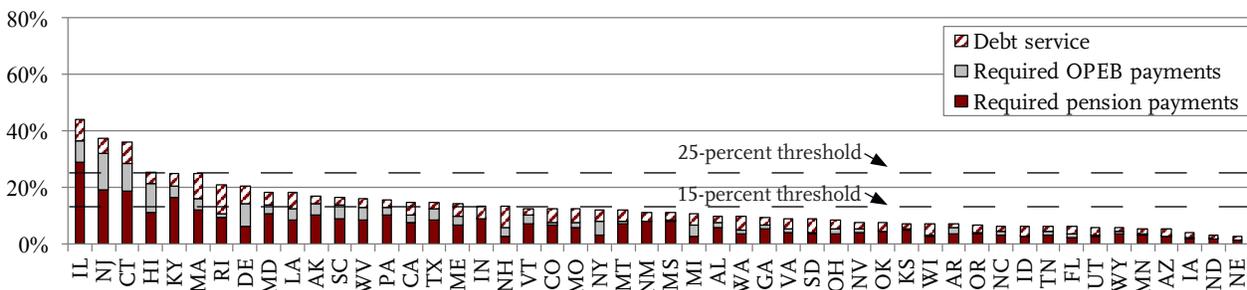
### STATES

Figure 5 presents pension, OPEB, and debt service costs for states, ranked by the size of their total cost burden. Pensions (the red portion of the bars) show dramatic variation in the burden from a high of 29 percent of own-source revenue in Illinois to a low of 1 percent in Nebraska. Overall, pension cost burdens are clustered more in the lower range – they are less than 10 percent of revenue in all but nine states and less than 5 percent in 24 states.

OPEB costs (the gray portion of the bars) are considerably smaller than pension burdens. For example, only three states – New Jersey, Connecticut, and Hawaii – have costs that meet or exceed 10 percent of own-source revenue, and most state OPEB burdens are below 5 percent. In addition, several factors – such as greater flexibility in adjusting benefits and increasing retirement ages – limit the potential drain of OPEBs on state and local resources.<sup>8</sup> Not surprisingly, states with large required pension payments also tend to have large OPEB costs: four of the five states with the highest OPEB burdens also have pension costs exceeding 10 percent of own-source revenue.

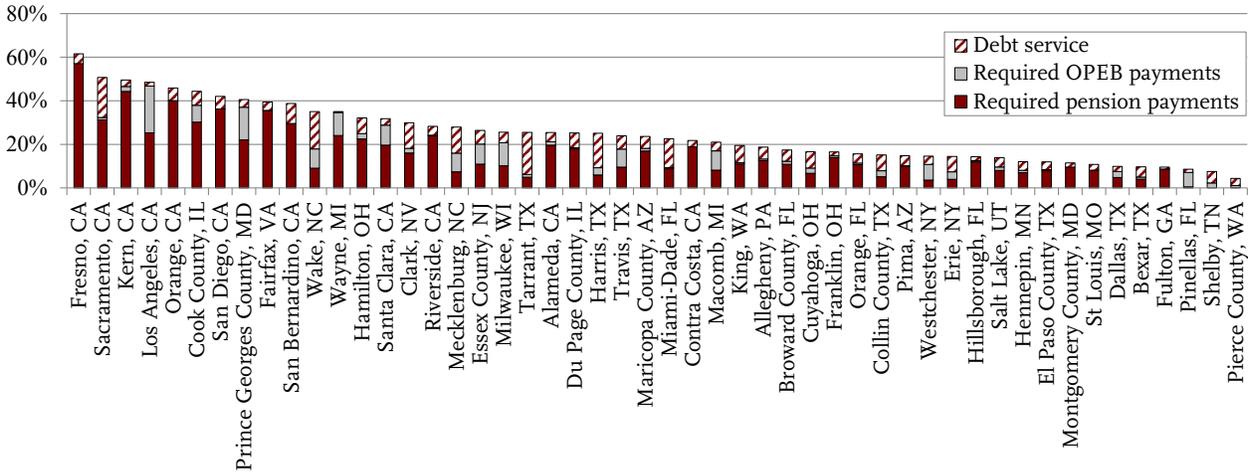
The last step is to add debt service (the striped portion of the bars), which comes directly from the Census of Governments, to provide a total cost burden estimate. To put these burdens into context, Figure 5 includes dashed lines at the 15-percent and 25-percent levels. The Cembalest study uses these thresholds to indicate potential trouble – cost burdens for states become a concern when they exceed

FIGURE 5. STATES: REQUIRED PAYMENTS FOR PENSIONS, OPEBs, AND DEBT SERVICE AS A PERCENTAGE OF OWN-SOURCE REVENUE, 2014



Sources: Authors' calculations based on FY 2014 financial reports and actuarial valuations; and U.S. Census Bureau (2014).

