

# **Annuity Options in Public Pension Plans**

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May 2016

**PRC WP2016**

**Pension Research Council Working Paper**

**Pension Research Council**

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### Abstract

The paper will review available data on the annuity choices offered to retirees who participate in defined benefit (DB) plans. DB plans are most commonly offered by state and local governments to their employees, and information on annuity options is readily available. We will examine all state pension plans that cover general state employees and teachers, and we will develop a table showing the similarities and differences across these approximately 80 separate state retirement plans. We will contact the managers of a subset of these plans and request information on the proportion of retirees selecting each of the annuity options. Where possible, we will compare annuity options in the public sector to those offered by private sector employers. The paper will also include a review of the empirical literature on who chooses the various annuity options offered in DB plans. Finally, we will consider the policy implications of plan design and how this affects the types of annuities offered to retirees.

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## **Annuity Options in Public Pension Plans**

Public sector retirement plans need to be regularly evaluated and updated to ensure that they meet the needs of current and future public sector workers and retirees. This has not happened to the extent needed, in part because public pensions have been controversial in many places and recent debates on pension reform have focused on the retirement plans' costs. Even when a plan's fundamentals are strong, trustees have had to play defense concerning the generosity and cost of the plans rather than being able to direct their attention to managerial improvements. Incremental improvements in plan design nonetheless are vital to maintaining plans that match the needs of today's public sector employees.

This chapter investigates an important issue affecting almost all retirees in public employee retirement plans, namely the choice of annuity payment option. Most public sector plans are of the defined benefit variety, where benefits are a function of years of service, final average salary, and age at retirement. Nevertheless, most public retirement plans in the U.S. offer retirees a menu of options for how their benefit can be paid. The annuity option that retiring employees elect will have significant long-term financial implications for retirees and their households.

In the private sector, concern has been expressed that pension participants often request lump sum distributions instead of selecting annuities provided by the plan (Mitchell et al. 1999; Brown 2001). When a lump sum distribution is taken, retirees must manage their resources and bear both investment and longevity risk. This is less of an issue in the public sector, as most individuals who retire from public employment select one of the annuity options offered by the pension plan. They do so in part because selecting a lump sum distribution may make them ineligible to remain in the employer's retiree health insurance plan. Therefore annuity options

offered by public retirement plans serve many retirees well by providing lifetime benefits, thus eliminating the risk that people might outlive their retirement savings. An emerging question is whether the annuity options currently offered by public retirement plans will continue to be attractive as the population continues to age, life expectancy increases, and retirement patterns change. This chapter describes current annuity options offered by large public pension systems and then explores several modified annuity options to potentially address these emerging issues and improve public sector workers' utilization of retirement benefits.

We begin with a review of the annuity options offered by 85 large, state-managed retirement plans for public employees. The lifetime patterns of payments of these annuity options differ considerably. Next, we report the results of a survey sent to the state Treasurers (or comparable official) requesting information on the proportion of retirees selecting each option offered under the public plans in their states. We also examine how well the available annuity options serve the needs of public employees. Finally, we examine two new types of annuity payouts that could enhance the likelihood that public retirees will be able to achieve a reliable standard of living throughout their retirement.

### **Retirement Benefit Options in Public Retirement Plans**

We explore the current options offered by public sector retirement plans, focusing on 85 state-managed retirement plans included in the 2012 Comparative Study of Major Public Employee Retirement Systems prepared by the Wisconsin Legislative Council (2013).<sup>1</sup> We then reviewed the websites of each of these plans and created a list of the various annuity options offered in each case. The plans included in this review cover general employees and teachers; pensions offered to police, firefighters, and elected officials are excluded from our analysis.<sup>2</sup>

Among the 85 plans, 13 cover only state employees, 27 cover only teachers, eight cover only local employees, 14 cover state and local employees, three cover state employees and teachers, and 20 include state employees, local employees, and teachers.

Figure 8.1 depicts the number of plans that offer each of the most frequently available annuity options.<sup>3</sup> Using assumptions concerning age-specific life expectancies of the retirees and beneficiaries, as well as the plan assumed discount rate or rate of return, each retirement system attempts to calculate the benefits under each of the payment options so that the expected present value of each annuity option is the same. For example, the monthly benefit is higher if the retiree selects a single life annuity (often referred to as the maximum allowance), and it is lower if a joint and survivor benefit is chosen.<sup>4</sup> Public plans usually offer separating employees the option to request a lump-sum distribution. Unlike lump-sum options in the private sector, this distribution option in most public plans is based on employee contributions compounded over time using a specified interest rate.<sup>5</sup> Public sector employees who are eligible for an immediate benefit upon terminating employment rarely request a lump-sum distribution.

*Insert Figure 8.1 here*

Each plan offers an annuity in which the retiree is paid a monthly benefit based on a formula specified in the plan. In Figure 8.1, this option is labeled the maximum allowance and is basically a single life annuity where all payments cease with the death of the retiree.<sup>6</sup> Each plan also offers some type of joint and survivor annuity option (J&S). These annuities provide a lower income stream than the maximum allowance during the retiree's life but then they continue to pay monthly benefits for the remaining lifetime of the beneficiary. Plans usually offer several versions of the joint and survivor benefits. The options specify the benefit of the survivor as a percent of the benefit paid to the retiree prior to her death. Typically, the benefit

paid to the survivor represents a specified percentage of the benefit paid to the retiree during her lifetime. Most retirement systems offer a range of J&S payout options (see Appendix Table 8.2). Among the plans in our sample, 77 plans allow retirees to select a 100 percent benefit for the beneficiary while 78 plans have a 50 percent option. In addition, 33 plans have a 75 percent option and 7 plans have a 25 percent survivor option. Finally, 16 plans have additional J&S options. For example, Virginia's SRS allows retirees to choose any whole percentage of the retiree benefit to be paid to the survivor between 10 and 100 percent. The larger the benefit paid to the survivor, the lower the initial benefit that is paid during the life of the retiree.

