Effects of Pension Plan Changes on Retirement Security

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Introduction

Since 2009, fiscal constraints have forced state governments to reduce costs, often by laying off or furloughing employees, imposing salary freezes and/or reducing benefits. In fact, according to the National Conference of State Legislatures, since 2009, more than 45 states have made significant changes to their retirement plans, including increasing employee contributions, reducing benefits, or both. Other states have modified their plan design, choosing to transfer more of the risk associated with providing retirement benefits from the state and its political subdivisions to its employees.

While we know a great deal about the unfunded liabilities of public pension plans, we know little about the effects pension plan changes will have on the retirement income of public employees.

This report calculates the retirement income state and participating local employees hired under the new benefit conditions may expect, and compares it with the retirement income they would have earned before the plan was changed. The report also summarizes interviews conducted with state human resource executives and retirement experts from 10 states that have made significant pension plan changes.

Key findings

- Pension reforms reduced the amount of retirement income new employees can expect to receive compared with that of existing employees. Reductions ranged from less than 1 percent to 20 percent.
- New employees can expect to work longer and save more to reach the benefit level of previously hired employees.
- Hybrid plans adopted in five states produce a wide range of retirement incomes. The Rhode Island, Tennessee, and Utah plans may increase retirement income, a fact that can be partially attributed to higher required contributions to their defined contribution plan. Georgia and Virginia have lower statutory contribution rates and their hybrid plans may produce lower retirement incomes.
- Changes to retirement plans include an increase in the number of years included in the final average salary calculation (21 states); a reduction in the multiplier (12 states); and a change to both of these variables (nine states).

Although newly hired employees will need to work longer or save more to have the level of retirement benefit that employees previously earned, state human resource officials say that wage stagnation and the increased cost of benefits for employees is a more immediate concern. To address the savings gap, many plan administrators are providing enhanced financial education and sponsoring and promoting supplemental savings opportunities.

Reasons for the recent wave of state pension reforms are numerous and usually are unique to each state, its finances, and its workforce. In most cases, the primary objectives have been to reduce the costs of providing retirement benefits and to transfer a greater portion of the associated risks from employers to employees. This study does not address the rationale for modifications, but instead analyzes the effects of the resulting changes at the individual employee level by 1) measuring **how recent reforms affect the retirement income that will be provided to state employees** who are hired under new benefit conditions; and 2) looking at **human resource measures states have taken to directly or indirectly address the impacts of pension reform**.

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Financial Impact on Retirees

Background & Methodology

The states chosen for this analysis include a wide range that have made changes to their benefit program and/or contribution rates for general employees since 2009.[2] States that have changed their benefit to a combination hybrid (defined benefit/defined contribution) plan since that year are included in this study, while states that have changed their plan design to cash balance are not.[3]

Assumptions

Our analysis includes both a quantitative and qualitative component of the effects of pension reform on retirement income. The following assumptions were used for the quantitative component:

Career Employee

For the purpose of this analysis, the career employee is defined as one who works for 30 consecutive years for a state or local government or covered agency and who participates in the statewide retirement plan. The age at which employees begin working and the age at which they retire are irrelevant as it pertains to the quantitative analysis, but are discussed in the qualitative component.

Salary

Salaries for public employees vary among states and occupations, depending on their level of education and experience at the time they are hired. That said, the ability to project pension benefits for an individual employee depends heavily on identifying an appropriate variable for his/her salary and accurately projecting the growth of that salary over the period for which the individual is actively employed. For this reason, the analysis presented in this paper uses a standardized variable for employee salary. The starting salary was selected based on data provided by the U.S. Bureau of Labor Statistics' National Compensation Survey. For 2010, the latest year available, the mean hourly earnings for all U.S. workers was $22.77, or $47,362 annually.[4]

The factor used to account for growth in wages over the 30-year period was derived from the average rate of wage growth as evidenced by the past 15 years of data[5] measured by the Employment Cost Index (ECI)[6], which is also published by the BLS.[7] The rate of growth applied to salaries in this study is 2.5 percent annually.

Methodology

The goal of this analysis was to calculate the change in retirement income a career employee of a state government could expect to earn under the reformed benefit structure when compared to the pre-reform benefit structure. The standard pension calculation is as follows:

Annual benefit = (Years of Service) × (Final Average Salary) × (Multiplier)

Since this analysis focuses on career employees, the "Years of Service" variable was held constant at 30. The "Final Average Salary" and "Multiplier" variable were derived from official plan documents and other comprehensive sources of public pension data.

For each state we analyzed the benefit produced under each set of calculations—one using the terms in place prior to the reform, and one using the terms that were created by the altered plan. It is important to note that for the purposes of this analysis, the terms "pre" and "post" altered were isolated to the day prior to and the day after the effective date of the modification. Benefit conditions were not extended back 30 years or forward 30 years—calculations are produced assuming that the two sets of terms are "frozen." Where relevant, a discussion of the fluid nature of modifications to benefit terms accompanies any data or statistical reference.

These calculations are used to produce, as a percentage, the change in retirement income for new career employees (whose benefits are calculated using the terms of the new tier). An additional offering is the difference in the income replacement ratio for new career employees, expressed as a supplemental savings balance based on lower level and higher level savings plans.

Changes to employee contribution rates are isolated and expressed as a percentage change in take-home pay, since contributions are typically deducted from employee wages as they earn over the course of their career.

Data Analysis

As reflected in Figure 1 (pg. 4), the post-reform benefits for each state in our analysis produced a diminished retirement benefit compared with the previous benefit.[8] Different types of changes produced different results, and the study revealed that the type of change, as well as different combination of changes, has the greatest effects on retirement income.

Types of Changes

Since the variable for "Years of Service" was held constant, the only types of changes considered in our calculation were changes to the variables "Final Average Salary" and "Multiplier." Final average salary refers to the period used to determine an employee's final average salary when calculating his or her annual pension benefit. In each case the period used to calculate final average salary was lengthened (to produce a reduced final average salary figure).

"Multiplier" refers to a change in the factor by which "Years of Service" and "Final Average Salary" are multiplied in the benefit calculation. In each case, it was reduced. Twenty-four states included in our analysis changed one or two of these variables while retaining the defined benefit structure as the primary retirement benefit; 21 states chose to increase the period used to calculate final average salary; while 12 states chose to reduce the multiplier. Additionally, nine states elected to modify both of these variables, to varying degrees.

In virtually every case analyzed, the reforms result in a diminished pension benefit. The average benefit for the 24 states that changed variables in their benefit calculation equaled approximately 92.5 percent of the benefit produced under the prior conditions. A state-by-

