State and local pensions are different from private plans

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*By Alicia H. Munnell and Mauricio Soto**

Introduction

The Center for Retirement Research at Boston College is undertaking a multi-year in-depth study of state and local pension plans; the study is funded by the Center for State and Local Government Excellence. As a prelude to subsequent reports on various aspects of state and local plans, this *brief* identifies the key differences between employer-sponsored plans in the private and public sectors. In fact, the two worlds turn out to be quite different. In the private sector, the plans are mostly 401(k)s, less than half of the workforce is covered, and everyone participates in Social Security. In contrast, state and local plans are primarily defined benefit, coverage is virtually universal, and only 70 percent of workers are in Social Security. Public plans tend to provide higher basic benefit levels and tend to offer post-retirement cost-of-living adjustments. Finally, public plans tend to rely more heavily on employee contributions, invest slightly more aggressively, and be about as well funded as their private sector counterparts.

It is important to note that while this study lumps all state and local retirement systems together, these plans are far from homogeneous. They cover several very different groups of workers — general government employees, teachers, and public safety personnel — each of which have unique career paths. Police and firefighters, with physically demanding jobs, have plans that allow retirement at earlier ages and offer

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more extensive disability protection. Teachers and general government employees retire later. Despite the heterogeneity, this analysis treats state and local plans as a unit in order to highlight overall differences between the private and public sector. Future studies will explore the different types of plans in more detail.

State and Local Plans in Perspective

A useful starting point for any inspection of public plans is to determine just how important they are. One popular measure is state and local plan assets as a percent of total retirement assets. Table 1 includes the holdings of Individual Retirement Accounts (IRAs) in the total because, whereas IRAs are not employer-sponsored plans, most of the IRA money is rollovers from 401(k)s.[1] In this case, the $3 trillion in state and local plans accounts for 22 percent of total retirement assets. Thus, these plans are significant in terms of their holdings. Moreover, since most state and local pensions are defined benefit plans, the public sector is a bigger player in the defined benefit world than the private sector.

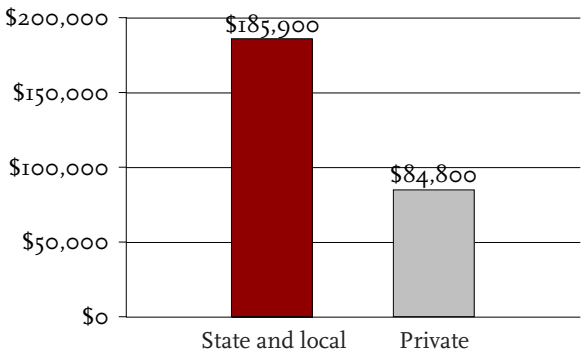
Table 1. Retirement Plan Assets, 2006

Pension sponsor	Assets (trillions)	Percent of total
State and local governments	$3.0	22%
Federal government	1.1	8
Private sector	5.5	40
Defined benefit	2.2	16
Defined contribution	3.3	24
IRAs	4.2	30
Total	13.8	100

Source: U.S. Board of Governors of the Federal Reserve System (2007).

State and local governments generally offer defined contribution plans to supplement their defined benefit plans, and a few have started to rely on defined contribution plans as their primary pension.[2] Assets held in these plans — about $550 billion — are excluded from the table because the Federal Reserve's Flow of Funds Accounts do not report these plans as a separate category.[3]

Figure 1. Pension Assets per Worker, by Sector, 2006



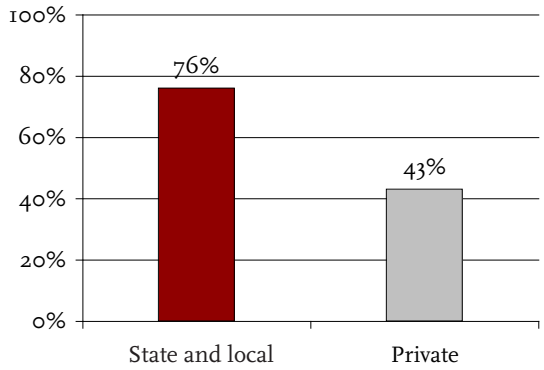
Sources: Authors' calculations from U.S. Board of Governors of the Federal Reserve System (2007); U.S. Census Bureau (2007b); and U.S. Department of Labor (2007a).

A simple measure of the relative importance of public and private plans is assets per worker in each sector. Assets per worker are more than two times greater in the state and local arena than in the private sector (see Figure 1).