FIGURE 6. COUNTIES: REQUIRED PAYMENTS FOR PENSIONS, OPEBs, AND DEBT SERVICE AS A PERCENTAGE OF OWN-SOURCE REVENUE, 2014



Sources: Authors' calculations based on FY 2014 financial reports and actuarial valuations; and U.S. Census Bureau (2014).

15 percent and untenable when they exceed 25 percent.

The good news is that 36 states – about three quarters of all states – have required payments below 15 percent of own-source revenue and 23 of those states face payments below 10 percent. The bad news is that five states – Illinois, New Jersey, Connecticut, Hawaii, and Kentucky – face payments in excess of 25 percent of revenue; and Massachusetts, Rhode Island, and Delaware face payments in excess of 20 percent.

COUNTIES

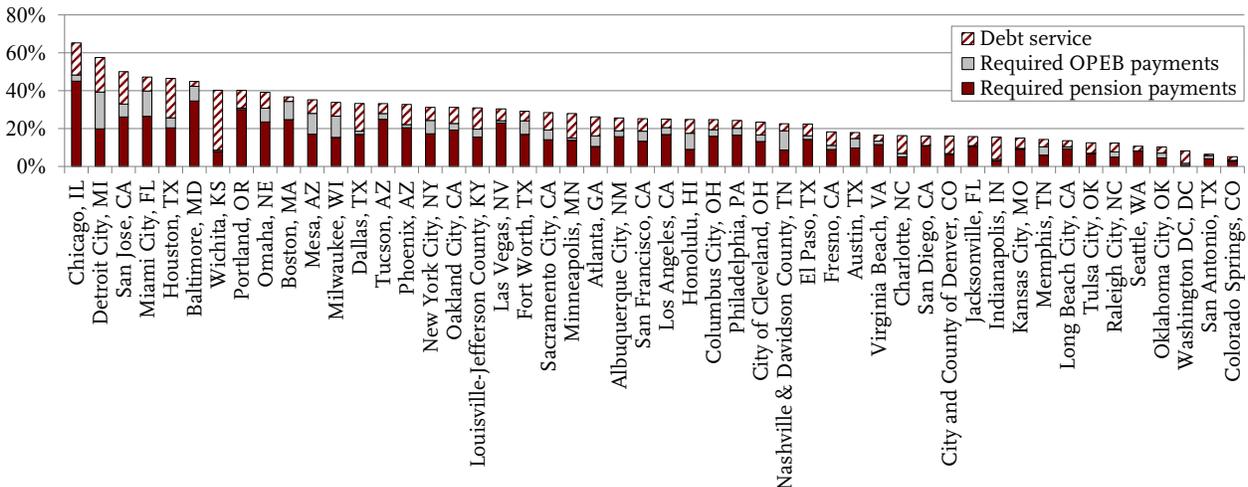
Figure 6 shows the cost burden for the 50 largest of the 178 sample counties. Even accounting for the fact that, on average, own-source revenue is only 67 percent of county net revenue, some counties face

extremely high costs. Six counties in California have costs in excess of 40 percent or more of own-source revenue, along with Cook (IL), and Prince Georges (MD). On the other hand, costs for many of the other large counties pose a manageable burden.

CITIES

Figure 7 provides the results for the 50 largest of the 173 sample cities. As with counties, even though own-source revenue is smaller than city net revenue, costs are extremely high for some localities. Chicago, Detroit, San Jose, Miami, Houston, Baltimore, Wichita, and Portland lead the list, all with costs in excess of 40 percent of revenue. On the other hand, as with counties, many of the other large cities face a manageable burden.

FIGURE 7. CITIES: REQUIRED PAYMENTS FOR PENSIONS, OPEBs, AND DEBT SERVICE AS A PERCENTAGE OF OWN-SOURCE REVENUE, 2014



Sources: Authors' calculations based on FY 2014 financial reports and actuarial valuations; and U.S. Census Bureau (2014).

## CONCLUSION

The good news is that the total costs for long-term commitments – pensions, OPEBs, and debt service – appear to be under control in many jurisdictions. However, for a handful of states, counties, and cities, these costs are an extraordinarily high percentage of own-source revenue. These jurisdictions have only unpalatable options.

