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# Pension Legacy Costs and Local Government Finances

**Loss of jobs and a shrinking tax base in Detroit, Michigan, compound the city's pension liability problem.**

*Richard F. Dye and Tracy M. Gordon*

**H**ow will local government finances be affected by the large and increasing burden to pay for previously obligated pension costs? How, in particular, will these pension legacy costs change residents' perceptions of the local property tax and their willingness to pay? As a first step in a larger Lincoln Institute of Land Policy research agenda on these questions, we ask: What is known—and just as importantly, what is not known—about the magnitude of unfunded local government pension liabilities in the United States? (see Gordon, Rose, and Fischer 2012)

It is a first principle of public finance that current services should be paid with current revenues and that debt finance should be reserved for capital projects that provide services to future taxpayers. This principle is violated when pension liabilities associated with current labor services are not funded by current purchases of financial assets and instead have to be paid for by future taxpayers.

Alas, principles of prudence in public finance are not always observed, and local governments in the United States have accumulated substantial unfunded pension liabilities in recent years. This situation breaks an important link in the relationship between taxpayers and the services they receive—the rough correspondence between the overall value of public services and the resources taken from the private sector. There is considerable debate about the strength of this correspondence and how price-like the relationship is between value paid and value received for individual taxpayers, but there can be little question that using current revenues to pay for past services weakens the link.

## **Growing Public Awareness**

State and local government employee pensions are in the headlines almost daily (box 1). Only a few years ago, they were the nearly exclusive province of a few elected officials, appointed boards, investment advisors, actuaries, and credit rating agencies. What changed? The most immediate answer is the Great Recession, which sapped not only state tax

revenue but also the value of pension plan assets. In particular, state and local pension fund equity holdings lost nearly half of their value, dropping from a peak of \$2.3 trillion in September 2007 to a low of \$1.2 trillion in March 2009 (Board of Governors of the Federal Reserve System 2012).

Although stock markets have largely recovered and state and local plan equity holdings have climbed back over \$2 trillion, public pensions remain under scrutiny. Credit rating agencies increasingly are taking unfunded pension liabilities into account when developing their assessments of state and local government borrower risk. In addition, analysts are growing more vocal in their criticisms of methods commonly used to evaluate pension funding levels.

The federal government is also paying attention. Alarmed by the prospect of defaults, Congress held a series of hearings into state and local government finances in early 2011. More recently, the Republican staff of the Joint Economic Committee (JEC) has issued reports raising the specter of a Eurozone-like crisis due to unfunded state pension liabilities (JEC 2011; JEC 2012).

In light of these criticisms and concerns about growing pension costs, 43 states enacted significant reforms to their pension systems between 2009 and 2011 (Snell 2012). The most common changes were: increased employee contribution requirements (30 states); raised age and service for eligibility (32); adjusted formulas for calculating benefits (17); and reduced cost of living increases (21). In some states the changes applied to new employees only, but in others they affected active workers and current retirees. The latter actions have proven especially controversial, prompting lawsuits in Colorado, Minnesota, New Jersey, and South Dakota.

Most of the heightened attention to government employee pensions has concentrated on state government plans, while local public employee pensions remain relatively unexplored. Although local plans represent a modest share of total public pension membership (10 percent) and assets (18 percent), their failures could be devastating. Mobile residents and businesses could flee communities that levy higher taxes to rebuild pension assets rather than to provide basic services. A shrinking tax base would leave the fund even worse off and potentially less able to pay promised benefits. The result could be more cities like Prichard, Alabama.

#### BOX 1

#### Where Are Local Pensions in Trouble?

To understand where local pensions were experiencing particular difficulties, Gordon, Rose, and Fischer (2012) used media monitoring software to conduct a search of all U.S. domestic news outlets for the first three months of 2012. To satisfy the query, articles had to include the word “pension” in conjunction with terms that identify local governments (e.g., municipality, city, or county) and descriptions of funding problems (e.g., liability, deficit, underfunded, cut, default, reform, or problem). The search yielded over 2,000 separate articles from places all over the country.