Coverage of Public versus Private Sector Workers

Perhaps the most important reason for the discrepancy in assets per worker is coverage. In 2006, 76 percent of state and local workers aged 25-64 participated in an employer-provided pension, compared to only 43 percent in the private sector (see Figure 2).[4]

Figure 2. Percent of All Workers Aged 25-64 with Pension Coverage, by Sector, 2006

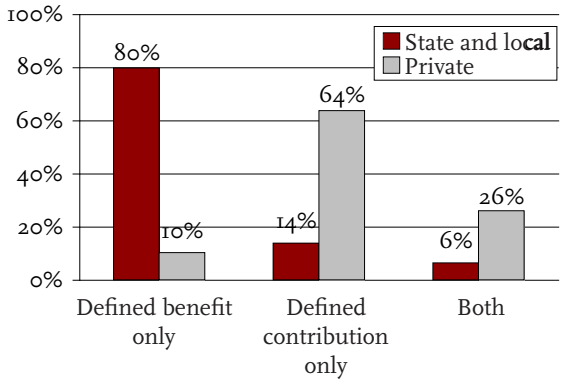


Source: Authors' calculations from the U.S. Census Bureau (2007a).

In both cases, the percentage of workers who participate in a pension has remained virtually unchanged since the late 1970s.

The type of pension also differs sharply between the public and private sector. Looking just at those with some type of pension coverage, a full 80 percent of public sector participants rely solely on a defined benefit plan; in the private sector 64 percent of participants rely solely on a defined contribution plan (see Figure 3).

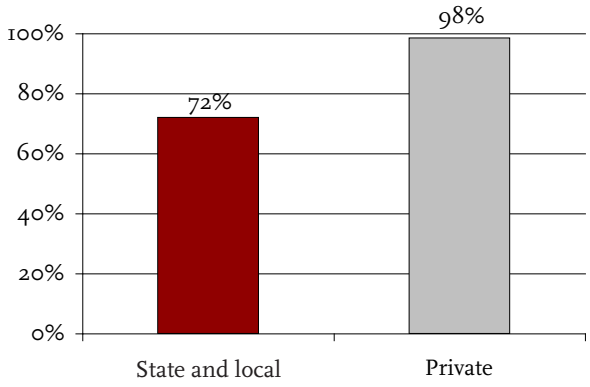
Figure 3. Percent of Workers Covered by a Pension, by Pension Type and Sector, 2004



Sources: Authors' calculations from U.S. Department of Labor *Form 5500 Series* (2004); and Standard & Poor's (2007).

Moreover, while virtually all private sector workers are covered by Social Security, only 72 percent of workers in the public sector have Social Security coverage (see Figure 4).[5] The bulk of uncovered workers are employed in seven states — California, Colorado, Illinois, Louisiana, Massachusetts, Ohio, and Texas.[6]

Figure 4. Percent of Workers Covered by Social Security, by Sector, 2006



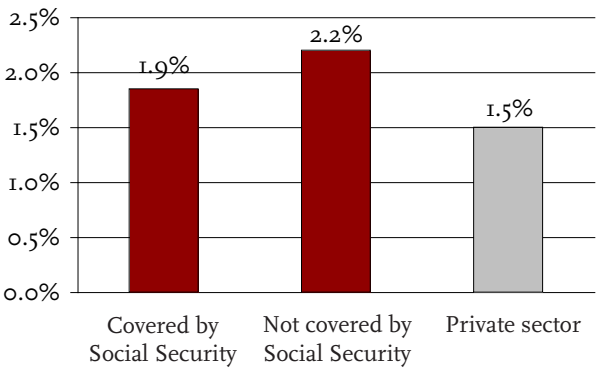
Sources: Social Security Administration (2007); Social Security Administration (2005); Congressional Budget Office (2000); and U.S. Census Bureau (2007d).

