

An Overview of the Cost Burden of Pension/OPEB Plans

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People often generalize about the costs of state pensions.

“States are staring at a trillion-dollar pension hole.”

–*CBS MoneyWatch*

“Pensions pose time bombs for budgets.”

–*The Pew Charitable Trusts*

“Debt woes: Can Illinois (or your state) avoid becoming the next Greece?”

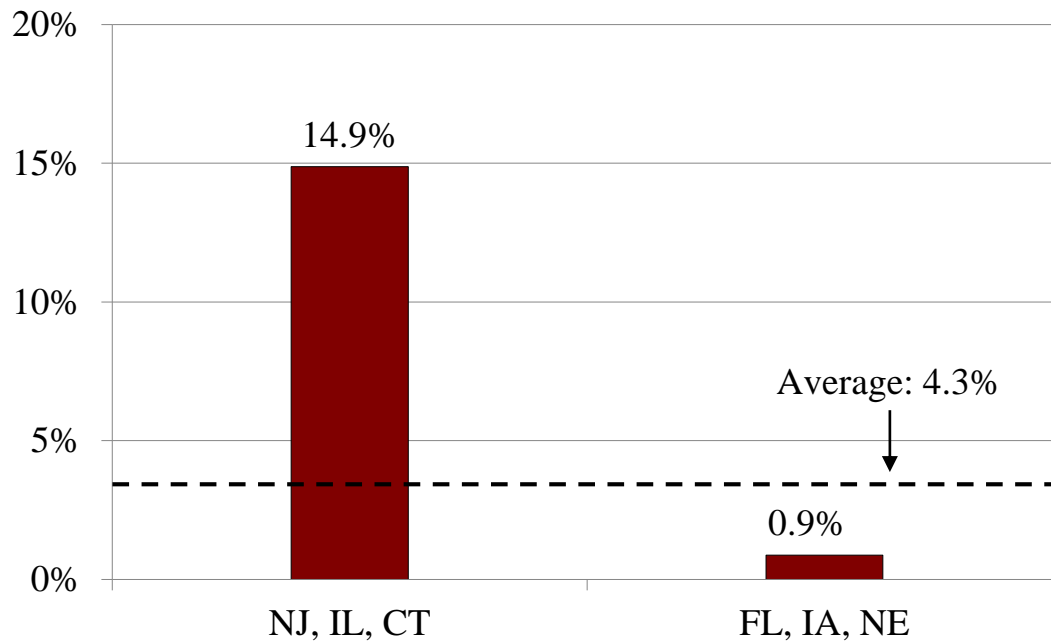
–*The Christian Science Monitor*

But this approach is too narrow to capture costs...

Jurisdiction	Pensions	OPEBs	Interest costs
States	X		
Counties			
Cities			

...and too broad to inform policy.

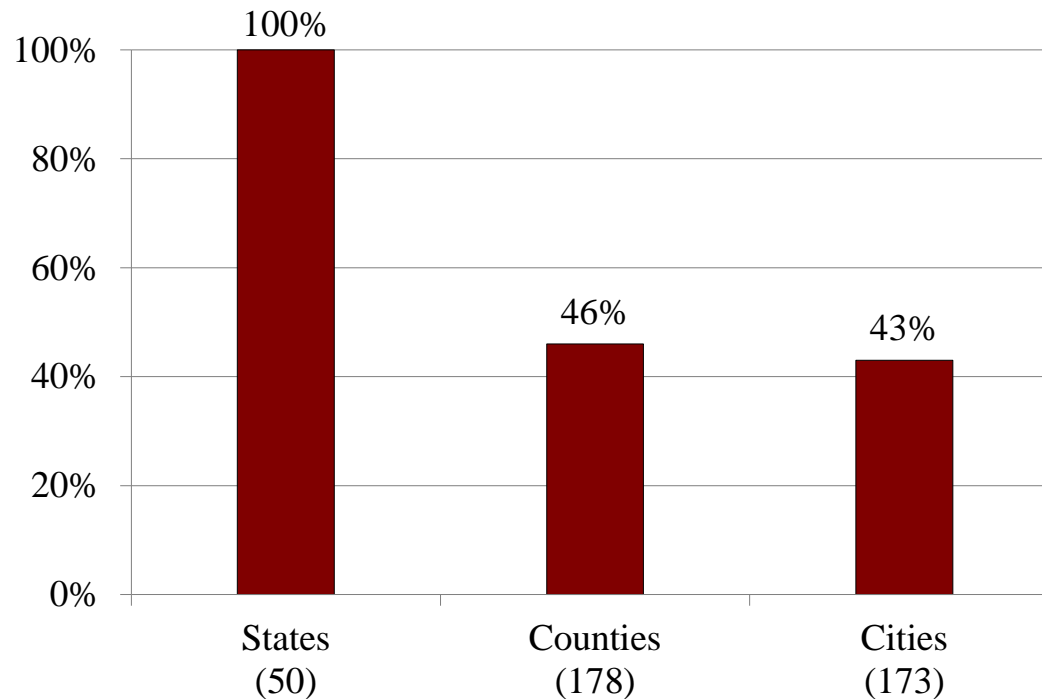
State Pension Costs as a Percentage of Own-Source Revenue
for States with Highest and Lowest Burdens, 2014



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

So, we need to look at the costs of all jurisdictions and report individual results.