Table 1. *Change in Annual Benefit, Post Pension Reform*

State	Benefit Calculation	% Change in Annual Benefit	Effective Date
Alabama	FAS based on highest average 5 years, up from 3 years. Retirement multiplier reduced to 1.65% from 2.0125%.	-20.0%	1/1/2013
Arizona	FAS based on highest average 5 years, up from 3 years.	-2.4%	7/1/2011
California	FAS based on highest average 3 years, up from 1 year.	-2.4%	1/1/2013
Colorado	FAS based on highest average 3 years with a cap on annual increases, up from highest average 3 years (uncapped)	No change	1/1/2011
Connecticut	FAS based on highest average 5 years, up from 3 years	-2.4%	7/1/2011
Florida	FAS based on highest average 8 years, up from 5 years.	-3.5%	1/1/2011
Hawaii	FAS based on highest average 5 years, up from 3 years. Retirement multiplier reduced to 1.75%, from 2%.	-14.6%	7/1/2012
Illinois	FAS based on highest average 8 years, up from 5 years.	-3.5%	1/1/2011
Iowa	FAS based on highest average 5 years, up from 3 years.	-2.4%	7/1/2012
Maryland	FAS based on highest average 5 years, up from 3 years. Retirement multiplier reduced to 1.5%, from 1.8%	-18.7%	7/1/2011
Massachusetts	FAS based on highest average 4 years, up from 3 years.	-1.2%	4/1/2012
Mississippi	Retirement multiplier reduced to 2%, from a graded 2–2.5%.	-4%	7/1/2011
Montana	FAS based on highest average 5 years, up from 3 years. Retirement multiplier reduced to 1.7857%, from 2%.	-12.9%	7/1/2011
Nevada	Retirement multiplier reduced to 2.5%, from 2.67%.	-6.4%	1/1/2010
New Hampshire	FAS based on highest average 5 years, up from 3 years. Retirement multiplier reduced to 1.52%, from 1.67%.	-11.2%	7/1/2011
New Jersey	FAS based on highest average 5 years, up from 3 years. Retirement multiplier reduced to 1.66%, from 1.818%.	-10.9%	7/1/2010
New Mexico	FAS based on highest average 5 years, up from 3 years. Retirement multiplier reduced to 2.5%, from 3%.	-18.7%	7/1/2013
New York	FAS based on highest average 5 years, up from 3 years. Retirement multiplier reduced to graded 1.67–1.75%, from 1.67-2%.	-7.0%	4/1/2012
Ohio	FAS based on highest average 5 years, up from 3 years.	-2.4%	1/7/2013
Oklahoma	FAS based on highest average 5 years, up from 3 years.	-2.4%	7/1/2013
Pennsylvania	Retirement multiplier reduced to 2%, from 2.5%.	-20%	1/1/2011
South Carolina	FAS based on highest average 5 years, up from 3 years.	-2.4%	7/1/2012
Texas	FAS based on highest average 5 years, up from 4 years	-1.2%	9/1/2013
Wyoming	FAS based on highest average 5 years, up from 4 years. Retirement multiplier reduced to 2%, from graded 2.125–2.25%.	-9.7%	7/1/2011

state breakdown is shown in the table below:

The benefit reduction produced under post-reform conditions in 10 states is higher than the average benefit reduction for the sample. Nine out of 10 states made changes to both the period used to calculate final average salary and the benefit multiplier. In the tenth state, Pennsylvania, a 0.5 percent reduction in the multiplier produces a benefit 20 percent lower than the previous benefit.

Another trend among states that have passed recent pension reforms is the movement from a final average salary based on an employee's highest three years of earnings, to a calculation that considers an employee's highest five years of earnings. Six states in our study made this change (Arizona, Connecticut, Iowa, Ohio, Oklahoma, and South Carolina) and this change alone produced a benefit diminished by 2.4 percent compared to the previous benefit.[9]

New employees in the states referenced above receive reduced defined benefit pensions. Given this new reality, supplemental savings likely will be needed for employees to reach a targeted level of retirement income. Most experts recommend retirement income that is sufficient to replace 70 to 85 percent of final salary. Some employees may be able to rely on other income sources, such as Social Security, a supplemental defined contribution plan, or individual retirement savings.

Table 2 (pg. 5) shows the additional amount needed, in the form of a starting balance, in order to reach lower and higher level income replacement levels of 75 percent and 85 percent of final salary, respectively, for employees hired under pre-and post-reform terms.[10]

In each case, more savings are required and in some states new employees will need to save more than $100,000 to reach their target level of income replacement in retirement. Nearly all public employees in four states listed in the table—Colorado, Massachusetts, Nevada, and Ohio—do not participate in Social Security, so the balance of their savings would have to come from a supplemental retirement account or personal savings, or they would need to find employment after retirement in a job that is covered by Social Security.

Changes to Contribution Rates and Retirement Eligibility Criteria

This analysis considered the entire scope of pension reforms, in addition to those changes that directly affected retirement income through modification of the variables used to calculate the pension benefit.

Figure 1. *Percent Change in Annual Benefit*

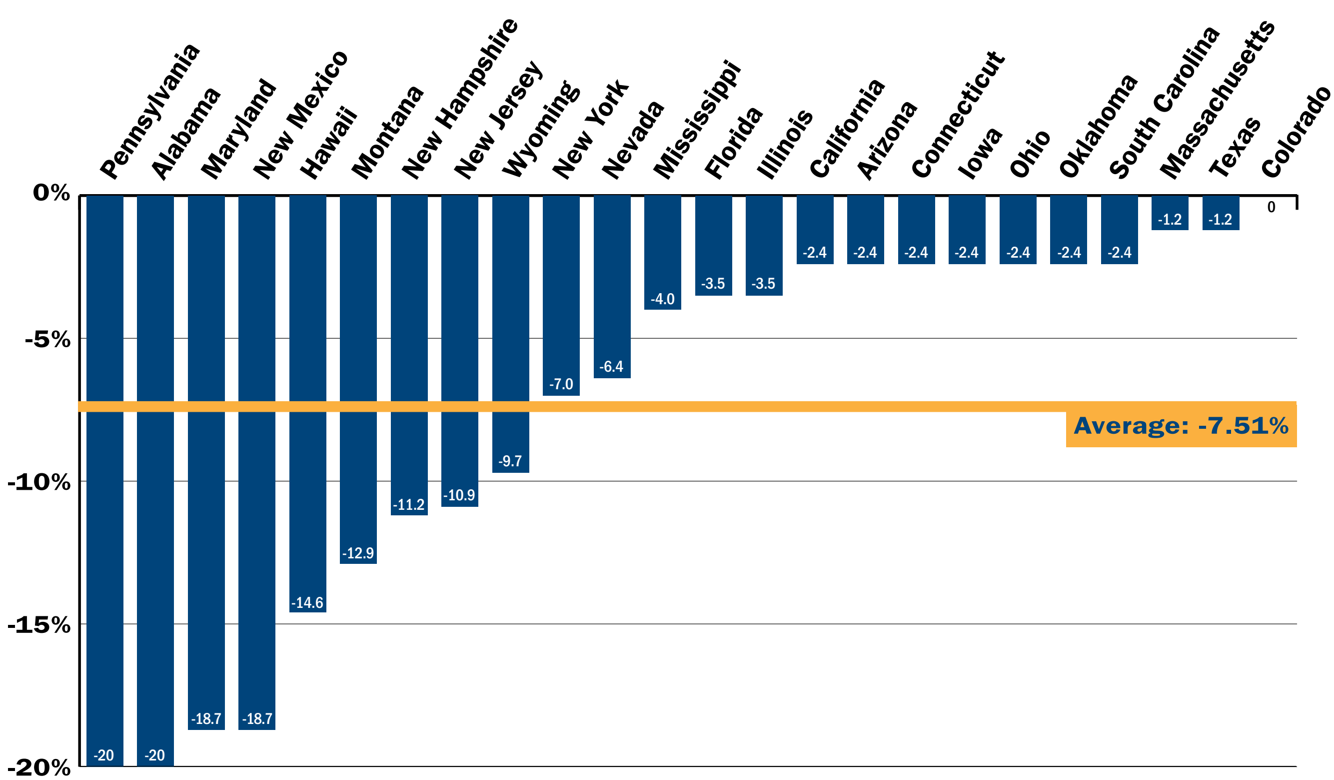


Table 2. *Additional Supplemental Savings Needed to Attain Lower and Higher Level Savings Targets*