Benefit Levels in Public versus Private Sector Plans

The other factor that contributes to the higher assets per worker in the public sector is the higher level of benefits in public sector plans. Comparing benefits, of course, looks at only one component of total compensation. A broader question, not addressed in this *brief*, is whether larger pensions are offset by lower wages.[7]

Typically, defined benefit plans determine benefits by multiplying an employee's final average salary (usually final three or five years) by a factor for each year of service. In the public sector, that factor is about 2 percent (see Figure 5). Thus, an employee who retires with 20 years of service and a final average salary of $50,000 will receive a benefit of $20,000 ($50,000 x 20 years x 2 percent). The factor tends to be slightly higher for plans not covered by Social Security than for those covered. In both cases, however, public sector factors dominate those of private sector defined benefit plans, which hover around 1.5 percent.[8] And traditional defined benefit plans now cover only a small share of private sector workers. Most private sector participants rely on 401(k) plans. A private sector worker with a $50,000 final salary at age 62 would have had to accumulate about $260,000 to purchase an annuity that would provide about $20,000 per year for life. Median balances in 401(k) plans for heads of households approaching retirement amounted to only $60,000 in 2004.

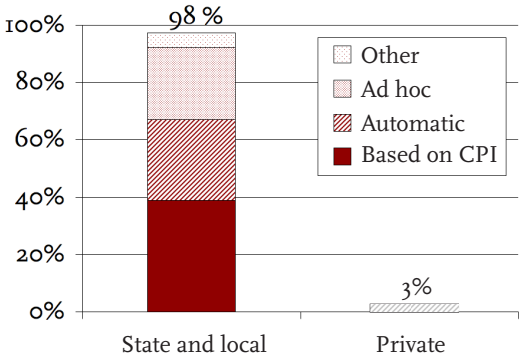
Figure 5. Median Accrual Rates in Defined Benefit Plans, by Sector, 2006



Sources: Brainard (2007); and U.S. Department of Labor (2007c).

The preceding comparison actually understates the difference in benefit levels between public and private plans, because frequently in the public sector the $20,000 benefit is increased for inflation over the participant's retirement period. This inflation-indexing feature is very significant; it can increase the value of the benefit stream by as much as 40 percent. Among state and local plans, about two fifths provide automatic increases linked to the Consumer Price Index (CPI), although these increases are generally capped at 3 percent. A somewhat smaller percentage provides automatic adjustments at a fixed rate specified by the plan, and others provide ad hoc adjustments (see Figure 6). Plans where participants are not covered by Social Security tend to have broader cost-of-living provisions. In contrast to public plans, virtually no private sector defined benefit plan provides post-retirement cost of living adjustments.

Figure 6. Percent of Workers with Defined Benefit Pensions Covered by Cost-of-Living Adjustments, by Sector, 2005



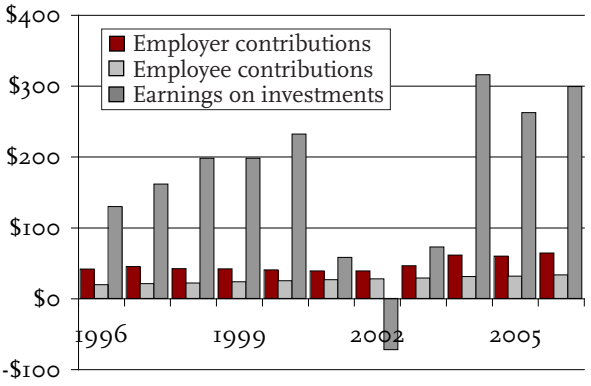
Sources: Authors' calculations from National Association of State Retirement Administrators (2005) and U.S. Department of Labor (1998).

Financing Public versus Private Plans

State and local defined benefit pension plans, like their private sector counterparts, are generally financed on a funded basis. As a result, returns on accumulated assets represent the major source of annual income. This income dwarfs employer and employee contributions (see Figure 7) .

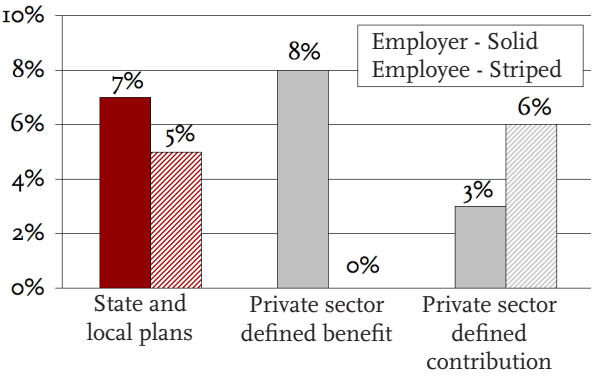
Not surprisingly given the higher benefits of state and local plans, the cost of defined benefit plans is substantially larger in the public sector than the private sector. Interestingly, employer contributions as a percent of payroll are roughly the same in the state and local and private sectors (see Figure 8). Employee contributions make up the difference. As we will see in subsequent *briefs*, the large employee contribution may well limit the extent to which state and local governments can save money by shifting additional costs to employees through moving from defined benefit to defined contribution plans.