Slightly fewer than half of the plans have an annuity option that provides a single life annuity with a guaranteed number of payments. If the retiree were to die before all of the guaranteed payments are made, the remaining payments will be made to the named beneficiary; however, after the specified number of payments, the survivor receives no further benefits from the retirement system. Of course, this option provides lower monthly benefits than that the maximum benefit option.

Another option offered by 14 plans allows retirees to select a partial lump sum distribution. These retirees then receive an immediate payout reflecting some portion of the present value of their benefit, and by accepting this distribution, retirees agree to permanently lower monthly benefits from the retirement system in the form of single life annuities. The lump sum payments are typically specified as a percent of the annuity or a number of months of benefits. For example, Georgia ERS restricts the lump sum to between 1 and 36 months of the normal benefit, and Ohio PERS/STRS, Mississippi PERS, Virginia SRS and Texas ERS have similar options. Kansas PERS Tier 2 allows the retiree to select a 10, 20, or 30 percent option which provides a lump sum equal to the percentage of the present value of the maximum

allowance and requires a corresponding reduction in the size of the monthly benefit. Some states limit eligibility for this option to individuals retiring at or after their full retirement date.

Twenty plans have an annuity option called “Social Security Leveling.”<sup>7</sup> This option requires retirees to report to the retirement system their expected Social Security benefit at specified age. Most state plans with the Social Security Leveling options stipulate that age 62 be used to determine the Social Security benefit. However, Idaho PERS and Illinois SRS specify that the leveling aging is the full retirement age for Social Security, and North Dakota TRF allows either age 62 or the full retirement age to be used in the calculation. Virginia SRS allows the worker to choose any age between 62 and the Social Security full retirement age in this option, while Alaska PERS uses age 65 in its calculation; however that option is only available to individuals who entered the system prior to July 1, 1996. Workers selecting the option receive a higher initial benefit from their state pension, compared to the maximum benefit option, and the annual pension benefit is reduced when the individual reaches the specified leveling age, at which time the retiree is expected to claim a Social Security benefit. The idea is that the retiree will receive the same total retirement benefit (pension plus Social Security) before and after the age given for claiming Social Security benefits.

This option may appeal to some retirees because many public sector workers retire prior to age 62 and hence before becoming eligible for social security. To these early retirees, the higher initial pension benefit can seem attractive. A concern with this option is that, by linking the reduction in the pension benefit to age 62, retirees are encouraged to claim Social Security benefits as soon as they become available at age 62. This may not be optimal for all retirees (Goda et al. 2015). The pension benefit in the leveling option is also based on the single life of the retiree and provides no beneficiary payments after the death of the retiree.

### **Choice of Annuity Options by Recent Retirees**

Figure 8.1 shows that public pension plans offer retirees a menu of payment options. The key question for our study is whether even better options could be designed for workers in the twenty-first century, in the context of an aging population and increasing life expectancy. To understand the implications of current annuity options and their impact on well-being in retirement, we refine data on the proportion of retirees selecting each of these annuity options. To obtain this information, we sent an e-mail request to the 50 State Treasurers and comparable officials requesting data on the proportion of recent retirees who selected each of the options offered by the plans in their state. The e-mail provided a link to an on-line page where the plan administrator could report the distribution of retirees across the options.<sup>8</sup>

Ten states covering 13 plans responded to our request for information on the annuity options selected by their retirees. Table 8.1 presents the responses from the survey of plan managers by showing the proportion of recent retirees that selected each of the options provided by their retirement plans. In general, the most popular annuity option in most of the plans is the maximum allowance. Over 60 percent of retirees in the Mississippi PERS, South Carolina SCRS, and Washington PERS have elected this single life annuity, while between 50 and 60 percent of retirees opted for this annuity type in California TRS, North Carolina TSERS, and North Carolina LGERS. With the exception of Delaware, which reported that 100 percent of its retirees selected a J&S annuity, the lowest proportions of retirees selecting the maximum allowance were in Iowa and Nebraska. In those states, almost one-third of retirees selected the guaranteed payment period and about 20 percent chose the partial lump sum option. Each of these options requires the retiree to select the single life annuity and then adjusts the monthly

payment to offset the expected payments associated with the option. Neither of these options provide a retiree's surviving beneficiary a benefit for life.

*Insert Table 8.1 here*

All of these options provide a retirement benefit to retirees for the duration of their lives but, in general, they do not provide any benefit to survivors. The J&S options enable retirees to engage in long term planning for a beneficiary, typically a surviving spouse.<sup>9</sup> With the exception of Delaware SEPP that reported 100 percent of its retirees selecting a J&S option, only in Wyoming WRS and California TRS does the proportion of retirees selecting a J&S option approach 50 percent. All of the other benefit options are based on single life annuities and provide little in the way of expected lifetime income protection to surviving spouses. Since public retirement plans are not subject to ERISA, there has been no requirement that the interest of a spouse be considered when the retiree is selecting a distributional option.

