The Revenue Demands of Public Employee Pension Promises

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ONLINE APPENDIX

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A. *Contributions to Pension Systems*

The study requires measures of contributions to state and local pension systems from both employees and governments. U.S. Census Bureau (2010a) contains data on total pension contributions to each level of government, decomposed into government contributions and employee contributions. For example, the data show that in California in 2008 there were $6.04 billion in employee contributions to state-sponsored plans, $11.37 billion in government contributions to state-sponsored plans, $1.75 billion in employee contributions to locally-sponsored plans, and $4.39 billion in government contributions to locally-sponsored plans.

Using calculations on contribution growth rates from Novy-Marx and Rauh (2011a), we estimate 2009 contributions based on the growth rate of employee and government contributions in the state plans covered by that study. For example, for California Novy-Marx and Rauh (2011a) found that between 2008 and 2009, employee contributions grew by 7.2% for the funds covered in that study (CalPERS, CalSTRS, and the University of California Retirement Plan), while government contributions shrank by 3.4%, so that total contributions shrank by 0.1%.[1] Applying these growth rates to both the state and local cells for California, we estimate that in California in 2009, there were employee contributions of $6.47 billion to state-sponsored plans and $1.87 billion to locally-sponsored plans. There were government contributions of $10.95 billion to state-sponsored plans and $4.28 billion to locally-sponsored plans. The total government contributions were therefore $15.23 billion (= $10.95 + $4.28) and the total employee contributions were $8.34 billion (=$6.47 + $1.87). These are estimates of total contributions to all DB pension systems sponsored by government entities in the state of California.

When looking at contribution measures in systems that include Social Security, we add 6.2% of payroll to employer (and employee) contributions. For example, given the share of workers in California systems that are in Social Security, we estimate total government contributions including Social Security at $19.46 billion in 2009, as opposed to $15.23 billion excluding Social Security.

B. *Calculations for Liability Cash Flows*

[1] Employer contributions to CalPERS shrank from $7.2 billion in 2008 to $6.9 billion in 2009.

The exercise of estimating cash flows is complicated by the fact that the actuarial liability employed by most systems is neither ABO cash flows nor expected cash flow of current workers under the existing plan (which is the Present Value of Benefits or PVB cash flow). Rather, in the grand majority of cases, the government actuaries report liabilities under a concept called Entry Age Normal (EAN).

There are three groups of plan members that must be considered: current employees, retirees, and separated vested workers (individuals that are no longer in public employment, are not currently receiving pension benefits, but are entitled to take them at some point in the future). Therefore, a plan's total liability cash flow *t* years in the future, recognized under the liability measure $m \in$ {ABO,EAN,PVB}, comes from its promises to current workers, current annuitants, and separated workers not yet receiving benefits,

$$\tilde{B}_t^m = \tilde{B}_t^{active,m} + \tilde{B}_t^{retired} + \tilde{B}_t^{separated}.$$

A plan's total liability *t* years in the future due to its promises to its current workers is given by

$$\tilde{B}_t^{active,m} = \sum_{a=R_1-t+1}^{R_F} \sum_{s=1}^{a-a_{\min}+1} \sum_{r=0}^{t-1} N_{a,s} \mu_{a,a+r} S_{a,a+t} b_{a,s,r,t}^m$$

where R_1 is the first age at which workers can start taking benefits (typically assumed to be 55), R_F is the age of forced retirement (typically assumed to be 75), $a_{\min}$ is the age of the youngest workers typically assumed to be 21), $N_{a,s}$ is the number of workers of age *a* with *s* years of service, $\mu_{a,a+r}$ is the fraction of workers of age *a* separating in *r* years, $S_{a,a+t}$ is the fraction of workers of age *a* surviving to age *a* + *t* (gender specific, and accounting for survivor benefits when applicable), and $b_{a,s,r,t}^m$ is the average benefit payment *t* years in the future recognized under the accounting methodology *m* to a worker of age *a* with *s* years of service that separates in *r* years.