Figure 7. State and Local Defined Benefit Plan Sources of Income, Billions, 1996-2006



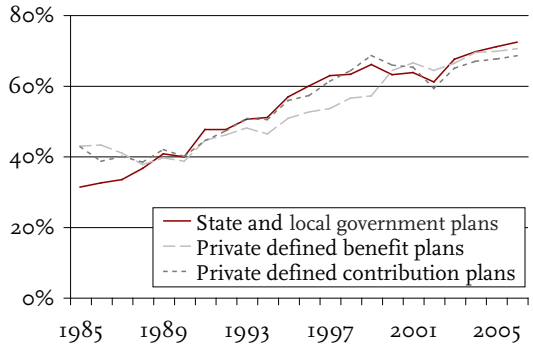
Source: U.S. Census Bureau (2007c).

Figure 8. Employer and Employee Contribution Rates, by Sector, 2006



Note: The state and local employer contribution rate reflects the average rate from 2002 to 2006 for Social Security eligible employees only. The rates for those without Social Security averaged 10.5 percent for the employer and 8 percent for the employee.
Sources: Brainard (2007); Munnell and Sundén (2004); and Munnell and Soto (2004).

Figure 9. Equities as a Percent of Total Portfolio, by Sector, 1985-2006

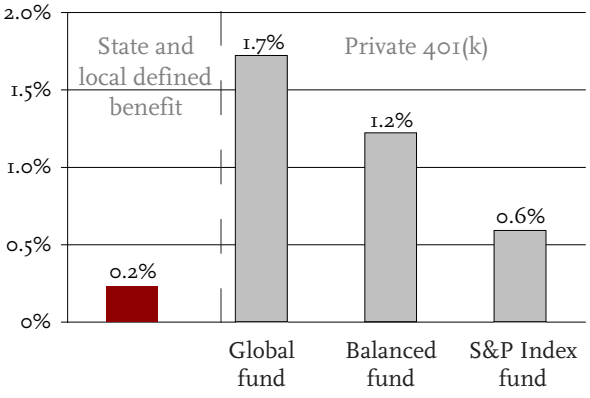


Sources: Calculations from U.S. Board of Governors of the Federal Reserve System (2007); Investment Company Institute (2006); and Investment Company Institute (2007).

The investment patterns of state and local government pensions look similar to those of private plans (see Figure 9). Both sectors show equities as a percent of total assets rising from about 40 percent in 1990 to about 70 percent today.[9] But, during the 1990s, state and local plans had a larger share invested in equities than private sector plans as a whole and substantially more than private sector defined benefit plans. Since 2003, state and local plans have once again shown higher equity holdings than the private plans.

Investment earnings, of course, are reduced somewhat by management fees. However, because most state and local plans are defined benefit, these fees amount to only about 25 basis points. In 2006 the median investment management expense was 18 basis points for the largest plans and 36 basis points for the smaller plans.[10] In contrast, mutual funds are the major investment vehicle for private sector 401(k) plans, and Figure 10 reports the fees for alternative investments. The fees vary substantially depending on whether the investments are actively managed or follow an index. But it is clear that the predominant pension in the private sector costs considerably more than the defined benefit plans in the public sector.

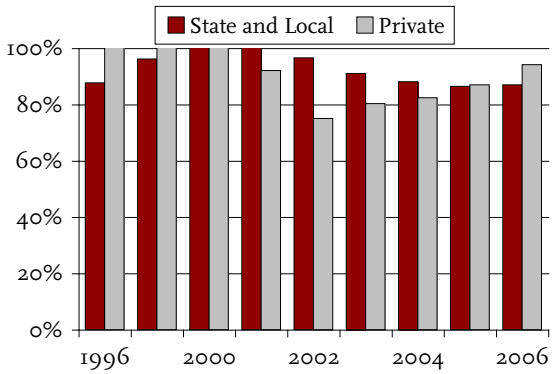
Figure 10. Investment Management Expenses, by Sector and Fund Type, 2006



Sources: Brainard (2007); and Lipper (2006).

