



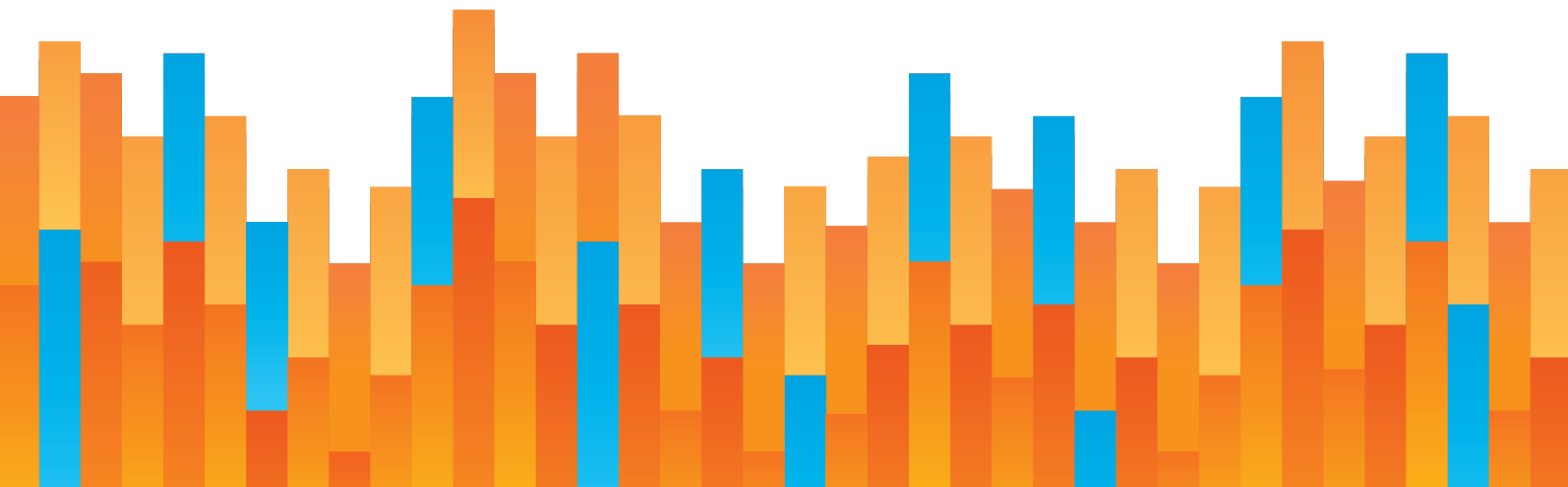
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# BEST PRACTICES IN INCORPORATING RISK SHARING INTO DEFINED BENEFIT PENSION PLANS

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by Ryan Frost

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Reason Foundation’s mission is to advance a free society by developing, applying, and promoting libertarian principles, including individual liberty, free markets, and the rule of law. We use journalism and public policy research to influence the frameworks and actions of policymakers, journalists and opinion leaders.

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**The Gold Standard in Public Retirement System Design** series—a product of the Pension Integrity Project at Reason Foundation—reviews the best practices of state-level public pensions and provides a design framework for states that are struggling under a burden of post-employment benefit debt, with tips for how to move into an overall more sustainable model for employees and taxpayers.

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# PART 1

## INTRODUCTION

For public sector pension systems across the United States, the past 20 years has seen a steady increase in unfunded liabilities—the difference between promised pension benefits and the assets in hand needed to pay those benefits—resulting in rising taxpayer costs and ultimately harming public employees’ take home pay and benefits. The most popular public pension plan design, the defined benefit (DB) pension plan, tends to be exposed to various forms of risk. Managing that risk and future costs is critical for the solvency of U.S public DB pensions, given that entering 2020, states were carrying over \$1.2 trillion in public pension debt.<sup>1</sup>

Where did all this debt come from? After all, most public pension plans were thought to be well funded up until the late 1990s. However, taking a closer look at the assumptions most plans used—covering a range of factors including investment return, inflation, discount rate, mortality, longevity and more—shows a different picture. By leaving assumptions regarding investment return and discount rates too high, contribution amounts were lower than what was required to pay for retiree benefits. Leaving them too high for an extended period compounded that error and put public sector pension plans in the position they are in today, with assumed investment returns averaging 7.2% nationally, while actual returns over the past 20 years totaled just 6.4%.

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<sup>1</sup> Reason Foundation, “State Pension Challenges – Unfunded Liabilities Before and After COVID-19-Related Economic Downturn,” May 2020. <https://reason.org/data-visualization/state-pension-challenges-unfunded-liabilities-before-and-after-covid-19/>



*For public sector pension systems across the United States, the past 20 years has seen a steady increase in unfunded liabilities—the difference between promised pension benefits and the assets in hand needed to pay those benefits—resulting in rising taxpayer costs and ultimately harming public employees’ take home pay and benefits.*



Outside of the debt element of pensions, employees and taxpayers must also look at the costs and benefits of the offered pension design itself. Are benefits too generous, forcing higher percentages of paychecks into the pension system? As an employee, are you planning on working the same job your entire career? And if not, are there more beneficial plan design options for employees like yourself?