Their analysis suggests several types of places are experiencing pension troubles. One group consists of jurisdictions that have been losing people and jobs over time. A prominent example is Detroit, Michigan, which has twice as many retirees as active workers. Also in this category is Prichard, Alabama, which has lost more than 45 percent of its population since 1970 and by 2010 had fewer than 23,000 residents. It simply stopped sending pension checks to its former employees in September 2009 and declared bankruptcy one month later. For such communities, pension problems may also be a symptom of larger fiscal distress or political dysfunction.

Another group of jurisdictions rode the housing boom and bust. Examples include fast-growing California cities like Stockton, which just entered bankruptcy proceedings this year, the largest city ever to do so. More puzzling are relatively affluent places, such as New York’s Suffolk or Nassau Counties, which appear unable to make tough spending cuts or raise taxes because of political gridlock. Instead, many of these jurisdictions have turned to borrowing to meet their pension obligations.

Only two recent municipal bankruptcies (Vallejo, California, and Central Falls, Rhode Island) stemmed from public pensions and employee compensation pressures together with falling revenues. Other places such as Harrisburg, Pennsylvania, and Jefferson County, Alabama, are struggling with poor investment decisions. Also, major cities such as Atlanta, San Francisco, and New York have taken steps to limit pension growth, often with cooperation from local public employee unions. Central Falls managed to extract concessions from active police officers and fire fighters as well as current retirees, but even this was insufficient to stop the slide toward bankruptcy.

**Looking at State and Local Pension Plans Together**

State and local pensions are an important part of the nation’s retirement system. Figure 1 shows the distribution of the total of \$15.3 trillion in retirement assets at the end of 2011 by type of plan. State and local public employee retirement funds held a combined \$2.8 trillion in assets, or almost one-fifth of the total.

Every state has at least one public employee pension plan and some have many. There are more than 220 state plans—some of which are state-administered plans that cover local government workers—and almost 3,200 local government

plans (table 1). Together these plans cover 14.7 million current workers, 8.2 million current beneficiaries, and 4.8 million people eligible for future benefits but not yet receiving them.

State and local pensions are all the more important because 27.5 percent of government employees do not participate in Social Security (Nuschler, Shelton, and Topoleski 2011). These uncovered public employees are highly concentrated in a handful of states. Figure 2 ranks the 16 states with the highest concentrations of government workers *not* covered by Social Security. Almost all state and local government employees in Ohio and Massachusetts and more than half in Nevada, Louisiana, Colorado, California, and Texas are not covered.

Another key feature of state and local pensions is that they are mostly defined benefit (DB) plans. Benefits are calculated by a formula, typically something like:

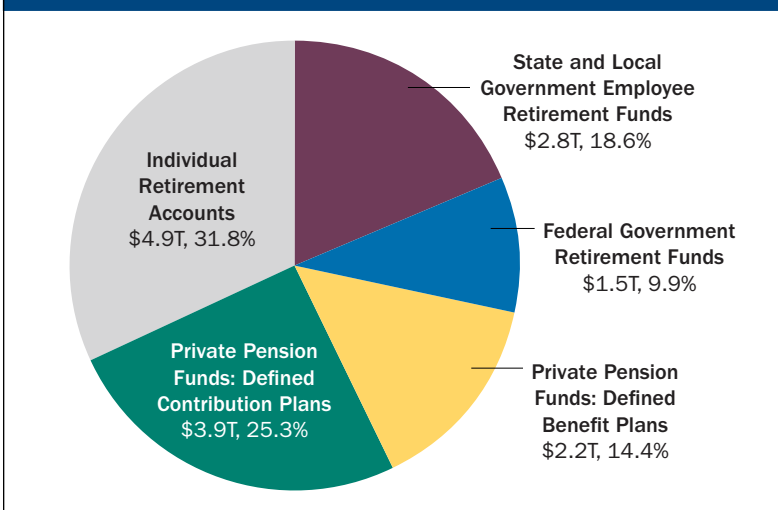
$$\begin{aligned} &(\text{Average salary in final 3 years}) \times \\ &(\text{Years of service}) \times \\ &(2\% \text{ for each year of service}) = \\ &\text{Benefits} \end{aligned}$$