The benefit payments recognized under the ABO is given by

$$b_{a,s,r,t}^{abo} = \mathbf{1}_{s \geq v} \lambda_{a+r} s \alpha_f w_{a,s} \left(1 + COLA\right)^{t - \max\{r, R_1 - a\}}$$

where $\mathbf{1}_{s\geq v}$ is an indicator variable that accounts for the *v* year vesting period (typically assumed to be five years), $\lambda_{a+r} = 1 - BOR \times \min\left\{R_2 - R_1, \max\left\{R_2 - (a+r), 0\right\}\right\}$ and reflects the reduction in benefits (*BOR*, typically assumed to be 6%/year) made to workers that start taking benefits before the age of full retirement (R_2, typically assumed to be 60), under the assumption that separated workers begin taking retirement benefits as soon as they are eligible to do so because the buyout rate schedules employed by state and local retirement plans make early retirement actuarially favorable to workers, α_f is the benefit factor, and $w_{a,s}$ is the average salary of a worker of age *a* with *s* years of service, and the last factor accounts for the fact that the COLAs only apply after a worker starts taking benefits, which occurs after separation or when a worker reaches age R_1, whichever comes later.

The benefit payments recognized under the other accounting methodologies are given by

$$b^m_{a,s,r,t} = \phi^m_{a,s,r}\mathbf{1}_{s+r\geq v}\lambda_{a+r}(s+r)\alpha_f\left(\prod_{i=1}^{r}(1+g_{a+i})\right)w_{a,s}(1+COLA)^{t-\max\{r,R_1-a\}}$$

where g_a is the rate of wage growth for a worker of age *a*, and $\phi^m_{a,s,r}$ is the fraction of total benefit payments to a worker of age *a* with *s* years of service separating in *r* years recognized under the accounting methodology *m*. For the PVB, which fully recognizes benefit payments, $\phi^{pvb}_{a,s,r} = 1$; for the PBO, which recognizes the benefit payments in proportion to the fraction of lifetime service performed to date, $\phi^{pbo}_{a,s,r} = \frac{s}{s+r}$; and for the EAN, which recognizes the benefit payments in proportion to the fraction of discounted lifetime wages earned to date,

$$\phi^{ean}_{a,s,r} = \frac{\sum_{i=1}^{s} S_{a-s,a-s+i}(1+r_d)^{-i}\prod_{j=1}^{i-1}(1+g_{a-s+j})}{\sum_{i=1}^{s+r} S_{a-s,a-s+i}(1+r_d)^{-i}\prod_{j=1}^{i-1}(1+g_{a-s+j})}$$

where r_d is the rate used to discount cash flows.

A plan's total liability *t* years in the future due to its promises to its current annuitants is given by

$$\tilde{B}_t^{retired} = \sum_{a=a_{\min}^A}^{a_{\max}^A} N_a^A S_{a,a+t} A_a \left(1+COLA\right)^t$$

where $a_{\min}^A$ and $a_{\max}^A$ are the minimum and maximum age of current annuitants (typically assumed to be 45 and 95, respectively), N_a^A is the number of annuitants of age *a*, and A_a if the average benefit annual benefit payment to annuitants of age *a*.

A plan's total liability *t* years in the future due to separated vested workers not yet receiving benefits is given by

$$\tilde{B}_t^{separated} = \sum_{s=v}^{s_{\max}} \sum_{a=a_{\min}+s}^{R_1} N_{a,s}^S S_{a,a+t} \lambda_0 sb_f w_{a,s}^S \left(1+COLA\right)^{t-(R_1-a)}$$

where $N_{a,s}^S$ is the number of separated vested workers not yet receiving benefits of age *a* with service *s*, and $w_{a,s}^S$ is these workers' average benefits eligible salary.

Total liability cash flows are calibrated to a plan's stated liability using a geometric series

$$B_t^m = \left(1+\lambda\right)^{t-1} \tilde{B}_t^m,$$

where λ is picked such that the calibrated cash flows, recognized under the accounting methodology employed by the state and discounted at the state chosen discount rate, yields the plan's stated liability. That is, λ is chosen to satisfy

$$\sum_{t=1}^{\infty} \frac{\left(1+\lambda\right)^{t-1} \tilde{B}_t^{m_{stated}}}{\left(1+r_{stated}\right)^t} = L_{stated}$$

where m_{stated}, r_{stated} and L_{stated} are the plan's stated accounting methodology, discount rate and liability, respectively.