Five of the 12 plans in which workers are also covered by Social Security offer a Social Security leveling option. Among these plans, only in North Carolina is the incidence of this option greater than 10 percent of retirees.<sup>10</sup> The partial lump sum option seems to be a desirable choice for some but by no means all retirees. Only Iowa PERS, Mississippi PERS, and Washington TRS offer retirees the option of partial lump sum distributions where 20 to 40 percent of retirees in each of these plans select this option. Five states offer a guaranteed payment period annuity option. This distribution option is popular in Iowa and Nebraska, where almost one-third of retirees select this option; however, the proportion of retirees in Mississippi, South Carolina, and Wyoming selecting this option is under 10 percent.

Do these options represent the best payout choices for public sector retirees, given the early ages at which many retire and the rising number of years that many will spend in

retirement? Since many public retirees find new employment shortly after leaving their career jobs, their need for immediate income from their pension may be less pressing compared to older persons who do not work after retirement. Moreover delaying the start of Social Security benefits is an excellent method of enhancing retirement income, but the Social Security leveling option encourages people to take their benefits as soon as they are eligible. In what follows, we develop two annuity options that could enhance the probability that public retirees will achieve their retirement goals.

### **New Annuity Options for Public Retirement Plans**

We now examine two potential new annuity options that could improve retirement well-being for some households. One would be to allow retirees to defer receiving their retirement benefits to a specified age, with the proviso that the retirement system would recalculate the monthly benefit so that the lifetime expected present value would be the same as if benefits had begun at the time of retirement. In the following, we refer to this option as a “deferred annuity.” This could appeal to young retirees in good health and who expect to shift from their career public job to new employment.<sup>11</sup> The second option would be for public retirement systems to modify the Social Security Leveling options so workers could elect later target ages for claiming Social Security. We call this a “flexible Social Security leveling.” This second approach could appeal to young retirees who do not plan to re-enter the labor force after retirement but who would like to maximize their retirement income. Both options should provide increased income in the later years of retirement compared to currently available options.

**Deferred annuity.** Many career public employees retire from their state or local jobs at relatively young ages, in their 50s or early 60s.<sup>12</sup> Many of these young retirees move directly, or after a short period, into bridge jobs or new careers.<sup>13</sup> Clark et al. (2015) reported that 85 percent of public employees age 50 - 59 in North Carolina planned to work after retiring from their current state or local government job. Younger retirees are much more likely to anticipate a period of employment following retirement from their public sector jobs. Depending on whether they work full or part-time, these individuals may not need to draw their pension immediately after leaving the public sector.

A deferred annuity option would offer public sector retirees the opportunity to select some future year to start retirement benefits with the annual benefit being recalculated, so that the expected present value of lifetime retirement benefits remained the same regardless of when they were initiated. Using the restriction that the new option would be cost-neutral to the system, the increase in annual benefits would be an easy calculation using the same assumptions currently used by the system to determine other benefit calculations. This new annuity option should be cost-neutral to the system in the same manner as joint and survivor annuities are cost-neutral relative to the maximum benefit options in public sector retirement plans.

A simple example helps illustrate the impact on annual retirement benefits of postponing the start of annual payouts based on a deferred annuity option. Assume that a worker leaves public employment at age 55 with the option to start receiving a benefit of \$30,000 immediately (the maximum allowance), or a higher annual benefit beginning at some point in the future. She can expect to live until age 85, for 30 years of benefits in retirement. Table 8.2 shows the benefit if the worker selected the deferred annuity option and delayed the start of benefits for five years until age 60, or 10 years until age 65.

*Insert Table 8.2 here*

If the retiree deferred the start of benefits under the deferred annuity option until age 60, she could anticipate a life annuity beginning at that time of approximately \$39,233 (using a real interest rate of 3 percent).<sup>14</sup> If benefits were delayed further until age 65, the annual benefit would increase to \$53,351. Of course, the retiree does not have access to any benefits during the first five or 10 years while the benefit is being deferred. For public employees who leave their career job in their 50s and shift to new employment, the deferred annuity could be an effective means of enhancing retirement income. Table 8.2 shows that the increase in annual benefits will be greater when the system uses an interest rate consistent with its assumed rate of return or discount rate used in calculating the present value of liabilities.

The deferred annuity option would give retirees more flexibility in their retirement planning and allow some to shift income from a period of continued employment in bridge jobs to later ages. Clark et al. (2015) illustrate the importance of bridge jobs and work after retirement for public retirees in North Carolina. This adjustment to the timing of retirement income could also help retirees finance health care costs, which often rise with advancing age, and provide increased protection against the erosive effect of inflation over 20 or 30 years in retirement.

**Flexible Social Security Leveling.** Another group of public sector employees retires at relatively young ages and leaves the labor force permanently. Such individuals need to access their pension benefits immediately on retiring from their career jobs. The Social Security leveling option currently included in 20 public pension plans allows retirees to receive an annual benefit larger than the maximum benefit option prior to the specified age, typically age 62, but then the pension benefit declines when the individual is eligible to claim early Social Security

benefits. The idea is to provide retirees a constant total annual benefit (pension plus Social Security) from retirement until death. While retirees are not required to claim Social Security at age 62, if they do not, their annual incomes will fall. Thus there is a strong incentive for retirees who have chosen the Social Security leveling option to claim benefits at age 62.