Most state and local government pensions also include a cost of living adjustment. A minority of public sector workers are enrolled in defined contribution (DC) plans where a specified amount is put in a retirement fund for each year of work. Compared to DC plans, DB pensions protect employees from investment, inflation, and longevity risks. As of 2009, nearly 80 percent of state and local workers were enrolled in DB plans and just over 20 percent were in DC plans. Private sector workers had the opposite mix: 20 percent in DB plans and 80 percent in DC plans (U.S. Bureau of Labor Statistics 2011).

DB plans used to be more prevalent in the private sector but have been disappearing partly because the Employee Retirement Income Security Act of 1974 (ERISA) imposed minimum funding standards, required insurance contributions, and other administrative burdens on them.

The weaker funding and reporting requirements that apply to public pensions allow governments to shift labor costs into the future. This is an implicit form of borrowing that can evade balanced budget rules and avoid the voter approval usually required for issuing bonds.

**FIGURE 1**  
Shares of \$15.3 Trillion in U.S. Total Retirement Plan Assets by Type of Plan, 2011



Source: Board of Governors of the Federal Reserve System (2012).

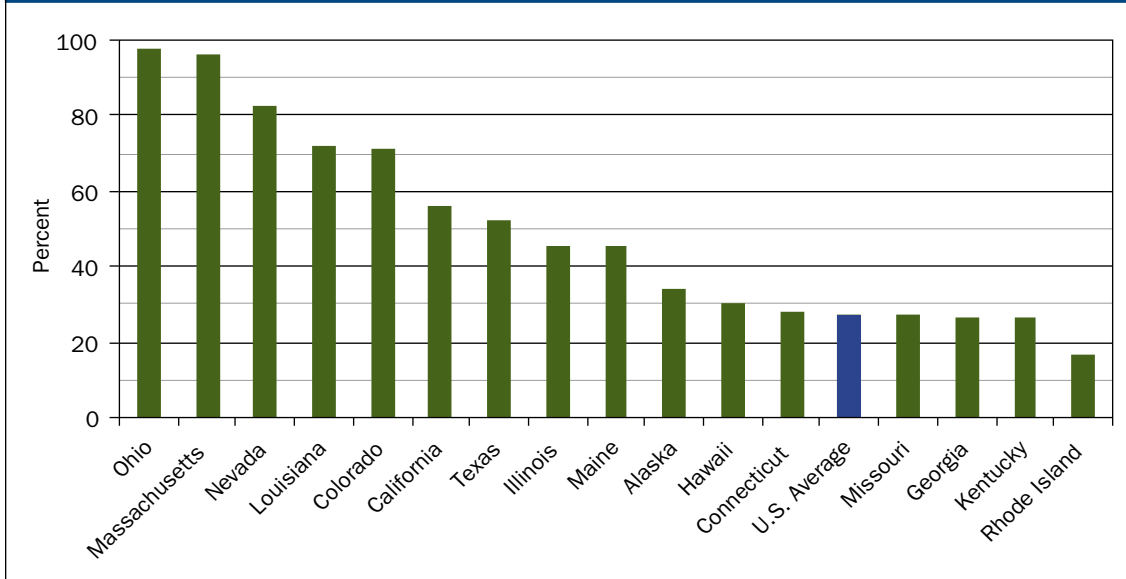
**TABLE 1**  
Number and Membership of State and Local Government Pension Plans: U.S. Totals, 2010

Item Name	State and Local	State	Local
Number of Plans	3,418	222	3,196
Total Membership	19,413,445	17,400,791	2,012,654
Active Members	14,657,193	12,933,268	1,723,925
Inactive Vested Members	4,756,252	4,467,523	288,729
Beneficiaries Receiving Payments	8,246,396	6,993,890	1,252,506
Active Members per Beneficiary	1.8	1.8	1.4

Source: U.S. Census Bureau (2012).