C. *Normal Costs*

In order to calculate the cost of new benefit accruals, or normal cost, we first determine the expected one year change in the benefit payments recognized under each accounting methodology

$$\Delta\tilde{B}_t^{active,m} = \left(\sum_{a=R_1-t+1}^{R_F} \sum_{s=1}^{a-a_{\min}+1} \sum_{r=1}^{t-1} N_{a,s}\mu_{a,a+r}S_{a,a+t}\Delta b_{a,s,r,t}^m \right) + \tilde{B}_t^{new\_hires,m}$$

where

$$\Delta b_{a,s,r,t}^m = \omega_{a,s} b_{a+1,s+1,r-1,t-1}^m - b_{a,s,r,t}^m$$

and we assume that either wages for workers of a given age and tenure grow at the rate of inflation $\omega_{a,s} = 1+i$ where *i* is the plan's inflation rate assumption, or that wages for workers of age a grow at the rate g_a so that $\omega_{a,s} = \left(1+g_a\right) w_{a,s} / w_{a+1,s+1}$, and

$$\tilde{B}_t^{new\_hires,m} = \sum_{a=R_1-t+1}^{R_F} \sum_{r=0}^{t-1} N_a^{new\_hires} \mu_{a,a+r} S_{a,a+t} \left(1+i\right) b_{a,1,r,t}^m$$

where we assume that new workers with no previous service are hired to replace those that retire, and that new hires have the same age distribution as current workers in their first year of service,

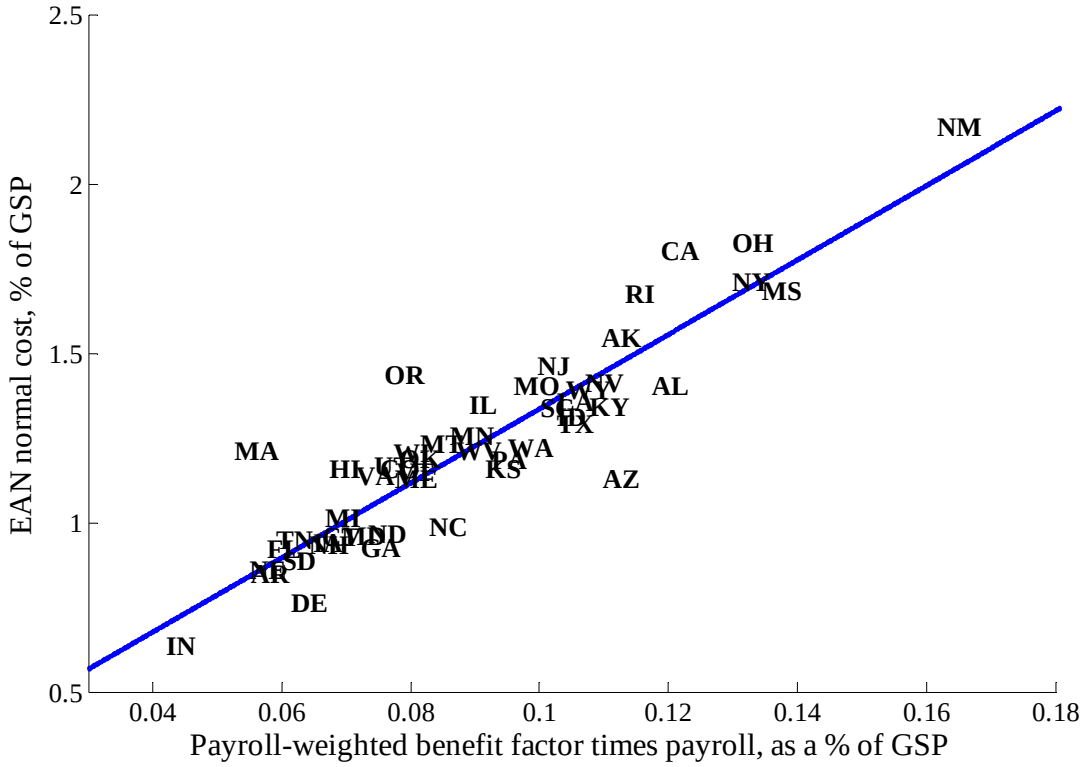
$$N_a^{new\_hires} = N_{a,1} \left(\sum_{a'=a_{\min}}^{R_F} \sum_{s=1}^{a'-a_{\min}+1} N_{a',s}\mu_{a',a'} \right) / \left(\sum_{a'=a_{\min}}^{R_F} N_{a',1} \right).$$

We calibrate the change in the benefit payments using the same adjustment factor used to calibrate the currently recognized benefits, $\Delta B_t^{active,m} = \left(1-\lambda\right)^{t-1} \Delta\tilde{B}_t^{active,m}$. The normal cost is the present value of the increase in the calibrated recognized benefits,

$$NC^m = \sum_{t=2}^{\infty} \left(1-r_t\right)^{-t} \Delta B_t^{active,m}$$

where r_t is the discount rate used to discount year *t* cash flows.

