MINUTES

JOINT COMMITTEE ON PENSIONS, INVESTMENTS, AND BENEFITS

November 17, 2009
Room 545-N—Statehouse

Members Present

Representative Rob Olson, Chairperson
Senator Steve Morris, Vice-chairperson
Representative Geraldine Flaharty, Ranking Minority Member
Senator Jay Emler
Senator Anthony Hensley
Senator Laura Kelly
Senator Ruth Teichman
Representative Richard Carlson
Representative Terrie Huntington
Representative Margaret Long
Representative Sharon Schwartz
Representative Dale Swenson
Representative Jeff Whitham

Staff

Alan Conroy, Kansas Legislative Research Department
Julian Efird, Kansas Legislative Research Department
Michael Steiner, Kansas Legislative Research Department
J.G. Scott, Kansas Legislative Research Department
Gordon Self, Office of the Revisor of Statutes
Kristen Kellems, Office of the Revisor of Statutes
Gary Deeter, Committee Secretary

Conferees

Glenn Deck, Executive Director, Kansas Public Employees Retirement System
Robert Smith, Investment Officer, Kansas Public Employees Retirement System
Patrice Beckham, Kansas Public Employees Retirement System Consulting Actuary, Milliman, Inc.

Morning Session

Kansas Legislative Research Department staff provided background information in eleven reports on retirement matters from various sources for the Committee (Attachment 1).

Robert Smith, Investment Officer, Kansas Public Employees Retirement System (KPERS), presented an update on investment experience (Attachment 2). Stating that KPERS investments have gained 30 percent since March 2009, he provided comments regarding the current market environment, the economy, and investment returns. Noting that the Standard & Poor's 500 Index has regained 50 percent of its losses, he commented that borrowing is still constrained and consumer spending remains low. He said that even though interest rates remain low, consumer debt is holding down spending. Globally, the Gross Domestic Product (GDP) is "growing below trend," although Asia seems to have recovered from the recession. Mr. Smith noted investment opportunities and highlighted changes in investment allocations. Finally, he explained the investment process in relation to selecting investment managers and the costs of using outside managers to handle the portfolio's investments. Last year for FY 2009 ending June 30, for instance, KPERS paid over $24 million for investment-related services.

Answering questions, Mr. Smith said that real estate is currently one of the least desirable investments and that the real estate market will not recover quickly. He replied, however, that KPERS will not shift its six percent allocation from real estate to another sector. He explained that management fees are always negotiated and that managers' fees for global investments are higher because of higher costs for research and because international managers maintain offices in other parts of the world. Commenting on a previous decision to divest from all holdings related to Sudan, a member asked if a similar divestment might be considered for holdings with a presence in Iran. Mr. Smith said such a divestiture would be much more difficult to accomplish. Mr. Smith concluded by saying that future promising investment areas included infrastructure, timber, and energy, and that KPERS will review real estate strategy and structure.

Glenn Deck, Executive Director, KPERS, reviewed long-term funding options designed to reduce the KPERS unfunded actuarial liability (UAL) while maintaining a defined contribution plan (Attachment 3). Noting preliminary options considered at the previous meeting (September 2, 2009), he stated that the KPERS School Group is out of actuarial balance and, under the present statutory arrangement, will never reach the Actuarial Required Contribution (ARC) by 2034, the end of the 40-year amortization period.

Mr. Deck offered nine options (A to G) to address the KPERS long-term funding issue (Attachment 4). The different defined benefit options dealt with three components: adjusting the employer rate increase cap, adjusting the employee contribution rate, and creating a third tier of employees. Mr. Deck outlined the effects of each option on employers, employees, and the State General Fund. He stated that increases in employer contributions will take a number of years to have a positive effect, that changes in employee contributions are fraught with legal issues, and that a quick injection of money would require a large investment from pension obligation bonds.

Responding to questions, Mr. Deck replied: (1) That recent court decisions require any increase in an employee's contribution rate to include some offsetting increase in benefits; (2) That previous pension obligation bonds were helpful in bringing KPERS an infusion of cash that could be invested much sooner than increased employer contributions; and (3) That, on the contribution side, it would be difficult to separate the state pension system from the school pension system.

Afternoon Session

Mr. Deck outlined alternative defined contribution options for the Committee (Attachment 4). Explaining the difference between a defined benefit plan and a defined contribution plan, he said that the defined benefit plan specifies the benefits an employee will receive after retirement based on a formula. A defined contribution plan specifies the contribution rate that the employer and employee pay into the plan; most defined contribution plans are employee-directed and the retirement amount depends on the value of the account at retirement. He said the private sector trend for retirement plans tends toward defined contribution plans. In the public sector, Michigan and Alaska have mandatory defined contribution plans, six other states have optional defined-contribution plans, and seven states have hybrid plans. He stated that the Kansas Board of Regents has a mandatory defined contribution plan, that some local governmental entities and school districts have voluntary defined contribution plans, and that some state employees participate in a state-level deferred compensation plan with no employer matching contribution. A limited group of state officials may participate in a statutory defined contribution plan where the state pays 8.0 percent and nothing is required by the employee.

Mr. Deck compared the defined benefit and defined contribution plans as to various risks: investment, liability, longevity, inflation, asset allocation, and investment management. He noted that if KPERS were to move to a defined contribution plan, the new plan would not eliminate the KPERS current UAL, and the promised retirement benefits would have to be paid. He reviewed three options for a defined contribution plan and listed the consequences on the current UAL, the percentage of funding under each option, and the costs to the state (Attachment 4). He offered three scenarios to illustrate retirement adequacy under different options.

Members commented on variations of the different options and acknowledged the need to address the KPERS current UAL. Responding to a question, Patrice Beckham, KPERS Actuary, Milliman, Inc., replied that a hybrid plan will require increased funding unless the UAL is ignored. A member observed that a defined contribution plan would compound problems with the UAL. Several members requested more information on pension obligation bonds. Another member requested information from the Kansas Development Finance Authority. One member requested three variations on Option C (in Attachment 3).

Prepared by Gary Deeter
Edited by Michael Steiner and Julian Efird

Approved by Committee on:

December 14, 2009
(Date)

BACKGROUND MATERIAL

Joint Committee on Pensions, Investments and Benefits

November 17, 2009

Prepared and Distributed by

Kansas Legislative Research Department

Attachment 1
JCPIB 11-17-09

LIST OF MATERIALS

"Budget Conditions Take a Toll on State Pension Plans," National Conference of State Legislatures (NCSL), August 5, 2009.

"Preserving Financially Sound Defined Benefit Pensions in Challenging Market Environments," Gabriel Roeder Smith & Company, October 2009.

"The Financial Crisis and State/Local Defined Benefit Plans," Center for Retirement Research at Boston College, November 2008.

"No Immediate Pension Hardship for State and Local Governments, But Plenty of Long-Term Worries," Standard & Poor's, June 8, 2009.

"State Retirement System Defined Contribution Plans," NCSL, September 2009.

"Statement of Principles on State and Local Government Pension Plans," American Legislative Exchange Council, August 27, 2009.

"The Funding Crisis in the Kansas Public Employees Retirement System," Center for Applied Economics, University of Kansas School of Business, September 2009.

"State Pension Funds Fall Off a Cliff," Center for Applied Economics, University of Kansas School of Business, Preliminary Draft, September 24, 2009.

"Why Have Some States Introduced Defined Contribution Plans?" Center for Retirement Research at Boston University, January 2008.

"Why Have Defined Benefit Plans Survived in the Public Sector?" Center for Retirement Research at Boston University, December 2007.

"New Study Finds 9,020 Jobs, $1.3 Billion Economic Impact from Kansas' Public Pension Systems," National Institute on Retirement Security, February 26, 2009.

NCSL
NATIONAL CONFERENCE of STATE LEGISLATURES

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Press Room » Press Release: State Pension Plans

Go 18141

NCSL NEWS

Budget Conditions Take a Toll on State Pension Plans

August 5, 2009

A new study describes what states have done to change or save pensions and retirement plans in 2009 state legislative sessions.

DENVER - 2009 has been one of the most difficult years in history for state budgets. The fiscal challenges affected almost every area of state budgets. Legislators in almost every state scrambled to keep their fiscal year (FY) 2009 budgets balanced while at the same time struggling to enact new ones for FY 2010.

Lawmakers had to reduce state pension and retirement funds in a number of states, while rarely increasing benefits. State legislatures tried to make future pension costs manageable in light of states' strained fiscal situations and the enormous loss that many retirement funds have experienced.

The National Conference of State Legislatures has released a new report, *Pensions and Retirement Plan Enactments in 2009 State Legislatures*. This report highlights what action state legislators took to protect pension and retirement plans, and manage costs in the long run.

"This report will help policymakers know how their colleagues have addressed issues that could arise in any state," said Ron Snell, director of state services at the National Conference of State Legislatures. "Almost every state will have to address pension funding and security in the near future."

More Resources

- Pensions and Retirement Plan Enactments in 2009 State Legislatures
- NCSL Website
- Press Room
- Press Release Archives

Contacts

- Michelle Blackston
  Director of Media and Public Affairs
  Washington, D.C.
  202-624-8667
- Meagan Dorsch
  Media Manager
  Denver
  303-856-1412

Lawmakers in Georgia, Louisiana, Nevada, New Mexico, Rhode Island and Texas made various reductions to the benefit packages offered to new employees. In retirement packages, however, state law generally prohibits reductions in the benefits package promised to existing employees. Although variations exist between states, as a rule, significant benefit reductions can affect only those hired after the reductions are legislated.

A few states, Nebraska, New Mexico, New Hampshire and Texas, increased the contributions required from employees. Some acted to protect local governments from drastic increases in their required contributions to statewide plans.

Legislatures in Connecticut, Louisiana, Maine and Vermont enacted early retirement incentive plans to reduce the size of the state workforce. The incentives were directed to employees relatively close to retirement age and provided incentives either in the form of reduced retirement requirements or increased retirement benefits.

An issue few states have ever had to address was the potential loss of retirement credit due to mandatory furloughs without pay. During the 2009 legislative session, at least 19 states enacted furloughs to reduce costs. At least seven states - Iowa, Louisiana, North Carolina, Tennessee, Vermont, Washington and Wisconsin - protected the

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retirement benefits of employees in these circumstances.

NCSL's *Pensions and Retirement Plan Enactments* is the 10th annual NCSL report on pensions. A free copy of the report is available online at NCSL's website.

NCSL is a bipartisan organization that serves the legislators and staffs of the states, commonwealths and territories. It provides research, technical assistance and opportunities for policymakers to exchange ideas on the most pressing state issues and is an effective and respected advocate for the interests of the states in the American federal system.

Denver Office
Tel: 303-364-7700 | Fax: 303-364-7800 | 7700 East First Place | Denver, CO 80230

Washington Office
Tel: 202-624-5400 | Fax: 202-737-1069 | 444 North Capitol Street, N.W., Suite 515 | Washington, D.C. 20001

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State Pensions and Retirement Legislation 2009

August 17, 2009

Ronald Snell

Major issues in 2009

The principal theme in pensions legislation in 2009 was the need to make future pension costs manageable in the light of states' straitened fiscal circumstances and the enormous losses most retirement trust funds have experienced. Few benefit increases were enacted, and reductions in various forms appeared in a number of states. Some states enacted early retirement incentives with the goals of reducing the size of the state workforce. Some states protected employees who will be subject to mandatory furlough days (required days off without pay) from loss of retirement benefits for those days.

A number of states revised benefit packages for future employees to require longer service or higher ages for retirement, discourage early retirement even with reduced benefits, limit future cost-of-living adjustments, and tighten standards for disability retirement. Some states increased employer and employee contribution rates.

Such actions were taken within the framework of existing defined-benefit (traditional) pension plans; no state created a new defined contribution plan as its primary retirement package for public employees, or as an option for existing or new employees. Several states created commissions or called for legislative interim committees to study the future of their retirement systems.

All the legislation mentioned below is reported in greater detail in this report. A list of the topics the report covers is at the end of this introduction.

Reductions in New Employees' Benefit Packages

State law generally prohibits reductions in the benefits package promised existing employees. Although variations exist between states, as a rule significant benefit reductions can affect only those hired after the reductions are legislated. Examples from 2009 are:

- **Georgia**—prohibition of post-retirement benefit increases for newly-hired public employees.
- **Louisiana**—reduced its commitment for post-retirement benefit increases for state employees, and provided a new arrangement by which employees may at their discretion provide for future annual cost-of-living increases.
- **Nevada**—increased age and service requirements for retirement for new employees, provided a somewhat smaller benefit as a percent of final salary, further reduced benefits for those taking early retirement and reduced its commitment to post-retirement benefit increases.
- **New Mexico**—created new retirement plans for state and municipal employees with higher age and service requirements for benefits, and disincentives to retire before the age of 60.

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- **Rhode Island**—raised the age of retirement from 60 to 62, provided a somewhat smaller benefit as a percent of final salary, reduced future annual benefit increases, and tightened eligibility for disability benefits.
- **Texas**—Increased the age and service requirements for retirement in the state Employee Retirement System, provided a smaller benefit as a percent of final salary, and reduced the benefit available to those who take early retirement.

Contributions and Funding Issues

In this constellation of issues, states variously took actions to increases employee contributions (employer contributions in most states float up and down automatically as the funding status of retirement plans requires or allows); protect local governments from drastic increases in their required contributions to state-wide plans, or protect state budgets from such increases.

- **Nebraska** and **New Mexico** increased contribution rates for a number of state-sponsored retirement plans for both employers and existing employees.
- **New Hampshire** and **Texas** increased the contribution rates that new employees will pay and Texas initiated an employee contribution in the previously non-contributory plan for law enforcement personnel.
- **Illinois** provided for the issue of almost $3.5 billion in bonds to cover state contributions to retirement plans in fiscal year 2010; **Colorado** suspended some state contributions for fiscal years 2009 through fiscal year 2011.
- **New Jersey** enabled local governments to reduce employer contributions to state retirement plans in the short run.

Early Retirement Incentives

Connecticut, Maine and **Vermont** enacted early retirement incentive plans intended to reduce the size of the state workforce. The incentives were directed to employees relatively close to retirement (for example, aged 50 or 55 or already eligible for retirement) and provided incentives either in the form of reduced retirement requirements, increased retirement benefits; increased health insurance benefits before reaching the age for Medicare (Vermont); or in Maine, and unusually for state early retirement incentives, cash. The **Louisiana** legislature enacted an early retirement incentive that Governor Jindal vetoed, citing concerns that positions affecting public health and safety were not exempted from its provisions.

Protections for Furloughed Employees

An issue few states have ever had to address was the potential loss of retirement credit because of mandatory furloughs without pay, which in 2009 became a widely-employed technique to reduce state personnel costs. At least seven states—**Iowa, Louisiana, North Carolina, Tennessee, Vermont, Washington** and **Wisconsin** acted to protect the retirement benefits of employees in these circumstances (this report may have overlooked other states that did so). The Iowa legislation requires employees to make the employee and employer contributions that would otherwise have made. The North Carolina legislation requires employers to make the employee and employer contributions during a furlough. Some of the other states require employer contributions, and others are silent on the issue.

About This Report

This report summarizes selected state pensions and retirement legislation enacted from January through the end of July, 2009. Its goal is to help researchers and policy makers know how other states have addressed issues that could arise in any state. In keeping with that goal, the report excludes most clean-up legislation, cost-of-living adjustments,

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administrative procedures and technical amendments. This report is organized according to the topics that legislatures addressed in 2009, listed at the end of this introduction.

Bills summarized below have been enacted into law unless there is a specific indication to the contrary. Not all legislation had been chaptered at the time this report was compiled. Some legislatures remain in session at the time of publication. The report also includes a few items of 2008 legislation that were not included in the 2008 version of this report.

The sources of this report are StateNet searches of current and enacted legislation, retirement systems' websites, state legislatures' reports of enacted legislation, and information provided by legislative and retirement system staff. I am indebted to the many legislative staff who write and share summaries of their legislatures' acts, the many retirement system staff throughout the United States who have posted legislative summaries on their web sites, and the staff of legislatures and retirement systems who have taken time to identify and explain legislation and its context to me.

List of Topics

Benefit Calculation and Eligibility

Arkansas. Act 1200 of 2009 (SB 164) amends the calculations for benefits and for straight life annuity under the Public Employees' Retirement System -- provides for additional multiplier of 0.5% for each year of service in excess of 28, effective July 1, 2009.

Act 1325 of 2009 (SB 231) provides that the calculations in the final average salary for members of the Teachers Retirement System are to be limited to 120% of the next highest salary used in the calculation of final average salary or an additional $5,000, whichever is greater. [Arkansas TRS notes that this is the replacement provision to correct recurring problems with 110% rule on limiting the amount that a member's salary can increase from year to year for the purposes of calculating final average.]

Act 1326 of 2009 (SB 240) provides that all National Board Certification bonuses will now be included in the salary of all recipients for earnings and final average salary purposes. The bonus will be treated like all other salary earned by the member.

Georgia. Act 82 of 2009 (HB 452) prohibits post-retirement benefit increases to anyone who becomes a member of the Employees' Retirement System, Public School Employees Retirement System, the Legislative Retirement System and the Judicial Retirement System after July 1, 2009.

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The legislature provided this explanatory preface to the Act: "The General Assembly is desirous of providing an established annual cost-of-living adjustment to all current active and retired members of the Employees' Retirement System of Georgia, the Georgia Legislative Retirement System, and the Georgia Judicial Retirement System. In order to do so, limiting future liability of the systems by adjusting the retirement expectations of persons who are newly employed is a regrettable but necessary step toward fiscal soundness."

Act 83 of 2009 (HB 476) addresses spiking. It provides that an employing unit shall pay the retirement system the actuarial cost of granting an employee a salary increase in excess of 5 percent during the 12 months before an employee's retirement and that the computation of a retirement benefit for persons who become members on or after July 1, 2009, shall not include a compensation increase in the last 12 months of employment which exceeds 5 percent.

Illinois. Act 95-1043 of 2009 (SB 1985) removes a Social Security offset to benefits provided to a widow or survivor of a State Employee Retirement System benefit when the survivor becomes eligible for Social Security benefits. All SERS retirees who began receiving benefits before January 1, 1998 will have the offset removed from future benefits for their survivor at no cost to the retiree. SERS retirees who began receiving benefits after January 1, 1998 but before July 1, 2009 will have a one-time election period (April 16–May 31) to reduce their retirement benefit by 3.825% monthly, in exchange for removing the offset from future benefits for their survivor. Any member who retires after July 1, 2009 will have the option at the time of retirement to remove the offset provision. In exchange for the removal, SERS will reduce the member's retirement annuity by 3.825% monthly.

Maine. Chapter 433, Laws of 2009 (LD 1496) amends existing law, which allows a reduction in the consumer price index to be reflected in a reduction in the benefit to state employees, to provide that any reduction in the CPI be reset to 0% so far as it affects benefits.

Massachusetts. Chapter 21, Laws of 2009 (SB 2079) provides numerous reforms in eligibility requirements for public retirement benefits, addressing widely-publicized issues. The following summary of principal provisions is based upon a report from the Worcester (Mass.) Regional Research Bureau: Pension Update 09-03.

The act:

- Eliminates the ability of elected officials to get a full year's credit for as little as one day of service. The Boston Globe has reported that since 1991, 52 retired legislators have gained a full year for only one day of service, an average annual increase of $16,350 each. Since departing legislators' terms do not officially end until their successor is sworn in at the beginning of the new legislative session in January, this loophole essentially provided an automatic pension boost for most legislators when leaving office.
- Eliminates the ability of elected officials with 20 years of public service to collect early, enhanced pensions if they lose an election or leave office voluntarily. This so-called "termination allowance" was intended when it was enacted in 1945 to protect civil servants against politically motivated firings. It was later expanded to apply to elected officials who had been voted out of office. Since 1991, the state Retirement Board has also allowed elected officials who step down voluntarily to increase their pension and collect it early. According to the Globe, 14 legislators have taken advantage of this loophole, 10 of whom departed office voluntarily.
- It eliminates "out-of-grade" accidental disability pensions. Normal, superannuation pensions are based on an employee's highest three years' average salary. Accidental disability pensions are based on the most recent salary which the employee was receiving at the time of a permanently disabling job-related injury. In January 2008, the Globe reported that 102 Boston firefighters had claimed such injuries while temporarily filling in for a superior at a higher pay grade, thereby managing to increase their pensions by an average of $10,300 a year. This legislation ensures that in cases in which an employee suffers a job-related injury while elevated to a higher pay grade, most recent compensation will be calculated based on the prior 12 months' salary the employee received, not the salary on the day of the injury.

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- Revised the definition of regular compensation upon which a benefit is calculated.
- Service in unpaid positions such as a local library board or moderator of a town meeting can no longer be claimed as creditable service for benefit calculation. An employee must be paid at least $5,000 a year in order for the position to count as creditable service.
- Post retirement earnings limits are applied to retirees rehired by the government as independent contractors.

Nebraska. LB 403 of the 2009 session provides that members of any Nebraska retirement system who are not in the United States lawfully would not be eligible to receive a retirement benefit. (Currently, the School Employees plan requires lawful presence before an employee can join the plan.) The bill does not address what would be done with the benefits owed a current member who was in the United States illegally.

Nevada. Chapter 426, Laws of 2009 (SB 427) changes eligibility for retiring with unreduced benefits for employee who join the Public Employees Retirement System (PERS) after 1/1/2010. For those who are not public safety members, eligibility for current members is 65/5, 60/10 or 30 years of service. This bill changes 60/10 to 62/10. For police and firefighters, eligibility of current members is 65/5, 55/10, 50/20 or 25 years of service. This bill removes the 25-and-out option.

For current members the actuarial reduction for early retirement is 4% per year, prorated for months short of a year; for those joining systems on or after 1/1/2010 it will be 6% per year likewise prorated.

For current members the benefits formula is 2.5% of average final compensation (36 highest consecutive months) times years of service before July 1, 2001, plus 2.67% for years of service earned thereafter. This bill removes the higher benefit factor for years of service after 7/1/2001 for those who join PERS after 1/1/2010.

For those who join PERS after 1/1/2010, the calculation of average final compensation will exclude increases in compensation to 10% per year for the 60-month period that begins 24 months before the 36 months used in the calculation of final average compensation. Employees so limited are entitled to a prorated refund of their contributions to PERS for the appropriate period.

Oregon. Chapter 691, Laws of 2009 (SB 767) provides that a public charter school shall be considered a public employer and as such shall participate in the Public Employees Retirement System.

Rhode Island. Article 7, Chapter 68, Laws of 2009 (HB 5983 substitute as amended) made substantial changes in provisions for eligibility for retirement and benefits for many categories of public employees. The revisions are estimated to save in the neighborhood of $50 million in general fund expenditures in FY 2010 (House and Senate estimates differ).

For State employees and teachers who are NOT eligible to retire as of September 30, 2009:

- Establishes a retirement age of 62 for all employees regardless of plan, with a methodology that proportionally changes age requirement based on years of service so the closer one is to retirement, the less the impact:
  - Plan A members – proportional to 28 years or age 60 with 10 years (retain 80% cap);
  - Plan B members – proportional to 59 and 29 years (retain 75% cap)
  - NOTE: Plan B is the tier of pension provisions Rhode Island created in 2005 that provided a reduced package of benefits for members who had not at that time vested in the system and for all new members of the system. Plan A includes members who were vested (with 10 years of service credit) at that time.
  - Corrections and Nurses proportional to age 55 and 25 years.
- Bases average final compensation for pension calculation on 5 years rather than 3 years (as under previous law) for

members who become eligible to retire on or after October 1, 2009.

- Freezes service credits earned as of September 30, 2009 - but requires that all future accruals are earned at the Plan B schedule.
- Allows purchased credit to count toward total service time but not towards vesting (as in current law), and provides that credit must be purchased at full actuarial cost after June 16, 2009.
- Limits cost-of-living adjustments to the provisions in Plan B--3.0% or the change in CPI, whichever is lower.
- Must annually document disability status to Retirement Board;
  - Permanently disabled - continue current benefit of 66 2/3 of salary;
  - Disabled from service - benefit reduced from 66 2/3 to 50% of salary.
- Judges – Salary basis is 5 consecutive highest years and the maximum benefit would be 80% for judges retiring under full pay and 65% under reduced pay – Applies only to judges engaged after July 1, 2009.

Texas. Chapter 1308, Laws of 2009 (HB 2559), changes eligibility for retirement for members of the employee class of the Employee Retirement System hired after September 1, 2009. Under the new requirement, regular eligibility will be at 65/10 or the Rule of 80 with five years of service credit rather than 60/5 or the Rule of 80 with five years of service credit. For those employees, the act ends the ability to use accumulated annual leave or sick leave to help establish eligibility for retirement, but allows its use in determining the retiree's annuity amount. The base for calculating final average salary will change from the highest 36 to the highest 48 months. A member's annuity will be reduced by 5% for each year the member lacks of reaching age 60, with a maximum reduction of 25%.

Similar provisions apply to newly-hired law enforcement and custodial officers. FAS will be based on the highest 48 months and the standard annuity will be reduced by 5% for each year the member retires before age 55 with a maximum reduction of 25%.

Washington. Chapter 522, Laws of 2009 (HB 1445) provides benefits to domestic partners under the Washington state patrol retirement system.

Wisconsin. Act 29 of 2009 (Assembly Bill 75, the budget bill, passim) establishes that a domestic partner is treated like a spouse for purposes of public employee benefits including Wisconsin Retirement System benefits, health insurance (state and local), deferred compensation and other related benefits. Domestic partners must meet all of the following conditions:

- Be at least 18 years of age and otherwise competent to enter into a contract
- Neither individual is married to or in a domestic partnership with another person
- Neither individual is related by blood in any way that would prohibit marriage under Wisconsin law
- The two individuals consider themselves to be members of each other's immediate family
- The two individuals agree to be responsible for each other's basic living expenses
- The two individuals share a common residence.

Contribution Rates and Funding Issues

California. Office of Public Affairs, CalPERS, June 17, 2009. The California Public Employees' Retirement System Board of Administration today decided to add an employer rate smoothing methodology for local governments and school employer rates. Specifically, the technical changes include:

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- Expanding the current rate smoothing corridor from 80% to 120% of market value of assets (MVA) to 60% to 140% of MVA in the first year, to 70% to 130% in the second year, then back to 80% to 120% of MVA in the third year.
- Isolating and amortizing investment gains and losses in the next three years using a fixed and declining 30-year period as opposed to the current rolling 30-year amortization period.

"The Board took this action in recognition that the economic recession and likely investment losses could add unnecessary stress to already strained government budgets," said CalPERS Board President Rob Feckner. "The rate-setting modification isolates an extraordinary one-year event, spreads the need to pay additional contributions over a fixed 30-year period. It also allows local employers to pay a little less during the next three years than they otherwise would, while ensuring that the funded status of the CalPERS plan is not compromised."

Colorado. Chapter 125, Laws of 2009 (SB 227) ; eliminates for the 2008-09, 2009-10, and 2010-11 state fiscal years, the state's annual contribution to the fire and police pension association (FPPA) to assist in amortizing the unfunded accrued liability of old hire pension plans; resumes the state's annual contribution to the FPPA beginning in the 2011-12 state fiscal year, and extends the contribution through the 2014-15 fiscal year.

Illinois. Public Act 096-0043 of 2009 (SB 1292) authorized the issuance of $3.466 billion in bonds for the purpose of making a portion of the state's FY2010 required contribution to statewide retirement systems. The bonds are to be payable within five years of their date of issue. An equal amount of general revenue is to be spent upon human services programs in the state.

Kansas. Chapter 137, Laws of 2009 (HB 2072) requires the Kansas Public Employee Retirement System (KPERS) contribution rate for both the state group and the school group to be equal to the statutory rate in FY 2010 and subsequent fiscal years. Any additional contributions for the state group in excess of those required by the actuarial rate that are a result of using the statutory rate and that are remitted to KPERS will be credited to the school group. The fiscal note indicates that State General Fund savings of approximately $2.6 million will result in FY 2010. For FY 2010 and FY 2011, the state group would have paid the lower actuarial rate rather than the statutory rate, based on the December 31, 2007 actuarial valuation if the law had not been changed.

Kentucky. Chapter 65, Laws of 2009 (HB 117) establishes a ten year phase-in of the actuarially required employer contributions to the County Employees Retirement System for the funding of retiree health benefits; requires the systems' board of trustees to amend employer rate.

Louisiana. Act 497 of 2009 (SB 296) refinances the unfunded accrued liability (UAL) of the State Employee Retirement System and the Teachers Retirement System. The existing UALs will be amortized over the period extending to 2040. Amends existing provisions that govern the amount of trust fund earnings in excess of actuarial projections that are transferred to an account to provide for cost-of-living adjustments. This act increases the amount of such earnings that will be retained in the trust fund to amortize the UAL. The act provides a schedule of increased employer contributions to the two systems' trust funds through FY 2029. The act places limits on the granting of COLAs and changes the terminology from "cost-of-living" adjustment to "permanent benefit increase." It provides that after July 1, 2009, such increases will be limited to those who have been retired for at least one year and who are at least 60 years old.

Nebraska. LB 187, LB 188, LB 315 and LB 414 of 2009 included provisions to strengthen funding for several Nebraska retirement plans. LB 187 provides that, beginning September 1, 2009, school employees' contribution rate increases from 7.28 percent to 8.28 percent. Employees will contribute at the increased rate until September 1, 2014, at which time the rate will revert to 7.28 percent. In the same period, employers' contribution rate will increase from 7.35 percent to 8.36 percent. Beginning July 1, 2009, the state contribution to the School Retirement Fund will increase from 0.7 percent to 1 percent. The state will contribute at the increased rate until July 1, 2014, at which time the rate will

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revert to 0.7 percent.

The state will also appropriate $20 million from the General Fund to the School Retirement Fund in fiscal year 2010-2011 and $40 million in fiscal year 2011-2012 (LB 315). Total increased funding will about to $237.5 million over the five-year period.

LB 188 increases the employee contribution for State Patrol members from 13 percent to 15 percent of salary beginning July 1, 2009 to match the existing employer rate of 15 percent. The bill prescribes an additional, permanent increase for both employee and employer to 16 percent of salary on July 1, 2010. The contribution increases will yield $1.3 million in additional revenue for the State Patrol fund in fiscal year 2010-2011. The state also will make General Fund payments of $1.15 million in fiscal year 2010-2011 and fiscal year 2011-2012 to the troopers' fund (LB 315).

LB 414 raises judges' contribution rates one percent for five years beginning July 1, 2009. The increase means that judges will contribute one percent, five percent, seven percent, or nine percent of salary, depending on factors such as hiring date, length of service, and type of benefit chosen. The contribution increase will raise $1 million over five years for the judges retirement fund. The act also raises court fees from $5 to $6 for the same five-year period, yielding $2 million over that time. Fees are, in effect, the state matching contribution for the judges retirement plan.

LB 187 also permanently increased required employer and employee contributions to the Omaha School Employees Retirement System: for employees from 7.3% of salary to 8.3%; for employers from 7.37% to 8.38%.

Nevada. Chapter 426, Laws of 2009 (SB 427) changes current law that requires a reduction in the employee contribution rate for the Public Employee Retirement System (PERS) to affect those who join the system on 1/1/2010 or after. PERS may retain contributions that exceed the actuarially-required rate by no more than 2% to reduce its accrued unfunded liability.

New Hampshire. §§144.5ff of Chapter 144, Acts of 2009 (HB 2, the general appropriation act), increases the employee contribution rate for the New Hampshire Retirement System for members hired after June 30, 2009, from 5% of salary to 7% of salary. The employer contribution rate for non-state government employers will increases from 65% of the actuarially-required contribution in FY 2009 to 70% in FY2010 and to 75% in FY 2011 [state government contributes the remainder]. The non-state employer contribution will revert to 65% for FY2012.

New Jersey. Chapter 19, Laws of 2009 (SB 21), provides for an reduction in the contributions that local employers must make to the Public Employee Retirement system (PERS) and the Police and Firefighters Retirement System during fiscal year 2009. The state treasurer will reduce the normal and accrued liability contributions of local employers to 50 percent of the amount certified annually by the PERS and PFRS for payments due in fiscal year 2009.

New Mexico. Chapter 127, Laws of 2009 (HB 854), amends the Public Employees Retirement Act and the Educational Retirement Act to increase temporarily the employee contribution rates and decrease the employer contribution rates for employees with an annual salary greater than $20,000. The increase in the employee contribution rate is 1.5% of salary and will be effective from July 1, 2009 through June 30, 2011. The decreased employer contribution rate is expected to save the state general fund approximately $42 million during fiscal year 2010.

The Santa Fe New Mexican reported on June 15, 2009, that employee unions had sued to overturn the law requiring an increase in the employee contribution rate as unconstitutional.

Oklahoma. Chapter 88, Laws of 2009 (SB 397), allows total employer and employee contribution for retirement benefits for county employees, employees of courts and employees of the Law Library to rise to 16.5% in fiscal year 2011 and subsequent fiscal years, from the present cap of 10%.

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Texas. Chapter 1308, Laws of 2009 (HB 2559), increases the contribution requirement for employee members of the Employee Retirement System from 6.0% to 6.45% of payroll. For law enforcement and custodial members, a new contribution rate of 0.5% was established. Their plan previously was noncontributory.

Vermont. Act 24, Law of 2009 (HB 431) alters the terminal date of the 30-year period for funding the unfunded accrued actuarial liability of the Vermont Retirement System from 2018 to 2039 and repeals a statutory requirement that the annual contribution (as required by the actuarial funding schedule) increase by least 5% annually.

Washington. Chapter 561, Laws of 2009 (SB 6161) provides that the total salary growth assumption used in the PERS, SERS, TRS, PSERS, WSPRS, and the LEOFF Plan 1 is reduced from the 4.25 % per year adopted by the Pension Funding Council to 4% per year. The adoption of revised mortality tables and minimum contribution rates for the same plans is delayed until after the 2009-11 fiscal biennium, except that WSPRS minimum rate reduced to 50% of the entry age normal cost rather than suspended for the biennium.

Between July 1, 2009, and June 30, 2011, the contributions collected for the amortization of the PERS Plan 1 UAAL are made at 1.13% of pay in PERS and PSERS. Between September 1, 2009, and August 31, 2011, the PERS 1 UAAL amortization rate for SERS is 1.13%. Between September 1, 2009, and August 31, 2011, contributions collected for the amortization of the TRS Plan 1 UAAL are made at 1.85% of pay in TRS. After these rates expire, the funding method used to pay off the Plan 1 UAAL is revised so that contributions are set at the level required to amortize the UAALs over a rolling 10-year period, subject to minimum contribution rates of 5.25% of pay in PERS, SERS, and PSERS and 8% of pay in TRS.

A Washington State Senate report on the enacted 2009-2011 budget reports that the measures described above save $449 million by modifying the actuarial assumptions and methods used for determining public employee retirement contributions. The changes include: (1) phasing in the adoption of a new funding method for the Plan 1 unfunded liabilities; (2) changes to assumed salary growth assumptions; (3) temporarily suspending the minimum contribution rates; and (4) delaying the adoption of new mortality tables until the 2011-13 biennium. (Washington State Senate, "Final 2009-2011 Operating and Capital Budget Overview," p. 4.)

Cost of Living Adjustments

Louisiana. Act 144 of 2009 (House Bill 586) provides retirees, beneficiaries, and survivors with a benefit below $1,200 a month a minimum benefit increase with several requirements including having 30 or more years of service credit, being at least 60 years of age, and having been retired for at least 15 years. None of them is to receive an increase of more than $300 a month.

Act 270 of 2009 (House Bill 96) allows a member of any state-wide retirement system who retires after July 1, 2009, to self-fund a guaranteed 2.5% annual cost of living adjustment through an actuarial reduction of benefits. Any COLAs provided by the retirement system will be in addition to the self-funded annual 2.5%.

Act 497 of 2009 (SB 296) places limits on the granting of COLAs and changes the terminology from "cost-of-living" adjustment to "permanent benefit increase." It provides that after July 1, 2009, such increases will be limited to those who have been retired for at least one year and who are at least 60 years old (current law: 55 years old). The law adds controls to permanent benefit increases given by the State Employee Retirement System (LASERS). Under existing law, the Experience Fund, which receives revenue under certain conditions when investment return exceeds the actuarial assumption (8.25% a year) must hold funds sufficient to amortize the full cost of such an increase. Additional controls now applied to LASERS are that if the actuarial return for a year is below the assumption and the fund is below 80% funded, no increase can be granted. If the investment return is below the assumption but the fund is 80% or more

funded, an increase up to CPI capped at 2% can be given. If the investment return exceeds the actuarial assumption, the cap on an increased will be 3%.

Nevada. Chapter 426, Laws of 2009 (SB 427), reduces postretirement increases for those who become members of the Public Employee Retirement System on or after 1/1/2010. Current law provides for a gradually increasing percentage in the COLA until the retiree has reached a 14th anniversary of retirement when it reaches 5% annually. This bill provides that the 12th anniversary amount of 4% annually will be in effect thereafter.

Deferred Compensation Plans

Texas. Chapter 444, Laws of 2009 (HB 2283) authorizes the automatic enrollment of all state employees in TexaSaver, a deferred compensation plan, at one percent of their salary. The bill also authorizes the state to match employee savings, but does not authorize any funds. It authorizes the Employee Retirement System to make a contribution under this section if the trust fund receives amounts sufficient to cover normal cost, and maintains a funded ratio equal to or greater than 90 percent.

Chapter 1177, Laws of 2009 (HB 3480) is intended to protect teachers' investments in 403(b) plans by requiring firms that offer investment products to register with, be licensed by, or be regulated by the Texas Department of Insurance (TDI), the State Securities Board (SSB), and the Texas Department of Banking (TDB), respectively, and to require that their products are approved by the Teacher Retirement System of Texas (TRS). This would ensure that all service providers and their products were appropriately vetted before a company could enter a contract with a school district. The bill would also allow TDI, SSB, and TDB to investigate any complaint received from TRS regarding this issue. This, in addition to fines ranging up to $1 million, would be an effective deterrent to fraudulent activity. The bill also would increase teacher 403(b) investment options by allowing TRS to certify other non-annuity investment programs, known as mutual fund platforms. This would provide teachers access to multiple mutual fund families at potentially lower costs than current offerings. H.B. 3480 amends current law relating to certain investment products made available to certain public school employees and the companies authorized to provide those products and provides penalties. (from authors' statement of intent).

Defined Benefit Plan Changes

Arkansas. Act 657 of 2009 (SB140) provides that for retirement purposes in the Public Employee Retirement System (PERS), a member must be terminated from employment for a period of 180 days. However, if a member was participating in the PERS DROP on January 1, 2009 and/or retired between the period of January 2009 and June 2009, this is waived and they may return to employment otherwise covered by PERS no sooner than 30 days.

Act 742 (SB163) allows current non-contributory members a six-month window to elect coverage under the new contributory plan (effective July 1, 2005) that will be effective on January 1, 2010.

Act 1242 of 2009 (SB 138) combines the State Police Retirement System (SPRS) with the Public Employees Retirement System (PERS) to the extent that the funds of the SPRS are to be commingled with those of PERS for investment purposes. The act reduced the size of the SPRS Board of Trustees from 12 to seven members, and repealed its authority to direct investment of its trust fund. The Board is prohibited from making any recommendations for benefit enhancements that would prolong the actuarial funding of the unfunded liability beyond 30 years. The act also created a new DROP for SPRS members.

Colorado. SB 282 (signed) provides for merger of the Denver Public Schools Retirement System (DPS) with the Public Employees' Retirement Association (PERA); creates a separate Denver public schools division and trust fund within

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PERA; incorporates the provisions of the existing DPS plan into statute; requires the PERA board to administer the provisions of the plan for DPS members; allows benefits to be portable between the Denver public schools division and the other divisions of PERA; allows for disability benefits. The employer contribution rate for the DPS division of PERA will be 13.75% from 1/1/2010 until 12/31/2012 and 14.15% thereafter. The employee contribution rate will be 8%.

Minnesota. Legislation to authorize the consolidation of the Minneapolis Employees Retirement Fund general employees retirement plan with the Minnesota Public Employees Retirement Association died in committee in 2009.

Chapter 169, Laws of 2009 (S 191) creates a phased retirement plan for members of the Public Employee Retirement Association (PERA), which includes local-government sponsors of retirement plans as well as state employees.

Employers have full discretion over granting phased retirement to any PERA member. The initial offer must not exceed one year, but it can be renewed for periods of up to a year for a total of five years. An employer is under no obligation to renew a Phased Retirement agreement.

If mutually agreeable between the member and his or her employer, the member may begin collecting a PERA benefit without the normally required 30-day break in service and prohibition against having any agreement to return to work with the current employer. Participants are also exempt from PERA's earnings limits that apply prior to full Social Security retirement age. In addition, neither the member nor the employer is required to make any further contributions to PERA. Since the member is now receiving a pension, he or she will cease to earn service credits and there will be no future adjustment to the high-five average salary.

Upon the completion of the phased retirement, a member must meet the requirements normally applied to someone who is terminating public service, including the prohibition of any future employment agreement, and the minimum 30-day break in public service. If the retiree later returns to PERA-covered employment, the earnings limits would apply.

A current retiree cannot participate in the program. The option is set to sunset June 30, 2011. To qualify, a member must meet all other requirements for a pension from PERA; be at least 62 years of age; have worked at least half time in a PERA-covered position for a minimum of five years immediately prior to beginning Phased Retirement; and not be eligible for the State Employee Postretirement Option program (for PERA members who are state employees).

In addition, the member must also agree to a reduction of hours worked of at least 25 percent, not to exceed 1,044 hours per year--essentially half time or less. To participate, the member and employer must file a Phased Retirement Agreement form with PERA.

New Mexico. Chapter 288, Laws of 2009 (HB 573), creates new retirement plans for state and municipal general members of the Public Employee Retirement Association (PERA) other than peace officers. Retirement eligibility under the new plans is any age and 30 or more years of service credit, age 67 or older and five or more years of service credit or the "rule of 80". The bill also contains a new retirement plan for members of the Education Retirement Board (ERB). Retirement eligibility under the new ERB plan is the same as under the new PERA plans, except benefits are reduced for a member retiring under the rule of 80 if the member is under 60 years old. The new retirement plans are effective July 1, 2011 and will apply to employees hired on or after July 1, 2010. The bill extends the period during which a retired member under the ERB may return to work; changes the provisions for acquiring service credit for military time under the ERB; and requires annual training for PERA and ERB board members.

Defined Contribution and Hybrid Plans

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Colorado. Chapter 73, Laws of 2009 (SB 66), transfers the administration of the State Public Officials' and the Employees 457 Plan to the Public Employee Retirement Association as of July 2009, and allows certain members of the DC plan as of 2006 to transfer to the PERA DB plan. The separate PERA DC plan will continue, and all new DC plan participants will become members of it, though the provisions of the existing Public Officials' Plan will continue for its existing members.

Nebraska. LB 188 of 2009 waives the 2009 minimum distribution requirement for members of the defined contribution plans for state and county employee retirement programs, reflecting a recently-enacted federal temporary moratorium. The intent is to allow time for investments to recover before mandating withdrawals from DC plans.

Disability

Rhode Island. Article 7, Chapter 68, Laws of 2009 (HB 5983 substitute as amended) requires that recipients of disability benefits must annually document disability status to Retirement Board;

- Permanently disabled - continue current benefit of 66 2/3 of salary;
- Disabled from service - benefit reduced from 66 2/3 to 50% of salary.

Divestment

Indiana. HB 1547 requires the Public Employee Retirement Fund (PERF) to contact companies with which PERF has investments if those companies have business operations in countries that sponsor terror. Requires PERF to request that those companies discontinue business operations in those countries and to divest from companies that are unresponsive to the requests.

Minnesota. Chapter 90, Laws of 2009 (HF 211) specifies conditions under which the State Board of Investment (SBI) must divest equity and debt holdings (and not make new investments) in companies subject to federal sanctions because of their active business operations in Iran. SBI invests pension funds in Minnesota.

Utah. Chapter 54, Laws of 2009 (HB 211) requiresthe Utah State Retirement Office to identify companies with business operations in Iran in which the public fund has direct holdings. In making the determination, the board shall review and rely on publicly available information regarding companies with business operations in Iran, including information provided by nonprofit organizations, research firms, international organizations, and government entities. Such companies are to be listed and reported to state officials annually.

Early Retirement Incentives

Connecticut. Special Act 6 of 2009 (HB 6718) creates a retirement incentive program (RIP) for nonunion state employees who are at least age 55 by June 30, 2009 and (1) have at least 10 years of actual state service not including purchased service credits or credits transferred from another employer or, (2) for hazardous duty employees, have at least 20 years of actual hazardous duty state service regardless of age. It also creates a retirement incentive for members of the Teachers' Retirement System (TRS) and the Alternate Retirement Program (ARP), who must be at least age 55 by June 30, 2009.

In general, eligible employees must retire effective June 1, 2009 or July 1, 2009, although there are exceptions for certain groups of employees.

Eligible employees will receive up to three years of service added to their state service for purposes of calculating their

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retirement benefit under the State Employee Retirement System (SERS) or the Teachers Retirement System (TRS), as appropriate. Eligible members of the Alternate Retirement Program (ARP) will be paid a $ 6,000 in three equal installments of $ 2,000 each. The payment dates are: July 2012, July 2013 and July 2014. Eligible part-time ARP members will receive a prorated amount.

The act requires the administrative services commissioner, in consultation with the comptroller to make two reports on the savings realized from the retirement incentive program. The reports are due by October 15, 2009 and June 15, 2011. They must include (1) the numbers of union and nonunion employees who participated, (2) each agency's savings from the program, and (3) how much of the savings are offset by refilling positions vacated by participating retirees (Source: Conn. Office of Legislative Research bill analysis at http://www.cga.ct.gov/2009/BA/2009HB-06718-R01-BA.htm).

Louisiana. House Bill 513 of 2009 (vetoed) provides an early retirement option for members of the State Employee Retirement System (LASERS). It allows a member to retire at age 50 with 10 years of service credit (not including purchased military credit) with an actuarial reduction in benefits. Those choosing the option would not be eligible for reemployment for two years and their position would be abolished pending further review. The legislation includes a number of controls and reporting requirements intended to further the purpose of reducing the total number of state employees for reasons of economy. Governor Jindal vetoed the bill from concern that the bill "does not include current law's exceptions for critical positions that have a direct impact on patient care or for critical positions that have a direct impact on public safety, such as State Troopers," according to his veto message of July 10, 2009.

Maine. Chapter 213, Laws of 2009 (LD 353), Part Y, authorized an early retirement incentive program for state employees who reached their normal retirement age on or before July 1, 2009. Additional criteria are (1) employees in the regular plan must have had 10 years of service by July 1, 1993 and had to be either age 60 with 10 years of service by the date, or age 59 ½ with 25 years of service by date. Employees in the regular plan who had less than 10 years of creditable service on July 1, 1993, were eligible if they were at least age 62 on July 1, 2009 and had at least 10 years of creditable service. Employees in special plans had to meet age and service requirements of those plans.

Eligible employees who agree to retire on July 1 or August 1 or September 1, at their discretion, will receive a cash payment of $10,000, which will be prorated for part-time or seasonal employees. The payment will be made from departmental funds in January 2010, is subject to income tax, and will not be included in the calculation of final average compensation.

Positions vacated will be frozen through June 30, 2011; critical positions can be refilled only if a department can find comparable savings from other sources.

Vermont. HB 441 (the general appropriations act), §E.135.2, created an early retirement incentive program for state employees who are eligible for normal retirement as of July 1, 2009, provided they do not purchase service credit in order to become eligible and provided they are among the first 300 people to apply for the incentive. Those who submit applications by June 30 for July 1, 2009, retirement are entitled to a state commitment to pay at least 80% of the cost of the premium for primary or secondary health insurance for the retiree and the retiree's dependants for 10 years; $500 per year of service if the employee has fewer than five years of creditable service; $750 per year for those with five to 15 years; and $1,000 per year for those with 15 years of service or more. Those who apply after June 30 but before August 31 are eligible for the same bonuses but not the continued health insurance subsidies. Employers may arrange staggered retirement dates for the purpose of workload management. Employees who receive a retirement incentive may not return to state employment for one fiscal year, with allowance for approved exceptions. No employee may receive more than $15,000 in bonuses. The money will be paid in two installments in FY 2010 and FY 2011. The Joint Fiscal Committee may increase the number of people eligible for the payments.

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News accounts indicate that about 1,000 state employees are eligible for the incentive and that the state treasurer thinks it will produce savings in the state starting about a year after the retirements occur.

Elected Officials' Retirement Programs

New Mexico. Chapter 285, Laws of 2009 (HB 683) allows retired members of the Public Employee Retirement Association to return to employment with an affiliated public employer as elected officials without a break in retirement benefits. Such elected officials may collect both their pensions and a salary without making contributions to the retirement fund for their term of office.

West Virginia. Chapter 76, Laws of 2009 (SB Bill 244) prohibits double dipping by unopposed politicians who retire before an election and resume office ultimately collecting both a salary and a pension from taxpayers, by limiting the ability of an elected or appointed public official to retire from his or her position, and begin to receive or continue to receive an annuity if he or she is reelected or reappointed to the same position within twelve months of retirement. A retiree may accept temporary full-time or temporary part-time employment from a participating employer without suspending his or her retirement annuity, so long as he or she does not receive annual compensation in excess of $15,000. A retiree may be employed by the Legislature on a per diem basis without suspension of the retirement annuity, if the retiree's annual compensation from the Legislature does not exceed $20,000.

Ethics, Forfeiture of Benefits and Privacy Issues

Arkansas. Act 260 of 2009 (SB 188) clarifies that members of the boards of trustees of the local police and firefighter pension funds must report gifts whose value totals $100 or more.

New Mexico. Chapter 248, Laws of 2009 (HB 722) and its duplicate, Chapter 240 (SB 490), prohibit the Legislative Council Service, the Education Retirement Board (ERB) or any employee or contractor of the board from allowing public inspection or disclosure of certain private information about members or retired members under the ERB. The bill provides a criminal penalty for violations.

Oklahoma. SB 899 removes a violation of oath of office as the basis for forfeiture of retirement benefits by any elected or appointed state or county officer or employees. The act specifies that conviction of a felony for bribery, corruption forgery or perjury or any other crime related to the duties of his or her office or employment, or related to campaign contributions or campaign financing for that or any other office shall result in the forfeiture of retirement benefits. Requires the retirement system to immediately suspend all benefits of the officer or employee upon notice of forfeiture. Provides procedures for the retirement system to follow in order to determine whether the conviction or pleas subjects the benefits of the officer or employee to forfeiture if the conviction or plea occurs in federal courts or the notice of forfeiture is not forthcoming from the local prosecutor. Provides that the officer or employee is entitled to a hearing to determine whether a conviction falls within the provisions requiring forfeiture of benefits.

Oregon. Chapter 68, Laws of 2009 (SB 30) adds the Director of the Public Employees Retirement System to the list of officials required to file statements of economic interest.

Furloughs and Reductions in Force

Iowa. House File 414 of 2009 (signed by governor), § 51, allows a furloughed employee to make up employee and employer contributions to keep IPERS-reported wages at an unreduced level. The legislation applies only to employees for whom the year in which the furlough occurs is one of the three used to determine the employee's final average salary for the benefit calculation.

Louisiana. Act 301 of 2009 (House Bill 673) provides a mechanism for institutions of higher education to continue employer and employee contributions for a worker who has been furloughed for no more than 30 days a year. This legislation addresses anticipated cost cutting at the state's public colleges and universities.

North Carolina. Chapter 26, Laws of 2009 (HB 917 and SB 1093) provides that any public employees whose pay is reduced because of a furlough will not suffer any diminution of retirement average final compensation; provides that the reduction in pay and flexible leave does not apply to justices, judges, and officers whose salaries are protected from reduction; provides that employees of the legislative branch, the judicial branch, and local boards of education are subject to reductions.

Chapter 451, Laws of 2009 (SB 202, the budget bill) §26.14E.(b), provides that no member of a state-sponsored retirement plan will suffer diminution of benefits because of a furlough and that the employer will pay employer and employee contributions during a furlough.

Tennessee. Chapter 142, Laws of 2009 (SB 1359), provides that if the regularly scheduled hours of work for any full-time state officer or employee are temporarily reduced by 30 percent or less, then the amount of service and salary credit under the retirement system that the officer or employee would have received had the scheduled hours not been reduced would continue to be included for purposes of computing retirement, death, and disability benefits. The director of the division of retirement must prescribe procedures for the reporting of the additional service and salary, and for the payment and remittance of the contributions to the retirement system by the employer of the employee or officer. These provisions would have retroactive application to January 1, 2009.

Any employer participating in the retirement system as a local government unit that reduces on a non-permanent basis the regularly scheduled hours of work by no more than 30 percent per month for its full-time officers, employees or teachers pursuant to a resolution or ordinance of its chief governing body, which was enacted by reason of shortage of funds, may authorize the above provisions for all its affected full-time officers, employees and teachers upon the adoption of a resolution by its chief governing body authorizing and accepting the liability thereof. The effective date of these provisions may be made retroactive to January 1, 2009, or on the first day of any month thereafter.

Vermont. HB 441, § E135.3, of 2009, provides that a permanent state employee who is laid off between May 1, 2009 and January 1, 2011 and who is within one year of eligibility for normal retirement may retire without any actuarial reduction in benefits as if the employee met the eligibility requirements of his or her retirement plan.

Washington. Chapter 430, Laws of 2009 (SB 6157) requires the Department of Retirement Systems, in calculating average final compensation for a member of plan 1, 2, or 3, to include any compensation forgone by the member during the 2009-11 fiscal biennium as a result of reduced work hours, voluntary leave without pay, or temporary furloughs if the reduced compensation is an integral part of the employer's expenditure reduction efforts, as certified by the employer.

Wisconsin. Act 29 of 2009 (Assembly Bill 75, the budget bill) requires that Wisconsin public employers, including the University of Wisconsin, make contributions for retirement benefits for employees furloughed in the period July 1, 2009, through June 30, 2011 as if they had not been furloughed. Furlough time will be included in the definition of creditable service as though the participant had not been furloughed.

Executive Order #285, issued by the Governor on June 23, 2009, requires employees of state agencies and the University of Wisconsin System, including faculty and academic staff, to take eight days or their equivalent (64 hours) of unpaid leave (furlough days) during each fiscal year of the 2009–2011 fiscal biennium, for a total of sixteen furlough days (128 hours) over the two-year period.

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Governance and Investment Policy

Arkansas. Act 1211 of 2009 (SB 812) creates a consistent review process for a contract by a state agency that results in an agreement with a legal entity including a partnership, a limited partnership, a limited liability company, or similar legal entity that includes a state retirement system as a partner, a limited partner, or a partial owner, creates an equity interest or ownership position for the state retirement system and utilizes retirement trust funds that are not appropriated by the General Assembly.

California. Chapter 369, Statutes of 2008 (AB 1844) requires public agencies to report electronically the most current actuarial valuation within 9 months of end of fiscal year t the State Controller. Also requires the State Controller to develop cost-effective procedure to collect and report this information and post on Controller's web site. (4) Requires State Controller to publish its annual report on financial condition of all state and local public retirement systems within 12 months of receiving information from systems and agencies, but no more than 18 months after the end of the fiscal year.

Chapter 371, States of 2008, (SB 1123) requires state and local legislative bodies, including community college districts, to review the impact of future annual costs associated with OPEB increases before their approval. These actuarial impact statements must include normal cost and any additional accrued liability, produced by an actuary, signed by the agency chief executive officer, and made public at a meeting of the legislative body at least two weeks prior to its adoption. It also requires an actuary to attend the meeting where the adoption of a new pension benefit or OPEB is considered, and prohibits the legislative body from approving new benefits or benefit increases by means of a consent calendar. In addition, the bill creates a California Actuarial Advisory Panel (Panel) to provide impartial and independent information on pensions, OPEB's, and best practices to the public agencies.