**FIGURE 2**  
**States with More than 15 Percent of All State and Local Government Workers NOT Covered by Social Security (and U.S. Average)**



Source: Nuschler, Shelton, and Topoleski (2011).

### Funding and Reporting Requirements for State and Local Pensions

For most of their history, state and local pensions were financed out of general revenues on a pay-as-you-go basis. The current practice of prefunding state and local pension plans began in the 1970s and 1980s. While public sector plans were not covered by ERISA, the act did mandate a report on their practices. The 1978 report found a “high degree of pension cost blindness . . . due to the lack of actuarial valuations, the use of unrealistic actuarial assumptions, and the general absence of actuarial standards” (Munnell et al. 2008, 2).

This wake-up call led to voluntary increases in funding levels by many plans and increased attention to actuarial and accounting standards. The Government Accounting Standards Board (GASB) was formed in 1984, issued its first rules for pension plans in 1986, and extensively revised its actuarial valuation standards in 1994. Compliance with these rules is voluntary, but is rewarded by credit rating agencies, auditors, and other data consumers. Unlike ERISA rules that require specific valuation methods for all private plans, GASB sets out criteria that allow some latitude as to which specific methods are used by public plans. As a consequence there are serious transparency and comparability concerns with the self-reported data on state and local pension plan liabilities.

### Employer Contribution

The calculation of a plan’s Actuarial Accrued Liability (AAL) requires the following information: ages and salary histories of members; assumptions for salary growth, retirement ages, asset earnings, and inflation; longevity probability tables; and a discount rate to translate estimated future values into present values. Unfunded Actuarial Accrued Liability (UAAL) equals AAL minus plan assets.

The “Normal Cost” of a pension plan is the increase in AAL due to the current year of service by existing employees. ERISA requires that normal cost be covered by employee and employer contributions. GASB specifies an “Annual Required Contribution” (ARC) of normal cost plus a 30-year amortization of UAAL. The problem is that, contrary to its name, payment of ARC is not strictly required in most jurisdictions.

### Choice of Discount Rate

The issue that has received the most recent attention is the choice of discount rate. Current GASB rules allow discounting future liabilities based on projected investment returns, which averaged 8 percent per year prior to the recession. But most economists and financial theorists would agree with Brown and Wilcox (2009, 538) that “the discount rate used to value future pension liabilities should reflect the riskiness of the liabilities,” not

**This abandoned Packard Plant in Detroit, Michigan, reflects the city's hard times.**



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the assets. Constitutional and other legal guarantees make government pensions of low risk, while historical investment returns include a risk premium.

State and local governments cannot avoid long-term risks such as a protracted productivity slump or a decade-long down market. Therefore, the historical long-term rate of return on an equity-heavy portfolio—before risk adjustment—is too high a discount rate. Higher discount rates can make pensions appear better funded than they truly are. This reduces contribution requirements and imposes unwarranted obligations on future taxpayers if the high rates of return are not achieved. Worse, there is an incentive for plan managers to seek high-risk portfolios in order to get a higher discount rate and lower ARC.

There are strong arguments that the 8 percent discount rate used by many public pension plans is too high, but there is less agreement on just how much lower the appropriate rate should be. Rather than review the arguments, we report one estimate of just how much of an impact a lower rate would have. Munnell et al. (2012) calculate the would-be change in reported liabilities if all plans used a 5 percent rather than an 8 percent discount rate. They estimate that state and local liabilities would increase from \$3.6 trillion to \$5.4 trillion and aggregate funding ratios (Assets/AAL) would fall

from 75 to only 50 percent. This is a huge change, and represents a doubling of unfunded liabilities (UAAL = AAL – Assets).