FIGURE A1. SERVICE COST AS A PERCENT OF PAYROLL AND BENEFIT FACTORS



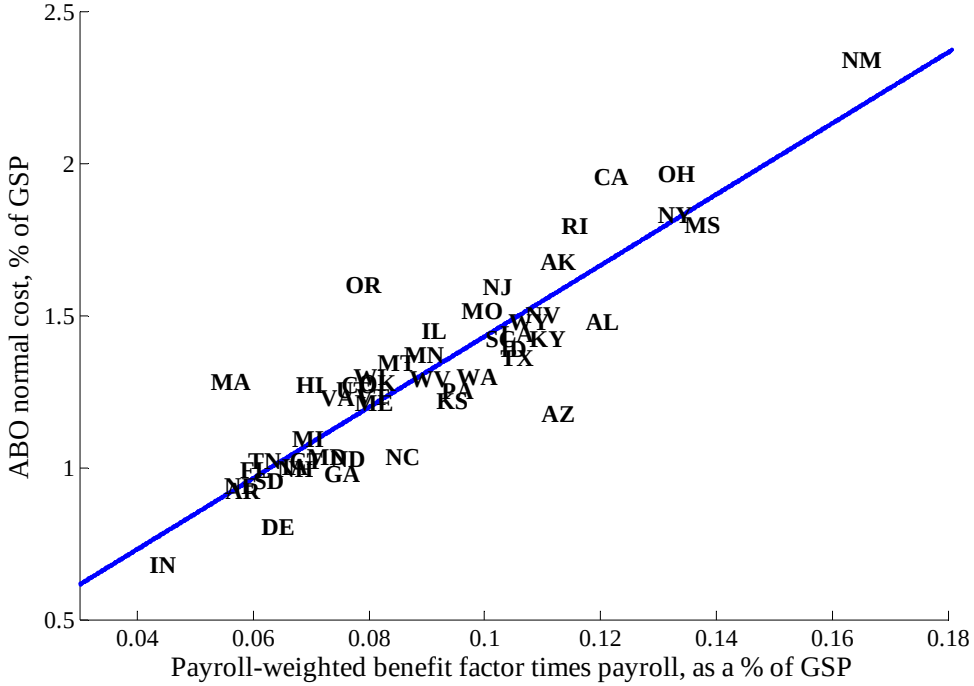


FIGURE A2. PENSION DEBT AND NON-PENSION DEBT ARE COMPLEMENTS

The horizontal axis is total municipal debt as recognized in the U.S. Census of Governments, as a percentage of GSP. The vertical axis is the gap between assets and the present value of liabilities on an ABO basis. Each additional dollar in municipal debt is associated with an additional 67 cents in ABO pension underfunding, and this relation has a t-statistic of 3.61.