It is worth noting, however, that Social Security currently specifies age 66 as the age for full retirement benefits and imposes penalties for claiming benefits between 62, the early retirement age, and 66. Similarly, the system currently provides delayed retirement credits for postponing the start of benefits up to age 70.<sup>15</sup> Claiming benefits prior to age 66 results in a reduction in monthly benefits of 5/9 of 1 percent per month for the first 36 months and 5/12 of 1 percent for each additional month.<sup>16</sup> Delaying claiming benefits after age 66 increases benefits by 8 percent per year up to age 70. Assume that if benefits are begun at the full retirement age of 66, the monthly benefit will be \$1,000. If benefits are claimed at 62, the earliest age of eligibility, the monthly benefit is only \$750 per month or a 25 percent reduction in monthly benefits for the rest of one's life. Despite these penalties for early claiming, almost half of all individuals claim benefits at age 62.<sup>17</sup> In contrast, if benefit claiming is delayed until age 70, the monthly benefit would be \$1,320 or 32 percent greater than would be true if benefits are begun at age 66. Comparing the benefit at age 70 benefit to the benefit at 62, the monthly benefit is 76 percent greater when benefits are claimed at age 70.<sup>18</sup>

Experts examining the Social Security rules have also argued that, for most households, delaying the start of Social Security benefits results in a higher lifetime present value of these benefits (Shoven and Slavov 2014 a,b). Moreover, the rise in lifetime benefits resulting from a claiming delay has been increasing due to changes in Social Security rules.<sup>19</sup> Shoven and Slavov (2013, p.1) state that “with today's life expectancies and today's extremely low interest rates, it

is in almost everyone's interest to delay the commencement of Social Security. For many people, delaying to 70 is the value maximizing strategy."<sup>20</sup>

Instead of claiming Social Security benefits at age 62, Goda, et al. (2015) examine how retirees could draw on their assets in retirement saving accounts (IRAs and 401(k) accounts) to fund consumption for several years prior to claiming Social Security benefits. Because the lifetime expected present value of Social Security benefits is greater when individuals wait to begin claiming their benefit until an older age, drawing on personal saving, such as the retirement savings accounts mentioned above, after age 62 and waiting to claim Social Security benefits at older ages will yield higher annual retirement income.

A flexible Social Security leveling annuity would allow public sector retirees to select any age between 62 and 70 for the target date on which the pension annuity would decline and Social Security benefits would begin.<sup>21</sup> This option would use the same assumptions currently used to derive the pension annuity before and after age 62, and thus should be cost-neutral to the system. If the lifetime present value of Social Security benefits rises with delayed claiming while the present value of the pension benefits is held constant, then total annual income will be higher if Social Security leveling were based on a later retirement age.

## **Conclusions**

State and local retirement plans typically offer retirees a range of annuity options. Nevertheless, increasing life expectancy and delayed retirement suggest some new options are needed. Specifically, the deferred annuity option we outline here would allow young retirees who are moving to new jobs the ability to defer the start of their pension, providing for a greater benefit in future years. A flexible Social Security leveling option would provide greater annual

benefits for early retirees throughout their retirement. This second innovation will take advantage of the fact that the present value of Social Security benefits increase if claiming is delayed for most individuals.

In the wake of the economic downturn, many public pension plan administrators and lawmakers came to the conclusion that modifying or even terminating existing public sector defined benefit plans would provide cheaper, more sustainable retirement benefits. Pension reforms have ranged from simple reductions in benefit generosity, including benefit multiplier reductions or increased normal retirement ages, to a more drastic restructuring of benefit design. Such changes have typically aimed to shift some or all of the investment and longevity risk onto employees while protecting the employers against risk, market volatility, and further increases in pension costs. But the efficacy of these pension reforms in minimizing employer costs and risks, as well as the broader impact on public sector retirement security and human resource needs, remain to be seen.

Meanwhile, we have outlined two ways to re-structure the traditional defined benefit plans to ensure that these plans can meet the needs of current and future public sector workers and retirees. Ultimately, the true value of a public employee benefits system is that retirement benefits help government employers recruit and retain qualified personnel to deliver essential services and then provide adequate retirement income to career employees. This policy goal reflects a tradeoff between the cost of funding the plan and the benefit of maintaining a quality labor force that is able to produce the goods and services that its citizens desire. To this end, it is essential to administer the plan benefits in a manner that encourages sensible public employee choices in the face of evolving economic circumstances and preferences. Modernization of this benefit structure will build the continued value, equity, and cost effectiveness of these plans.

Reforming traditional defined benefit plans instead of shifting to defined contribution plans or hybrid plans is a viable path forward for some state and local governments.

Our study highlights one important plan characteristic within the larger design of defined benefit plans that demonstrates the valuable role that independent policy and economic research can play in pension reforms. Reinventing pension administration requires that adequate time and resources be devoted to understand the costs, benefits, efficiencies, and opportunities with the current system. Changing public sector retirement plans without such analysis could yield undesirable outcomes and produce unanticipated, and even potentially harmful fallout for public employers, employees, and taxpayers.

**Appendix**

*Insert Appendix Table 8.1 here*

*Insert Appendix Table 8.2 here*

**Acknowledgements**

The authors acknowledge the helpful suggestions and comments of Emma Hanson Turner, Christelle Khalaf, Sam Watts, and Matthew Leatherman. Partial support for Clark in the preparation of this paper was provided by the Sloan Foundation, Grant Number 2013-10-20.

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## Endnotes

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<sup>1</sup> The Wisconsin report compares important characteristics of retirement plans covering major state and local retirement systems in the United States. Similar reports have been prepared bi-annually since 1982 and are a useful source of pension characteristics and how they have evolved over the past 30 years. Key characteristics of plans include normal and early retirement provisions, contribution rates, vesting requirements, benefit formulas, COLAs, and actuarial methods and assumptions. Many public plans have specific features that vary by when employees were hired. For these plans, the report describes the features that apply to the most recently hired employees.