Georgia. Act 44 of 2009 (HB 371) allows retirement funds in the state with more than $200 million in assets and smaller retirement funds that meet specified criteria on actuarial funding to expand their investments in equities to as much as 75% of assets on or after July 1, 2011 (with provisions for moving gradually to that apportionment.) Previous cap was 60% for large funds (then defined as $50 million in assets) and 55% for other funds. The bill also removes the 15% restriction on investments in corporations or obligations of corporations in countries other than the U.S. and Canada.

Illinois. The Government Ethics Act of 2009, Act 96-006 (SB 364), requires the state treasurer to convene a working group of members from the retirement systems and investment boards of the state to review the performance of investment managers and consultants and set standards for comparing the costs of investment service, working with the Commission on Government Forecasting and Accountability (a legislative agency). Requires pension systems and investment boards of the state to adopt policies setting forth criteria for utilizing emerging fund managers in three categories: minority-owned businesses, businesses owned by women, and businesses owned by people with disabilities. They are also to adopt policies to increase the racial, gender and ethnic diversity of fiduciaries. The legislation tightens ethical standards and prohibitions against insider dealing or transactions which could personally benefit a board member, employee or consultant. Requires new policies for competitive process in the acquisition of consulting and investment services. Specifies disclosure and contractual provisions. Requires extensive, detailed on-line publication of information about assets, returns, financial managers, all consultants, RFPs, and investment performance measured against benchmarks. Requires at least eight hours of ethics training a year for board members. Tightens numerous ethics standards for board members and employees.

The act terminated the terms of trustees of various state retirement systems and the employment of the executive director of the teachers' retirement system, and reconstituted the boards to increase the number of board members appointed by the governor.

Maine. Chapter 322, Laws of 2009 (LD 1292) provides details of information about the Maine Public Employees Retirement System that the system is to report annually to the legislature, and specifies educational and outreach services that the system is to provide to members. It specifies that an employer's error in enrolling an employee in the correct retirement system is not to cost the employee any benefits, and that employers are responsible for and must submit employer contributions to the system. The act specifies procedures to be followed in the system's consideration of an employee request for disability retirement.

Maryland. Chapter 393, Laws of 2009 (HB 448/SB 178) authorizes the Chief Investment Officer for the State Retirement and Pension System to select and invest in certain investment vehicles on behalf of the System; provides that certain external investment managers for the State Retirement System shall be selected by the Chief Investment Officer; increases the current fee cap for externally managed investment assets to a specified percentage of a specified determination of market value for the State Retirement and Pension System.

Chapter 561, Laws of 2009 (HB 977/SB 592) prohibits the Board of Trustees for the State Retirement and Pension System from using forfeitures of benefits by a member or former member of the systems to pay for benefit increases; requires use of the forfeitures to reduce employer contributions.

Missouri. HB 265 (approved by governor) allows the boards of the retirement systems to establish and maintain an investment fund account to combine moneys from both systems for investment purposes only. The funds of each system must be accounted for separately and for all other reporting purposes.

New Mexico. Chapter 288, Laws of 2009 (HB 573), requires annual training for Public Employee Retirement Association Education Retirement Board trustees.

Chapter 125, Laws of 2009 (HB 876), prohibits the State Investment Council, the State Investment Officer, the Public Employees Retirement Board and the Educational Retirement Board from making any investment other than in publicly traded equities or fixed-income securities unless the recipient of the investment discloses the identity and the fee paid to any third-party marketer who provided services on behalf of the recipient.

Health Coverage

Connecticut. SB 6582. Public Act 147 of 2009 (Substitute for HB 6582) Under the Connecticut Healthcare Partnership, the comptroller must convert the state employee health insurance plan, excluding dental, to a self-insured arrangement for benefit periods beginning July 1, 2009. She must then offer employee and retiree coverage under the self-insured state plan to (1) municipalities and other nonstate public employers beginning January 1, 2010; (2) municipal-related and nonprofit employers beginning July 1, 2010; and (3) small employers beginning January 1, 2011. The state must charge employers participating in the state plan the same premium rates it pays, but can adjust a small employer's rate to reflect its group characteristics. Full summary.

Georgia. Act 19 of 2009 (SB 122) creates the State Employees Post-employment Health Benefit Fund for teachers and other public employees.

Kentucky. Chapter 65, Acts of 2009 Regular Session (HB 117) requires the Kentucky Retirement System to establish employer contribution rates for the County Employees Retirement System that will phase in the full actuarially required contribution for the health insurance fund over 10 years, using the FY 2008 employer contribution for health insurance fund as a base and incrementally increasing the employer rate from FY 2009 through FY 2018. The KRS Board re-established the CERS employer rates for 2009-2010 as follows: For CERS non-hazardous employees for 2009-10, 16.16%; for hazardous employees, 32.97%. KRS estimates that the smoothing will cost county governments $120 million more over time than if the original schedule had been maintained.

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New Hampshire. §144.54ff of Chapter 144, Acts of 2009 (HB 2, the general appropriations act), provides for withholding from retirement benefits a charge of $65 per month for retired state employees under the age of 65 who are covered by retired employee health insurance ($130 for covered retiree and spouse) which is to be collected directly from the retiree if the retiree's monthly benefit does not amount to that much.

New Mexico. Chapter 287, Laws of 2009 (HB 351) and Chapter 288 (HB 573) are intended to increase the actuarial soundness of the retiree health care fund. They remove the sunset date for the monthly distribution of tax revenues to the fund and increase both the employer and employee contributions to the fund. The increased contributions will begin on July 1, 2010 and will increase annually through July 1, 2012. In addition, the legislation provides for higher employer and employee contributions for employees in "enhanced retirement plans", which are those plans that allow members to retire at any age with less than 25 years of service credit, and require additional contributions to the fund from Education Retirement Board and Public Employee Retirement Association members who purchase service credit.

Military Service

Arkansas. Act 295 of 2009 (SB128)) allows members of the Public Employees Retirement System to purchase up to a maximum of five years active duty military service and removes the provision regarding "not receiving federal military service retirement pay". National guard and armed forces reserve service can be purchased on a one-for-one basis instead of five years for one year.

Delaware. Chapter 167, Laws of 2009 (SB 135) protects the retirement benefits of state troopers who take military leave before retirement. The bill assures that the employee will not realize a reduction in pension benefits because of a reduction in state salary during a period that might fall in the trooper's highest three years of earnings.

Maryland. Chapter 703, Laws of 2009 (HB 975/SB 591) Alters the definition of military service as it relates to service credit for members of state or local retirement or pension systems to include active and inactive duty for training that interrupts a member's employment with the state or a political subdivision of the state.

Washington. Chapter 205, Laws of 2009 (HB 1548) provides a total of five years of no-cost interruptive military service for members, who provide proof to the Director of the Department of Retirement Services that their interruptive military service was during a "period of war," and that they initiated the process for re-employment with the same employer no later than 90 days from the date of their honorable discharge. The bill applies to members of the Public Employees' Retirement System (PERS) Plans 2 and 3, School Employees' Retirement System (SERS) Plans 2 and 3, Teachers' Retirement System (TRS) Plans 2 and 3, Law Enforcement Officers' and Fire Fighters' Retirement System (LEOFF) Plan 2, Washington State Patrol Retirement System (WSPRS) Plan 2, and the Public Safety Employees' Retirement System (PSERS). Survivors of eligible members, and eligible members incapacitated as a result of their interruptive military service, may also apply for the no-cost service credit. Members, who paid for interruptive military service credit, can receive a refund of the contributions paid.

Chapter 226, Laws of 2009 (HB 1551) extends eligibility for an un-reduced survivor benefit to members, who leave the employ of an employer and die during a period of war, while honorably serving in the National Guard or military reserves. This bill applies to PERS, TRS, SERS, LEOFF, WSPRS, and PSERS.

Wyoming. Chapter 109, Laws of 2009 (SB 111) authorizes the Wyoming Adjutant General to pay employer and employee retirement contributions up to $5,000.00 per person per year to a public or private retirement system for employees who are called up to serve in the United States military as a first responder, if permitted by the Internal Revenue Code. Applies to those who are serving in a Wyoming National Guard unit, or who are Wyoming residents who serve in a National Guard unit in any state and who are called into federal service as a first responder.

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Re-employment after Retirement

Arkansas. Act 743 of 2009 (SB 165) provides that a member of the Teachers Retirement System is not considered separated from covered employment if the retiree returns to covered employment within 180 days (30 days under former law). Does not apply to members over age 65; to members with 38 years or more of covered service, or to members who retire on or before July 1, 2009, until when the 30-day rule remained in effect.

The act repeals the earnings limitation for retirees who return to covered service. It requires employer contributions to be paid on behalf of all ATRS retirees who return to covered service regardless of age, at the employer contribution rate in effect for other employees at the time of employment.

Georgia. Act 275 of 2009 (HB 202) provides that any retired member of the Teachers Retirement System who has not yet reached normal retirement age returns to service as a public school employee in any position which normally requires membership in this retirement system, such member's retirement benefit shall cease and the retired member shall reestablish active membership in the retirement system. The member shall have the same creditable service which the member possessed at the time of retirement and shall accumulate additional creditable service so long as such active membership continues. Upon cessation of such service, the retired member, after proper notification to the board, shall receive a retirement benefit based on the member's total accrued service.

Indiana. HB 1546 terminates, temporarily, retirement benefits for any member of the Public Employee Retirement Fund who has a formal or informal agreement with an employer to become reemployed in a covered position after the member's retirement made before applying for retirement. The following apply to the member's continued employment:

(1) If a member has received a retirement benefit:
  (A) the member's retirement benefit shall stop; and
  (B) the member shall repay the amount of the retirement benefit received.
(2) The member shall make contributions as required by law throughout the period of the member's continued employment.
(3) Employer contributions shall be made throughout the period of the member's continued employment.
(4) The member shall earn creditable service for the member's continued employment.
(5) When the period of the member's continued employment terminates, the member may again file an application for retirement benefits under this chapter.

Kansas. Chapter 137, Laws of 2009 (HB 2072) increases the break-in-service requirement from 30 to 60 days after retirement for all new Public Employee Retirement System (KPERS) retirees before they can return to work for any KPERS participating employer, and includes all members of the KPERS plan, including state, school and local employees. This amendment does not affect members of the Retirement System for Judges or the KP&F Retirement System.

The act clarifies that statutory provisions pertaining to retirees of KPERS who return to work after retirement as contractual employees will be subjected after April 1, 2009, to the same state policies as other KPERS retirees who return to work as individuals. The bill requires the third-party companies to provide information about the salaries of its contract employees in order for KPERS and participating employers to apply statutory provisions regarding salary caps and special additional employer contributions.

The act eliminates for three years beginning July 1, 2009, the statutory $20,000 earnings limitation for licensed public school employees (teachers and administrators) of the KPERS school group who return to work for the same KPERS participating employer from which they retired and who chose a normal retirement option. In addition, the bill requires special payments from all public school employers who employ licensed KPERS school group retirees whether they retired from the same district or a different district. The special payments will be based on a contribution rate equal to

the employer actuarial rate plus an additional 8.00 percent. For FY 2010, this rate is 20.07 percent. The provisions will sunset on July 1, 2012. After that date, a report from KPERS and its actuary about this three-year program is required to be submitted to the Joint Committee on Pensions, Investments and Benefits. Substitute teachers are not addressed by the changes in law related to the three-year salary cap exemption.

Nebraska. LB 449 of 2009 allows members of the School Retirement System who are drawing disability retirement benefits to return to service and continue to receive the benefit. It would apply to members who are under age 65 who have been certified as permanently disabled. Upon return to service, their employment would be capped at 15 hours per week. The reason for that specific cap is that additional retirement credit begins to accrue for employees who work more than 15 hours per week.

Texas. Chapter 1308, Laws of 2009 (HB 2559), established a 90-day waiting for period for members of the Employee Retirement System who retired on or after May 31, 2009, who seek reemployment in a covered position. The agency that rehires a retiree must make a contribution to the retirement system equal to the amount it would contribution for a covered active employee.

Service Credit/Purchase of Service

North Dakota. SB 2153 broadens eligibility for purchases of service credit in the State Retirement System. In addition to existing law providing for the purchases of up to four years' credit for military service, this law adds eligibility to purchase service credit for employment as a permanent employee of a public employer within or outside the state, permanent employment by the federal government, service credit not previously granted for employer-approved leaves of absence, and months away from work while participating as a seasonal employee.

Legislative Policy Studies

Arkansas. Act 1242 of 2009 (SB 138) creates a board to conduct a comprehensive study of the intermediate and long-term funding issues of the State Police Retirement System and report to the state by October 1, 2010, the study results and recommendations to address the issues.

Illinois. HJR 65 of 2009 creates the Pension System Modernization Task Force to recommend pension benefit changes to modernize the Teachers' Retirement System, the State Universities Retirement System, and the State Employees' Retirement System.

SR 54 of 2009 instructs the Commission on Government Forecasting and Accountability to study the economic impact on central Illinois of the number of jobs that would be eliminated due to the consolidation of investment authority in the State Universities Retirement System and the Teachers' Retirement System of State of Illinois.

Indiana. SR 18 of 2009 urges the Legislative Council to assign to the Commission on State Tax and Financing Policy the topic of the state taxation of retirement benefits and military pay and benefits.

Louisiana. HCR 1 of 2009 requests that the House and Senate committees on retirement study the issue of converting state retirement plans for new hires from a defined benefit plan to a defined contribution plan.

HR 82 of 2009 requests that the House Committees on Retirement and Commerce jointly study issues regarding the possible requirement that every state public retirement or pension system, plan, or fund direct a certain percentage of its equity and fixed income trades to Louisiana broker/dealers.

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Maine. Chapter 111, Laws of 2009 (LD 1431) establishes a task force to study the creation of a new unified retirement plan that would require all new employees to be enrolled in Social Security and Medicare, would coordinate retiree health benefits with the new plan, and would provide a defined benefit pension plan. The combined actuarial costs of the new plans are to be divided equally between employers and employees. The task force is to report no later than March 1, 2010.

Montana. Chapter 420, Laws of 2009 (HB 659), requires the state administration and veterans' affairs interim committee to examine and recommend funding and benefit changes in the statewide public employees' and teachers' retirement systems.

North Dakota. SR 2061 of 2009 directs the Human Resources Management Services to study how to retain state workers who are nearing retirement; relates to workforce recruitment and retention.

New Mexico. House Memorial 27 of 2009 requests that the New Mexico legislative council study the feasibility of including long-time seasonal legislative employees in the public employees retirement system.

Chapter 288 §19, Laws of 2009 (HB 573) created the retirement systems solvency task force and calls for the task force to study the actuarial soundness and solvency of the retirement plans of the public employees retirement association and the educational retirement association and the health care plan of the retiree health care authority, and to prepare a solvency plan for each entity. The solvency plans are to include analyses and recommendations that address: (1) employer and employee contributions; (2) retirement eligibility; (3) the number of retirement plans; (4) retirement benefits; (5) investment policy and asset allocation; (6) disability retirement and benefits; (7) actuarial assumptions; (8) health insurance plan benefits and eligibility; (9) the costs of health insurance plans; and (10) member services.

Nevada. Chapter 482, Laws of 2009 (AB 493) requires the Public Employees' Retirement Board to identify and report concerning investments of money from the Public Employees' Retirement System in certain scrutinized companies with business activities or connections to Iran's petroleum sector.

New York. Executive Order 15 of 2009 establishes the Task Force on Public Employee Retirement Health Care Benefits.

Puerto Rico. HR 184 of 2009 orders the Committee on Retirement Systems Public Service to conduct a study on the budgetary and administrative feasibility of providing an additional annual bonus to retired or disabled persons who receive income only from Social Security or the minimum pension of a government system.

SR 53 of 2009 orders the Senate to conduct research on the economic and structural changes that the implementation of an early retirement and incentives in the Department of Education.

Vermont. HB 441, the general appropriations bill, § E.135.1 of 2009, created a commission to review and report on the design and funding of retirement and retiree health benefit plans for the state employeesand teachers retirement systems. The commission is charged with making recommendations about plan design, benefit provisions, and appropriate funding sources, along with other recommendations it deems appropriate for consideration, consistent with actuarial and governmental accounting standards, as well as demographic and workforce trends and the long-term sustainability of the benefit programs. The joint fiscal committee may provide benchmark targets reducing the rate of expenditure growth for retirement and retiree health benefits to the commission to guide the development of recommendations.

Tax Policy Affecting Retirees and Retirement Benefits

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Montana. Chapter 382, Laws of 2009 (HB 315) increases the maximum pension and annuity income tax exclusion. Current law provides for an exemption of $3,600, reduced gradually for AGI in excess of $30,000. This act provides for an annual inflationary adjustment to the exclusion amount and the income cap, using 2009 as the base year.

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GRS
INSIGHT

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Preserving Financially Sound Defined Benefit Pensions in Challenging Market Environments

By Norm Jones and Paul Zorn[1]

In This Issue

The severe decline in the financial markets has resulted in significantly higher contribution rates for many public plans at a time when sponsoring governments are under substantial fiscal stress.

As a result, many governments are looking for strategies to mitigate this impact by managing contribution rates, changing benefits, or changing actuarial methods and assumptions.

This paper discusses the advantages and disadvantages of several approaches. However, care should be taken to understand the downside of these strategies and their likely long-term impact on plan funding.

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In 2008, the severe decline in the financial markets and subsequent downturn in the global economy resulted in investment declines for public pension plans averaging 25%.[2] This, in turn, affected the funded status of many public plans and produced substantial increases in contribution rates, which will likely continue over the next 3 to 5 years, at least. This puts additional budgetary pressures on state and local governments at a time when they face fiscal stress from declining revenues.

As a result, state and local governments are examining ways to mitigate the impact of the market decline on plan funded levels and contribution requirements. This article discusses the advantages and disadvantages of several approaches for defined benefit plans; however, it does not recommend any specific approach. The decision to make changes should only be made after careful analysis in light of the plan's circumstances and the related long-term impacts on the plan.

Changing Contributions

Employer (and often employee) contributions are made to pension plans to pay benefits and to accumulate investable assets. During a plan's initial start-up period, contributions are greater than paid benefits and there is a buildup of investable assets. When sufficient assets are accumulated, investment earnings become the largest contributor to most plans.[3] However, when investment earnings are not sufficient to fund a large portion of promised benefits, either additional contributions must be made or the benefit program must be restructured.

Increasing Employer Contributions

Actuarially determined contribution rates are based on plan demographics and assumptions regarding the long-term expected investment returns on plan assets. If the actuarially determined contributions are not paid, investment returns will not be earned on the unpaid contributions. Unless future investment returns are

[1] Norm Jones is Chief Actuary and Paul Zorn is Director of Governmental Research at GRS.

[2] Standard & Poor's, "No Immediate Pension Hardship for State and Local Governments, But Plenty of Long-Term Worries," *RatingsDirect*, June 8, 2009.

[3] According to U.S. Census Bureau data, public plan investment earnings constituted about 65% of the $2.3 trillion in total public pension plan receipts over the period from 1978 to 2007.

higher than assumed, the unpaid contributions will have to be made up by future contributions, with interest.

If actuarially determined contributions are repeatedly unpaid, future contributions will grow rapidly. Consequently, increasing plan contribution requirements to ensure the plan is actuarially funded will, over the long term, reduce the employer's costs of providing benefits. Doing so also helps to ensure benefits will be paid which, in turn, helps to attract and retain qualified employees.

Increasing Employee Contributions

In most cases, public employees contribute to their pension plans. These contributions are usually made at a fixed percent of pay (e.g., 5%) and so do not vary as a result of investment performance. In a few cases, employee contributions are set as a percentage of total required contributions (e.g., 40%) and, consequently, vary from year to year as a result of investment performance or other gains and losses.

Increasing employee contributions can help to offset increases in employer contributions. However, if this is done, care should also be taken to ensure the change does not violate collective bargaining or other contractual agreements.[4] It is also important that employee contributions do not become so unaffordable or so volatile as to put an undue strain on employees. Otherwise, it could be difficult for the sponsoring government to retain them.

Setting Thresholds on Contribution Increases

Given the recent severe market downturn and the corresponding fiscal stress on state and local governments, it may be difficult for some employers to make their full actuarially determined contributions. In these situations, some jurisdictions gradually phase-in the higher contributions by setting limits on changes in contribution rates (e.g., limited to 1% of payroll annually). This has the advantage of allowing more predictable contributions. However, a disadvantage is that it results in higher contributions being made over a longer period of time during market downturns. It also delays plan funding.

In addition, under governmental accounting standards, if the full annual required contribution (ARC) is not paid to the plan, the government sponsoring the plan must show a "net pension obligation" (NPO) as a liability in its financial statements. The NPO is the accumulated difference between the ARC and actual employer contributions to the plan, with interest. If the NPO grows too large, it could affect the government's credit rating and its ability to issue debt.

Changing Benefits

Under most state laws, accrued benefits may not be reduced once vested. As a result, efforts to control costs by changing benefits usually involves: changing ad hoc cost-of-living adjustments (i.e., non-guaranteed COLAs); changing benefits for newly hired employees; or changing benefits for current employees in some manner.

Delaying or Reducing Ad Hoc COLAs

Most public plans provide a COLA in order to protect retirees' purchasing power from inflation. In many cases, the COLA is automatic and set at some fixed rate (e.g., 3% annually) or based on the Consumer Price Index (e.g., 80% of the annual CPI increase). In other cases, the COLAs are ad hoc and granted by a decision of the plan's board of trustees. Because ad hoc COLAs are not part of the guaranteed benefit, they may be reduced or eliminated as circumstances warrant.

A disadvantage is that unless the ad hoc COLAs are granted consistently, retiree income may not keep pace with inflation. Consequently, if the COLAs are repeatedly delayed or discontinued, retirees will lose purchasing power.

Changing Benefits for Newly Hired Employees

Because public plans have evolved over time, many provide different levels of benefits (referred to as "tiers") for members hired at different dates. Generally this is done to help keep overall benefits affordable, especially during difficult market environments. Usually, a new tier is based on an older tier, with some or all of the following changes: (1) reductions in the benefit multiplier; (2) longer periods for determining final average earnings; (3) longer vesting periods; (4) increases in the age and service requirements for unreduced benefits; (5) increases in member contributions; and (6) reductions in retiree COLAs.

In some cases, new tiers are created that reflect an overall change in plan design which incorporates some form of gain and loss sharing. For example, hybrid plans combine features of defined benefit (DB) and defined contribution (DC) plans, usually in a way that provides members with a lifetime benefit from the DB plan based on a low benefit multiplier (e.g., 1%), combined with accumulated assets from the DC plan based on invested employee contributions.

Establishing a new tier gives governments some ability to control the cost of future benefits. However, a downside is that it may take many years before material reductions in

[4] For example, in 1984, the Supreme Court of Pennsylvania ruled that a statute requiring employees to contribute an additional 1.25% of earnings to their retirement plan without related benefit increases violated the contract clause of both the federal and state constitutions. See *Association of Pennsylvania State College and University Faculties v. State System of Higher Education*, 505 Pa. 369 , 479 A.2d 962 (1984).

employer contributions emerge. In addition, a DC plan is not a retirement plan as much as it is a severance pay plan. As a result, it is much less likely that employees will be able to convert a DC account into meaningful lifetime income.

Adding Incentives to Delay Retirement

Rather than reducing benefits, another way to control plan costs is to encourage employees to delay retirement. Delaying retirement not only reduces the period over which the benefits are paid, it also allows more time over which plan contributions are made and investment income is earned. There are several ways to provide incentives for delayed retirement, including:

- Providing higher multipliers for longer service (e.g., service over 30 years);
- Offering deferred retirement option (DROP) plans with long DROP periods (e.g., 10 years); or
- Increasing the eligibility age for retiree health benefits.

Since these changes would not reduce accrued pension benefits for current employees, they could be applied to current as well as future employees. However, delaying retirement could work against employer efforts to control costs through workforce reductions. Moreover, cost savings from these measures could take a number of years to realize.

Changing Benefits for Current Employees

One way in which cost savings could be immediately realized is by changing benefits for current employees. However, to the extent accrued benefits are lowered, in some jurisdictions it would violate state statutory or constitutional provisions that protect members' benefits. To the extent benefit changes do not reduce accrued benefits, or are applied to non-vested members, in many plans it may be possible to make certain changes, including:

- Lowering or eliminating interest paid on refunds of employee contributions;
- Increasing the averaging period for determining final average earnings;
- Limiting items of compensation that may be used in determining final average earnings;
- Freezing benefit accruals so they are not affected by future pay increases; and,
- Lowering the benefit multiplier for future service.

However, such changes may be subject to court challenge. Moreover, it is possible the changes could affect the employer's ability to attract and retain qualified employees.

Changing Actuarial Methods and Assumptions

Actuarial methods and assumptions play a key role in determining a plan's funded status and contribution rates, but do not affect the long-term cost of the plan. The long-term cost of the plan is determined by the benefits promised and ultimately paid, and by the plan's experience.

To maintain the long-term solvency of the plan, the actuarial assumptions must reflect the best estimate of the plan's future experience. To ensure that the actuarial methods and assumptions are properly applied and reflect realistic expectations, the Actuarial Standards Board (ASB) establishes actuarial standards of practice (ASOPs). If actuaries do not adhere to these standards, they may be subject to disciplinary procedures. Perhaps more importantly, inter-generational equity with respect to plan costs could be severely disrupted if overly optimistic assumptions are adopted.

Generally, it is recommended that changes in methods or assumptions be considered only in conjunction with a full experience study. However, in a rapidly changing environment, temporary changes are sometimes justified.

Changing Wage Inflation Assumptions

The wage inflation assumption is a key assumption used in plan valuations. Because public pension benefits are most often based on final average earnings, higher wage inflation assumptions result in higher projected benefits. This, in turn, results in higher accrued liabilities and contributions (although the impact on contribution rates as a percent of projected payroll is less clear).

Generally, actuarial standards of practice require that economic assumptions (including wage inflation, price inflation, and investment returns) be consistent with one another.[5] To the extent the current economic downturn is likely to reduce upward pressure on prices and wages for some years, a temporary reduction in the wage inflation assumption may be warranted in some cases when it is known that a pay freeze or pay reduction is in effect.

This could help to slow the growth of accrued liabilities and contributions. However, the recent federal economic stimulus legislation and the growing federal deficit could create future inflationary pressures in the economy. Consequently, the long-term outlook is unclear.

Changing the UAL Amortization Period

The difference between the plan's actuarial accrued liability (AAL) and actuarial value of assets (AVA) is referred to as

[5] Actuarial Standards Board, ASOP No. 27, *Selection of Economic Assumptions for Measuring Pension Obligations*, Section 3.10.

the plan's unfunded accrued liability (UAL). This represents the difference between the present value of accrued benefits and the amount of assets that have been accumulated to pay for the benefits. The UAL is amortized over a period of time and included in the contribution rate.

The UAL can be amortized as a level dollar amount or as a level percent of covered payroll. In addition, the amortization period can be "open" or "closed." A closed amortization period declines each year; whereas, an open period remains the same each year – that is, each year's UAL is re-amortized over the same number of years. Many public plans amortize the UAL as a level percent of payroll over an open 30-year period.

Longer amortization periods result in smaller payments toward the UAL each year. Consequently, lengthening the amortization period can result in lower contribution rates, at least initially. However, doing so also extends the period needed to fund the promised benefits. Additionally, if the amortization period is extended beyond 30 years, governmental accounting standards generally require the plan sponsor to show the net pension obligation as a liability in its annual financial statements.[6]

Changing the Asset Smoothing Period

In order to dampen the impact of short-term investment gains and losses, most public plans "smooth" these gains and losses into the value of plan assets over a period of time. While smoothing does not prevent the gains and losses from ultimately being reflected in the contribution rates, it does moderate their impact on plan funded levels and contribution rates in a given year. Consequently, smoothing is useful for dampening the short-term impact of market fluctuations. Most public plans use a 3 to 5 year smoothing period, although some use longer periods.[7]

Under actuarial standards of practice, the recognized value of assets must bear a reasonable relationship to the corresponding market values and must fall within a reasonable range around the market values.[8] If, in the actuary's professional judgment, the asset value is outside a reasonable range, the actuary is required to disclose this in the valuation report.

Lengthening the smoothing period increases the time over which investment gains and losses are recognized, and so lessens their impact on contribution rates in a given year. This also reduces the volatility in contribution rates. However, in declining markets, this has the disadvantage of extending the time needed to fund the plan. Another disadvantage is that excessive smoothing could result in an actuarial value of assets that is unrealistically different from the market value.

Adding or Changing Asset Value Corridors

In order to ensure asset smoothing does not result in unreasonable asset values, many plans have asset value corridors in addition to asset smoothing. Asset value corridors set an upper and lower limit on the extent to which the smoothed value of assets may differ from the market value. For example, a 20% corridor could be set so that the smoothed value of assets remains within 80% to 120% of the market value. Typically, when the smoothed value reaches the corridor limit, the portion in excess of the corridor is recognized immediately.

The key advantage to using asset value corridors is that the actuarial value of assets remains within a pre-determined range of the market value that is judged to be reasonable. A key disadvantage is that when the lower corridor boundary is reached in down markets, contribution rates may suddenly and substantially increase. In addition, during the period when the smoothed value of assets is outside of the corridor, it is subject to the same volatility as the market value and so may result in more volatile contribution requirements. In the current economic environment, some plans are temporarily widening their established corridor (e.g., from 20% to 30%).

Conclusions

The severe decline in the financial markets has resulted in significantly higher contribution rates for many public plans at a time when sponsoring governments are under substantial fiscal stress. As a result, many governments are examinimg strategies to mitigate this impact by managing contribution rates, changing benefits, or changing actuarial methods and assumptions. These efforts are useful to the extent they reduce short-term contribution rate volatility without jeopardizing the sustainability of the plans or the sufficiency of benefits.

However, care should be taken to understand the downside of these approaches and their likely long-term impact on plan funding. It is also essential to recognize that during difficult times there is often a divergence between the objectives of plan trustees and plan sponsors. In particular, while lowering the employer's contribution rate may be a short-term advantage to the employer, it is a disadvantage to the plan and potentially a long-term disadvantage to the employer as well. Unless future investment returns are higher than the expected return, the forgone contributions will have to be made up with interest. It is highly recommended that plans model the contribution patterns resulting from the mitigating strategies being considered, and test them under a variety of market conditions.

[6] Governmental Accounting Standards Board, Statement No. 27, *Accounting for Pensions by State and Local Governmental Employers*, paragraphs 11-13. This rule applies to governments in single-employer and agent multiple-employer plans, but not to governments in cost-sharing multiple-employer plans.

[7] Keith Brainard, *Public Fund Survey Summary of Findings FY 07*, p. 3.

[8] Actuarial Standards Board, ASOP No. 44, *Selection and Use of Asset Valuation Methods for Pension Valuations*, Section 3.3.

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Table 1: Responding to Market Declines

These responses are presented for the purpose of discussion and are not intended as GRS recommendations.

Changes to Contributions

Response	Advantages	Disadvantages	Examples
Increase employer contributions	• Helps ensure future benefits will be paid • May make it easier for employer to attract and retain qualified employees	• Employer may not have the necessary funds • Contributions may be set by statute	• Increase employer contributions to full ARC
Increase employee contributions	• Offsets employer contribution increases (degree depends on extent employee contributions are increased)	• Employees may not be able to afford increased contributions • Employee contributions may be set by statute or collective bargaining agreements • May make it difficult for the employer to attract and retain qualified employees	• Increase employee contributions from 5% to 6% of pay • Employer no longer "picks-up" employee contributions
Set thresholds on increases in employer contributions	• Impact of sudden changes does not cause large increase in contribution rate	• The full ARC may not be contributed for many years, resulting in additional interest costs and NPO	• Limit employer contribution increases to 1% of pay each year until reaching full ARC

Changes to Benefits

Response	Advantages	Disadvantages	Examples
Delay or reduce ad hoc COLAs	• Lowers employer contributions	• Retirement benefits may not keep pace with inflation	• Postpone providing ad hoc COLA
Change benefits for new hires	• Lowers employer contribution rate (degree depends on extent benefits are reduced for new hires)	• Reduced employer contributions may take years to materialize • Lower benefits may make it difficult for the employer to attract and retain qualified employees	• Lower multiplier, extend normal retirement age, increase average earnings period
Establish hybrid plan for new hires	• Lowers employer contribution rate (degree depends on extent benefits are reduced for new hires) • Shifts some of the investment risk to members via the DC component	• Reduced employer contributions may take years to materialize • Lower benefits and added employee investment risk may make it difficult for the employer to attract and retain qualified employees	• Establish a new tier for new hires with lower benefit multiplier combined with 401(a) DC plan
Add incentives to delay retirement	• Lowers ARC by postponing retirement age (degree depends on how many members postpone retirement and for how long)	• Delayed retirement may conflict with employer efforts to reduce workforce in difficult economic times	• Provide a higher multiplier for 30+ years of service
Change benefits for current employees	• Immediate reduction in liabilities and contributions (degree depends on specific plan changes)	• May be subject to legal challenge • May conflict with state constitution or statutes	• Reduce interest on employee contribution refunds • Lower future service multiplier from 2.0% to 1.5%

Changes to Actuarial Assumptions and Methods

Response	Advantages	Disadvantages	Examples
Lower wage inflation assumption	• Offsets impact of lower investment return • Consistent with many economic forecasts over the foreseeable future	• With the economic stimulus, some think we are moving into an inflationary period	• Lower wage inflation from 4.5% to 4%
Lengthen amortization period	• Lowers employer contribution rate (degree depends on how long amortization period is lengthened)	• Lengthens period needed to fund the plan • Results in NPO if period is over 30 years	• Increase amortization period from 25 years to 30 years
Lengthen asset smoothing period	• Lowers employer contribution rate (degree depends on how long smoothing period is extended) • Increases extent to which investment gains and losses are smoothed into the ARC	• Lengthens period needed to fund the plan • Could result in misaligned smoothed and market asset values • Higher ultimate contribution rates	• Increase asset smoothing period from 3 years to 5 years
Widen asset value corridor	• Lowers employer contribution rate (at least temporarily)	• Lengthens period needed to fund the plan • Contributions could increase suddenly when new corridor is reached • Higher ultimate contribution rates	• Widen asset value corridor from 90%-110% to 80%-120%

NCSL Updates Summary of State Pension and Retirement Legislation in 2009

The National Conference of State Legislatures (NCSL) recently updated its summary of state pension and retirement legislation in 2009. According to NCSL's Ron Snell, the principal legislative theme in 2009 was the need to make future pension costs manageable in the light of states' straitened fiscal circumstances and the enormous losses experienced by most retirement funds. Examples of legislative changes cited in the summary include:

- Nebraska and New Mexico increased state-sponsored retirement plan contribution rates for both employers and existing employees. New Hampshire and Texas increased contribution rates for newly hired employees. Texas also initiated employee contributions in a previously non-contributory plan.
- Nevada and Louisiana reduced post-retirement benefit increases for newly-hired employees. Louisiana also established an arrangement by which employees may, at their discretion, self-fund a 2.5% annual COLA through an actuarial reduction in benefits.
- New Mexico created new retirement plans for newly hired employees, with higher age and service requirements, and disincentives to retire before age 60. Rhode Island raised the retirement age from 60 to 62, provided a somewhat smaller benefit, reduced future annual benefit increases, and tightened disability eligibility requirements.

Many states are now in the process of studying their contribution rates and benefit structures. Consequently, more changes are likely.

The summary is available at: http://www.ncsl.org/?tabid=17594

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THE FINANCIAL CRISIS AND STATE/LOCAL DEFINED BENEFIT PLANS

BY ALICIA H. MUNNELL, JEAN-PIERRE AUBRY, AND DAN MULDOON*

Introduction

Equity assets in retirement plans dropped in value by about $4 trillion between October 9, 2007 and October 9, 2008. The decline was divided equally between defined benefit and 401(k)/Individual Retirement Accounts (IRAs). The decline in the defined benefit arena was in turn divided equally between private sector plans and those sponsored by state and local governments. This *brief* explores what a loss of roughly $1 trillion of state and local defined benefit equity assets means for the individual participants and for the taxpayers of the sponsoring entities.

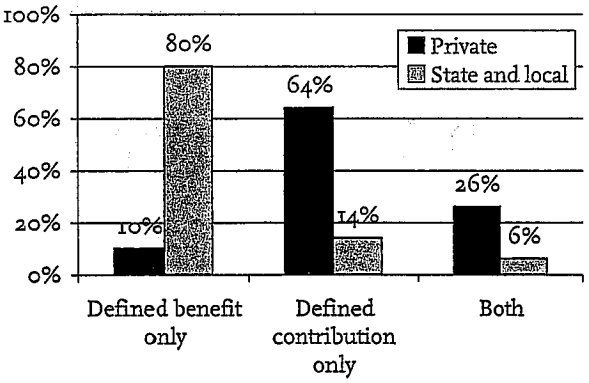
The *brief* is structured as follows. The first section describes the important role of defined benefit plans in the public sector. The second section describes the immediate impact of the financial crisis on public sector participants, while the third section turns to the impact on plan sponsors by assessing the funding status of these plans. The fourth section explores the possible responses by plan sponsors should equity values remain low. The final section concludes that, while everyone agrees that funding of state and local plans is an important goal, the smoothing of asset values in the public sector allows these plans some space to restore their funding levels.

The Importance of Public Sector Defined Benefit Plans

Pension coverage is much more widespread among state and local workers than among those in the private sector. In 2006, almost 80 percent of state and local workers age 25-64 were covered by a pension, compared to only 45 percent in the private sector.[1] Public sector pension coverage also tends to be primarily in defined benefit plans. 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, more than 60 percent of participants rely solely on a defined contribution plan (Figure 1 on the next page). Finally, public defined benefit plans provide larger benefits than their private sector counterparts.[2]

* Alicia H. Munnell is the 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 and Dan Muldoon are research associates at the CRR. The authors would like to thank Beth Almeida and CRR colleagues for helpful comments.

FIGURE 1. PERCENT OF WORKERS COVERED BY A PENSION, BY PENSION TYPE AND SECTOR, 2004



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

Because of the significance of defined benefit plans in the public sector, assets in state and local plans exceed those in the private sector, even though the state and local workforce is only one sixth the size of the private workforce.[3] As of the end of 2007, state and local plans accounted for more than 20 percent of total retirement assets (see Table 1).[4]

TABLE 1. RETIREMENT PLAN ASSETS, 2007, TRILLIONS OF DOLLARS

Pension sponsor	Assets	Percent of total
Defined benefit plans		
State and local governments	$3.2	20.9%
Private employer	2.7	17.7
Defined contribution plans		
Private employer	3.5	22.9
IRAs	4.7	30.7
Federal government*	1.2	7.8
Total	15.3	100.0

* These assets include all federal pension plans. Most of these assets are held in defined benefit plans for civilian and military workers. But the government's defined contribution Thrift Savings Plan is also included.
Source: U.S Board of Governors of the Federal Reserve System (2008).

State and local defined benefit plans, like all forms of retirement saving, have seen large declines in the value of their equities during this financial crisis. Between October 9, 2007 – the peak of the market – and October 9, 2008, equities declined by 42 percent. State and local defined benefit plans, which held roughly 70 percent of their assets in equities, saw a decline in the value of their equities of $1.0 trillion (see Table 2). The question is how this decline affects individuals and plan sponsors.

TABLE 2. EQUITY DECLINES FROM OCTOBER 9, 2007 (PEAK) TO OCTOBER 9, 2008, TRILLIONS OF DOLLARS

Pension sponsor	Decline
Defined benefit plans	
State and local governments	$1.0
Private employer	0.9
Defined contribution plans	
Private employer	1.1
IRAs	0.8
Federal government*	0.1
Total	3.8

* While the government's defined contribution Thrift Savings Plan accounts for slightly less than 20 percent of total assets, it includes virtually all of the equity exposure.
Note: Figures do not add to total due to rounding.
Source: Munnell and Muldoon (2008).

Impact of Decline in Defined Benefit Assets on Participants

In defined benefit plans, participants are promised benefits based on years of service and earnings (typically the last five years), and generally benefits must be paid regardless of what happens to the assets in the employer's pension plan. This outcome differs sharply from that of 401(k)s. In 401(k)s, individuals bear the risk of market declines. If the stock market collapses, 401(k) participants take an immediate hit to their retirement assets. And those about to retire – who on average held about two thirds of their assets in equities – will be forced to retire on less.[5] In contrast, participants in defined benefit plans are largely sheltered from the effect of the financial crisis on retirement assets. Employers bear the market risk.

EE-1

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Public plan participants actually have a higher degree of protection than their private sector counterparts. Whereas the Employee Retirement Income Security Act of 1974 (ERISA) protects benefits earned to date, participants may end up with less than expected if their employer closes down the plan for reasons of economy or bankruptcy. In such cases, the factors in the benefit formula are applied to today's earnings rather than the higher earnings at retirement. In contrast, many state courts have ruled that the public employer is prohibited from modifying the plan.[6] This prohibition means that employees hired under a public retirement plan have the right to earn benefits as long as their employment continues. Thus, if the employer wants to reduce the future accruals of benefits, such a change usually applies only to new hires.

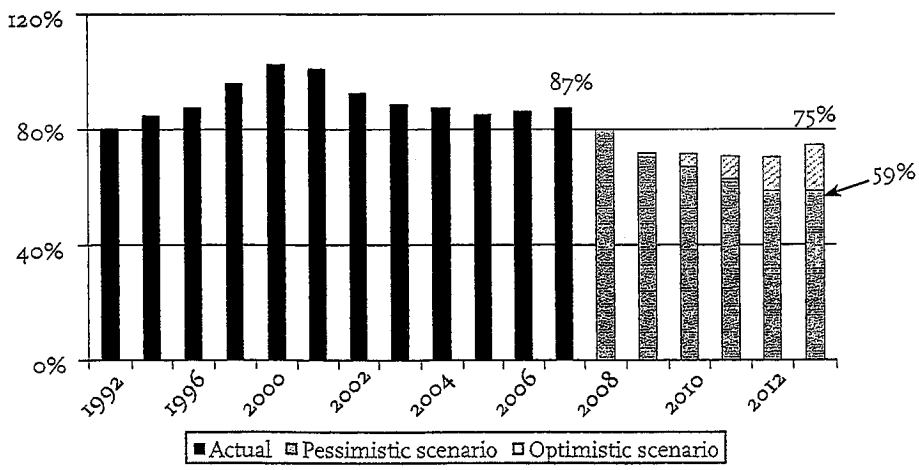
The Impact of the Financial Crisis on Plan Sponsors

As noted above, the financial crisis has reduced the value of equities in state and local defined benefit plans by about $1 trillion.[7] This change has clearly hurt the funding status of state and local plans. But the impact will become evident only over time, because the actuaries in the public sector tend to smooth the impact of both gains and losses by averaging the market value of assets over a five-year period. For our sample of roughly 120 state and local plans, the funding level was 87 percent in 2007. By October 9, 2008, if assets were valued at market, the ratio would have declined to 65 percent. But, because of the smoothing of asset values, the full impact of the financial crisis will be recognized gradually over the next five years.

The precise pattern of state and local pension funding over the next five years depends crucially on what happens to the value of equities. Figure 2 displays two alternative scenarios. Under the pessimistic scenario, asset levels remain at their October 9, 2008 levels; under the optimistic scenario, asset levels return to their peak (October 9, 2007) by the end of 2010. In both cases, liabilities are assumed to grow at 5.7 percent, the geometric average over the period 2001-2006.[8] This assumption produces an aggregate funding ratio in 2013 of 59 percent under the pessimistic scenario and 75 percent under the optimistic scenario.

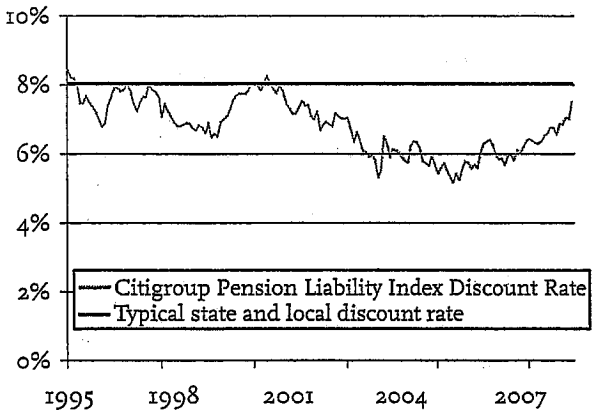
Unlike projections made for private sector defined benefit plans, no adjustment is required for the impact of the financial crisis on the value of liabilities in the public sector. The financial crisis has led to a mass exodus out of corporate bonds, raising the rates that serve as the basis for discounting private sector liabilities. Thus, estimates of the impact of the financial crisis on private sector firms has required reducing liabilities to reflect the higher discount rate as well as lowering assets for the loss in equity values.[9] In other words, higher discount rates have tempered the impact of the financial crisis in private sector defined benefit plans. In the public sector, rates have remained remarkably steady over the last ten years (see Figure 3 on the next page), and states and localities are unlikely to adopt higher rates that would reduce

FIGURE 2. FUNDING STATUS OF STATE/LOCAL PLANS, 1992-2007 AND PROJECTIONS FOR 2008-2013, BASED ON SMOOTHED ASSET VALUES



Sources: Author's calculations based on Zorn (1996-2000); National Association of State Retirement Administrators and National Council on Teacher Retirement, *Public Fund Survey*, 2001-2005; and Center for Retirement Research, *State and Local Public Pension Survey*, 2006.

FIGURE 3. DISCOUNT RATES USED FOR STATE/LOCAL AND PRIVATE DEFINED BENEFIT PLANS, 1995-2008



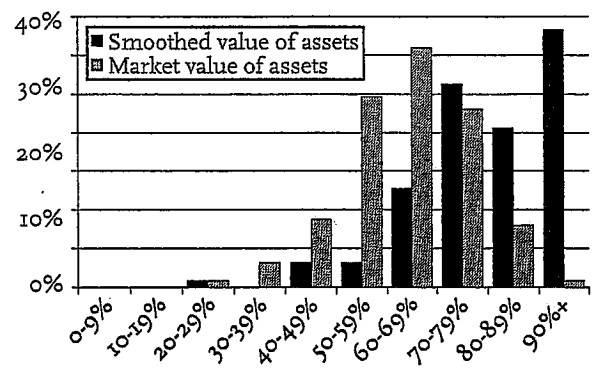
Sources: Citigroup (2008); Zorn (1996-2000); 2001-2005 *Public Fund Survey*; and 2006 *State and Local Public Pension Survey*.

their liabilities.[10] Thus, no adjustment is required on the liability side in projecting future funding ratios for state and local plans.

To this point, the discussion has focused on the aggregate funding status of public plans – that is, total assets divided by total liabilites for the sector as a whole. Aggregate data hide information about individual pension plans. Not all plans were 87 percent funded in 2007, and not all plans held 70 percent of their assets in equities. Figure 4, which shows the distribution of plans by funding status both with and without the smoothing of asset values, suggests that a number of plans had very low funding ratios to start and that these plans will be under considerable financial pressure.

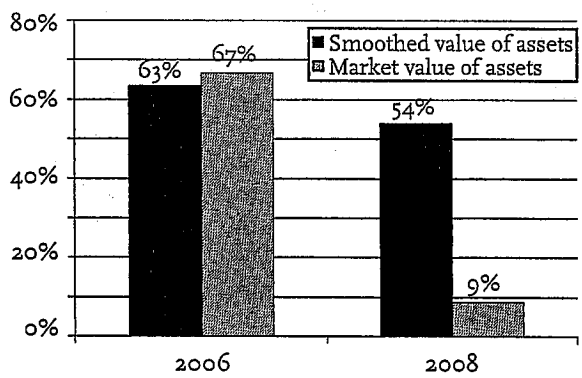
Figure 5 presents a summary measure of the distribution of plan funding levels before and after the financial crisis by calculating the percent of plans with assets equal to at least 80 percent of liabilities – a measure viewed as acceptable by many before the financial crisis. In 2006, the last year for which we have complete data, 63 percent of plans reported having a funding ratio of 80 percent or greater. Interestingly, the percent would have been even higher using the market value of assets. By 2008, that percentage declined to 54 percent when assets are smoothed and 9 percent if assets were valued at market. The question is how states and localities will respond to the decline in the funding status of their pension plans.

FIGURE 4. DISTRIBUTION OF FUNDING RATIOS, 2008, SMOOTHED AND MARKET VALUE OF ASSETS



Source: Authors' calculations based on 2006 *State and Local Public Pension Survey*.

FIGURE 5. PERCENT OF PLANS WITH FUNDING RATIOS OF 80 PERCENT OR MORE IN 2006 AND 2008, SMOOTHED AND MARKET VALUE OF ASSETS



Source: Authors' calculations based on 2006 *State and Local Public Pension Survey*.

Will States and Localities Have to Raise Contributions?

Defined benefit plans in the public sector differ from those in the private sector in two ways. First, public plans are not covered by ERISA, which as a result of the Pension Protection Act of 2006, now requires companies to amortize gains and losses over seven years. (Sponsors can apply for an extension to ten years.) Second, contributions come from participants as well as plan sponsors.

Public Sector Funding Requirements

Although state and local government plans are not subject to ERISA's funding standards, they are strongly influenced by the guidance from the Government Accounting Standards Board (GASB). GASB 25, which took effect in 1996, addressed how funding information should be reported in the financial statement. GASB recommended that plan sponsors report, among other items, the extent to which they cover an annual required contribution (ARC) that includes the normal cost – the cost of benefits accruing in the current year – and a payment to amortize the plan's unfunded actuarial liability. Initially, 40 years was considered an acceptable amortization period, but that was reduced to 30 years in 2006.[11]

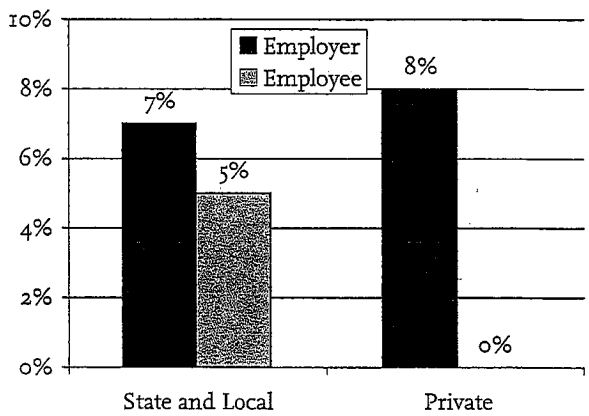
GASB, like its private sector counterpart FASB, is an independent organization and has no authority to enforce its recommendations. Many state laws, however, require that public plans comply with GASB standards, and auditors generally require state and local governments to comply with GASB standards to receive a "clean" audit opinion. And bond raters generally consider whether GASB standards are followed when assessing credit standing.[12] Thus, financial reporting requirements have a considerable impact, and most public plans were on a path to full funding.

As states and localities are only about one-third of the way through the amortization process begun in 1996, they would not be expected to be fully funded. Moreover, it is unlikely that states and localities will go bankrupt, or otherwise repudiate their indebtedness, as can happen to sponsors of private sector plans.[13] To the extent that this argument holds, there is no need for 100 percent funding to assure employees the payment of benefits. The finance literature also suggests that full funding may not always be optimal for public plans.[14] For these reasons, the U.S. Government Accountability Office reports that many experts and government officials prior to the financial crisis considered 80 percent funding to have been acceptable for public plans.[15] This standard suggests that, if equity values continue to remain depressed, states and localities will aim to increase their contributions.

Public Sector Pension Contributions

Unlike the case in the private sector, public sector defined benefit plans are not financed entirely by the employer. State and local plans provide larger benefits than those in the private sector, so the cost of these plans is substantially larger. Interestingly, employer contributions as a percent of payroll are roughly the same in the state and local and private sectors, and public sector employee contributions make up for the difference in the cost of benefits (see Figure 6).

FIGURE 6. EMPLOYER AND EMPLOYEE CONTRIBUTION RATES FOR DEFINED BENEFIT PLANS, BY SECTOR, 2006



Note: The state and local employer contribution rate reflects the average annual 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).

The ability of states and localities to increase employee contributions is severely limited in the short run. As discussed in the context of benefits, many state courts have ruled that the public employer is prohibited from modifying the plan. The only way, in many instances, to raise additional funding from participants is to require higher contributions from new employees. Thus, if contributions need to be increased, the money will come primarily from taxpayers.

Conclusion

Public sector plans, like their private sector counterparts, have been hit by the financial tsunami. Before the crisis, most public plans were on a path to full funding as recommended by GASB, but the tsunami has thrown them off course. What they do next depends on what happens to asset values. Under our pessimistic assumption, where equities remain at their current values for the next five years, their assets will amount to only 59 percent of liabilities at the end of the period. To avoid such an outcome, public plan sponsors will be forced to increase their contribution rates. But because these sponsors have a buffer – the ability to smooth asset values over five years – they will not be forced to raise contributions just as state and local tax revenues plummet in the midst of a serious recession. Under the more optimistic assumption that equities return to their peak October 9, 2007 values by the end of 2010, assets will equal 75 percent of liabilities after five years. With this better outlook, some poorly funded plans may be forced to increase their contributions, but others may be able to avoid a hike. In the end, taxpayers will foot the bill from any permanent damage caused by the financial crisis, because it is not possible to cut benefits or raise contribution rates for current participants in public plans.

Endnotes

1 In both cases, the percentage covered has remained virtually unchanged since the late 1970s.

2 See Munnell and Soto (2007).

3 From 2001-2007, the state and local workforce fluctuated between 16.0 and 16.7 percent of the size of the private workforce (see U.S. Bureau of Labor Statistics 2008).

4 Table 1 includes the holdings of IRAs because, even though they are not employer-sponsored, most of the money is rollovers from 401(k)s. See Investment Company Institute (2008).

5 Fidelity Investments (2007) and Vanguard (2008). Equity holdings as a percent of assets may be somewhat lower in Individual Retirement Accounts.

6 Steffen (2001).

7 CalPERS has also taken a hit on its residential real estate investments. See Jacobius (2008).

8 The calculation of 2008 public sector defined benefit funding status was based on data from the Center for Retirement Research at Boston College's 2006 *State and Local Public Pension Survey* and the Wilshire Associates (2008). The calculations began with the market value of assets from the 2006 *Survey*. Monthly fluctuations in the Dow Jones Wilshire 5000 Index were applied from the fiscal year end date through October 9, 2008 (one year after the peak of the stock market). After 2008, we projected asset levels under a pessimistic and an optimistic scenario. For the optimistic scenario, it was assumed that 2008 assets would return to their 2007 levels by the end of 2010, and then continue to grow at 8 percent per annum from 2011-2013. In the pessimistic scenario, assets were assumed to grow at 4 percent annually from 2009 onward. In both scenarios, throughout the whole period, it was assumed that plans continued to experience net flows of $40 billion, based on the average net asset acquisition in the Flow of Funds from 1997-2007 (Federal Reserve, 2008).

9 A higher discount rate reduces the present value of plan obligations while higher projected wage growth

raises the present value of plan obligations. The standard yardstick for gauging these offsetting effects is the difference between the two assumptions – the discount rate less projected wage growth. The greater the difference, the smaller would be the reported value of pension liabilities. As reported in Munnell and Soto (2007), the difference between the discount rate and projected wage growth was larger in private plan valuations from 1996 through 2002, and in 2006 was roughly the same.

10 It is unclear whether the increase in rates caused by financial panic should be incorporated in the actuarial calculation.

11 This amortization period applied to both the plan's "initial" underfunding and any subsequent underfunding created by benefit increases attributed to "past service."

12 U.S. Government Accountability Office (2008).

13 Orange County is an exception in that it declared bankruptcy in 1994, but public sector employees did not forfeit any benefits (see Jameson 2001). In contrast, observers are closely watching the City of Vallejo case. Vallejo declared bankruptcy in May 2008 as a result of spiraling payroll costs and declining revenues. A month later, Vallejo asked a judge to void all four of its employee labor contracts (see Jones 2008). Voiding employee contracts would set the stage for reducing wages and benefits prospectively.