### **Recent Changes in GASB Standards**

GASB (2012) has released new accounting standards to take effect in 2013 and 2014. The key change requires state and local governments to apply different discount rates to the funded and unfunded portions of liabilities. An earnings-based rate will still be applied to the funded portion, but a lower, riskless rate will be applied to UAALs. The impact of this change on reported liabilities depends on how well funded a plan is: no change for fully funded plans; a small change for well funded plans; and large increases in reported liabilities and decreases in funding ratios for poorly funded plans. The new standards also require that the UAAL be shown on the government's balance sheet, which will increase the visibility of unfunded liabilities to voters.

### **What Do We Know About Local Pensions?**

Despite mounting concerns about the fiscal health of local pension plans, systematic knowledge about them is rare. The best available information comes from the U.S. Census Bureau's (2012) *Annual Survey of State and Local Public Employee Retirement Systems*.

**TABLE 2**  
**Income Sources, Payments, and Total Assets of State and Local Government Pension Plans:**  
**U.S. Totals in Millions of Dollars, 2010**

Item Name	State and Local	State	Local
<b>Total Contributions</b>	\$125,540	\$97,748	\$27,791
<b>Employee Contributions</b>	39,107	32,976	6,131
<b>State Government Contributions</b>	36,099	35,575	524
<b>Local Government Contributions</b>	50,334	29,197	21,137
<b>Earnings on Investment</b>	346,108	289,471	56,637
<b>Total Payments</b>	213,787	173,466	40,321
<b>Benefits</b>	200,986	163,508	37,478
<b>Withdrawals</b>	4,152	3,499	653
<b>Other Payments</b>	8,648	6,459	2,189
<b>Total Cash and Investment Holdings</b>	\$2,674,753	\$2,221,293	\$453,460

Source: U.S. Census Bureau (2012).

Detailed data for each government entity is reported every five years. Plan-level data for a sample that includes roughly half of the 3,200 local plans is reported each year and is used to create estimates of totals for each state by type of government.

Tables 1 and 2 exemplify the types of information in the survey.

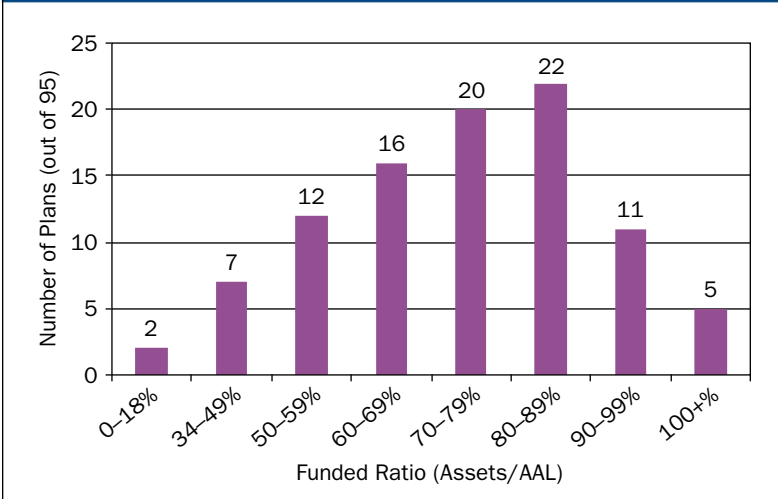
The main virtues of the Census Bureau's employee retirement survey are its quality and comprehensiveness. A key disadvantage is lack



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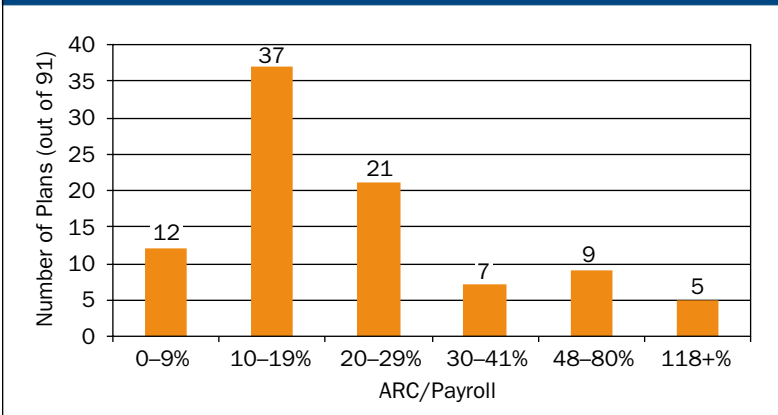
Stockton, California's economic decline has led to bankruptcy proceedings.