Percentage of State, County, and City Payrolls Covered by Sample, 2012

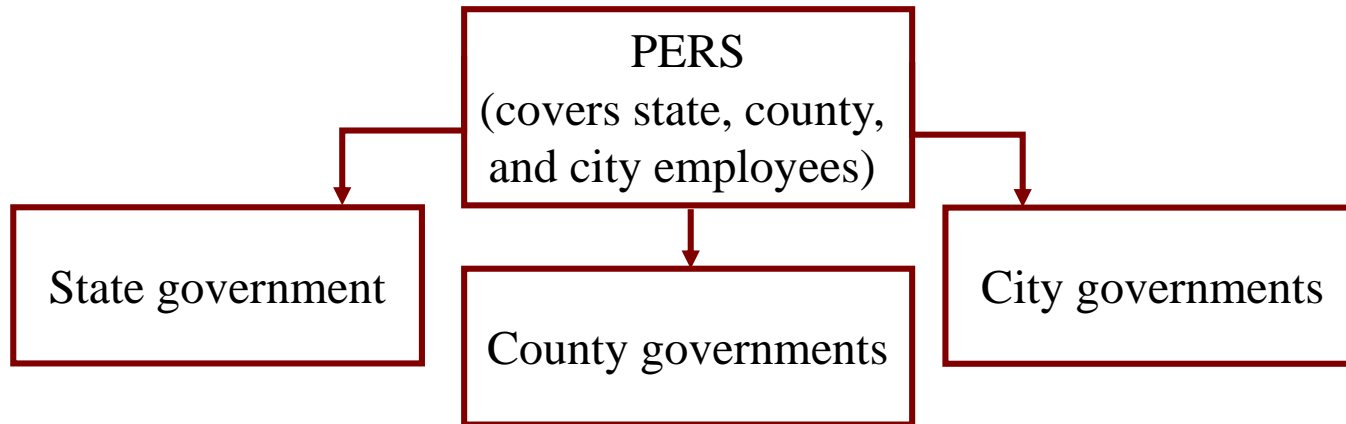


Source: Authors' calculations based on U.S. Census Bureau (2012).

Calculating cost burdens requires three steps.

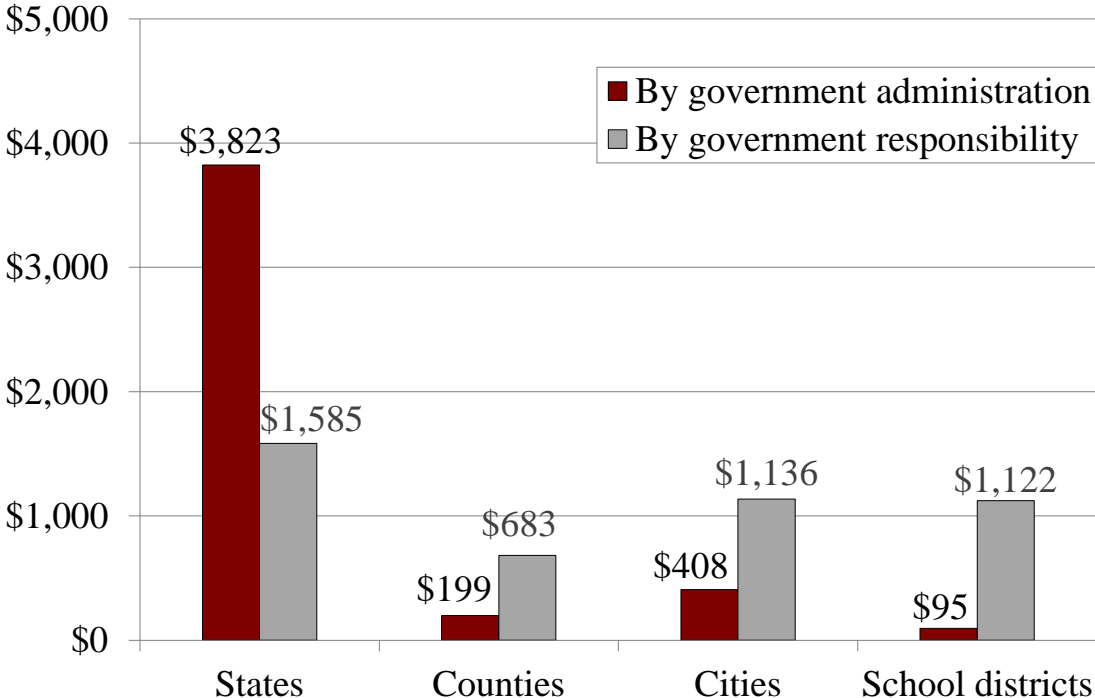
1. Applying GASB 68. (Who's on the hook?)
2. Calculating pension & OPEB expenses. (For how much?)
3. Choosing appropriate revenue base. (Relative to what?)

First step: Allocate liabilities by responsibility, not administration, per GASB 68.



Once allocated, a large share of pension liabilities shifts from states to localities.