14 Full funding of public sector pensions may result in variations in state tax rates over time, and, if taxpayer utility is maximized at a constant tax rate, this may not be optimal. D'Arcy, Dulebohn, and Oh (1999) calculate optimal funding levels for selected states that, depending on the relative growth rates of pension obligations and the tax base, may be greater or less than one. Mumy (1978) also explored optimal funding in state and local pensions.

15 Some of these experts also suggested that it might be unwise politically for a plan to be overfunded – that is, have a ratio of assets to liabilities in excess of 120 percent – because the excess funding could become appropriated by politicians for other purposes or used as an excuse to increase benefits. See U.S. Government Accountability Office (2008).

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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
Website: http://www.bc.edu/crr

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Primary Credit Analyst:
David G Hitchcock, New York (1) 212-438-2022; david_hitchcock@standardandpoors.com

Secondary Credit Analyst:
Robin Prunty, New York (1) 212-438-2081; robin_prunty@standardandpoors.com

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No Immediate Pension Hardship For State And Local Governments, But Plenty Of Long-Term Worries

Public pension funds in the U.S. had significant market losses in calendar 2008, but in our view most state and local governments will probably not see substantially higher pension contributions until fiscal 2011 or later. The time lag is due to actuarial smoothing assumptions and the fact that the most severe losses won't be recognized until after the typical fiscal year-end on June 30, 2009. While we believe the pain of these higher costs may not be immediate, some of the potential solutions -- such as higher taxes, increased employee contributions, reduced benefits for new hires, and raising the retirement age – may be difficult and likely unwelcome.

Standard & Poor's Ratings Services believes that governments may have to start increasing their pension contributions as of June 30, 2011, absent what we consider very large investment returns in the next few weeks. Our belief is that most pension funds have not yet calculated the increase in contributions expected for fiscal 2011, but there are some preliminary indications. For example, in April the executive director of the Pennsylvania Public School Employees' Retirement System projected that Pennsylvania school districts might have to raise their contribution to the retirement system to 30.2% in fiscal 2013, from 4.8% of teacher salaries currently, assuming a 30% investment loss in fiscal 2009 and no changes in state law. Arizona's state retirement system has indicated employee contribution rates may have to rise a half percent per year for the next five years, and stay at elevated levels for another five years beyond that.

Credit Quality Could Be Hurt If Increased Cost Strains Budgets

In our view, the impact of increased pension costs on general government credit quality will generally depend on the extent to which these costs grow as a proportion of a public employer's annual budget. Furthermore, the problem is one of steady future increases at a time when municipalities may continue to be strapped for cash because of the effects of the current recession.

We think increased pension contributions will likely phase in gradually beginning in fiscal 2011, due to typical public pension asset smoothing assumptions of five to 15 years. Under accounting rules, governments are allowed to "smooth" asset valuation declines over a number of years for actuarial purposes. This leads to gradual increases in governmental funding following a market decline (see "How 'Smoothing' Can Ease the Pain of Pension Fund Losses," published on Jan. 27, 2009, on RatingsDirect).

Until this year, the funding ratio of public pensions were, in our view, generally strong. In a 2008 survey, the Center for Retirement Research estimated that the aggregate of 125 public pension funds was 86.1% actuarially funded as of fiscal 2007 year-end, while Standard & Poor's report on state pension funds calculated an average state pension funding ratio of 83% (see "Market Declines Will Shake Up U.S. State Pension Funding Stability," published Feb. 26, 2009).

Public pension funds in the U.S. had a median loss of 24.9% in calendar 2008, according to the Wilshire Trust Universe Comparison Service database of public pension funds. On a five-year basis, the return was 1.95%, according to Wilshire. In our view, this contrasts sharply with the actuarially assumed rate of return of 8% typical

of most pension funds. The S&P 500 fell 38.5% in calendar 2008, with much of the loss occurring toward year-end. This means that we expect that the first year many pension funds will recognize big losses will be after the current year ending June 30. After evaluation in fiscal 2010, pension contributions will likely begin to ramp up in fiscal 2011 and beyond.

A Huge Burden On California

Most local governments are required by state law to make required pension fund contributions each year. As such, the prospect of steady increases in contributions is of concern to us because many government budgets will likely remain tight for several years. California, which has the lowest rating (A/Stable) of U.S. states due to its budget woes, expects its retirement contributions for all funds to swell to $4.8 billion in fiscal 2010, from $2.4 billion in fiscal 2003. The state expects contributions to rise steadily in future years after taking into account recent investment market losses.

We believe other states and localities will likely see stiff, but manageable, increases in the coming years. In our view, a portion of this increase in pension costs is the result of additional benefits that were granted when investment gains in the late 1990s seemed high enough to support the extra burden. California, for example, boosted retirement pay benefits for its workers in 1999.

What Governments Can Do

We believe some of the ways governments can respond to the prospect of higher future pension contribution costs are:

- Reducing other expenditures or raising taxes, which may be difficult in the current recession.
- Raising employee pension contribution rates, or cutting costs by negotiating a rollback of pension benefits for new hires. These may be hard to do, given generally strong governmental employee unions.
- Raising the retirement age, pushing back the time before full benefits are granted, and/or restricting so-called double dipping by employees who retire from a second government job. For instance, New York City Mayor Michael Bloomberg has proposed a minimum retirement age of 50, and the Nevada legislature is considering raising its minimum retirement age to 62, and requiring 32 years of service for full benefits.
- Delaying pension contributions to stretch out the period of smoothing assumptions, a step Philadelphia is considering. New Jersey is allowing school districts and local governments this year to pay only half of their actuarially required pension contribution.

Pension Obligation Bonds May Provide Some Relief

In our view, one idea that more governments might warm to in a protracted recession is the issuance of pension obligation bonds (POBs). While these must be issued at taxable rates, from a government perspective, POB issuance has the benefit of possibly delaying higher pension contributions for another year or two, as well as enabling the issuer to invest proceeds in the equity market at current levels. Milwaukee County, Wis. recently issued $400 million of POBs, while the city of Jacksonville, Fla., the County of San Luis Obispo, Calif., and Alaska are considering large POB issuances.

While we believe the sale of POBs last year shortly before the stock-market downturn might have been a bad choice for a local government, we see some fiscal consultants now recommending such a sale based on their view of the upside potential in equities following recent market losses. Several California counties sold POBs in the early 1990s and did well, in our view, with their timing. POBs allow accounting savings to governments to the extent pension fund returns beat actuarial assumptions, with an average assumed rate of return of 8%, according to the Center for Retirement Research's Public Fund Survey. However, we believe it is possible that recent market pullbacks may cause actuaries in the next year or two to recommend reducing the long-term assumed actuarial rate of return, which would lower the projected actuarial savings from POBs.

Standard & Poor's generally considers the issuance of POBs as the swapping of an existing liability for another, with generally neutral credit implications. The difference is that POBs are a "hard" liability with specific repayment dates, and pension contributions are "soft" in the sense that they only need to be adequate to keep a pension fund from insolvency.

Is It Time To Switch To A Defined Contribution Plan?

Finally, some governments may attempt to move from a defined benefit retirement plan to a defined contribution plan, as has been common in the corporate world. This might have an attraction as a way to cut costs, but it appears that the trend, limited as it was to begin with, may be moving in the other direction. Government workers, in our opinion, now seem to desire defined benefit plans even more in light of recent market losses suffered by people with only 401(k) plans. Alaska, for example, was one of the few states to close its defined benefit plan to new hires in 2006 in favor of a defined contribution plan. However, state legislators are now considering moving back to a defined benefit plan due to employee wishes. The West Virginia Teachers Retirement System moved from a defined contribution plan to a defined benefit plan in 2005, and if Alaska follows, Michigan would be the only state with a defined contribution plan.

We are also seeing a limited number of pension funds requesting ratings from Standard & Poor's in order to charge fees for offering short-term liquidity enhancement of variable-rate bonds. This is something the California State Teachers Retirement System (CalSTRS; AA/A-1+) and the California Public Employees Retirement System (A-1+), among others, have done. However, one key component of our retirement fund ratings is the credit quality of the sponsoring government. When Standard & Poor's downgraded the state of California earlier this year, we also lowered the long-term rating on CalSTRS.

Sidebar: OPEBs Are Affordable For Now

In contrast to their public pension funds, few local governments had trust funds for other postemployment benefits (OPEBs) established at the time of the stock-market downturn. Consequently, they did not experience trust fund losses that will have to be amortized.

Most local governments provide OPEBs on a pay-as-you-go basis (see "Largest U.S. Cities Show Mixed Progress In Meeting Their OPEB Liabilities." published March 12, 2009). In our opinion, this will create increasing long-term costs that may eventually be more significant than pension costs, although the problem may take longer to manifest itself than that of increased pension contributions. In general, we believe that cities that do have OPEB trust funds have no legal requirement to continue funding at actuarial levels beyond pay-as-you-go. For instance, New York

City, one of the few cities with OPEB trust funds, is actually reducing its OPEB trust contribution for indirect budget relief.

Related Research

- USPF Criteria: "GO Debt," Oct. 12, 2006
- USPF Criteria: "Public Pension Funds," June 27, 2007

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State Retirement System Defined Contribution Plans

Ronald Snell

September, 2009

Defined contribution retirement plans differ from the plans traditionally covering most state employees and members of state teacher retirement plans. Traditional plans, called defined benefit plans, provide a guaranteed life-time retirement benefit based on an employee's years of service and final salary, which can be defined in different ways. Although most statewide plans require employee contributions, the benefit is not tied directly to the amount of those contributions. The plans may include post-retirement benefit adjustments, disability and life insurance, and retiree health insurance, although not all do so.

Defined contribution plans, in contrast, provide a retirement benefit that is based on an account an employee has built up through years of employment. In governmental plans, both employers and employees contribute to the account and the employee determines how it is to be invested, usually on the basis of a menu of options. At retirement, the balance in the fund is the basis of the employee's retirement benefit. The sponsoring government does not guarantee a particular amount of benefit, and usually does not provide post-retirement benefit increases.

Such plans are relatively rare in state governments. This report lists state governments' defined contribution retirement plans designed as primary coverage for a group or class of state employees or state teachers: that is, it includes plans that eligible employees are required to join, or that are one of two or three alternative plans that employees choose among. States where they exist as primary plans are shown in maps on the next page.

Full Report: State Retirement System Defined Contribution Plans

Denver Office
Tel: 303-364-7700 | Fax: 303-364-7800 | 7700 East First Place | Denver, CO 80230

Washington Office
Tel: 202-624-5400 | Fax: 202-737-1069 | 444 North Capitol Street, N.W., Suite 515 | Washington, D.C. 20001

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State Retirement System Defined Contribution Plans

Ronald Snell

September 2009

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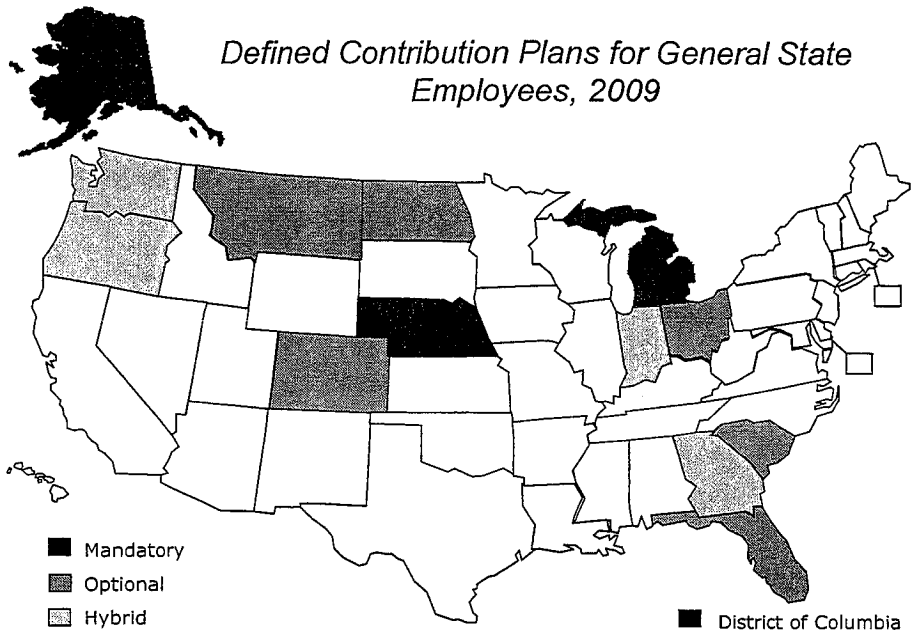
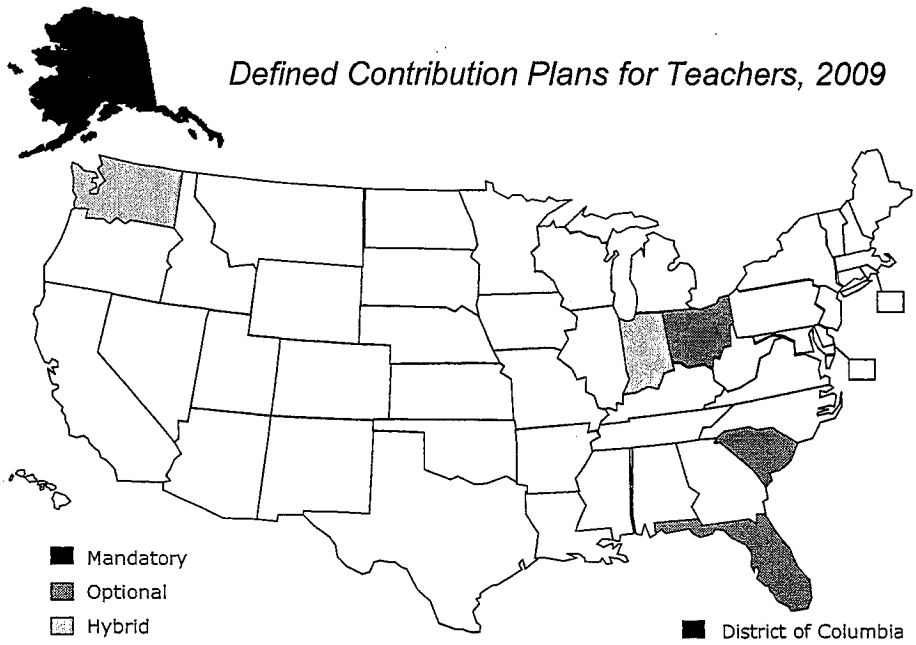
This report does not include optional deferred compensation plans, like Section 457 plans, which all states offer employees and teachers as a means of augmenting primary pension coverage. Many states have offered defined contribution plans to higher education faculty; this report is not intended to include all such plans.



Nebraska has a cash balance plan.



Part 1. Defined Contribution Plans as Primary Plans
These plans are the government's primary, mandatory retirement plan for the designated class of employees.

Alaska. In 2005, the Legislature voted to close its defined benefit plans for public employees and teachers to new enrollment and to replace the defined benefit plans with defined contribution plans, effective July 1, 2006. Nonvested employees of the defined benefit plans for public employees and for teachers were permitted to transfer to the new defined contribution plans.

See Senate Bill 1, First Special Session of 2005, available at http://www.state.ak.us/drb/sb141/sb0141z.pdf or *Alaska Statutes*, chapter 14.25.

The District of Columbia. In 1987, the District closed its defined benefit plan to new employees and replaced it with a defined contribution plan and Social Security membership.

See *District of Columbia Official Code* Title 1, Chapters 7 and 8.

Michigan. A state defined contribution plan has been mandatory for new state employees since March 31, 1997. Members of the closed defined benefit plan were allowed to transfer to the new DC plan if they chose. The state contributes 4% of salary to each employee's account. Employees may choose whether to contribute at all, but may contribute as much as 12% of salary. The state will match an additional 3% above its 4% basic contribution, for a maximum 7% employer contribution. Employer contributions go into a 401(k). Employee contributions above the initial 3% may go into the 401(k) or into a 457 plan.

See http://www.michigan.gov/orsstatedc/0,1607,7-209-34551---,00.html See also Public Act 487 of 1996 (House Bill 6229) and *Michigan Compiled Laws*, Chapter 38, sections 1 – 69.

Nebraska. The primary Public Employee Retirement System plan was a defined contribution plan from 1967 to 2002. It was closed to new employees on January 1, 2003, and replaced with a cash balance plan.

In the Nebraska cash balance plan, employees contribute between 4.3% and 4.8% of salary and the employer contributes about 7.5% of salary to an employee account. The employee cannot control investment of the account, but is guaranteed an annual return of at least 5% a year. The account can receive a higher return, depending on investment earnings. At retirement, the employee may buy an annuity, or withdraw the balance in a lump sum or in installments. Principal differences from a defined contribution plan are the employer's guarantee of a minimum investment return and control of investments.

See *Nebraska Statutes* Sections 84-1301 through 84-1333

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West Virginia. In 1991, the state created a defined contribution plan for teachers and closed its defined benefit plan to new enrollment. In 2005, the defined contribution plan was closed to new enrollment. In 2006, the members of the defined contribution plan voted to merge it with the state's defined benefit plan for teachers. Various legal challenges ensued, which were resolved in May 2008 through legislation that allowed individual members of the defined contribution plan to choose whether to transfer each person's membership to the West Virginia Teachers Retirement System (a defined benefit plan).

See *West Virginia Code*, Chapter 18, Article 7B.

A Number of States in recent years have created defined contribution plans as the primary coverage for elected officials and political appointees. To some degree these plans are a response to term limits for legislators and other elected officials. Such states include Colorado, Louisiana, Nevada, Utah, Vermont and Virginia. In Colorado, legislative staff hired after July 1, 1999, have had the choice of a defined contribution retirement plan. 2008 legislation extended the Utah optional defined contribution plan to some legislative staff.

Part 2. Defined Contribution Plans as an Optional Primary Plan

In the states listed below, new employees may elect to be members of a defined benefit plan or a defined contribution plan, but must be a member of one or the other. Under current law in these states, both kinds of plan remain open to new members, and limited transfer between them is available.

Colorado. In 2004, Colorado created a defined contribution plan as an option for state employees, effective January 1, 2006. On the same date, Colorado opened its existing defined contribution plan for elected officials to general membership, giving new employees one defined benefit and two defined contribution plans amongst which to choose. Chapter 73, Laws 0f 2009, closed the elected-officials plan to new members, but those eligible for it in the past continue to have the other defined contribution plan as an option.

Florida. In 2000, the state established a defined contribution plan (the Florida Retirement System Investment Plan) as an optional alternative to its defined benefit plan. Existing DB members could join the new plan. Existing members also were given a third option of transferring to a hybrid plan (described below) that combines features of DB and DC plans. The third option is not available to employees who joined the workforce after the creation of the alternative plans.

Montana. In 1999, the state created an optional defined contribution plan for state, local, university, and school district employees other than teachers. Current members of the defined benefit plan were allowed one year to transfer to the new plan.

North Dakota. In 1999, the state created an optional defined contribution plan for "exempt" or non-classified state employees, 75% of whom are employees in the higher education system.

Ohio. From 1998 through 2002, the state has created optional defined contribution plans for education employees, teachers and general state and local government employees. Employees not yet vested in the state defined benefit plan had the option of moving to the new plan. As noted below, Ohio also offers a third optional plan, a hybrid that includes both defined benefit and defined contribution features.

South Carolina. In 2000 and 2002, the state created optional defined contribution plans for existing and new state and local government employees and teachers.

Part 3. Hybrid, or Combined, Plans

These plans provide features of both defined contribution and defined benefit plans. They do not allow an employee to choose between the two elements; each member participates in a defined contribution and a defined benefit plan.

As a general rule, these plans maintain a defined contribution plan for employee contributions and a defined benefit plan for employer contributions. The Georgia plan created in 2008 differs from this general rule in that members may withdraw from the defined contribution portion of the plan at any time.

Florida. In 2000, when the state established a its optional defined contribution plan, members of the existing DB plan were given a third option of transferring to a hybrid plan. The third option is not available to new employees.

Georgia. Act 757 of 2008 (Senate Bill 328) created a hybrid retirement plan for Georgia state employees. The "Georgia State Employees' Pension and Savings Plan" (GSEPS) provides a defined benefit plan (DB) and 401(k) plan for new hires on and after January 1, 2009 and an opt-in to those employees in the membership of ERS on December 31, 2008. The ERS Board of Trustees will administer the new plan.

People who first or again become an employee entitled to membership in ERS on or after January 1, 2009 will be required to join GSEPS. Group term life insurance will not be provided, and the employee contributions in GSEPS will correspondingly be reduced from 1.5% to 1.25% for the DB. The DB formula will be 1% for each year of service times the average of the highest 24 consecutive calendar months of salary while a member. The formula can be increased in the future up to 2% by the board of trustees provided funds are appropriated by the General Assembly. Vesting in the DB is 10 years.

GSEPS members will be automatically enrolled in the 401(k) plan and will have a one-time 90 day window to opt out of the 401(k) and receive a refund of the account balance at that time. Participating members can stop and start 401(k) participation at any time thereafter. However, funds in the 401(k) must remain in the fund until separation. Participation in the 401(k) requires a mandatory employee contribution of 1% of compensation with voluntary elective contributions after the first 1%. Each employer shall match the first 1%, plus a 50% match for each percent above the first 1% up to a total 3% employer match. Participants

may contribute up to the IRS maximum limit each year. Each participant shall have a non-forfeitable right to the employee contributions and associated investment earnings. Employer contributions will be vested in the employee gradually over five years at a rate of 20% per year.

Indiana. For decades, retirement plans for state employees and teachers have consisted of an Annuity Savings Account (a defined contribution component) made up of employee contributions and a defined benefit funded by employer contributions.

Ohio. The retirement plan revisions from 2000 through 2002 that created an optional defined contribution plan for Ohio teachers and other employees also created the third option of a hybrid defined-benefit/defined contribution plan.

Oregon. The state employee retirement plan created in 2003 consists of a defined benefit program called "the pension program" funded by employer contributions and a defined contribution program called the "individual account program," funded by employee contributions.

Washington. The 1998 Teachers' Retirement Plan Tier 3 consists of defined contribution and defined benefit elements, funded respectively by employee and employer contributions. This plan is mandatory for teachers hired since the plan's inception. Legislation in 2000 created a similar but optional Public Employee Retirement System Plan 3 for state and local government and higher education employees. State and local employees who do not select this hybrid plan are enrolled in a defined benefit plan.

Sources

In addition to the sources listed in the text, this report is based on NCSL's series of annual summaries of state legislation concerning state pension and retirement plans. The summaries are available on the NCSL website at http://www.ncsl.org/default.aspx?tabid=13399 Other information has been taken from the websites of the retirement systems mentioned in the text.

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AN ALEC STATEMENT OF PRINCIPLES ON STATE AND LOCAL GOVERNMENT PENSION PLANS

Summary

To solve the funding crises in state and local defined benefit pension and other post employment benefit (OPEB) plans for public employees the American Legislative Exchange Council recommends that defined benefit plans be replaced by defined contribution plans. To implement this reform state and local governments should take the following actions:

- Each jurisdiction should meet Government Accounting Standards Board (GASB) standards, which require that unfunded liabilities be reported as debt in the financial statements of state and local governments.
- Each jurisdiction should meet GASB standards, amortizing unfunded liabilities in pension and OPEB plans within a thirty year time frame.
- When defined benefit pension and OPEB plans fail to meet GASB actuarial standards, each jurisdiction should declare an actuarial emergency that sets a legal precedent for fundamental reform of these plans.
- Freeze the defined benefit pension and OPEB plans, and replace the defined benefit plans with defined contribution plans for new employees.
- Increase payroll contributions for existing employees until employers and employees equally share the normal cost as defined by GASB in defined benefit plans.
- Bring the current retirement system management within the purview of the executive and legislative branches of government.
- Strengthen the management system's fiduciary role to balance system assets and liabilities by: making the Board responsible for employee and employer contribution rates; adopting actuarial assumptions; and, setting benefit levels consistent with GASB standards, and subject to legislative approval.
- When pension and OPEB plans meet GASB standards, require legislative approval for increased benefits.
- When pension and OPEB plans do not meet GASB standards, require voter approval, as well as, legislative approval for increased benefits.
- Require voter approval for any debt issued to finance unfunded liabilities in pension and OPEB plans.

Explanatory Notes

State and local governments in recent years have encountered funding crises in their defined benefit pension and other post employment benefit (OPEB) plans for public employees. Defined benefit pension plans are considered 'safe' by government standards if they have enough assets to support at least 80 percent of pension benefit obligations. In 2008 only 9 percent of a sample of state and local government pension plans met this

standard, and a number of states have seen this ratio fall below 50 percent this year. State and local government OPEB plans for public employees are generally in worse shape than their pension plans; most governments continue to fund these OPEB plans on a pay as you go basis.

To meet GASB standards governments must now show the unfunded liabilities in OPEB plans, as well as pension plans, as debt in their financial statements. They must also meet the 30 year time frame for eliminating unfunded liabilities in these plans. Few state and local jurisdictions are meeting these GASB standards. Many of these state governments would have to double their actual contribution rates to well over 20 percent of salaries to meet this GASB standard. It is likely that unfunded liabilities in state and local government pension and OPEB plans are over two trillion dollars.

Taxpayers are no longer willing to bear the increasing cost of these plans in the form of higher employer contribution rates, or decreased government services. They are demanding reforms that will bring these plans into line with pension and OPEB benefits offered in the private sector.

In response to the funding crises a growing number of state and local governments have frozen their defined benefit pension plans, and replaced them with a defined contribution plan. Over time this reform achieves a number of goals. The reform has strengthened government management and fiduciary oversight of the retirement system. The reform has constrained the growth of unfunded liabilities in the system. The reform has established a portable defined contribution plan for new employees that, over time, has reduced the government's dependence on riskier and less predictable defined benefit plans.

Approved by the Tax and Fiscal Policy Task Force on July 17, 2009.
Approved by the ALEC Board of Directors on August 27, 2009.

KU SCHOOL OF BUSINESS
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THE CENTER FOR
APPLIED ECONOMICS

Supporting Regional Economic Development through Analysis and Education

The Funding Crisis in the Kansas Public Employees Retirement System

Barry W. Poulson
Professor of Economics
University of Colorado
and
Senior Fellow
Center for Applied Economics
University of Kansas
School of Business

Arthur P. Hall
Executive Director
Center for Applied Economics
University of Kansas
School of Business

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About The Center for Applied Economics

The KU School of Business established the Center for Applied Economics in February of 2004. The mission of the Center for Applied Economics is to help advance the economic development of the state and region by offering economic analysis and economic education relevant for policy makers, community leaders, and other interested citizens. The stakeholders in the Center want to increase the amount of credible economic analysis available to decision makers in both the state and region. When policy makers, community leaders, and citizens discuss issues that may have an impact on the economic development potential of the state or region, they can benefit from a wide array of perspectives. The Center focuses on the contributions that markets and economic institutions can make to economic de-velopment. Because credibility is, in part, a function of economic literacy, the Center also promotes economics education.

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EXECUTIVE SUMMARY

The Kansas Public Employees Retirement System (KPERS) is experiencing a funding crisis. The recent collapse of financial markets has resulted in a significant decrease in the value of the KPERS portfolio. But, the funding crisis in KPERS is not just the result of problems in financial markets. The problems in this defined-benefit pension plan have emerged over several decades, and are symptomatic of the poor incentive structure guiding the governance of many defined-benefit public pension plans. The financial market turmoil has exacerbated these problems, but KPERS is facing a long-run deterioration in its funding status.

The Kansas legislature has enacted several reforms over the past decade to address the KPERS funding problems. These reforms have included changes in benefits, increased contribution rates, and administrative changes. Unfortunately, these reforms have failed to address the fundamentally flawed incentive structure built into the KPERS defined-benefit plan.

This study explores current and past funding shortfalls in KPERS and the inherent challenges associated with the governance of defined-benefit pension plans. The study examines different measures of the magnitude of the funding shortfalls and the past legislative attempts to provide remedies.

Some of the key facts and issues are:

- A sharp decrease in the value of assets in the KPERS system last year caused the funding ratio to fall to 49 percent. Unfunded liabilities in the system doubled, from about $5 billion to $10 billion.
- Assuming an eight percent return on assets, Kansas-government employers would have to significantly increase contribution rates to bring the KPERS system into actuarial balance. This would be difficult for state and local employers that are experiencing a revenue shortfall.
- KPERS is bankrupt under current operating assumptions. Using more realistic assumptions regarding the expected rate of return on assets, it is highly unlikely that the KPERS system will achieve actuarial balance over the appropriate time frame.
- The solution to the funding crises in KPERS will require fundamental reform. Everything should be on the table, including changes in benefits and increased employee contribution rates, as well as increased employer contribution rates. The governments of Kansas should also explore a complete shift to a defined-contribution arrangement, similar to the one used by the Kansas Regents system (and most private employers).

FLAWS IN THE DESIGN OF THE KPERS SYSTEM

Flaws in the design of the KPERS system can be traced to an asset smoothing methodology used to smooth the effects of market fluctuations. The smoothing methodology is used to determine the actuarial value of assets.

KPERS assumes that it will earn an eight percent return on assets in the long run.[1] This estimated return on assets is used to determine the actuarial value of assets. KPERS sets a range around the actual market value of assets. The estimated actuarial value of assets can be no less than 80 percent and no more than 120 percent of the actual market value of assets.

Since the estimated value of assets on December 31, 2008 was in excess of 120 percent of the actual market value of assets, the actuarial value of assets was set at the upper limit of 120 percent of the actual market value of assets. The following table shows the actual market value and actuarial value of assets on that date.

The actuarial value of assets reported was almost $2 billion higher than the actual market value of assets on that date. The asset smoothing methodology determines the timing when actual market experience is recognized in the financial statements. Unfunded liabilities not recognized in the current accounting period will be recog-

Table 1

Market and Actuarial Value of Assets in the KPERS System (millions of dollars)

	Market Value	Actuarial Value
Assets, December 31, 2007	$14,168	$13,433
Employer and Member Contributions	683	683
Benefit Payments and Expenses	(1,017)	(1017)
Investment Income	(3,978)	407
Preliminary Asset Value, December 31, 2008	$9,856	$13,506
Application of Smoothing Methodology	N/A	(1,678)
Final Asset Value, December 31, 2008	$9,856	$11,828

Source: Kansas Public Employees Retirement System (2009A) p.4.

Table 2

Kansas Public Employees Retirement System Investment Performance Report Total Portfolio Net Asset Value $9,814.9 Million December 31, 2008

Portfolio	Asset Value Millions	Current Position Percent	Target Value Percent
Domestic Equity	2621.8	27.8	28.0
International Equity	1653.4	17.8	22.0
Global Equity	469.9	5.0	5.0
Real Estate	799.5	8.1	10.0
Alternative Investment	397.8	4.0	6.0
Subtotal for Equity Assets	5942.4	62.7	71.0
Fixed Income	1998.7	18.7	14.0
Real Return	1412.3	14.4	14.0
Cash Equivalent	453.7	4.2	1.0
Subtotal for Fixed Income Assets	3864.7	37.3	29.0

Source: Kansas Public Employees Retirement System (2009D) p.1.

nized in financial statements in future years. Since employer contribution rates are set based on the actuarial value of assets in the current accounting period, some of the losses in the current accounting period are deferred to future years.

Flaws in the design of the KPERS system are also linked to the assumed rate of return on assets of eight percent. Actuaries generally recommend an assumed rate of return on assets substantially below eight percent. For example, the Employees Retirement Income Security Act (ERISA) recommends that private employers assume a 6.1 percent return on assets in private pension plans.

Because KPERS assumes an eight percent return on assets, it must invest in a diversified portfolio of assets including equities as well as fixed income assets. The higher the ratio of equities relative to fixed income assets the more volatility the portfolio is likely to experience. Because of this volatility, some economists question the use of equities in public pension plans.[2]

Like many state and local pension plans across the country, the Kansas Public Employee Retirement System (KPERS) has experienced a drastic decline in its investment portfolio valuation. As of December 31, 2008 the market value of assets held in KPERS was $9.9 billion.[3] This was a decrease of $4.3 billion from the December 31, 2007 figure of $14.2 billion.[4] The annualized dollar weighted rate of return for 2008 measured on the market value of assets was -28.5 percent.[5]

The KPERS asset allocation reported in Table 2 reveals a portfolio heavily weighted toward equities. The target share for equities is 71 percent, and for fixed income assets is 29 percent. The current position reported in Table 1 is less risky than the target portfolio because of the sharp drop in value for equities over the past year—illustrating precisely why such a high target share for equities can cause volatility.

We can compare the volatility in the KPERS plan with that in the California Public Employees Retirement System (CALPERS). CALPERS reported a 23 percent decline in the value of assets in the system over the past year.[6] Moody's Investors Services reports that it put the triple-A rating of CALPERS on review for downgrade for the first time.[7] Moody's is also considering a downgrade in the triple-A rating of the California State Teachers Retirement System. A lower rating for these pension plans will mean increased borrowing costs for state and local jurisdictions in California.[8]

KPERS reported a sharper decrease in the value of assets in the system than that for the CALPERS system over the same time period. Thus Kansas should expect a similar downgrade in the bonds issued by the KPERS system.

UNFUNDED ACTUARIAL LIABILITIES (UAL)

The Government Accounting Standards Board (GASB) sets standards for reporting pension and other post employment benefit (OPEB) plans offered by state and local governments.

Unfunded liabilities in pension and OPEB plans must be reported as debt in financial statements of state and local jurisdictions. Further, these standards require that state and local governments show progress toward eliminating unfunded liabilities over a 30-year amortization period. If pension and OPEB plans fail to meet these standards, actuaries must report that the plans are not in actuarial balance. Bond rating agencies, such as Standard and Poor's, take this information into account in rating the bonds issued by state and local government.

GASB standards require that pension funds report two schedules of information regarding the funding status of the plans: (1) The Schedule of Funding Progress and (2) The Actuarial Contribution Rate.

The following table shows the funded ratio and the unfunded actuarial liability using both the market value of assets and the actuarial value of assets over the past six years. The unfunded actuarial liabilities more than doubled from $4,817 billion to $10,250 billion in the past year using the market value of assets. The funding ratio fell to 49 percent based on the market value of assets.

The unfunded liability in the KPERS system is equal to about eight percent of state gross domestic product. To put this in perspective, the total state debt in Kansas is equal to about five percent of gross state product.

Using the actuarial value of assets rather then the market value of assets shows less deterioration in the funded status of the system over the past year. However, asset smoothing impacts only the timing of when the actual market experience of assets is recognized. The actuarial value of assets exceeds the market value of assets by 20 percent. This means that $2 billion in unfunded liabilities is not recognized in these financial statements and will only be recognized in financial statements in future years.

CONTRIBUTION RATES

The actuarial process is the basis for determining employer and employee contributions into the pension plan. To meet GASB standards, the pension plan must calculate an actuarial contribution rate that will eliminate unfunded liabilities in the system within a 30-year amortization period. The actuarial contribution rate is a schedule of employer contributions required to meet this standard. The actuarial contribution rate includes two components:

- A 'normal cost' for that portion of projected liabilities allocated by the actuarial cost method for service of members during the year following the valuation date.
- An 'unfunded actuarial contribution' to cover the excess of projected liabilities over the actuarial value of assets.

As a result of legislation enacted in 1993, the KPERS system calculates a statutory contribution rate. The purpose was to set statutory payments as a level percentage of payroll to pay off unfunded liabilities in the system over a 40 year amortization period. The legislation set a cap on the amount by which the statutory contribution rate could increase each year. This statutory cap, which has been changed periodically, is currently 0.60% for all KPERS systems.[9]

Due to these statutory caps, the statutory contribution rates for State, School, and Local employers have fallen well below the actuarial contribution rates. The shortfall between these rates is 2.36 percent, 6.19 percent, and

Table 3

Unfunded liabilities and Funded Ratio Using Market and Actuarial Value of Assets

	2003	2004	2005	2006	2007	2008
Using Market Value of Assets						
Funded Ratio	71%	71%	72%	76%	75%	49%
Unfunded Actuarial Liability	$3,586	$4,742	$4,543	$4,184	$4,817	$10,250
Using Actuarial Value of Assets						
Funded Ratio	75%	70%	69%	69%	71%	59%
Unfunded Actuarial Liability	$3,586	$4,743	$5,152	$5,364	$5,552	$8,279

Source: Kansas Public Employees Retirement System (2009A) p.6.

Table 4

Actuarial and Statutory Contribution Rates, December 31, 2008 Valuation

System	Actuarial	Statutory	Difference
State	11.13%	8.77%	2.36%
School	14.96%	8.77%	6.19%
Local	10.42%	6.74%	3.68%
Police and Fire	17.88%	17.88%	0%
Judges	26.38%	26.38%	0%

Source: Kansas Public Employees Retirement System (2009A) p.7.

3.68 percent, respectively, for the State, School and Local Systems.[10]

To meet GASB standards, the KPERS system must demonstrate that the statutory contribution rate will converge with the actuarial contribution rate within a 30-year amortization period. Given the assumptions in these projections, the dates when the statutory and actuarial contribution rates converge are 2022 for the State Group and 2020 for the Local Group. The statutory and actuarial contribution rates for the School Group do not converge within the amortization period. The School System is not in actuarial balance with respect to either GASB standards, or the statutory requirements set in the 1993 legislation.[11]

The investment losses in 2008 have caused a serious deterioration in the funded status of the KPERS system. $2 billion of these losses are not accounted for in estimating the above actuarial contribution rates due to the smoothing of asset values. To underscore the impact of these market losses, contribution rates are calculated based on the market value of assets. Table 5 compares the actuarial contribution rates with these contribution rates based on market values of assets. Using market valuation of assets, the employer contribution rate for the State/School System would have to increase to 16.5 percent, almost double the statutory contribution rate. The employer contribution rate for the Police and Fire System would have to increase from 17.88 percent to 20.86 percent.[12]

No one can predict the future returns on assets in the KPERS system. However, the assumption of an eight percent return on assets to determine contribution rates must be questioned. The return on assets in 2008 was -28.5 percent. Compared to an assumed rate of return of eight percent, the gap between the actual return and assumed return in 2008 was 37 percent. If future returns on assets continue to fall below the assumed eight percent rate of return, the funded status of the system will deteriorate further. In those circumstances, it is possible that none of the KPERS systems would be in actuarial balance or meet GASB standards over a 30-year amortization period.

UNSATISFACTORY LEGISLATIVE REFORMS

KPERS faces a clear funding crises. Over the years, the Kansas legislature has enacted a number of well-intentioned reforms that have failed to bring actuarial balance to the system. It is important to understand why these reforms have failed in order to move forward with reforms that will bring actuarial balance to the system.

The stated objective of the 1993 reforms was "to establish contribution rates that over time will remain relatively level, as a percentage of payroll, and to pay off

Table 5

Contribution Rates Using Actuarial and Market Valuations, December 31, 2008

	State/School		KP&F	
	Actuarial	Market	Actuarial	Market
Actuarial Liability	$14,492	$14,492	$2,098	$2,098
Asset Value	8,252	6,877	1,480	1,233
Unfunded Actuarial Liability	6,240	7,615	618	865
Funded Ratio	57%	47%	71%	59%
Contribution Rate				
Normal Cost Rate	8.53%	8.53%	14.71%	14.71%
Unfunded Actuarial Liability Payment	9.56%	11.62%	9.70%	12.68%
Total	18.09%	20.15%	24.41%	27.39%
Employee Rate	4.00%	4.00%	6.53%	6.53%
Employer Rate	14.09%	16.15%	17.88%	20.86%

Source: Kansas Public Employees Retirement System (2009A) p.8.

Why the KPERS Funding Crisies may be Worse when Evaluated by Private Pension Plan Requirements

A recent study by the National Bureau of Economic Research (NBER) suggests that the funding status in KPERS and other public pension funds is worse than reported (Novy-Marx and Rauh 2009). These pension systems are likely to experience significant funding shortfalls in future years, even if the economy recovers and financial markets stabilize. These funding shortfalls will impose a heavy burden on future generations.

The potential for future funding shortfalls in pension plans can be estimated from future assets and future liabilities. Future liabilities are estimated based on the current actuarial value of liabilities, the discount rate employed by the plan, and the amortization period. Future assets are estimated based on the expected growth rate and volatility of the plan's assets.

The NBER study of a sample of state pension plans finds that future under funding in these plans is actually greater than that reported in their financial statements because of the accounting rules used to estimate future assets and future liabilities in the system.

The NBER study, and other studies as well, point out that the eight percent average discount rate used by KPERS and other state pension systems is almost certainly too high (Novy-Marx and Rauh 2009; Barclays Global Investors 2004). This discount rate assumption is based on Government Accounting Standards Board (GASB) ruling 25 and Actuarial Standards of Practice (ASOP) item 27. These standards require a discount rate determined by the accrued return on pension plan assets. Critics argue that the discount rate should be based on the market risk inherent in the system.

the unfunded liability by the 2033 valuation."[13] The statutory contribution rate was set below the actuarial contribution rate. As a result, the dollar amount of unfunded liabilities was scheduled to increase during the initial years of the amortization period. Payments on the unfunded liabilities were scheduled to increase four percent per year. Given the actuarial assumptions at that time, the statutory contribution rate was projected to converge with the actuarial contribution rate, and unfunded liabilities would be paid off within the amortization period.

Table 6 traces unfunded liabilities in the KPERS system since the 1993 reforms. In the 1990s, the funding status of KPERS followed the projections made in the 1993 legislation. Indeed, in the late 1990s, the funding ratio improved significantly due to strong returns in the investment portfolio. However, these actuarial assumptions proved to be overly optimistic.

KPERS reported that: "By the early 2000s, it became clear that the planned employer rate increases were insufficient to fund the benefits, creating a long term funding shortfall."[14]

The deterioration of the funding status of KPERS began with the recession in 2001. Over the next five years, the funding ratio fell—declining below 70 percent from 2004 to 2006. After a brief recovery above 70 percent in 2007, the funding ratio fell again, and is now below 50 percent.

In response to this deterioration, in the funding status of the system a number of reforms have been enacted in recent years. The 1993 legislation set a cap on the annual rate of increase in statutory contributions, and that cap has been increased several times. In 2003, the legislature increased the cap on the State/School employer contribution from 0.20 percent to 0.40 percent in FY 2006, 0.50 percent in FY 2007 and 0.60 percent in FY 2009 and beyond. It also changed the methodology used to determine contribution rates.

In 2007, the legislature changed the benefit structure for new employees to reduce costs in the system. These changes included:

- First Day Membership in KPERS.
- Stricter eligibility requirements for pension benefits.

liabilities (Novy-Marx and Rauh 2009; Gold 2002; Bader and Gold 2004).

Support for the critics' position comes from the discount rate used in private pension plans (Novy-Marx and Rauh 2009). In contrast to government pension plans, private pension plans use a discount rate applied to liabilities that is a blend of corporate bond yields and Treasury bond yields. The NBER study uses a lower discount rate to estimate the present value of future liabilities in their sample of state pension systems. In 2005, the present value of liabilities in these state plans—based on an eight percent discount rate—is estimated at $2.5 trillion. Using the Municipal bond rate to determine the discount rate results in an estimated present value of liabilities equal to $3.1 trillion; using the Treasury rate as the discount rate, the present value of the liabilities is estimated at $4.0 trillion (Novy-Marx and Rauh 2009).

- Averaging salaries over a longer time period in determining final average salary (FAS).
- Two percent annual automatic cost of living (COLA) adjustment in benefits at age 65.
- Increased employee contribution rates.

The legislature has also enacted some reforms that have increased costs in the system.

In 2007, the legislature eliminated "year of service" requirements for all non-school members. It also decreased vesting requirements for current employees from 10 years to five years.[15] In 2008, the legislature provided a $300 one-time benefit payment to all retirees (and their joint survivors) who retired on or before July 1, 1998, and who had ten or more years of service credit.[16]

In 2009, the legislature enacted minor changes in the pension system (via HB 2072, as amended in the Senate). However, the funding crises in the system went unaddressed.

The sharp fall in the funding ratio and the increase in unfunded liabilities motivated KPERS leadership to

Table 6

Summary of Historical Changes in Total System Unfunded Actuarial Liabilities as of December 31, 2008 Valuation. ($ in millions)

Year	Change in Unfunded Actuarial Liabilities, using June 30 Valuations	Change in Unfunded Actuarial Liabilities, using December 31 Valuations	Total cumulative Unfunded Actuarial Liabilities, December 31, 2008
1994	$537		
1995	(25)		
1996	(36)		
1997	(68)		
1998	215		
1999	(194)		
2000	(164)	$72	
2001		475	
2002		1048	
2003		757	
2004		1157	
2005		409	
2006		211	
2007		188	
2008		2727	$8279

Source: Kansas Public Employees Retirement System(2008) p. 14, and Kansas Public Employees Retirement System (2009A) p.4.

Using these lower discount rates to estimate the present value of future liabilities results in much higher estimates of unfunded liabilities in these state pension plans. In their financial statements, these public pension plans estimate unfunded liabilities at $312 billion. The NBER study estimates unfunded liabilities at $901 billion using the Municipal bond discount rate and $1.9 trillion using the U.S. Treasury discount rate. Unfunded liabilities as a ratio of assets in the plans is estimated at 41 percent and 86 percent, respectively, for these lower discount rates (Novy-Marx and Rauh 2009).

One way to assess the magnitude of the funding crises in state pension plans is to use the same government standards as those applied to private defined-benefit pension plans. Private defined-benefit pension plans are considered 'safe' by government standards if they have enough assets to support at least 80 percent of pension benefit obligations (Life and Health Insurance News.com 2009). In 2008, only nine percent of a sample of state and local government pension plans met this standard (Munnell, A. H., J. Aubrey, and D. Muldoon 2008).

Private defined-benefit pension plans are considered 'critical' if the value of assets in the plan is 65 percent or less of pension benefit obligations (Life and Health Insurance News.com 2009). This year more than half of state and local government pension plans are likely to fall in this 'critical' category. A number of states have already seen this ratio fall below 50 percent this year, including Connecticut, West Virginia, and Indiana (Wall Street Journal 2009©). As of December 2008, the KPERS system has also fallen into this critical category.

The most important finding in the NBER study is the prospect of future under-funding in state pension plans based on more realistic discount rates. Using a 15-year amortization period, the NBER study estimates, conservatively, that there

acknowledge a funding crises. In January of 2009, Glenn Deck, executive director of KPERS, presented this testimony before the House Select Committee on KPERS:

"Projections indicate that the combined State/School group is not in actuarial balance and will not reach the [actuarial required contribution] rate during the remainder of the amortization period with a level 8% return assumption."[17]

He reported that unprecedented market declines have impacted the long-run funding status of the system. Deck recommended that the legislature consider options to increase employer contribution rates, and that KPERS continue to monitor the funding status of the system:

"Options for increasing statutory employer contribution caps in future years need to be considered to bring the System back into actuarial balance over the long term."[18]

UNSATISFACTORY INCENTIVES

Defined-benefit retirement plans do not align the incentives of employers and employees as well as defined-contribution plans (like that used by the Kansas Regents System). Defined-benefit plans can defer promised benefits and their cost into the uncertain future. Defined-contribution plans match expected future benefits to current contributions to better align current incentives.

The KPERS system continues to offer pension benefits superior to that available to employees in the private sector.[19] Elected officials have significantly increased employer contributions to KPERS—contributions that will increase taxpayer liability for many decades. The assumption of KPERS executives appears to be that government-employers in Kansas will continue to increase employer contribution rates to the level necessary to bring the system into actuarial balance. However, there is growing evidence that the legislature will encounter constraints from taxpayers in continuing to pursue this option.

Even with the assumption of an eight percent return on assets, employer contribution rates into the State/School system would have to double; and, employer contribution rates into other parts of the system would have to increase in excess of 20 percent of payroll. This would require hundreds of millions of dollars in additional

employer contributions into the KPERS system, a difficult step in a year when state and local jurisdictions are experiencing a revenue shortfall. If the assumption of an eight percent return on assets is unrealistic, as many economists argue, and the system earns a lower rate of return on assets, actuarial balance may not be achieved even with the higher employer contribution rates.

Increasing employer contribution rate into the KPERS system will require some combination of higher taxes and decreased public services. Across the country citizens are no longer willing to bear the costs imposed by public sector pension funds. Legislators are facing taxpayer resistance to funding pension plan imbalances.

A good example is the California Public Employees' Retirement System (CALPERS). CALPERS reports that the sharp drop in the funding ratio will require an increase in employer contribution rate between two percent and four percent of payroll.[20]

Even with increased employer contribution rates, California legislators are encountering constraints in funding CALPERS. Moody's Investor Services reports that it put the triple-A rating of CALPERS on review for downgrade for the first time. The review reflects the deterioration in the funding status of CALPERS, and of the California state government.

State payments into CALPERS are a major source of the shortfall in the state budget. California voters rejected, by a two to one margin, Governor Schwartzenegger's proposal to solve the budget crises by, among other things, increasing taxes $16 billion, and issuing more debt.[21] Governor Schwartzenegger has called California's pension system "unsustainable". He is proposing changes in the pension system, including increasing the age at which public employees are eligible for retirement benefits.[22]

The funding crises in KPERS is actually worse than that in CALPERS. KPERS has experienced a sharper decline in the value of assets, and a greater deterioration in funding status of the system. Kansas legislators should expect to encounter constraints in funding KPERS similar to that in California. A downgrade in KPERS bonds would impact borrowing costs of state and local jurisdictions.

Achieving actuarial balance will require fundamental reform of the KPERS system. Across the country state and local jurisdictions are enacting reforms in pension plans similar to those introduced in the private sector. In the long run, the most effective way to eliminate unfunded liabilities is to require new employees to enroll in a defined-contribution plan—a plan like the one used by the Kansas Regents. As employees in the defined-contribution plan replace those retiring from the defined-benefit plan, unfunded liabilities are eliminated.

Current employees in the defined-benefit plan must begin to share the burden of unfunded liabilities in the plan along with employers. This requires modifications in benefits to reduce costs. It also requires increased employee contribution rates to share costs equally with employers. Current employees in the defined-benefit plan should be given the option of enrolling in the defined-contribution plan. For employees who choose to remain in the defined-benefit plan, employee contribution rates must increase to share in the cost of that plan equally with employers. This will permit the state to begin to earmark a greater share of contributions to pay off unfunded liabilities in the system. A future paper by the authors of this study will explore these proposed reforms of KPERS in greater depth.

is a 50 percent chance of under-funding greater than $750 billion; a 25 percent chance of under-funding greater than $1.75 trillion; and a 10 percent chance that under-funding will exceed $2.48 trillion. These estimates do not include any under-funding in other post employment benefit (OPEB) plans in these state pension systems (Novy-Marx and Rauh 2009).

CONCLUSION

KPERS is a public pension system that is ultimately the responsibility of Kansas taxpayers. Taxpayers are already liable for $10 billion in unfunded liabilities, and they will have to pay for any future unfunded liabilities incurred in the system. The key finding of the study is that the KPERS system will not be in actuarial balance over the thirty year amortization period set in GASB standards. This means that KPERS will continue to accumulate unfunded liabilities for the foreseeable future. It is highly likely that KPERS will continue to impose a heavy tax burden on future generations. The result will be an intergenerational transfer of wealth from future generations to the present generation through the pension system.

Kansas citizens may well ask how they got into this KPERS mess. The explanation is that the people making these pension decisions do not have to bear the cost. The KPERS Board and the unions who represent public sector employees negotiated benefits for those employees that they could not afford. Elected officials charged with oversight of the state pension system failed to fulfill their charge to oversee the system. As a result, taxpayers will be paying taxes to finance these benefits long after these decision makers have left. Without reform, spending on almost every other state-funded program will have to be cut, or taxes increased. It is simply not fair for Kansas citizens and the Kansas Legislature to sanction such an intergenerational transfer of wealth through the pension system.

The poor incentive structure will continue as long as the KPERS pension plan is based on defined-benefits rather than defined-contributions. Third parties will continue to negotiate pension benefits and costs under a defined benefit plan. The reality is that Kansas citizens cannot do much about the funding crises that already exists in KPERS; but, they can stop the bleeding by enacting fundamental reforms in the state pension system.

In response to the funding crises, KPERS executives recommend that the legislature continue to muddle along with the defined-benefit pension plan. The position taken in this paper is that bringing the KPERS system into actuarial balance will require more fundamental reform. Everything should be on the table, including changes in plan structure, changes in benefits, increased employee contribution rates, and increased employer contribution rates.

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FOOTNOTES

1 Kansas Public Employees Retirement System (2009A), p.2.

2 For a discussion of the arguments against this high ratio of stocks in public pension funds see Bader and Gold (2004).

3 Kansas Public Employees Retirement System (2009A) p.4.

4 Ibid.

5 Ibid.

6 Wall Street Journal (2009E).

7 Ibid.

8 Ibid.

9 Kansas Public Employees Retirement System (2009A) p.6-7.

10 Ibid

11 Ibid.

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14 Kansas Public Employees Retirement System (2009B), p.1.

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16 Kansas Public Employees Retirement System (2009A), 2008 Comprehensive Annual Financial Report, Fiscal Year ended, June 30, 2008

17 Kansas Legislature (2009A), "Minutes of the House Select Committee on KPERS Committee," House of Representatives, January 29.

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Center for Applied Economics
University of Kansas School of Business
Summerfield Hall, 1300 Sunnyside Avenue
Lawrence, KS 66045-7585
www.cae.business.ku.edu
(785) 864-5134

STATE PENSION FUNDS FALL OFF A CLIFF

Barry W. Poulson
Professor of Economic
University of Colorado
And
Senior Fellow
Center for Applied Economics
University of Kansas
School of Business

Arthur P. Hall
Executive Director
Center for Applied Economics
University of Kansas
School of Business

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Executive Summary

This study explores historical and current funding shortfalls in state pension plans. The study examines different measures of the magnitude of the funding shortfalls. Two case studies are examined in greater depth to explore some fatal flaws that have caused the funding crises in these plans; Colorado's Public Employee Retirement Association (PERA), and the Kansas Public Employee Retirement System (KPERS).

Some of the key facts and issues are.....

A sharp decrease in the value of assets last year caused the funding ratio in many of these state pension plans to fall significantly. In some of these plans, such as PERA and KPERS, unfunded liabilities have about doubled over the past year.

Many of these state pension plans assume a rate of return on assets of 8% or more. Because they assume a high rate of return on assets these plans often invest in a portfolio heavily weighted towards securities. A risky portfolio results in great volatility in the value of assets, funding ratios, and unfunded liabilities.

Even with this assumed rate of return on assets employers would have to significantly increase contribution rates to being the plans into actuarial balance. This would be difficult in the current recession and revenue shortfall.

The financial crises encountered over the past decade reveals that many state pension plans are fundamentally flawed. Using more realistic assumptions regarding the rate of return on assets, as well as assumptions regarding the actuarial value of liabilities, it is highly unlikely that these plans will achieve actuarial balance over the amortization period.

The solution to the funding crises in state pension plans, such as PERA and KPERS, will require fundamental reform. Everything should be on the table, including changes in benefits and increased employee contribution rates, as well as employer contribution rates. These plans should consider replacing their defined benefit plans with defined contribution plans for new employees.

Introduction

State and local governments in recent years have encountered a funding crises in their pension and other post employment benefit (OPEB) plans for public employees. This crises is due to many factors, including: the escalation in health care costs; very large losses in the stock market; generous pension and health benefits provided in defined benefit plans; public employees retiring earlier and living longer; and, reduction and postponement of employer contributions to these plans. State and local governments have begun to enact fundamental reforms in these plans to address the funding crises. In this study we explore the magnitude of the funding crises.