The question of course is what the worst-off states, counties, and cities can do to improve their situation. Four options exist. One is to pray for higher returns. Unfortunately returns would have to be consistently in the 10-15 percent range for the next 30 years to solve the problem – an unlikely outcome given today's financial markets. A second option is to raise taxes to meet the required commitments. Unfortunately, many of the states with the greatest burden already have relatively high taxes. A third option is to cut other spending by 10 to 20 percent. A final option is to raise employee contributions even beyond what they are already contributing to their plans. Clearly, those governments in the worst shape face an enormous challenge.

## ENDNOTES

- 1 Munnell and Aubry (2016a).
- 2 Hennelly (2015); Hunter (2005).
- 3 Governmental Accounting Standards Board (2012). A cost-sharing plan is a type of multiple-employer plan in which both the benefit obligations and assets are pooled, and the assets can be used to pay the benefits of any participating employer. A separate type of multiple-employer arrangement is an “agent” plan. With respect to pensions, information on these agent plans was already required for the notes section of government financial statements; GASB 68 required this information to move up to the balance sheets. Agent plans also pool assets for investment purposes but, unlike cost-sharing plans, each plan maintains separate accounts, and benefits paid from each account can only be for each plan’s employees.
- 4 Governmental Accounting Standards Board (2015).
- 5 Cembalest (2016).
- 6 In addition to revenue from own-sources, this measure includes other general revenue, interest on the general fund, and liquor store profits.
- 7 The results based on net revenues (own-source plus net transfers) are available in Appendix B of the full paper (Munnell and Aubry 2016a).
- 8 Munnell and Aubry (2016b).

## REFERENCES

- Cembalest, Michael. 2016. “The ARC and the Covenants, 2.0: An Update on the Long-term Credit Risk of US States.” *Eye on the Market* (May 19). New York, NY: J.P. Morgan.
- Governmental Accounting Standards Board. 2015. “Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions.” Statement No. 75. Norwalk, CT.
- Governmental Accounting Standards Board. 2012. “Accounting and Financial Reporting for Pensions – An Amendment of GASB Statement No. 27.” Statement No. 68. Norwalk, CT.
- Hennelly, Robert. 2015. “States Are Staring at a Trillion-Dollar Pension Hole.” (July 31). New York, NY: *CBS Moneywatch*.
- Hunter, Kathleen. 2005. “Pensions Pose Time Bombs for Budgets.” *Stateline Story*. Washington, DC: The Pew Charitable Trusts.
- Munnell, Alicia H. and Jean-Pierre Aubry. 2016a. “An Overview of the Pension/OPEB Landscape.” Working Paper 2016-11. Chestnut Hill, MA: Center for Retirement Research at Boston College.
- Munnell, Alicia H. and Jean-Pierre Aubry. 2016b. “How Big a Burden Are State and Local OPEB Benefits?” *Issue Brief* SLP-48. Chestnut Hill, MA: Center for Retirement Research at Boston College.
- U.S. Census Bureau. 2014. *State and Local Government Finances*. Washington, DC.

## ABOUT THE CENTER

The mission of the Center for Retirement Research at Boston College is to produce first-class research and educational tools and forge a strong link between the academic community and decision-makers in the public and private sectors around an issue of critical importance to the nation's future. To achieve this mission, the Center sponsors a wide variety of research projects, transmits new findings to a broad audience, trains new scholars, and broadens access to valuable data sources. Since its inception in 1998, the Center has established a reputation as an authoritative source of information on all major aspects of the retirement income debate.

## AFFILIATED INSTITUTIONS

The Brookings Institution  
Syracuse University  
Urban Institute

## CONTACT INFORMATION

Center for Retirement Research  
Boston College  
Hovey House  
140 Commonwealth Avenue  
Chestnut Hill, MA 02467-3808  
Phone: (617) 552-1762  
Fax: (617) 552-0191  
E-mail: [crr@bc.edu](mailto:crr@bc.edu)  
Website: <http://crr.bc.edu>



*Visit the:*

**PUBLIC PLANS DATABASE**

→ [publicplansdata.org](http://publicplansdata.org)

*The Center for Retirement Research thanks BlackRock, Capital Group, Citigroup, Fidelity & Guaranty Life, Goldman Sachs, MassMutual Financial Group, Prudential Financial, the James M. and Cathleen D. Stone Foundation, State Street, and TIAA Institute for support of this project.*

© 2016, by Trustees of Boston College, Center for Retirement Research. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that the authors are identified and full credit, including copyright notice, is given to Trustees of Boston College, Center for Retirement Research.

The research reported herein was supported by the Center's Partnership Program. The findings and conclusions expressed are solely those of the authors and do not represent the opinions or policy of the partners or the Center for Retirement Research at Boston College.