Distribution of Pension Liability Before and After GASB 68, in Billions



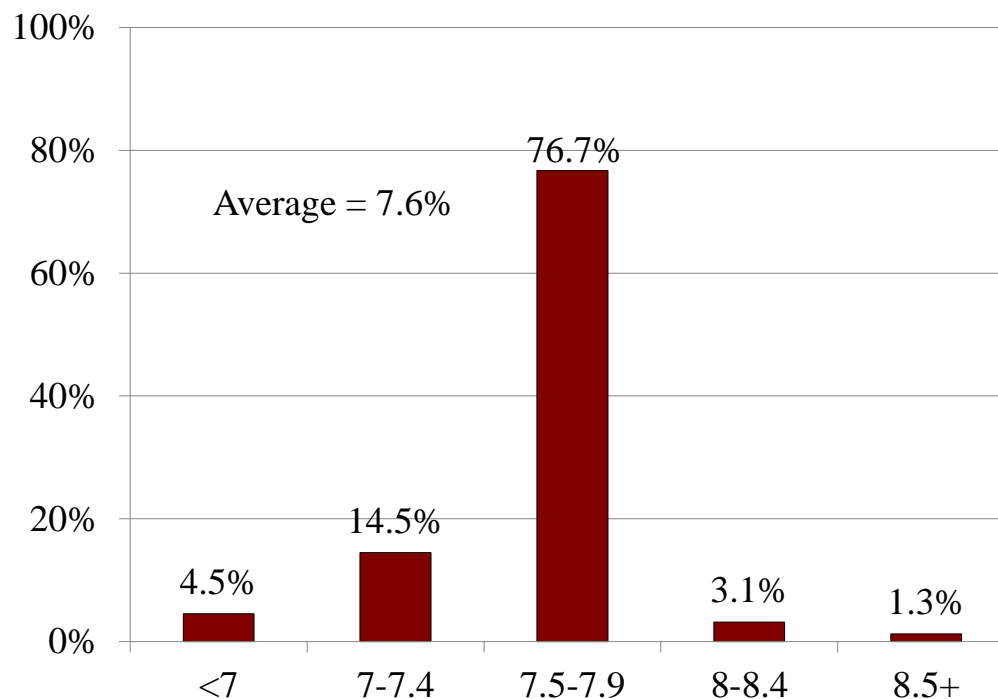
Sources: Authors' calculations based on various FY 2014 plan and government financial reports and actuarial valuations; and U.S. Census Bureau (2014).

Second step: Calculate expenses.

- What assumed rate of return?
- What amortization method?

Assumed returns vary, but average is 7.6 percent.

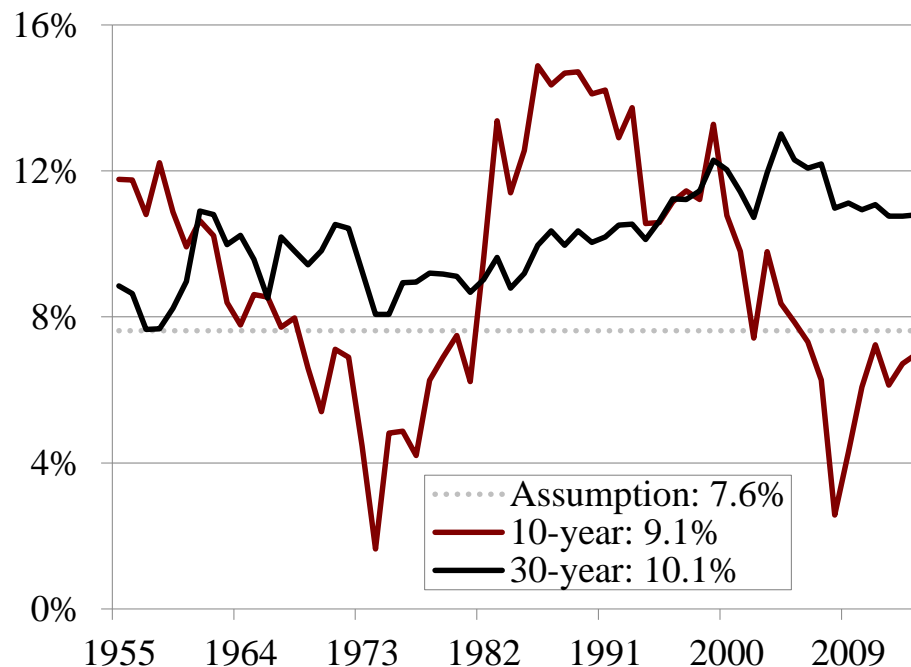
Distribution of Assumed Returns for Public Plans, FY 2015



Sources: Various 2015 actuarial valuations; and *Public Plans Database* (2015).

Assumptions are not out of line with historical returns.

10-Year and 30-Year Geometric Nominal Returns for Hypothetical Portfolios of 65 Percent Stocks and 35 Percent Bonds, 1955-2014



Sources: Authors' calculations from Morningstar, Inc. (2015b); and French (2015).

However, many financial experts expect much lower returns going forward.

Expected Nominal Returns for U.S. Equities from Selected Financial Firms, 2015-2016

Firm	Average annual nominal returns (%)	Horizon (years)
Bogle and Nolan ^a	7.0	10
Charles Schwab	6.3	10
Goldman Sachs	4.7 – 5.5	5
GMO	-0.1	7
McKinsey	Slow growth: 6.0 – 6.5 Growth recovery: 8.0 – 9.0	20
Morningstar ^b	6.0 – 7.0	Next few decades
Research Affiliates ^c	3.2	10

^a The authors are both affiliated with Vanguard's Bogle Financial Markets Research Center.