In recent years state and local governments have made significant progress in providing citizens greater transparency and accountability in their expenditures. Many state and local jurisdictions have created web sites with current expenditures, readily available to citizens. However, very little progress has been made in providing current financial information for state and local pension plans. Despite new GASB standards that require state and local jurisdictions to provide this information in their financial statements, little progress has been made. Many state and local jurisdictions have yet to meet these GASB reporting standards; and, those that do often provide data that is so out of date that it is of little use. It is difficult to see how elected officials and citizens can monitor these pension plans and hold them accountable without current information on their financial status.

The lack of current financial information is especially critical as a result of the recent financial crises and recession. Many state pension plans have indeed fallen off a cliff, but it is difficult to assess the magnitude of the crises. This study provides comprehensive financial data for state pension plans in 2006, the most recent year when this data is available. The study also provides information for some state pension plans for which financial data is available or 2008. The purpose is to provide at least a preliminary assessment of the impact of the financial crises and recession on this sample of plans. Despite the data limitations the sample data reveals a financial crises in a number of these state pension plans. The study also provides more detailed data for state pension plans in two states where the plans are in a serious financial crises, Colorado and Kansas.

Unfunded Liabilities in State Pension Plans: Historical Data

State and local governments have a long history of providing pension and other post employment benefits to their employees. Defined benefit pension plans were established to set aside funds to pay retirement benefits to employees. These benefits are financed from contributions of employers and employees, and the investment income derived from such contributions. Some states have a single public employee retirement system for public employees: while others have multiple systems for different groups of employees.

Some of these state pension plans date back to the early 20th century. Many of them operated initially on a pay as you go basis. However, over time most states attempted to prepay the cost of pension benefits for employees. All states now report on their pension

plans in financial statements following guidelines established by the Government Accounting Standards Board (GASB).

The best measure of the success of states in pre-funding their pension obligations is the funding ratio. The funding ratio is equal to the actuarial value of assets divided by actuarial accrued liabilities. Unfunded liabilities are that portion of accrued liabilities not offset by assets in the plan.

In the course of the 20th century states made significant progress in pre-funding their pension obligations. By the 1970's the funding ratio reached 50%; in the 1990's the ratio was 80%; and in 2000 the ratio was slightly above 100%. With a booming economy and the run up in the stock market in the 1990's, most states were able to eliminate unfunded liabilities in their pension plans.

This success in eliminating unfunded liabilities in state pension plans was short lived. When recession hit in 2001 the fall in the stock market brought significant losses in assets held by these pension funds. During the boom years of the 1990's many states made grievous errors in managing their pension funds. They increased the share of assets in stocks versus fixed income assets, exacerbating the losses when the stock market collapsed. Many states extended very generous benefits to public employees, the costs of which would be borne over many years. Some states reduced and suspended employer contributions to their pension funds.

Demographic and lifestyle changes also increased liabilities in state pension funds. More public employees chose early retirement, often in response to inducements offered by states to retire early. Employees also lived longer in retirement.

By 2006 the funding ratio of state pension plans had fallen to 81%; and, unfunded liabilities in these plans accumulated to almost 360 billion dollars. At that time Standard and Poor's projected that the funding ratio would remain roughly constant; that projection turned out to be optimistic. Since then the stock market has fallen sharply, and the economy has entered a recession. Demographic changes continue to increase liabilities in these plans as employees continue to retire earlier and live longer in retirement.

The following table summarizes state funding ratios and unfunded liabilities in 2006, the most recent year in which comprehensive data for these plans is available. Total debt for each state is also included for comparison purposes.

Table 1. State Pension Plans 2006

State	Funded Ratio (%)	Unfunded Liabilities (Billion $)	State Debt (billion $)
Alabama	88.1	3.4	2.2
Alaska	61.0	8.4	1.3
Arizona	83.5	5.0	3.4
Arkansas	81.3	3.3	1.1

California	87.4	48.1	54.6
Colorado	74.1	12.8	.5
Connecticut	56.4	14.8	13.3
Delaware	101.7	(.1)	2.0
Florida	105.6	(6.2)	17.9
Georgia	96.1	2.6	7.5
Hawaii	65.0	5.1	4.6
Idaho	95.2	.5	.2
Illinois	59.5	32.4	25.8
Indiana	64.3	10.1	1.3
Iowa	88.4	2.5	.3
Kansas	69.4	5.4	3.2
Kentucky	71.9	10.7	4.1
Louisiana	66.3	10.4	3.6
Maine	71.3	3.0	.7
Maryland	83.3	7.1	6.3
Massachusetts	72.1	14.1	26.1
Michigan	80.7	11.9	5.2
Minnesota	84.3	5.9	3.5
Mississippi	73.5	6.6	3.4
Missouri	83.0	7.0	2.6
Montana	81.1	1.4	.2
Nebraska	88.7	.8	0
Nevada	74.8	6.6	2.1
New Hampshire	61.4	2.5	.6
New Jersey	77.4	24.3	28.5
New Mexico	80.4	4.6	2.2
New York	100.9	(2.0)	40.6
North Carolina	106.1	(3.0)	6.5
North Dakota	81.0	.7	.1
Ohio	82.5	27.3	9.7
Oklahoma	59.5	9.9	1.5
Oregon	110.5	(5.4)	5.7
Pennsylvania	84.9	14.4	8.8
Rhode Island	53.4	4.9	1.5
South Carolina	71.6	8.6	2.9
South Dakota	96.7	.2	.2
Tennessee	95.3	1.5	1.2
Texas	88.7	14.8	7.2
Utah	96.4	.5	1.7
Vermont	90.8	.3	.5
Virginia	80.8	10.2	6.4
Washington	76.6	5.4	11.2
West Virginia	52.7	5.3	1.5
Wisconsin	99.5	.4	8.7

Wyoming	94.4	.3	0
Total		359.1	214.4
Average	81.0	7.2	6.9

Source: Standard and Poor's, 'Market Volatility Could Shake Up State Pension Funding Stability', Ratings Direct, February 20, 2008

As of 2006 unfunded liabilities in state pension plans had accumulated to 360 billion dollars, up from 330 billion dollars in 2005. A small handful of states had eliminated unfunded liabilities in their pension plans. These included: Delaware, Florida, New York, North Carolina, and Oregon. At the other extreme were states where the funding ratio fell below the average of 81% for all states. These underperformers included: Alaska, Colorado, Connecticut, Hawaii, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Massachusetts, Michigan, New Mexico, Oklahoma, Rode Island, South Carolina, Virginia, Washington, and West Virginia.

Unfunded Liabilities in State Pension Plans: Current Data

The most recent CAFRS data used to meet GASB standards is only available for 2008. In fact, most states have yet to report the 2008 financial data for their pension plans. The states that have reported their pension fund data for 2008 use different reporting periods, some ending at midyear, while others report at the end of the calendar year.

Further complicating comparisons of these state pension plans are differences in the coverage of these plans. Some states report financial data for comprehensive pension plans that cover different classifications of employees. Other states with comprehensive pension plans report financial data separately for different classifications of employees. In the following tables the data for comprehensive pension plans is reported separately. For other states the data is for pension plans covering only state employees. The latter data provides for comparison of pension plans for state employees in this group of states.

A final caveat is required in comparing this data. GASB standards require some uniformity in calculating pension fund financial data. Despite these GASB standards there are significant differences in the actuarial assumptions used in the different pension plans. Despite these data limitations and caveats, the data provides at least a preliminary assessment of the magnitude of the financial crises encountered in these state pension plans.

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Table 2. Comprehensive State Pension Plans 2008

State	Funded Ratio (%)	Unfunded Liabilities (billion dollars)
Alaska	78.8	1.9
Colorado	68.5	17.9
Florida	107.0	0.0
Idaho	93.3	0.7
Iowa	89.1	2.7
Kansas	58.7	8.3
Maine	79.7	2.8
Nevada	76.2	7.3
New Hampshire	67.8	2.5
South Dakota	97.2	0.2
Utah	64.8	2.3

Source: CAFRS data for 2008 from financial reports for individual states

Table 3. Pension Plans for State Employees 2008

State	Funded Ratio (%)	Unfunded Liabilities (billion dollars)
Delaware	103.1	0.0
Illinois	46.1	12.8
Kentucky	52.5	4.8
Louisiana	67.6	4.4
Maryland	78.6	10.7
Minnesota	73.6	4.7
Mississippi	72.9	7.7
Missouri	85.9	1.3
Montana	90.3	0.4
New Mexico	93.3	0.9
North Dakota	92.6	0.1
Oklahoma	73.0	2.4
Pennsylvania	89.0	3.8
Texas	92.6	1.9
Wyoming	78.6	1.3

Source: CAFRS data for 2008 from financial reports for individual states

One way to assess the magnitude of the funding crises in state pension plans is to use the same government standards applied to private pension plans. In the private sector, defined benefit pension plans are considered 'safe' by government standards if they have enough assets to support at least 80 percent of pension benefit obligations (Life and Health Insurance News.com 2009). Eight of the eleven states reporting comprehensive

state pension plans for 2008 have funding ratios below this safe level. Eight of the fifteen states reporting pension plans for state employees have funding ratios below this safe level. It is possible that in this latter group of states the funding ratio in pension plans for other classifications of public employees would be below the safe level. Indeed, in some of these states, such as Illinois, preliminary un-audited data for public employee pension plans shows funding ratios falling well below safe levels.

A better measure of the burden of unfunded liabilities in state pension systems from a taxpayers perspective is to compare unfunded liabilities per capita and as a share of per capita income. The following table makes these comparisons for the states reporting financial data for comprehensive pension plans in 2008.

Table 4. Comprehensive State Pension Plans 2008

State	Unfunded Liabilities per capita (dollars)	Unfunded Liabilities Per Capita/ Personal Income Per Capita (%)
Colorado	3624	8.6
Kansas	2962	7.8
Nevada	2808	7.0
Alaska	2769	6.4
Maine	2128	6.0
New Hampshire	1900	4.4
Iowa	899	2.5
Utah	841	2.8
Idaho	459	1.4
South Dakota	249	0.7
Florida	0.0	0.0

Source: CAFRS data for 2008 from financial reports for individual states

The states are ranked from the highest burden to the lowest burden. The data reveal a very heavy burden of unfunded liabilities per capita in six of these states, from $1900 in New Hampshire to $3624 in Colorado. In all of these six states except New Hampshire unfunded liabilities per capita exceed 5~~0~~% of income per capita.

This data does not fully capture the impact of the financial crises on state pension funds. The data are based on the actuarial value of assets. Most of these states use a smoothing technique to determine the actuarial value of assets that spreads losses in assets over a period of years. The effect of this smoothing technique is to defer some of the losses in asset values to future years. In the following portion of the study we explore the impact of the financial crises on two state pension funds, Colorado and Kansas. For these two states data is available for the market value of assets as well as the actuarial value of assets. Unfunded liabilities calculated for this market value of assets reveals a much greater financial crises in these pension plans than is revealed in the above tables.

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Why Do Pension Funds Fall Off A Cliff?: Two Case Studies

The financial crises and recession have had a negative impact on all state pension systems; but, the previous analysis reveals that some of these pension plans have fared worse than others. This portion of the study explores the financial crises in two of these state pension systems with the highest level of unfunded liabilities per capita: the Colorado Public Employees Retirement Association (PERA), and the Kansas Public Employees Retirement System (KERS). This in depth analysis reveals some fatal flaws common to both of these state retirement systems. Restoring fiscal balance will require fundamental reforms in both PERA and KPERS.

The Schedule of Funding Progress

The Government Accounting Standards Board (GASB) sets standards for reporting pension plans offered by state and local governments. Unfunded liabilities in pension plans must be reported as debt in financial statements of state and local jurisdictions. Further, these standards require that state and local governments show progress toward eliminating unfunded liabilities over a 30-year amortization period. If pension plans fail to meet these standards, actuaries must report that the plans are not in actuarial balance. Bond rating agencies, such as Standard and Poors, take this information into account in rating the bonds issued by state and local government.

GASB standards require that pension funds report two schedules of information regarding the funding status of the plans: (1) The Schedule of Funding Progress and (2) The Actuarial Contribution Rate. The following is a summary of Funding Progress in the two case studies.

- PERA

PERA uses an assets smoothing methodology to smooth the effects of market fluctuations. The smoothing methodology is used to determine the actuarial value of assets. The actuarial value of assets calculates the value of assets by spreading market gains and losses over four years. The following table shows the unfunded liabilities and funded ratio using actual market value and actuarial value of assets on December 31, 2008.

Table 5. PERA Unfunded liabilities and Funded Ratio Using Market and Actuarial Value of Assets, December 31, 2008.

	Market Value of Assets	Actuarial Value of Assets
Actuarial accrued liability	$57.0 billion	$57.0 billion
Assets held to pay those liabilities	29.5 billion	39.1 billion

Unfunded actuarial accrued liability	27.5 billion	17.9 billion
Funding Ratio	51.8%	68.5%

Source: http://www.copera.org/pdf/5/5-20-08.pdf, Pg. 31

The market value of assets is $29.5 billion, or $9.6 billion less than the actuarial value of assets calculated by actuaries based on the spreading of gains and losses over four years rather than the year in which they occurred. The funding ratio of PERA fell to 51.8% based on the market value of assets compared to 68.5% based on the actuarial value of assets.

- KPERS

KPERS assumes that it will earn an eight percent return on assets in the long run.[1] This estimated return on assets is used to determine the actuarial value of assets. KPERS sets a range around the actual market value of assets. The estimated actuarial value of assets can be no less than 80 percent and no more than 120 percent of the actual market value of assets.

Since the estimated value of assets on December 31, 2008 was in excess of 120 percent of the actual market value of assets, the actuarial value of assets was set at the upper limit of 120 percent of the actual market value of assets.

Table 7. KPERS Unfunded liabilities and Funded Ratio Using Market and Actuarial Value of Assets, December 31, 2008.

	Market Value of Assets	Actuarial Value of Assets
Actuarial accrued liability	$20.1 billion	$20.1 billion
Assets held to pay those liabilities	9.9 billion	11.8 billion
Unfunded actuarial accrued liability	10.2 billion	8.3 billion
Funding Ratio	49.3%	58.7%

Source: Kansas Public Employees Retirement System (2009A) p.4.

The market value of assets reported was $1.9 billion less than the actuarial value of assets on that date. The funding ratio of KPERS fell to 49.3% based on the market value of assets, compared to 58.7% based on the actuarial value of assets.

The asset smoothing methodology determines the timing when actual market experience is recognized in the financial statements. Unfunded liabilities not recognized in the current accounting period will be recognized in financial statements in future years. Since employer contribution rates are set based on the actuarial value of assets in the current

[1] Kansas Public Employees Retirement System (2009A), p.2.

accounting period, some of the losses in the current accounting period are deferred to future years.

The Actuarial Contribution Rate

The actuarial process is the basis for determining employer and employee contributions into the pension plan. To meet GASB standards, the pension plan must calculate an actuarial contribution rate that will eliminate unfunded liabilities in the system within a 30-year amortization period. The actuarial contribution rate is a schedule of employer contributions required to meet this standard. The actuarial contribution rate includes two components:

- A 'normal cost' for that portion of projected liabilities allocated by the actuarial cost method for service of members during the year following the valuation date.
- An 'unfunded actuarial contribution' to cover the excess of projected liabilities over the actuarial value of assets.

The Annual Required Contribution Rate (ARC) is the employer contribution rate required to meet the maximum 30 year amortization standard.

- PERA

The following table compares the ARC rate with the actual contribution rates for each division in PERA. The table also shows the Amortization Equalization Disbursement (AED), Supplemental Amortization Equalization Disbursement (SAED), and Contribution Rate Available for Funding. Table 8 shows that the actual contribution rates fell well short of the ARC rates for all of these divisions.

Table 8. PERA Actuarial and Statutory Contribution Rates, December 31, 2008 Valuation

Trust Fund	Annual Required Contribution	Actual Employer Contribution Rate	AED	SAED	Contribution Rate Available for Funding
State Division	18.45%	10.15%	1.40%	0.50%	11.03%
State Troopers		12.85%	1.40%	0.50%	13.73%
School Division	17.18%	10.15%	1.40%	0.50%	11.03%
Local Government Division	11.95%	10.00%	1.40%	0.50%	10.88%
Judicial Division	17.66%	13.66%	1.40%	0.50%	14.54%
Health Care	1.11%				1.02%

Source: http://www.copera.org/pdf/5/5-20-08.pdf, Pg. 24

The amortization period is the number of years it will take to pay off the unfunded actuarial accrued liability for each division based on the assumptions underlying the plan. The following table shows the amortization periods based on current funding and benefits, and with future AED and SAED increases.

Table 9. PERA Amortization Periods Based on Current Funding and Benefits, and with Future AED and SAED Increases.

Trust Fund	Amortization Period With Current Funding	Amortization Period With Future AED and SAED Increases
State Division	Infinite	Infinite
School Division	Infinite	75 Years
Local Government Division	29 Years	19 Years
Judicial Division	Infinite	48 Years
Health Care	39 Years	39 Years

Source: http://www.copera.org/pdf/5/5-20-08.pdf, Pgs. 28, and 61-68.

The GASB standard is for a system to demonstrate that unfunded liabilities will be paid off within a 30 year amortization period. If the amortization period is infinite, it means that the unfunded liabilities cannot be paid off even if all the assumptions are met. The state division has an infinite amortization period, even with future AED and SAED increases. The school division has an infinite amortization period with current funding, and a 75 year amortization period with Future AED and SAED contributions. The only division that meets GASB standards is the local government division, and that is only with future AED and SAED contributions.

- KPERS

As a result of legislation enacted in 1993, the KPERS system calculates a statutory contribution rate. The purpose was to set statutory payments as a level percentage of payroll to pay off unfunded liabilities in the system over a 40 year amortization period. The legislation set a cap on the amount by which the statutory contribution rate could increase each year. This statutory cap, which has been changed periodically, is currently 0.60% for all KPERS systems.[2]

Due to these statutory caps, the statutory contribution rates for State, School, and Local employers have fallen well below the actuarial contribution rates. The shortfall between these rates is 2.36 percent, 6.19 percent, and 3.68 percent, respectively, for the State, School and Local Systems.[3]

[2] Kansas Public Employees Retirement System (2009A) p.6-7.

[3] Ibid

Table 10. KPERS Actuarial and Statutory Contribution Rates, December 31, 2008 Valuation

System	Annual Required Contribution	Statutory	Difference
State	11.13%	8.77%	2.36%
School	14.96%	8.77%	6.19%
Local	10.42%	6.74%	3.68%
Police and Fire	17.88%	17.88%	0%
Judges	26.38%	26.38%	0%

Source: Kansas Public Employees Retirement System (2009A) p.7.

To meet GASB standards, the KPERS system must demonstrate that the statutory contribution rate will converge with the actuarial contribution rate within a 30-year amortization period. Given the assumptions in these projections, the dates when the statutory and actuarial contribution rates converge are 2022 for the State Group and 2020 for the Local Group. The statutory and actuarial contribution rates for the School Group do not converge within the amortization period. The School System is not in actuarial balance with respect to either GASB standards, or the statutory requirements set in the 1993 legislation.[4]

The investment losses in 2008 have caused a serious deterioration in the funded status of the KPERS system. $1.9 billion of these losses are not accounted for in estimating the above actuarial contribution rates due to the smoothing of asset values. To underscore the impact of these market losses, contribution rates are calculated based on the market value of assets. The following table compares the actuarial contribution rates with these contribution rates based on market values of assets. Using market valuation of assets, the employer contribution rate for the State/School System would have to increase to 16.5 percent, almost double the statutory contribution rate. The employer contribution rate for the Police and Fire System would have to increase from 17.8 percent to 20.86 percent.[5]

Table 11. Contribution Rates Using Actuarial and Market Valuations, December 31, 2008

	State/School		KP&F	
	Actuarial	Market	Actuarial	Market
Actuarial Liability	$14,492	$14,492	$2,098	$2,098
Asset Value	8,252	6,877	1,480	1,233
Unfunded Actuarial Liability	6,240	7,615	618	865
Funded Ratio	57%	47%	71%	59%

[4] Ibid.

[5] Kansas Public Employees Retirement System (2009A) p.8.

Contribution Rate				
Normal Cost Rate	8.53%	8.53%	14.71%	14.71%
Unfunded Actuarial Liability Payment	9.56%	11.62%	9.70%	12.68%
Total	18.09%	20.15%	24.41%	27.39%
Employee Rate	4.00%	4.00%	6.53%	6.53%
Employer Rate	14.09%	16.15%	17.88%	20.86%

Source: Kansas Public Employees Retirement System (2009A) p.8.

A Risky Investment Strategy

A major flaw in the design of these state pension systems is the assumption regarding the rate of return on assets. Many of these state pension systems assume a rate of return of 8% or above. Actuaries generally recommend an assumed rate of return on assets substantially below 8 percent. For example, the Employees Retirement Income Security Act, ERISA, recommends that private employers assume a 6.1 percent return on assets in private pension plans.

Because these pension systems assume a high on assets they must invest in a diversified portfolio of assets including equities as well as fixed income assets. The higher the ratio of equities relative to fixed income assets the more volatile the portfolio is likely to be. Because of this volatility some economists question the use of equities in public pension plans.[6] The high ratio of equities in the portfolios of our two case studies has resulted in great volatility in the value of their assets.

- PERA

The PERA system assumes a rate of return on assets of 8.5 percent. Like many state pension plans across the country, the PERA system has experienced a drastic decline in its investment portfolio valuation. As of December 31, 2008 the market value of assets held in PERA was $29.5 billion.[7] This was a decrease of $11.9 billion from the December 31, 2007 figure of $41.4 billion.[8] The return on assets in that year was a negative 28%.

Table 12. Market Valuation of PERA Investment Portfolio

Investment Type	Market Value Dec.31,2007	Percent of Total Market Value	Market Value Dec.31,2008	Percent of Total Market Value

[6] For a discussion of the arguments against this high ratio of stocks in public pension funds see Bader and Gold (2004).

[7] Colorado Public Employees Retirement (2008), p.78

[8] Ibid.

Domestic Equity	$17,894,976	43.3%	$11,311,506	38.4%
International Equity	$6,501,567	15.7%	$3,902.285	13.2%
Fixed Income	$9,903,354	23.9%	$7,843,112	26.6%
Alternative	$3,204,459	7.7%	$2,631,322	8.9%
Real Estate	$3,120,362	7.6%	$2,603,509	8.9%
Timber	$462,255	1.1%	$446,333	1.5%
Cash and Short Term	$286,431	0.7%	$746,532	2.5%
Total	$41,373,404	100.0%	$29,484,599	100.0%

Source: Comprehensive Annual Financial Reports, December 31, 2007 and December 31, 2008, Pg.78

A decade ago PERA administrators had most of the assets of the plan in equities. When the stock market bubble burst in 2001, PERA suffered a sharp drop in the value of assets in the portfolio. PERA then shifted more of the portfolio into fixed income assets, and promised to pursue more prudent investment policies. Recent evidence reveals that PERA administrators continue to repeat mistakes they have made in the past, resulting in accumulation of even greater unfunded liabilities in the plan.

Table 13. Actual and Target Shares in the PERA Portfolio.

	12/31/2007 Actual %	2007 Target %	2007 Ranges	12/31/2008 Actual %	2008 Target %	2008 Ranges
Domestic Stocks	43.3%	45%	42%-48%	38.4%	43%	40%-46%
Fixed Income	23.9%	25%	22%-28%	26.6%	25%	22%-28%
International Stocks	15.7%	15%	12%-18%	13.2%	15%	12%-18%
Alternative Investments	7.7%	7%	4%-10%	8.9%	7%	4%-10%
Real Estate	7.6%	7%	4%-10%	8.9%	7%	4%-10%
Timber/Opportunity Fund	1.1%	1%	0%-2%	1.5%	3%	0%-6%
Cash & Short-Term Investments	0.7%	0%		2.5%	0%	

Source: http://www.copera.org/pdf/5/5-20-08.pdf, Pg. 21

The PERA asset allocation reported in Table 13 reveals a portfolio heavily weighted toward equities.[9] The target share for equities is 75 percent, and for fixed assets is 25 percent. The current position reported in Table 3 is less risky than the target portfolio because of the sharp drop in value for equities over the past year—illustrating precisely why such a high target share for equities can cause volatility.

- KPERS

KPERS assumes an eight percent return on assets, and invests in a diversified portfolio of assets including equities as well as fixed income assets. KPERS has also experienced a drastic decline in its investment portfolio valuation. As of December 31, 2008 the market value of assets held in KPERS was $9.9 billion.[10] This was a decrease of $4.3 billion from the December 31, 2007 figure of $14.2 billion.[11] The annualized dollar weighted rate of return for 2008 measured on the market value of assets was -28.5 percent.[12]

Table 14. Kansas Public Employees Retirement System Investment Performance Report Total Portfolio Net Asset Value $9,814.9 Million December 31, 2008

Portfolio	Asset Value Millions	Current Position percent	Target Value Percent
Domestic Equity	2621.8	27.8	28.0
International Equity	1653.4	17.8	22.0
Global Equity	469.9	5.0	5.0
Real Estate	799.5	8.1	10.0
Alternative Investment	397.8	4.0	6.0
Subtotal for Equity Assets	5942.4	62.7	71.0
Fixed Income	1998.7	18.7	14.0
Real Return	1412.3	14.4	14.0
Cash Equivalent	453.7	4.2	1.0
Subtotal for Fixed Income Assets	3864.7	37.3	29.0

Source: Kansas Public Employees Retirement System (2009D) p.1.

The KPERS asset allocation reported in Table 14 also reveals a portfolio heavily weighted toward equities. The target share for equities is 71 percent, and for fixed income assets is 29 percent. The current position reported in Table 14 is less risky than the target portfolio because of the sharp drop in value for equities over the past year—illustrating precisely why such a high target share for equities can cause volatility.

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[9] For a discussion of the arguments against this high ratio of stocks in public pension funds see Bader and Gold (2004).

[10] Kansas Public Employees Retirement System (2009A) p.4.

[11] Ibid.

[12] Ibid.

We can compare the volatility in these state pension plans with that in the California Public Employees Retirement System (CALPERS). CALPERS reported a 23 percent decline in the value of assets in the system over the past year.[13] Moody's Investors Services reports that it put the triple A rating CALPERS on review for downgrade for the first time.[14] Moody's is also considering a downgrade in the triple-A rating of the California State Teachers Retirement System. A lower rating for these pension plans will mean increased borrowing costs for state and local jurisdictions in California.[15]

The pension plans in our case studies reported a sharper decrease in the value of assets in the system than that for the CALPERS system over the same time period. Therefore they should expect a similar downgrade in their bonds.

No one can predict the future returns on assets; however, the assumption of an eight percent return on assets must be questioned. If future returns on assets continue to fall below the assumed rate of return, the funded status of the system will deteriorate further. In those circumstances, it is possible that these state pension plans will not be in be in actuarial balance or meet GASB standards over a 30-year amortization period.

Why The Funding Crises in State Pension Plans May Be Worse When Evaluated by Private Pension Plan Requirments

A recent study by the National Bureau of Economic Research (NBER) suggests that the funding status in public pension funds is worse than reported (Novy-Marx and Rauh 2009). These pension systems are likely to experience significant funding shortfalls in future years, even if the economy recovers and financial markets stabilize. These funding shortfalls will impose a heavy burden on future generations.

The potential for future funding shortfalls in pension plans can be estimated from future assets and future liabilities. Future liabilities are estimated based on the current actuarial value of liabilities, the discount rate employed by the plan, and the amortization period. Future assets are estimated based on the expected growth rate and volatility of the plan's assets.

The NBER study of a sample of state pension plans finds that future under funding in these plans is actually greater than that reported in their financial statements because of the accounting rules used to estimate future assets and future liabilities in the system.

The NBER study, and other studies as well, point out that the eight percent average discount rate used by these state pension systems is almost certainly too high (Novy-Marx and Rauh 2009; Barclays Global Investors 2004). This discount rate assumption is based on Government Accounting Standards Board (GASB) ruling 25 and Actuarial

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[13] Wall Street Journal (2009E).

[14] Ibid.

[15] Ibid.

Standards of Practice (ASOP) item 27. These standards require a discount rate determined by the accrued return on pension plan assets. Critics argue that the discount rate should be based on the market risk inherent in the system liabilities (Novy-Marx and Rauh 2009; Gold 2002; Bader and Gold 2004).

Support for the critics' position comes from the discount rate used in private pension plans (Novy-Marx and Rauh 2009). In contrast to government pension plans, private pension plans use a discount rate applied to liabilities that is a blend of corporate bond yields and Treasury bond yields. The NBER study uses a lower discount rate to estimate the present value of future liabilities in their sample of state pension systems. In 2005, the present value of liabilities in these state plans—based on an eight percent discount rate—is estimated at $2.5 trillion. Using the Municipal bond rate to determine the discount rate results in an estimated present value of liabilities equal to $3.1 trillion; using the Treasury rate as the discount rate, the present value of the liabilities is estimated at $4.0 trillion (Novy-Marx and Rauh 2009).

Using these lower discount rates to estimate the present value of future liabilities results in much higher estimates of unfunded liabilities in these state pension plans. In their financial statements, these public pension plans estimate unfunded liabilities at $312 billion. The NBER study estimates unfunded liabilities at $901 billion using the Municipal bond discount rate and $1.9 trillion using the U.S. Treasury discount rate. Unfunded liabilities as a ratio of assets in the plans is estimated at 41 percent and 86 percent, respectively, for these lower discount rates (Novy-Marx and Rauh 2009).

One way to assess the magnitude of the funding crises in state pension plans is to use the same government standards as those applied to private defined benefit pension plans. Private defined benefit pension plans are considered 'safe' by government standards if they have enough assets to support at least 80 percent of pension benefit obligations (Life and Health Insurance News.com 2009). In 2008, only nine percent of a sample of state and local government pension plans met this standard (Munnell, A. H., J. Aubrey, and D. Muldoon 2008).

Private defined benefit pension plans are considered 'critical' if the value of assets in the plan is 65 percent or less of pension benefit obligations (Life and Health Insurance News.com 2009). This year more than half of state and local government pension plans are likely to fall in this 'critical' category. Using market values for portfolio assets, both the PERA and KPERS systems fall into this critical category.

The most important finding in the NBER study is the prospect of future under-funding in state pension plans based on more realistic discount rates. Using a 15-year amortization period, the NBER study estimates, conservatively, that there is a 50 percent chance of under funding greater than $750 billion; a 25 percent chance of under-funding greater than $1.75 trillion; and a 10 percent chance that under-funding will exceed $2.48 trillion. These estimates do not include any under-funding in other post employment benefit (OPEB) plans in these state pension systems (Novy-Marx and Rauh 2009).

Conclusion

State pension systems are experiencing a funding crisis. The recent collapse of financial markets has resulted in a significant decrease in the value of their portfolios. But, the funding crisis is not just the result of problems in financial markets. The funding problems have emerged over several decades, and are symptomatic of the poor incentive structure guiding the governance of many defined-benefit public pension plans. The financial market turmoil has exacerbated these problems, but many of these state pension plans are facing a long-run deterioration in funding status.

Many of these state pension plans assume a rate of return on assets of 8% or more. Because they assume a high rate of return on assets these plans often invest in a portfolio heavily weighted towards securities. A risky portfolio results in great volatility in the value of assets, funding rations, and unfunded liabilities. Even with this assumed rate of return on assets employers would have to significantly increase contribution rates to being the plans into actuarial balance. This would be difficult in the current recession and revenue shortfall.

The financial crises encountered over the past decade reveals that many state pension plans are fundamentally flawed. Using more realistic assumptions regarding the rate of return on assets, as well as assumptions regarding the actuarial value of liabilities, it is highly unlikely that these plans will achieve actuarial balance over the amortization period.

The solution to the funding crises in plans such as PERA and KPERS will require fundamental reform. Everything should be on the table, including changes in benefits and increased employee contribution rates, as well as employer contribution rates. These plans should consider replacing their defined benefit plans with defined contribution plans for new employees.

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WHY HAVE SOME STATES INTRODUCED DEFINED CONTRIBUTION PLANS?

*By Alicia H. Munnell, Alex Golub-Sass, Kelly Haverstick, Mauricio Soto, and Gregory Wiles**

INTRODUCTION

Although defined benefit plans dominate the state and local sector, in the last decade twelve states have introduced some form of defined contribution plan. The degree of compulsion varies among these states from mandatory participation in a defined contribution plan for new employees, to mandatory participation in both a defined benefit and defined contribution plan, to having the defined contribution plan only as an option.

This *brief* describes this flurry of defined contribution activity, presents data on participation and assets to put the flurry into perspective, and identifies the factors that led to the changes occurring in the states where they did.

The most important explanation turns out to be political rather than economic. States where the same political party controlled the legislature and the governorship and that party was Republican were the most likely to introduce a defined contribution plan. The results also suggest that plans with a high percentage of union members and those with sizeable employee contributions are less likely to add a defined contribution plan component. Interestingly, states without Social Security coverage, which provides a basic level of defined benefit protection, are not deterred from shifting to a mandatory defined contribution plan.

**Alicia H. Munnell is the Peter F. Drucker Professor of Management Sciences in Boston College's Carroll School of Management and Director of the Center for Retirement Research at Boston College (CRR). Alex Golub-Sass is a research associate at the CRR. Kelly Haverstick is a research economist at the CRR. Mauricio Soto is a senior research associate at the CRR. Greg Wiles is a former research assistant of the CRR.* *The authors would like to thank Elizabeth Hill and Daniel Kohler for helpful comments.*

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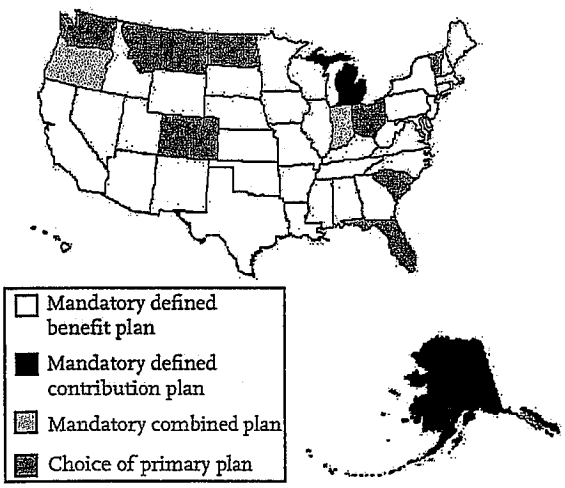
Defined Contribution Activity

Most state and local workers are covered by a traditional defined benefit plan. These workers often have a supplementary 457 defined contribution plan that allows them to put aside a portion of their pay on a tax-deferred basis. These supplementary plans are not the topic of this *brief*.[1] Rather the focus is on states where the nature of the primary plan has changed.

Each change is unique, with its own history and special provisions, but one useful way to classify them is by the extent to which they move employees away from a defined benefit plan. Only two states — Michigan and Alaska — have plans that require all new hires to join the defined contribution plan (see Figure 1).[2] Two states — Oregon and Indiana — have adopted "combined" plans, where employees are required to participate in both a defined benefit and a defined contribution plan. Another eight states have retained their defined benefit plan and simply offer the defined contribution plan as an option to their employees.[3]

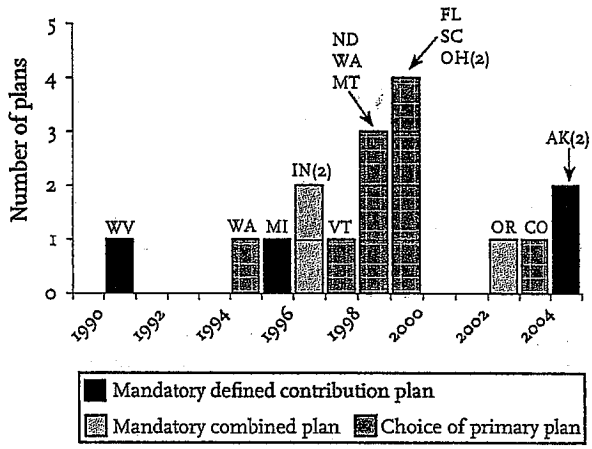
Figure 1. Adoption of Defined Contribution Plans, by State, 2007



Note: For specific definitions of the classifications used in this figure, see endnote 4.
Sources: Various retirement system's annual reports and websites of state legislatures.

The timeline of the introduction of these defined contribution plans is also interesting (see Figure 2). Some of the changes may be a response to economics or politics, but the activity at the end of the nineties was likely also a response to the fantastic performance of the stock market.[5]

Figure 2. Introduction of State Defined Contribution Plans, by Year



Note: For specific definitions of the classifications used in this figure, see endnote 4. The West Virginia Teachers plan, which became a primary defined contribution plan in 1991, switched back to a primary defined benefit plan in 2005.
Sources: Various retirement system's annual reports and websites of state legislatures.

Since the plans are relatively new, the compulsory plans apply only to new hires, and the others are optional, the number of participants and amount of assets in defined contribution plans are modest.[6] To date, participants account for less than 4 percent of all state and local workers and assets amount to less than 1 percent of total state and local pension assets (see Appendix Table A-1).[7]

Is Switching Likely to Save Money?

For any given level of benefits, defined contribution plans generally have higher investment and administrative expenses than defined benefit plans. So introducing a defined contribution plan is unlikely to reduce plan costs. And given the already high level of contributions by employees, states would find it difficult to shift more of the cost from the government to the participant.

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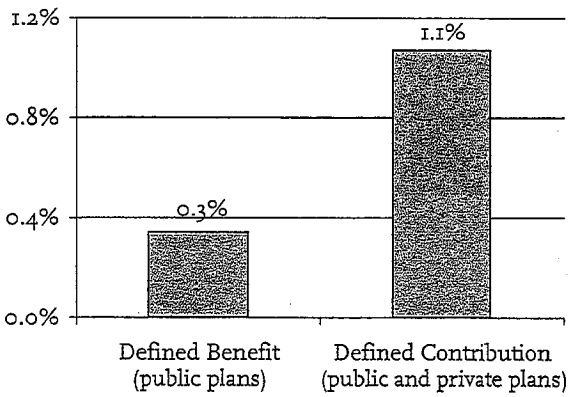
Administrative Costs

Public plans are relatively free from regulatory costs. The administrative expenses associated with the Employee Retirement Income Security Act (ERISA) of 1974 do not apply in the public sector. And since public sector plans are not insured by the Pension Benefit Guaranty Corporation, governments are not responsible for premium payments. The freedom from regulatory costs combined with the economies of scale achieved by large state pension funds has kept the cost of administering public sector defined benefit plans very low. According to the Census of Governments, the weighted average administrative cost (including cost of administration and investment management) for the nation's public defined benefit plans is 0.34 percent of assets (see Figure 3).

Figure 3. Administrative Expenses by Type of Plan, 2006



Sources: U.S. Census Bureau (2006), and HR Investment Consultants (2007).

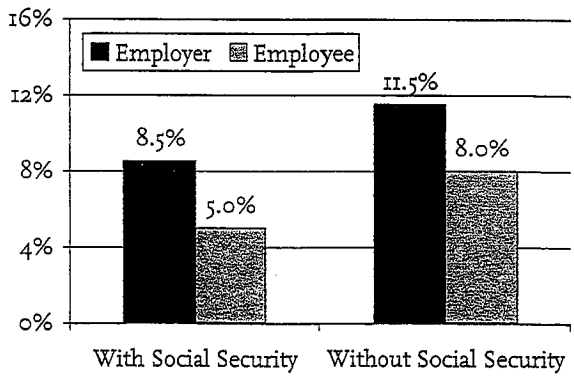
The costs of administering defined contribution plans are considerably higher. Defined contribution plans maintain individual accounts and typically update these accounts daily. In addition, most defined contribution plans use mutual funds or similar instruments as investment options — with an average expense ratio that ranges from about 0.60 percent for bond mutual funds to about 0.75 percent for a stock fund.[8] As a result, the annual cost of a defined contribution plan generally exceeds one percent of assets.

Some studies estimate considerably higher costs for public defined contribution plans. For example, the Illinois Municipal Retirement Fund (1999) estimated that replacing the defined benefit plan with a defined contribution plan would increase the administrative costs from 0.44 percent of assets per year to about 2.25 percent.

Employee Contributions

Even if aggregate costs increased, taxpayers could hope for relief if by switching to a defined contribution plan they could transfer the burden from the government employer to the individual employee. (Transferring the contribution burden to the employee provided a major economic incentive to move from defined benefit to 401(k) plans in the private sector.[9]) But such an outcome is difficult to achieve in the public sector where employee contributions to defined benefit pensions are already high. In states where employees are covered by Social Security, the median contribution rate is 5 percent (see Figure 4). In states without Social Security, the median employee contribution rate is 8 percent of payroll. Therefore, state and local governments might find it challenging to shift more of the cost from the government to the participant.

Figure 4. State and Local Employer and Employee Median Contribution Rates, 2006



Source: Brainard (2007).

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Other Arguments for Defined Contribution Plans

Some of the other arguments offered for defined contribution plans in the public sector are that they are more attractive to new employees, they offer employees the potential to earn higher returns, they solve the funding problem, and they avoid the "moral hazard" associated with state governments not funding benefit promises.

More Attractive to New Employees

Some proponents of defined contribution plans in the public sector contend that they will be more attractive to new and younger workers, who might value the portability of benefits provided by a defined contribution plan.[10] The data to date, however, do not show a groundswell of enthusiasm. As shown in Table 1, the percent of new employees electing a defined contribution plan ranges from 6 percent in Ohio to 21 percent in Florida. The outcome is affected by the fact that the majority of the plans cited automatically default employees into the defined benefit plan if they do not make a choice. Nevertheless, at this stage it would be difficult to argue that the presence of a defined contribution plan was a deciding factor for most people entering public sector employment. However, if even a small portion of workers prefer the features of defined contribution plans, such as portability, offering the plans as an option could serve as a useful recruitment tool.[11]

Table 1. Percent of New Employees Electing a Defined Contribution Plan

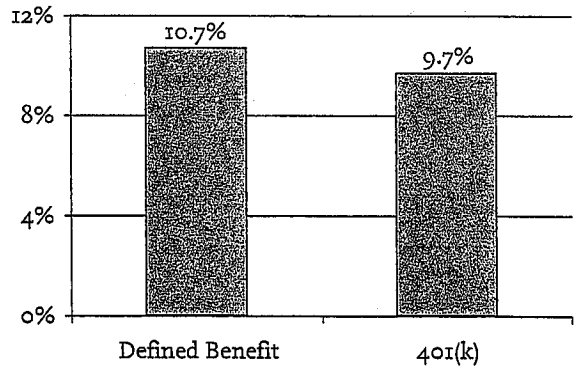
Plan	Percent	Does plan have default into defined benefit?
Colorado PERA	12%	Yes
Florida RS	21	Yes
Montana PERS	10	No
Ohio STRS	19	Yes
Ohio PERS	6	Yes
South Carolina	18	No

Source: Olleman (2007).

Offer Employees Potential to Earn Higher Returns

Another argument in favor of defined contribution plans is that people will be able to control their own investments. Thus, defined contribution plan participants will be able to match their portfolio to their preference for risk and perhaps earn higher returns. With respect to higher returns, however, such an outcome would contradict the experience in the private sector. Over the period 1988-2004, the return on 401(k) assets has averaged about one percent less than the return on private sector defined benefit assets, even though a greater percentage of 401(k) assets were invested in equities during the stock market boom of the 1990s (see Figure 5).[12]

Figure 5. Median Rates of Return for Private Sector Defined Benefit and 401(k) Plans, 1988-2004



Source: Munnell et al. (2006) based on the Department of Labor's Form 5500.

The expectation of higher returns also flies in the face of the experience of Nebraska. In the 1960s, the Nebraska legislature wanted to provide pensions for its state and county workers. But instead of instituting a defined benefit plan similar to that covering teachers and judges, it created a defined contribution plan. In recent years, however, Nebraska officials became concerned that the defined contribution plan was producing lower returns than the defined benefit plans. The Nebraska Public Employees Retirement

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Systems reported in a 2002 newsletter that "On average, the investment returns in the School Employees, State Judges and State Patrol defined benefit plans were 11 percent for the past 20 years while state and county employees returned between 6% and 7% on average."[13] Faced with such an enormous disparity, the state legislature replaced the defined contribution plan with a cash balance plan — a defined benefit plan where assets are managed by the employer but participants have separate accounts.

The Nebraska experience confirms what has been learned through the 401(k) experience in the private sector: individuals find investing very difficult and generally do not do a very good job.

Solve the Funding Problem

In the debate over retirement plans, supporters of defined contribution plans often use the magnitude of the unfunded liabilities to highlight the need for reform. The reality, however, is that, even with a new defined contribution plan, state governments are still left to deal with past underfunding problems. Although new employees will not accrue any benefits under the old plan, the state must still cover the cost of accrued benefits from past service. Thus, even if the introduction of a new plan — either defined benefit or defined contribution — reduces pension costs going forward, such a step does nothing to solve the current funding problem.

Avoid "Moral Hazard" of Not Funding Benefit Promises

Experts contend that states face incentives to not fully fund their defined benefit plans.[14] Participants, who believe that they will be paid regardless of funding, do not push for government contributions. And politicians are all too happy to address short-term priorities rather than put money aside for long-term funding needs. Similarly, legislatures sometimes make unfunded benefit improvements in good times that further aggravate the funding situation. A defined contribution plan avoids this type of "moral hazard," as the plans are fully funded by design.

The question is the seriousness of this "moral hazard" problem. Without the funding requirements of ERISA and with the incentives not to fund, one might think that states have not put aside any money to fund future benefits. But, in fact, state plans in the aggregate in 2006 were about 90 percent funded — about as well funded as their private sector counterparts.[15]

Impact on Public Employees

Defined benefit and defined contribution plans subject the employee to very different types of risk. A traditional defined benefit plan pays a lifetime annuity at retirement that is generally a percentage of final salary for each year of service. For example, an employee with 20 years of service who accrues 2 percent per year would be entitled to a benefit equal to 40 percent (20 years at 2 percent) of final salary for as long as they live. Most defined benefit pensions in the public sector are also adjusted, at least partially, for inflation after retirement, which substantially increases the value of the stream of payments. The employer bears the investment risk during the worker's employment and the inflation and longevity risk after retirement. But employees face 'mobility risk.' That is, under final earnings plans and plans with delayed vesting, workers who leave public service lose substantial benefits.

Defined contribution plans are like savings accounts. Generally the employee, and often the employer, contributes a specified percentage of earnings into the account. These contributions are invested, usually at the direction of the employee, mostly in mutual funds consisting of stocks and bonds. Upon retirement, the worker generally receives the balance in the account as a lump sum. One important advantage of these plans is that mobile employees do not lose benefits when they shift jobs as their assets can move with them. On the other hand, the employee bears all the investment risk during the accumulation phase as well as longevity and inflation risk after retirement.

For long-service employees, defined benefit plans provide a more secure retirement than defined contribution plans. And state and local employees tend to have longer tenures than their private sector counterparts. Partly for this reason, public sector unions have repeatedly resisted efforts to introduce a defined contribution plan.[16]

Why Did Some States Introduce Defined Contribution Plans?

In order to assess why some states adopted defined contribution plans, we undertook an empirical analysis to identify the factors that might affect their decisions. The following discussion first describes the factors considered and then presents the regression results.

Possible Explanations

Possible factors that may either encourage or discourage states from introducing a defined contribution plan include the funded status of the plan, the cost of the plan, the current level of employee contributions, the extent to which participants are unionized, whether government employees are covered by Social Security, and the political climate.

Funding ratio. A low funding ratio in a defined benefit plan could either encourage or discourage the introduction of a defined contribution plan. On the one hand, persistently low levels of funding might highlight the need for action and enhance the probability of introducing a defined contribution plan.[17]

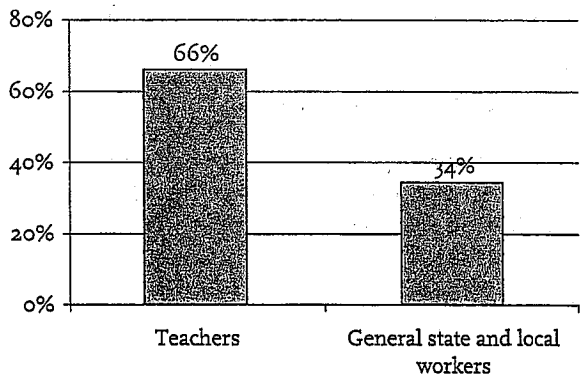
On the other hand, some experts contend that it is harder to switch from a defined benefit to a defined contribution plan when the plan is underfunded.[18] The argument is that the closer the system is to pay-as-you-go, the more expensive the transition. The government would have to contribute both to the defined benefit plan to cover annual benefit costs for current retirees as well as to the new defined contribution plan. This issue arose explicitly in Michigan. When the new defined contribution plan was introduced, the legislation explicitly stated that school employees could not make the transition until the $3 billion unfunded liability was erased.[19]

High cost. States with generous plans might be more likely to introduce a defined contribution plan in an effort to get their costs under control. One measure of generosity of the benefits is the annual accrual rate. That is, typically, an annual benefit in a defined benefit plan is the product of an employee's final average salary, the years of service, and the benefit rate per year — a rate that ranges from about 1.5 percent to 2.5 percent. The hypothesis is that the higher the rate and therefore the greater the cost, the more likely the state is to introduce a defined contribution plan.

Employee contributions. The notion is that the higher the existing level of employee contributions, the less likely the state will be able to shift more of its contributions to the employee. The inability to shift contributions to the employee would reduce the likelihood that a state would introduce a defined contribution plan.

Unionization (Teachers). Public sector unions generally support the retention of defined benefit plans.[20] Therefore, the hypothesis is that the greater the degree of unionization, the less likely the state is to switch a plan from defined benefit to defined contribution. The problem is that the only readily available data are the percent of public sector employees who are unionized by state. Unionization, however, varies significantly by type of plan. For example, a far greater percent of teachers are unionized than are general employees (see Figure 6). Therefore, a proxy for the role of unions is whether the plan covers teachers. The hypothesis is that when a plan includes teachers, the state is less likely to introduce a defined contribution plan.

Figure 6. Percent of Public Sector Workers Covered by Unions, by Worker Type, 2004



Sources: Farber (2005); and Hirsch and Macpherson (2007).

Social Security Coverage. Roughly 30 percent of public sector workers are not covered by Social Security. The bulk of uncovered workers are concentrated in twelve states (see Table 2 on the next page). Social Security is a defined benefit plan. Benefits are based on contributions, paid in the form of an annuity, and indexed for inflation after retirement. Social Security is designed to serve as a base to which workers can add through employer-sponsored pensions or individual saving. Our hypothesis is that states where workers do not have this basic level of protection would be less likely to introduce a defined contribution plan, because employees would then be exposed to all the risks associated with retirement planning.

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TABLE 2. PERCENT OF STATE AND LOCAL WORKERS NOT COVERED BY SOCIAL SECURITY, 2000

State	Percent not covered
Massachusetts	100%
Nevada	100
Ohio	100
Louisiana	98
Colorado	95
Maine	80
Alaska	73
Illinois	62
Texas	55
Connecticut	52
California	49
Missouri	45

Source: Munnell (2000).

Republican Control. The final consideration is political. Republicans generally espouse the advantages of defined contribution plans in terms of employees' ability to control their own investments and match their assets to their tolerance for risk. Introducing a defined contribution plan when Republicans control the state governorship and legislature is consistent with their political philosophy of individual responsibility for retirement savings.

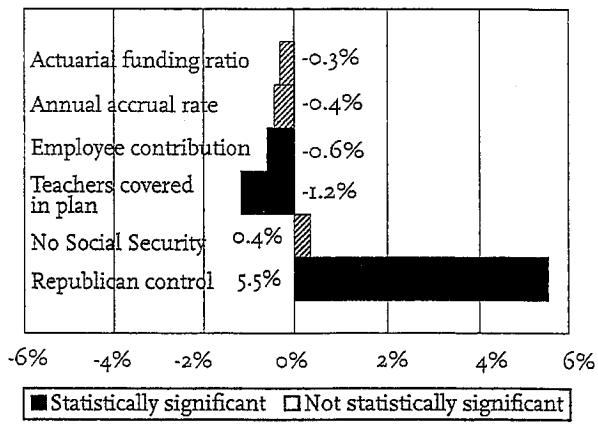
THE RESULTS

The analysis included data on each state-administered plan from 1992 through 2006. The dependent variable was set equal to zero if no action was taken; 1 if the state introduced a defined contribution plan as an option; 2 if the state replaced the defined benefit plan with a "combined" defined benefit/defined contribution plan; and 3 if the state replaced the defined benefit plan with a mandatory defined contribution plan.[21] The exercise included 76 plans; once a state introduced a defined contribution plan, the observation was removed from the sample.[22] Complete details are presented in Appendix B; summary results are displayed in Figure 7. The bars show the effect on the probability of introducing a defined contribution plan in a single year. The effects are quite large given that only about 20 percent of sponsors introduced some form of defined contribution plan over the 15-year period.

The results generally — but not universally — confirm the hypotheses put forth above. The funding ratio and the accrual rate do not seem to be important factors for the introduction of a defined contribution plan. On the other hand, as predicted, if the plan includes teachers — that is, it is a highly unionized plan — or if employee contributions are high, the state is less likely to introduce a defined contribution plan.

Two aspects of these results are surprising. First, the fact that states with a large percentage of workers not covered by Social Security had a higher probability of introducing a defined contribution plan is unexpected. The results are clearly driven by events in Colorado, Ohio, and Alaska, three states with a very high proportion of non-covered workers. In Colorado and Ohio, the defined contribution plans are optional and the take-up has been modest. Thus, most of these workers will continue to have the protection against investment risk and the promise of annuity that comes with a defined benefit plan. In Alaska, however, the story is quite different. Despite the fact that nearly three quarters of Alaska's public

FIGURE 7. EFFECT ON THE PROBABILITY OF INTRODUCING A DEFINED CONTRIBUTION PLAN



Note: For the binary variables, teachers covered in plan and Republican control, the bars represent the change in the probability derived from a 0 to 1 change (no teachers in the plan to teachers in the plan, no Republican control to Republican control). For the other variables, the bars represent the change in probability derived from going from the 25th percentile to the 75th percentile in each variable. For each variable, these calculations hold all other variables constant at their means.
Sources: See Appendix B.

employees are not covered by Social Security, all new hires are required to join a defined contribution plan. Therefore, state workers and teachers in Alaska will not have any form of defined benefit protection.

The second interesting aspect of the results is the importance of Republican control.[23] Its impact is larger and more robust than any of the other factors. Having a Republican governor and a Republican legislature increases the probability of introducing some type of defined contribution plan by 6 percentage points.

Conclusion

Although the introduction of defined contribution plans by some states has received a lot of press attention, activity to date has been modest. Excluding the eight states that have simply added a defined contribution option, only four have introduced any form of mandatory defined contribution plan. Given the recentness of the changes and the limited amount of compulsion, assets and participants in defined contribution plans are only a tiny fraction of state and local totals.

For any given level of benefits, defined contribution plans cost more than defined benefit plans for state retirement systems. Even so, sometimes debates about introducing a defined contribution plan suggest the state could save money. Other arguments for defined contribution plans have rested more on the ability of people to control their investments and take their accumulations with them when they move from job to job — aspects that might appeal to younger workers. Of course, moving away from defined benefit plans means that individuals must face the risk of poor investment returns, the risk that they might outlive their assets, and the risk that inflation will erode the value of their income in retirement.

The question is why twelve states introduced a defined contribution plan in some form or another. The answer appears to be, in large part, political philosophy. Republicans value the control over investments and portability offered by defined contribution plans and when they have dominated the political scene they have often changed the nature of public pensions.