State	Employee Group	Lower Level Savings Plan (75% of Final Salary)	Higher Level Savings Plan (85% of Final Salary)
Alabama	Pre	$202,531	$328,440
	Post	$350,737	$476,646
Arizona	Pre	$161,065	$286,974
	Post	$179,858	$305,767
California	Pre	$188,863	$314,771
	Post	$207,139	$333,047
Colorado	Pre	$22,844	$148,753
	Post	$22,895	$148,804
Connecticut	Pre	$454,093	$580,002
	Post	$465,855	$591,764
Florida	Pre	$368,724	$494,632
	Post	$389,104	$515,013
Hawaii	Pre	$207,139	$333,047
	Post	$314,762	$440,671
Illinois	Pre	$343,542	$469,451
	Post	$364,813	$490,722
Iowa	Pre	$207,139	$333,047
	Post	$224,826	$350,735
Maryland	Pre	$280,856	$406,765
	Post	$404,699	$530,607
Massachusetts	Pre	$391,433	$517,341
	Post	$398,120	$524,028
Mississippi	Pre	$185,710	$311,619
	Post	$216,055	$341,963
Montana	Pre	$207,139	$333,047
	Post	$301,919	$427,828
Nevada	Pre	Benefit exceeds 75% of final salary	$86,093
	Post	$22,844	$148,753
New Hampshire	Pre	$328,773	$454,681
	Post	$397,504	$523,412
New Jersey	Pre	$274,222	$400,130
	Post	$347,139	$473,048
New Mexico	Pre	Benefit exceeds 75% of final salary	Benefit exceeds 85% of final salary
	Post	$44,954	$170,863
New York	Pre	$288,228	$414,137
	Post	$333,949	$459,857
Ohio	Pre	$133,421	$259,330
	Post	$152,877	$278,786
Oklahoma	Pre	$207,139	$333,047
	Post	$224,826	$350,735
Pennsylvania	Pre	$22,844	$148,753
	Post	$207,139	$333,047
South Carolina	Pre	$273,485	$399,393
	Post	$289,580	$415,489
Texas	Pre	$106,815	$232,724
	Post	$116,903	$242,812
Wyoming	Pre	$138,028	$263,937
	Post	$216,055	$341,963

Italicized states are non-Social Security for virtually all public employees

Changes to the contributions required from employees to fund their benefits, as well as changes to the eligibility requirements for normal retirement, were also considered. A state-by-state summary of these changes

Table 3. *Changes to Required Employee Contributions and Eligibility for Normal Retirement*

State	Contributions and Eligibility	Notes	Effective Date
Alabama	Employee contributions decreased, to 6% from 7.5% Eligibility for normal retirement at 62/10 (from 60/10 or any/25)		1/1/2013
Arizona	Eligibility for normal retirement at 65/any, 60/25, or 55/30 (from 65/any, 62/10, or Rule of 80)		7/1/2011
California	Employee contributions increased, from 5% of pay to 50% of the annual normal cost (6.25% for FY14), for current as well as new employees Eligibility for normal retirement at 62/5 (from 60/5)		1/1/2013
Colorado	Employee contributions increased, from 8% to 10.5% Eligibility for normal retirement at Rule of 88 with a minimum age of 58 (from any/35 or Rule of 80)	Contribution rate increase for FY12 only	1/1/2011
Connecticut	Eligibility for normal retirement at 63/25 or 65/10 (from 60/25 or 62/10)		7/1/2011
Delaware	Employee contributions increased from 3% to 5% of annual compensation after the first $6,000 Eligibility for normal retirement at 65/10, 60/20, or any/30 (from 62/5, 60/15, or any/30)		1/1/2012
Florida	Plan began requiring employee contributions of 3% after previously being noncontributory (for current as well as new employees) Eligibility for normal retirement at 65/8 or any/30 (from 62/6 or any/30)	Changes affect current and new employees	1/1/2011
Georgia	New hybrid plan requires employee contributions of 1.25% for the defined benefit component and 1% (auto-enrolled) for the defined contribution component.		7/1/2009
Hawaii	Employee contributions increased from 7.8% to 9.8% Eligibility for normal retirement at 65/10 or 60/30 (from 62/5 or 55/30)		7/1/2012
Illinois	Eligibility for normal retirement at 67/10 (from 60/8 or Rule of 85)		1/1/2011
Iowa	Employee contributions set to increase over time, from 5.38% to 5.95% by FY15 (for current, as well as new employees)	Contribution rates rise to 5.95% by FY15. Increases affect current and new employees.	7/1/2012
Maryland	Employee contributions increased from 5% to 7% (for current as well as new employees) Eligibility for normal retirement at 65/10 or Rule of 90 (from any/30, 62/5, 63/4, 64/3, or 65/2)	Contribution rate increase affects both current and new employees	7/1/2011
Massachusetts	Eligibility for normal retirement at 67/10 (from 65/10)		4/1/2012
Mississippi	Eligibility for normal retirement at 60/8 or any/30 (from 60/8 or any/25)		7/1/2011
Missouri	Plan began requiring employee contributions of 4% after previously being noncontributory Eligibility for normal retirement at 67/10 or Rule of 90 with a minimum age of 55 (from 62/5 or Rule of 80 with a minimum age of 48)		1/1/2011
Montana	Employee contributions increased from 6.9% to 7.9% Eligibility for normal retirement at 70/any or 65/5 (from any/30, 65/any or 60/5)		7/1/2011

continued

State	Contributions and Eligibility	Notes	Effective Date
Nevada	Employee contributions increased from 12.25% to 13.25%		1/1/2010
New Hampshire	Employee contributions increased from 5% to 7% Eligibility for normal retirement at 65/any (from 60/any)	Contribution rate increases for both current and new employees	7/1/2011
New Mexico	Eligibility for normal retirement at 65/8 or Rule of 85 (from 65/5, 64/8, 63/11, 61/17, any/30, or Rule of 85)		7/1/2013
New York	Employee contributions increased from 3% to a range based on salary, from 3.5-6% Eligibility for retirement at 63/10 (up from 62/10)		4/1/2012
North Dakota	Increased employee contributions from 4% to 5% (increases to 6% for FY13 and 7% for FY14, for current as well as new employees)	Contribution rates rise to 7% on 1/1/14 and affect current and new employees.	7/1/2012
Ohio	Eligibility for normal retirement at 55/32 or 67/5 (from 60/5, 55/25, or any/30)		1/7/2013
Pennsylvania	Eligibility for normal retirement at 65/any or Rule of 92 (from 60/3 or any/35)		1/1/2011
Rhode Island	New hybrid plan requires employee contributions of 3.7% for the defined benefit component and 5% for the defined contribution component. The legacy defined benefit plan required contributions of 8.75%.	Changes affect both current and new employees	7/1/2012
South Carolina	Employee contributions increased from 6.5% to 7% (increasing to 8% by FY14, for current as well as new employees) Eligibility for normal retirement at 65/8 or Rule of 90 (from 65/5 or any/28)		7/1/2012
Tennessee	New hybrid plan requires employee contributions of 5% for the defined benefit component and 2% (with opt-out feature) for the defined contribution component. Plan was previously noncontributory. Eligibility for normal retirement at 65/any or Rule of 90 (from 60/5 or any/30)		7/1/2014
Texas	Employee contributions increased to 6.6%, up from 6.5% (rising to 7.7% by FY17, for current as well as new employees)	Contribution rates rise incrementally to 7.7% by FY17. Changes affect current and new employees.	9/1/2013
Utah	New hybrid plan requires employee contributions to the defined benefit portion only if the normal cost of the plan exceeds the employer contribution (10%). Contributions to the defined contribution plan are optional. Provision allowing normal retirement at any age modified from any/30 to any/35		7/1/2011
Vermont	Employee contributions increased to 6.3% from 5% (for current, as well as new employees) Eligibility for normal retirement at 65/any or Rule of 87 (from 62/any or any/30)	Contribution rate increases from 7/1/11-6/30/16, for current and new employees	7/1/2011
Virginia	New hybrid plan requires contributions of 4% to the defined benefit plan and 1% (minimum) to 5% (maximum) to the defined contribution plan. Previously, contributions of 5% were required.		1/1/2014
Wisconsin	Increased employee contributions, from 5% to 5.8%	Contribution rates increase to 6.65% for FY13 and 7% for FY14, for current and new employees	7/1/2011
Wyoming	Eligibility for normal retirement at 65/4 or Rule of 85 (from 60/4 or Rule of 85)	Actual contribution rate is 7% (employers pick up remaining 5.57% for most state employees).	7/1/2012

is shown in the table below:

Increases in required contributions affect employees' take-home pay during the period in which they are actively employed. Such increases affect retirement income only in the sense that an additional percentage of the employee's salary is diverted to fund his/her retirement benefit and, as such, these dollars are not available for use in alternate investments. Changes to retirement eligibility may require that employees work longer to become eligible to receive a benefit that is equal to, or less than, the benefit produced under previous conditions. Such outcomes, however, may not always be the case. The results shown in Figure 2 apply to a worker with the same final average salary as a worker enrolled in the plan before the reform was passed. An increased age of eligibility for normal retirement does not preclude an employee from accruing additional years of service at a higher salary, which would produce a higher benefit. The ultimate impact of a change in retirement eligibility would depend on the extent to which increased annual pension payments do, or do not make up for the savings resulting from a shorter retirement period for the employee. Another consideration not taken on in this analysis is early retirement. Extending the age for normal retirement can lead to an increase in early retirement elections, which diminish the value of benefits (by a set percentage) employees would have received in full before the reform was passed.

For the states represented in this study, the average new employee would have to work approximately two years, eight months longer to reach the benefit level available to employees hired previously, assuming variables for years of service and salary are held constant.

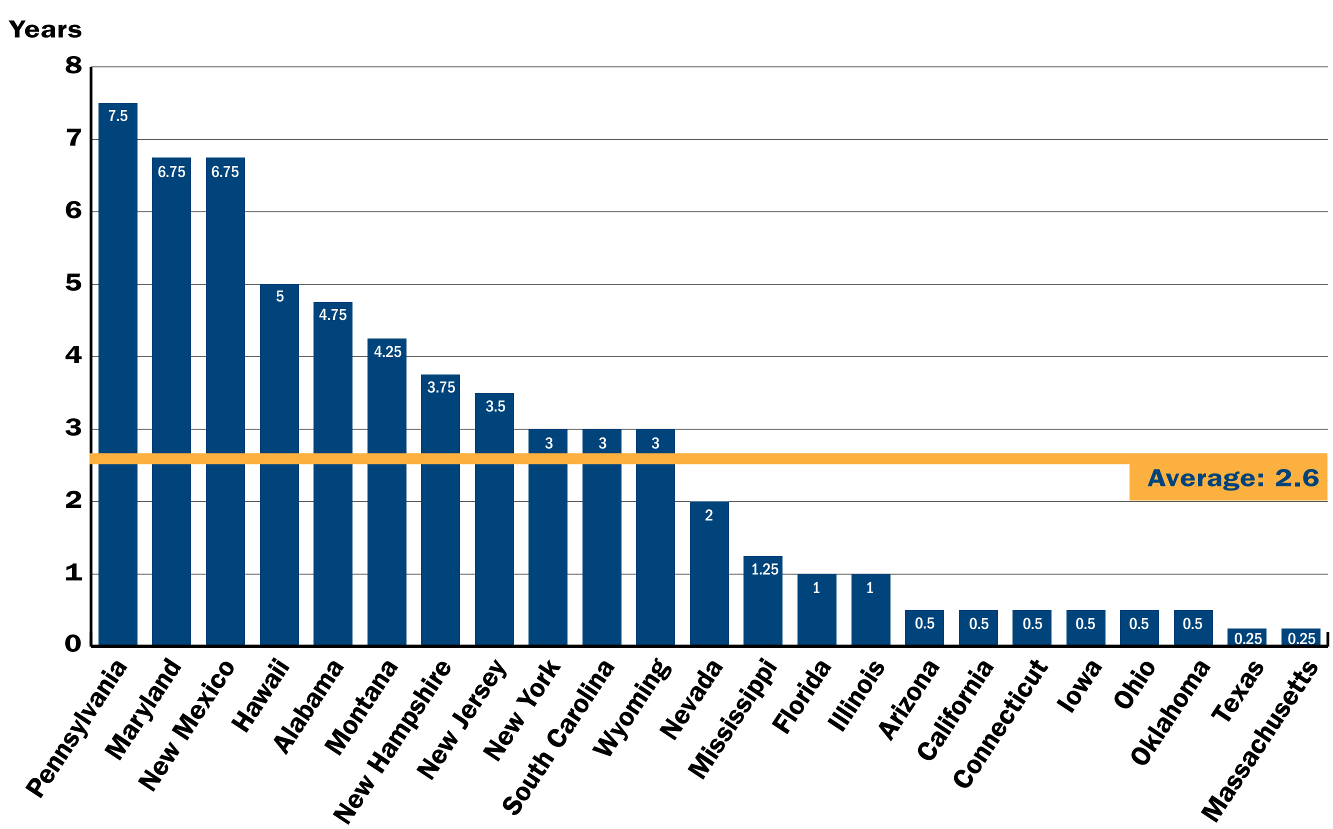
Hybrid Plan Analysis

Five of the states in this study implemented combination hybrid plans for new employees or for both current and new general employees. In each of these states, those covered by the hybrid plan will receive a benefit that is made up of a defined benefit and defined contribution component. Since 2009 four states have passed hybrid plans for new employees. Rhode Island implemented a hybrid plan for both new and existing (non-vested) employees.

Methodology

The benefit levels for the hybrid plans in this study are calculated by applying an annuitized defined contribution benefit to a base defined benefit pension.

Figure 2. *Additional Years of Service Required to Reach Pre-Reform Benefit*



Each state's defined contribution balance is based on variables for contributions and market performance. In most cases the statutory contribution rates were applied, with actual plan experience factored in where possible. The defined contribution accounts are estimated to earn an average of 6.5 percent compounded return on investments over a 30-year period, with the balance annuitized for a 25-year period.[11] As with the defined benefit plan analysis, the hybrid plans analysis calculates the benefits earned by an employee who spent his/her career, assumed to be 30 years, in state government or in a participatory political subdivision. For a detailed description of the methodology used to calculate defined contribution accounts for the hybrid plans analysis, please see Appendix 2.

Results

The defined benefit in each of the five states analyzed features a reduced multiplier, and two of the states modified the period used to calculate final average salary. A description of the changes to the defined benefit plan, as well as changes in benefit and income replacement levels by state, appears in the table below:

In two of the five states studied, the hybrid plan may produce a diminished benefit when compared to the original defined benefit plan. In three of the five states, the hybrid plan may yield a benefit that is greater than the original defined benefit plan, using the contribution and performance variables described above. In the cases where the hybrid plan yields an enhanced benefit, the excess is made up exclusively of annuitized defined contribution earnings over time (See Figure 3).