^b Josh Peters, Morningstar Director of Equity-Income Strategy.

^c Research Affiliates projects a 1.2-percent real equity return; the projection is converted to a nominal value by adding 2-percent inflation. Sources: Bogle and Nolan (2015); GMO (2016); Goldman Sachs (2016); McKinsey Global Institute (2016); Morningstar (2015a); and Research Affiliates (2016).

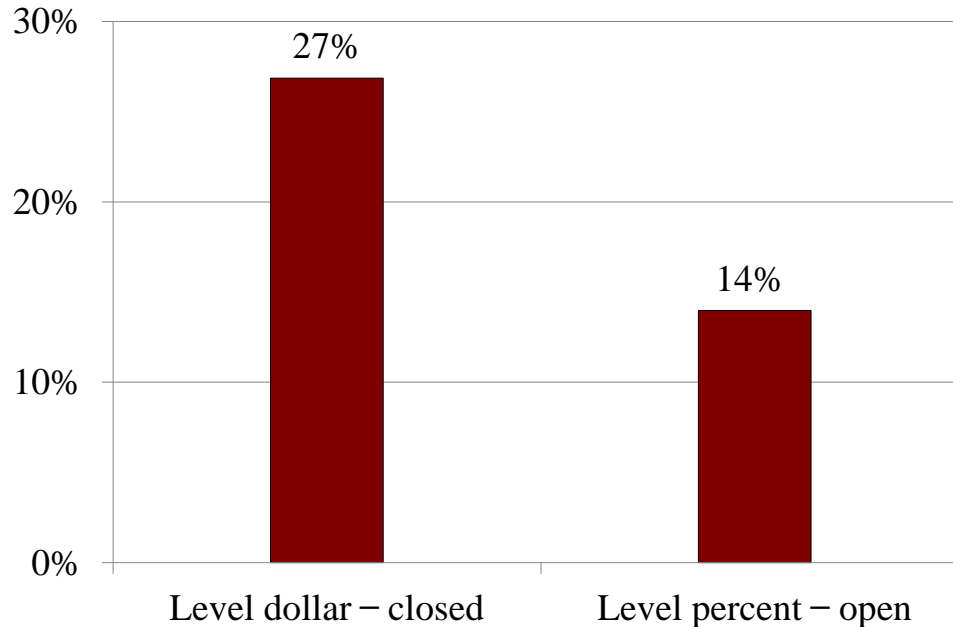
When in doubt, we follow Michael Cembalest of JP Morgan, who uses a 6-percent rate.



Photo credit: Barron's (2009).

In terms of amortization method, our choice is 30-year, level dollar, closed.

Percentage-Point Increase in State/Local Funded Ratios
Starting from 73 Percent, After Paying Full ARC for 30 Years



Source: Authors' calculations.

Final step: Choose a revenue base, a task complicated by intergovernmental transfers.

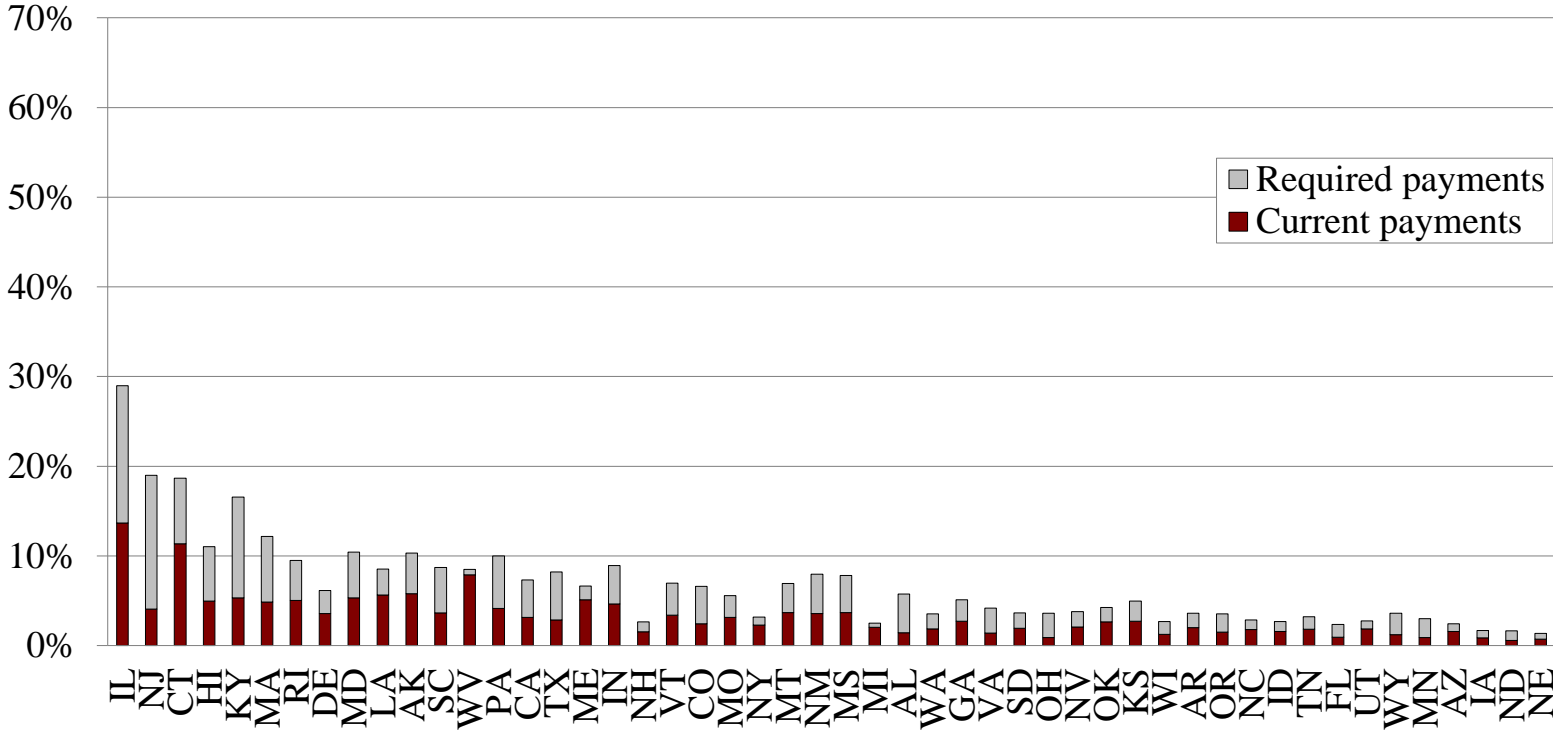
Sources of Total Net Revenue, by Level of Government, 2014

