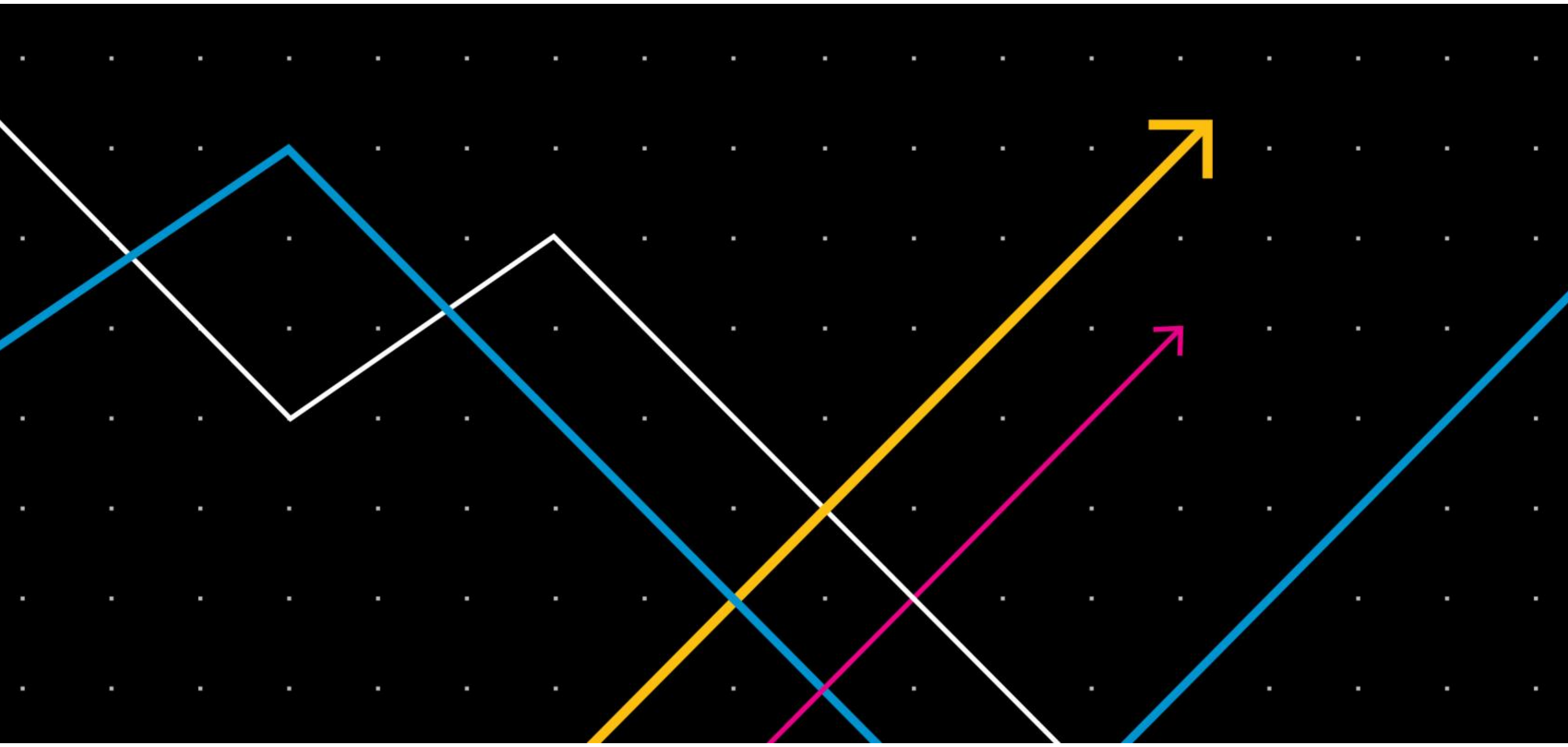

RESEARCH REPORT

Evaluating Connecticut's Pension Benefits during the Pandemic

Richard W. Johnson

May 2020

URBAN INSTITUTE · ELEVATE · THE · DEBATE

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Contents

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Evaluating Connecticut's Pension Benefits during the Pandemic

The novel coronavirus pandemic poses a serious threat to the financial stability of Connecticut's pension plan for state employees, which is already one of the worst-funded retirement plans in the nation. In 2019, the Connecticut State Employees Retirement System (SERS) held enough assets to cover only 38 percent of its future obligations, leaving a $23 billion shortfall (Cavanaugh Macdonald Consulting 2019). Among all plans covering general state government employees, only Kentucky and Illinois had lower funding ratios than Connecticut in 2018.[1] These funding estimates likely understate the true shortfall because they are based on assumptions adopted by plan trustees that many economists believe are overly optimistic (Novy-Marx and Rauh 2011). The pandemic will likely further weaken plan finances. Stock market losses are eroding plan reserves, and state contributions to the plan may shrink as the recession reduces state tax revenue and raises state health and welfare spending. With concerns about the funding shortfall and the sustainability of Connecticut's pension debt growing (Connecticut Business and Industry Association 2019; Fitch 2019),[2] state policymakers might choose to change the way pension benefits are set or raise plan contributions from employees and the state.

To inform the upcoming reform debate, this report evaluates the pension benefits currently provided to newly hired Connecticut state government employees in nonhazardous positions. We project annual and lifetime pension benefits under the assumption that state employees earn average salaries over their careers and separate from state employment at the rates estimated by the plan actuaries. Our simulations compare annual and lifetime benefits for newly hired employees by starting age and years of completed service. To determine how much employees gain from the plan, we subtract employees' plan contributions from their total lifetime benefits and compute how long employees must work until their future pension benefits are worth more than their plan contributions; at that point, their future retirement benefits increase the compensation they receive from the state. Our tabulations also compare net lifetime pension benefits for workers hired in different years to see how recent plan changes have affected how much employees ultimately gain by participating in the state retirement system.

Our results show that the gains employees reap from Connecticut's SERS vary widely depending on the year they are hired, their age when they are hired, and the number of service years they complete. Because of plan changes that have reduced future pensions and raised employee contributions, many state employees hired today will receive only half as much from the state retirement system as they would have received under the plan rules in effect 25 years ago. Future pensions also vary widely among employees hired today. The state contributes 9 percent of career salary toward the future pension benefits received by workers hired today at age 55 who separate after completing 10 years of service. Among all new hires, however, the average state contribution rate is only 0.9 percent, and most new hires gain nothing from the state plan. Workers hired at age 25 must remain employed for 25 years before their future pension benefits are worth more than their contributions to the plan, yet only 14 percent of new hires remain in state employment that long. Overall, two-thirds of new hires do not work long enough to benefit from the state retirement plan. Their mandatory plan contributions subsidize the pensions received by the other third of new hires who receive relatively generous benefits. These disparities do not appear to reflect productivity differences or serve any human resources objective. Alternative plan designs that allow state employees to accumulate retirement benefits more gradually over their careers would distribute benefits more fairly and increase retirement incomes for many of Connecticut's public servants.

How Are Benefits Calculated for New Hires?