APPENDICES

Appendix A. Primary Defined Contribution Plans

Table A1. Characteristics of Primary Defined Contribution Plans

State	Plan name	Legislative date	Plan type(s)	Total participants	Assets ($ in millions)
AK	Alaska PERS	2005	Mandatory DC	N/A	N/A
AK	Alaska TRS	2005	Mandatory DC	N/A	N/A
CO	Colorado PERA	2004	Choice: DB, DC	225	0.60
FL	Florida RS	2000	Choice: DB, DC	75,377	2,306
IN	Indiana PERF	1997	Mandatory combined	151,959	2,516
IN	Indiana TRF	1997	Mandatory combined	111,565	3,231
MI	Michigan SERS	1996	Mandatory DC	29,914	2,547
MT	Montana PERS	1999	Choice: DB, DC	1,639	31
ND	North Dakota RS	1999	Choice: DB, DC	291	15
OH	Ohio PERS	2000	Choice: DB, DC or combined	13,363	140
OH	Ohio STRS	2000	Choice: DB, DC or combined	9,631	224
OR	Oregon PERS	2003	Mandatory combined	187,704	1,172
SC	South Carolina RS	2000	Choice: DB, DC	27,622	477
VT	Vermont PERS	1998	Choice: DB, DC	592	36
WA	Washington PERS	1999	Choice: DB, combined	23,009	1,102
WA	Washington SERS	1998	Choice: DB, combined	33,454	860
WA	Washington TRS	1998	Choice: DB, combined	54,631	3,189
Total				720,976	17,845

Source: 2006 Annual Reports of each state system.

Appendix B. Data and Methodology

The sample includes annual data for plans for state employees (PERS or SERS) and teachers (TRS) between 1992 and 2006.[24] The factors affecting the change from a traditional defined benefit plan are the employee contribution rate, party control of the state legislature and governor, the percentage of public workers not covered by Social Security in the state, the funding ratio of the plan, the annual benefit accrual rate, and whether teachers are included in the plan. Specifically, the employee contribution rate variable is the ratio of the level of employee contributions to the sum of the level of employee contributions and the level of employer contributions. The funding ratio is the actuarial value of assets divided by the actuarial value of liabilities. The annual accrual rate is the benefit earned as a percent of salary per year of service. The teacher's variable is a dummy variable that equals one if teachers are covered by the plan and zero otherwise.

The data used in the regression come from different sources:

- Actuarial funding ratios, employee contribution rates, annual accrual rate, and the presence of teachers in the plan come from PENDAT (Zorn 1992-2000) and the Public Fund Survey (PFS) (National Association of State Retirement Administrators 2001-2006). For Indiana PERF, Vermont PERS and TRS, and Ohio STRS — which have incomplete information from PENDAT and PFS, — the data come from Wisconsin Legislative Council (1992-2000).[25]

- The percent of public workers not covered by Social Security in a state is taken from Munnell (2000). This percent is assumed to remain constant over time.

- For each year of data, the Republican control variable takes the value of 1 for states with Republican governors in which Republicans also have more than 50 percent of both houses of the legislature. These data come from the Statistical Abstract of the Census Bureau (U.S. Census Bureau 2007).

The regression is an ordered probit. The dependent variable takes values of 0, 1, 2, or 3.[26] A value of 0 indicates the plan did not change from a traditional defined benefit plan in a given year. A value of 1 indicates that the plan offered an optional defined contribution plan in that year. A value of 2 designates a change to a combination plan, with both defined benefit and defined contribution elements. Finally, the dependent variable takes on a value of 3 when a plan switched to a primary defined contribution plan only. Data on the date of the change comes from various retirement systems' annual reports and the websites of state legislatures.[27]

The introduction of a defined contribution plan is coded to the year in which the change was enacted by the legislature. Three plans switched to a defined contribution plan only in this time period (Michigan SERS (1996), Alaska PERS (2005), and Alaska TRS (2005)). Two plans introduced a combination plan (Indiana PERF (1997) and Oregon PERS (2003)). Finally, ten plans added a defined contribution option to their primary plan (Colorado PERA (2004), Florida RS (2000), Montana PERS (1999), North Dakota DCRP (1999), Ohio PERS (2000), Ohio STRS (2000), South Carolina PERS (2000), Vermont PERS (1998), Washington PERS (1999), and Washington TRS (1995)).

The results displayed in the text are the difference in the probability of being in category 0 (no change) for a base value of one of the explanatory variables and a comparison value of that variable. For example, the probability of "no change" for a state without Republican control is 99.4 percent. The same probability, "no change," with Republican control is 93.9 percent. The difference, 5.5 percent, can be interpreted as the effect of Republican control on the likelihood of changing the nature of the plan from a defined benefit to some type of defined contribution. For continuous variables (employee contribution rate, percent not covered by Social Security, accrual rate, and actuarial funding ratio), the values used to estimate the change in the likelihood are the 25th and the 75th percentiles of these variables. In each of these calculations, all other explanatory variables are held at their means.

ENDNOTES

1 48 states provide access to a supplementary defined contribution plan. See Ferrara (2002).

2 The District of Columbia also requires its general government employees to join a primary defined contribution plan, but our analysis is limited to states. Other states have considered moving to a primary defined contribution plan. For example, California's governor proposed such a switch in 2004, but this plan generated substantial opposition from public employee unions and the proposal was dropped in 2005. For more details on other attempts to move into defined contribution plans, see AFSCME (2007).

3 A combined plan is made up of a defined benefit plan funded by the employer and a defined contribution plan funded by the employee. In every choice state except Washington and Ohio, the options are either a traditional defined benefit plan or an alternative defined contribution plan. Washington offers a choice of a defined benefit plan or a combined plan. Ohio employees can choose from a defined benefit plan, a defined contribution plan, or a combined plan.

4 Mandatory combined plans require employees to join a plan with both a defined benefit and defined contribution component. Mandatory defined contribution plans are primary plans that require employees to join. "Choice" plans typically allow employees to pick either a primary defined contribution plan or a primary defined benefit plan. Mandatory defined benefit plans are primary plans that require employees to join.

5 For example, from January 1, 1995 to December 31, 1999, the S&P 500 had an average annual return of nearly 30 percent.

6 In the private sector, when a new plan is adopted the existing defined benefit plan is generally frozen. Existing employees can retain the benefits earned but are not permitted to accrue any further service credits. In the public sector, when a new plan is adopted, existing employees generally have a legal right to continue to participate in the previous plan and only employees hired after the date the plan is adopted are required to participate in the new plan.

7 Authors' calculations from the U.S. Census Bureau (2007), U.S. Board of Governors of the Federal Reserve System (2007), and 2006 Annual Reports of each state system.

8 These expenses are weighted by assets; see Investment Company Institute (2007). Index funds generally have considerably lower expense ratios — on the order of 0.10 to 0.20 percent. These funds, however, are not used widely by primary defined contribution plans in the public sector. In the Colorado PERA, Montana PERS-DCRP, Michigan SERS, and Ohio PERS, index funds hold less than 20 percent of the assets.

9 Private sector defined benefit plans are non-contributory so the cost to the employer was about eight percent of payrolls. Shifting to a 401(k) reduced the employer's contribution — in the case of a 50 percent match — to about three percent.

10 For example, in both Florida and Michigan the defined contribution initiative arose partly from public sector employer concerns over their ability to attract and retain workers (Huntley, 2001; and Rehfeld, 1998).

11 While optional plans provide the potential for attracting a broad group of workers, they do come at a cost to the employer. Under a traditional defined benefit plan, short-tenured workers often forfeit pension benefits when they leave, and these forfeitures subsidize higher benefits for career workers. Under optional plans, these short-tenure workers are likely to choose the defined contribution plan, which would end the cross subsidy to long-tenure workers. This adverse selection cost is estimated to be about 1.5 percent of payroll. See Trager, Francis, and SigRist (2001).

12 See Munnell et al. (2006).

13 Nebraska Public Employees Retirement Systems (2002).

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14 See Giertz and Papke (2007).

15 See Munnell and Soto (2007). Another recent study, using a somewhat different sample, found that state pension plans were about 85 percent funded in 2006 (The Pew Center on the States, 2007).

16 For more details on public sector employee tenure and union support of defined benefit plans, see Munnell, Haverstick, and Soto (2007).

17 Proponents might also argue — albeit incorrectly — that switching to a defined contribution plan could get the state out of a serious underfunding problem.

18 See Fore (2001).

19 See Fore (2001).

20 See Ferlauto (2002); and American Federation of Teachers (2007).

21 The ordered probit specification assumes that there is an inherent order in the outcomes depending on the degree of compulsion — optional involves less compulsion than combined, and combined less compulsion than mandatory. See Appendix B for the detailed ordered probit results. An alternative formulation ignores the ranking and assumes each type of defined contribution plan is an option without regard to the degree of compulsion. Nevertheless, this formulation does combine changes that require mandatory participation in the defined contribution plan with those where participation is optional. Running two separate binary probit equations, however, in which the first equation estimates the effects on the probability of introducing a mandatory defined contribution plan and the second equation estimates the effects on the probability of introducing an optional defined contribution plan, produces equivalent results to the ordered probit.

22 Prior to 2003, Nebraska was excluded from the analysis because it has always had a defined contribution plan and, therefore, was not in a position to switch. Recently, Nebraska switched to a cash balance plan. The West Virginia TRS plan was excluded from the analysis since it was switched to a defined contribution plan in 1991, which is outside the period of analysis. (It was later switched back to a defined benefit plan in 2005.)

23 The importance of political philosophy in the move to defined contribution plans in the public sector was first suggested by Wiles (2006).

24 West Virginia TRS plan was excluded since it was a defined contribution plan from 1992-2005. Nebraska PERS was a defined contribution plan from 1964-2003 and was also excluded from the sample.

25 Data before 2000 are available for even years only. Data for odd years are imputed using the midpoint between the two adjacent even years of data for actuarial funding ratios and employee contribution rates. Only plans with valid data for the previous and subsequent years had values imputed. These data comprise an unbalanced panel.

26 The standard errors are adjusted for the repeated observations for each state.

27 For quick access to state annual reports, visit: http://www.npers.ne.gov/public/aboutus/otherRetirement.jsp.

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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
Website: http://www.bc.edu/crr

www.bc.edu/crr

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WHY HAVE DEFINED BENEFIT PLANS SURVIVED IN THE PUBLIC SECTOR?

*By Alicia H. Munnell, Kelly Haverstick, and Mauricio Soto**

INTRODUCTION

While 401(k) plans now dominate the private sector, defined benefit plans remain the norm among state and local governments. Why have public sector employers not shifted from defined benefit plans to 401(k)s like their private sector counterparts?

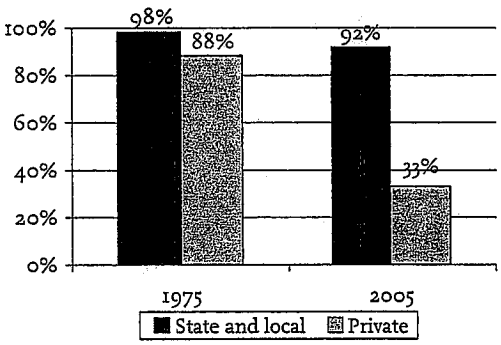
This *brief* examines the unique factors affecting the two sectors that may explain their very different patterns of pension coverage. State and local governments have an older, less mobile and more risk-averse workforce, with a higher degree of unionization to press for benefits that satisfy the needs of these workers. The nature of the employer is also fundamentally different. Unlike private sector firms, state and local governments are perpetual entities. They do not disappear — like many of the large manufacturing firms — taking their plans with them, and they are much less concerned about the financial volatility associated with defined benefit plans. States and localities can also increase required employee contributions to keep the plan's finances under control. Finally, the public sector has not had comprehensive pension regulation like the Employee Retirement Income Security Act of 1974; the absence of such regulation lowers administrative costs and enables later vesting.

**Alicia H. Munnell is the Peter F. Drucker Professor of Management Sciences in Boston College's Carroll School of Management and Director of the Center for Retirement Research at Boston College (CRR). Kelly Haverstick is a research economist at the CRR. Mauricio Soto is a senior research associate at the CRR.* *The authors would like to thank Daniel Kohler and Nathan Scovronick for helpful comments.*

A Very Different Pattern

In the old days, the nature of pension coverage in the public and private sectors was quite similar. In both sectors, the overwhelming majority of those with pensions were covered by a defined benefit plan. By 2005, however, the picture was quite different (see Figure 1). While the vast majority of public sector workers remained in defined benefit plans, only one third of private sector employees had such coverage.[1]

Figure 1. Percent of Workers with Pension Coverage with Defined Benefit Plans, by Sector, 1975 and 2005



Sources: U.S. Congress (1978); Authors' calculations from U.S. Department of Labor (1998); U.S. Department of Labor (2000); U.S. Department of Labor (1990-2006); and Standard & Poor's (2005).

The difference in the nature of pension coverage produces a significant difference in the risks facing workers and employers. A traditional defined benefit plan pays a lifetime annuity at retirement that is generally a percentage of final salary for each year of service. The employer bears the investment risk during the worker's employment and longevity risk after retirement. In the public sector, the employer also adjusts benefits for inflation, thereby absorbing the inflation risk as well.[2] In both sectors, however, employees bear "mobility risk" in that they forfeit benefits when they move from one employer to another.

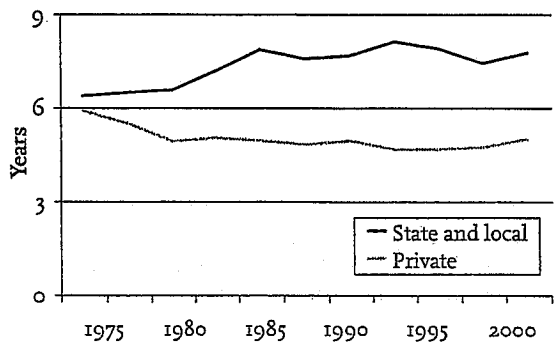
In contrast, defined contribution plans — most often 401(k)s — are like savings accounts. Generally the employee, and often the employer, contributes a specified percentage of earnings into the account. These contributions are invested, usually at the direction of the employee, mostly in mutual funds consisting of stocks and bonds. Upon retirement, the worker generally receives the balance in the account as a lump sum, albeit with the option to roll it over to an IRA. One important advantage of 401(k) plans is that mobile employees do not forfeit benefits when they shift jobs as their assets can move with them. On the other hand, the employee bears all the investment risk during the accumulation phase as well as longevity and inflation risk after retirement.

The question is why the pattern of pension coverage and risk differs so sharply between the two sectors. The three areas for investigation are the nature of the workforce, the nature of the employer, and the regulatory environment.

The Workforce

One reason that pensions could differ between the two sectors is that the workforce has different characteristics. State and local workers tend to remain with their employer longer than workers in the private sector. While private sector workers have become more mobile over time, the median years of tenure of the public sector workforce have actually increased over the past 30 years (see Figure 2). In 2004, the median tenure for state and local employees was 7.7 years, compared to 5.0 years in the private sector.

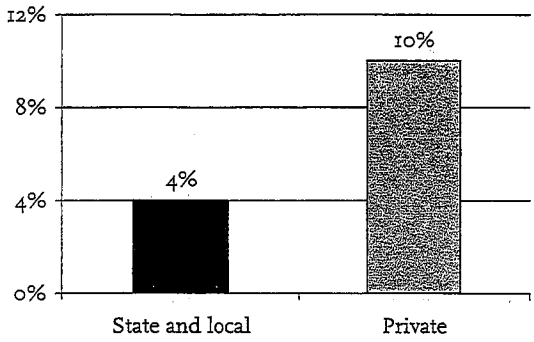
Figure 2. Median Years of Tenure of Wage and Salary Workers Ages 25-64, by Sector, 1973-2004



Note: The median tenure shown for state and local workers prior to 1983 is all government workers.
Source: Authors' calculations from the U.S. Census Bureau, *Current Population Survey* (CPS), 1973-2004.

Part of the longer tenure may reflect the fact that public sector employment is more secure than private sector employment. The *Displaced Worker Surveys* show that the job loss rate in the private sector has been 2.5 times higher than in the public sector

FIGURE 3. AVERAGE JOB LOSS RATE, BY SECTOR, 1986-2004



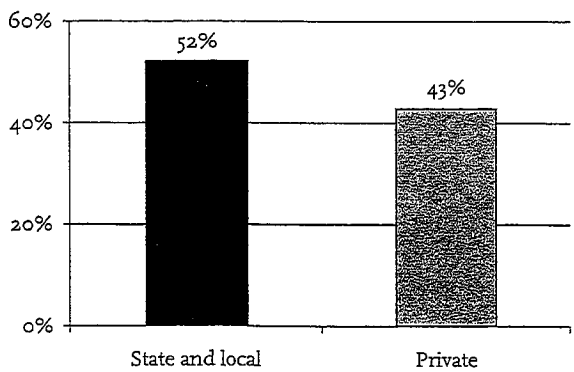
Note: State and local average is for all public sector workers.
Source: Farber (2005).

(see Figure 3). The lower displacement rate and the longer tenures of public sector workers would lead to a preference for defined benefit plans over defined contribution plans, since defined benefit plans disproportionately favor long-service workers.

The longer tenure and greater employment security in the public sector result in an older workforce (see Figure 4), and older workers are more likely to care about their retirement than younger workers. Not surprisingly, older workers favor defined benefit plans since they ensure a secure stream of income at retirement. The value of benefits accrued in such plans also rises sharply as workers age. Younger workers tend to prefer the immediate gratification of contributions to an account they can take with them when they move from job to job, rather than the promise of a lifetime benefit at the end of a long career — especially when they are not sure they will be with the same employer five, ten, or twenty years in the future.

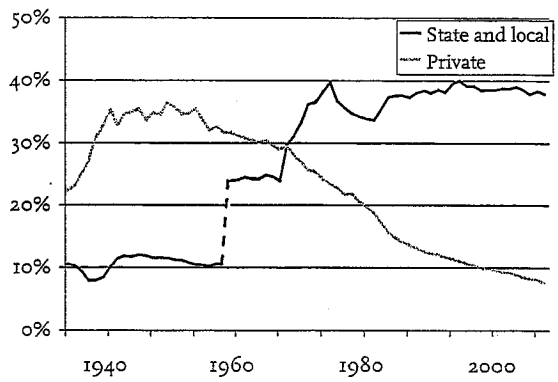
The longer tenures, older ages, and a preference for defined benefit plans are also likely to make unions more attractive to employees in the public sector. And indeed, the union picture for the two sectors has diverged dramatically (see Figure 5). While union membership in the private sector fell from 35 percent in the 1950s to 8 percent in 2006, the rate in the public sector increased from relatively low levels in the 1950s to over 35 percent today.[3]

FIGURE 4. PERCENT OF WORKERS AGE 45 AND OVER, BY SECTOR, 2005



Source: Authors' calculations from the 2005 CPS.

FIGURE 5. PERCENT IN UNIONS, WAGE AND SALARY WORKERS AGES 25-64, BY SECTOR, 1939-2006



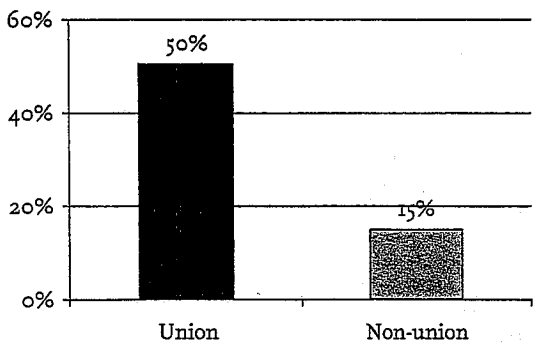
Note: The percent in unions shown for state and local workers prior to 1962 includes federal workers. The jump in union membership between 1961 and 1962 is due to the inclusion of associations, such as the National Education Association, which were previously excluded.
Sources: Troy and Sheflin (1985); U.S. Department of Labor (1939-1983); and Hirsch and Macpherson (2007).

A recent study attributed the sharply divergent patterns to several factors.[4] First, while employment has grown at about the same pace in the two sectors, the nature of that growth is very different. In the public sector, employment tends to grow steadily in line with population. When the growth occurs in jurisdictions already unionized, the number of unionized workers increases automatically. In the private sector, a portion of the growth involves the demise of old firms and creation of new firms. Since all new

firms are created union free, unionization will decline without new organization. Second, the products produced by the two sectors differ. The private sector produces tradable goods, where competition can limit the ability of unions to increase compensation. The public sector generally produces non-tradable goods, such as police and fire protection and education, which makes it easier for public sector unions to raise compensation without the loss of jobs.[5] Finally, public sector unions can produce more membership benefits than their private sector counterparts. In addition to bargaining directly for compensation and workplace administration, union members can work for the election of union-friendly candidates, who can be helpful in contract negotiations. These greater potential membership benefits make unions relatively more attractive in the public sector.

With respect to pensions, the significantly greater level of unionization in the public sector has surely contributed to support for defined benefit plans. Some measure of union preference for defined benefit plans can be gleaned from the relationship between type of pension coverage and union membership in the private sector. Here, half of union members were covered by a defined benefit plan in 2005, compared to only 15 percent of non-union workers (see Figure 6).

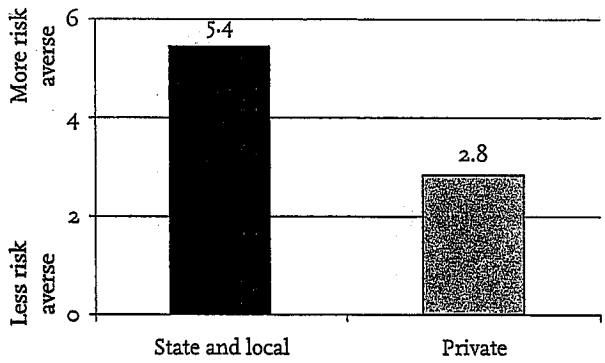
FIGURE 6. PERCENT OF PRIVATE SECTOR WORKERS AGES 25-64 WITH DEFINED BENEFIT PENSIONS, BY UNION MEMBERSHIP, 2005



Source: Authors' calculations from the University of Michigan, *Panel Study of Income Dynamics* (PSID), 2005.

All these factors — longer tenure, more secure jobs, older workforce, and greater unionization — may also reflect the fact that public sector workers are more risk averse than their private sector counterparts. And risk-averse employees in relatively secure jobs would surely want a defined benefit pension where the employer absorbs investment, longevity, and inflation risk.

FIGURE 7. MEDIAN COEFFICIENT OF RISK AVERSION, BY SECTOR, 1996



Source: Authors' calculations from the 1996 PSID.

To evaluate risk preferences of individuals, economists generally use the Coefficient of Relative Risk Aversion (CRRA). Higher values of the coefficient indicate higher aversion towards risk. Figure 7 shows that public employees are less comfortable with uncertainty than their private counterparts.[6] A regression equation that estimated the probability of being employed in the public sector suggests that — even after controlling for gender, race and family status — the measure of relative risk aversion increases the probability of being a public employee by about 8 percentage points (see Appendix).[7]

THE EMPLOYER

Employers in the public sector are also different from those in the private sector for two reasons mentioned above — they are perpetual entities and they do not face the same degree of market discipline. Each of these characteristics has both a direct and an indirect effect on the likelihood of having a defined benefit plan.

Perpetual Entities

In the private sector, the shift from defined benefit plans to 401(k)s primarily occurred through the decline of companies with defined benefit plans and the establishment of 401(k) plans at new companies. Thus, the demise of old firms in manufacturing and other industries and the rise of new firms in services and high tech provided an automatic mechanism for

pension change in the private sector. Not until the recent round of "pension freezes" was there a significant movement of employers shutting down a defined benefit plan and opening a successor 401(k).[8]

No such "organizational churn" exists in the public sector, as most governmental units exist in perpetuity, so conversions from a defined benefit to a defined contribution plan are more difficult. The only way to shift plan type is through the political process, which involves considerable negotiations. Public employees and employee unions generally resist such change. In addition to this direct effect, the perpetual nature of state and local governments also leads to higher levels of unionization, further strengthening support for defined benefit plans.

Public sector employers also have an organizational interest in maintaining defined benefit plans. State and local governments are perpetual entities that deliver stable services. Public sector jobs may be quite specialized, resulting in both employees and employers benefiting from long job tenure. Defined benefit plans serve to attract and retain a high-skilled workforce needed to provide these specialized and stable services.

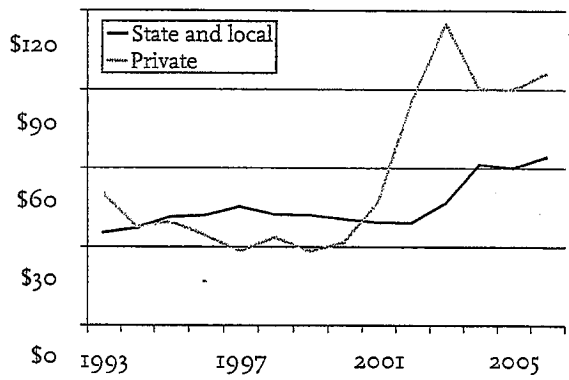
Less Market Discipline

The indirect effect of less market discipline is that state and local governments have less reason than private firms, which have to compete in the global marketplace, to resist union organizing efforts. And unions support defined benefit plans. More directly, less market discipline means that public employers do not have to worry nearly as much about how the financial volatility of defined benefit plans affects their income statements or balance sheets.

Volatility is a major concern in the private sector and in recent years has accelerated the pace of decline of private sector defined benefit plans. Private sector employers have had to respond to the financially devastating impact of the "perfect storm" of stock market decline and low interest rates at the turn of the century, legislation that will require underfunded plans to dramatically increase their contributions, and accounting changes that will force fluctuations in pension finance onto the earnings statement.[9] This volatility generates substantial movements in the company's cash flow and stock price, with the latter benchmark often directly affecting executive compensation.

Fluctuations in pension assets and liabilities also occur in the public sector. This volatility might affect debt ratings and increase the cost of borrowing. Elected officials may also face the unpopular prospect of having to raise taxes to cover pension contributions. States and localities, however, are better able to "manage" the ups and downs in the financial health of their defined benefit pension plans. The reason is that public plans have retained traditional actuarial methods to smooth their contributions over time. Underfunded public plans do not have to comply with the legislated funding requirements that apply to private plans, so a severe drop in the stock market and/or interest rates will have less of an impact on public sector pension contributions. During the "perfect storm," for example, employer contributions to private defined benefit plans tripled while those to public plans increased far less (see Figure 8).

FIGURE 8. EMPLOYER CONTRIBUTIONS TO DEFINED BENEFIT PLANS, BY SECTOR, BILLIONS, 1993-2006



Sources: U.S. Department of Labor (1990-2006); and U.S. Census Bureau (1993-2006).

In short, the different characteristics of private and public sector employers also help explain the prominence of defined benefit plans in the public sector.

THE REGULATORY ENVIRONMENT

The final factor contributing to the different pension profile between the public and private sectors is the regulatory environment. In the private sector, the Employee Retirement Income Security Act of 1974 (ERISA) imposes minimum standards for participation, vesting, and funding; state and local plans are not covered by this legislation. ERISA also established the Pension Benefit Guaranty Corporation (PBGC), which collects premiums from plan sponsors and pays benefits (within limits and subject to certain restrictions) in the event of plan termination. Public plans are not covered by ERISA or the PBGC.[10] The absence of these regulations could increase the desirability of defined benefit plans by lowering administrative costs and allowing later vesting.

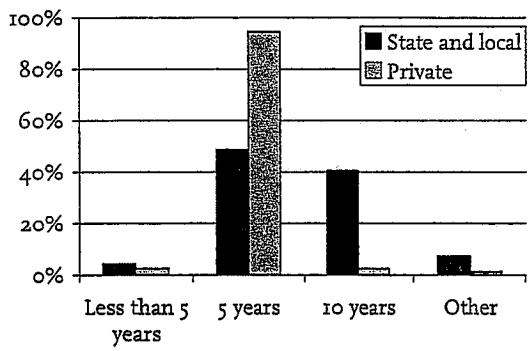
Administrative Costs

The enactment of ERISA raised the costs of running a private defined benefit plan. It was not just the effect of the original legislation, but during the 1980s Congress passed significant pension legislation every few years.[11] Congress also repeatedly raised PBGC premiums and imposed an excise tax on employers who claim the excess assets of terminated defined benefit plans. The cumulative impact of the legislative changes increased the costs of defined benefit plans relative to those for defined contribution plans.[12] A number of studies have identified regulatory costs as a factor in the decline of defined benefit plans.[13]

Vesting

In addition to the administrative costs, critics have charged that forcing plan sponsors to pay benefits to departing employees through accelerated vesting contributed to the demise of defined benefit plans in the private sector.[14] They say that paying small lump-sum distributions to short-tenure workers dramatically increased costs and reduced the ability of sponsors to pay benefits to long-service employees — thereby undermining the basic purpose of a defined benefit pension. To the extent that this view is accurate — studies in the 1970s suggested that these payments to short-service employees would not be a significant burden[15] — the later vesting in the public sector would make defined benefit plans more attractive to employers (see Figure 9).

FIGURE 9. VESTING REQUIREMENTS FOR DEFINED BENEFIT PLANS, BY SECTOR



Note: These numbers are for employees with cliff vesting. The state and local data are for 1998 and the private data are for 2005.
Sources: U.S. Department of Labor (2007); and U.S. Department of Labor (2000).

Employee Contributions

As a rule, private sector employees do not contribute to defined benefit plans, while nearly all state and local employees do. One implication of these contributions is that state and local governments are unlikely to save much by converting to a defined contribution plan.[16] Moreover, public plan sponsors can raise contribution rates on employees to manage costs.[17] As shown in Table 1, contributions for Massachusetts public employees have gone from 0 to 9 percent plus a 2 percent surcharge on earnings over $30,000. The Massachusetts rates are higher than general because public sector workers are not covered by Social Security, but the pattern of increasing employee contribution rates has helped hold state and local government costs in check.

TABLE 1. CONTRIBUTION RATES IN MASSACHUSETTS PUBLIC EMPLOYEE RETIREMENT SYSTEM

Date of hire	Contribution rate
Pre-1945	0%
1945-74	5%
1975-78	7%
1979-83	7% + 2% over $30,000
1984-96	8% + 2% over $30,000
1996- present	9% + 2% over $30,000

Source: Public Employee Retirement Administration Commission (2005).

CONCLUSION

Defined benefit plans dominated both the private and state and local sectors in the 1970s. Today they are disappearing in the private sector, but are alive and well in the state and local sector. The reasons for these divergent trajectories reflect the different nature of the public sector workforce — older, more risk averse, less mobile, and more unionized; the different nature of the public employer — a perpetual entity facing fewer market pressures; and a different regulatory environment — free from the administrative costs and vesting requirements of ERISA, with the ability to adjust employee contributions to control the employer's costs.

All is not quiet in the public sector, however. In the last ten years, states have explored defined contribution plans. A couple of states now have a defined contribution plan as their basic pension, and a number of others offer employees the option of a defined contribution plan. A future *brief* will explore where and why this activity is occurring.

ENDNOTES

1 State and local governments generally offer defined contribution plans as a supplement to their defined benefit plans. 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.

2 In addition to the treatment of inflation risk, defined benefit pensions in the public and private sectors are different in other ways. First, public sector plans usually have somewhat higher accrual rates. Second, the financing differs between the two sectors. In the private sector, typically only the employer makes contributions to defined benefit plans, whereas in the public sector the employee typically contributes as well. Finally, with respect to mobility risk, government employees have somewhat more flexibility than their private sector counterparts as many states allow employees to change jobs within the state while remaining in the same municipal retirement plan. For additional details on the characteristics of public and private sector defined benefit plans, see Munnell and Soto (2007).

3 Union membership, of course, varies by region and type of job. For example, public safety employees and teachers tend to be more unionized than others.

4 Farber (2005). Also, see Freeman (1988).

5 Increases in compensation in the public sector, however, have some risks. Public employers can outsource some of the services to private firms, increasing the risk of layoffs for public employees. Public officials also face political risks in that higher compensation might require tax increases. See Farber (2005).

6 The calculation of the Coefficient of Relative Risk Aversion (CRRA) is based on the responses to five questions in the 1996 *Panel Study of Income Dynamics* asking whether individuals would give up their current job for one with a 50-50 chance of doubling their income but also a 50-50 chance of cutting it by some percent. The five questions were asked in a sequence so that individuals could be categorized into six risk aversion groups. They were then assigned the mean coefficient for that risk aversion group following the methodology described by Barsky, et al. (1997) and Hryshko, Luengo-Prado and Sorensen (2007).

7 This magnitude is consistent with Bellante and Link (1981), who found an effect of 7.5 percentage points.

8 For a discussion of the factors underlying recent pension freezes, see Munnell and Soto (2007).

9 The Pension Protection Act of 2006 represents the most significant change in pension regulation since the Employee Retirement Income Security Act of 1974 (ERISA). The new funding rules, which take effect in 2008, significantly reduce the leeway that companies have in making contributions to their plans. Plans must now be 100 percent funded, and most sponsors of underfunded plans have only seven years to pay off any existing shortfall. Moreover, sponsors will have less ability to smooth the value of assets or liabilities, making cash contributions significantly more volatile. At the same time, the Financial Accounting Standards Board (FASB) has instituted the first step of a two-step pension reform project by requiring sponsors to show pension surpluses or deficits directly on the balance sheet. This change could introduce volatility to the balance sheet, which could seriously cut into shareholder equity. In the second step, expected in the next three years, FASB is expected to require companies to mark-to-market the value of pension assets and liabilities, eliminating the smoothing available under current rules. Given the enormous volatility in the stock and bond markets in recent years, marking-to-market could introduce significant additional volatility in reported earnings. Such volatility is not acceptable to corporate managers, and may in large part explain why large healthy companies have taken steps to end their defined benefit plans.

10 Plans in both the public and private sector operate under a common set of rules spelled out in the Internal Revenue Code. On the accounting side, standards governing public sector pensions were established by the Governmental Accounting Standards Board (GASB) in 1994. As with the Financial Accounting Standards Board (FASB) in the private sector, GASB acts as a standard-setter but does not actually enforce

compliance. However, compliance with GASB standards is necessary for the plan to receive a statement that its financial statement is in accordance with generally accepted accounting principles (GAAP).

11 The Omnibus Budget Reconciliation Act of 1987 reduced the full funding limits for defined benefit plans from 100 percent of projected plan liability to the lesser of that value or 150 percent of benefits accrued to date. Basing funding limits on benefits already accrued means that funding contributions no longer include any provision for anticipated pay increases (McGill et al., 2005). The funding restriction exposes the sponsor to higher costs in the future.

12 The biggest increase in both absolute and relative costs of defined benefit versus defined contribution plans occurred in the late 1980s as plans adjusted to the Retirement Equity Act of 1984 and the Tax Reform Act of 1986 (Hustead, 1998).

13 Kruse (1995) found that rising administrative costs contributed to the decline in defined benefit pension coverage over the period 1980-86.

14 See interview with Dallas Salisbury by David Macchia (2007). Before ERISA, it was not unusual for plans to lack vesting provisions. ERISA incorporated minimum vesting rules. Originally, ERISA set a maximum of 10 years (cliff vesting) or 15 years (graded vesting). The Tax Reform Act of 1986 reduced the limits to 5 and 7 years respectively. See Graham (1988).

15 Sass (1997).

16 An upcoming *brief* will explore in depth the financial implications of introducing a defined contribution plan.

17 Employee contributions for defined benefit plans in the public sector — unlike in the private sector — are not subject to federal income tax.

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APPENDIX

TABLE A1. REGRESSION RESULTS FOR THE PROBABILITY OF BEING EMPLOYED IN THE PUBLIC SECTOR

Dependent variable: 1=Public employee, 0=Private employee		
Variable	Marginal effect	Std. error
Education	2.48*	0.29
Age	0.51	0.34
Age squared	0.00*	0.00
Married	-3.36	1.84
Number of children	0.24	0.66
Nonwhite	8.49*	1.57
Female	3.03	1.77
High risk aversion	8.01*	1.35

* Variable is statistically significant.
Source: Authors' calculations from the 1996 PSID.

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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Massachusetts Institute of Technology
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
Website: http://www.bc.edu/crr

www.bc.edu/crr

The CRR gratefully acknowledges the Center for State and Local Government Excellence for its support of this research. The Center for State and Local Government Excellence (http://www.slge.org) is a proud partner in seeking retirement security for public sector employees, part of its mission to attract and retain talented individuals to public service. The opinions and conclusions expressed in this *brief* are solely those of the authors and do not represent the opinions or policy of the CRR or the Center for State and Local Government Excellence.

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NEWS Release

Contact: Kelly Kenneally
202.457.8190
kkenneally@nirsonline.org

NEW STUDY FINDS 9,020 JOBS, $1.3 BILLION ECONOMIC IMPACT FROM KANSAS' PUBLIC PENSION SYSTEMS

Analysis Determines Pensions Leave Substantial Economic Footprint

WASHINGTON, D.C., FEBRUARY 26, 2009 – An economic impact analysis released today finds that the benefits provided by Kansas' public pension plans have a sizable impact that ripples across the state and touches every industry. The new report, *"Pensionomics: Measuring the Economic Impact of State and Local Pension Plans,"* finds that expenditures made from Kansas' public pension benefits for fiscal year 2005-2006:

- Had a total economic impact of more than $1.3 billion.
- Supported more than 9,020 jobs that paid more than $471.7 million in total compensation to Kansas' workers.
- Supported more than $171.8 million in annual federal, state, local tax revenue.
- Paid $929.8 million in pension benefits to 65,415 retirees and beneficiaries.
- Had large multiplier effects. Each taxpayer dollar invested in Kansas' public pensions supported $5.74 in total economic activity, while each dollar paid out in benefits supported $1.34 in economic activity.
- Impacted every industry in the state.

A detailed Kansas economic impact Fact Sheet is available at www.nirsonline.org. The report also analyzes the national economic impact of public pensions to find 2.5 million jobs and $358 billion in economic activity supported by state and local pensions.

"This study measures the magnitude of the 'multiplier effect' of Kansas' public pensions across the state's economy," said Ilana Boivie, NIRS policy analyst and report co-author. "The multiplier effect occurs because one retiree's spending in Kansas becomes another person's income," she said.

—more—

Boivie explained, "For example, a retired Kansas teacher may spend his or her pension check to pay the gas bill, buy a car, or make purchases at the local pharmacy, grocery store, or movie theatre. As a result of the retiree's spending, businesses see an increase in their income, which then enables businesses to spend and create jobs. Each successive round of spending ripples through the Kansas economy to generate an economic impact that is much larger than the initial spending by the retiree."

"Understanding the considerable economic impact of Kansas' public pensions is vital given the severe financial crisis facing America," said Beth Almeida, NIRS executive director and report co-author. "Economists have long known that the steady monthly income provided by pensions can act as an 'automatic stabilizer.' That is, retirees with a stable monthly pension income can continue to spend on basic needs, even during an economic downturn. In contrast, retirees relying solely on plummeting 401(k)s or individual retirement accounts likely are forced to retreat from spending precisely at the time when the Kansas economy most needs stimulus," Almeida explained.

The analysis was conducted using data from the U.S. Census Bureau and IMPLAN, an input-output modeling software widely used by industry and governments.

NIRS will hold a conference call regarding the findings on Thursday, February 26, 2009 at 11 AM ET by dialing (800) 230-1074, Confirmation Number: 988166

A live PowerPoint presentation will be available online during the conference call. Log on to the web conference by visiting www.gotomeeting.com. On the left hand column of the page, click "Join Meeting." When prompted, enter Meeting Number 193-429-659. Enter the requested information to access the presentation.

The Report, State Fact Sheets, and PowerPoint Presentation will be available in advance of the call at www.nirsonline.org on Feb. 26th at 9 AM ET.

An audio digitized replay of the call will be available from February 26, 2009 at 1 PM ET through March 26, 2009 at 11:59 PM ET by dialing (800) 475-6701, Access Code 988166.

ABOUT NIRS

NIRS is a non-profit, non-partisan organization established to contribute to informed policymaking by fostering a deep understanding of the value of retirement security to employees, employers, and the economy as a whole. Located in Washington, D.C., NIRS's membership includes employee benefit plans, agencies that manage retirement plans, trade associations, financial services firms, and other retirement service providers.

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KANSAS

NATIONAL INSTITUTE ON Retirement Security
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Pensionomics:

Measuring the Economic Impact of State and Local Pension Plans

Key Findings

Benefits paid by state and local pension plans support a significant amount of economic activity in the state of Kansas.

Pension benefits received by retirees are spent in the local community. This spending ripples through the economy, as one person's spending becomes another person's income, creating a *multiplier effect*.

Expenditures stemming from state and local pensions supported...

- 9,020 jobs that paid $471.7 million in wages and salaries
- $1.3 billion in total economic output
- $171.8 million in federal, state, and local tax revenues

... in the state of Kansas.

Each dollar paid out in pension benefits supported $1.34 in total economic activity in Kansas.

Each dollar "invested" by Kansas taxpayers in these plans supported $5.74 in total economic activity in the state.

Overview

Expenditures made by retirees of state and local government provide a steady economic stimulus to Kansas communities and the state economy. In 2006, 65,415 residents of Kansas received a total of $929.76 million in pension benefits from state and local pension plans, with $873.02 million paid from plans within the state and the remainder originating from plans in other states.

The average pension benefit received was $1,184 per month or $14,213 per year. These modest benefits provide retired teachers, public safety personnel and others who served the public during their working careers income to meet basic needs in retirement.

Impact on Jobs and Incomes

Retiree expenditures stemming from state and local pension plan benefits supported 9,020 jobs in the state. The total income to state residents supported by pension expenditures was $471.7 million.

Of this, the greatest share, $247.5 million, was comprised of employee compensation (wages and salaries). Proprietors' income (self-employment income) represented $38.6 million, and other property income (including payments from interest, rent, royalties, profits and dividends) totaled $185.6 million.

Economic Impact

State and local pension funds in Kansas and other states paid a total of $929.76 million in benefits to Kansas residents in 2006. Retirees' expenditures from these benefits supported a total of $1.3 billion in total economic output in the state, and $526.2 million in value added in the state.

$896.1 million in direct economic impacts were supported by retirees' expenditures on goods and services from businesses in the state. An additional $175.0 million in indirect economic impact resulted when these businesses purchased additional goods and services, generating additional income in the local economy. $179.1 million in induced impacts occurred when employees hired by businesses as a result of the direct and indirect impacts made expenditures, supporting even more additional income.

Total Economic Impact **1.3 billion**

For more information on the data and methodology used for these estimates, please refer to *Pensionomics: Measuring the Economic Impact of State and Local Pension Plans* National Institute on Retirement Security: Washington DC. February 2009. www.nirsonline.org

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Economic Multipliers

Taxpayer Contribution Factor*

$1.00
contributed by Kansas taxpayers to state and local pensions

$5.74
total economic activity

Each $1 in taxpayer contributions to Kansas's state and local pension plans supported $5.74 in total output in the state. This reflects the fact that taxpayer contributions are a minor source of financing for retirement benefits - investment earnings and employee contributions finance the lion's share.

Pension Benefit Multiplier

$1.00
pension benefits paid to retirees in Kansas

$1.34
total economic activity

Each $1 in state and local pension benefits paid to Kansas residents ultimately supported $1.34 in total output in the state. This "multiplier" incorporates the direct, indirect, and induced impacts of retiree spending, as it ripples through the state economy.

* Caution should be used in interpreting this number, because the Census data used reflect the taxable status of contributions only; because employee contributions may be reported as taxpayer contributions, the multiplier here may be underestimated.

Impact on Tax Revenues

State and local pension payments made to Kansas residents supported a total of $171.8 million in revenue to federal, state and local governments. Taxes paid by retirees and beneficiaries directly out of pension payments totaled $33.7 million. Taxes attributable to direct, indirect and induced expenditures accounted for $138.2 million in tax revenue.

Federal Tax	109.1 million
State/Local Tax	62.5 million
Other Corporate Taxes	0.2 million
Total	**$171.8 million**

Economic Impacts by Industry Sector

The economic impact of state and local pension benefits was broadly felt across various industry sectors in the state. The ten industry sectors with the largest employment impacts are presented in the table below.

Industry	Employment Impact (# Jobs)	Value Added Impact ($ millions)	Income Impact ($ millions)	Output Impact ($ millions)
Health Care and Social Assistance	2,116	$93.6	$92.5	$157.8
Retail Trade	2,044	74.4	58.6	115.9
Accommodation and Food Services	944	21.8	19.4	46.2
Other Services (Except Public Administration)	749	17.7	16.5	35.2
Real Estate and Rental and Leasing	481	39.2	32.6	58.1
Finance and Insurance	468	40.8	39.2	77.8
Wholesale Trade	338	36.7	28.7	54.5
Administrative and Waste Services*	306	10.0	18.6	16.5
Professional, Scientific, and Technical Services	288	14.9	14.6	29.4
Arts, Entertainment, and Recreation	240	3.8	3.4	8.0

* The North American Industry Classification System classifies this industry as Administrative and Support and Waste Management and Remediation Services.

A Hatchard 2
JCPIB 11-17-09

Kansas Public Employees Retirement System

Investments Update

Joint Committee on Pensions, Investments and Benefits • November 17, 2009

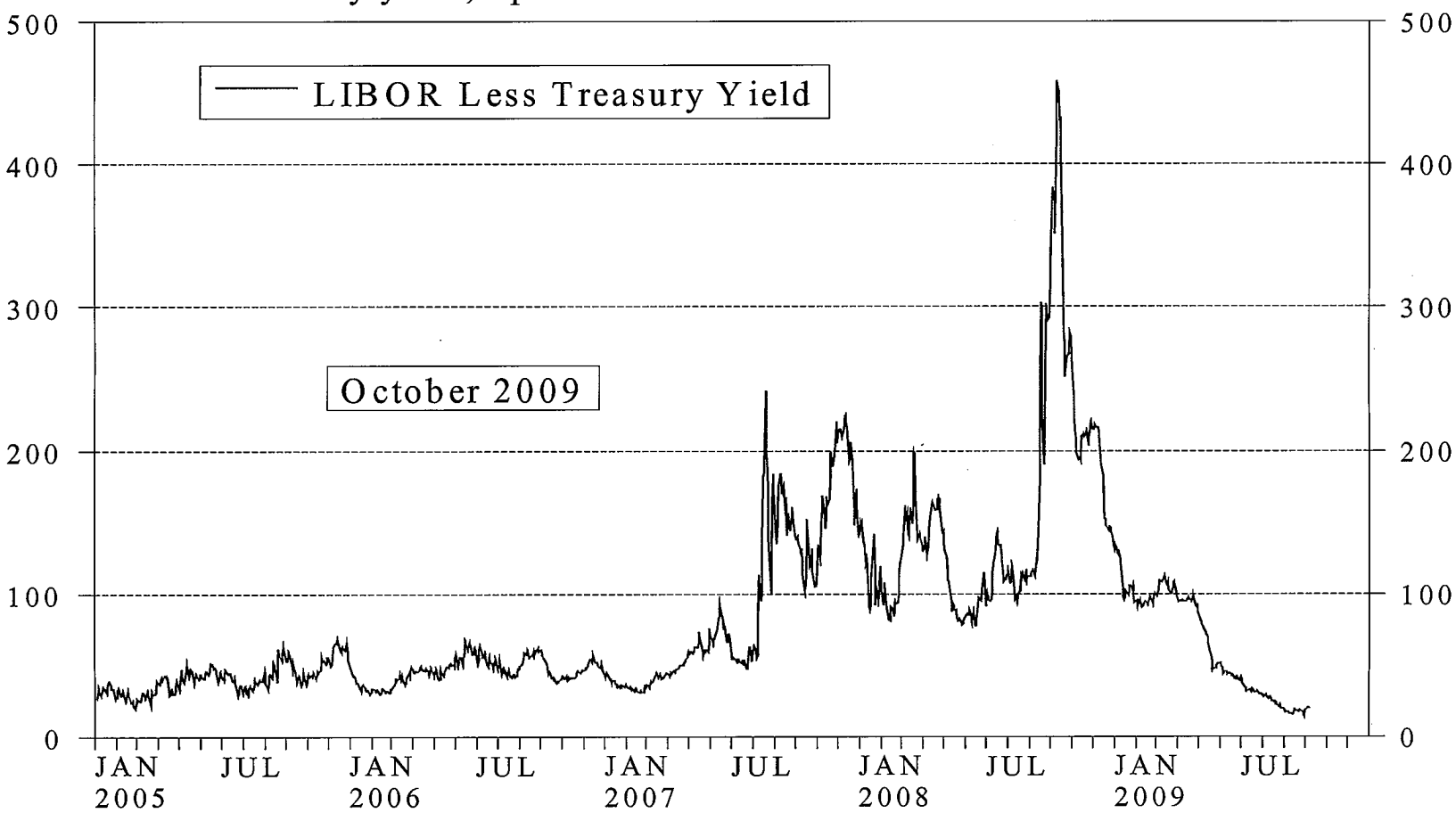
2-2

Section One: The Economy, Markets and Returns

Market Environment

Financial conditions have improved markedly over the past year

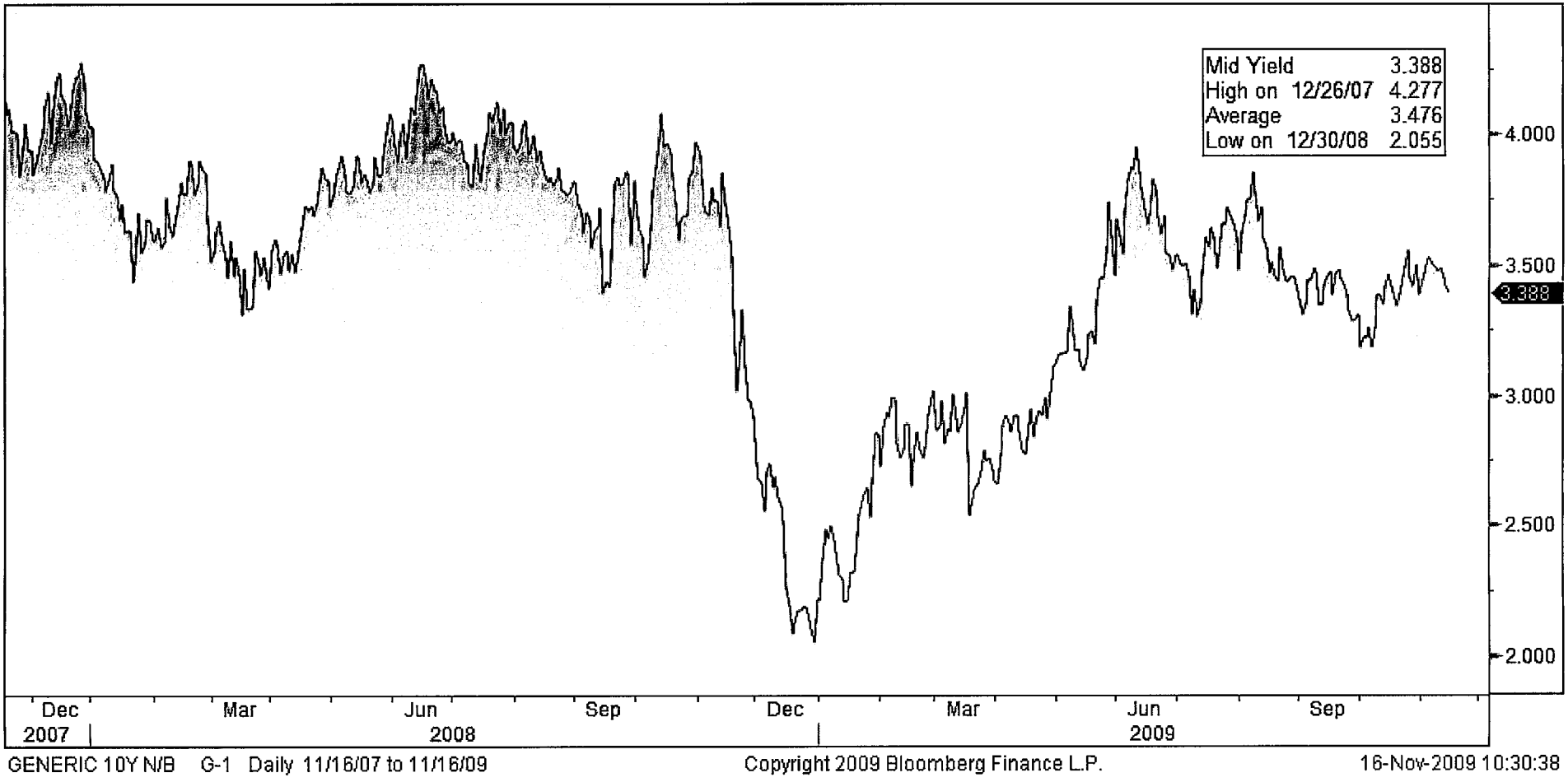
LIBOR = London Inter-Bank Offer Rate



S&P 500 (Stocks) -- 2 Year Chart

SPX -- S&P 500 INDEX G-1 Daily 11/16/07 to 11/16/09 Copyright 2009 Bloomberg Finance L.P. 16-Nov-2009 09:07:21

Interest Rates – 10 U.S. Treasury Yields



Economic Concerns and Positive Influences

Concerns:

- The U.S. consumer, a large part of U.S. economy, is weak.
- Eight million job losses and the credit squeeze will likely keep the consumer down in the nearer term.
- Consumer debt load and the housing price decline are two forces that will likely push up the savings rate, meaning a slow return to consumer spending strength.

Positive Influences:

- The synchronized, global monetary and fiscal stimulus appears to have significant positive impact, though its duration and longer-term consequences remain to be seen.
- Businesses have preserved profits from complete collapse through cost cutting and inventory reduction, though growth is still in question.
- Asia is mostly out of recession, and moving forward.

An Estimate of Economic Growth

Estimates Of Potential GDP Growth

	OECD Estimate			Estimate by National Authorities	
	2008	2009	2010	2009	2010
United States	3.0%	2.4%	1.6%	2.9%	2.5%
Euro Area	1.9%	1.2%	0.6%	1.3%	0.7%
United Kingdom	2.5%	2.5%	1.7%	2.4%	2.0%
Japan	1.0%	0.4%	-0.2%	0.5%	0.0%

Source: OECD

OECD = Organization for Economic Cooperation and Development

Can We Then Expect Much from the Stock Market?