Level of government	Intergovernmental transfers				Own-source revenue	
	Inflows from:			Outflows		Net transfers
	Federal	State	Local			
State	42.2%	0.0%	1.1%	40.2%	3.1%	96.9%
County	3.8	30.4	2.5	3.7	32.9	67.1
City	6.8	13.1	3.1	2.7	20.3	79.7
Total	24.6	9.1	2.0	22.2	13.4	86.6

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

Now for results: Start with states and pension costs as share of own-source revenues.

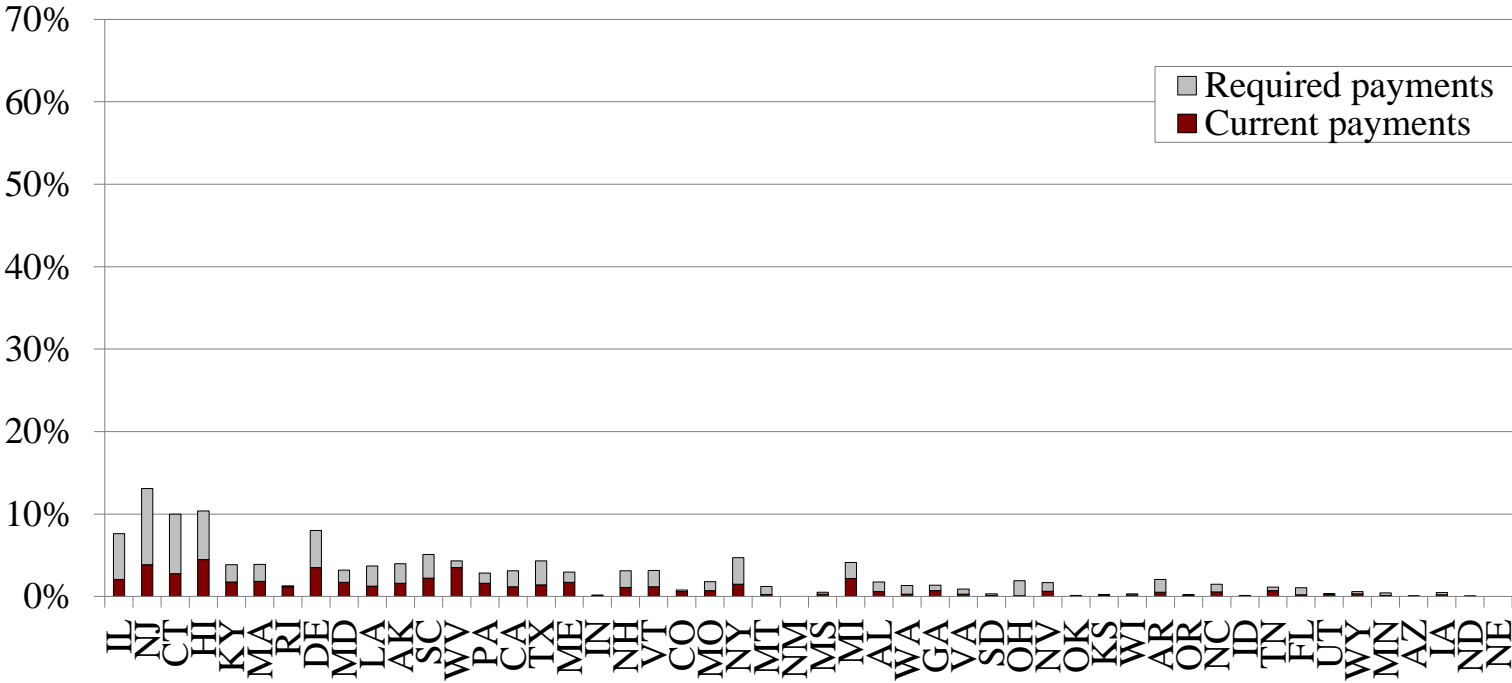
States: Current and Required Pension Payments as a Percentage of Own-Source Revenue, 2014



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

Next, we look at OPEB costs.