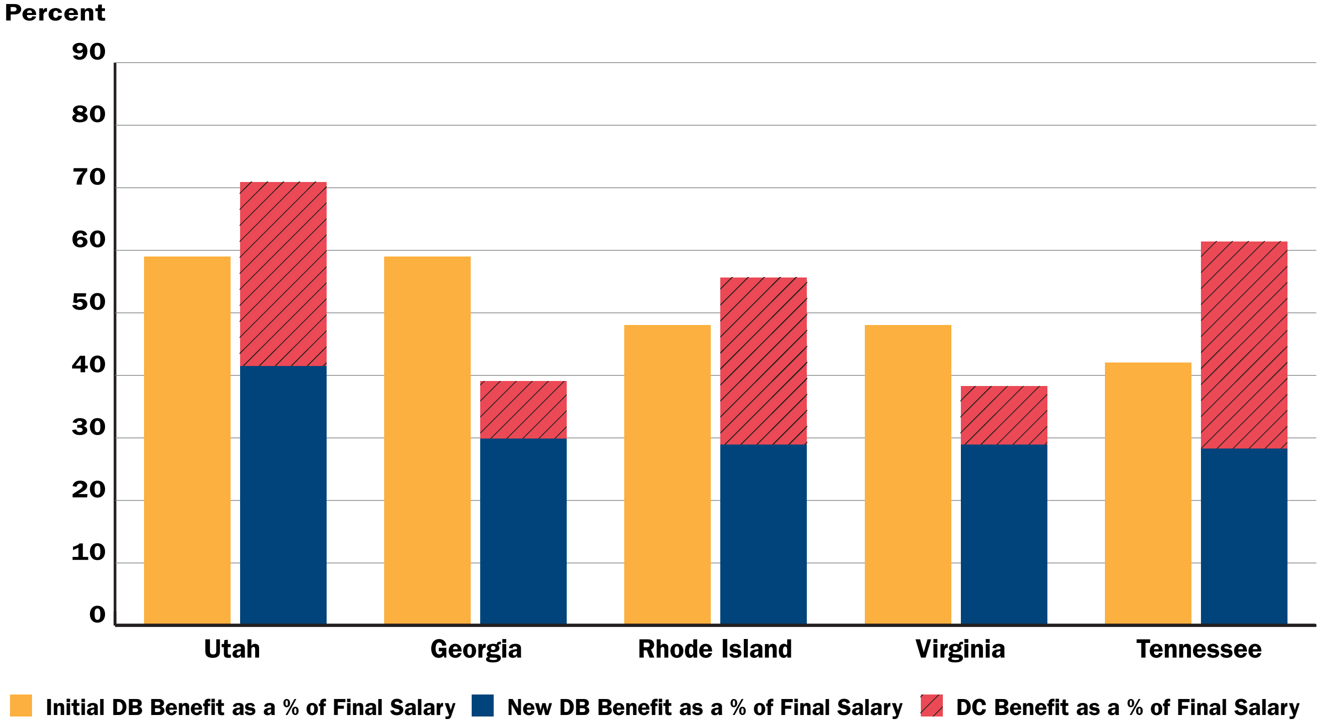
There are some elements of defined contribution plans that this study does not address. Some issues worth noting are:

- **Contributions Matter:** Holding the pattern of annual investment returns constant across all five plans, the distinguishing characteristic is the contribution rate. Simply put, the more money going into a defined contribution plan, the greater the balance will be at the end of the 30-year term. Not surprisingly, the three states with the highest contribution rates are those for which the combination hybrid benefit exceeds the benefit produced by the defined benefit plan it replaces. The contributions used in this calculation are

Table 4. *Elements of Newly Created Hybrid Plans*

State	Changes to Defined Benefit Calculations and Employee Contributions	Combined Contributions to New DC Plan[12]
Georgia ERS	Retirement multiplier reduced to 1% from 2% Employee contribution remains at 1.25%	1% automatic employee enrollment; employee may increase or reduce contribution; may opt out within 90 days of hire 100% employer match on employee's first 1% of salary and 50% match on next 4% of salary, for a maximum employer contribution of 3%
Rhode Island ERS	FAS based on highest average 5 years, up from 3 years. Retirement multiplier reduced to 1% from a graded 1.67%-2.5% Employee contribution changed from 8.75% to 3.75%	Mandatory 5% employee. 1% employer
Tennessee CRS	Retirement multiplier reduced to 1% from 1.5% Previous plan was non-contributory for employees.	2% automatic employee enrollment; employee may increase, reduce, or eliminate contribution. 5% employer contribution
Utah RS	FAS based on highest average 5 years, up from 3 years. Retirement multiplier reduced to 1.5%, from 2% Employee contributions are required if the cost of the DB plan exceeds 10% (in the amount of the excess). Previous plan was non-contributory for employees.	No employee contributions required. If the cost of the DB plan is <10%, the employer contributes the difference to the DC plan. In FY 14, that difference is 1.59%.
Virginia RS	Retirement multiplier reduced to 1% from 1.65% Employee contributions increased from 0% to 4%.	1% automatic employee enrollment, with option of up to 5% 1% employer contribution, increasing with employee contributions up to 3.5% maximum

Figure 3. *Initial Defined Benefit Plan and Hybrid Plan, as a Percentage of Final Salary, by Element*



Initial benefit levels do not account for cost-of-living adjustments. Defined contribution balances calculated using a 6.5% return assumption and a balance annuitized for 25 years.

derived from statutory minimums and/or plan experience, but they do not represent the full range of possibilities in each plan. Employees in Georgia and Tennessee can opt out of the defined contribution component of their hybrid plan, and employees in Utah are not required to make any contribution to their defined contribution accounts. In this analysis the two states with the lowest total contribution rate produce benefits that are diminished vis-à-vis the previous defined benefit plan, while those with higher contribution rates produce benefits that exceed the pre-reform plan.

- **Investment Risk:** This analysis assumes a straight 6.5 percent compounded investment return for the example defined contribution account. We know from experience, however, that the nature of annual investment returns is volatile and unpredictable.[13] One or more years of slow returns or investment losses, especially if incurred at or around the age an employee is set to retire, can significantly affect the balance of a defined contribution account and put a secure retirement at risk.
- **Longevity Risk:** This analysis incorporates an annuitized DC plan balance for a 25-year period, which is assumed to be the balance of the employee's retired lifetime. Should that period exceed 25 years, the retiree would draw a monthly (or as this analysis shows, annual) annuity that is less than the amounts shown in the chart above. Of course, this is dependent on whether they annuitized at all. Each of the five states in this analysis offers an annuity option for the defined contribution benefit, but it is not the default or mandatory option in any state and full or partial lump sums remain an option for most participants.

Retirement Benefits and State-Provided Services

The 2008-2009 financial crisis greatly affected individual retirement assets for many U.S. workers, including those at or near retirement. From 2008 to 2009, individual retirement accounts lost approximately $1.1 trillion in assets, collectively.[14] Assets held in private sector defined contribution plans fell by a collective $1.2 trillion over the same period and did not recover their pre-2008 value until 2010.[15]

There is a correlation between the depletion of retirement assets and the number of retirees living in poverty. According to a 2012 report by the Employee Benefits Research Institute (EBRI), poverty rates rose for individuals aged 65+ from 2007 to 2009. During that period, poverty rates for the age 65–74 cohort increased from 8.2 percent to 9.4 percent, while rates for those aged 75–84 rose from 8.7 percent to 10.7 percent. Individuals aged 85 and older are most likely to be living in poverty, and rates for this group rose from 13.9 percent in 2005 to 14.6 percent in 2009.[16]

The EBRI study shows that poverty rates drop for those aged 65–84 compared with those aged 50–64. EBRI hypothesizes that this is related to the fact that individuals generally begin drawing on their Social Security payments by age 65. Poverty rates begin to rise for those over the age of 85, which suggests a depletion of personal retirement savings.[17]

This research demonstrates the importance of retirement savings in keeping retired workers out of poverty and avoiding reliance on government-provided social services. A 2012 study of the effects of pension benefits on retiree financial well-being reported that 16.4 percent of households with no pension income received public assistance in 2010, compared with just 4.7 percent for households that received a defined benefit pension through either of the spouse's employer.[18] Federal spending on social assistance programs rose by approximately 23 percent from 2008 to 2009, compared with increases of nearly 6 percent for 2010 and 2 percent for 2011,[19] when financial markets began to recover.[20]

Different studies highlight the importance of a reliable income stream in retirement that cannot be reduced through either misappropriation or market forces. When retirement income is diminished by such forces, retirees may rely on taxpayer supported public assistance programs, particularly when their retirement accounts represent their sole source of income.