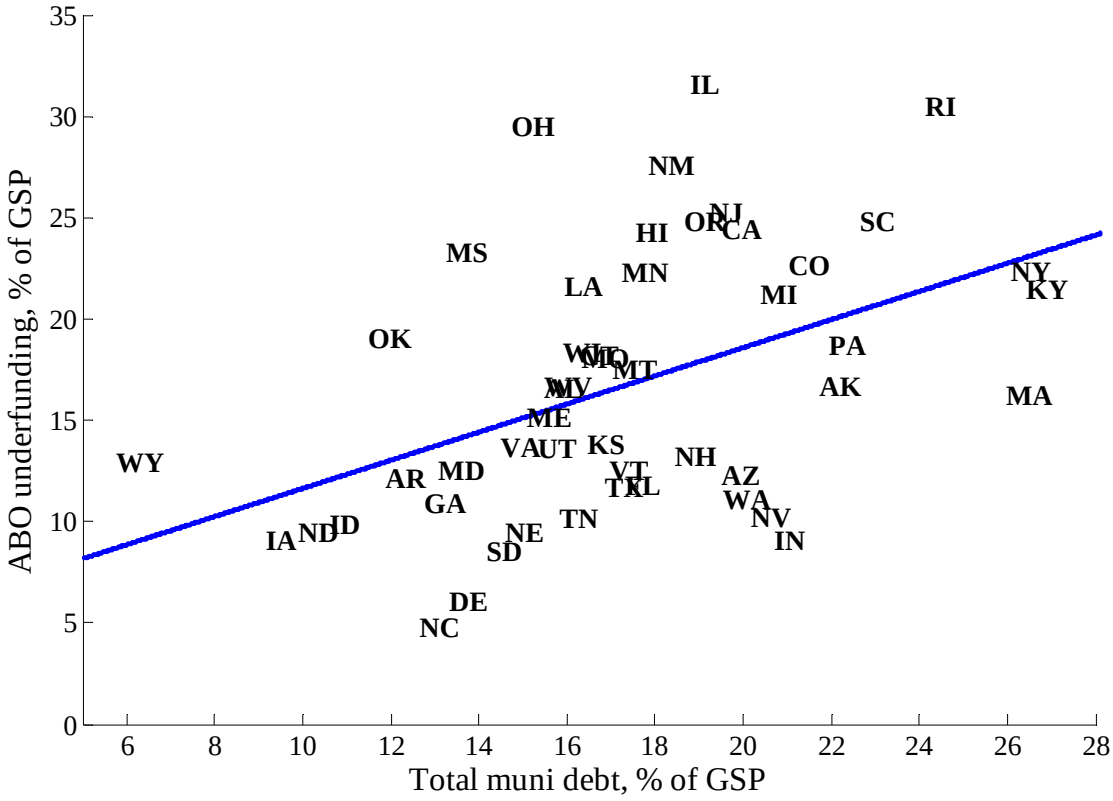


TABLE A1—CONTRIBUTIONS, PAYROLL, AND REVENUES FOR STATE AND LOCAL SYSTEMS,

	Total Payroll ($B)	Own Revenue ($B)	GSP ($B)	Government Contributions Incl Social Security: % of Payroll	% Own Revenues	% of GSP	per household
New York	$65.8	$197.7	$1,093.2	19.9%	6.6%	1.2%	$1,738.8
Rhode Island	$2.4	$6.8	$47.8	26.7%	9.3%	1.3%	$1,557.3
Hawaii	$3.7	$9.3	$66.4	19.1%	7.7%	1.1%	$1,436.4
Virginia	$17.5	$47.4	$408.4	23.8%	8.8%	1.0%	$1,374.0
California	$108.1	$262.0	$1,891.4	18.0%	7.4%	1.0%	$1,368.8
Alaska	$2.3	$10.8	$45.7	14.5%	3.1%	0.7%	$1,234.7
Illinois	$29.3	$76.8	$630.4	20.6%	7.9%	1.0%	$1,215.3
New Mexico	$4.7	$11.9	$74.8	19.8%	7.8%	1.2%	$1,194.0
Connecticut	$9.0	$26.2	$227.4	17.8%	6.1%	0.7%	$1,180.6
Nevada	$5.2	$15.3	$126.5	22.4%	7.6%	0.9%	$1,147.2
New Jersey	$26.9	$65.5	$483.0	13.4%	5.5%	0.7%	$1,078.0
Alabama	$10.2	$25.6	$169.9	18.7%	7.4%	1.1%	$1,050.8
Maryland	$11.5	$36.9	$286.8	19.5%	6.1%	0.8%	$1,026.0
Oklahoma	$6.3	$20.4	$153.8	23.2%	7.1%	0.9%	$1,022.2
Wyoming	$1.8	$6.7	$37.5	11.3%	3.1%	0.6%	$987.3
West Virginia	$2.8	$10.2	$63.3	24.1%	6.7%	1.1%	$980.5
Mississippi	$5.9	$15.6	$95.9	18.9%	7.1%	1.2%	$973.0
Washington	$16.9	$47.2	$338.3	14.7%	5.3%	0.7%	$968.3
Louisiana	$8.8	$26.3	$208.4	17.5%	5.9%	0.7%	$891.3
Indiana	$10.8	$37.1	$262.6	20.2%	5.9%	0.8%	$882.1
Massachusetts	$13.5	$46.9	$365.2	16.5%	4.7%	0.6%	$877.6
South Carolina	$8.9	$26.5	$159.6	17.1%	5.7%	0.9%	$862.5
Oregon	$8.7	$23.8	$165.6	14.5%	5.3%	0.8%	$862.1
Kansas	$6.8	$18.4	$124.9	13.6%	5.0%	0.7%	$846.6
Minnesota	$13.5	$35.5	$260.7	12.7%	4.8%	0.7%	$843.8
Utah	$4.4	$15.9	$112.9	20.2%	5.6%	0.8%	$826.9
Arizona	$13.3	$32.6	$256.4	15.3%	6.2%	0.8%	$799.1
Missouri	$10.8	$30.0	$239.8	16.8%	6.0%	0.8%	$787.4
Michigan	$16.8	$56.9	$368.4	17.9%	5.3%	0.8%	$781.3
Florida	$28.6	$109.5	$737.0	19.3%	5.0%	0.7%	$771.8
Iowa	$6.4	$19.8	$142.3	13.8%	4.5%	0.6%	$769.3
Idaho	$2.7	$7.3	$54.0	17.0%	6.1%	0.8%	$757.4
Delaware	$2.1	$6.8	$60.6	12.1%	3.7%	0.4%	$748.7
Montana	$1.7	$5.6	$36.0	16.4%	4.9%	0.8%	$737.6
New Hampshire	$2.5	$7.6	$59.4	14.4%	4.7%	0.6%	$706.2
Arkansas	$3.9	$14.5	$101.8	20.1%	5.4%	0.8%	$703.9
Ohio	$27.5	$67.8	$471.3	11.3%	4.6%	0.7%	$697.1
Kentucky	$7.9	$22.3	$156.6	14.4%	5.1%	0.7%	$685.1
Tennessee	$9.8	$34.8	$244.5	16.7%	4.7%	0.7%	$674.2
Georgia	$14.9	$49.6	$395.2	17.0%	5.1%	0.6%	$669.3
Vermont	$1.2	$4.3	$25.4	13.2%	3.7%	0.6%	$659.3
Maine	$2.1	$7.9	$51.3	16.1%	4.2%	0.6%	$655.0
Wisconsin	$12.3	$35.6	$244.4	11.4%	3.9%	0.6%	$641.3
South Dakota	$1.5	$4.3	$38.3	13.1%	4.7%	0.5%	$639.7
North Dakota	$1.2	$5.1	$31.9	12.8%	3.0%	0.5%	$627.8
Nebraska	$2.5	$14.4	$86.4	16.8%	2.9%	0.5%	$610.2
Pennsylvania	$21.5	$77.3	$554.8	13.1%	3.6%	0.5%	$579.9
Texas	$54.8	$129.1	$1,144.7	9.0%	3.8%	0.4%	$520.3
North Carolina	$18.7	$49.8	$398.0	9.5%	3.6%	0.4%	$495.0
Colorado	$7.9	$31.8	$252.7	11.3%	2.8%	0.4%	$462.8