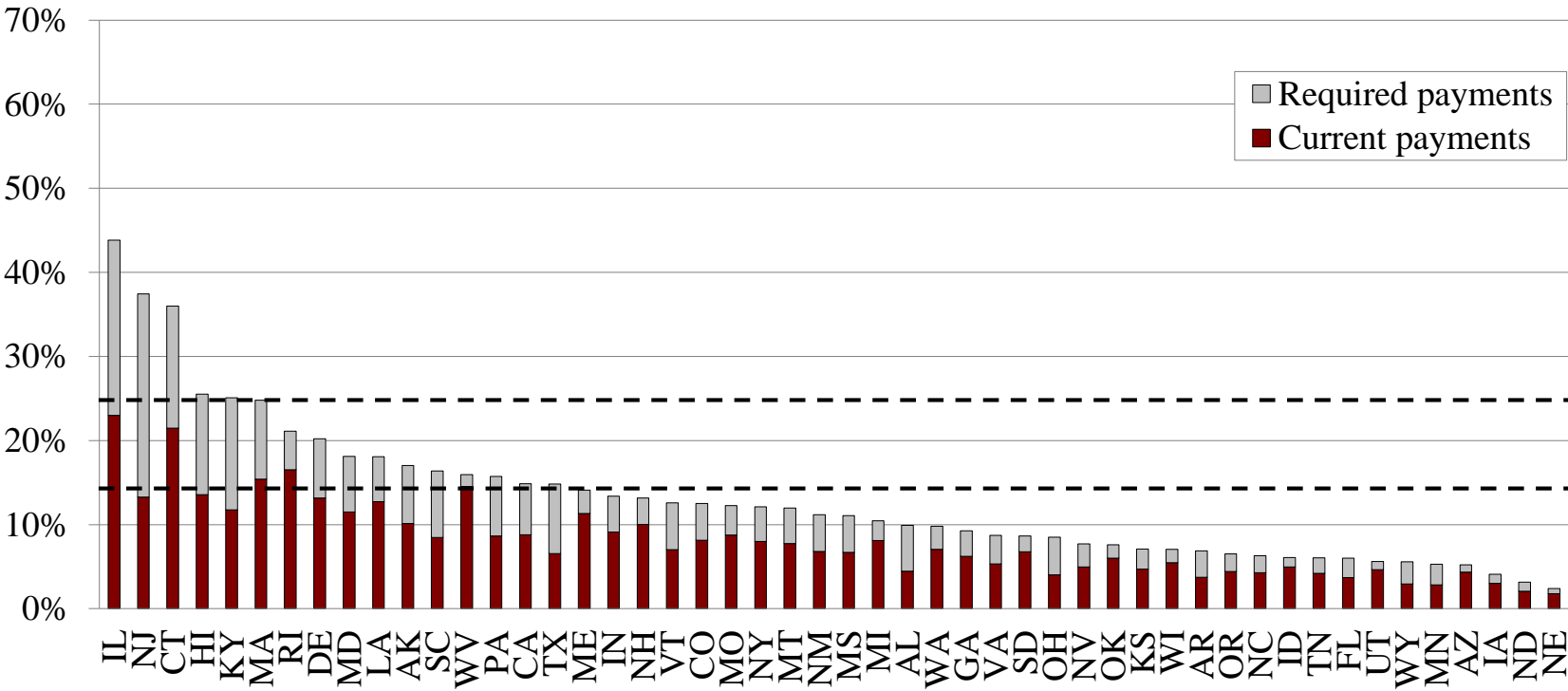
States: Current and Required OPEB Payments as a Percentage of Own-Source Revenue, 2014



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

And, then, we add interest payments to present a combined total.