Stock market performance is based upon earnings growth…

(Based On Annual Data Covering 1926-2008)

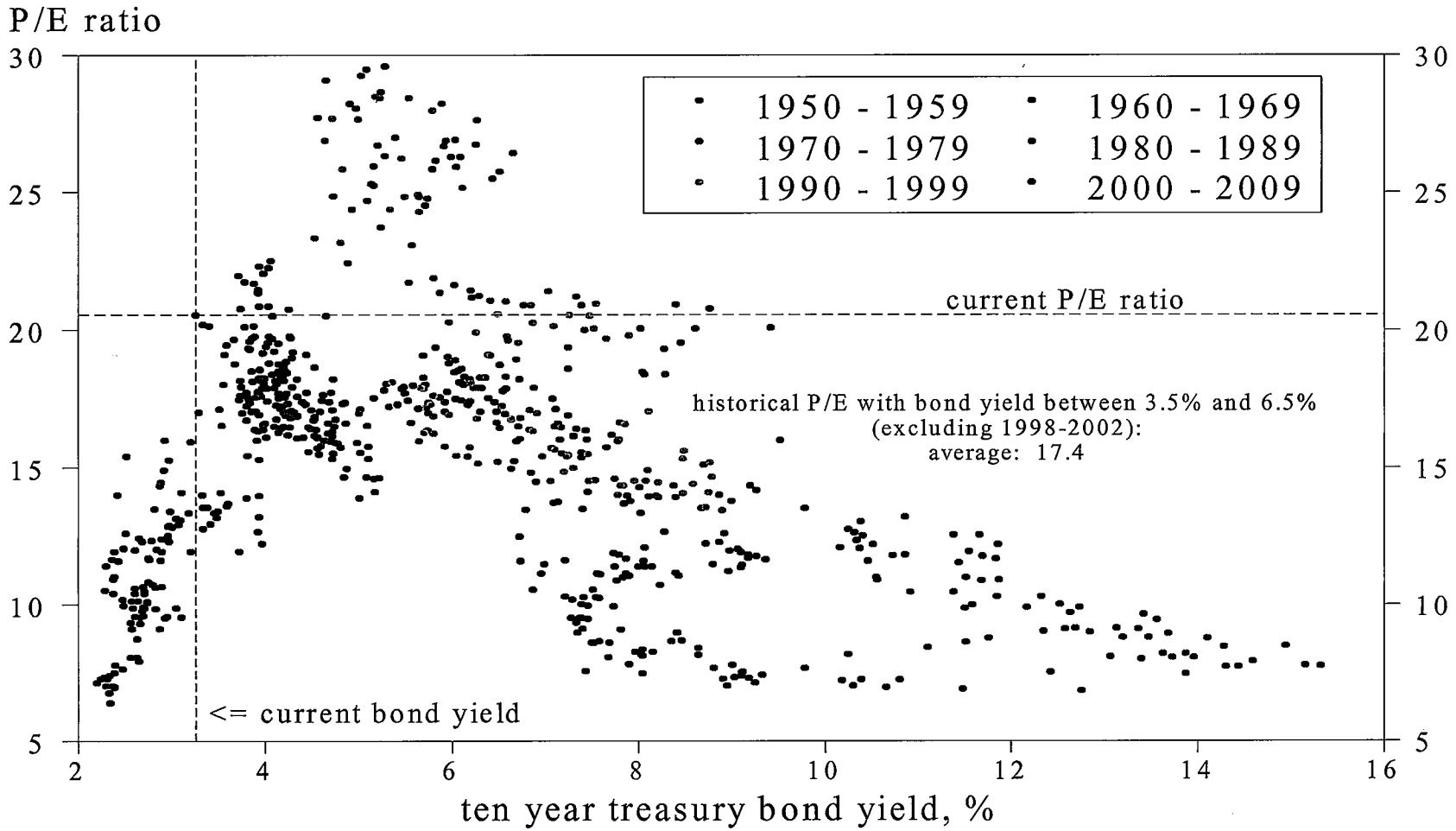
Nominal GDP Growth	Average NIPA Pre-Tax Profit Growth	Average S&P 500 EPS Growth
Less than 0%	-29.7%	-17.4%
0% - 5%	-1.0%	-2.3%
5% - 7.5%	5.7%	7.6%
7.5% - 10%	16.0%	14.6%
10% - 15%	22.8%	22.8%

(Based On Annual Data Covering 1950-2008)

Nominal GDP Growth	Average NIPA Pre-Tax Profit Growth	Average S&P 500 EPS Growth
Less than 0%	NA	NA
0% - 5%	0.6%	-5.2%
5% - 7.5%	4.6%	5.9%
7.5% - 10%	12.8%	12.2%
10% - 15%	14.6%	17.2%

Can We Then Expect Much from the Stock Market? (con't)

...and the price investors are willing to pay.



Source: Standard and Poor's, Federal Reserve

Essential Elements For A Lasting Recovery

The essential elements of a recovery consist of:

- A deleveraging of the economy at all levels;
- Dealing with the capital destruction that has occurred;
- Restoring faith in the financial system.

How are we doing?

- Deleveraging is underway: Equity financing, debt exchanges/"workouts", foreclosures, bankruptcies and restructurings.
- Destroyed capital is being replaced: Both public and private capital is being deployed, led at present by government programs. Further on, we believe the savings rate will rise, perhaps back toward the 8% level, from near zero in the 2006-2008 period.
- The stock market rally, as well as significant normalization in the bond market, suggest faith is beginning to be restored, but perhaps only on the part of a subset of investors and it could prove fleeting if economic performance falters or illiquidity returns.

Opportunities in Investments

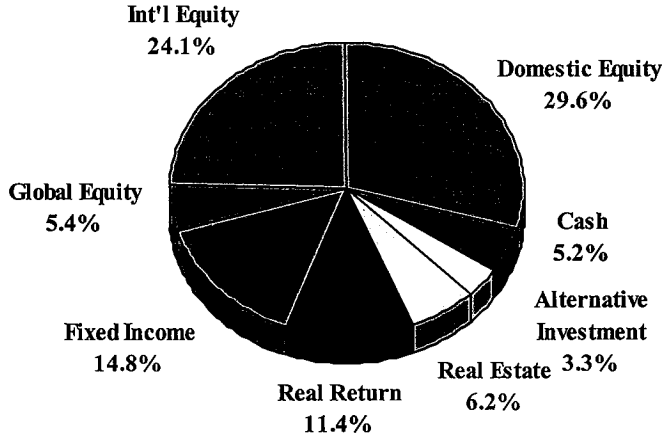
- The Fixed Income Markets (nearer-term) – With liquidity scarce and marginal cash flow directed at debt payments / debt reduction, returns could be above normal for the next 2-5 years;

- Real Assets ('medium'-term) – Expected coming inflation, demand/supply imbalance in commodities/energy, global infrastructure needs argue for exposure to real assets on a medium term look (3-10 years);

- Emerging Markets and Asia (extended opportunity) – A significant shift of global economic power is underway toward the developing countries of the world, and to Asia generally. Investment opportunity is shifting with it.

Allocations and September 2009 Returns

- Below is the portfolio's current allocation and to the right are investment returns as of Sept 30, 2009.



Kansas Public Employees Retirement System
Interim Investment Report

ALL NUMBERS REPRESENT PRELIMINARY UNAUDITED ESTIMATES

Unaudited Estimates as of September 30, 2009

Total Assets at Market Value	**$ 11,351,573,390.93**
Total Return Fiscal Year-to-Date	**13.0%**
Total Return Calendar Year-to-Date	**18.8%**

Returns by Asset Class:

	Fiscal Year-to Date	Calendar Year-to-Date
Domestic Equity	16.5%	21.4%
International Equity	19.4%	33.3%
Global Equity	17.6%	29.0%
Fixed Income	8.1%	17.8%
Real Return	5.1%	11.5%
Real Estate	9.5%	-15.1%
Alternative Investments	1.9%	-1.7%
Cash	0.2%	1.0%

Returns for Representative Indexes

S&P 500 Index	15.6%	19.3%
NASDAQ	15.9%	35.6%
MSCI All Country World ex U.S. Index	19.8%	37.0%
MSCI All Country World Index	18.0%	29.3%
Barclays Capital Universal Index	4.5%	8.0%
Barclays U.S. TIPS Index	3.1%	9.5%
Morgan Stanley REIT Index	34.6%	17.9%
FTSE EPRA/NAREIT Developed Index	25.1%	32.4%
Merrill Lynch US Treas 0-1 Year	0.2%	0.4%

2-13

Section Two: Investment Managers

Investment Process

The asset allocation of the investment portfolio is determined by the KPERS Board of Trustees through a formal process termed "Asset / Liability Study".

- An asset/liability study is conducted roughly every three years by a qualified and independent investment consultant, the investment staff, and the Board's general investment consultant.
- The Board participates in the process through decision-making during the course of the study and approval/adoption of the results.
- The outcome of the study is the allocations to various asset groups to be used for the portfolio.
- The process is the most significant of any in which KPERS engages in for the determination of long term investment performance of the portfolio.
- The asset allocation is formally reviewed by the Trustees annually.

2-15

Investment Process (con't)

Several intermediate decisions primarily regarding investment strategy and portfolio structure are taken based upon the allocations adopted by the Trustees. In part these include:

- Benchmark selection
- Sub-asset class allocations within the main asset groups, such as:
  - Large cap/small cap in Domestic Equity;
  - Emerging market exposure allowance in International Equity;
  - High yield and foreign bond exposure allowance in Fixed Income;
  - Asset types to be used in Real Return;
  - Asset types and weights in the Real Estate portfolio.
- Active versus passive management weights/allocation within the asset groups.
- Types of active strategies to be used, by asset group.
- Use of broader strategies/risk management, such as:
  - Currency management;
  - Exposure (beta) management.

The above list is representative, but not complete!

Investment Process (con't)

Decisions regarding implementing the asset allocation and the strategy/structure conclusions is the final step before manager changes are contemplated.

- This is primarily a staff function, which is reviewed by the Board's general consultant and asset-specialist consultants, and is reviewed--with approvals where necessary, required or prudent--by the Trustees. In part these include:
  - Mix of strategies chosen by asset group;
  - Internal versus external management;
  - Number of managers required to execute the strategies and structure and diversify risks.

The above process, from the asset/liability study to portfolio strategy and structure, to implementation, is an on-going and iterative process which results in portfolio changes taking place over time at a measured pace with full oversight and review.

2-17

Manager Selection and Hiring Process

- Identification of Requirements
  - Outsource portfolio management at the "mandate" level
  - Increase capacity
  - Replace poor performing manager(s)
  - Increase manager diversification
  - Access to new management style/approaches
- Development of a Request For Proposal
  - Definition and description of mandate
  - Minimum qualifications (this list is not inclusive)
    - Firm size/financial strength
    - Have other clients similar in nature to KPERS
    - Experience
- Review and Analysis of Proposals
- On-Site Visits
- Analysis of Strategic Fit
- Board Presentations and Approvals

Investment Managers

Domestic Equity
ING
Loomis Sayles
Security Global Investors
Systematic
Mellon Capital
QMA
Barclays Global Investors
Nomura
Russell Implementation Services

International Equity
Wellington
Acadian
Alliance
Barclays Global Investors
Morgan Stanley
Pareto Partners
Barclays Global Investors

Global Equity
Cap Guardian
Wellington

Fixed Income
MacKay Shields
TCW Asset Management
Loomis Sayles
PIMCO
Western Asset Management Co.

Real Return
Barclays Global Investors

REITS
Brookfield Redding
Duff & Phelps
The Principal

Cash
Payden & Rygel

Investment Management Fees

	Actual FY 2009
Publicly Traded Management Fees	
Domestic Equity Fees	$ 4,035,146
Assets	2,662,403,097
Fee Percent	0.1516%
Global Equity Fees	$ 2,116,400
Assets	697,049,463
Fee Percent	0.3036%
International Equity Fees	$ 8,018,231
Assets	2,155,003,680
Fee Percent	0.3721%
Fixed Income Fees	$ 4,650,997
Assets	2,793,517,030
Fee Percent	0.1665%
REIT Mgmt Fees	$ 120,690
Assets	124,125,624
Fee Percent	0.0972%
Cash Mgmt Fees	$ 308,117
Assets	1,576,030,333
Fee Percent	0.0196%
Subtotal Publicly Traded Fees	**$ 19,249,581**
Assets	10,008,129,227
Fee Percent	0.1923%
Real Estate Mgmt Fees	$ 2,518,313
Assets	603,202,745
Fee Percent	0.4175%
Direct Placement Mgmt Fees	$ 835,099
Direct Placement Expenses	68,058
Assets	895,250,054
Fee Percent	0.1009%
Custodial Bank Fees	$ 702,493
Assets	10,391,555,528
Fee Percent	0.0068%
Investment Consultant Fees	$ 879,324
Total Investment Administrati	**$ 24,252,868**
Fee Percent of NAV	0.2334%

Recent Changes to the Portfolio

- Fund Level
  - Hired Beta Overlay Manager--Replaced existing manager, expanded mandate
    - Russell Implementation Services (rebalancing, cash overlay, domestic equity strategy)
- Domestic Equity
  - Outsourced index portfolio—Mellon Capital
  - Hired four "small-cap" managers, terminated two managers
    - ING (small-cap)
    - Loomis, Sayles ("smid"-cap)
    - Security Global ("smid-cap)
    - Systematic ("mid"-cap)
    - Barclays (small-cap) terminated
    - Payden & Rygel (enhanced index) terminated
  - Increased and diversified a significant domestic equity portfolio (3 mgrs, +/-15% of DE)
    - Nomura Asset Management (pan-Asia equity)
    - Capital Guardian (global equity)
    - Loomis, Sayles (medium-grade fixed income)

2-24

Recent Changes to the Portfolio (con't)

- International Equity
  - Hired five international equity managers
    - Franklin Templeton
    - Ballie Gifford
    - Lazard Asset Management
    - JP Morgan Asset Management
    - Barings Asset Management
  - Terminated two international equity managers
    - Alliance Capital Management (terminated)
    - Wellington (discontinued)
- Real Return Portfolio
  - Outsourced TIPS portfolio and restructured
  - Implemented an intermediate credit portfolio
  - Initiated infrastructure investments

Recent Changes to the Portfolio (con't)

- Fixed Income Portfolio
  - Hired two new managers
    - Trust Company of the West (TCW)
    - MacKay Shields
  - Restructured Western Asset Management's portfolio
- Real Estate Portfolio
  - Outsourced REIT portfolio
  - Hired three REIT managers
    - Brookfield Redding
    - Duff & Phelps
    - Principal

2-23

Future Initiatives

- Real Return
  - Continued investment in Infrastructure
  - Consider Timber and Energy investments
  - Consider a managed “real assets” fund

- Real Estate
  - Review portfolio strategy and structure
  - Review the manner in which investments are held

Attachment 3
JCPIB 11-17-09

Kansas Public Employees Retirement System

KPERS Long-Term Funding

Joint Committee on Pensions, Investments and Benefits ▪ *November 17, 2009*

Introduction

3-2

- At the September meeting of the Joint Committee, KPERS presented an overview of the System's long-term funded status, including –
  - Key 2008 valuation results and the valuation's impact on employer contributions, funded status, UAL, and KPERS ARC rates/dates, by group
  - Illustrations of the impact of future investment return volatility on funded ratios
  - Preliminary projections of the impact of changing the employer contribution rate increase cap to 1% or 2%.
  - Summary of legal issues involved in plan design or employee contribution changes.
- Building on that preliminary analysis, KPERS will present the results of its ongoing study and analysis of various funding solution options for consideration by the Committee, including several legislative requests.
- The presentation will also provide information regarding defined contribution plans and projections of the impact of defined contribution plan options on the System's funding and on benefit levels.

Funding Solution Options

3-3

- KPERS has modeled the impact of a series of funding solution options involving changes to the cap on increases to the employer contribution rate, plan design elements, and the employee contribution rate.
- The assumptions used for the Baseline and for Options A through I are listed below. All projections assume a level 8% annual investment return.
- Criteria for evaluating these options include:
  - Affordability of the ARC rate in both the short term and over the long term.
  - The length of time before funded ratios return to a healthy level (80%).
  - The degree to which the option reduces UAL projections compared to the Baseline.

Basic Options:

- **Baseline:**
  - Employer Contribution Rate: Cap remains at 0.6%.
  - Employee Contribution Rate: No change.

Funding Solution Options (Continued)

3-4

- **Option A:**
  - Employer Contribution Rate: Increase cap to 1.0%, effective 7/1/10.
  - Employee Contribution Rate: No change.
- **Option B:**
  - Employer Contribution Rate: Increase cap to 2.0%, effective 7/1/10.
  - Employee Contribution Rate: No change.
- **Option C:**
  - Employer Contribution Rate: Increase cap to 1.0%, effective 7/1/10.
  - Employee Contribution Rate: Increase rate by .5% for both Tiers 1 and 2 in each of four years, beginning 7/1/10.
- **Option D:**
  - Employer Contribution Rate: Increase cap to 1.0%, effective 7/1/10.
  - Employee Contribution Rate: No change.
  - Multiplier: Reduce multiplier for both Tiers 1 and 2, from 1.75% to 1.5% for all future service, beginning 7/1/11.

Funding Solution Options (Continued)

3b

Legislative Requests

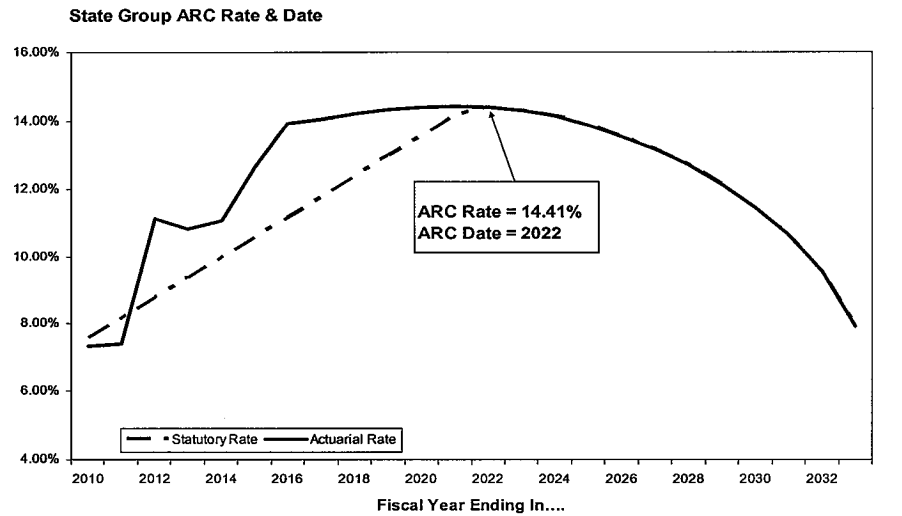
- **Option E:**
  - Employer Contribution Rate: Phase in cap increase with a .6% cap in FY '11; an .8% cap in FY '12; and a 1.0% cap in FY '13.
  - Employee Contribution Rate: No change.
- **Option F:**
  - Employer Contribution Rate: Increase cap to 1.0%, effective 7/1/10.
  - Employee Contribution Rate: Increase rate 1.0% for Tier I only, effective 7/1/10.
- **Option G:**
  - Employer Contribution Rate: Increase cap to 2.0%, effective 7/1/10.
  - Employee Contribution Rate: Increase rate 2.0% for Tier I only, effective 7/1/10.
- **Option H:**
  - Employer Contribution Rate: Increase cap to 1.0%, effective 7/1/10.
  - Employee Contribution Rate: Increase rate 1.0% for Tier I only, effective 7/1/10.
  - Benefit Multiplier: Increase multiplier to 1.85% for future service (Tier 1 only).

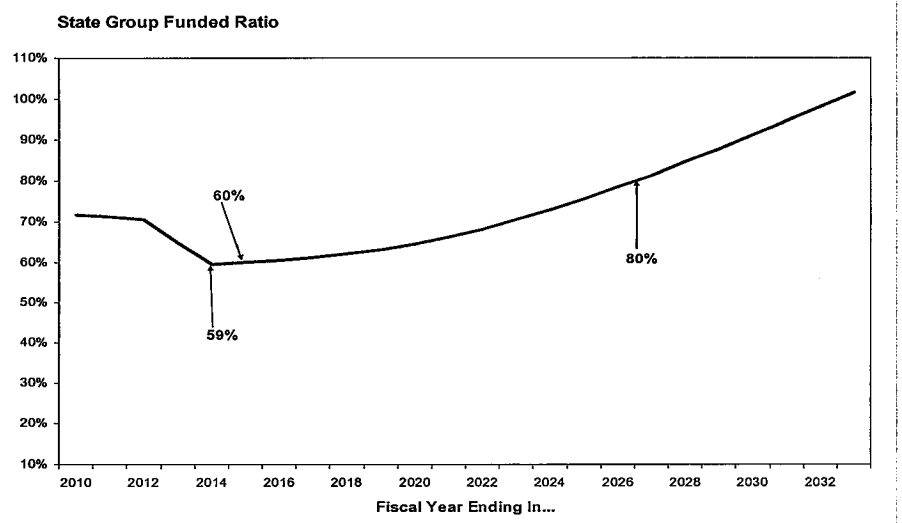
Funding Solution Options (Continued)

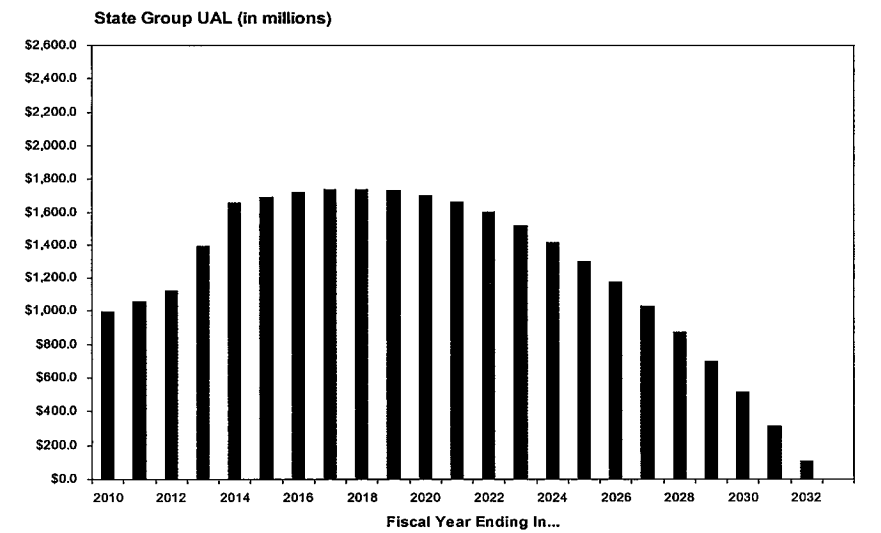
- **Option I:**
  - Employer Contribution Rate: Increase cap to 2.0%, effective 7/1/10.
  - Employee Contribution Rate: Increase rate 2.0% for Tier I only, effective 7/1/10.
  - Benefit Multiplier: Increase multiplier to 1.85% for future service (Tier 1 only).

State Group: Baseline Projections

- **No change in the .6% employer rate increase cap.**





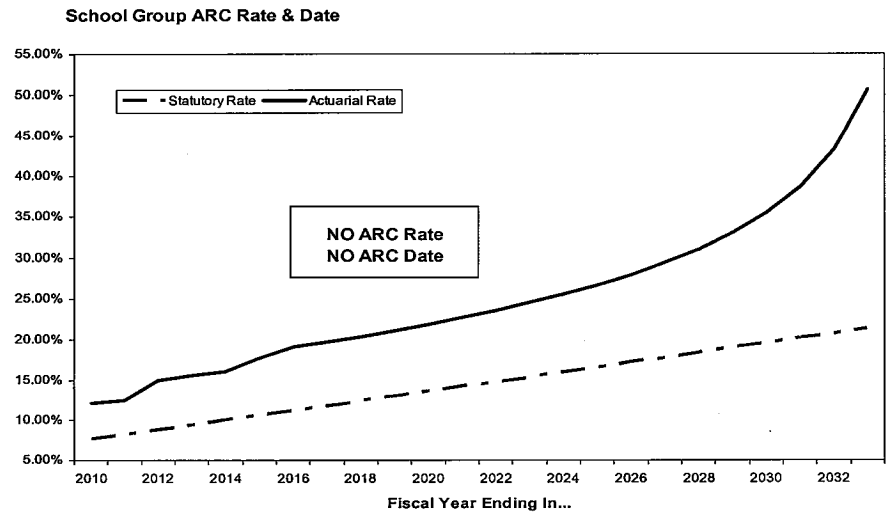


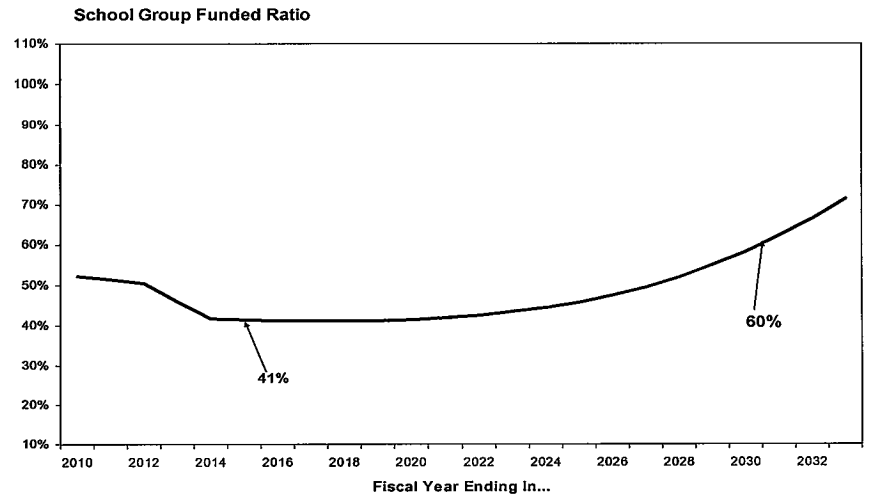
- The projected ARC rate is nearly double the state/school rate paid by state agencies in FY 2010 (7.57%).
- The funded ratio reaches a low of 59% in FY 2014.
- It remains near 60% for an additional 5 years and only reaches 80% in FY 2027.
- The projected UAL rises by nearly 75% to $1.74 billion in FY 2018.

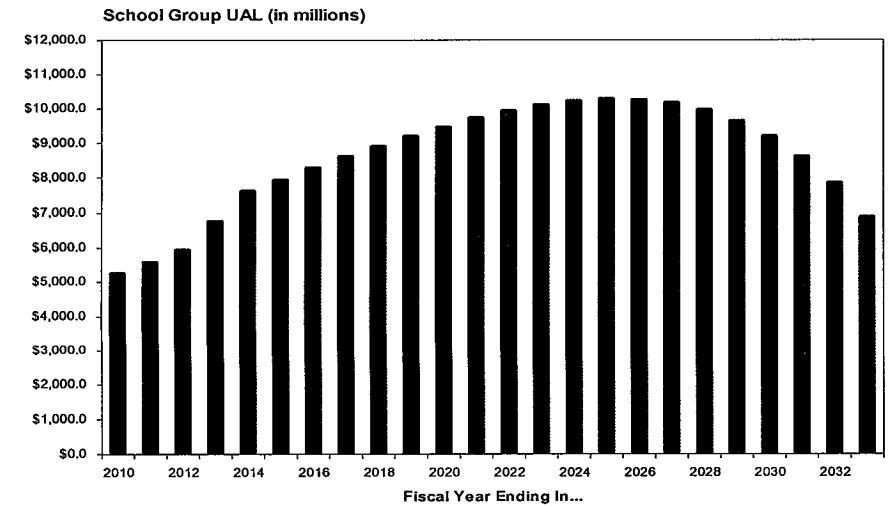
School Group: Baseline Projections

3-8

- **No change in the .6% employer rate increase cap.**





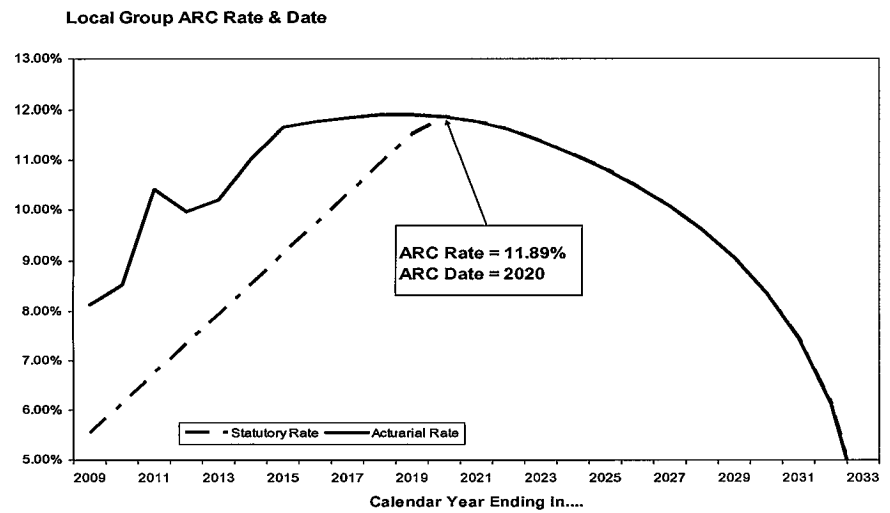


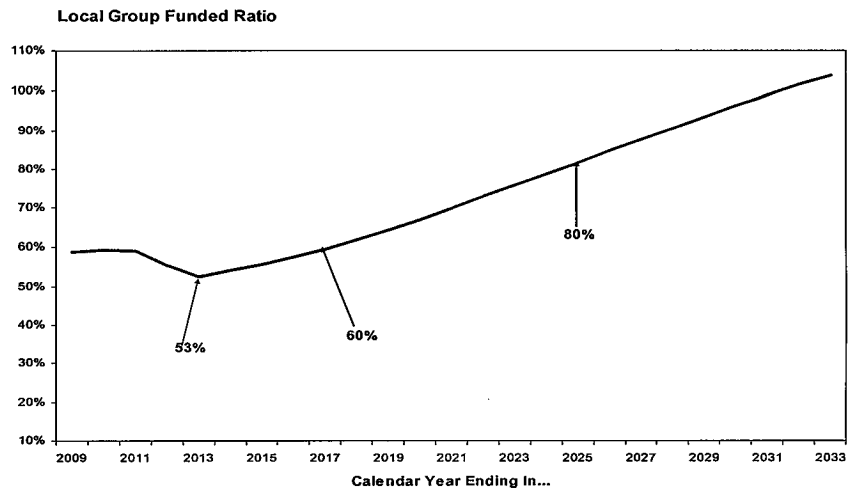
- The School Group is not in actuarial balance by 2033.
- The funded ratio reaches a low of 41% in FY 2015 and remains at 41-43% for 9 years.
- The funded ratio does not reach 60% until FY 2031 and only reaches 80% in FY 2035.
- The projected UAL nearly doubles to $10.3 billion in FY 2025.

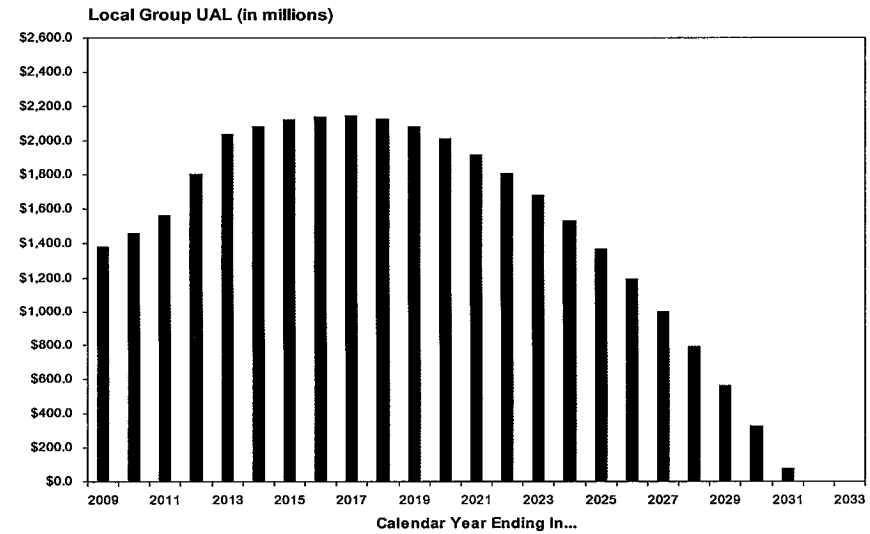
Local Group: Baseline Projections

3-9

- **No change in the .6% employer rate increase cap.**





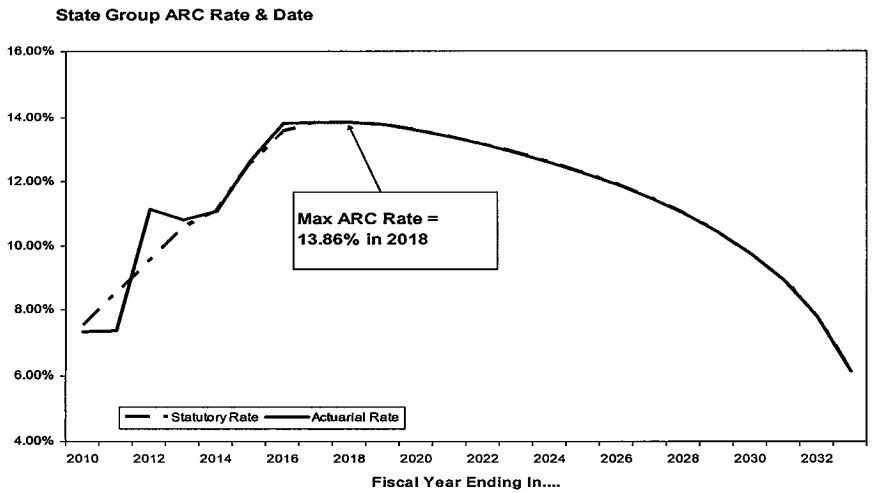


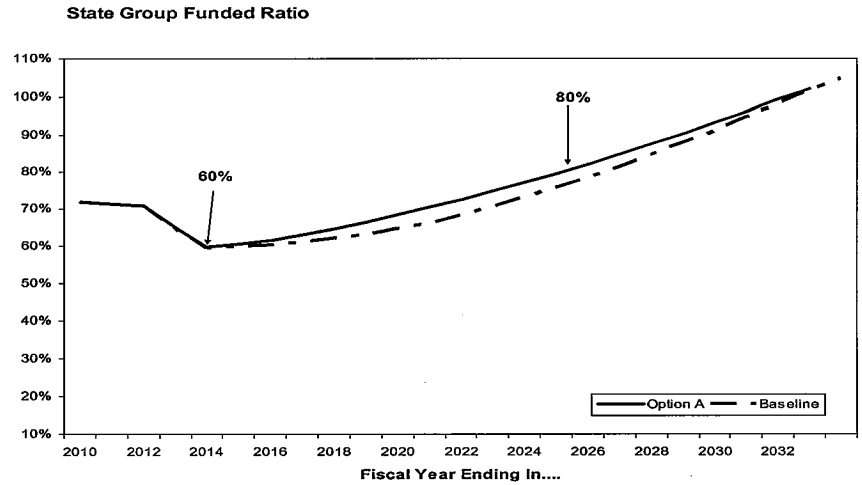
- The Local Group ARC rate is projected to double to 11.89% by CY 2020.
- Its projected funded ratio will fall to 53% by CY 2013, regaining 60% by CY 2017. The funded ratio is projected to reach 80% by CY 2025.
- The UAL is projected to increase by 55.4% to $2.15 billion by CY 2017.

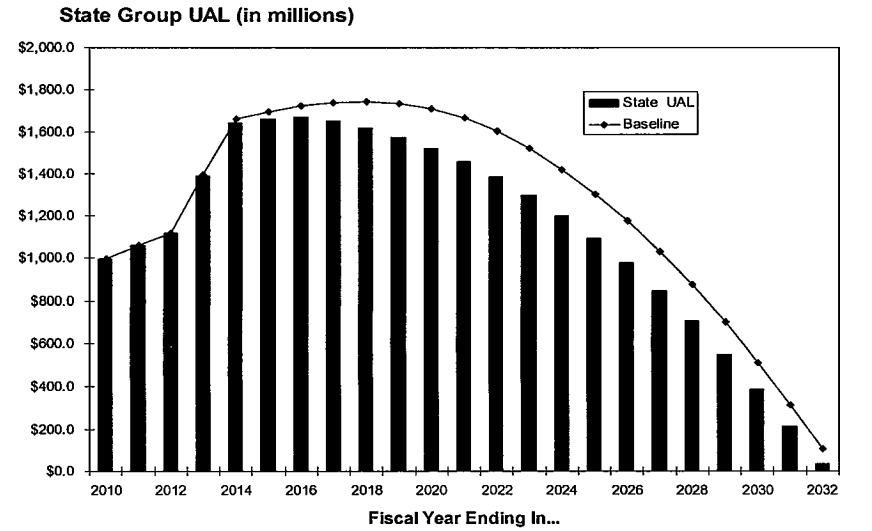
State Group: Option A

3-10

- **Raise cap on employer rate increases to 1% in FY '11.**





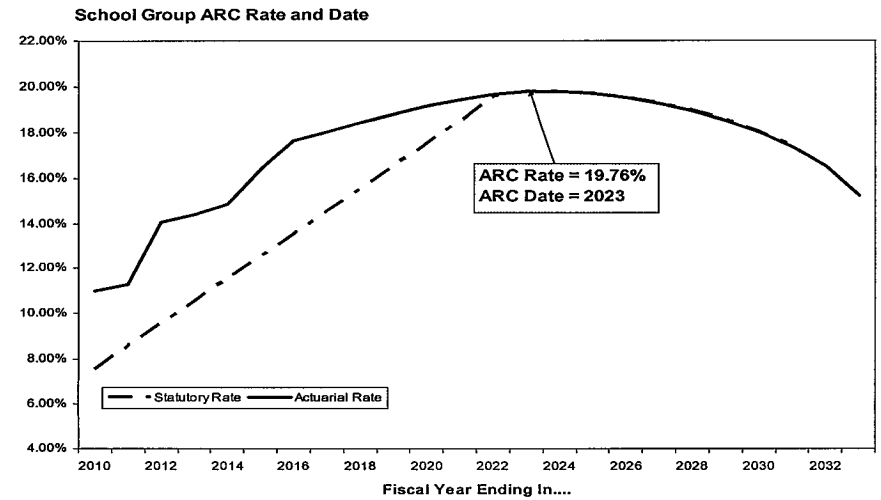


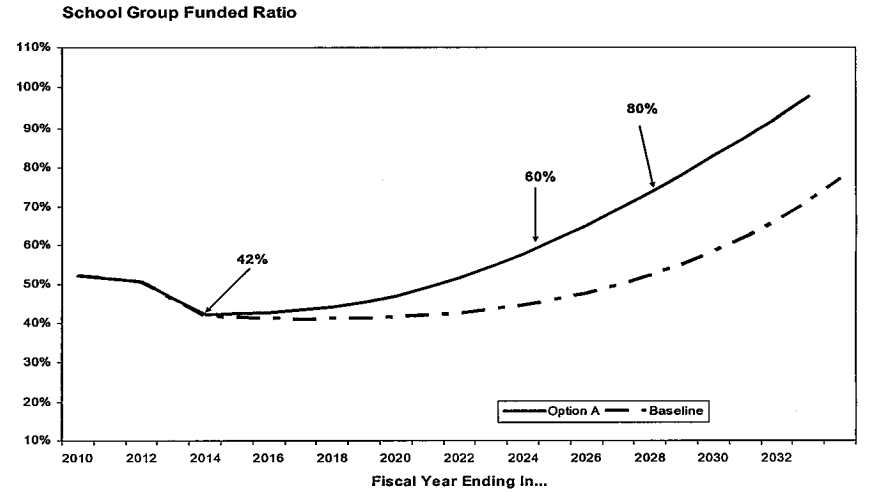
- The projected ARC rate rises to a maximum of nearly 14% by FY 2018.
- The funded ratio projections are similar to the baseline, reaching a low of 60% in FY 2014.
- The funded ratio recovers very gradually to 80% in FY 2025 – two years earlier than the baseline.
- The projected UAL rises to $1.67 billion in FY 2016 – two years earlier and $74.9 million less than the baseline.

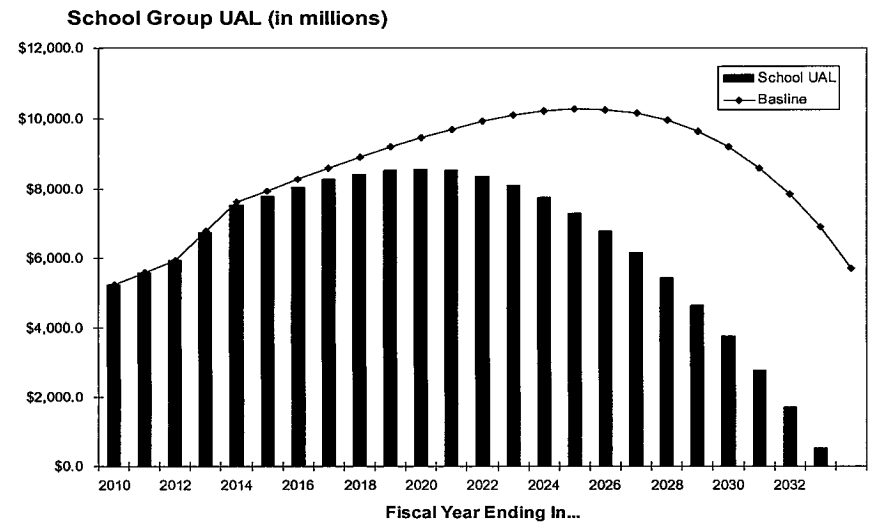
School Group: Option A

3-11

- **Raise cap on employer rate increases to 1% in FY '11.**





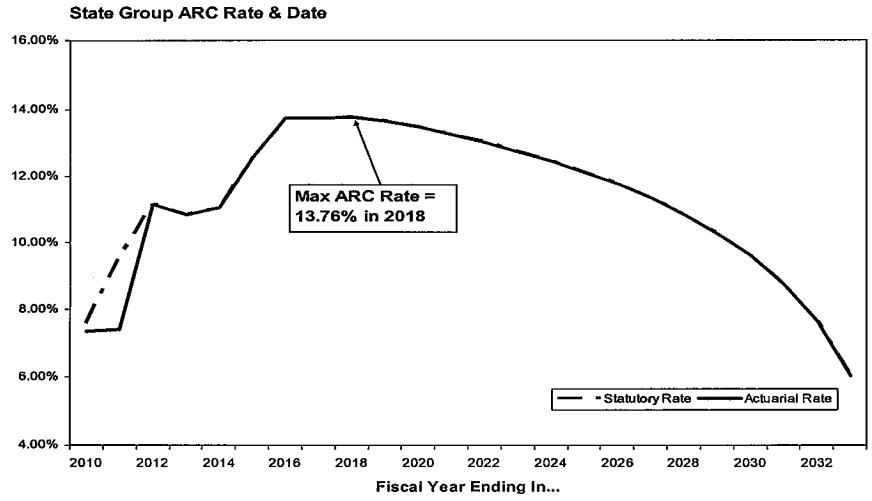


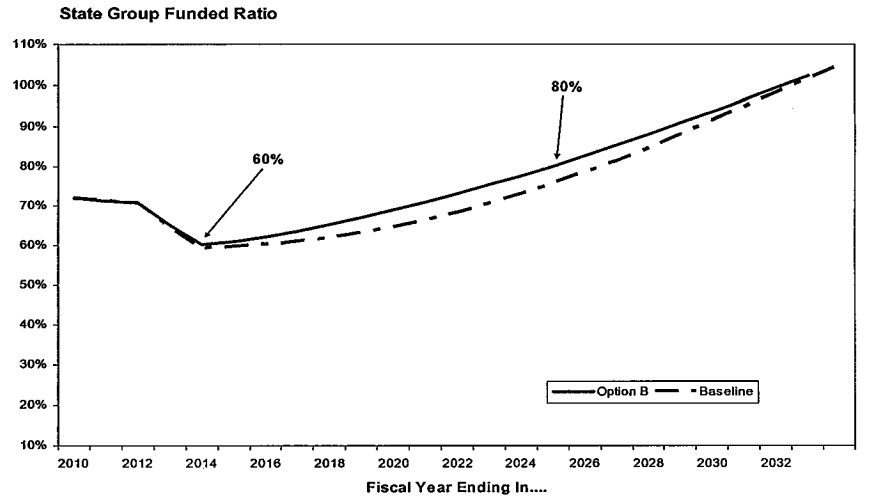
- A 1% cap on employer rate pulls the School Group back into actuarial balance by FY 2023, but at a rate of 19.76%.
- The funded ratio is depressed for an extended period of time, falling to 42% in FY 2014 and remaining below 50% for another 7 years.
- The funded ratio continues increasing slowly to 60% in 2025 and to 80% by FY 2030.
- The projected UAL peaks at $8.6 billion in FY 2020 – five years earlier and $1.7 billion less than the baseline.

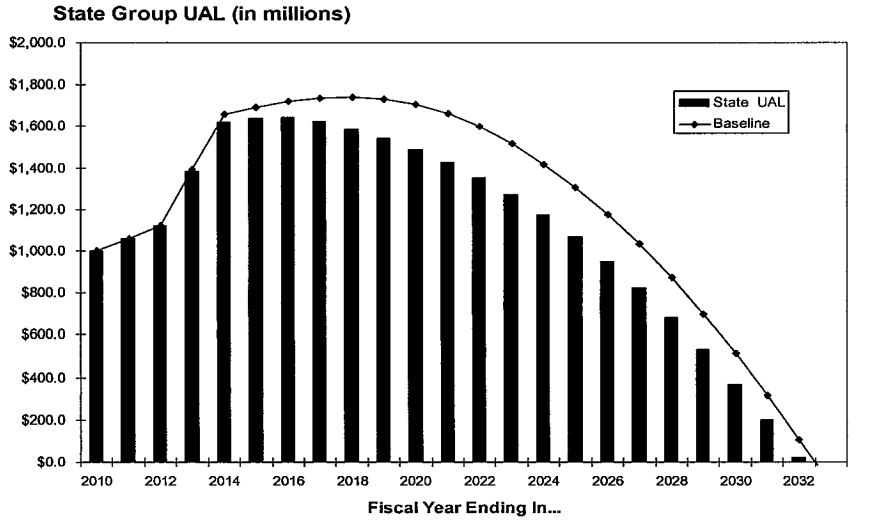
State Group: Option B

3-12

▪Raise cap on employer rate increases to 2% in FY '11.







▪While the State Group remains at its ARC rate throughout, the ARC rate continues to rise to a high of 13.76% in FY 2018.

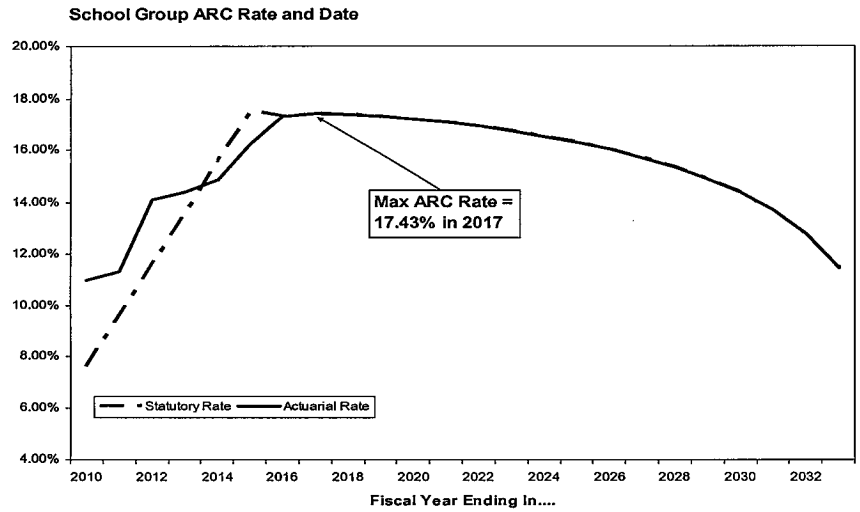
▪The funded ratio projections are almost identical to a 1% cap – they also fall to 60% in FY 2014 and recover very gradually to 80% in FY 2025.

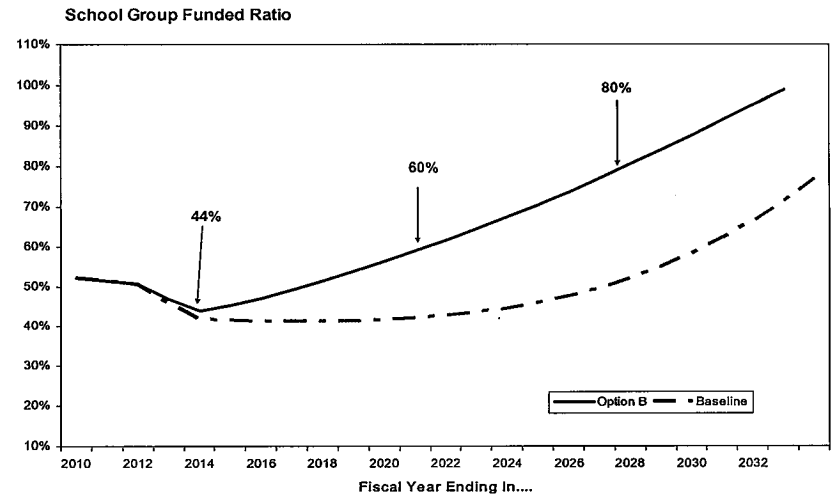
▪The projected UAL rises to $1.64 billion in FY 2016– two years earlier and $100 million less than the baseline.

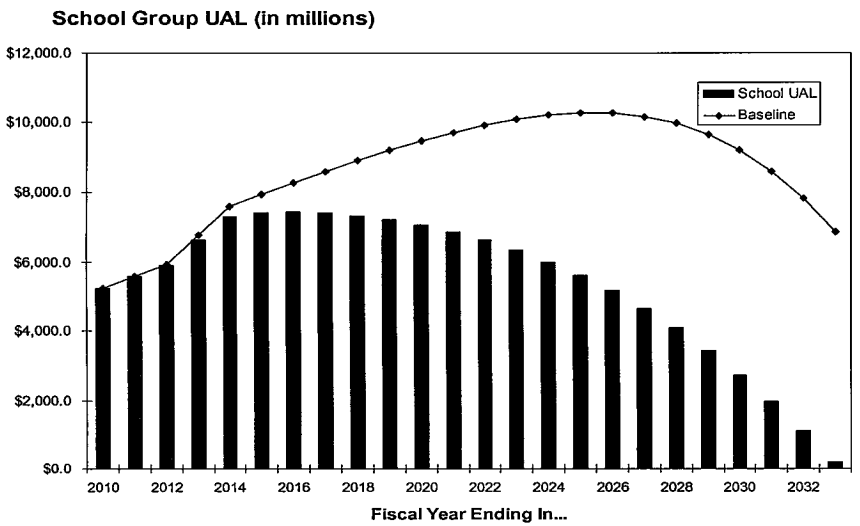
School Group: Option B

3-13

- **Raise cap on employer rate increases to 2% in FY '11.**





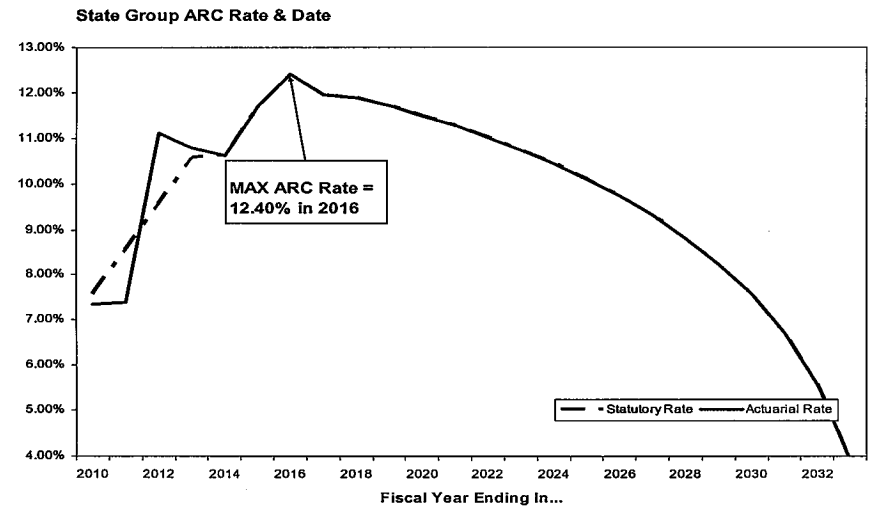


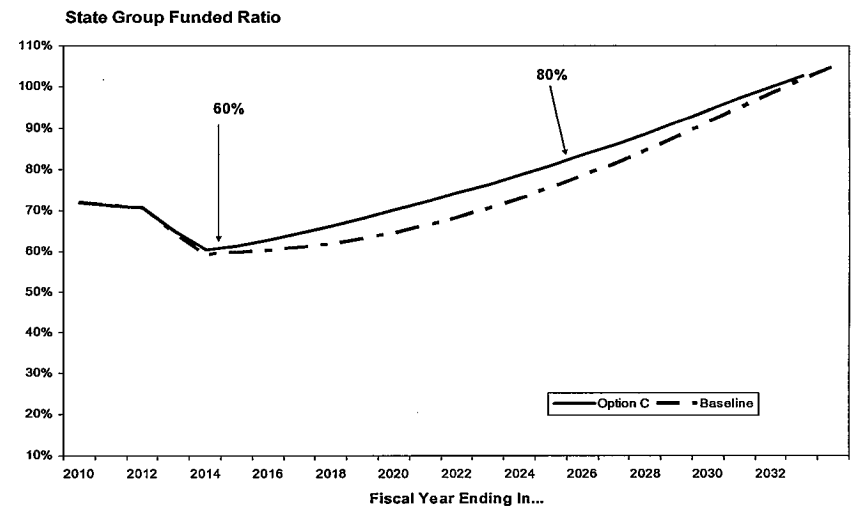
- With a 2% cap, employer contributions rise to the maximum ARC rate in less than 10 years -- 17.43% in FY 2017.
- The low point of the funded ratio projections is 44% in FY 2014, which is similar to the 1% cap.
- The funded ratio reaches 60% in FY 2022 – almost 10 years sooner than under the baseline – and 80% by FY 2028.
- Similarly, the projected UAL peaks almost 10 years earlier than under the baseline at $7.5 billion – a decrease of $2.8 billion.

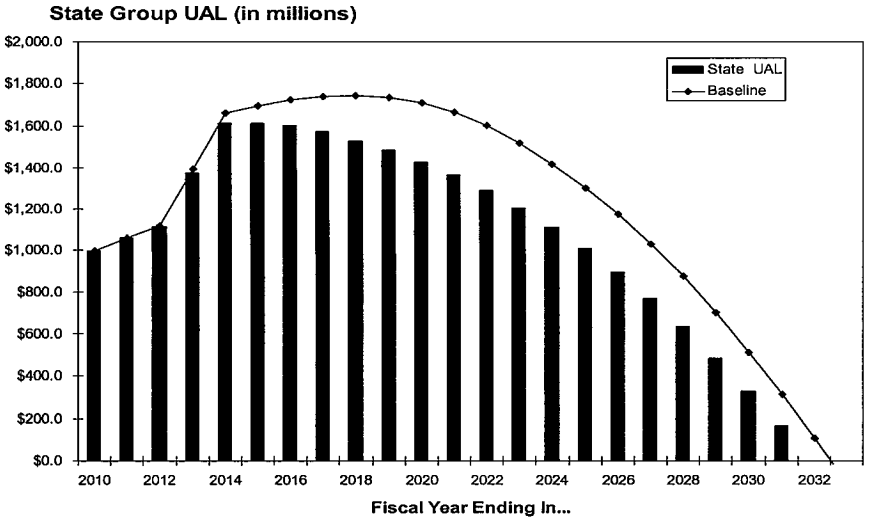
State Group: Option C

3-14

▪Raise cap on employer rate increases to 1% in FY '11. Increase member contributions by .5% in each of four years, beginning FY 2011.







▪With the phased addition of 2% in additional member contributions, the projected ARC rate peaks at 12.40% in FY 2016. (The maximum ARC rate is 13.86% in FY 2018 for the 1% cap alone.)

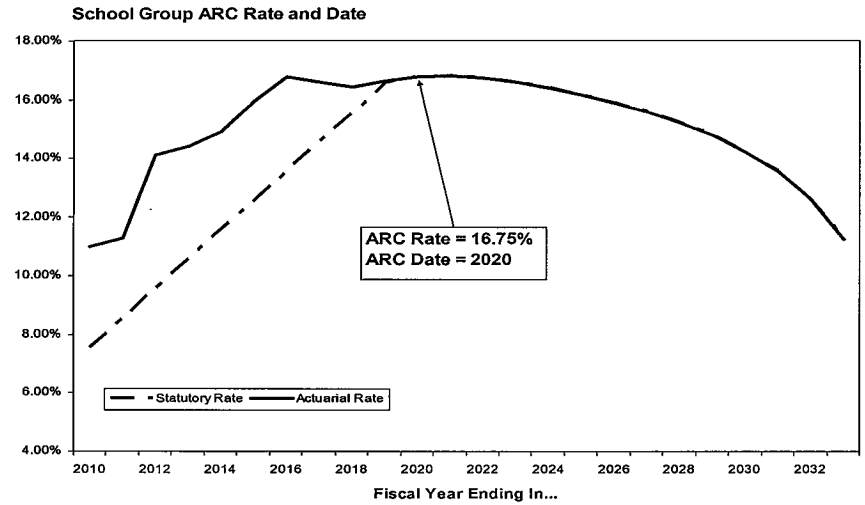
▪Funded ratio projections are in the same range as those for the 1% cap option.