<sup>2</sup> While these plans for specific types of employees are not included in the Wisconsin survey, we did receive information from some of the states indicating the proportion of retirees in these plans that selected specific types of annuities. See Appendix Table 8.1.

<sup>3</sup> The options available to current retirees in each of the plans are reported in Appendix Table 8.2.

<sup>4</sup> The benefit paid to the retiree who selects a joint and survivor option will depend on the age of the beneficiary and benefit paid to the survivor relative to the benefit payable while the retiree was alive.

<sup>5</sup> In the private sector, most defined benefit plans do not require employee contributions. The lump sum distribution is based on a calculation of the discounted present value of the promised annuity.

<sup>6</sup> The maximum benefit allowance in some plans includes a provision to provide a payment to the survivor if the total pension payout has not exceeded the worker's contributions to the plan.

<sup>7</sup> Workers in 17 of the 85 plans are not covered by Social Security. Ten of these plans in which participants are not included in Social Security cover only teachers.

<sup>8</sup> The e-mail requested information on the proportion of retirees selecting each of the annuity options. In some cases, certain options may no longer be offered so we observe some differences in the annuity options that are shown in Appendix Table 8.2 and the responses to the survey presented in Table 8.1.

<sup>9</sup> Brown and Poterba (2000) examine the importance of joint life annuities and the demand for this type of annuity by married couples.

<sup>10</sup> It is important to remember that only individuals who retire prior to the specified age in the leveling options would be able to select Social Security Leveling. Thus, the proportion of eligible retirees selecting Social Security Leveling will be higher than the proportion of all retirees choosing this annuity.

<sup>11</sup> Cahill, Giandrea, and Quinn (2012 and 2015) use the Health and Retirement Survey to document this type of return to work after retirement from a career job.

<sup>12</sup> The retirement plans included in this study typically have several age and service requirements that allow career employees to retire in their 50s with unreduced benefits. In 2012, 40 plans had normal retirement requirements that allowed workers with 30 or fewer years of service to retire at age 55 with unreduced benefits. Another 11 plans determine eligibility by the sum of an individual's age and service ("Rule of 85" or "Rule of 80") which allows career employees who began their employment in their 20s to receive unreduced benefits in their 50s. Public retirement plans are now moving to increase normal retirement ages. According to Wisconsin Comparative Study of major Plans, between the 2010 and 2012, 29 plans increased the requirements for normal retirement.

<sup>13</sup> Clark and Morrill (2016) provide a comprehensive review of retirement transitions including workers remaining on career jobs until complete retirement, shifts into phased retirement, and movement into bridge jobs or self-employment.

<sup>14</sup> This calculation is based on the present value of \$30,000 per year for 30 years is \$588,013. If the retirement system credits this balance with a 3 percent per year return for 10 years, the account balance would be \$793,734 at age 65. Again using a discount rate of 3 percent, the annual payout for an expected 20 years would be \$53,351. Thus, the increase in the annual retirement benefit is due to the increase in the account balance from delaying the start of the annuity and the shorter payout period associated with a higher age for starting the annuity. A 3 percent rate discount rate is consistent with the rate that most economists would recommend as an approximation of the real interest rate. Most public pension plans use a much higher rate, typically between 7 and 8 percent. Thus, we also provide the impact of using a higher interest rate consistent with the assumption adopted by most plans.

<sup>15</sup> Under current law, the full retirement age is schedule to rise to 67 for individuals born in 1960 or thereafter.

<sup>16</sup> Knoll and Olsen (2014) describe how these reductions for claiming early and increases for delaying claiming after the full retirement age have changed over time to provide increased incentives for delaying the start of benefits. Based on their analysis and review of the literature, they conclude that “delaying the claiming of Social Security retirement benefits is now recognized as an important way to enhance retirement security.

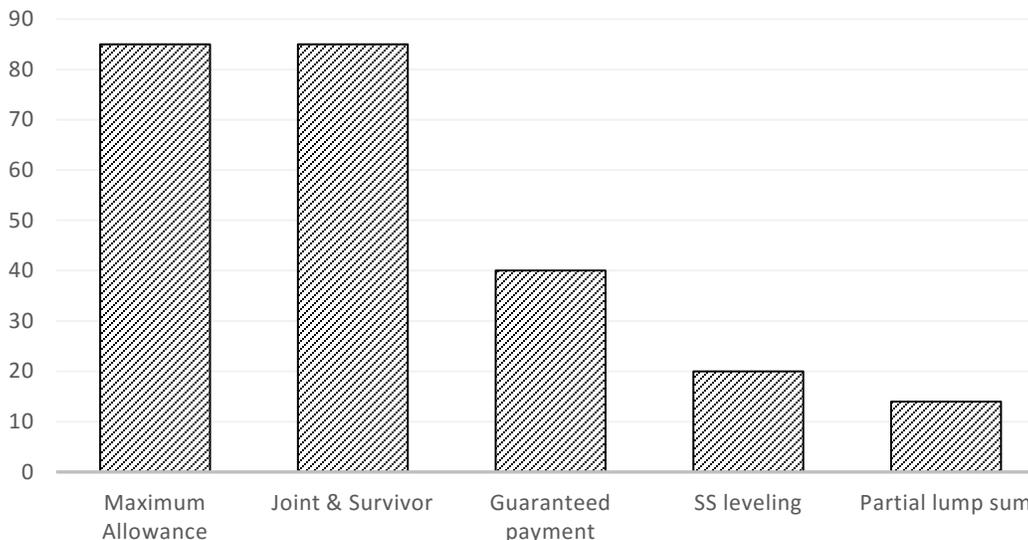
<sup>17</sup> Munnell and Chen (2015) find, using a cohort analysis, that the proportion of recent cohorts claiming benefits at age 62 has fallen to 36 percent for men and 40 percent for women.