The final issue is the extent to which plans are funded. Private sector sponsors are required by federal rules to achieve 100 percent funding or to rectify underfunding problems within designated periods of time.[11] Although states and localities do not face similar requirements, most try to accumulate assets to cover future benefit payments. Ideally, assets on hand would equal the present discounted value of benefits earned to date, where benefits are calculated on the basis of projected salary at retirement.[12] Figure 11 shows the ratio of defined benefit assets to accrued benefit liability for the public and private sectors.

Figure 11. Funding Ratios of Pension Funds, by Sector, 1996-2006

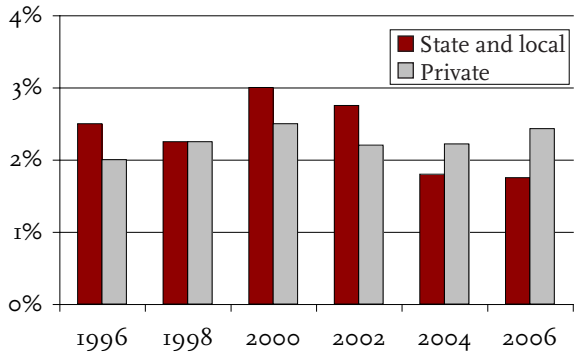


Sources: Author's calculations from Zorn (1996-2000); National Association of State Retirement Administrators (2001-2007); and Standard and Poor's (1996-2006).

Funding levels were higher in both sectors before the 'perfect storm' of a declining stock market and very low interest rates. As assets in the pension funds plummeted and the present discounted value of projected liabilities increased, funding levels in both the public and private sector declined. The drop in funding of private pensions was more dramatic, but so was its recovery. By 2006, after a few years of strong market returns, the overall funding levels appeared slightly higher among private plans than among state and local plans.

This comparison of funding status for private plans and state and local plans is valid because the assumptions used to estimate liabilities are fairly comparable. Figure 12 shows that the spread assumption — the difference between the discount rate and projected wage growth — is about 2 percent for both sectors.[13]

Figure 12. Spread for Defined Benefit Plans, by Sector, 1996-2006



Note: Spread is the difference between the discount rate and the assumed rate of salary growth.
Sources: Authors' calculations from Zorn (1996-2000); National Association of State Retirement Administrators (2001-2007); various annual reports; and Standard and Poor's (1996-2006).

The implication of the unfunded liability for state and local government pensions is that, if current assumptions about investment returns, wage growth, inflation, and demographics are borne out, sponsors of defined benefit plans will have to come up with funds in addition to the annual cost of accruing benefits to cover future payments. The current unfunded liability at the state and local level is about $380 billion. To pay off this amount over 30 years, states and localities would have to raise their contribution rate by an amount equal to 0.7 percent of payrolls.[14]

Conclusion

The pension landscape in the public sector differs sharply from that in the private sector. State and local plans are primarily defined benefit, coverage is virtually universal, and only 70 percent of workers are in Social Security. In contrast, private plans are mostly 401(k)s, less than half of the workforce is covered, and everyone participates in Social Security. Public defined benefit plans tend to provide larger benefits than their private sector counterparts, and most offer post-retirement cost-of-living adjustments, which are virtually unheard of in the private sector. Public plans tend to rely more heavily on employee contributions, invest slightly more aggressively, and be about as well funded as their private sector counterparts.

The perfect storm of low interest rates, which swelled liabilities, and the stock market slump, which reduced asset values, reduced funding levels in both the public and private sectors. Although funding has rebounded in the last five years, states have renewed their interest in moving from defined benefit to defined contribution plans. States and localities are also facing the challenge of how to respond to new rules from the Government Accounting Standards Board that require the disclosure of the costs of promised post-retirement health care benefits, which far exceed those associated with pension underfunding.

Future *briefs* will examine a host of issues in more detail. These will include possible reasons for the different mix of pension type in the public and private sectors, an analysis of the shift to defined contribution plans in some states, a closer look at the funding assumptions and status among state and local plans, and the move towards higher-risk, higher-return asset classes, such as real estate, private equity and hedge funds. The goal of these studies is to highlight — for policymakers, public employees, and taxpayers — this important component of the nation's retirement income system.

Endnotes

1 Investment Company Institute (2006).

2 Two states (Alaska and Michigan) and the District of Columbia offer a defined contribution plan as a primary plan and do not have a defined benefit component; two states (Indiana and Oregon) offer a combined plan — with defined benefit and defined contribution components — in their primary plan; eight other states (Colorado, Florida, Montana, North Dakota, Ohio, South Carolina, Vermont, and Washington) offer the option to choose a primary plan with a defined contribution component.