Human Resource Considerations

To understand the human resource program and policy changes states have implemented to address recent pension reform changes, either directly or indirectly, a series of interviews (via telephone and email) was conducted with 12 human resource and retirement officials in 10 states. The interviewees were selected based on the recommendations of leaders of the National Association of State Personnel Executives and the International Public Management Association for Human Resources. In addition, SLGE and NASRA researchers identified representatives from states that have made significant pension plan changes and those that have had a history of responsibly managing pension funding and liabilities in the past. Appendix 1 offers the list of interviewees.

The interviews covered:

- whether states analyzed what retirement income they expect new hires to have after spending a career in government.
- what steps have been taken to mitigate the impact of retirement benefit changes;
- whether there has been a shift among employee groups toward bargaining for increased salaries instead of focusing on benefit changes; and
- whether the state has taken any steps to help employees take greater responsibility for saving for retirement.

Key Findings

Analyses of plan changes on retirement income

Most respondents said that analyses were conducted to examine the impact of retirement plan changes on employees' retirement eligibility and retirement income. A few human resource officials were not aware of the findings and referred researchers to pension plan administrators for information about the analyses.

All respondents indicated that employees would need to work longer to earn the same retirement benefit as employees hired before changes were enacted. Representatives of Colorado, Missouri, Ohio, and South Carolina indicated that while the multiplier[21] was not changed, employees will need to work more years to receive comparable benefits. Howard Schwartz of the California Department of Human Resources said that new employees will need more years of service or must work to an older age to receive the same benefit as those employed prior to the enactment of pension reform legislation. According to Jackie Graham of the Alabama Personnel Department, "[Alabama's Tier 2] plan is so very different that the benefits are not comparable." New hires in Alabama contribute less to their retirement accounts, but the multipliers were also reduced, leading to a lower retirement income.

Interviewees from Virginia and Tennessee, which are introducing new hybrid plans in 2014, said that employees will have to work additional years to earn about the same benefit, but with some market risk. In some cases, plan administrators have called the pension plan reforms a net positive for affected employees, especially teachers who may not spend an entire career in the government but will be able to access retirement benefits after a shorter tenure.

Mitigating the impact of retirement benefit changes

Offsetting future retirement income losses States in the interview group have not taken any steps, such as increasing wages or enhancing other benefits, to offset the loss of future retirement income. Respondents noted that some mitigating steps could be occurring at the individual agency level, in which case state human resource directors and plan administrators may not be aware of such activities.

The question regarding mitigation measures assumes that state officials are concerned about the adequacy of the new retirement benefits and the effects of pension plan changes on recruitment and retention. However, respondents are far more concerned with stagnant wages and increasing costs of benefits for all employees (i.e., health care premiums), as discussed below. In addition, respondents' ability to address adequacy of retirement benefits was discussed in the context of the final question about steps employers have taken to help employees save for retirement (e.g., through supplemental savings accounts and financial education). Respondents challenged the premise of this question because the plan changes are too new and data are not available to draw conclusions about recruitment and retention.

With the exception of the Colorado Public Employees Retirement Association, which enacted all of its pension plan changes in 2010, most of the plan changes in the states represented in the interviews affect new hires only. Changes have been in place for two years or less, with the exception of Tennessee, which will introduce its hybrid plan on July 1, 2014, and Virginia whose hybrid plan takes effect January 1, 2014. Therefore, changes are too new to allow HR officials to determine what effect these changes will have on retention in those states.

In addition, public employer job growth is relatively weak, which means that recruitment has not been a high area of concern except for certain traditionally hard-to-fill positions, such as finance, public health and safety, and IT, according to James Honchar of the Pennsylvania Governor's Office of Administration and Sara Wilson of the Virginia Department of Human Resources. Wilson added, "When the economy improves and the job market picks up, it will be easier to assess the impacts of the new [pension] benefits on recruitment and retention." Jackie Graham of the Alabama Department of Personnel expressed a similar sentiment: "I think there will be recruitment and retention challenges, but we won't see the impacts until the economy improves and workers can find jobs with more competitive wages." In part because of retention challenges that are anticipated in the future, South Carolina and Pennsylvania are heavily focused on workforce planning.

Respondents' primary concerns were not about the retirement earnings of future hires, but rather about wage stagnation and rising costs to employees of benefits that affect their take-home pay, morale, and retention. Several states have provided no wage increases for several years:

- Alabama will be granting its first wage increase since 2009 in calendar year 2014; in 2013, Virginia is providing its first raise, of two percent, since 2007,[22] but is also initiating a 5 percent employee retirement contribution from all employees at the same time employee health care contributions and other costs are rising.
- Pennsylvania's previous governor froze wages for all non-union employees between 2008 and 2011, during which time the average wage increases for union employees totaled 12.75 percent, while the non-union employees' salaries remained frozen. In Pennsylvania, the first wage increases in more than five years were granted to management and other non-union employees in 2012–2013 by Governor Corbett.
- Tennessee has created a task force to study total compensation; preliminary findings show that benefits are higher and wages lower than the private sector. As a first step in addressing these findings, the Tennessee Department of Human Resources provided a 4.75 percent raise to all employees who had salaries below the mid-point of their salary range, which affected 86 percent of the workforce, according to Rebecca Hunter of the Department of Human Resources.

Improving morale and retention While respondents are not taking any specific steps to offset the impact of future pension plan losses, many have launched initiatives to help improve employee morale and retention. For example, professional development and leadership training is a high priority in several states and is seen as a way to invest in employees and support retention goals. Pennsylvania's robust leadership development training is geared toward management positions and includes learning academies, an emerging leaders training program, and a leadership development institute that has been in existence for 20 years. Its institute has more than 1,000 graduates, 70 percent of whom continue to work in the Commonwealth.

Tennessee's Department of Human Resources created a chief learning officer position that oversees professional development and training across the state workforce. The state leadership development program, "Leadership Tennessee," is now in its fifth year and offers customized management and leadership programs for managers, supervisors, and IT professionals.

South Carolina's Department of Human Resources offers four certification programs employees view as valuable to their career advancement. Agencies nominate and pay for employees to participate in these programs, which include an 18-month certified public manager program, an associate public manager program, a public professional development program for entry level employees, and an HR professional development training program. South Carolina's Department of Human Resources also encourages agency human resource managers to use reward programs such as flexible and low-cost peer recognition programs to boost employee morale.

Another low or no-cost benefit that employers can offer employees is a flexible work schedule or telecommuting. Pennsylvania provides flexible schedules to its workers. Virginia has a teleworking goal of 20 percent of employees. Tennessee's wellness initiative allows employees to combine their two 15-minute breaks per day into a single 30-minute break, which can be used for exercise.

Shifting Priorities of Employee Groups

Respondents said that they have seen no changes in the priorities of employee groups which generally seek to retain as many employee benefits and wages as possible while also working to ensure the long term viability of the retirement plan. Several of the representatives interviewed are from right-to-work states including Alabama, Missouri, South Carolina, Tennessee, and Virginia, and do not have collective bargaining. However, all states represented worked with employee groups in some capacity—from presentations to employee groups in Alabama, Missouri, and Tennessee, to substantive engagement with employee groups to help craft legislation in Colorado. Their range of involvement varied among the states represented in the interviews, and the outcomes resulting from these efforts were significant. For example, employee group feedback in Tennessee resulted in a legislative requirement for enhanced financial education and a new employee benefit that provides the option of purchasing units of the state's defined benefit investments for the defined contribution portion of the hybrid accounts.