Connecticut's SERS provides state employees with a defined-benefit pension. Most state employees in nonhazardous positions hired on or after July 1, 2017, are enrolled in SERS as Tier IV members. Those who have completed 10 years of service (the plan's vesting period) earn a lifetime pension equal to a share of their final average salary, calculated over their five highest-compensated service years.[3] Annual benefits equal 1.3 percent of a worker's final average salary multiplied by his or her final years of service. Employees may begin collecting full benefits at age 65 if they have completed 10 years of service or at age 63 if they have completed 25 years of service. Early benefits are available at age 58 and are reduced 6 percent for each year before the normal retirement age (63 or 65, depending on years of completed service). Retirees receive cost-of-living adjustments equal to the annual increase in the consumer price index up to 2 percent, plus 60 percent of the annual increase in the price index between 3.33 percent and 6 percent and 75 percent of the annual increase in excess of 6 percent. However, the cost-of-living adjustment may not exceed 7.5 percent a year. In addition to their state pension, state employees are covered by Social Security.

In exchange, the plan requires employees to contribute 5 percent of their salary each period (in addition to Social Security payroll taxes). When asset losses require additional plan contributions, the employee contribution rate can increase by half the required increase (but by no more than 2 percent). Employees who separate before they are eligible to begin collecting a pension may opt for a refund of their past contributions instead of waiting to receive future pension benefits once they are old enough. Refunded contributions are credited with 5 percent interest each year.

Tier IV of SERS represents the latest change that Connecticut has made to the retirement plan that covers state employees. These reforms, each of which adds a new tier to the plan because the new rules affect only new hires and do not change retirement rules for incumbent workers or retirees, have cut benefits and increased the contributions that employees must make to the plan.

Tier III covers state employees hired on or after July 1, 2011, and before July 1, 2017. Their annual pension benefit, which is more generous than the benefit paid to Tier IV employees, equals 1.33 percent of final average salary multiplied by final years of service up to 35 years, plus 1.625 percent of final average salary multiplied by the number of service years over 35. Moreover, Tier III employees contribute only 4 percent of their salary, 1 percentage point less than Tier IV employees.

Connecticut state employees hired on or after July 1, 1997, and before July 1, 2011, belong to Tier IIA of SERS, and those hired on or after July 1, 1984, and before July 1, 1997, belong to Tier II. Both tiers use the same benefit formula as Tier III except they base final average salary on the three highest-earning years rather than the five highest-earning years. Adding more years to the calculation usually reduces final average salary. Also, employees in these tiers vest after completing only five years of service, although employees with only five years of service cannot begin collecting their pension until age 70. Tier II employees can begin collecting their pension earlier than employees in later tiers; the Tier II normal retirement age is 60 for employees with 25 or more years of service and 62 for employees with 10 or more years of service. Both Tier II and Tier IIA employees can begin collecting early, reduced benefits at age 55 if they have completed 10 years of service. Finally, Tier II employees contribute only 2 percent of salary to SERS, and early retirement benefits for Tier II employees who retire by July 1, 2011, are reduced only 3 percent for each year they collect a pension before age 60 if they have completed 25 or more years of service or age 62 if they have completed fewer years of service.

Projecting Future Pension Benefits

We examine how much in pension benefits newly hired state employees will likely receive under existing plan rules at age 65 and over their lifetimes. Our analysis assumes that employees earn the average salary for their age and years of service for workers hired in 2019 as reported by the plan actuaries (Cavanaugh Macdonald Consulting 2019). Following the actuaries, we assume that salary growth varies by tenure (e.g., increasing 9.5 percent during service year 1, 5.5 percent during year 5, 5 percent during year 10, and 3.5 percent during service year 16 and later). Our simulations project final service years by applying separation probabilities that vary by age and years of service as estimated by the plan actuaries. We assume plan participants discount future benefits 6.9 percent a year and that prices increase 2.5 percent a year, the same rates adopted by the SERS trustees (Cavanaugh Macdonald Consulting 2019). All financial amounts are expressed in inflation-adjusted 2019 dollars.

We compute annual pension benefits by applying the benefit formula to our assumed salary histories. The calculations assume that all plan participants receive their payments as single-life annuities, forgoing survivor benefits to spouses if they are married. We compute the value of lifetime benefits by summing all future annual payments and then discounting them 6.9 percent a year and by the probability that employees will die before they can collect. Values are measured in the year plan participants leave state employment, expressed in inflation-adjusted 2019 dollars. Mortality probabilities are derived from unisex life tables compiled by the Social Security Administration. When we estimate the value of lifetime benefits, we assume that plan participants who cannot collect an immediate pension will elect to have their required contributions refunded instead of collecting a future pension, if the refund is worth more.

Our simulations compare annual and lifetime benefits for Tier IV employees by starting age and years of completed service. To determine how much employees gain from the plan, we subtract employees' plan contributions from their total lifetime benefits. In addition to reporting this net lifetime benefit in dollars, we report it as a share of lifetime salary, which indicates the government's contribution rate to an employee's pension averaged over a career. Our analysis computes how long employees must work in state government until their future pension benefits are worth more than their own plan contributions, at which point their retirement benefits increase the compensation they receive from the state. We also show how future pension benefits are distributed across the entire cohort of new Tier IV hires, including those who do not stay in the plan long enough to earn a pension. Finally, tabulations compare net lifetime pension benefits across plan tiers to see how recent plan changes have affected how much employees ultimately gain from participating in the state retirement system.

How Much Annual Income Will Retirees Receive?

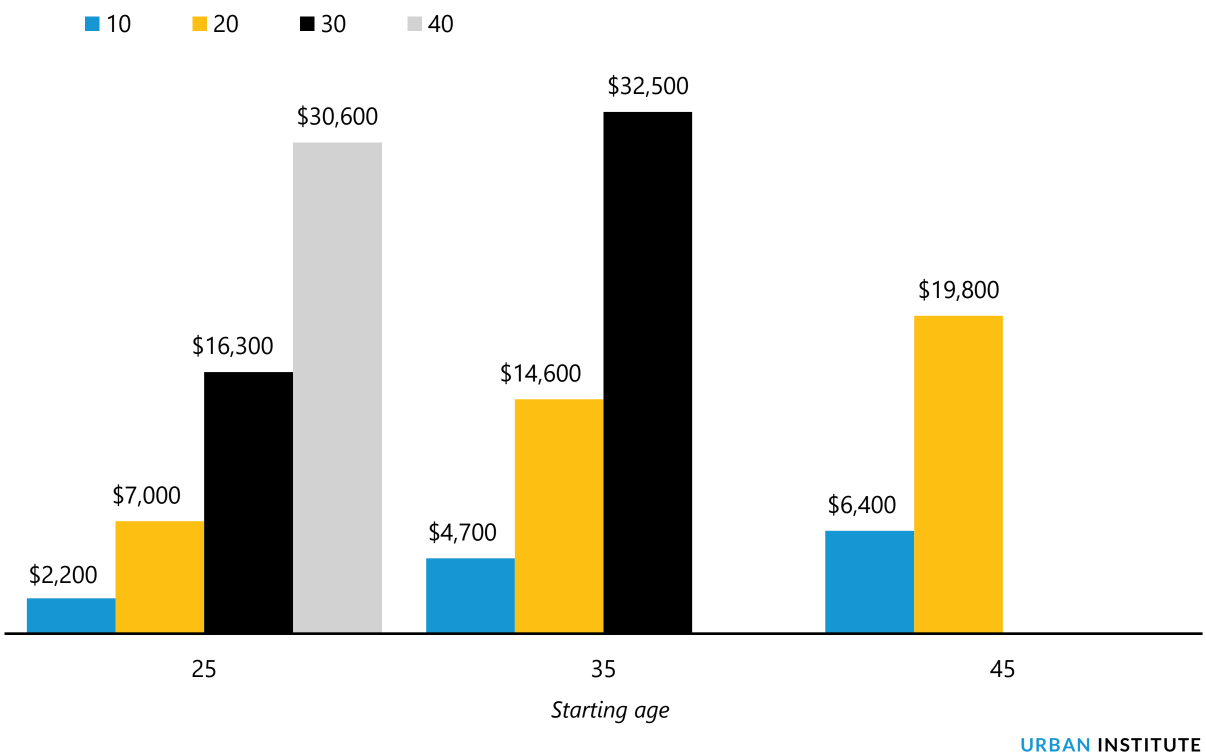
Annual pension benefits for Connecticut state employees increase sharply with years of service. Employees hired in 2019 at age 25 who earn the average salary for their experience throughout their career and begin collecting their pension at the normal retirement age (or immediately upon retirement if still employed at the normal retirement age), receive annual pension income at age 65 equal to only

$2,200 (in inflation-adjusted 2019 dollars) if they separate with 10 years of completed service (figure 1). Those annual benefits increase to $7,000 after 20 years of completed service, $16,300 after 30 years, and $30,600 after 40 years.