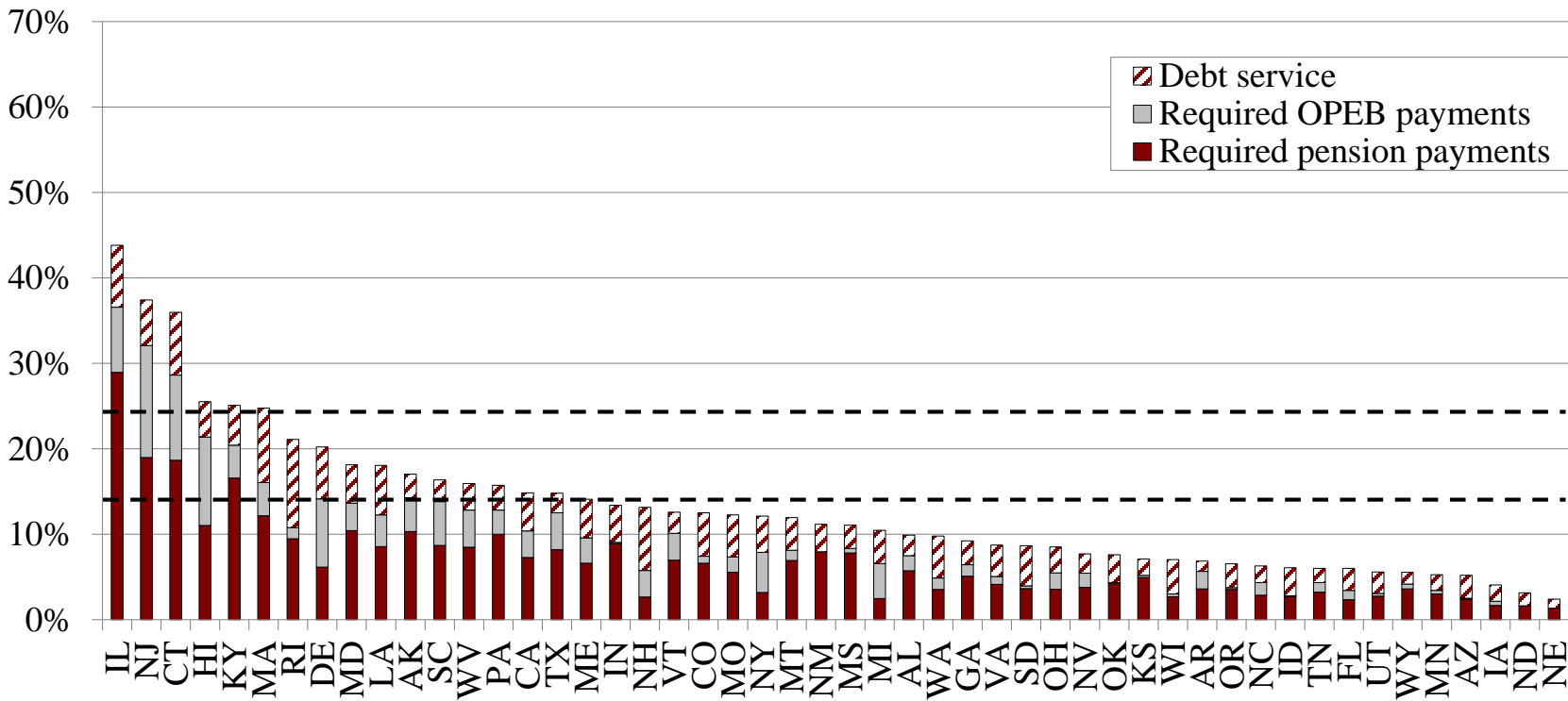
States: Current and Required Pension, OPEB, and Interest Payments as a Percentage of Own-Source Revenue, 2014



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

It is also helpful to look at how the required payments break down by source of cost.

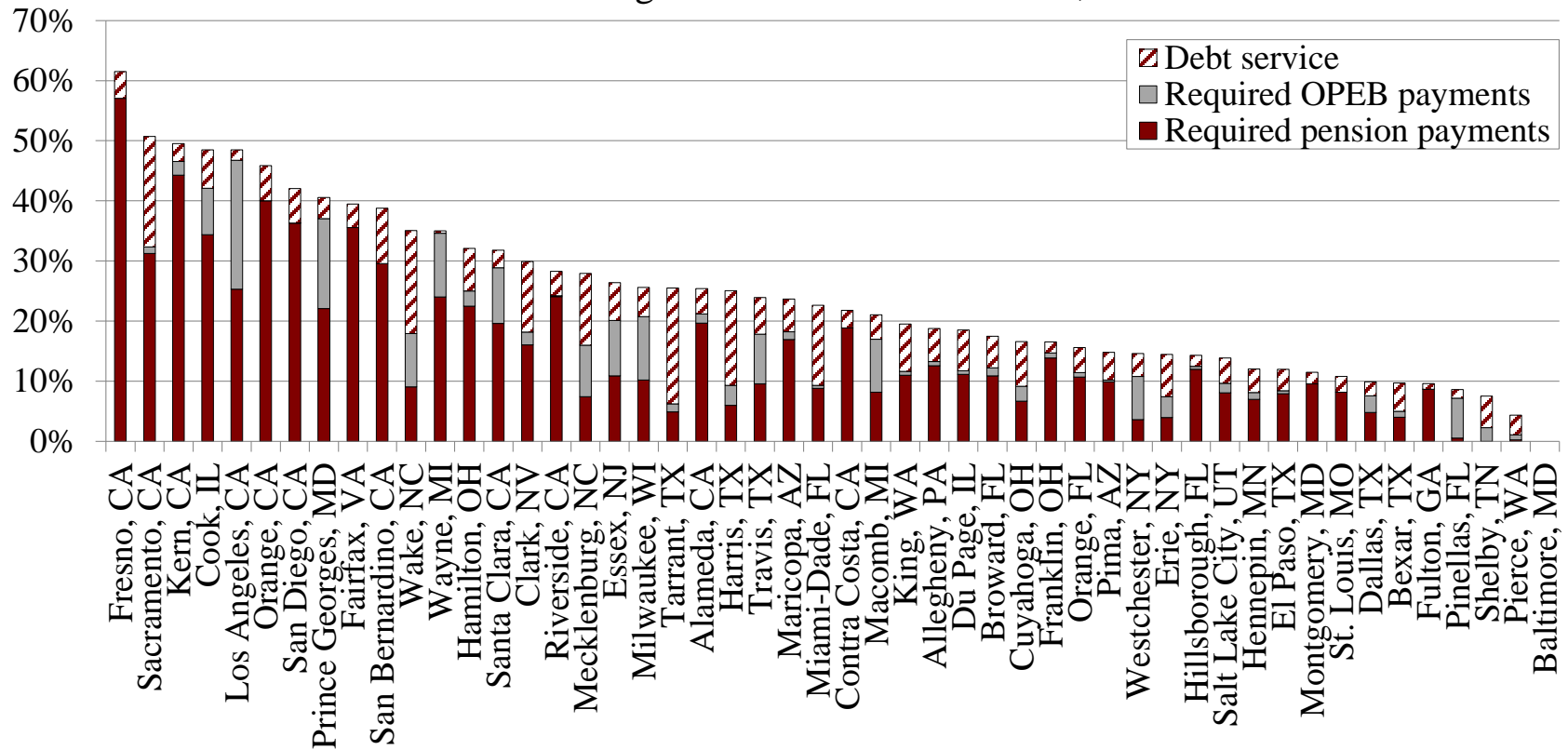
States: Required Payments for Pensions, OPEB, and Interest Payments as a Percentage of Own-Source Revenue, 2014