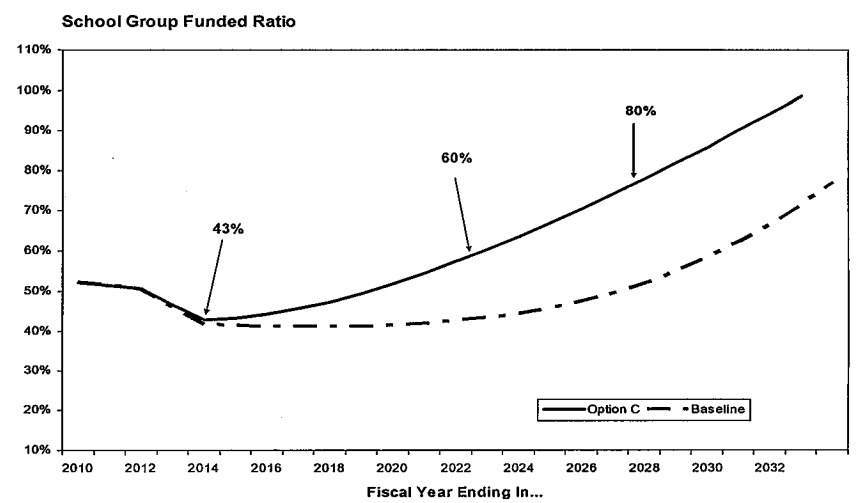
▪The UAL projections are slightly lower than the 1% cap option, peaking a year earlier at $1.61 billion and $131 million less than the baseline.

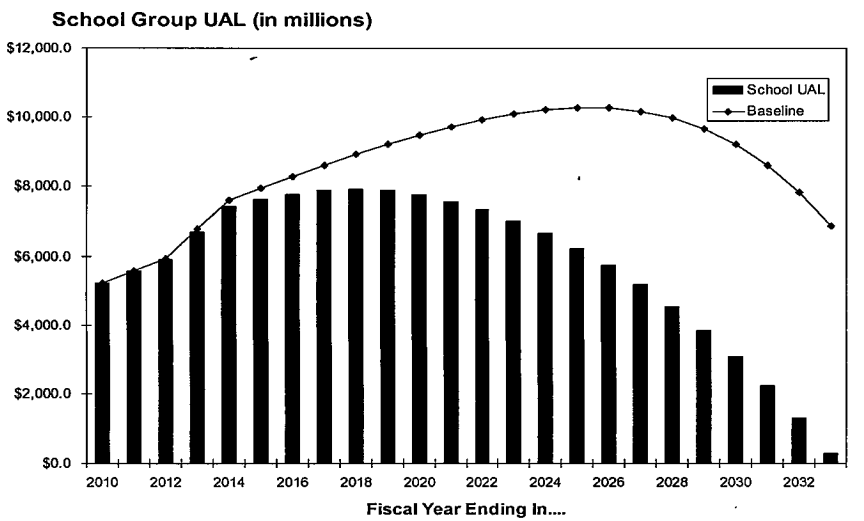
School Group: Option C

3-15

▪Raise cap on employer rate increases to 1% in FY '11. Increase member contributions by .5% in each of four years, beginning FY 2011.







▪The ARC rate and date drops from 19.76% in FY 2023 with the 1% cap to 16.75% in FY 2020 if a phased-in 2% member contribution increase is added.

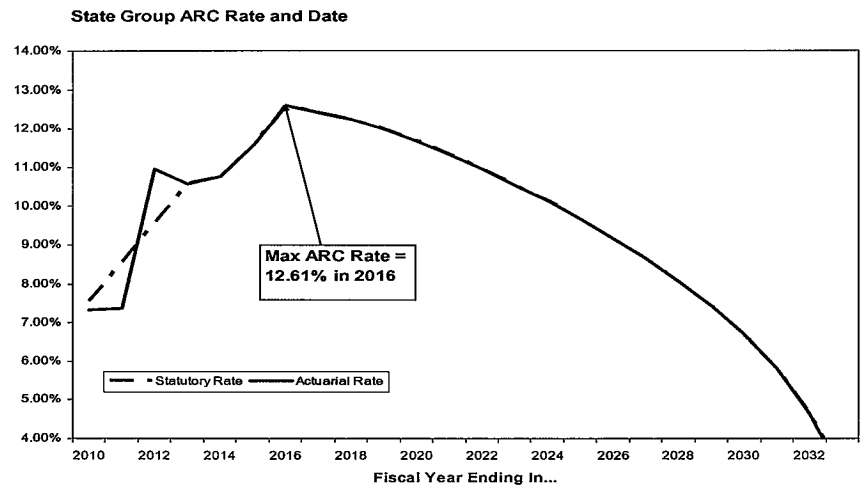
▪The low point of the funded ratio projections is similar to the 1% cap option. A 60% funded ratio is reached in FY 2023 – two years earlier than the 1% option. An 80% funded ratio is projected in FY 2029.

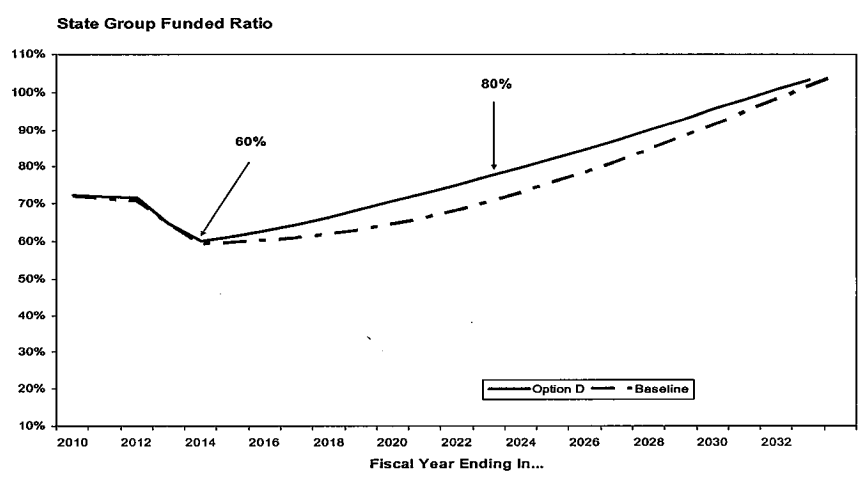
▪With the additional member contributions, the projected UAL peaks two years earlier – in FY 2018 at $7.9 billion or $2.4 billion less than the baseline.

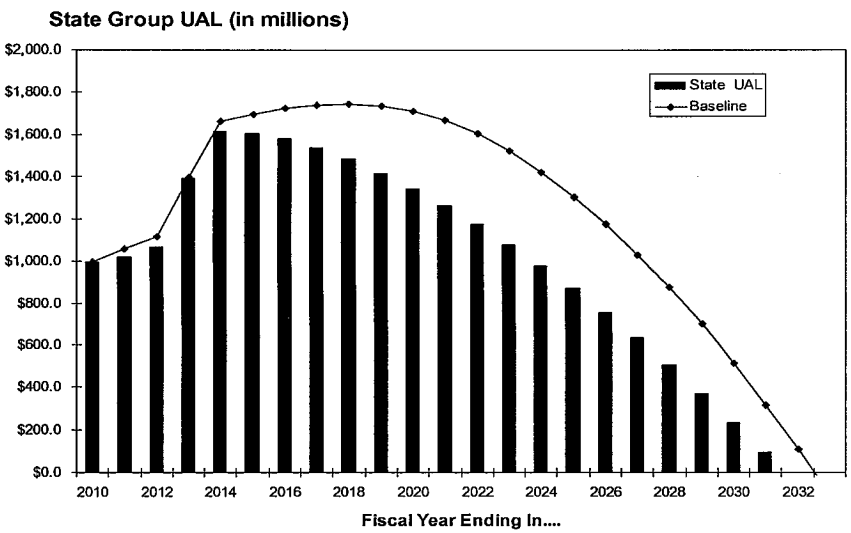
State Group: Option D

3-16

▪Raise cap on employer rate increases to 1% in FY '11. Decrease multiplier from 1.75% to 1.5% for future service in FY 2012.





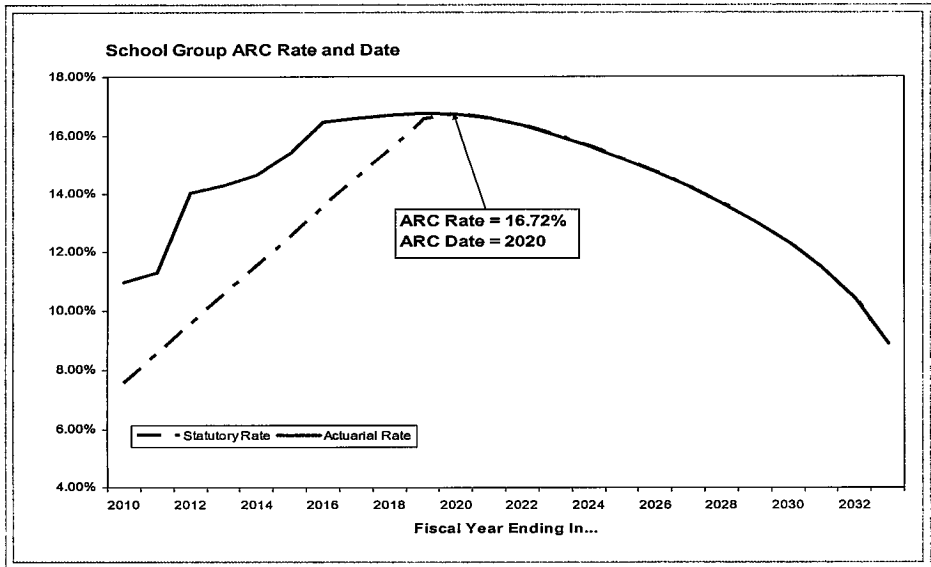


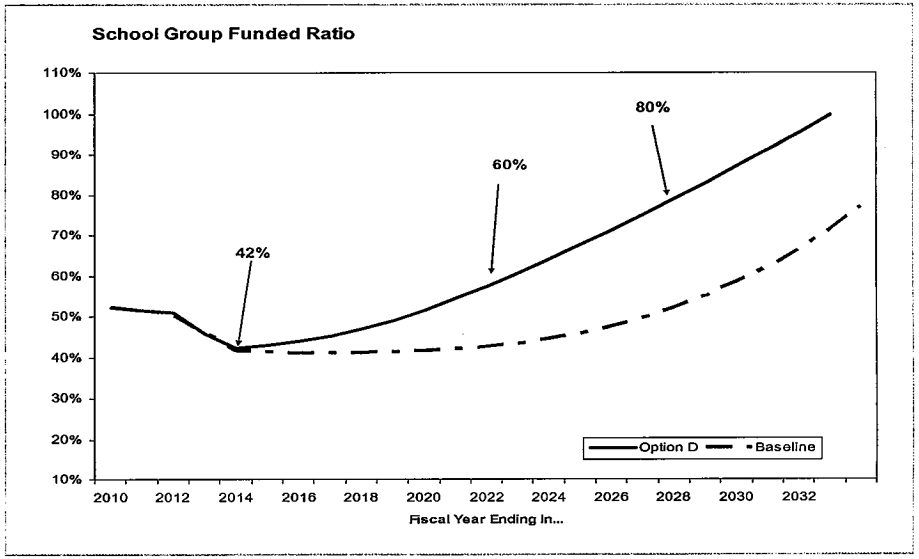
- The 1% employer cap with a 1.5% multiplier results in a maximum ARC rate of 12.61% in FY 2016 – 1.25% lower and two years earlier than the maximum ARC rate for a 1.0% cap alone.
- Funded ratio projections are similar to the 1% cap option, with both dropping to 60% by FY 2014. However, with the 1.5% multiplier, the State Group is projected to be 80% funded in FY 2024 – a year sooner than with the 1% cap option.
- The projected UAL peaks at $1.61 billion in FY 2014 – two years earlier than the 1% cap option and $131 million less than the baseline.

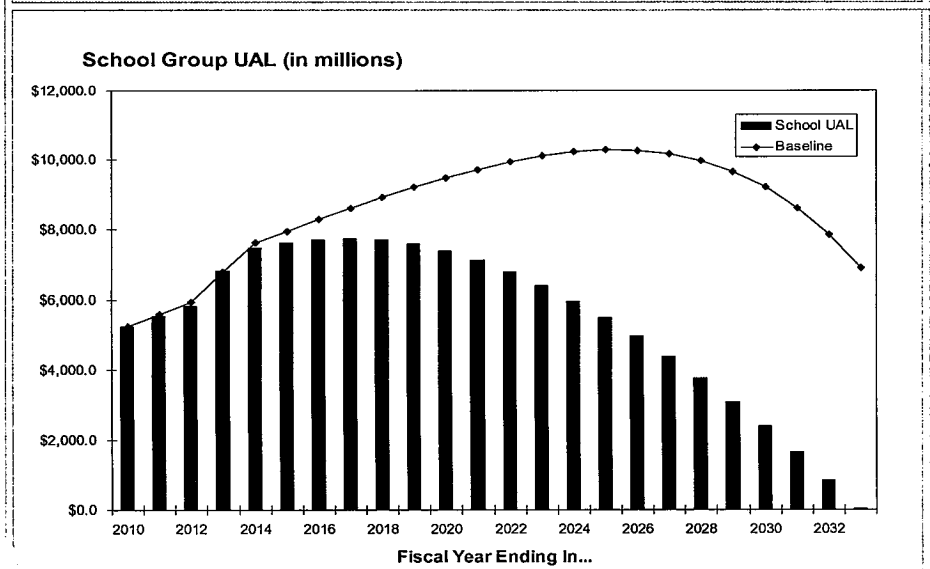
School Group: Option D

3-12

▪Raise cap on employer rate increases to 1% in FY '11. Decrease multiplier from 1.75% to 1.5% for future service in FY 2012.



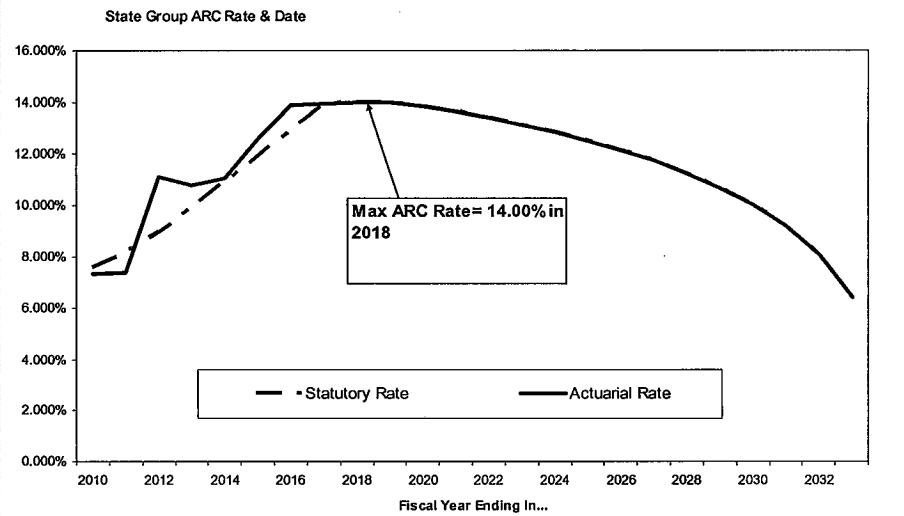


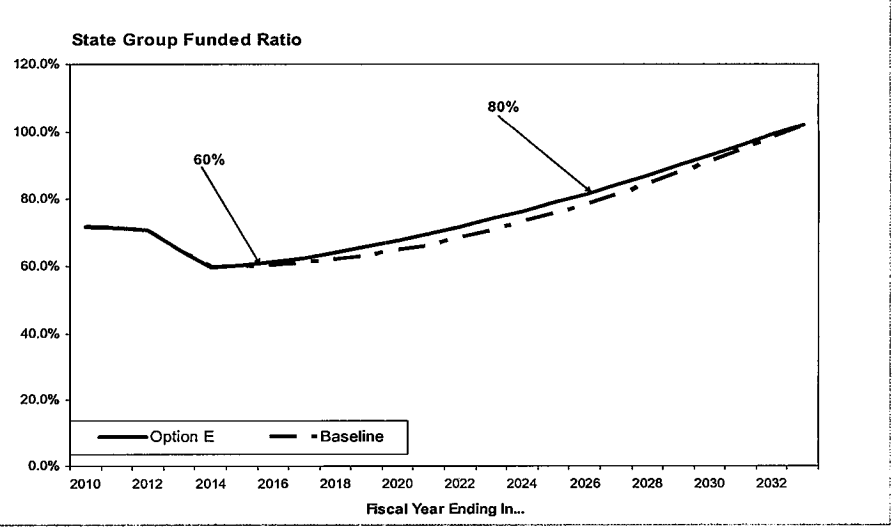


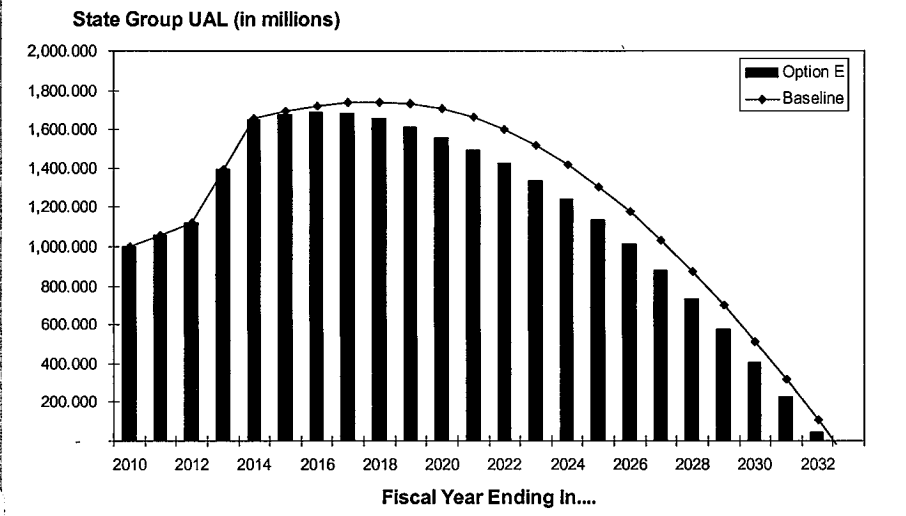
- The ARC rate of 16.72% is 3.04% less than the ARC rate for the 1% cap option, and the ARC date is reached three years earlier in FY 2020.
- After falling to 42% funded in FY 2014, the funded ratio is projected to reach 60% in FY 2023 and 80% six years later in FY 2029. Funded ratios for the 1% cap option are projected to attain 60% and 80% funded levels more slowly -- by FY 2025 and FY 2030 respectively.
- The UAL reaches $7.73 billion in FY 2017, which is around 10% lower than the 1% cap option and $2.6 billion less than the baseline.

State Group: Option E

- **"Phased-in" rate increase cap-- .6% cap in FY 2011, .8% cap in FY 2012, and 1.0% cap in FY 2013.**





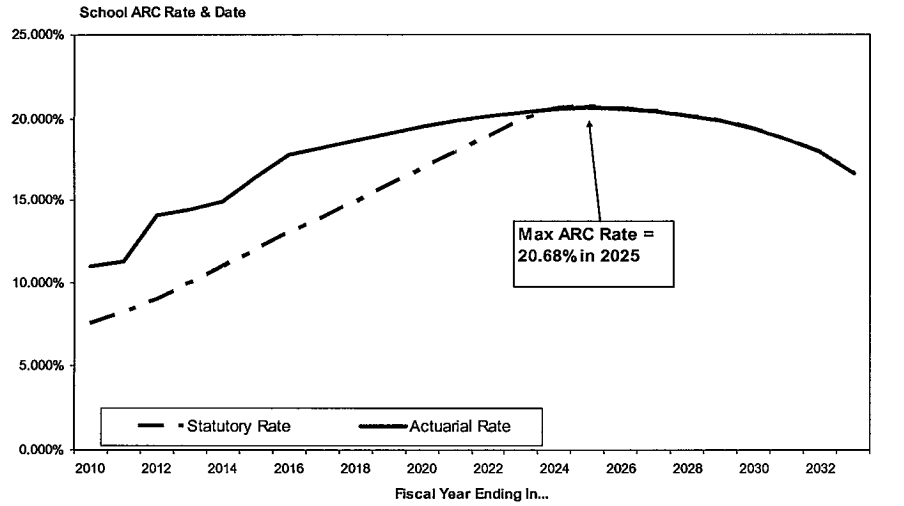


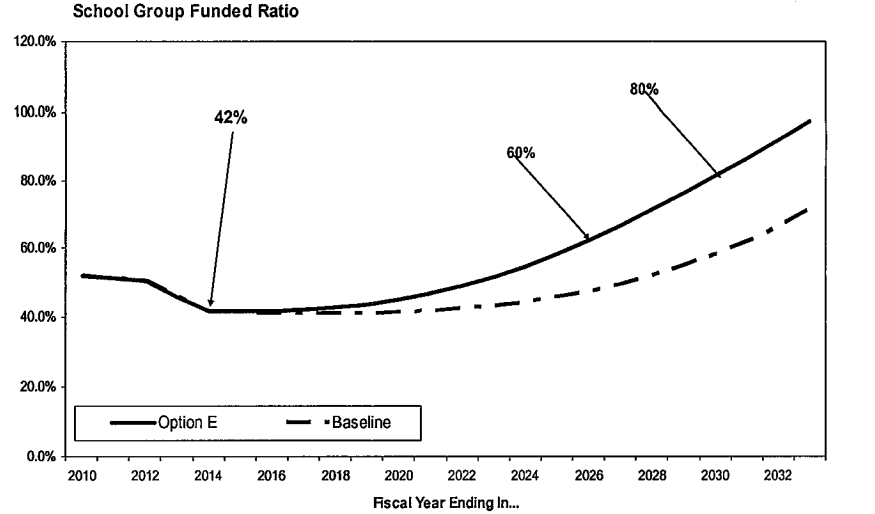
- The projected ARC rate rises to a maximum of 14% in FY 2018
- The funded ratio projections are similar to the baseline, reaching a low of 60% in FY 2014.
- The funded ratio recovers very gradually to 80% in FY 2026 – one year earlier than the baseline.
- The projected UAL rises to $1.69 billion in FY 2015 – two years earlier and $53.5 million less than the baseline.

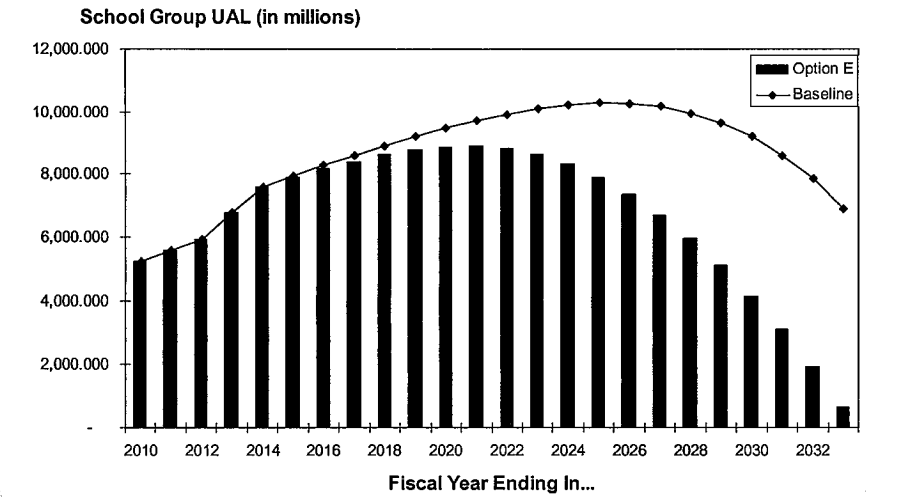
School Group: Option E

3-19

- **"Phased-in" rate increase cap-- .6% cap in FY 2011, .8% cap in FY 2012, and 1.0% cap in FY 2013.**





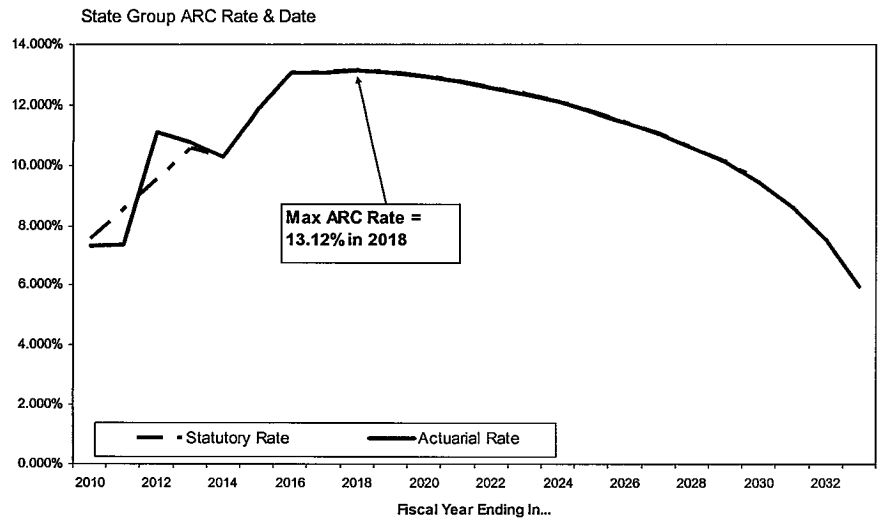


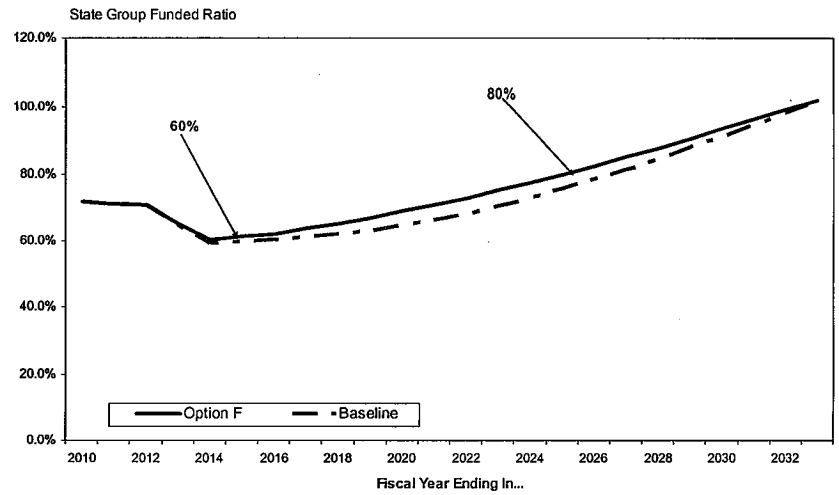
- A phased cap increase pulls the School Group back into actuarial balance by FY 2025 at a rate of 20.68% -- two years later and 1% higher than Option A.
- The funded ratio is depressed for an extended period of time, falling 42% in FY 2014 and remaining below 50% for another 8 years.
- The funded ratio continues increasing to 60% in FY 2026 and to 80% by FY 2030.
- The projected UAL peaks at $8.9 billion in FY 2020 – four years earlier and $1.39 billion less than the baseline.

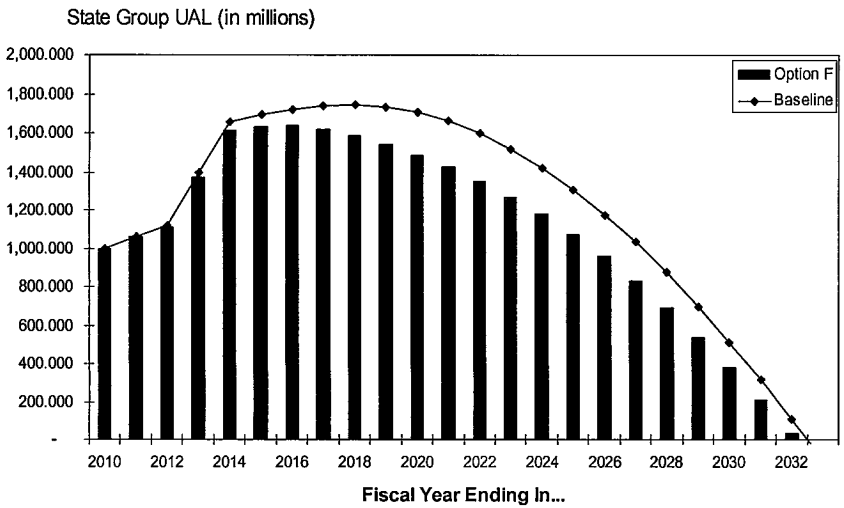
State Group: Option F

▪Raise cap on employer rate increases to 1% in FY '11. Raise Tier I employee rate by 1% in FY '11.

3-20





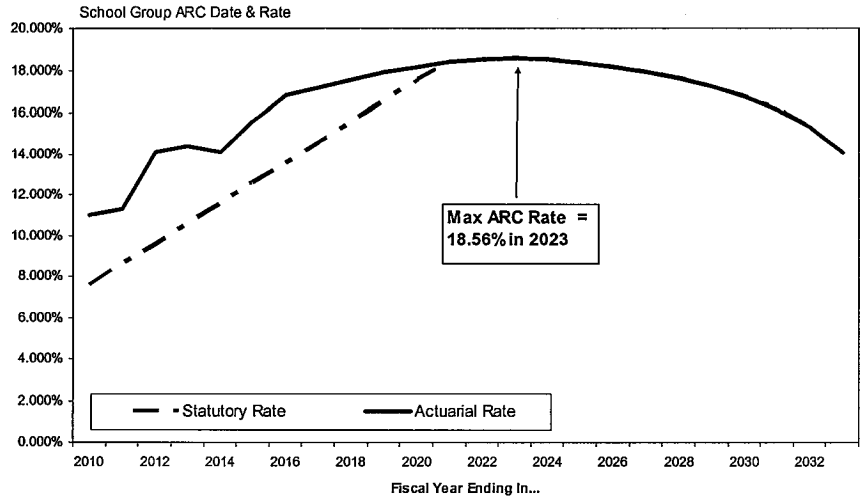


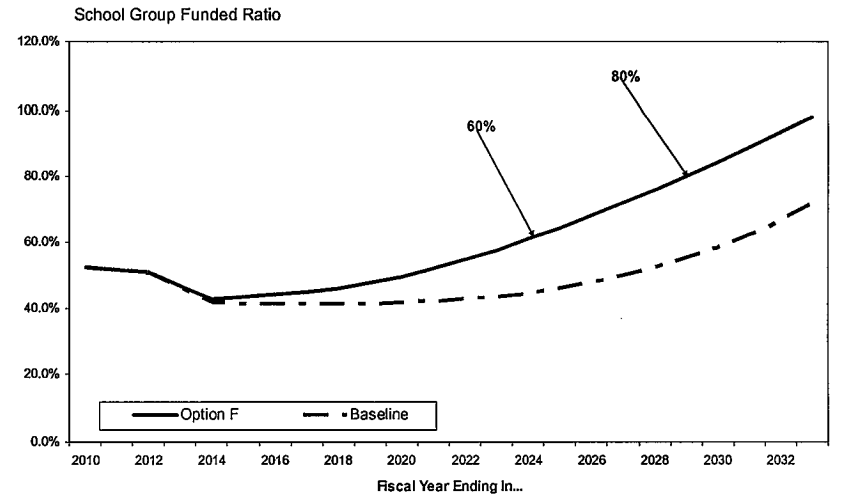
- The projected ARC rate rises to a maximum of 13.12% in FY 2018.
- The funded ratio projections are similar to the baseline, reaching a low of 60% in FY 2014.
- The funded ratio recovers very gradually to 80% in FY 2025 – two years earlier than the baseline.
- The projected UAL peaks at $1.64 billion in FY 2016 – two years earlier and $108.3 million less than the baseline.

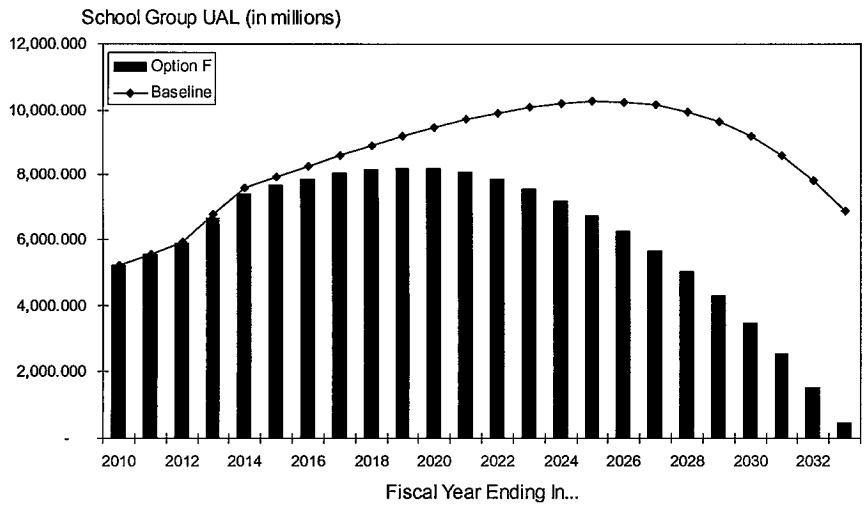
School Group: Option F

3-21

- **Raise cap on employer rate increases to 1% in FY '11. Raise Tier I employee rate by 1% in FY '11.**





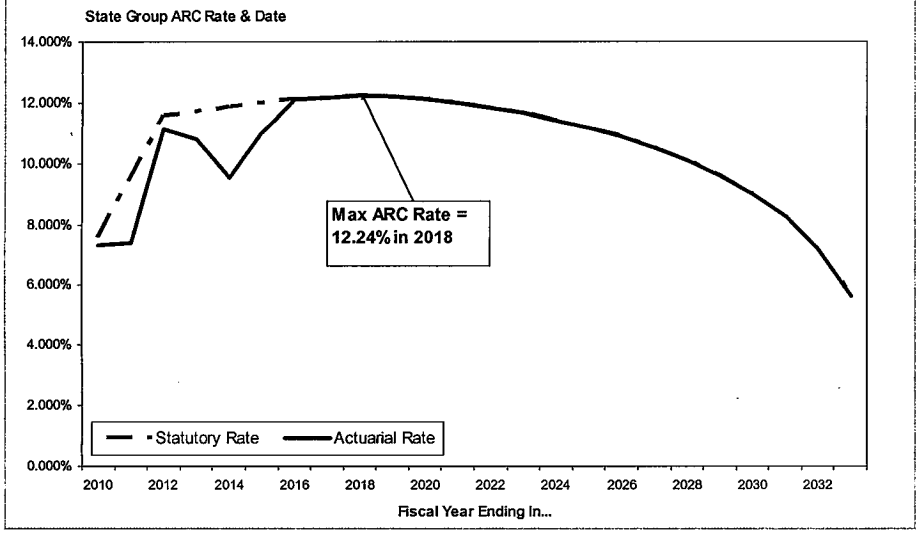


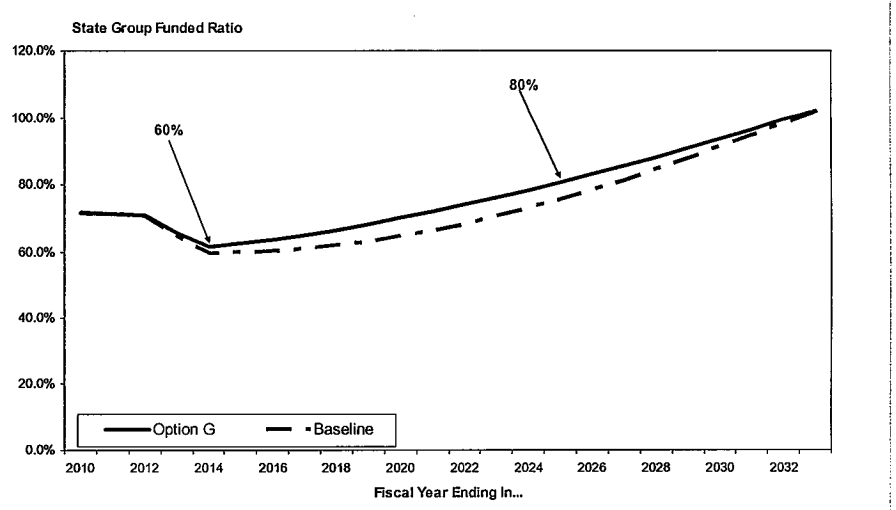
- The projected ARC rate rises to a maximum of 18.56% in FY 2023 – two years earlier and 1.2% less than Option A.
- The funded ratio reaches a low of 43% in FY 2014 and remains below 50% for another 6 years.
- The funded ratio reaches 60% in FY 2024 and 80% in 2029.
- The projected UAL peaks at 8.2 billion in FY 2019—six years earlier and 2.1 billion less than the baseline.

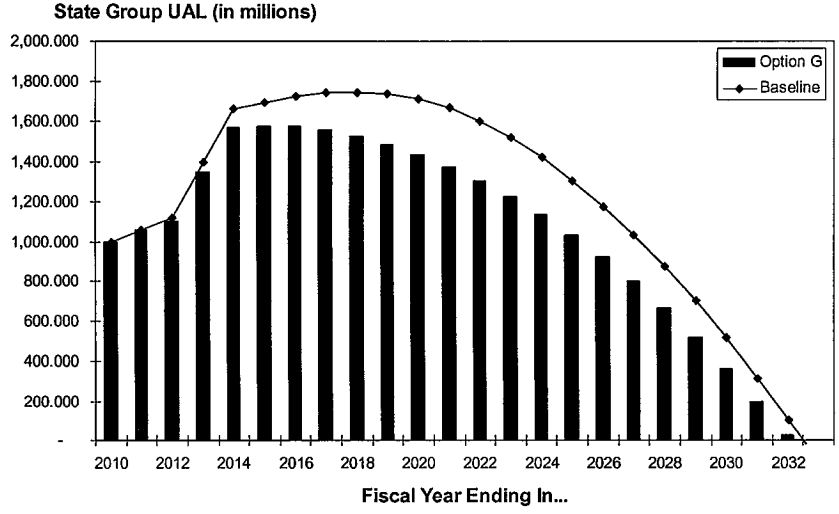
State Group: Option G

3-22

▪Raise cap on employer rate increases to 2.0% in FY '11. Raise Tier I employee rate by 2.0% in FY '11.



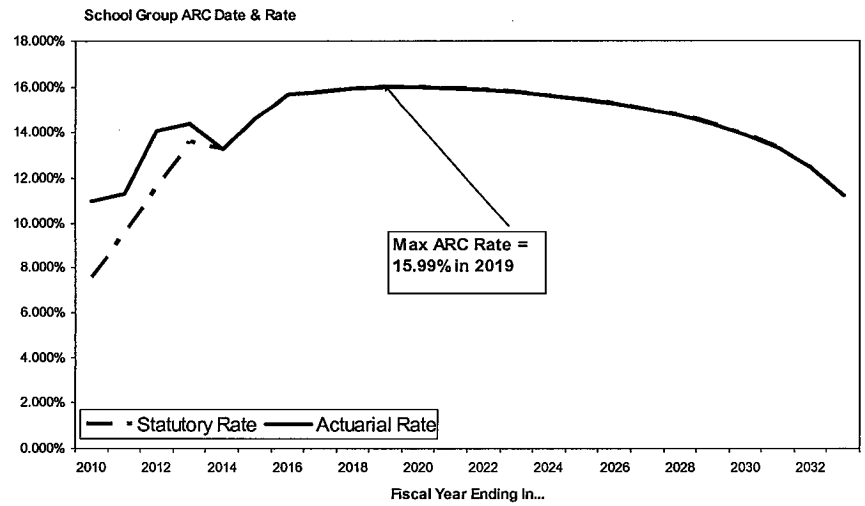


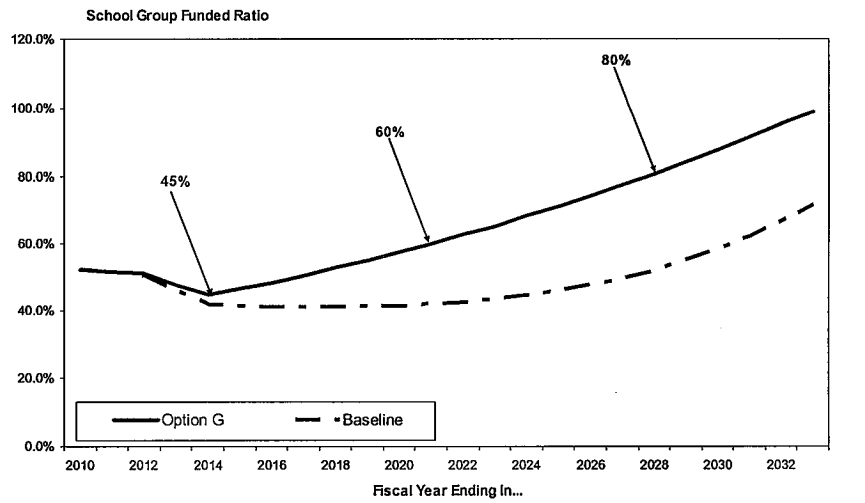


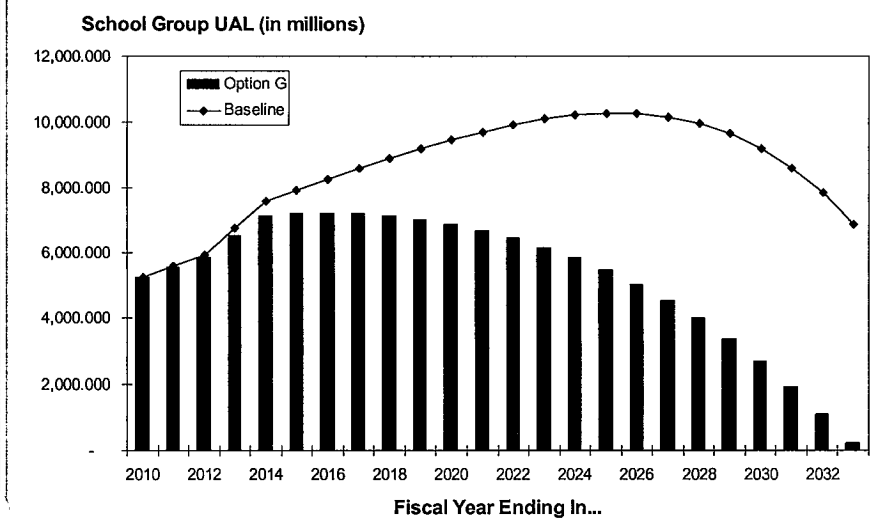
- The projected ARC rate rises to a maximum of 12.24% in FY 2018 – four years earlier and 2% less than the baseline.
- The funded ratio projections are similar to the baseline, reaching a low of 62% in FY 2014.
- The funded ratio recovers very gradually to 80% in FY 2025 –two years earlier than the baseline.
- The projected UAL peaks at $1.58 billion in FY 2016 – two years earlier and $166.1 million less than the baseline.

School Group: Option G

▪Raise cap on employer rate increases to 2.0% in FY '11. Raise Tier I employee rate by 2.0% in FY '11.





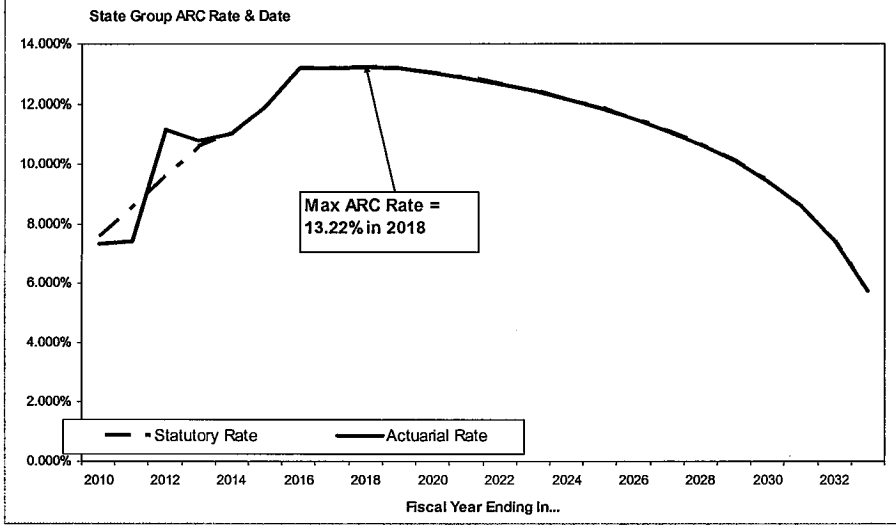


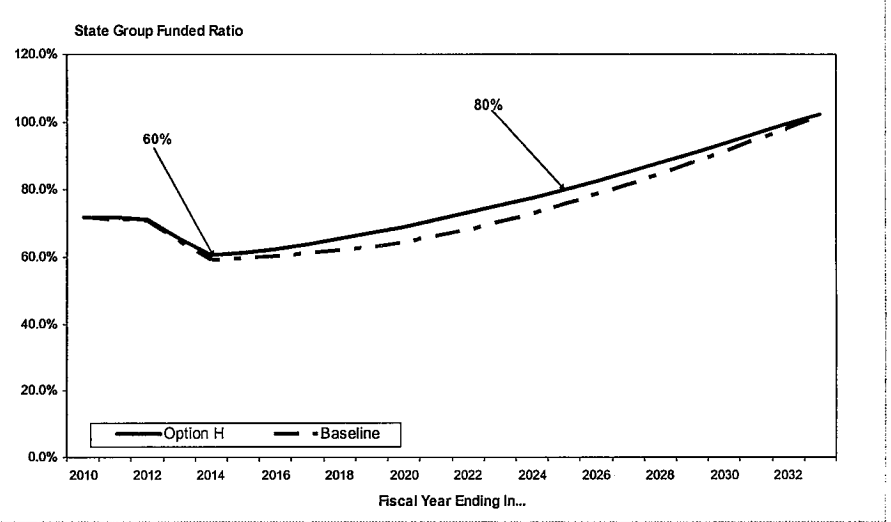
- The projected ARC rate rises to a maximum of 15.99% in FY 2019 – about 1.5% less than Option B without the employee rate increase.
- The funded ratio falls to a low of 45% in FY 2014 remains below 50% for another two years.
- The funded ratio reaches 60% in FY 2021 and 80% by 2028.
- The projected UAL peaks at $7.2 billion in FY 2016 – nine years earlier and $3.1 billion less than the baseline.

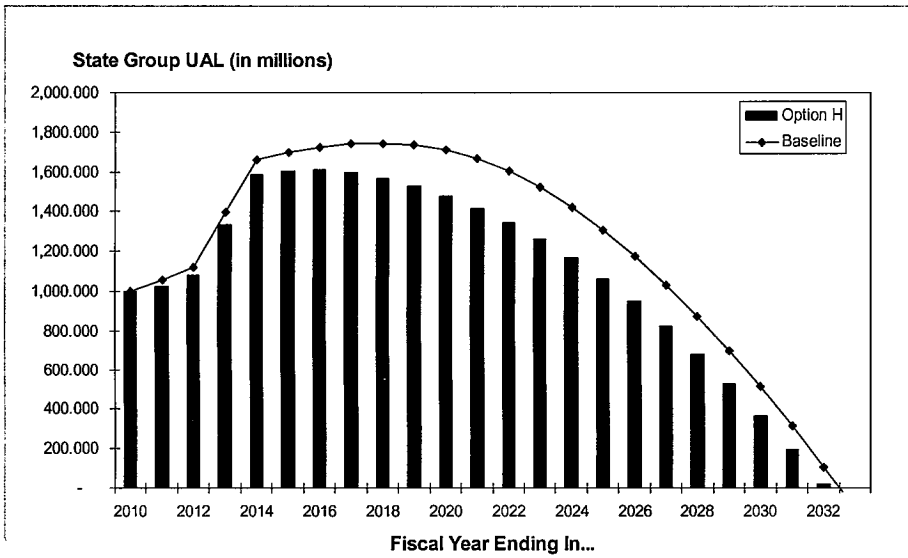
State Group: Option H

▪Raise cap on employer rate increases to 1.0% in FY '11. Raise Tier I employee rate by 1.0% in FY '11. Increase Tier I multiplier to 1.85% for future service.

3-24



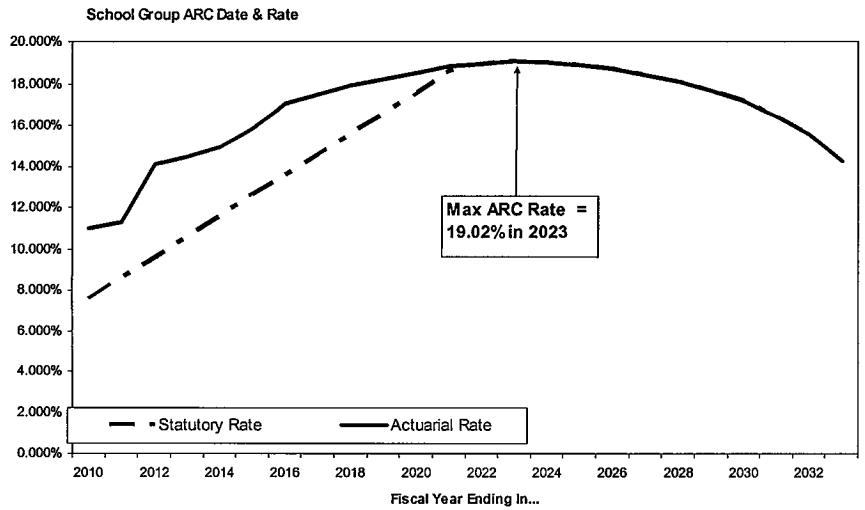


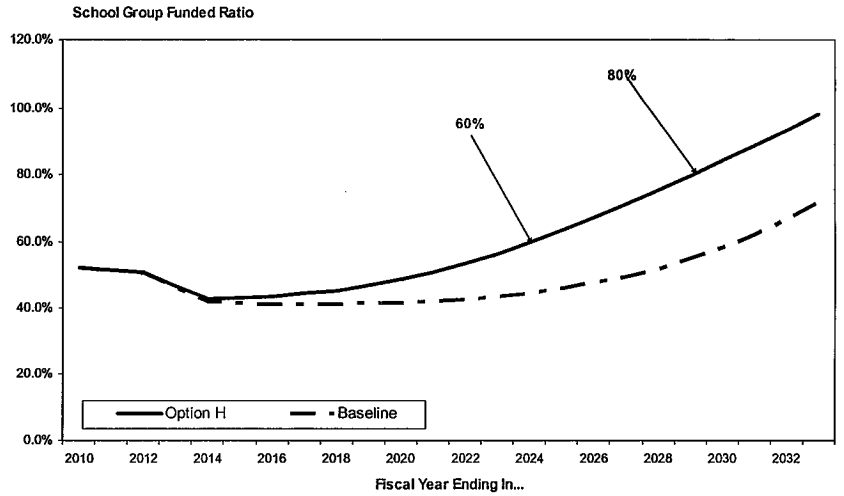


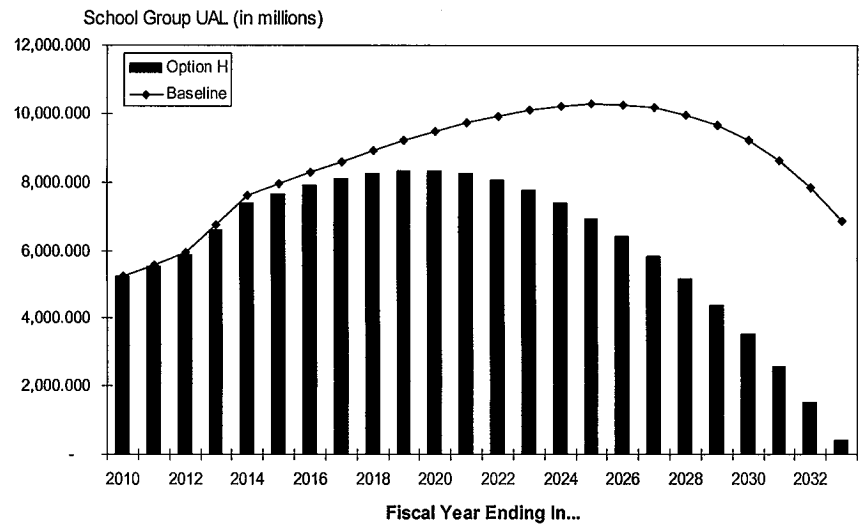
- The projected ARC rate rises to a maximum of 13.22% in FY 2018 – very similar to Option F without the multiplier increase.
- The funded ratio projections are similar to the baseline, reaching a low of 61% in FY 2014.
- The funded ratio recovers gradually to 80% in FY 2025 – two years earlier than the baseline.
- The projected UAL peaks at $1.61 billion in FY 2016 – two years earlier and $134.5 million less than the baseline.

School Group: Option H

▪Raise cap on employer rate increases to 1.0% in FY '11. Raise Tier I employee rate by 1.0% in FY '11. Increase Tier I multiplier to 1.85% for future service.