FIGURE 1

Annual Pension Benefit at Age 65, Tier IV

By starting age and years of service



Source: Author's calculations based on Connecticut plan documents and actuarial reports.

Notes: Estimates are in inflation-adjusted 2019 dollars. Projections are reported for Tier IV members of the Connecticut State Employees Retirement System hired in 2019 who are not engaged in hazardous duty. Future benefits are discounted at 6.9 percent and the annual inflation rate is assumed to be 2.5 percent, the rates adopted by the retirement system in 2019. These estimates assume that all participants keep their contributions in the plan instead of taking a refund and that they begin collecting benefits at the normal retirement age (or when they separate if still employed at the normal retirement age).

State pension benefits increase with years of service because the benefit formula directly ties payments to service years. Final average salary also increases with tenure, so the earnings base partially replaced by the plan grows as employees work longer. Future retirement benefits erode over time when employees separate before they may begin receiving payments because the benefit is not adjusted for inflation in the interim.

The same general pattern is evident for employees who join the state workforce at older ages, except they receive larger pensions than those who join at younger ages and separate with the same number of completed service years. Older hires receive higher annual benefits because they generally earn more than younger hires with the same years of service and they do not have to wait as long to begin collecting. As a result, their benefits are reduced less by inflation.

How Much Will Retirees Receive over a Lifetime?

How much employees benefit from the state retirement plan depends on how much they receive over their lifetimes, not in a single year. Employees who begin collecting their pension at relatively young ages will benefit more from the plan than their counterparts who begin collecting the same annual payment at older ages. Figure 2 shows how the value of lifetime pension benefits increases with years of service for Tier IV members hired at age 25. Employees who separate before completing 10 years of service do not receive any pension benefits, because they have not yet vested in the plan. Age-25 hires do not receive many benefits over their lifetime immediately after they vest at age 35—their benefits are worth only $8,700 in 2019 dollars—because they must wait 30 years to begin collecting, and their benefits are based on the relatively low salaries they earned in their mid-30s. Additional years of service, however, raise lifetime benefits at an increasing rate. They increase to $70,500 after 24 years of service, $95,800 after 25 years (when retirees may begin collecting a full pension at age 63 instead of 65), and more than $400,000 after 38 years of service. Lifetime benefits increase more slowly with subsequent service. Nonetheless, employees hired at age 25 who remain on the job for 40 years will accumulate $424,500 in lifetime pension benefits, and those who remain for 45 years will accumulate $453,000.

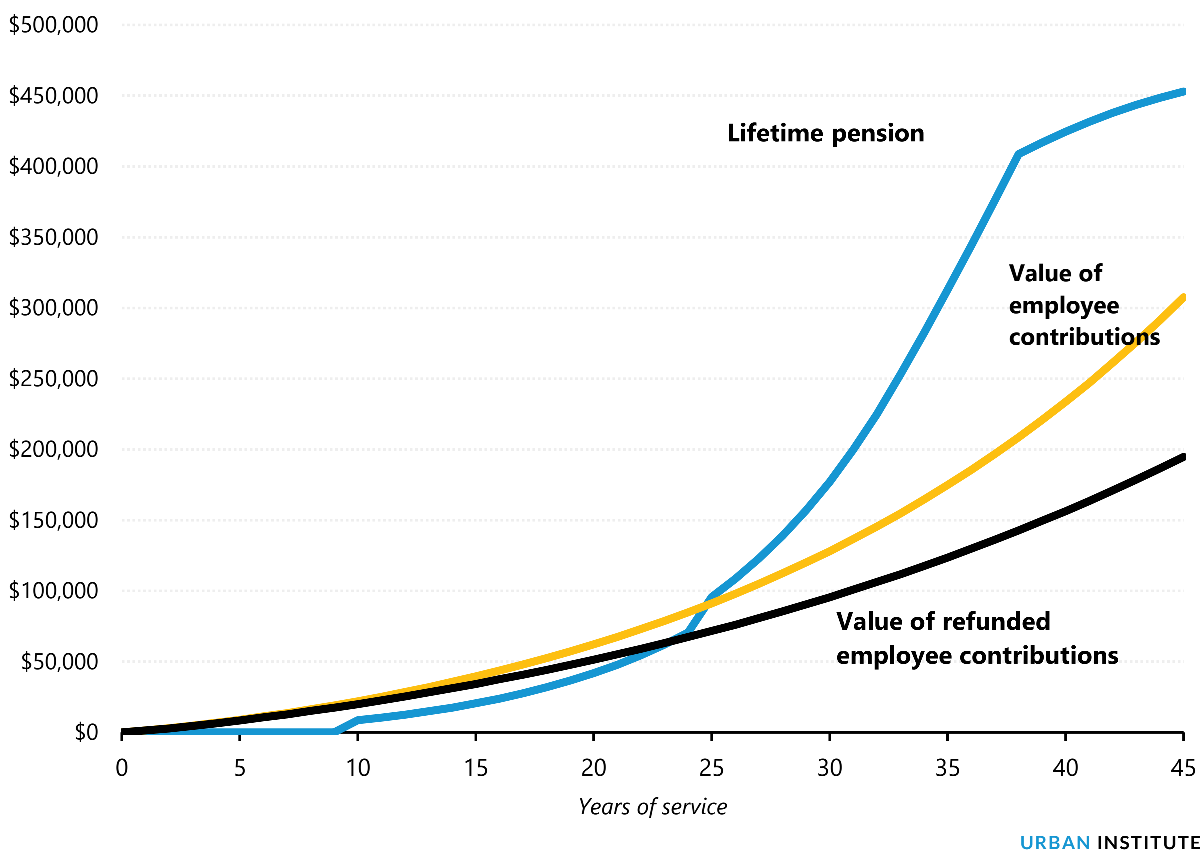
Each year, Tier IV employees must contribute 5 percent of their salaries to the plan. They must work many years before their future retirement benefits are worth more than those contributions. If employees could earn as much from their contributions if invested outside the plan as the SERS trustees assume the plan will earn from those contributions, their contributions would be worth about 2.5 times as much as their future pension benefits after 10 years of service and twice as much after 14 years of service. Age-25 hires must remain in the plan for 25 years before their future benefits are worth more than their contributions. After just a few more years on the job, however, future benefits are worth much more than what employees contributed.