Helping Employees Plan and Save for Retirement

The plan administrators and human resource officials interviewed in this study recognize that retirement incomes will take longer to attain, may not be assured due to market risks borne by employees and retirees, or may be reduced. Therefore, many respondents are focusing attention on financial education and supplemental savings vehicles to support the future retirement security of state workers.

Colorado's Public Employees' Retirement Association (PERA) enacted pension reform in 2010 and has taken steps to encourage employee participation in voluntary retirement savings plans. Specifically, the Colorado PERA Board of Trustees approved comprehensive changes to its defined contribution and supplemental savings plans in 2011. Changes included providing participants with access to custom and diversified investment options, investment advisors at no additional cost, and investment professionals for account management services. These changes allowed PERA to lower costs for participants. Finally, PERA communicates with members on a regular basis about the importance of saving for retirement beyond the pension plan and participating in supplemental retirement plans.

In April 2009, the Missouri State Employees Retirement System (MOSERS) made target date funds the default investment option in the State of Missouri Deferred Compensation Plan. The move cut investment management fees to approximately 25 basis points, compared with the previous average of 90 basis points. This endeavor also included mapping assets from the old fund offerings to new, custom target date funds. Participants were offered the option to opt out of the mapping and remain in the now-frozen, legacy fund lineup. Less than 17 percent of assets remained in these old funds.

In July 2012, MOSERS began automatically enrolling new employees in its deferred compensation plan at 1 percent of pay and offering a 30 day opt-out window. The average opt-out rate since inception is 12 percent.

According to Gary Findlay of MOSERS, "MOSERS has always offered a number of financial education opportunities, including workshops held throughout the state for participants in the defined benefit plan. They offer pre-retirement seminars for employees approaching retirement and Money Matters workshops for any employee interested in general financial education, budgeting, managing credit card debt, estate planning, and more. In addition to participating in both the pre-retirement and Money Matters workshops, our deferred compensation plan education specialists also provide one-on-one consultations to both participating and eligible employees as well as seminars on building a portfolio, participating in the Roth 457, utilizing target date funds, and investing for retirement, to name a few."

According to Sara Wilson of Virginia's Department of Human Resources, "We used to offer financial education seminars, but didn't reach employees who truly needed it." So, in July 2009 the department began offering an employee loan program in partnership with a credit union for up to $500 twice per year to provide an alternative to payday loans. The payback period on these loans is up to 6 months with a less than 1 percent charge-off rate. To date, more than $10 million has been loaned to state workers. According to Ms. Wilson, "These loans help us identify those who need financial education." Users must take basic financial education classes in order to participate in the program.

According to Stephen Van Camp of the South Carolina PEBA, "The state is exploring tools such as auto enrollment and auto escalation in our voluntary deferred compensation program to help employees save additional money for retirement. These auto features would require legislative action. The state is encouraging greater participation in our deferred compensation plan and we are conducting outreach and financial education to achieve that. In addition, 30,000 employees choose to participate in the state's defined contribution plan in lieu of the defined benefit plan. PEBA is working to provide improved financial education for those individuals as well."

According to Howard Schwartz, California is working to reduce the fees associated with deferred compensation plans, such as its 457 plan, to encourage employee participation and to reduce costs for employees.

In Tennessee, the Consolidated Retirement System has set goals for financial education and retirement readiness. The third party administrator who runs the deferred compensation plan is planning web-based education and in-person meetings to help employees learn about asset allocation.

Conclusions

State pension plan administrators and human resource officials generally agree that pension plan changes will result in employees working longer to achieve similar, reduced, or less certain retirement benefits as compared with those employees who were in legacy plans. These officials view wage stagnation and increased costs of benefits to employees as more critical concerns than future retirement income because these issues have been ongoing for several years[23] and they hurt employee morale and retention.

In response, several states are in the process of providing wage increases for the first time in many years. Plan administrators and human resource officials are not, however, focusing on reductions in future retirement income for new hires at this time. Instead, they are strengthening efforts to help all employees achieve their retirement goals by providing enhanced financial education and training, and by offering and promoting supplemental savings vehicles such as 457 plans. In addition, as a tool for improving employee morale and retention, human resource officials are providing robust leadership development and technical training opportunities to employees, as well as flexible work schedules and telework arrangements.

Almost all of the state leaders interviewed said that they had worked with employee groups or unions to share information, gather input, and/or help craft the pension plan reform legislation.

Takeaways

Elected and appointed officials can learn a great deal from states that have undertaken significant pension reforms. This study shows the significance of pension plan changes on future retirement income and can help inform those who manage public sector workforces and their retirement programs.

- **Result: a diminished benefit:** In virtually all the states analyzed that made reforms while retaining the defined benefit structure, the result was a diminished pension benefit. The average benefit change in this analysis was –7.5 percent.
- **Need for increased supplemental savings:** Given the benefit reductions, aside from Social Security (if the employee is eligible), public employees will need to take advantage of supplemental savings vehicles to maintain similar salary replacement rates in retirement, pre and post reform. In some states, employees will need to save more than $100,000 on their own. As a result, many plan administrators are providing enhanced financial education and offering and promoting supplemental savings vehicles.
- **Working longer:** In the states analyzed in this report, reforms to retirement eligibility and employee contributions mean that the average new employee will have to work approximately 2 years, eight months longer (holding all other variables constant) to reach the benefit level available to employees hired previously.
- **Mixed results for hybrid plans:** Two of the five state hybrid plans analyzed using the model's assumptions, produce a diminished benefit, post reform, while the other three yield a benefit greater than the previous defined benefit structure.
- **Stagnant wages and increasing costs of benefits, overall:** While pension reform is important, many state executives view employee compensation as a greater problem, especially after a period of low or no wage increases along with higher employee costs for benefits. Employee pay is a concern for both staff recruitment as well as retention.
- **Employee morale:** The squeeze on compensation has affected employee morale. To help offset the effects of pension reform and decreased take-home pay, many public employers are providing non-monetary benefits in the form of leadership development, technical training, flexible work schedules, and telework options.

Appendix 1

List of the organizations interviewed for the ‘Human Resource Considerations’ section:

- Alabama Personnel Department
- California Department of Human Resources
- Colorado Public Employees’ Retirement Association
- Department of Human Resources Development, Hawaii
- Missouri State Employees Retirement System
- Ohio Public Employees Retirement System
- Commonwealth of Pennsylvania Governor’s Office of Administration
- South Carolina Human Resources Division
- South Carolina Public Employee Benefit Authority
- Tennessee Consolidated Retirement System
- Tennessee Department of Human Resources
- Virginia Department of Human Resources Management