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

Here are the comparable results for counties...

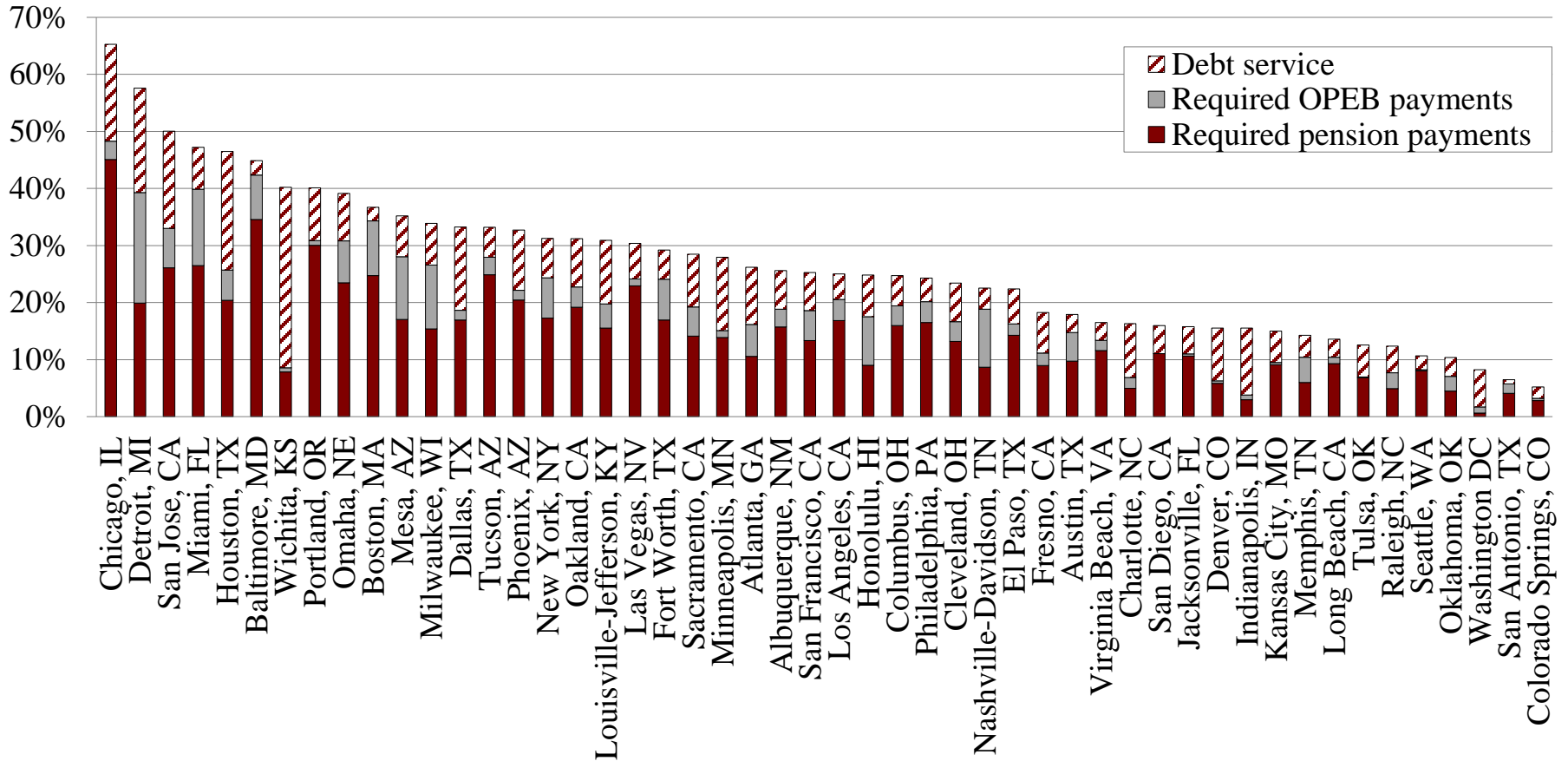
Counties: Required Payments for Pensions, OPEB, and Interest Payments as a Percentage of Own-Source Revenue, 2014



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

...and cities.

Cities: Required Payments for Pensions, OPEB, and Interest Payments
as a Percentage of Own-Source Revenue, 2014



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

Conclusion

- A full analysis of the burden of employee retirement costs should consider all jurisdictions and all major costs.
- Some jurisdictions are clearly basket cases when it comes to the financial burden imposed by retirement programs.
- But, many are managing these commitments just fine.