Employees who separate before earning much in pension benefits may have their contributions refunded, but they receive only 5 percent interest each year, less than what the plan assumes could be earned on those contributions. The black line in figure 2 shows how much employees receive if they opt for a refund. All age-25 hires separating with less than 24 years of service are better off taking a refund than waiting for a future pension. Even with their contributions refunded, though, they suffer financially by participating in SERS because they could have earned more if they could have opted out of the plan and invested what they would have contributed to the plan. Using the plan trustees' investment-return assumptions, we estimate that employees hired at age 25 who separate with 23 years of completed service each forfeit $15,700 by participating in the plan. Although employees who complete 24 or more years of service are better off collecting a pension than a refund, those who separate with less than 25 years of service suffer financially by participating in the mandatory plan. They lose money because their future pension is worth less than their contributions combined with the investment returns they could have earned on those contributions outside the plan, even though their pension is worth more than those contributions when refunded with 5 percent interest. These employees—many of whom serve in state employment for many years—subsidize the large pensions that longer-tenured employees receive.

FIGURE 2

Value of Future Pension Benefits and Employee Contributions, Tier IV

Employees hired at age 25



Source: Author's calculations based on Connecticut plan documents and actuarial reports.

Notes: Estimates are in inflation-adjusted 2019 dollars. Projections are reported for Tier IV members of the Connecticut State Employees Retirement System hired in 2019 who are not engaged in hazardous duty. Future benefits are discounted at 6.9 percent and the annual inflation rate is assumed to be 2.5 percent, the rates adopted by the retirement system in 2019.

Most Connecticut state employees do not complete 25 years of service. Our calculations, based on data from the SERS actuaries, show that only half of all newly hired employees will complete at least 10 years of service, and only 14 percent will complete at least 25 years of service.[4] Many employees separate within a few years after being hired, and average tenures are much higher among those who have completed some minimum service period, whom state policymakers may choose to favor in a pension reform. For example, half of employees with at least 5 years of completed service remain on the state payroll for at least 14 years, while half of those with at least 10 years of service remain for at least 18 years. Even among these longer-serving employees, however, relatively few spend their entire careers in state employment. For example, only 20 percent of those with at least 5 years of service and 25 percent of those with at least 10 years of service remain in state employment for at least 25 years.

Relatively few state employees are hired at age 25. Data from the SERS actuaries indicate that 17 percent of employees join the state payroll before age 25, 20 percent join between ages 25 and 29, 29 percent join in their 30s, 17 percent join in their 40s, and 17 percent join at age 50 or older.[5] Given this diversity, focusing on a single entering cohort might not present an accurate picture of the outcomes experienced by the broader state workforce. Thus, we extend the analysis to consider outcomes for employees hired at different ages.

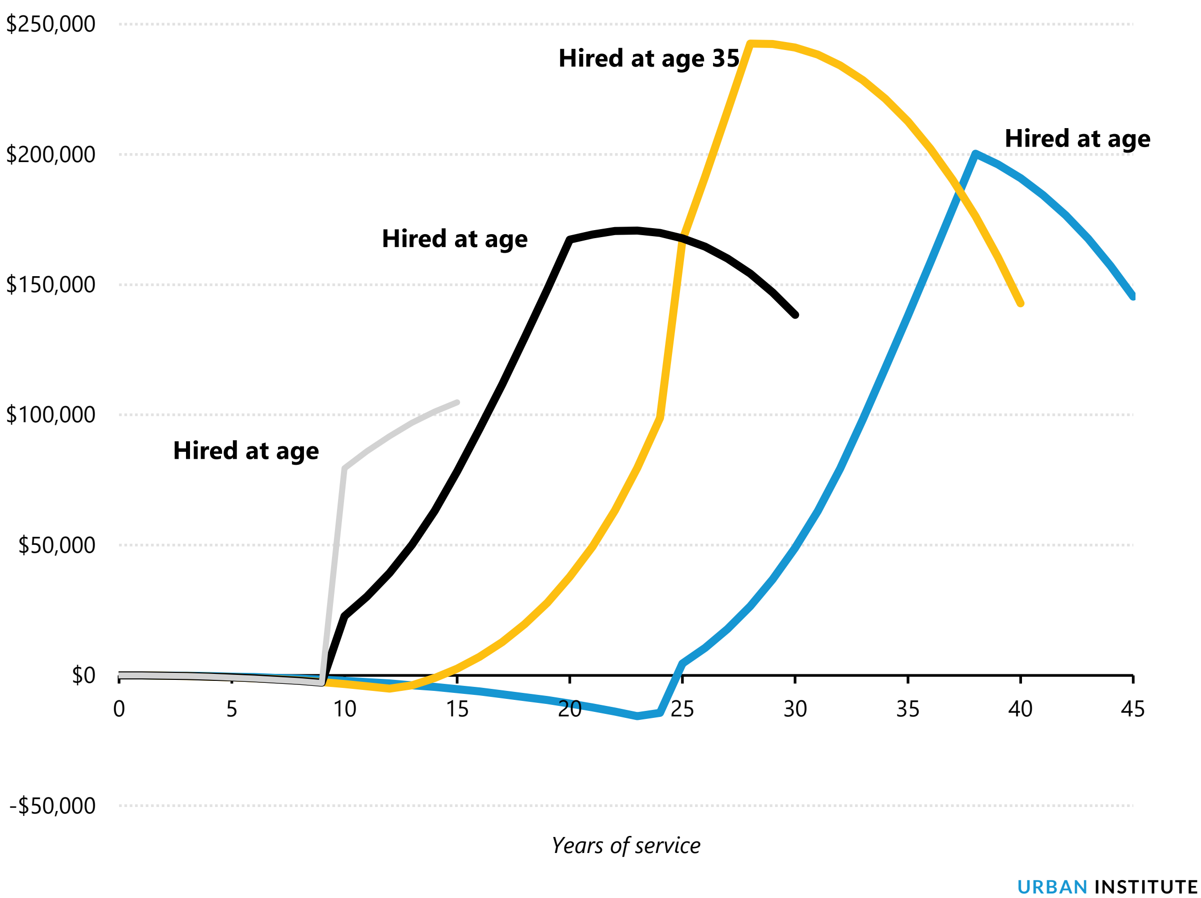
The expected value of lifetime pension benefits minus employee contributions indicates how much retirees benefit from the state pension because it includes only those benefits that are financed by the state. Figure 3 shows how this measure changes with years of service for employees hired at ages 25, 35, 45, and 55. For age-25 hires, the figure highlights the surge in the value of lifetime benefits beginning after 24 years of completed service and the decline in the value of lifetime benefits beginning after 38 years of completed service. The value of net lifetime benefits decreases late in an employee's career because additional service years do not raise annual payments enough to offset the decline in the number of checks received by those who continue working and the additional plan contributions they must make.

Lifetime pension benefits minus employee contributions grow somewhat differently for employees hired at older ages. Older hires accumulate state-financed pension benefits faster than those hired at younger ages. After 30 years of service, for example, employees hired at age 35 have accumulated $241,000 in future lifetime benefits net of their required contributions, nearly five times as much as those hired at age 25. Similarly, employees hired at age 45 will have accumulated $167,000 in future net lifetime benefits after 20 years, more than four times as much as those hired at age 35. Age-55 hires will have accumulated $80,000 after only 10 years. Older hires benefit from the pension plan sooner than those hired at younger ages because they do not wait as long to begin collecting their pension. However, the value of lifetime benefits also begins declining sooner when employees are hired at older ages. For example, lifetime benefits begin falling after 28 years of service for age-35 hires and after 23 years of service for age-45 hires because the growth in annual benefits from working another year is not large enough to offset the benefit checks lost by those who delay retirement or the additional contributions they must make.