TABLE A2—NECESSARY CONTRIBUTIONS AND CONTRIBUTION INCREASES FOR FULL FUNDING IN 30 YEARS UNDER ALTERNATIVE ASSUMPTIONS

	Total Required Contribution				Required Increase Above Current Rates			
	ABO, 10yr Average U.S. GSP Growth		EAN, 10yr Average GSP Growth		ABO, 10yr Average U.S. GSP Growth		EAN, 10yr Average GSP Growth	
Contributions / Payroll								
Weighted Average	40.0%		43.2%		23.7%		26.8%	
Mean, StDev	38.5%	6.1%	41.0%	7.0%	21.8%	6.8%	23.7%	7.4%
Min, Max	24.6%	56.1%	26.1%	59.3%	7.5%	42.5%	8.8%	46.1%
Min State, Max State	NC	CO	NC	CO	IN	CO	IN	CO
Contributions / Tax Revenue								
Weighted Average	22.3%		24.1%		13.2%		15.0%	
Mean, StDev	20.9%	5.1%	22.2%	5.7%	11.8%	4.4%	12.9%	4.8%
Min, Max	12.7%	35.2%	13.6%	37.6%	3.6%	24.7%	4.2%	26.3%
Min State, Max State	IN	OR	ND	OR	IN	OR	IN	OR
Contributions / Total Own Revenue								
Weighted Average	13.9%		15.0%		8.2%		9.4%	
Mean, StDev	12.6%	2.9%	13.5%	3.3%	7.2%	2.6%	7.8%	2.9%
Min, Max	7.3%	19.2%	7.5%	21.3%	2.2%	13.4%	2.6%	14.7%
Min State, Max State	NE	NM	AK	IL	IN	OH	IN	OH
Contributions / GSP								
Weighted Average	1.9%		2.1%		1.1%		1.3%	
Mean, StDev	1.8%	0.4%	1.9%	0.5%	1.0%	0.4%	1.1%	0.4%
Min, Max	1.1%	3.1%	1.2%	3.3%	0.3%	1.9%	0.4%	2.1%
Min State, Max State	IN	NM	DE	NM	IN	OH	IN	OH
Contributions / Household								
Weighted Average	$2,303		$2,486		$1,362		$1,545	
Mean, StDev	$2,105	$637	$2,240	$677	$1,196	$482	$1,300	$521
Min, Max	$1,165	$3,949	$1,268	$4,242	$329	$2,250	$385	$2,419
Min State, Max State	IN	NY	IN	NY	IN	NY	IN	NY