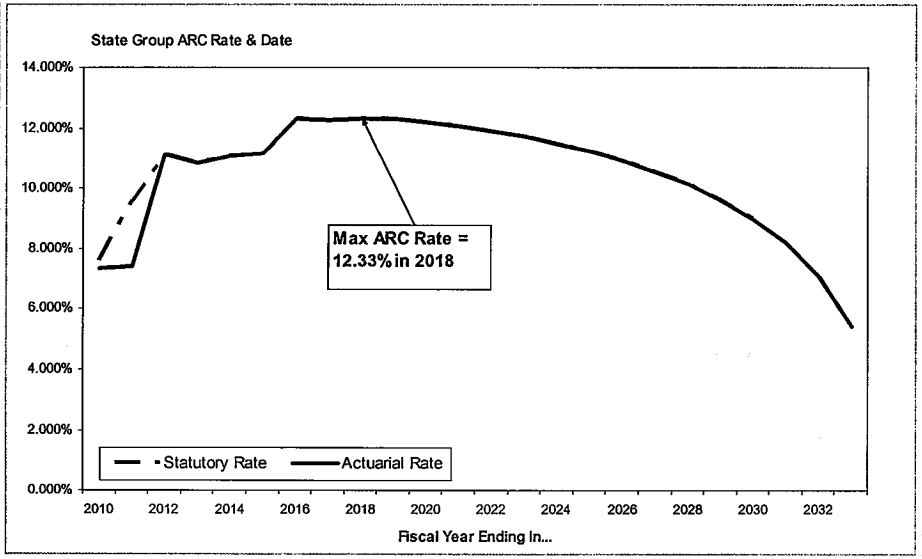


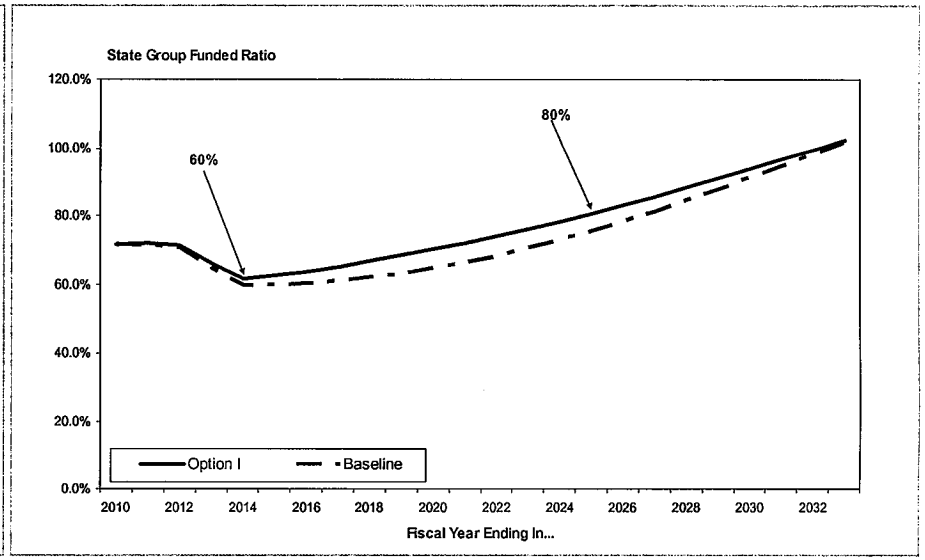


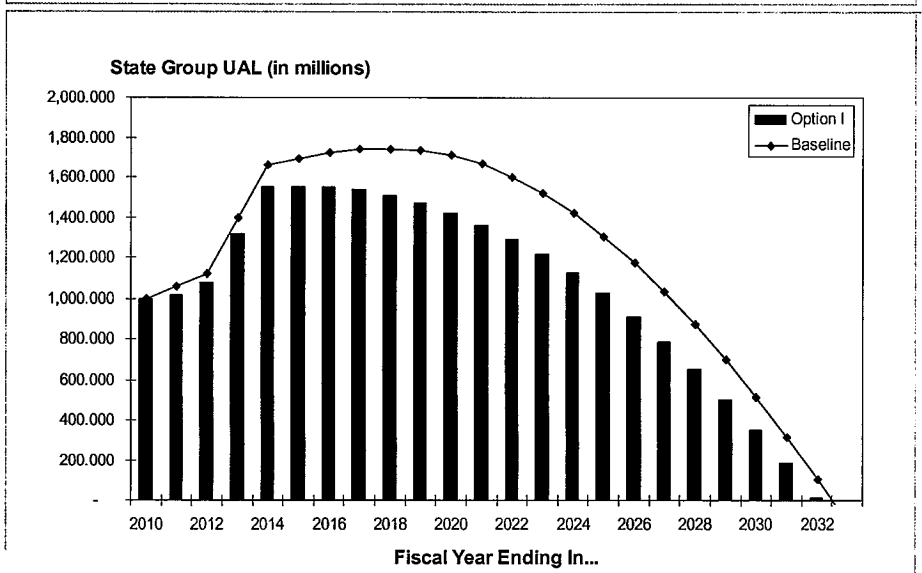
- The projected ARC rate rises to a maximum of 19.02% in FY 2023 – about .5% more than Option F without the multiplier increase.
- The funded ratio reaches a low of 43% in FY 2014 and remains below 50% for another 6 years.
- The funded ratio recovers to 60% in FY 2024 and 80% in 2030.
- The projected UAL peaks at $8.3 billion in FY 2020 – five years earlier and $1.96 billion less than the baseline.

State Group: Option I

▪Raise cap on employer rate increases to 2.0% in FY '11. Raise Tier I employee rate by 2.0% in FY '11. Increase Tier I multiplier to 1.85% for future service.





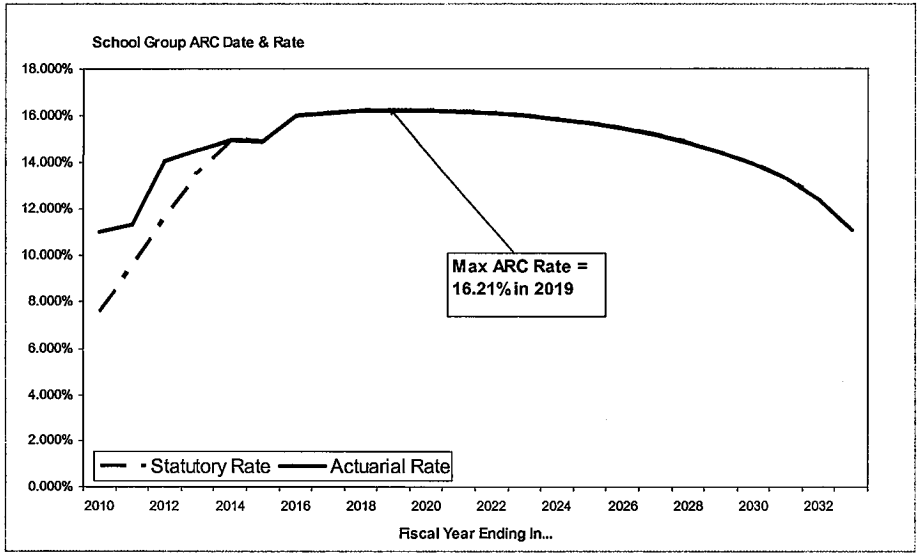


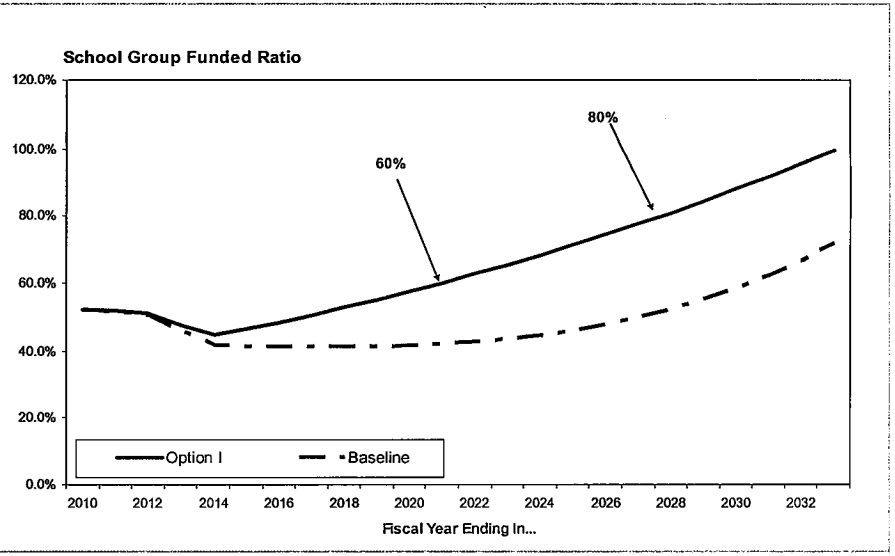
- The projected ARC rate rises to a maximum of 12.33% in FY 2018 – very similar to Option G without the multiplier increase.
- The funded ratio projections are similar to the baseline, reaching a low of 62% in FY 2014.
- The funded ratio recovers very gradually to 80% in FY 2025 – two years earlier than the baseline and similar to Option G.
- The projected UAL peaks at $1.6 billion in FY 2016 – similar to Option G without the multiplier increase.

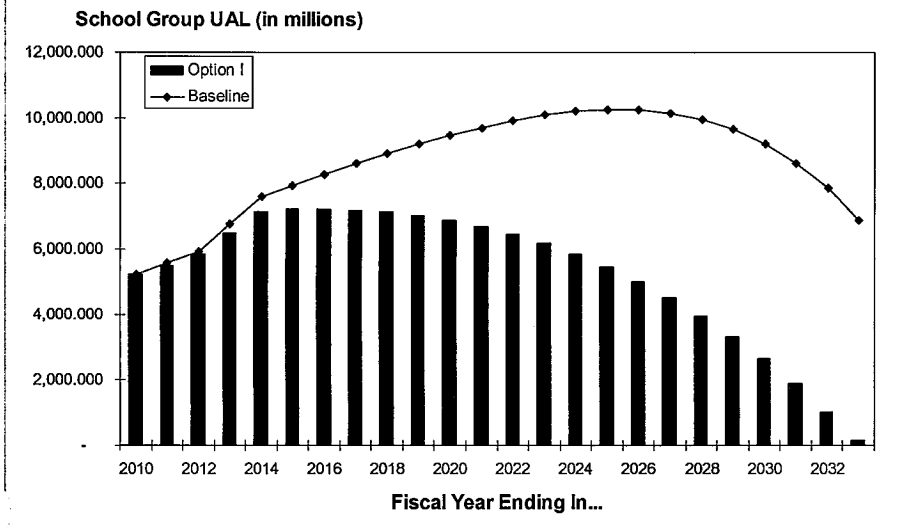
3-27

School Group: Option I

▪Raise cap on employer rate increases to 2.0% in FY '11. Raise Tier I employee rate by 2.0% in FY '11. Increase Tier I multiplier to 1.85% for future service.







- The projected ARC rate rises to a maximum of 16.21% in FY 2019 – slightly higher than Option G without the multiplier increase.
- The funded ratio falls to a low of 45% in FY 2014 and remains below 50% for another two years.
- The funded ratio reaches 60% in FY 2021 and 80% by FY 2028.
- The projected UAL peaks at $7.2 billion in FY 2016 – similar to option G without the multiplier increase.

Effects of Raising Contribution Cap

3-28

Option A* Estimated Effect on the State and School Group (in millions)

	0.6% Cap	Option A	Additional ER Contributions
FY 2011 Increase in Employer Contributions	$39.35	$57.64	$18.29
FY 2011 Total Employer Contributions	$373.57	$391.86	$18.29
FY 2015 Increase in Employer Contributions	$44.80	$67.48	$22.68
FY 2015 Total Employer Contributions	$538.96	$640.95	$101.99
Total Employer Contributions: FY 2010-2033	$23,977.65	$25,492.03	$1,514.37

Option B Estimated Effect on the State and School Group (in millions)**

	0.6% Cap	Option B	Additional ER Contributions
FY 2011 Increase in Employer Contributions	$39.35	$103.37	$64.02
FY 2011 Total Employer Contributions	$373.57	$437.59	$64.02
FY 2015 Increase in Employer Contributions	$44.80	$124.17	$79.37
FY 2015 Total Employer Contributions	$538.96	$895.90	$356.94
Total Employer Contributions: FY 2010-2033	$23,977.65	$23,369.52	($608.14)

*Raise cap on employer rate increases to 1.0% in FY 2011.
**Raise cap on employer rate increases to 2.0% in FY 2011.

Effects of Raising Contribution Cap

3-29

Option C* Estimated Effect on the State and School Group (in millions)

	0.6% Cap	Option C	Additional ER Contributions
FY 2011 Increase in Employer Contributions	$39.35	$57.64	$18.29
FY 2011 Total Employer Contributions	$373.57	$391.86	$18.29
FY 2015 Increase in Employer Contributions	$44.80	$67.48	$22.68
FY 2015 Total Employer Contributions	$538.96	$640.95	$101.99
Total Employer Contributions: FY 2010-2033	$23,977.65	$21,936.48	($2,041.18)

Option D Estimated Effect on the State and School Group (in millions)**

	0.6% Cap	Option D	Additional ER Contributions
FY 2011 Increase in Employer Contributions	$39.35	$57.64	$18.29
FY 2011 Total Employer Contributions	$373.57	$391.86	$18.29
FY 2015 Increase in Employer Contributions	$44.80	$67.48	$22.68
FY 2015 Total Employer Contributions	$538.96	$640.95	$101.99
Total Employer Contributions: FY 2010-2033	$23,977.65	$20,556.82	($3,420.83)

* Raise cap on employer rate increases to 1% in FY '11. Increase employeee rate by .5% for both Tier 1 and 2 in each of four years, beginning FY 2011.
**Raise cap on employer rate increases to 1% in FY '11. Decrease multiplier from 1.75% to 1.5% for future service in FY 2012.

Effects of Raising Contribution Cap

3-30

Option E* Estimated Effect on the State and School Group (in millions)

	0.6% Cap	Option E	Additional ER Contributions
FY 2011 Increase in Employer Contributions	$39.35	$39.35	-
FY 2011 Total Employer Contributions	$373.57	$373.57	-
FY 2015 Increase in Employer Contributions	$44.80	$66.62	$21.82
FY 2015 Total Employer Contributions	$538.96	$610.35	$71.39
Total Employer Contributions: FY 2010-2033	$23,977.65	$26,120.29	$2,142.63

Option F Estimated Effect on the State and School Group (in millions)**

	0.6% Cap	Option F	Additional ER Contributions
FY 2011 Increase in Employer Contributions	$39.35	$57.64	$18.29
FY 2011 Total Employer Contributions	$373.57	$391.86	$18.29
FY 2015 Increase in Employer Contributions	$44.80	$67.48	$22.68
FY 2015 Total Employer Contributions	$538.96	$640.95	$101.99
Total Employer Contributions: FY 2010-2033	$23,977.65	$24,295.68	$318.03

*"Phased-in" rate increase cap-- .6% cap in FY 2011, .8% cap in FY 2012, and 1.0% cap in FY 2013.
**Raise cap on employer rate increases to 1% in FY '11. Raise Tier I employee rate by 1% in FY '11.

Effects of Raising Contribution Cap

3-31

Option G* Estimated Effect on the State and School Group (in millions)

	0.6% Cap	Option G	Additional ER Contributions
FY 2011 Increase in Employer Contributions	$39.35	$103.37	$64.02
FY 2011 Total Employer Contributions	$373.57	$437.59	$64.02
FY 2015 Increase in Employer Contributions	$44.80	$88.85	$44.05
FY 2015 Total Employer Contributions	$538.96	$745.58	$206.62
Total Employer Contributions: FY 2010-2033	$23,977.65	$22,044.96	($1,932.70)

Option H Estimated Effect on the State and School Group (in millions)**

	0.6% Cap	Option H	Additional ER Contributions
FY 2011 Increase in Employer Contributions	$39.35	$57.64	$18.29
FY 2011 Total Employer Contributions	$373.57	$391.86	$18.29
FY 2015 Increase in Employer Contributions	$44.80	$67.48	$22.68
FY 2015 Total Employer Contributions	$538.96	$640.95	$101.99
Total Employer Contributions: FY 2010-2033	$23,977.65	$24,689.52	$711.87

*Raise cap on employer rate increases to 2.0% in FY '11. Raise Tier I employee rate by 2.0% in FY '11.
**Raise cap on employer rate increases to 1.0% in FY '11. Raise Tier I employee rate by 1.0% in FY '11. Increase Tier I multiplier to 1.85% for future service.

Effects of Raising Contribution Cap

3-32

Option I* Estimated Effect on the State and School Group (in millions)

	0.6% Cap	Option I	Additional ER Contributions
FY 2011 Increase in Employer Contributions	$39.35	$103.37	$64.02
FY 2011 Total Employer Contributions	$373.57	$437.59	$64.02
FY 2015 Increase in Employer Contributions	$44.80	$17.68	($27.12)
FY 2015 Total Employer Contributions	$538.96	$760.85	$221.89
Total Employer Contributions: FY 2010-2033	$23,977.65	$22,301.89	($1,675.77)

*Raise cap on employer rate increases to 2.0% in FY '11. Raise Tier I employee rate by 2.0% in FY '11. Increase Tier I multiplier to 1.85% for future service.

Observations Regarding Options

3-33

- A review of all options illustrates various trade-offs and limitations:
  - Increases in employer contributions, while necessary, will not substantially affect the funded ratio for a number of years until compounding of investment earnings has the opportunity to grow the new assets relative to liabilities.
  - While an employee contribution increase or a reduction in the multiplier appears to have a meaningful impact on key measures, legal issues associated with such changes may limit their use.
  - The only ways to quickly improve the funded ratio are either through a major injection of money in the early years (such as through pension obligation bonds) or through large, sustained investment returns in the near term.
- KPERS is seeking feedback from the Joint Committee regarding these options or others the Committee may wish to consider.

Attachment 4
JCPIB 11-17-09

Kansas Public Employees Retirement System

KPERS Long-Term Funding: Defined Contribution Options

Joint Committee on Pensions, Investments and Benefits ▪ *November 17, 2009*

Defined Contribution Introduction

The Joint Committee on Pensions, Investments and Benefits and the House Appropriations Committee requested that KPERS provide additional information on a mandatory defined contribution plan option for future employees to address the long-term funding problem.

Types of Retirement Plans:

- **Defined Benefit (DB) Plans**—DB plans specify the benefit employees will receive when they retire based on a formula set out in the legal plan document. The basic formula is:

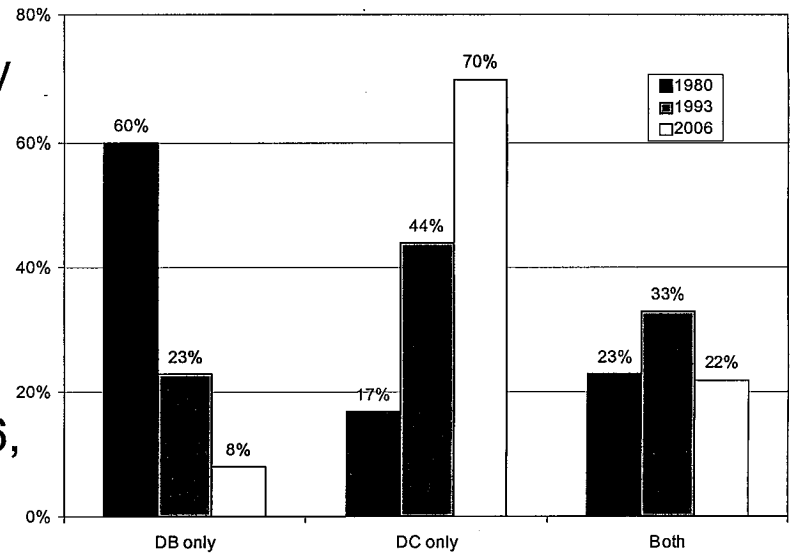
  Final Average Salary x Years of Service x Multiplier = Annual Benefit

- **Defined Contribution (DC) Plans**—DC plans specify the contribution rate the employer and employee pay into the plan each year. The employee usually directs the investment of the contributions in a range of investment options. The amount employees get at retirement depends on the value of the account at retirement.
- **Hybrid Plans**—Hybrid plans combine both DB and DC elements. For example, a plan might have a base DB plan with a low multiplier (e.g. 1%) and a supplemental DC account. Another example is a cash balance plan in which the employer promises both the contribution to an account (e.g. 5% of pay) and a guaranteed investment return (e.g. 6%).

Private Sector Trend To DC Plans

4-3

- Since the 1980's, pension coverage in the private sector has been shifting significantly from Defined Benefit (DB) to Defined Contribution (DC) plans.
- As the graphs to the right show, of private sector employees with pension coverage, the percent of employees with only a DB plan fell from 60% to 8% from 1980 to 2006, while those with only DC rose from 17% to 70%.



- In recent years, there has been a significant trend for large companies to freeze DB plans and shift to DC plans. This shift has been driven by a number of factors including: increased regulation of DB plans, financial distress in certain industries, global competitive financial pressures, and shifting risk to employees.
- In 2009, 42% of the companies in the Fortune 1000 sponsored active DB plans compared to 59% in 2004.

Other States' Defined Contribution Plans

4-4

- The DB plan is the primary retirement plan for most state, local and school employees who are covered by a state-sponsored retirement plan. In the last 10 to 15 years, there have been about a dozen states who have adopted DC plans as either a mandatory plan, voluntary option, or hybrid plan.
- **Mandatory DC Plans**
  - **Michigan**—Adopted a mandatory DC plan for new state employees in 1997. School and local employees are still covered by a DB plan.
  - **Alaska**—Adopted mandatory DC plan for new state, local and school employees in 2005.
- **Optional DC Plans-—**States with optional DC plans include: Florida, Colorado, Montana, North Dakota, Ohio, and South Carolina.
- **Hybrid Plans-—**States with features combining both DB and DC elements include: Florida, Georgia, Indiana, Nebraska, Ohio, Oregon, and Washington.

Other States Defined Contribution Plans

4-5

- **States Switching from DC to DB or Hybrid**
  - **Nebraska**—Primary plan was DC from 1967 to 2002. Closed to new employees in 2003 and replaced with cash balance plan.
  - **West Virginia**—DB plan for teachers was closed to new members in 1991, and a DC plan was created. In 2005, DC plan was closed to new enrollment. In 2006, DC members voted to merge with DB plan. After legal challenges, legislation passed in 2008 to allow DC members to transfer to DB plan.

Kansas Defined Contribution Plans

9-4

In addition to the three state DB plans (KPERS, KP&F and Judges), there are three types of DC plans for certain State of Kansas employees. Also, Kansas school and local governments sponsor voluntary, supplemental DC plans for their employees.

- **Regents Retirement Plan**—Established in 1961 for unclassified faculty and administrators. Mandatory employer contribution of 8.5% and employee contribution of 5.5%. Members become vested immediately in all employee and employer contributions and self-direct investments. Currently, two service providers offer a wide range of investment options—TIAA-CREF and ING. Regents also offer a voluntary plan to which an employee can make additional contributions.

- **Voluntary Deferred Compensation Plan (457 Plan)**—Established in 1976 for state employees. In 1982, local governments were allowed to adopt the state plan. Employees can make voluntary pre-tax contributions to a deferred compensation account and self-direct investments. Current service provider is ING, and the plan was transferred under the administration of KPERS in 2008.

Kansas Defined Contribution Plans (Continued)

4-7

- **Deferred Compensation Plan for State Officials**—Established in 1988 for certain state officials, legislative session employees, and legislative leadership staff. Most members are offered one-time option of joining KPERS or this plan. Employer contribution is 8%, and there is no mandatory employee contribution. These accounts are managed as part of the State's voluntary 457 plan.

- **School District and Local Government Voluntary DC Plans**—Nearly all the school districts in the State have for many years provided a voluntary supplemental "403(b)" DC plan to their employees. Employees make voluntary pre-tax contributions. Most cities and counties that do not adopt the State Deferred Compensation Plan have a separate voluntary deferred compensation plan (457 Plan).

DB Vs. DC Comparison Chart

4-8

	DEFINED BENEFIT PLAN	DEFINED CONTRIBUTION PLAN
Risk Attributes		
Investment Risk	Employer	Employee
Liability Estimate Risk	Employer	Employee
Inflation Risk (After Retirement)	Employer, if an indexed COLA is provided Employee, if COLA inadequate	Employee
Longevity Risk (Risk of Outliving Assets)	Employer	Employee
Investment Attributes		
Asset Allocation and Investment Management	Professional management and expertise.	Dependent on individual expertise, judgment, and attention to active monitoring and managing of the account.
Investment Opportunities	Access to wide range of asset classes and strategies, including private equity and real estate.	Generally access only to equity and fixed income investment through mutual funds.
Time Horizon	Consistent, long-term, pooled horizon for all participants	Shifts depending on individual participant's age.
Investment Fees	Lower institutional fees	Higher fees depending on size of DC plan and mutual fund options provided.
Plan Management Attributes		
Employer Contribution Volatility	Potential for significant increases in employer contribution rates depending on investment and demographic experience and consistency in paying the full actuarial rate.	None
Portability (Member leaves employment prior to retirement)	If non-vested, member can only withdraw or roll over employee contributions, plus interest. If vested, must wait until retirement eligibility to receive benefit earned to that point or must forfeit the earned benefit to withdraw or roll over employee contributions plus interest.	Can withdraw or roll over employee contributions and all vested employer contributions, plus investment earnings.

DB Vs. DC Comparison Chart

	DEFINED BENEFIT PLAN	DEFINED CONTRIBUTION PLAN
Plan Management Attributes		
Employer Administrative Complexity	Extensive statutory provisions on eligibility, vesting, final average salary, multiplier, working after retirement, and other elements affecting retirement benefit amounts. Employer responsible for developing and maintaining infrastructure for administering these provisions.	Minimal number of terms and conditions to administer, such as percent of employer and employee contributions, vesting of employer contributions, and options for distribution. Much of the infrastructure for day-to-day account management typically contracted out to third-party service provider.
Employee Retirement Planning and Management	Minimal ongoing responsibility for active planning, particularly early in career. Complex rules not readily understood by all members. No responsibility for managing account.	Continuous responsibility for understanding, planning, monitoring, and actively managing retirement account.
Workforce Impacts		
Attraction/recruitment	Tends to be preferred by older employees or employees seeking a long-term career.	Tends to be preferred by younger employees and employees who are more mobile.
Retention	Tends to encourage retention of employees with greater length of service (career employees)	Only provides a retention incentive to the extent the employer contribution is higher than provided by employers competing for the same workers.
Relationship Between Plan and Other Conditions of Employment	Other terms and conditions of employment and personnel actions can directly impact both benefits and employer contribution obligations, including pay raises and promotions, overtime, and early retirement incentives in or outside of the plan. This is particularly true for changes in conditions of employment during the years leading up to retirement.	Other terms and conditions of employment and personnel actions have a direct impact on employer contributions only to the extent that the payroll base rises.

Plan Design Evaluation Factors

In evaluating various DB and DC plan options, the key factors that should be considered are the following:

- **Financial Soundness/Cost**—Does it ensure the financial soundness of the System over the long-term? Are the short-term and long-term costs to employers and employees affordable and sustainable?
- **Retirement Benefit Adequacy**—Does it provide benefits that, when combined with Social Security and personal savings, will sustain the retiree's standard of living in retirement?
- **Workforce Incentives**—Does it provide sufficient incentives to attract and retain high quality employees?

Impact on UAL From DC Options

4-11

- The calculation of the employer contribution rate for the current DB plan is based on two types of costs:
  - **Normal Cost**—The cost of new benefits earned that year.
  - **UAL Amortization Payment**—The annual payment on the cost of funding the difference between actuarial value of assets and the actuarial value of the liabilities for benefits already earned.
- An example of the employer contribution rate calculation for the State/School Group for FY 2012 is shown below:

Employer Normal Cost	4.53%
Amortization of UAL	9.56%
Actuarial Contribution Rate*	14.09%
Statutory Employer Contribution Rate*	8.77%

* Assumes the current .6% cap on employer contribution increases remained in place.

- Because of the statutory cap, the State is paying the normal cost of 4.53%, but only paying 4.24% of the 9.56% UAL amortization payment.

Impact on UAL From DC Options (Continued)

4-12

- If a mandatory defined contribution plan was provided to all future employees, those employees hired after the plan's effective date would constitute a new tier of members.
  - For those hired before the new plan takes effect (Tiers 1 and 2), the employers' annual contributions would pay for the normal cost and a portion of the UAL amortization payment.
  - For those hired after the new plan takes effect (Tier 3), no unfunded actuarial liability exists, and the employer pays only the contribution provided by the defined contribution plan.
- Employer contributions for Tier 3 would go solely to the participants' accounts. Therefore, employer contributions toward Tiers 1 and 2 would be paid on a shrinking payroll base as new employees join Tier 3.
- The UAL is a set dollar amount. Therefore, employers would need to either:
  - Pay a higher UAL amortization payment on the Tier 1 and Tier 2 payrolls.
  - Make a UAL payment on the total payroll, including the pay of Tier 3 members. This is the recommended approach.

Developing a DC Employer Contribution Rate

4-13

- To develop a total employer contribution rate for the Tier 3 payroll, a UAL payment must be added to the employer DC contribution rate for Tier 3 participants.
- Three options are shown below for calculating this total employer contribution rate using the FY 2012 ARC and statutory rate. DC Options A and B are based on the 8.5% employer contribution rate used in the Regents DC plan, and DC Option C is a basic 401(k) DC plan with a 3% employer contribution and 6% employee contribution.

	DC Option A*	DC Option B*	DC Option C*
Employer Contribution to DC Account	8.50%	8.50%	3.00%
UAL Payment to DB Plan	.27%	4.24%	5.77%
Total	8.77%	12.74%	8.77%

*Assumes a .6% cap on employer contribution increases and a level 8% annual investment return.

DC Options Summary

KPERS' actuary has modeled the impact of these three DC options on the long-term funding status of KPERS Tiers 1 & 2 and compared them to the baseline DB Plan for the combined State/School Group. The assumptions used for the Baseline DB and for the three DC options are summarized below. All projections assume a level 8% annual investment return.

Baseline DB Plan

- Employer Contribution Rate: Cap remains at 0.6%.
- Employee Contribution Rate: No change.

DC Option A

- Employer Contribution Rate: 8.5%
- Employee Contribution Rate: 5.5%
- Additional contribution rate credited to DB UAL is equal to difference between statutory DB rate minus 8.5% DC employer rate.

DC Options Summary (Continued)

DC Option B

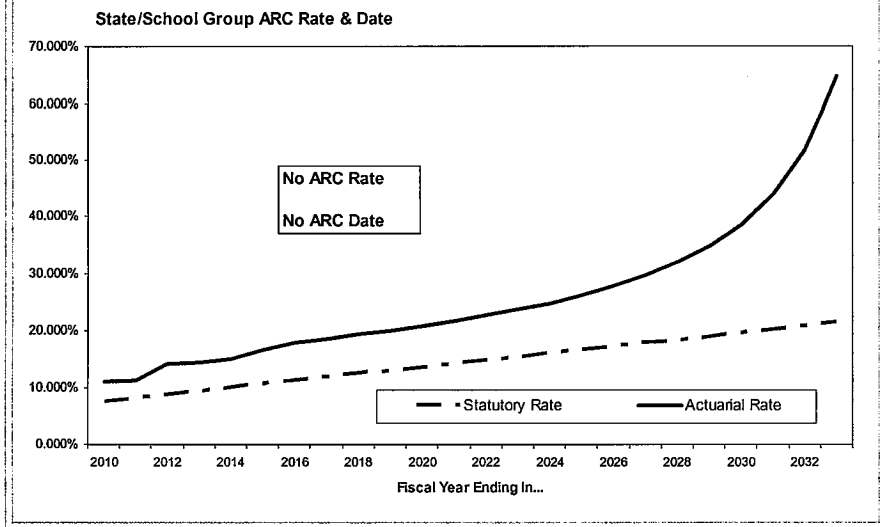
- Employer Contribution Rate: 8.5%
- Employee Contribution Rate: 5.5%
- Additional contribution to DB UAL equal to statutory DB rate minus the blended normal cost for Tier 1 and 2.

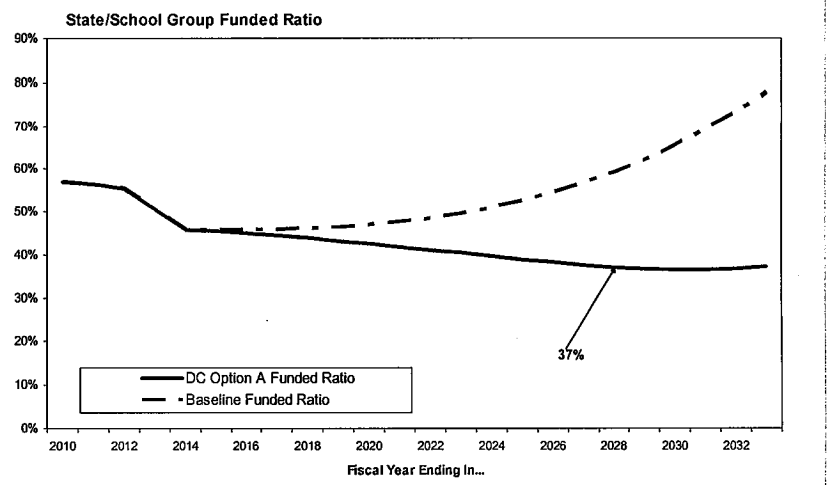
DC Option C

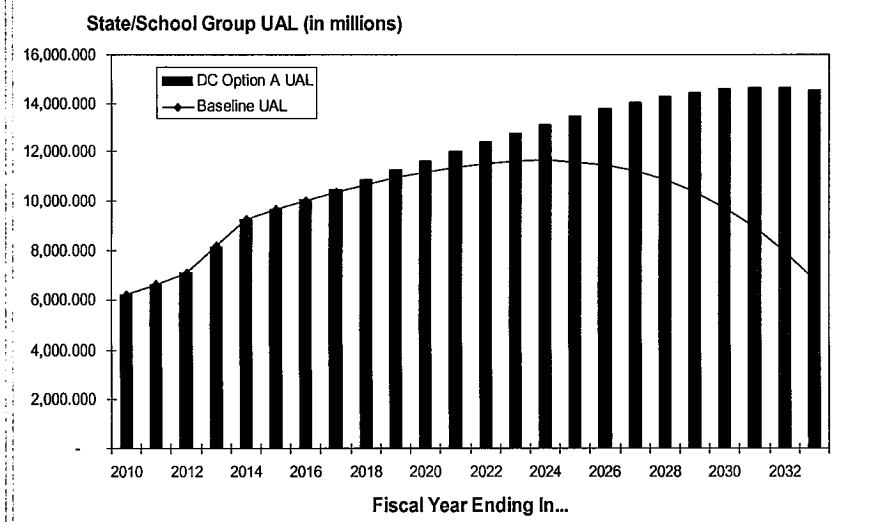
- Employer Contribution Rate: 3.0%
- Employee Contribution Rate: 6.0%
- Additional contribution rate credited to DB UAL equal to statutory DB rate minus 3.0% DC employer rate.

State/School Combined Group: Defined Contribution Option A

▪8.5% employer and 5.5% employee contribution to DC plan. Difference between statutory DB rate (with .6% cap) and 8.5% DC contribution credited to DB UAL.





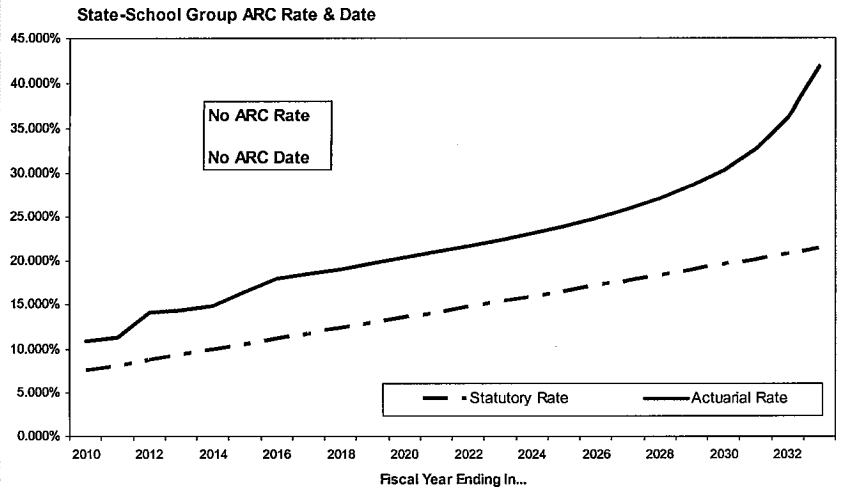


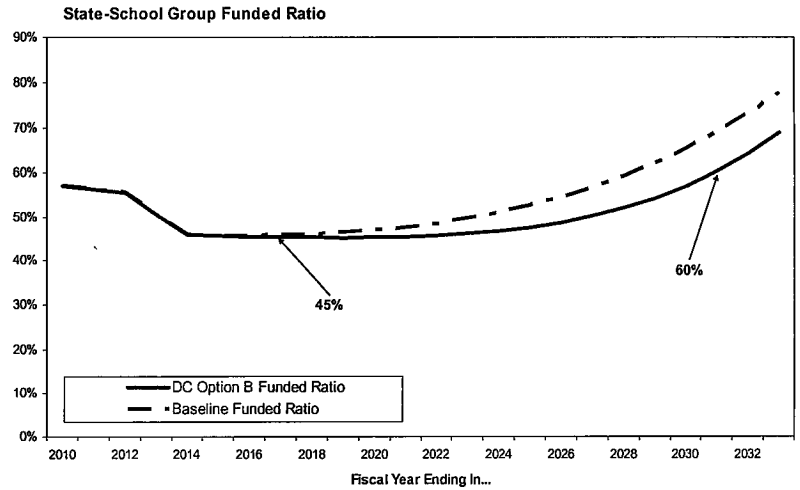
- As is true with the baseline DB plan, the State/School Group is out of actuarial balance under DC Option A.
- Under the baseline DB plan, the State/School Group is less than 50% funded for nine years. Under DC Option A, the State/School Group also falls below 50% funded in FY 2014 and then continues dropping to 37% funded from FY 2028 through FY 2033.
- The State/School Group UAL climbs to a peak of $14.65 billion in FY 2031 – 26% higher than the peak UAL under the DB baseline.

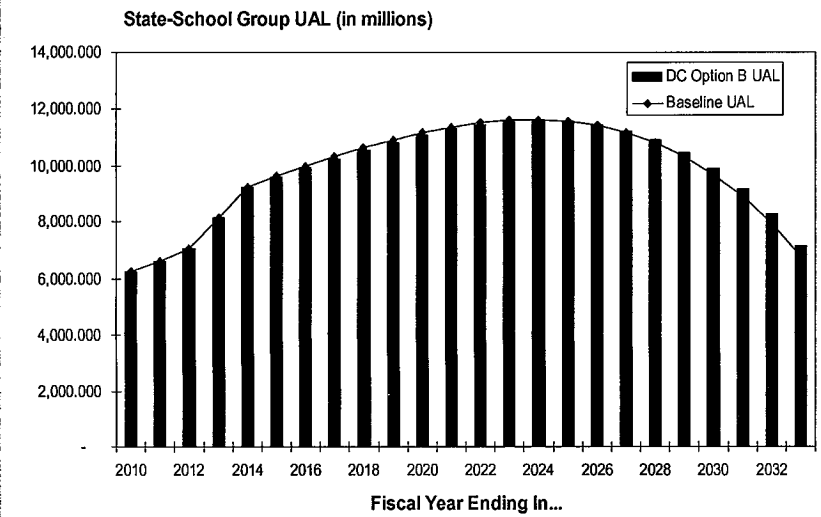
State/School Combined Group: Defined Contribution Option B

4-17

▪8.5% employer and 5.5% employee contribution to DC plan. Additional employer contribution to DB UAL equal to statutory DB rate (with .6% cap) minus the blended normal cost for Tier 1 and 2.



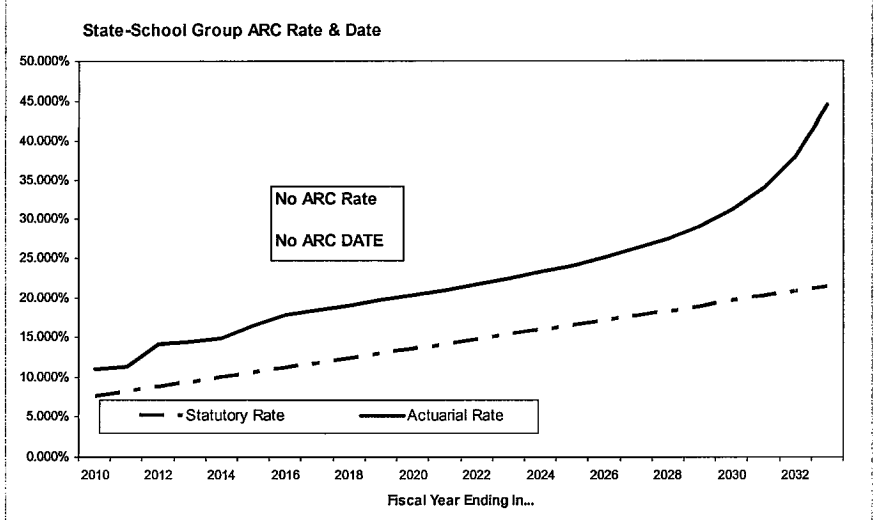


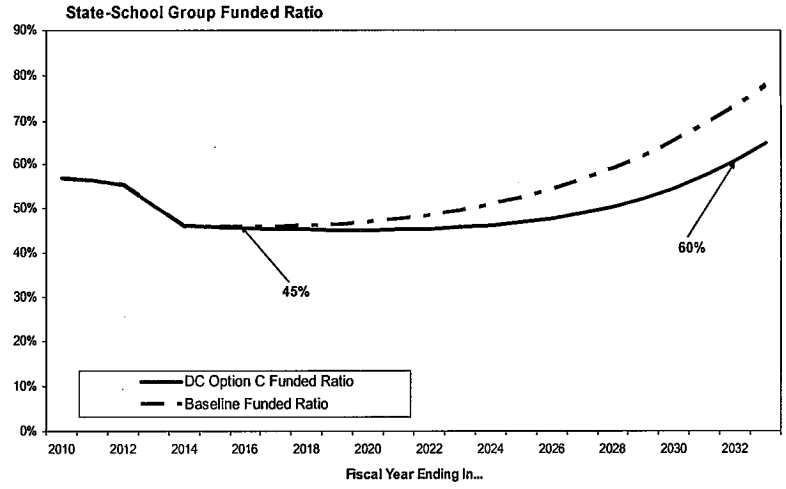


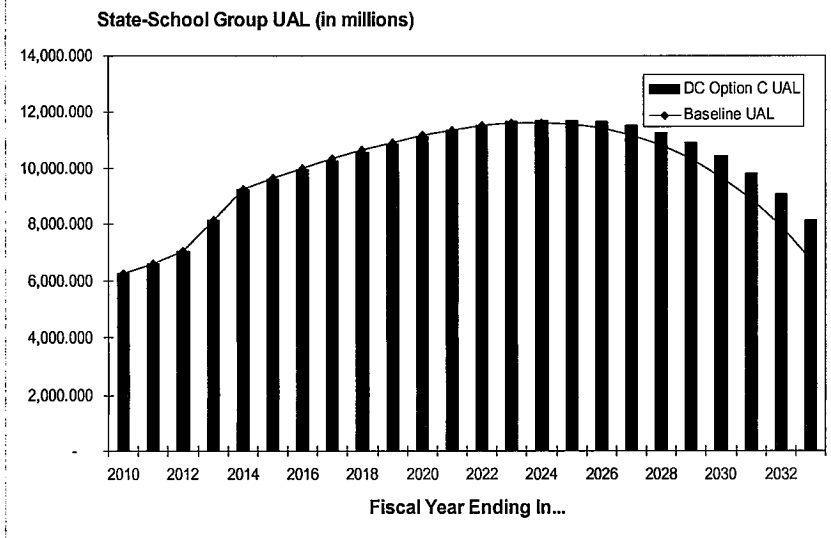
- Under DC Option B, the State/School Group statutory rate does not reach the ARC rate through the end of the amortization period in 2033.
- Under DC Option B, the State/School Group's funded ratio trails the DB baseline funded ratio slightly – remaining below 50% funded for 13 years, versus 9 years under the DB baseline.
- A 60% funded ratio is reached in FY 2031 – two years later than the DB baseline.
- The State/School Group UAL under DC Option B tracks with the DB baseline since UAL amortization payments match.

State/School Combined Group: Defined Contribution Option C

▪3% employer and 6.0% employee contribution to DC plan. Difference between statutory DB rate (with .6% cap) and 3.0% DC contribution credited to DB UAL.







- Like the other options, the State/School Group remains out of actuarial balance.
- Under DC Option C, the State/School Group's funded ratio trails slightly -- remaining below 50% funded for 14 years, versus 9 years under the DB baseline.
- A 60% funded ratio is reached in FY 2032 – three years later than the DB baseline.
- The State/School Group UAL under DC Option C is similar to the DB baseline. It peaks two years later at $11.7 billion.

DC Options Cost Comparison Charts

DC Option A* Estimated Effect on the State and School Group (in Millions)

Fiscal Year	Current DB Plan	DB Tiers 1 & 2	DC Option A Tier 3 DC	Tier 3 DB UAL	DC Option A Total	Difference	Cumulative
2012	$ 411.70	$ 404.56	$ 6.93	$ 0.22	$ 411.70	$ -	
2017	$ 636.51	$ 453.58	$ 132.10	$ 50.82	$ 636.51	$ -	$ -
2022	$ 936.63	$ 468.88	$ 269.19	$ 198.56	$ 936.63	$ -	$ -
2027	$ 1,340.06	$ 455.91	$ 422.92	$ 461.23	$ 1,340.06	$ -	$ -
2033	$ 2,004.25	$ 403.01	$ 636.90	$ 964.34	$ 2,004.25	$ -	$ -
2010-2033	$ 23,977.65	$ 10,518.92	$ 6,540.99	$ 6,917.75	$ 23,977.65	$ -	$ -

DC Option B Estimated Effect on the State and School Group (in Millions)**

Fiscal Year	Current DB Plan	DB Tiers 1 & 2	DC Option B Tier 3 DC	Tier 3 DB UAL	DC Option B Total	Difference	Cumulative
2012	$ 411.70	$ 404.56	$ 6.93	$ 5.19	$ 416.68	$ 4.97	
2017	$ 636.51	$ 453.58	$ 132.10	$ 146.71	$ 732.40	$ 95.89	$ 294.63
2022	$ 936.63	$ 468.88	$ 269.19	$ 403.94	$ 1,142.00	$ 205.37	$ 1,089.90
2027	$ 1,340.06	$ 455.91	$ 422.92	$ 807.52	$ 1,686.35	$ 346.30	$ 2,529.02
2033	$ 2,004.25	$ 403.01	$ 636.90	$ 1,516.19	$ 2,556.10	$ 551.85	$ 5,305.87
2010-2033	$ 23,977.65	$ 10,518.92	$ 6,540.99	$ 12,223.61	$ 29,283.52	$ 5,305.87	

*8.5% employer and 5.5% employee contribution to DC plan. Difference between statutory DB rate (with .6% cap) and 8.5% DC contribution credited to DB UAL.

**8.5% employer and 5.5% employee contribution to DC plan. Additional employer contribution to DB UAL equal to statutory DB rate (with .6% cap) minus the blended normal cost for Tier 1 and 2.

DC Options Cost Comparison Charts

4-20

DC Option C* Estimated Effect on the State and School Group (in Millions)

Fiscal Year	Current DB Plan	DB Tiers 1 & 2	DC Option C Tier 3 DC	DC Option C Tier 3 DB UAL	DC Option C Total	Difference	Cumulative
2012	$ 411.70	$ 404.56	$ 2.44	$ 4.70	$ 411.70	$ -	
2017	$ 636.51	$ 453.58	$ 46.62	$ 136.30	$ 636.51	$ -	$ -
2022	$ 936.63	$ 468.88	$ 95.01	$ 372.74	$ 936.63	$ -	$ -
2027	$ 1,340.06	$ 455.91	$ 149.27	$ 734.88	$ 1,340.06	$ -	$ -
2033	$ 2,004.25	$ 403.01	$ 224.79	$ 1,376.44	$ 2,004.25	$ -	$ -
2010-2033	$ 23,977.65	$ 10,518.92	$ 2,308.58	$ 11,150.15	$ 23,977.65	$ -	$ -

*3% employer and 6.0% employee contribution to DC plan. Difference between statutory DB rate (with .6% cap) and 3.0% DC contribution credited to DB UAL.

4-21

Retirement Benefit Adequacy

- The basic goal of retirement planning is to provide for a level of retirement income that will permit retirees to maintain their preretirement lifestyle throughout retirement.
- The accepted quantitative standard for measuring achievement of this goal is the "replacement ratio."
  - Replacement ratio refers to the percentage of preretirement income that is provided or needed after retirement.
- **Minimum** target replacement ratios of 70 percent to 80 percent are commonly recommended by financial planners.
  - The appropriate replacement ratio for a particular member may need to be modified due to personal factors such as spousal income and retirement benefits.
- KPERS was designed to work in tandem with Social Security benefits and personal savings. All three components are necessary to provide an adequate replacement ratio throughout retirement.

4-22

Retirement Benefit Adequacy (Continued)

Example: KPERS Tier 2 member retiring at age 65 with 22 years of service (average for KPERS members) with $40,000 salary.

	Annual Benefit	**% of Income Replaced**
Social Security	$13,800	34%
KPERS	$14,260	36%
Personal Savings	$3,940	10%
Total	$32,000	80%

4-23

Income Replacement Ratio Comparisons

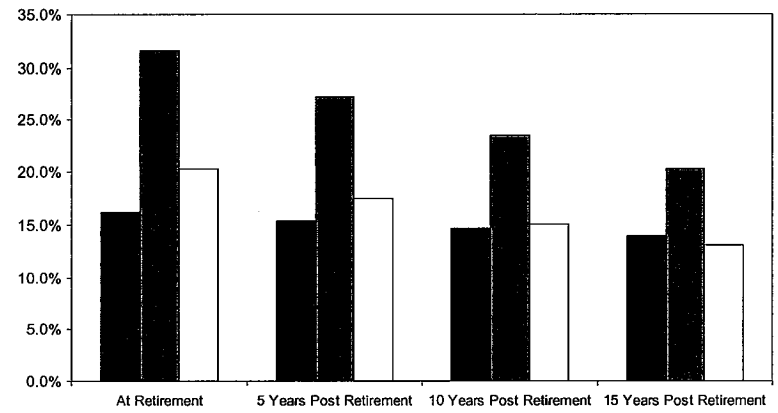
- Income replacement ratios for KPERS Tier 2 benefits and two defined contribution design options are compared on the following pages.
  - **"Regents" Design:** 8.5% employer contribution and 5.5% employee contribution.
  - **"Basic" Design:** 3% employer contribution and 6% employee contribution.
- To focus the comparison, Social Security benefits and personal savings are not shown.
- Three scenarios based on different initial employment ages are provided as a point of comparison.
  - **Scenario 1:** Employee entered service at age 25 and left KPERS covered employment at age 35.
  - **Scenario 2:** Employee entered service at age 35 and worked 30 years until retirement.
  - **Scenario 3:** Employee entered service at age 45 and worked 20 years until retirement.
- In each scenario, the following assumptions are used:
  - All employer DC contributions vest immediately.
  - A $40,000 salary just prior to retirement at age 65.
  - A 7% preretirement investment return for both the Regents and Basic designs.
  - A 5% postretirement return for both the Regents and Basic designs.
  - A 3% future rate of inflation.

*Appendix A shows these scenarios with different pre-retirement investment returns

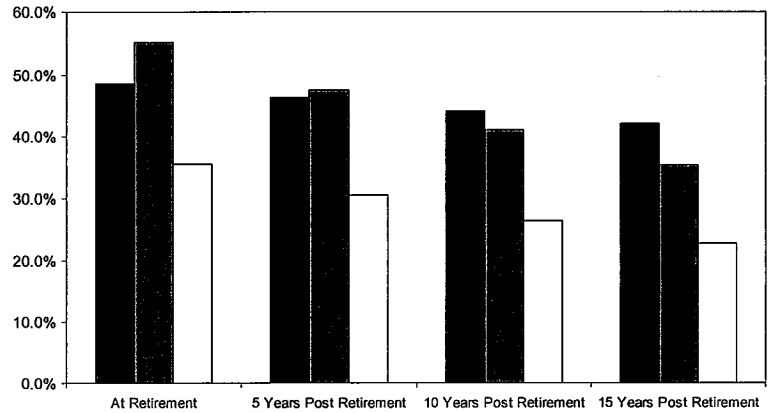
Income Replacement Scenarios

4-24

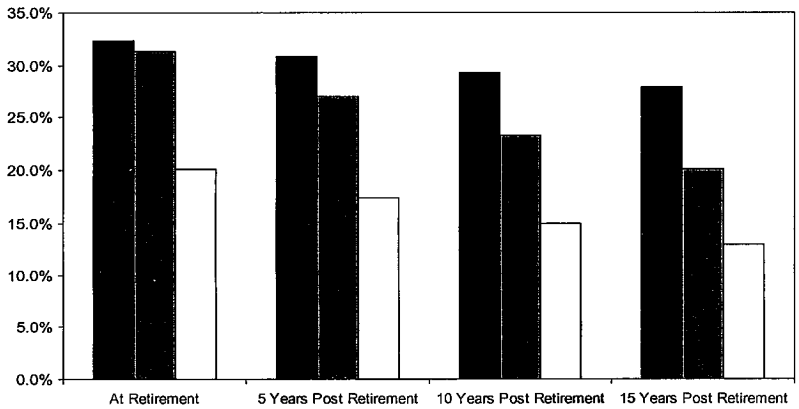
Scenario 1: Enter Service Age 25 & Separate with 10 Years of Service



Scenario 2: Enter Service Age 35 & Retire with 30 Years of Service



Scenario 3: Enter Service Age 45 & Retire with 20 Years of Service



- **Scenario 1:** Regents plan has highest ratio at retirement (32%) vs. the Basic plan (20%) and KPERS (16%). The gap closes 15 years post retirement – Regents (20%), Basic (13%) and KPERS (14%).
- **Scenario 2:** Regents plan has highest ratio at retirement (55%) vs. KPERS (49%) and the Basic plan (35%). The trend reverses 15 years post retirement – KPERS (42%), Regents (35%) and Basic (23%).
- **Scenario 3:** KPERS plan has highest ratio at retirement (32%) vs. Regents (31%) and Basic plan (20%). The gap widens 15 years post retirement – KPERS (28%), Regents (20%) and Basic (13%).

DB Plans "Regents" DC Plan Basic DC Plan

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Observations Regarding DC Options

A review of the DC options illustrates the following trade-offs and limitations:

DC Option A:

- The total employer contribution rate and State outlays for Tier 3 would be the same as the baseline DB Plan through FY 2033.
- The UAL for Tiers 1 & 2 would grow significantly compared to the DB baseline, and the funded ratio would decline.
- The income replacement ratios for Tier 3 would be the highest at retirement for most scenarios, but would decline post retirement in comparison to Tier 2.

DC Option B:

- The total contribution rate and State outlays for Tier 3 would be significantly higher than the baseline DB plan through FY 2033.
- The UAL for Tiers 1& 2 would be paid off at the same level as the baseline DB plan, and the funded ratio would trail the DB baseline slightly.
- The income replacement ratios for Tier 3 would be the highest at retirement for most scenarios, but would decline post retirement in comparison to Tier 2.

Observations Regarding DC Options (Continued)

DC Option C:

- The total contribution rate and State outlays for Tier 3 would be the same as the baseline DB plan through FY 2033.
- The UAL for Tiers 1 & 2 would be similar to the DB baseline, and the funded ratio would trail the DB baseline slightly.
- The income replacement ratios at retirement and post retirement for Tier 3 career employees are significantly lower than Tier 2.

KPERS is seeking feedback from the Joint Committee regarding these DC options or others the Committee may wish to consider.

Appendix A

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DC Options With Variable Returns

SCENARIO 1:
RETIRED @ AGE 65 WITH ENTRY AGE OF 25
(SEPARATED AFTER 10 YEARS OF SERVICE)

Preretirement return assumption	Replacement Ratio @ Retirement	5 years	10 years	15 years
KPERS Tier II				
8	16%	15%	15%	14%
7	16%	15%	15%	14%
6	16%	15%	15%	14%
Regents plan: 8.5% ER & 5.5% EE				
8	44%	38%	33%	28%
7	32%	27%	24%	20%
6	23%	20%	17%	15%
Basic plan: 3% ER & 6% EE				
8	28%	24%	21%	18%
7	20%	18%	15%	13%
6	15%	13%	11%	9%

SCENARIO 2:
RETIRED @ AGE 65 WITH ENTRY AGE OF 35
(30 YEARS OF SERVICE)

Preretirement return	Replacement Ratio @ Retirement	5 years	10 years	15 years
KPERS Tier II				
8	49%	46%	44%	42%
7	49%	46%	44%	42%
6	49%	46%	44%	42%
Regents plan: 8.5% ER & 5.5% EE				
8	65%	56%	48%	42%
7	55%	48%	41%	35%
6	47%	41%	35%	30%
Basic plan: 3% ER & 6% EE				
8	42%	36%	31%	27%
7	35%	31%	26%	23%
6	30%	26%	23%	19%

Highest Ratio
Lowest Ratio

DC Options With Variable Returns

SCENARIO 3:
RETIRED @ AGE 65 WITH ENTRY AGE OF 45
(20 YEARS OF SERVICE)

Preretirement return	Replacement Ratio @ Retirement	5 years	10 years	15 years
KPERS Tier II				
8	32%	31%	29%	28%
7	32%	31%	29%	28%
6	32%	31%	29%	28%
Regents plan: 8.5% ER & 5.5% EE				
8	35%	30%	26%	22%
7	31%	27%	23%	20%
6	28%	24%	21%	18%
Basic plan: 3% ER & 6% EE				
8	22%	19%	17%	14%
7	20%	17%	15%	13%
6	18%	16%	14%	12%