FIGURE 3

Expected Value of Lifetime Pension Benefits Minus Employee Contributions, Tier IV

By starting age and years of service



Source: Author's calculations based on Connecticut plan documents and actuarial reports.

Notes: Estimates are in inflation-adjusted 2019 dollars. Projections are reported for Tier IV members of the Connecticut State Employees Retirement System hired in 2019 who are not engaged in hazardous duty. Future benefits are discounted at 6.9 percent and the annual inflation rate is assumed to be 2.5 percent, the rates adopted by the retirement system in 2019.

Spikes and subsequent declines in the value of future pension benefits create unintended retention and retirement incentives for workers. For example, average age-25 hires who have completed 25 years of service can earn an additional $196,000 in future pension benefits net of their contributions by remaining on the job for another 13 years, average age-35 hires who have completed 24 years of service can earn an additional $144,000 in future net benefits by remaining on the job for another 4 years, and average age-55 hires can earn an additional $83,000 in future net benefits by remaining on the job for only 1 more year. These spikes in the value of future benefits create strong incentives for workers to remain in state employment even if they are not the best fit for their jobs and they could be more productive elsewhere.

Conversely, declines in the value of future pension benefits create strong retirement incentives. An age-25 hire with 38 years of completed service loses $55,000 in future benefits, net of employee contributions, by working an additional seven years. These retirement incentives are particularly problematic because the workforce is aging, and many state governments are struggling to meet their staffing needs (NASCA, Accenture, and NEOGOV 2019).

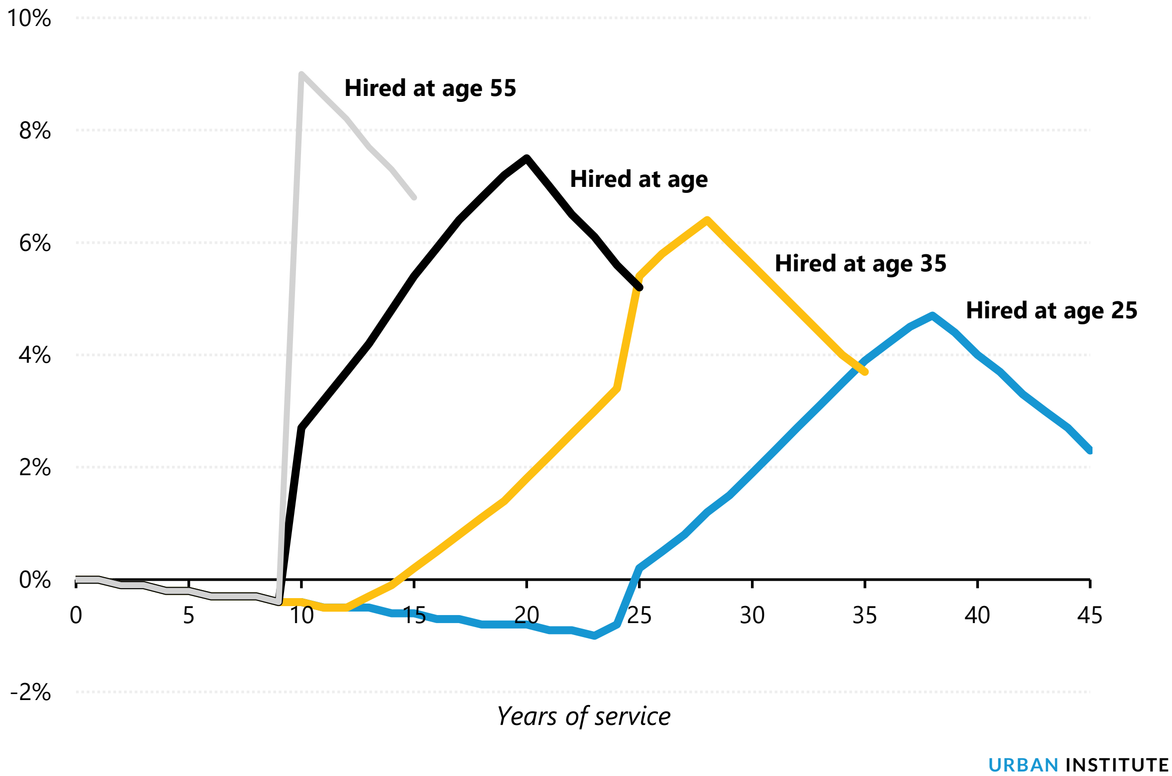
Computing lifetime pension benefits minus employee contributions as a share of lifetime salary is also instructive. This measure is the career-average state contribution rate to an employee's pension, and it varies widely with years of service and starting age. For Tier IV state employees hired at age 25, the state contribution rate is negative until employees complete 25 years of service (figure 4). The state contribution falls as low as -1 percent for employees hired at age 25 who separate after completing 23 years of service. Instead of providing a benefit to these employees, the state pension plan reduces their compensation 1 percent. The career-average contribution rate increases with additional years of service for age-25 hires, reaching 1.9 percent of salary at 30 years of service and peaking at 4.7 percent of salary at 38 years of service. The state's average contribution rate then falls rapidly with additional years of service, declining to 2.3 percent at 45 years. Those who retire after completing 45 years of service receive only about half as much state-financed pension benefits relative to their career earnings as those who retire after 38 years.

State employees hired at older ages receive more state pension contributions relative to their salary than employees hired at younger ages. For employees hired at age 35, the state contribution rate peaks at 6.4 percent, at 28 years of service. At the same seniority level, the career-average state contribution rate for age-25 hires is only 1.2 percent. The state contribution rate peaks at 7.5 percent for age-45 hires at 20 years of service and at 9.0 percent for age-55 hires at 10 years of service. These disparities among employees who are hired at different ages and who separate at different seniority levels illustrate the compensation inequities created by defined-benefit pension plans. Differences in how much the state contributes toward future pension benefits for different groups do not appear to reflect productivity differences or serve any human resources objective.

FIGURE 4

Lifetime Pension Benefits Minus Employee Contributions as a Share of Career Salary, Tier IV