<sup>18</sup> The impact of claiming age on monthly benefits is nicely shown in “When to Start Receiving Retirement Benefits,” <https://www.ssa.gov/pubs/EN-05-10147.pdf>

<sup>19</sup> For instance, the increase in the delayed retirement credit after the full retirement age, lower real interest rates, and increases in life expectancy for individuals in their 60s.

<sup>20</sup> Shoven and Slavov (2013) provide a detailed review of claiming options and how delaying the start of Social Security benefits increases lifetime benefits.

<sup>21</sup> This option is similar to the one used by Virginia SRS except we would allow the individual to specify any age between 62 and 70 for the calculation of retirement benefit.



**Figure 8.1.** Annuity options in state-managed retirement plans: number of plans with each option.

*Notes:* Maximum Allowance refers to the option that pays the highest monthly benefit to a retiring member of a plan. This benefit is a lifetime benefit paid to the retiree on a monthly basis. At the death of the retiree, all monthly benefits cease. This type of benefit is often called a single life annuity. In some plans, the remaining balance due to employee contributions may be paid out in a lump sum to a designated beneficiary at the death of the retiree. Joint & Survivor refers to the option that pays a reduced benefit over the life of a retiree in return for allowing a designated beneficiary to receive a percentage of the benefit after the retiree's death. Plans often have various options with the survivor benefit being equal to 100%, 75%, 50%, or 25% of the benefit payable during the life of the retiree. Modified Joint & Survivor is an available provision for some of these plans where monthly payments increase to the amount payable under the maximum allowance upon the death of the beneficiary. Guaranteed payment refers to the option that guarantees a certain number of payments to the retiree. If the retiree's death occurs before receiving all of the monthly payments, the remaining payments are made to the beneficiary until all payments have been made. Social Security leveling refers to the option that pays larger monthly payments until the retiree is eligible for Social Security at age 62. When the retiree becomes eligible to claim an early Social Security benefit the monthly payments from the pension are reduced to a lower amount so the total retirement income (pension + Social Security) remains the same. Finally, Partial lump sum refers to the option that pays a one-time lump sum payment of a portion of the retiree's retirement benefit, plus a reduced monthly benefit payable for the retiree's lifetime. The number of state plans with each option is shown above each bar.

*Source:* Authors' computations using data derived from state plan websites.

**Table 8.1.** Percent of state retirees selecting annuity options

<b>State</b>	<b>Plan</b>	<b>Maximum Allowance</b>	<b>Joint &amp; Survivor</b>	<b>Social Security Leveling</b>	<b>Guaranteed Payment</b>	<b>Partial Lump Sum</b>
California	PERS	44.5	37.3	1.3	N/A	N/A
California	TRS	52.1	46.9	N/A	N/A	N/A
Delaware	SEPP		100	N/A	N/A	N/A
Iowa	PERS	9.4	38.2	0.4	32.8	19.2
Maryland	SRPS	40.0	34.0	N/A	N/A	N/A
Mississippi	PERS	65.8	22.0	N/A	7.6	21.1
Nebraska	SPP	14.1	38.8	N/A	30.2	N/A
North Carolina	TSERS	56.2	25.9	17.9	N/A	N/A
North Carolina	LGERS	55.7	34.6	9.7	N/A	N/A
South Carolina	SCRS	64.3	30.4	4.6	0.4	N/A
Washington	PERS	65.2	34.8	N/A	N/A	N/A
Washington	TRS	38.8	21.4	N/A	N/A	39.8
Wyoming	WRS	43.1	52.9	N/A	4.1	N/A

*Notes:* In some cases, plan managers reported retirees selecting annuity options that are not shown on websites as being available to current retirees. This difference could be due to annuity options that were offered to individual hired at earlier dates. Plans often have various tiers that cover individuals hired at various times. The request to the Treasurers was to provide information on the proportion of retirees selecting each of the options. California TRS participants are not included in Social Security.

*Source:* Data provided by state plans in response to Janet Cowell's email to State Treasurers.

**Table 8.2.** Impact of deferred annuity on annual payouts and pension present values (PV)

<b>Annuity Option</b>	<b>Annual Payout</b>	<b>PV @ 55</b>	<b>PV@ 60</b>	<b>PV@65</b>
<b>Maximum Allowance</b>				
3% interest	\$30,000	\$588,013		
7.25% interest	\$30,000	\$363,110		
<b>Deferred Annuity: First benefit deferred until age 60</b>				
3% interest				
Ages 55-64	\$0	\$588,013	683,174	
Ages 65-84	\$39,233			
7.25% interest				
Ages 55-64	\$0	\$363,110	\$522,878	
Ages 65-84	\$45,884			
<b>Deferred Annuity: First benefit deferred until age 65</b>				
3% interest				
Ages 55-64	\$0	\$588,013		\$793,735
Ages 65-84	\$53,351			
7.25% interest				
Ages 55-64	\$0	\$363,110		\$749,724
Ages 65-84	\$72,150			

*Notes:* Values in table assume that the individual retires at age 55 and dies at age 85. Selecting the maximum benefit allowance, the annual pension benefit is \$30,000 if the retiree begins receiving payments at age 55. The present value of \$30,000 per year for 30 years at 3% discount rate is \$588,013 and \$363,110 using a discount rate of 7.25%. Next, we assume that if benefits are deferred, the retirement system pays an implicit annual return on the present value equal to the assumed interest rate. The annual payouts at age 60 and 65 are derived by using the annuity formula and the implied present value of the account balance at these ages. Calculations are based on annual pension benefit paid at the end of each year. Values are derived using a real interest rate of 3% per year and an interest rate in the range of that assumed by many state retirement plans of 7.25% per year.