TABLE A3—CONTRIBUTION INCREASES INCLUDING TIEBOUT EFFECT, NO POLICY CHANGES

	ABO, 10yr Average GSP Growth		ABO, 10yr Average GSP Growth - 1%		ABO, 10yr Average National GSP Growth		EAN, 10yr Average GSP Growth	
Δ[Contributions / Payroll]								
Weighted Average	24.9%		27.4%		24.2%		27.6%	
Mean, Standard Dev	21.6%	8.7%	23.6%	10.0%	21.8%	7.7%	24.5%	8.6%
Min, Max	5.4%	43.7%	6.3%	53.1%	4.6%	47.1%	7.0%	49.0%
Min State, Max State	IN	CO	IN	IL	IN	CO	IN	CO
Δ[Contributions / Tax Revenue]								
Weighted Average	13.9%		15.3%		13.5%		15.4%	
Mean, Standard Dev	11.8%	5.6%	12.9%	6.4%	11.9%	5.0%	13.3%	5.6%
Min, Max	2.6%	27.8%	3.0%	30.1%	2.2%	29.1%	3.4%	30.3%
Min State, Max State	IN	OR	IN	OH	IN	OR	IN	OR
Δ[Contributions / Own Revenue]								
Weighted Average	8.7%		9.5%		8.4%		9.6%	
Mean, Standard Dev	7.2%	3.3%	7.8%	3.9%	7.2%	2.9%	8.1%	3.4%
Min, Max	1.6%	16.7%	1.8%	20.2%	1.3%	15.6%	2.0%	17.3%
Min State, Max State	IN	OH	IN	IL	IN	OR	IN	OH
Δ[Contributions / GSP]								
Weighted Average	1.2%		1.3%		1.2%		1.3%	
Mean, Standard Dev	1.0%	0.5%	1.1%	0.6%	1.0%	0.4%	1.1%	0.5%
Min, Max	0.2%	2.4%	0.3%	2.7%	0.2%	2.2%	0.3%	2.5%
Min State, Max State	IN	OH	IN	OH	IN	OR	IN	OH
Δ[Contributions / Household]								
Weighted Average	$1,435		$1,578		$1,394		$1,591	
Mean, Standard Dev	$1,196	$584	$1,305	$666	$1,211	$564	$1,353	$609
Min, Max	$237	$2,553	$274	$3,130	$201	$2,541	$307	$2,634
Min State, Max State	IN	OH	IN	IL	IN	WY	IN	OH