By starting age and years of service



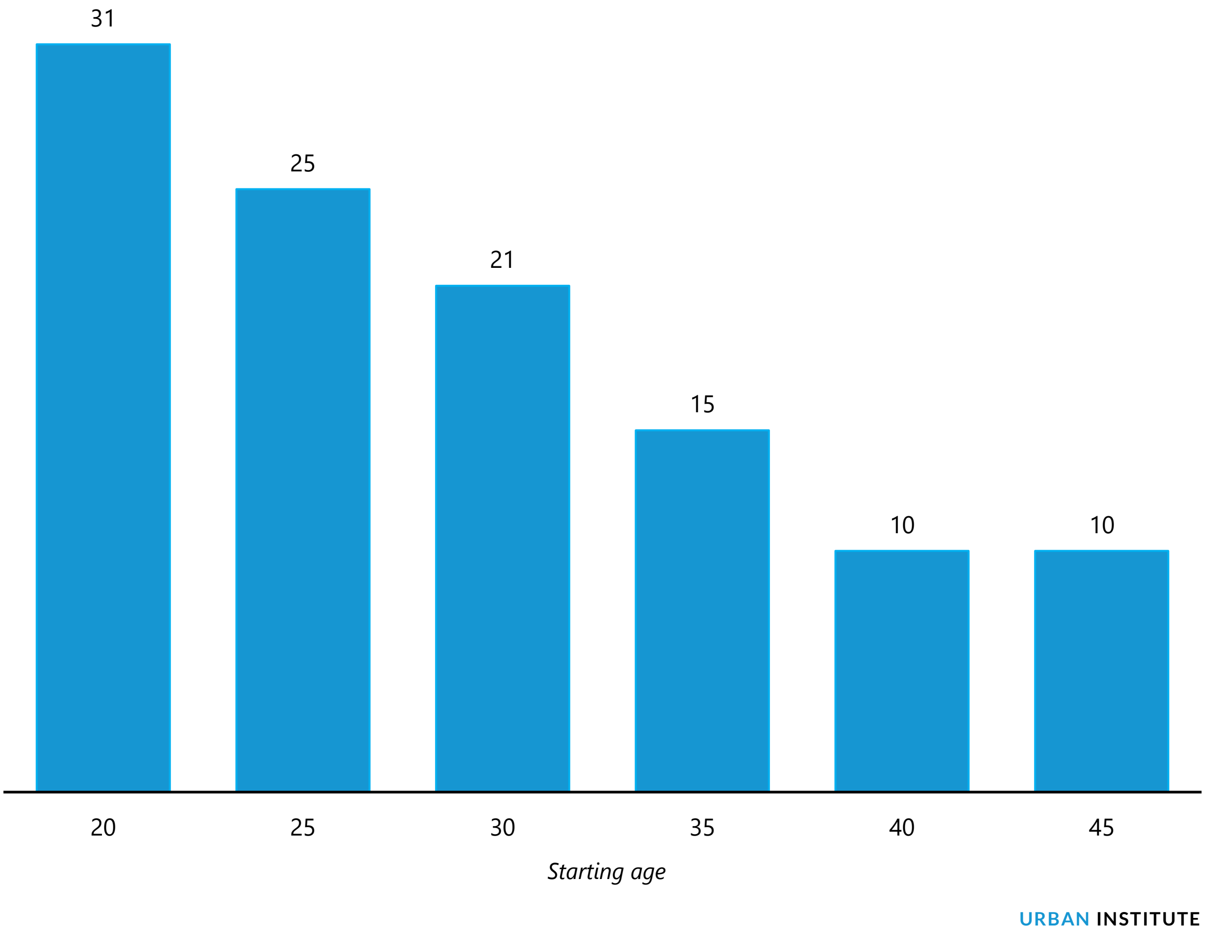
Source: Authors' calculations based on Connecticut plan documents and actuarial reports.
Notes: Projections are reported for Tier-IV members of the Connecticut State Employees Retirement System hired in 2019 who are not engaged in hazardous duty. The figure reports the fixed percentage of employees' salary that the state would have to contribute each year of their career to finance the pension benefits they have earned. The analysis assumes an annual interest rate of 6.9 percent and inflation rate of 2.5 percent, the rates adopted by the retirement system in 2019.

The slow growth in future pension benefits at younger ages requires younger hires to work longer than older hires to accumulate any state-financed pension benefits (figure 5). Employees hired at age 20 must remain in state employment for 31 years before the value of their lifetime pension benefits exceeds the value of their plan contributions. In contrast, employees hired at age 30 must work 21 years before their pension is worth more than their required contributions, and those hired at age 40 must work only 10 years (just long enough for their pension benefits to vest).

FIGURE 5

Service Years Required to Earn any State-Financed Pension Benefits, Tier IV

By starting age



Source: Authors' calculations based on Connecticut plan documents and actuarial reports.
Notes: Projections are reported for Tier IV members of the Connecticut State Employees Retirement System hired in 2019 who are not engaged in hazardous duty. Future benefits are discounted at 6.9 percent and the annual inflation rate is assumed to be 2.5 percent, the rates adopted by the retirement system in 2019.

How Are Pension Benefits Distributed across New Hires?

Our simulations indicate that annual age-70 pension benefits for Connecticut state employees hired in 2019 will average $6,900 in inflation-adjusted 2019 dollars, and total lifetime pension benefits will average $68,100 (table 1).[6] Only slightly more than one-third of those pension benefits will be financed by the state; nearly two-thirds will be financed by employees' contributions. Lifetime benefits net of employee contributions will average $25,200. On average, these benefits are equivalent to a 0.9

percent salary supplement received throughout an employee's career. Average benefit levels are significantly higher among those who remain in state employment for at least a few years. For employees who complete at least five years of service, age-70 annual benefits will average $10,100, total lifetime benefits will average $100,300, and lifetime benefits minus employee contributions will average $37,200, which could be financed by a state contribution of 1.3 percent of salary throughout an employee's career. For employees who complete at least 10 years of service, annual benefits will average $14,400, and lifetime benefits minus employee contributions will average $53,600, equivalent to a 2.0 percent salary supplement throughout an employee's career.

Pension benefits vary widely across the workforce.[7] Focusing on employees who complete at least 10 years of service, we estimate that one-quarter of newly hired employees will receive more than $19,800 in annual pension benefits at age 70 (the 75th percentile, as reported in table 1), and one-tenth will receive more than $27,400 a year (the 90th percentile). However, half will receive less than $12,500 a year (the 50th percentile, or median value), and one-quarter will receive less than $7,700 a year (the 25th percentile). In terms of lifetime benefits minus employee contributions, one-quarter of employees with at least 10 years of completed service will accumulate more than $89,400, and one-tenth will accumulate more than $172,200. However, one-half of newly hired employees who complete at least 10 years of service will receive lifetime benefits minus employee contributions worth less than $22,700.

Long-serving employees receive more lifetime pension benefits just as they receive higher lifetime salaries. However, the percentage of an employee's salary that the state would have to contribute each year of his or her career to finance promised benefits—a measure of lifetime benefit value that accounts for service length—varies widely across the workforce. The median employer contribution for employees who complete at least 10 years of service is 1.4 percent, but one-quarter of employees receive contributions that exceed 4.1 percent of salary, and one-tenth receive contributions that exceed 5.8 percent. But for a quarter of employees with at least 10 years of completed service, SERS *reduces* their career salary at least 0.5 percent.

TABLE 1

Distribution of Projected Pension Benefits, Tier IV

	Annual benefits at age 70 ($)	Total lifetime benefits ($)	Lifetime Benefits Minus Employee Contributions: Amount ($)	Lifetime Benefits Minus Employee Contributions: As % of career salary
Average				
All participants	6,900	68,100	25,200	0.9
At least 5 years of service	10,100	100,300	37,200	1.3
At least 10 years of service	14,400	142,800	53,600	2.0
10th percentile				
All participants	0	0	-4,700	-0.5
At least 5 years of service	0	0	-6,400	-0.6
At least 10 years of service	5,000	20,600	-8,100	-0.7
25th percentile				
All participants	0	0	-1,600	-0.3
At least 5 years of service	0	0	-2,600	-0.4
At least 10 years of service	7,700	45,200	-3,800	-0.5
50th percentile				
All participants	0	0	-100	-0.1
At least 5 years of service	8,400	52,500	-800	-0.2
At least 10 years of service	12,500	101,700	22,700	1.4
75th percentile				
All participants	11,900	95,500	17,900	1.1
At least 5 years of service	16,100	151,000	58,000	2.9
At least 10 years of service	19,800	202,700	89,400	4.1
90th percentile				
All participants	21,500	231,000	108,600	4.5
At least 5 years of service	24,800	291,300	138,100	5.3
At least 10 years of service	27,400	344,100	172,200	5.8

Source: Author's calculations based on Connecticut plan documents and actuarial reports.