**FIGURE 3**  
**Frequency of Local Pension Plans Ranked by Funded Ratio, 2010**



Source: Munnell et al. (2011).

**FIGURE 4**  
**Frequency of Local Pension Plans Ranked by Annual “Required” Pension Contribution (ARC) as a Share of Current Payroll, 2010**



Note: ARC/payroll can be abnormally high for some “closed plans” with few remaining active employees and very small payrolls.

Source: Munnell et al. (2011).

of timeliness, since the most recent local data available is for fiscal year 2010. Another problem is that the Bureau only recently began reporting plan liabilities, and it does so only for state plans. Like other pension data sources, the Census Bureau does not collect information on DC plans or other post-employment benefits (OPEBs).

Nevertheless, the employee retirement survey provides some insights into local pensions. For example, the number of local plans per state varies greatly: 7 states have no local plans; 20 states have

fewer than 10; Florida and Illinois have over 300 each; and Pennsylvania has over 1,400. The number of active members per beneficiary is a crude measure of how well employee contributions can fund the plan. Table 1 indicates the national average for local plans is 1.4 workers per retiree, but there is considerable variation across states. This support ratio is less than 1 in 12 states; between 1 and 2 in 31 states; and over 2 in 7 states, with Utah having the highest ratio at 6.8.

Neither of these pieces of information tell us how well funded local pensions are. For this information, we must turn to independent surveys. Most have good coverage of state plans, but they generally survey only a few of the larger local plans: e.g., the National Association of State Retirement Administrators’ (NASRA) annual survey of member plans. A small number of national studies have focused on local, as opposed to state, pension liabilities. For example, Novy-Marx and Rauh (2011) analyze local pension finances using data from Consolidated Annual Financial Reports (CAFRs) for city and county plans holding more than \$1 billion in assets as of 2006.

The Boston College Center for Retirement Research (CRR) maintains a Public Plans Database (PPD) for the largest state and local plans with data from individual plan actuarial reports and local government CAFRs. Using the PPD plus information on some additional local plans, CRR recently issued a report with data for 2010 from a sample of 97 plans in 40 states (Munnell et al. 2011). This is a modest sample relative to the total of 3,200 local plans, but by concentrating on large plans it covers 59 percent of local pension assets and 55 percent of participants.

An important finding is the wide dispersion around the average funding ratio of 77 percent in 2010 (figure 3). Of 95 large plans in the CRR sample with usable information, only 16 had assets covering more than 90 percent of liabilities. At the other tail are 9 plans with below 50 percent funding (Munnell et al. 2011). This study also shows the ARC as a percent of local government payroll. The overall average for 2010 is 22 percent, and again there is wide dispersion (figure 4). Of 91 large plans in the CRR sample with usable information, more than half (49) have ARC below 20 percent of payroll, but 16 have shares in the less manageable 30 to 80 percent range. Five plans have such large pension obligations that if paid



in full they would cost more than 100 percent of payroll.

Keep in mind that local governments in most states are not required to pay the full amount of the ARC. We do not have data at the local level, but a state-level study reported wide variation in the percent of ARC actually paid across plans, across years, and across states (State Budget Crisis Task Force 2012). Munnell et al. (2011) calculate pension payments actually made as a share of local budgets and again find considerable variation, with 14 percent of the sample governments devoting more than 12 percent of their budgets to pay for pensions.

### Conclusions

Local government pensions are on average significantly underfunded. The key reason is that, absent a legal compulsion to do so, many governments have not set aside enough funds each year to cover the extra pension liabilities incurred in that year, much less to amortize unfunded liabilities from earlier years. In effect, they are borrowing to pay for current labor services and shifting the burden to future taxpayers.