TABLE A4—REQUIRED CONTRIBUTION INCREASES, 2% TIEBOUT EFFECT, NO POLICY CHANGE

	Gvt Contributions		Required Contribution Increase				
	Current ($B)	Required ($B)	% of Payroll	% of Tax Revenue	% of Own Revenue	% of GSP	per household
Ohio	$3.1	$14.4	41.3%	26.5%	16.7%	2.4%	$2,552.9
Oregon	$1.3	$4.8	40.7%	27.8%	14.9%	2.1%	$2,415.1
New York	$13.1	$31.1	27.4%	13.1%	9.1%	1.6%	$2,399.7
Illinois	$6.0	$17.6	39.6%	21.9%	15.1%	1.8%	$2,336.0
California	$19.5	$49.6	27.9%	18.8%	11.5%	1.6%	$2,122.4
New Jersey	$3.6	$10.6	25.9%	14.6%	10.6%	1.4%	$2,076.7
Wyoming	$0.2	$0.6	23.6%	10.2%	6.5%	1.2%	$2,074.1
Minnesota	$1.7	$5.9	30.7%	17.9%	11.7%	1.6%	$2,046.1
New Mexico	$0.9	$2.5	33.3%	23.3%	13.1%	2.1%	$2,011.0
Colorado	$0.9	$4.3	43.7%	19.5%	10.9%	1.4%	$1,785.3
Pennsylvania	$2.8	$10.5	35.9%	15.2%	10.0%	1.4%	$1,592.8
Wisconsin	$1.4	$4.8	27.7%	14.6%	9.5%	1.4%	$1,563.0
Michigan	$3.0	$8.7	33.9%	16.4%	10.0%	1.5%	$1,482.1
Washington	$2.5	$5.9	20.4%	13.2%	7.3%	1.0%	$1,345.7
Connecticut	$1.6	$3.4	20.3%	8.9%	6.9%	0.8%	$1,340.9
Kentucky	$1.1	$3.3	27.2%	15.7%	9.7%	1.4%	$1,300.0
Missouri	$1.8	$4.7	27.0%	15.6%	9.7%	1.2%	$1,267.1
Texas	$5.0	$16.9	21.8%	15.1%	9.2%	1.0%	$1,252.2
South Carolina	$1.5	$3.7	24.2%	18.2%	8.1%	1.3%	$1,220.5
Hawaii	$0.7	$1.3	16.1%	9.7%	6.5%	0.9%	$1,205.4
Kansas	$0.9	$2.2	18.7%	11.4%	6.9%	1.0%	$1,168.5
Delaware	$0.3	$0.7	18.7%	11.1%	5.8%	0.7%	$1,162.7
Mississippi	$1.1	$2.4	22.5%	15.0%	8.4%	1.4%	$1,161.6
Alaska	$0.3	$0.6	13.6%	5.4%	2.9%	0.7%	$1,160.1
Vermont	$0.2	$0.4	22.9%	9.5%	6.4%	1.1%	$1,145.9
Louisiana	$1.5	$3.3	20.4%	11.0%	6.9%	0.9%	$1,043.8
Massachusetts	$2.2	$4.8	18.7%	8.5%	5.5%	0.7%	$1,024.3
North Dakota	$0.2	$0.4	20.5%	7.6%	4.9%	0.8%	$1,006.2
Virginia	$4.2	$7.2	17.2%	10.4%	6.4%	0.7%	$993.6
New Hampshire	$0.4	$0.8	19.3%	10.3%	6.4%	0.8%	$949.9
Nevada	$1.2	$2.0	16.3%	8.8%	5.6%	0.7%	$835.5
Montana	$0.3	$0.6	18.4%	9.2%	5.5%	0.9%	$826.1
Nebraska	$0.4	$1.0	22.7%	8.0%	4.0%	0.7%	$825.2
Alabama	$1.9	$3.4	14.6%	11.5%	5.8%	0.9%	$819.5
Iowa	$0.9	$1.8	14.6%	8.0%	4.7%	0.7%	$811.6
Tennessee	$1.6	$3.6	19.7%	11.2%	5.5%	0.8%	$793.7
Oklahoma	$1.4	$2.5	17.5%	9.1%	5.4%	0.7%	$773.5
Florida	$5.5	$11.0	19.1%	8.4%	5.0%	0.7%	$766.3
North Carolina	$1.8	$4.5	14.7%	9.2%	5.5%	0.7%	$764.3
Georgia	$2.5	$5.4	19.0%	9.5%	5.7%	0.7%	$748.6
Maryland	$2.2	$3.9	13.9%	6.0%	4.4%	0.6%	$732.2
South Dakota	$0.2	$0.4	15.0%	9.0%	5.3%	0.6%	$729.7
Idaho	$0.5	$0.9	15.8%	9.8%	5.7%	0.8%	$707.1
Maine	$0.3	$0.7	16.8%	6.4%	4.4%	0.7%	$686.8
Rhode Island	$0.6	$0.9	11.3%	5.9%	3.9%	0.6%	$661.4
Arizona	$2.0	$3.4	10.4%	6.9%	4.2%	0.5%	$544.3
West Virginia	$0.7	$1.0	12.6%	5.7%	3.5%	0.6%	$514.1
Arkansas	$0.8	$1.3	13.3%	5.5%	3.6%	0.5%	$465.2
Utah	$0.9	$1.3	8.9%	4.7%	2.5%	0.3%	$363.2
Indiana	$2.2	$2.8	5.4%	2.6%	1.6%	0.2%	$237.4