*Source:* Authors' calculations.

**Appendix Table 8.1.** Percent of state plan retirees selecting annuity options

State	Plan	Maximum Allowance	Joint & Survivor	Social Security Leveling	Guaranteed Payment	Partial Lump Sum
Mississippi	MHSPRS	26.81	70.28		2.08	22.92
Mississippi	SLRP	42.78	36.36		14.44	16.04
South Carolina	GARS	36.74	63.26			
South Carolina	JSRS	90.34	9.66			
South Carolina	PORS	59.65	34.66	5.69		
South Carolina	SCNG	100				
Washington	LEOFF	12.80	87.20			
Washington	PSERS	71	29			
Washington	SERS	72.70	27.30			
Washington	WSPRS		100			
Wyoming	Air Guards	20	80			
Wyoming	Law	25.03	72.16		2.81	
Wyoming	Firefighters	30.38	60.75		8.86	
Wyoming	Warden	44.9	51.43		3.67	

*Source:* Data provided by state plans in response to Janet Cowell's e-mail sent to State Treasurers.

**Appendix Table 8.2.** Annuity payout options offered by state retirement plans

State	Plan	Maximum Allowance	Joint & Survivor	Social Security Leveling	Guaranteed payment period	Lump sum +Benefit
Alabama	ERS	2 options	100%-50%	No	No	No
Alabama	TRS	2 options	100%-50%	No	No	No
<b>Alaska</b>	<b>PERS</b>	Yes	75%-50%	Yes	No	No
<b>Alaska</b>	<b>TRS</b>	Yes	75%-50%	No	No	No
Arizona	SRS	Remaining balance paid to beneficiary	100%-66%-50%	No	5Y-10Y-15Y	No
Arkansas	PERS	Remaining balance paid to beneficiary	75%-50%	No	60P-120P	No
Arkansas	TRS	Remaining balance paid to beneficiary	75%-50%	No	60P-120P	No
California	PERS	2 options*	100%-50%	No	No	No
<b>California</b>	<b>TRS</b>	Yes	100%-75%-50%	No	No	No
<b>Colorado</b>	PERA	Remaining balance paid to beneficiary	100%-50%	No	Yes+	No
Connecticut	SERS	Yes	100%-75%-50%	No	10Y-20Y	No
<b>Connecticut</b>	<b>TRS</b>	Remaining balance paid to beneficiary	100%-66%-50%-33%	No	5Y-10Y-15Y-20Y-25Y	No
Delaware	SEPP	Remaining balance paid to beneficiary	100%-75%-66%-50%	No	No	No
Florida	FRS	Remaining balance paid to beneficiary	100%-75%	No	10Y	No
Georgia	ERS	Remaining balance paid to beneficiary	100%-50%	No	Yes	Yes
Georgia	TRS	Remaining balance paid to beneficiary	100%-50%	No	No	No
Hawaii	ERS	Remaining balance paid to beneficiary	100%-50%	No	No	No
Idaho	PERS	Yes	100%-50%	Yes	No	No
Illinois	SRS	Remaining balance paid to beneficiary	100%-50%	Yes	No	No
<b>Illinois</b>	<b>TRS</b>	Remaining balance paid to beneficiary	100%-75%	No	10Y-15Y-20Y	No
Illinois	MRF	Remaining balance paid to beneficiary	100%-75%-50%	Yes	No	Yes
Indiana	PERF	Remaining balance paid to beneficiary	100%-66%-50%	Yes	5Y	No
Indiana	TRF	Remaining balance paid to beneficiary	100%-66%-50%	Yes	Yes	No
Iowa	PERS	2 options*	100%-75%-50%-25%	No	120P	No
Kansas	PERS	Yes	100%-75%-50%	No	5Y-10Y-15Y	Yes
Kentucky	KERS	Remaining balance paid to beneficiary	100%-66%-50%	Yes	5Y-10Y-15Y	Yes