3 For more detail on defined contribution assets, see Investment Company Institute (2007).

4 The pension participation numbers come from the *Current Population Survey* (U.S. Census Bureau 2007a). Pension sponsorship numbers — measured as the percent of workers whose employer offered a pension plan — are much higher (83 percent for state and local employees and 53 percent for private). These participation and sponsorship numbers are similar to those reported in Rajnes (2001). Another measure of pension participation comes from the U.S. Department of Labor. In 1998, the most recent year of available data, the estimated pension participation rate of full-time state and local employees was about 98 percent (see U.S. Department of Labor (2000)).

5 The Social Security Act of 1935 excluded state and local workers from mandatory coverage because of constitutional concerns about whether the federal government could impose taxes on state governments and the belief that most state and local workers already participated in a pension program. Legislation in the 1950s allowed states to elect voluntary coverage for their employees. The same legislation also allowed states to withdraw after a period of time, but this option was eliminated in 1983.

6 In California, Illinois, and Texas, uncovered state and local workers constitute 49 percent, 62 percent, and 55 percent of the total, respectively. In Colorado, Louisiana, Massachusetts, and Ohio, virtually no government workers are covered by Social Security (Munnell, 2000).

7 Comparing pensions is only the first step in comparing total compensation. Wages could be higher or lower in the private sector. In addition, private sector compensation can include items such as bonuses, stock options and profit sharing (U.S. Department of Labor, 2007b). Research to date has reached no clear consensus on this question. It remains an important area for further study.

8 The percent per year of service for employees in establishments with 100 or more workers was 1.45 in 1995 (U.S. Department of Labor, 1998), 1.48 in 1997 (U.S. Department of Labor, 1999), 1.54 in 2002 (U.S. Department of Labor, 2005), and 1.58 in 2005 (U.S. Department of Labor, 2007a).

9 Determining the share of equities in total holdings is complicated by the fact that mutual funds also reflect equity holdings, and mutual funds are a very important component of the assets of defined contribution plans. In 2006, roughly 80 percent of the mutual fund assets in 401(k) plans were in equities (Investment Company Institute, 2006). Applying that percentage to both public and private sector mutual fund holdings yields total equity holdings of 68 percent for private sector plans and 71 percent for public sector plans.

10 Brainard (2007).

11 The Pension Protection Act of 2006 dramatically shortened the period over which private sector plan sponsors must eliminate funding shortfalls from 30 years to 7 years. The legislation also imposed more of a 'mark-to-market' framework than the previous set of rules, which allowed sponsors to smooth asset values. The 'mark-to-market' approach makes funding ratios more volatile, which generally makes the timing of contributions less predictable. The Pension Protection Act of 2006 also curtailed the use of credit balances — notional balances accumulated from previous years that could be used in lieu of cash contributions.

12 Some argue that a government fund does not need to be 100 percent funded because governments are infinite-lived entities and always have the taxing

power to cover future benefit payments. Another argument is that the optimal level of funding depends on the relationship between the rate of growth of pension costs and the rate of growth of the entity's tax base (D'Arcy, Dulebohn, and Oh, 1999). Given all the temptations to not make annual pension contributions, aiming for full funding is probably the most sensible standard to adopt for states and localities.

13 There is, however, a broader question of whether the expected rate of return on the asset mix held by the funds, without proper risk adjustments, is the appropriate rate to value future benefits. Gold (2003) shows that the use of the expected rate of return creates a bias that favors the current generation of taxpayers at the expense of future taxpayers. For a general discussion on how to deal with the risk associated with equity investments when evaluating the financial health of retirement systems, see Munnell, Sass, and Soto (2005).

14 For this calculation, the current state and local payroll — about $60 billion — is assumed to grow at 1.5 percent per year; the assumed real return on assets is 5 percent; and the real discount rate is 3 percent. This finding is consistent with the U.S. Government Accountability Office (GAO) (2007), which concludes that the contribution rate would need to rise by 0.3 percent. The GAO uses similar assumptions but a much longer horizon (50 years). These findings are also consistent with Giertz and Papke (2007), who conclude that solvency over the long term is achievable if states follow a disciplined approach to pension funding.

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About the Center

The Center for Retirement Research at Boston College was established in 1998 through a grant from the Social Security Administration. The Center's mission is to produce first-class research 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, the Center has established a reputation as an authoritative source of information on all major aspects of the retirement income debate.

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