Appendix 2: Hybrid Plans Analysis Methodology

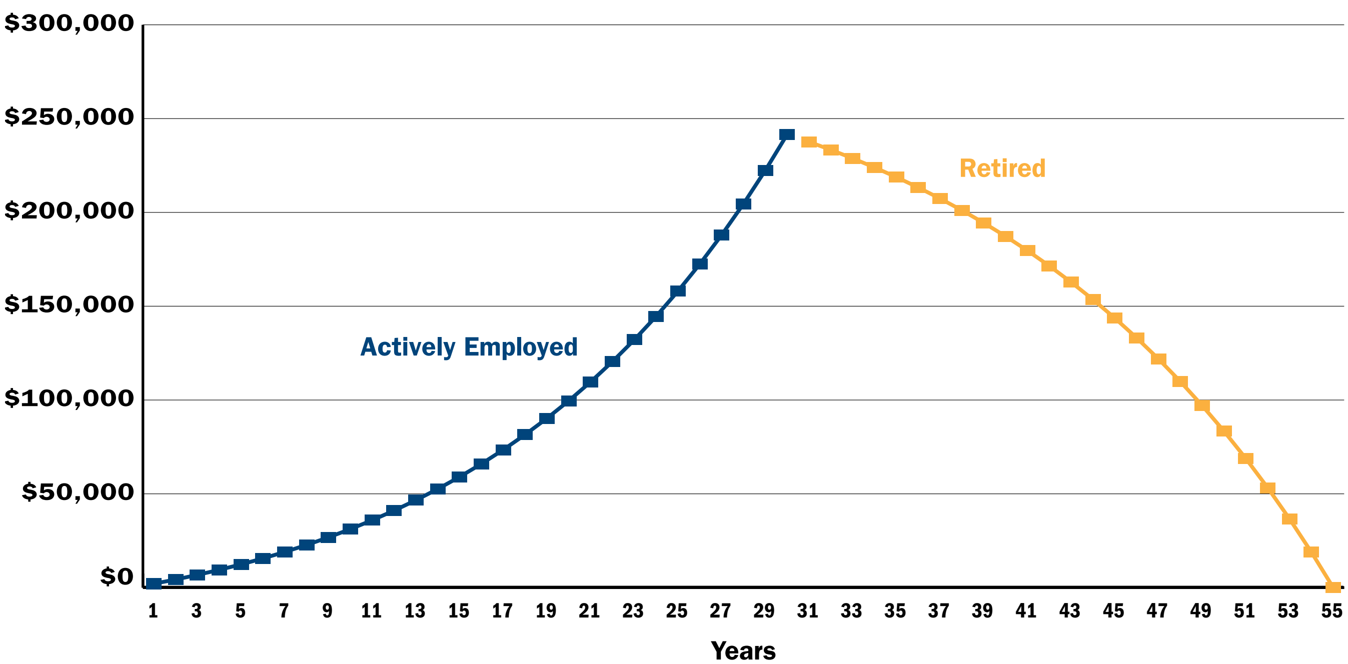
The hybrid plans analysis relies on assumptions made by the researchers about the accumulation of funds in a defined contribution account and their disbursement upon an employee's retirement. To determine the benefit produced by the newly created hybrid plans as a percentage of the Final Average Salary replaced of the old defined benefit, a 30-year annuitized DC benefit was combined with the benefit produced by the new hybrid DB benefit.[24] The purpose of this appendix is to provide insight into the methods used to determine the defined contribution account balances used to calculate the annual annuity values for the new hybrid plans.

The chart below illustrates the end-of-year balance in a defined contribution account using the wealth accumulation tool built for this analysis.

This example assumes that the employee spends 30 years as an active employee contributing to his or her retirement account. After 30 years the employee becomes retired, and draws a annuity for 25 years.

In the example above the employee's defined contribution account earns approximately $241,591 over the 30-year period. That amount becomes the starting principal from which the 25-year monthly annuity is calculated, and the employee would be expected to draw about $18,597 per year over the 25-year term. In this example the total payments from the defined contribution account equal approximately $464,930. **To obtain the complete benefit level used for comparison the new, annual hybrid defined benefit is combined with the annual defined contribution annuity, in this case, $18,597.**

Sample Defined Contribution Account



Assumptions			
Active Employee		**Retiree**	
Tenure	30 Years	Annuity Term	25 Years
Starting Salary	$40,000	Annual Growth Rate	6.5%
Annual Salary Growth Rate	2.5%		
Retirement Contribution Rate	5%		
Annual Investment Return	6.5%		

Notes

1 The research teams would like to thank Robert Clark of NC State, Jean-Pierre Aubry of the Center for Retirement Research at Boston College, and Jeffrey Esser and Barrie Tabin Berger of the Government Finance Officers Association for reviewing this report.
2 Georgia passed a major pension reform in 2008 to take effect on July 1, 2009. It is included in our analysis.
3 Most cash balance plans have a set rate of return that is applied to member cash balances, with excess credits available depending on the plan's investment performance. Since the amount of the benefit depends somewhat on investment performance, it is difficult to accurately project.
4 U.S. Bureau of Labor Statistics, National Compensation Survey (data extracted on October 1, 2013); http://www.bls.gov/data/#wages
5 U.S. Bureau of Labor Statistics, Employment Cost Index Archived News Releases, http://www.bls.gov/schedule/archives/eci_nr.htm#1999
6 The ECI is a quarterly measure of the change in the cost of labor, defined as compensation (wages & salaries and benefits) per employee hour worked.
7 The average 12-month percent change in Employment Cost Index (not seasonally adjusted) for the past 15 years (period ending December) is 2.63 percent.
8 Benefit levels do not account for inflation or cost-of-living adjustments. Some states have reduced or eliminated COLAs for new or existing employees or retirees. For a description of these changes and their effects please see NASRA Issue Brief: Cost of Living Adjustments (http://www.nasra.org/content.asp?contentid=125).
9 The U.S. Bureau of Labor Statistics reports annualized wage and salary growth of less than 2% for state and local workers for each of the past five years (period ending 2013 Q3). Applying this lower rate of salary growth to the last five years of the hypothetical employee's career in this analysis would lessen the impact of extensions of the FAS period. Conversely, if a higher rate of salary growth were used in place of the 2.5% used in this study, the extensions of FAS would produce a greater disparity between the original benefit and the benefit produced under post-reform conditions.
10 Balances were calculated based on an annuity term of 25 years and 6.5% annual growth (compounded), based on 16-year average return of 6.33% as reported by Towers Watson, "DB Versus DC Investment Returns: The 2009–2011 Update," May 22, 2013: http://www.towerswatson.com/en/Insights/Newsletters/Americas/insider/2013/DB-Versus-DC-Investment-Returns-the-2009-2011-Update
11 Calculations derived from online annuity calculator available at http://www.annuitycalc.org/
12 The rates in this column represent the statutory minimums. In some cases, employees may opt out of the defined contribution component altogether.
13 For the 20-year period 1992-2011 individual investors underperformed returns for major asset classes (BlackRock: "Volatility Propels Emotional Investing," December 3, 2012: https://www2.blackrock.com/us/financial-professionals/market-insight/chart-of-the-week/volatility-propels-emotional-investing
14 U.S. Federal Reserve: Flow of Funds Accounts of the United States, Flows and Outstandings Fourth Quarter 2011, Table L.225.i Individual Retirement Accounts, page 117
15 Flow of Funds, Table L.118.c Private Pension Funds: Defined Contribution Plans, page 117
16 Employee Benefits Research Institute Notes, "Time Trends in Poverty for Older Americans Between 2001–2009) page 10, http://www.ebri.org/pdf/notespdf/EBRI_Notes_04_Apr-12.CDHP-EldPovty.pdf
17 EBRI, page 10
18 National Institute on Retirement Security, "The Pension Factor 2012: The Role of Defined Benefit Pensions in Reducing Elder Economic Hardships," July 2012, page 14
19 Excludes programs for veterans
20 Congressional Research Service memorandum, "Spending for Federal Benefits and Services for People with Low Income, FY2008-FY2011," October 16, 2012, http://www.budget.senate.gov/republican/public/index.cfm/files/serve/?File_id=0f87b42d-f182-4b3d-8ae2-fa8ac8a8edad
21 The factor that is used to determine the size of the annuity received by the retiree expressed as a percentage of final average salary (FAS) times years of service.
22 Virginia employees are also receiving a one-time five percent bonus in 2013 to cover employee contributions to the retirement plan, a new requirement of all employees
23 Center for State and Local Government Excellence, "State and Local Government Workforce: 2013 Trends," May 2013.
24 Each of the newly created hybrid plans is a combination hybrid plan, featuring a smaller defined benefit combined with an individual defined contribution account.

Effects of Pension Plan Changes on Retirement Security

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