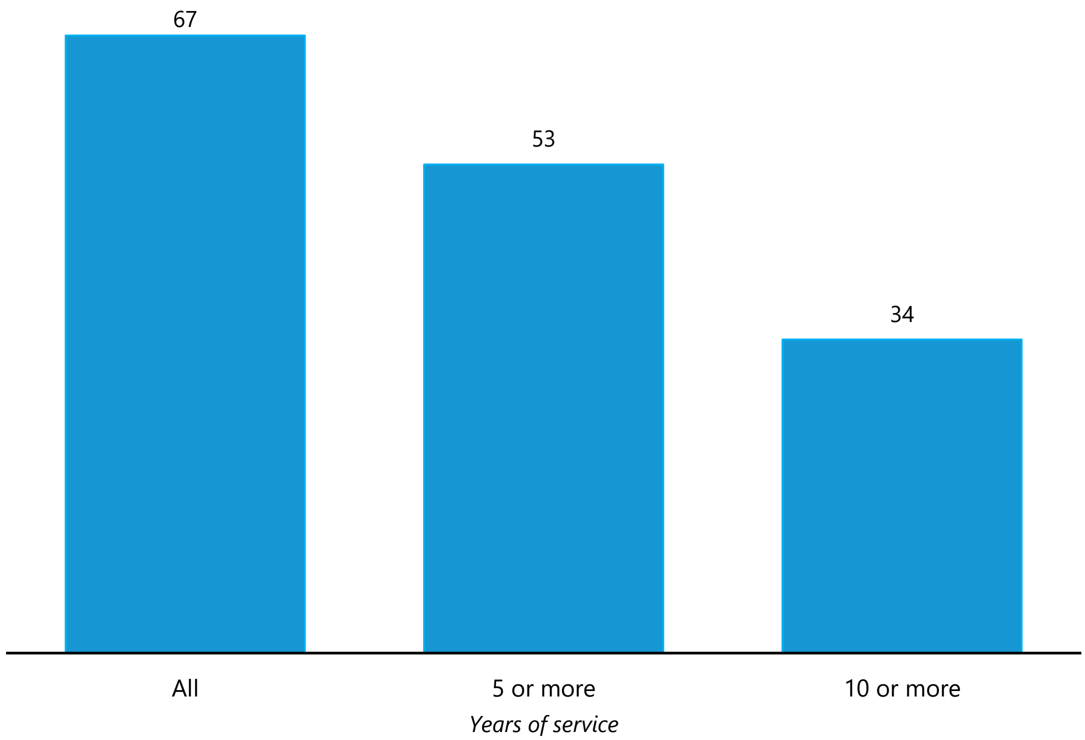
Notes: Estimates are in inflation-adjusted 2019 dollars. Projections are reported for Tier IV members of the Connecticut State Employees Retirement System hired in 2019 who are not engaged in hazardous duty. Future benefits are discounted at 6.9 percent and the annual inflation rate is assumed to be 2.5 percent, the rates adopted by the retirement system in 2019. Estimates include hires who never complete enough government service to collect a pension.

Overall, 67 percent of all state employees hired in 2019 will not receive any pension benefits in excess of their required plan contributions (figure 6). Their mandatory employee contributions subsidize the pensions received by the 33 percent of hires who benefit from the plan. Employees with longer careers are more likely to receive some state-financed pension benefits. Lifetime pension benefits will fall short of employees' required plan contributions for 53 percent of Tier IV hires who complete at least 5 years of service and 34 percent of hires who complete at least 10 years of service.

FIGURE 6

Percentage of Tier-IV Hires whose Lifetime Pension Benefits Are Worth Less than Their Required Plan Contributions

By years of service



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Source: Author's calculations based on Connecticut plan documents and actuarial reports.
Notes: Projections are reported for Tier IV members of the Connecticut State Employees Retirement System hired in 2019 who are not engaged in hazardous duty. Future benefits are discounted at 6.9 percent and the annual inflation rate is assumed to be 2.5 percent, the rates adopted by the retirement system in 2019. Estimates include hires who never complete enough government service to collect a pension.

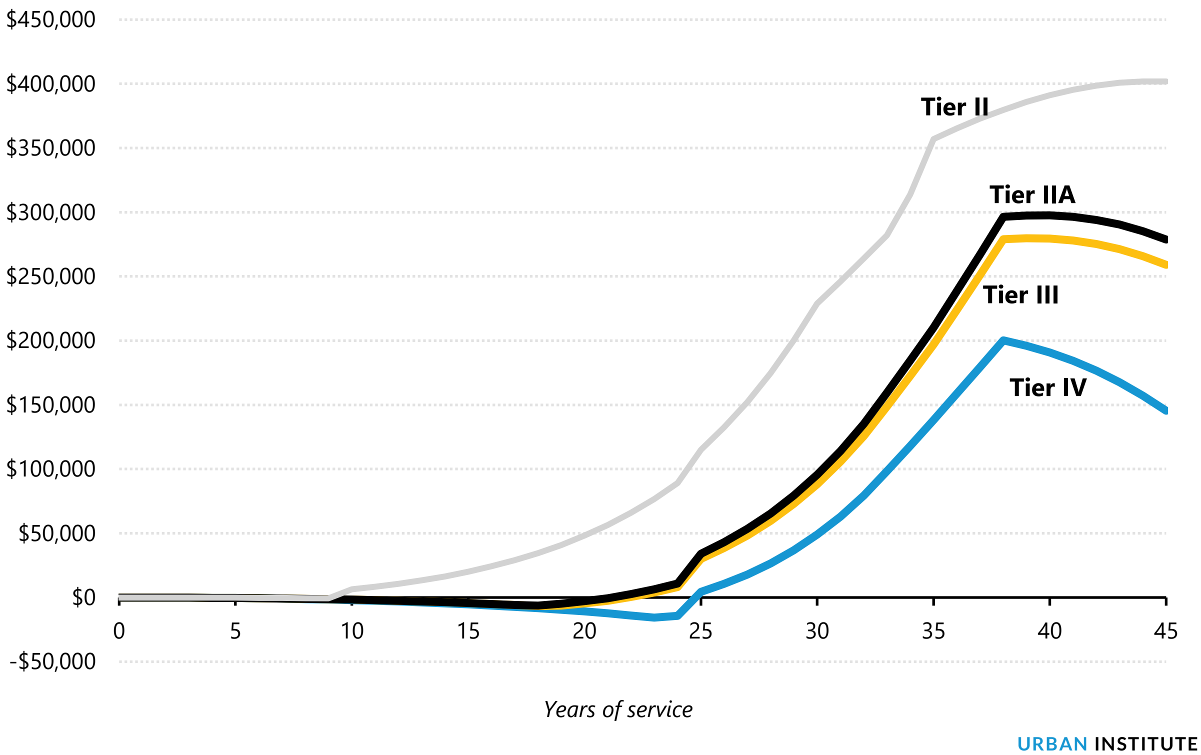
How Have Plan Benefits Changed?

Connecticut made significant changes to SERS over the past two decades, raising contribution rates and reducing benefits for new hires. Figure 7 compares expected lifetime pension benefits minus employee contributions for Tier IV Connecticut state employees in nonhazardous positions hired in 2019 at age 25 to the net lifetime benefits they could expect if their pension were instead determined by the benefit rules and contribution rates in effect for nonhazardous employees in Tier II, covering employees hired between 1984 and 1997; Tier IIA, covering employees hired between 1997 and 2011; and Tier III, covering employees hired between 2011 and 2017.[8]

FIGURE 7

Expected Value of Lifetime Pension Benefits Minus Employee Contributions, Age-25 Hires

By plan tier and years of service



Source: Author's calculations based on Connecticut plan documents and actuarial reports.