We know much less about the 3,200 locally administered plans that we do about the 220 state plans. The best information on local plans comes from researchers who review the detailed financial reports of the plans and local governments. Of necessity, these studies concentrate on the larger plans. We do know that there is wide variation across plans on key measures: the share of liabilities that are covered by assets; the would-be full contribution to cover both current year pension costs and amortization of unfunded liabilities (ARC) relative to payroll or annual revenues; the share of ARC that is actually paid; and the share of the current budget that goes to pension costs. A significant fraction of local governments are in trouble by one or more of these measures.

Worse, what we know about liabilities comes from municipalities' self-reported data and their own choice of discount rate. In almost all cases this discount rate is inappropriately high, and the use of a lower discount could more than double unfunded liabilities. The result is a big problem with local pension liabilities that threatens local government finances, but we do not know how big, and we do not know how unequally it is distributed. **I**

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### REFERENCES

- Board of Governors of the Federal Reserve System. 2012. *Flow of funds accounts of the United States*, June 7. <http://www.federalreserve.gov/releases/z1/current/data.htm>
- Brown, Jeffrey R., and David W. Wilcox. 2009. Discounting state and local pension liabilities. *American Economic Review* 99(2): 538–542.
- Gordon, Tracy M., Heather M. Rose, and Ilana Fischer. 2012. The state of local government pensions: A preliminary inquiry. Working Paper. Cambridge MA: Lincoln Institute of Land Policy.
- Governmental Accounting Standards Board (GASB). 2012. GASB Improves Pension Accounting and Reporting Standards. Press Release. June 25. [http://www.gasb.org/cs/ContentServer?c=GASBContent\\_C&pagename=GASB/GASBContent\\_C/GASBNewsPage&cid=1176160126951](http://www.gasb.org/cs/ContentServer?c=GASBContent_C&pagename=GASB/GASBContent_C/GASBNewsPage&cid=1176160126951)
- Joint Economic Committee (JEC). 2011. *States of bankruptcy, part I: The coming state pensions crisis*. Republican Staff Commentary, Washington, DC, December 8.
- Joint Economic Committee (JEC). 2012. *States of bankruptcy, part II: Eurozone, USA?* Republican Staff Commentary, Washington, DC, May 15.
- Munnell, Alicia H., Jean-Pierre Aubry, Josh Hurwitz, and Laura Quimby. 2011. An update on locally administered pension plans. *Center for Retirement Research at Boston College Policy Brief*, July.
- Munnell, Alicia H., Jean-Pierre Aubry, Josh Hurwitz, and Laura Quimby. 2012. The funding of state and local pensions: 2011–2015. *Center for Retirement Research at Boston College Policy Brief*, May.
- Munnell, Alicia H., Kelly Haverstick, Steven A. Sass, and Jean-Pierre Aubry. 2008. The miracle of funding by state and local pension plans. *Center for Retirement Research at Boston College Policy Brief*, April.
- Novy-Marx, Robert, and Joshua Rauh. 2011. The crisis in local government pensions in the United States. In *Growing old: Paying for retirement and institutional money management after the financial crisis*, Robert Litan and Richard Herring, eds., 47–74. Washington, DC: Brookings Institution.
- Nuschler, Dawn, Alison M. Shelton, and John J. Topoleski. 2011. *Social Security: Mandatory coverage of new state and local government employees*. Congressional Research Service, July. <http://www.nasra.org/resources/CRS%202011%20Report.pdf>
- Snell, Ronald K. 2012. *State pension reform, 2009–2011*. Washington, DC: National Council of State Legislatures, March.
- State Budget Crisis Task Force. 2012. *Report of the State Budget Crisis Task Force*. <http://www.statebudgetcrisis.org/wpcms/wp-content/images/Report-of-the-State-Budget-Crisis-Task-Force-Full.pdf>.
- U.S. Bureau of Labor Statistics. 2011. *Employee benefits survey, retirement benefits: access, participation, and take-up rates*. March.
- U.S. Census Bureau. 2012. *2010 annual survey of state and local public employee retirement systems*. <http://www.census.gov/govs/retire>.