State	Plan	Maximum Allowance	Joint & Survivor	Social Security Leveling	Guaranteed payment period	Lump sum +Benefit
Kentucky	CERS	Yes	100%-66%-50%	Yes	5Y-10Y-15Y	Yes
<b>Kentucky</b>	<b>TRS</b>	Remaining balance paid to beneficiary	100%-50%	No	10Y	No
<b>Louisiana</b>	<b>SERS</b>	Remaining balance paid to beneficiary	100%-50%	No	No	No
<b>Louisiana</b>	<b>TRSL</b>	2 options*	100%-66%-50%	No	No	No
<b>Maine</b>	<b>PERS</b>	2 options*	100%-50%	No	No	No
Maryland	SRPS	Remaining balance paid to beneficiary	100%-50%	No	No	No
<b>Massachusetts</b>	<b>SERS</b>	2 options*	66%	No	No	No
<b>Massachusetts</b>	<b>TRS</b>	2 options*	66%	No	No	No
Michigan	SERS	Remaining balance paid to beneficiary	100%-75%	Yes	No	No
Michigan	MERS	Remaining balance paid to beneficiary	100%-75%-50%	No	5Y-10Y-15Y-20Y	No
Michigan	PSERS	Remaining balance paid to beneficiary	100%-75%-50%	Yes	No	No
Minnesota	MSRS	Remaining balance paid to beneficiary	100%-75%-50%	No	15Y	No
Minnesota	PERA	Remaining balance paid to beneficiary	100%-75%-50%-25%	No	No	No
Minnesota	TRA	2 options*	100%-75%-50%	No	15Y	No
Mississippi	PERS	Remaining balance paid to beneficiary	100%-75%-50%	No	10Y-15Y-20Y	No
Missouri	SERS	Remaining balance paid to beneficiary	100%-50%	No	60P-120P	No
Missouri	LAGERS	Yes	100%-75%-50%	No	No	No
<b>Missouri</b>	<b>PSRS</b>	Remaining balance paid to beneficiary	100%-75%-50%	No	60P-120P	No
Montana	PERS	Remaining balance paid to beneficiary	100%-50%	No	10Y-20Y	No
Montana	TRS	Remaining balance paid to beneficiary	100%-66%-50%	No	10Y-20Y	No
Nebraska	SEPP	2 options*	100%-75%-50%	No	5Y-10Y-15Y	No
Nebraska	CEPP	2 options*	100%-75%-50%	No	5Y-10Y-15Y	No
Nebraska	SPP	2 options*	100%-75%-50%	No	5Y-10Y-15Y	No
<b>Nevada</b>	<b>PERS</b>	Yes	100%-50%	No	No	No
New Hampshire	NHRS	Remaining balance paid to beneficiary	100%-50%	No	No	No

State	Plan	Maximum Allowance	Joint & Survivor	Social Security Leveling	Guaranteed payment period	Lump sum +Benefit
New Jersey	PERS	2 options*	100%-75%-50%-25%	No	No	No
New Jersey	TPAF	2 options*	100%-75%-50%-25%	No	No	No
New Mexico	PERA	Remaining balance paid to beneficiary	100%-50%	No	No	No
New Mexico	ERA	Remaining balance paid to beneficiary	100%-50%	No	No	No
New York	ERS	Yes	100%-75%-50%-25%	No	5Y-10Y	No
New York	TRS	2 options*	50%	No	5Y-10Y	No
North Carolina	TSERS	Yes	100%-50%	Yes	No	No
North Carolina	LGERS	Yes	100%-50%	Yes	No	No
North Dakota	PERS	Remaining balance paid to beneficiary	100%-50%	No	10Y-20Y	Yes
North Dakota	TRF	Remaining balance paid to beneficiary	100%-50%	Yes	10Y-20Y	Yes
<b>Ohio</b>	<b>PERS</b>	Remaining balance paid to beneficiary	100%-75%-66%-50%-25%	No	No	Yes
<b>Ohio</b>	<b>STRS</b>	Remaining balance paid to beneficiary	100%-50%	No	Yes+	Yes
Oklahoma	PERS	Yes	100%-50%	No	10Y	No
Oklahoma	TRS	Remaining balance paid to beneficiary	100%-50%	No	120P	Yes
Oregon	PERS	2 options*	100%-50%	No	15Y	Yes
Pennsylvania	SERS	Remaining balance paid to beneficiary	100%-50%	No	No	No
Pennsylvania	PSERS	Remaining balance paid to beneficiary	100%-50%	No	No	Yes
Rhode Island	ERS	Yes	100%-50%	Yes	No	No
South Carolina	SCRS	Remaining balance paid to beneficiary	100%-50%	No	No	No
South Dakota	SRS	Remaining balance paid to beneficiary	66%	Yes	No	No
Tennessee	CRS	Remaining balance paid to beneficiary	100%-50%	Yes	No	No
Texas	ERS	Remaining balance paid to beneficiary	100%-75%-50%	No	60P-120P	Yes
<b>Texas</b>	<b>TRS</b>	Remaining balance paid to beneficiary	100%-75%-50%	No	No	No
Texas	MRS	Remaining balance paid to beneficiary	100%-75%-50%	No	60P-120P	No
Utah	SRS	2 options*	100%-50%	No	No	No
Vermont	SRS	2 options*	100%-50%	Yes	No	No

State	Plan	Maximum Allowance	Joint & Survivor	Social Security Leveling	Guaranteed payment period	Lump sum +Benefit
Vermont	TRS	2 options*	100%-50%	Yes	No	No
Virginia	SRS	Remaining balance paid to beneficiary	100%-75%-66%-50%-25%	Yes	No	Yes
Washington	PERS	Remaining balance paid to beneficiary	100%-66%-50%	No	No	No
Washington	TRS	2 options*	100%-66%-50%	No	No	No
West Virginia	PERS	Yes	100%-50%	No	No	No
West Virginia	TRS	Yes	100%-50%	No	120P	No
Wisconsin	WRS	Yes	100%-75%	Yes	60P-180P	No
Wyoming	WRS	2 options*	100%-50%	No	10Y-20Y	No

*Notes:* Alaska also offers a 66% last survivor plan. The last survivor (retiree or beneficiary) gets 66% of the benefit. Employees in state plans in bold are not covered by social security. Employees covered by plans shown in bold are not included in the Social Security system.

*Source:* Authors' derivations using data from all plan websites.