Notes: Estimates are in inflation-adjusted 2019 dollars. Projections are reported for Tier IV members of the Connecticut State Employees Retirement System hired in 2019 at age 25 and under the alternative assumptions that their pension was determined by the benefit rules and contribution rates that applied to employees in nonhazardous positions participating in Tier II (employees hired between 1984 and 1997), Tier IIA (employees hired between 1997 and 2011), and Tier III (employees hired between 2011 and 2017). The analysis uses Tier II benefit rules for employees who retire by July 1, 2011. Future benefits are discounted at 6.9 percent and the annual inflation rate is assumed to be 2.5 percent, the rates adopted by the retirement system in 2019.

The state has significantly reduced the amount of pension benefits it finances for its employees. Employees could accumulate pension benefits net of their own contributions more rapidly under earlier plan tiers than under Tier IV. Under Tier II, employees hired at age 25 accumulate future pension benefits that are worth more than the value of their contributions after completing only 10 years of service, 15 years sooner than under Tier IV. Under Tiers IIA and III, employees cross that threshold after completing 21 years of service. At 38 years of service, when net lifetime pension benefits peak for state employees hired today at age 25, Tier IV provides employees with net lifetime benefits worth $200,000; Tier II provides benefits worth $380,000. The value of future pension benefits under Tier II peaks at $402,000, more than twice as much as the peak value under Tier IV.

Conclusions

Long-term state employees receive a substantial pension from Connecticut's SERS. An employee hired in 2019 at age 25 who completes 40 years of service and earns an average salary will receive a lifetime pension paying $24,700 a year at age 65. Over a lifetime, that pension is worth about $425,000.

However, employees who join the state payroll at relatively young ages and stay for less than three decades get little, if anything, from the plan. Age 25 hires must work 25 years before they accumulate rights to future pension benefits worth more than their required plan contributions. Those who choose to have their contributions refunded lose money because the plan credits less interest to their contributions than they could earn outside the plan. Sixty-seven percent of newly hired state employees suffer financially by participating in the plan, including 53 percent of those who remain employed for at least 5 years and 34 percent of those who remain employed for at least 10 years. The mandatory plan contributions made by these employees subsidize the pensions received by other new hires who receive relatively generous benefits.

Which employees benefit most from the plan depends on when they are hired and how long they work. On average, the state contributes 0.9 percent of a worker's career salary to his or her future pension, but some workers receive much more. The state retirement system raises employee compensation 9.0 percent for an employee hired at age 55 who separates after completing 10 service years, 7.5 percent for an employee hired at age 45 who separates after completing 20 service years, 6.4 percent for an employee hired at age 35 who separates after completing 28 service years, and 4.7 percent for an employee hired at age 25 who separates after completing 38 service years. However, the retirement plan reduces employee compensation 1 percent for an employee hired at age 25 who separates after completing 23 service years. These disparities do not appear to reflect productivity differences or serve any human resources objective. Instead, they illustrate the compensation inequities and perverse incentives created by defined-benefit pension plans.

Recent cutbacks in pension benefits and increases in mandatory employee contributions to the plan have reduced the likelihood that newly hired employees will ever benefit from the state's retirement system. Under Tier II pension benefit rules and required employee contribution rates, which cover employees hired 25 years ago, employees hired at age 25 would accumulate future pension benefits worth more than their required contributions after completing only 10 years of service, 15 years sooner than employees participating in Tier IV, which covers employees hired today. Many state employees hired today will receive only half as much from the state retirement system as they would have received if those Tier II rules remained in effect. The plan feature added in 2017 that automatically raises employee contribution rates if the system's funded status deteriorates should improve the system's finances, but it further reduces the likelihood that employees will gain much from participating in the retirement system.

Various pension reforms could distribute benefits more equitably across the workforce. For example, reducing the vesting period from 10 years to 5 years would provide retirement benefits to more shorter-term employees, a growing share of the workforce as employees change jobs more frequently. Indexing the final average salary measure that enters the benefit formula to the change in average salaries would boost pensions for employees who separate before they can begin collecting retirement benefits, allowing more employees who spend less than a full career in state employment to benefit from the plan.

Alternative plan designs could also allow employees to accumulate pension benefits more steadily over their careers (Johnson and Southgate 2014; Johnson et al. 2014). Some states, including Rhode Island and Tennessee, have recently shifted to hybrid plans, which typically combine a relatively small traditional defined-benefit plan with a 401(k)-type defined-contribution plan. Other states, including Kentucky, have shifted to cash-balance plans, which express benefits as an account balance that builds over time with employee and employer contributions as well as accumulated investment returns. They are similar to defined-contribution plans, but participants do not own their individual accounts. Instead, they are pooled and professionally managed, and often they guarantee some minimum investment return. Cash-balance plans also allow participants to collect their benefits as a lifetime annuity (instead of having to purchase an annuity from insurance companies that usually offer less favorable rates). Account balances in defined-contribution and cash-balance plans can be invested and earn investment returns when employees separate before retirement, so employees who separate early may accumulate substantial savings by retirement. In Connecticut's existing plan, by contrast, retirement benefits are frozen when employees separate, so their value erodes with inflation and lost interest while employees wait to retire. Account balances in defined-contribution and cash-balance plans also continue to grow after employees reach retirement age, so these plan designs do not penalize work at older ages. Whether achieved through revisions to the benefit formula or structural changes to the plan design, carefully developed reforms could put more Connecticut state employees on a path to a financially secure retirement.

Notes

[1] Author's calculations from "Downloadable Data," Public Plans Database, Center for Retirement Research at Boston College, the Center for State and Local Government Excellence, and the National Association of State Retirement Administrators, accessed January 14, 2020, https://publicplansdata.org/public-plans-database/download-full-data-set/.

[2] See also Marc E. Fitch, "Opinion: Be Honest about CT's Pension Problems," *Stamford Advocate*, October 1, 2019; and Keith M. Phaneuf, "Wall Street Agency Warns CT's Battle with Pension Debt Is Far from Over," *Connecticut Mirror*, July 17, 2019.

[3] Plan rules differ for state employees in hazardous positions, such as state police officers.

[4] Author's calculations from Cavanaugh Macdonald Consulting (2019).

[5] Author's calculations from Cavanaugh Macdonald Consulting (2019).

[6] These estimates include employees who do not remain in government employment long enough to earn a pension.

[7] Our estimated variation is derived solely from differences in service years and hire age, because we assume that all employees earn the same salary—the average for their age and years of service. Actual pension benefits that state employees receive vary more because salaries differ across employees who are hired in the same year and later separate in the same year.

[8] The analysis uses Tier II benefit rules for employees who retire by July 1, 2011.

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Richard W. Johnson is a senior fellow in the Income and Benefits Policy Center at the Urban Institute, where he directs the Program on Retirement Policy. His current research focuses on older Americans' employment and retirement decisions, long-term services and supports for older adults with disabilities, and state and local pensions. Recent studies have examined job loss at older ages, occupational change after age 50, employment prospects for 50+ African Americans and Hispanics, and the impact of the 2007–09 recession and its aftermath on older workers and future retirement incomes. He has also written extensively about retirement preparedness, including the financial and health risks people face as they approach retirement, economic hardship in the years before Social Security's early eligibility age, and the adequacy of the disability safety net. Johnson earned his AB from Princeton University and his PhD from the University of Pennsylvania, both in economics.

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