## PART 2

# WHAT IS RISK SHARING?

What does sharing risk mean in the context of public pensions? Basically, it means that employees join employers in sharing the risk that the actuarial assumptions required of DB pension plans are not met. Employees and employers share a percentage of any future unfunded liability amortization payments. For example, if the plan's actual rate of return underperforms relative to the assumed return, resulting in unfunded liabilities, taxpayers will not bear 100% of the costs as they do in non-risk-shared plans. This risk sharing also incentivizes good retirement board decision-making, given the explicit knowledge that working employees have a much lower tolerance for risk and the immediate impacts to take-home pay.

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*Most U.S. state and local government DB plans failed to make structural changes after the market performance blows of the past 20 years, and have consequently seen their funding levels dip to historic lows year after year.*

”

The concept of pension “risk” has only recently become a subject of interest for national organizations like the Actuarial Standards Board. Most U.S. state and local government DB

plans failed to make structural changes after the market performance blows of the past 20 years, and have consequently seen their funding levels dip to historic lows year after year.<sup>2</sup> Historically, unexpected increases in pension costs have fallen to the employer in nearly all public plans, which has placed an increasingly heavy burden on state and local budgets, not to mention the taxpayer. The past decade has therefore seen major reforms aimed at rebalancing the burden of unfunded liabilities/pension debt between employers and employees so both parties carry a part of the risk.

Pension risk can express itself in a variety of ways, but typically falls into one of four categories:

- *Investment Risk*: This refers to the risk that a plan's investment target will fall short in any given year. The investment return assumption—or assumed rate of return (ARR)—is the most important assumption in terms of its effect on a plan's solvency, as investment returns have accounted for around 60% of all public pension assets over the past 30 years.<sup>3</sup> Consequently, if plans' actual returns consistently fall below the ARR, larger contributions will be required from plan stakeholders to make up the funding gap. This problem is likely to continue to be the most significant contributor to unfunded liabilities.<sup>4</sup>
- *Longevity Risk*: There is also risk that retirees will live longer (on average) than is expected, and will consequently collect more pension payments than were originally accounted for.<sup>5</sup> This unexpectedly increases the amount of benefits that will be paid to retirees, meaning assets saved throughout their careers will not be sufficient to cover promises made by employers.
- *Contribution Risk*: Contribution risk is the possibility that actual future payments into the pension system deviate from what was expected. One measurement of contribution risk is the likelihood of a plan rapidly raising required payments due to funding shortfalls from not making adequate payments in the past. No matter the

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<sup>2</sup> Keith Brainard and Alex Brown, "NASRA Public Fund Survey," December 2019. [www.nasra.org/publicfundsurvey](http://www.nasra.org/publicfundsurvey)

<sup>3</sup> Keith Brainard and Alex Brown, "NASRA Issue Brief: Public Pension Plan Investment Return Assumptions," February 2020. <https://www.nasra.org/files/Issue%20Briefs/NASRAInvReturnAssumptBrief.pdf>

<sup>4</sup> Anil Niraula, "The 'New Normal' In Public Pension Investment Returns," April 2020. <https://reason.org/policy-brief/the-new-normal-in-public-pension-investment-returns/>

<sup>5</sup> Anil Niraula, "Public Employees Are Living Longer Than Previously Assumed, New Report Finds," April 2019. <https://reason.org/commentary/public-employees-living-longer-than-previously-assumed-new-report/>

contribution policy, plan stakeholders—mainly employers but sometimes also employees—inevitably see their contributions go up when a plan chronically falls short in funding.

- *Plan Maturity/Design Risk*: There is also risk that the design of the pension plan itself is unsustainable, especially as the nation's general population ages. Older, more mature pension plans tend to operate with different dynamics than newer pension plans. Older plans have an active-to-retiree ratio that is steady, while newer plans will have a rapidly decreasing ratio as members reach retirement age. Nationwide this ratio continues to fall, meaning plans are seeing more retirees in relation to actives, which shifts risk of pension debt onto future contributions.<sup>6</sup> This additional risk is a result of the fact that any increase in unfunded liabilities—usually due to poor investment returns or chronic underpayments—will have to be amortized and funded using the payroll of a smaller group of active members.

## 2.1 MOVING TOWARD SHARING RISK

Plan sponsors seeking to implement cost-sharing principles into their plans can take a few different strategies.

One strategy is to realign funding policy to implement a 50/50 (or similar split) cost-sharing approach between employees and employers, meaning that for every dollar an employer is required to contribute into a pension plan, the employee is also required to contribute a dollar.

Another strategy has been to tie benefit levels to plan experience, with one example being a variable cost of living adjustment (COLA). When investment returns exceed what was expected, retirees would receive an additional increase to their yearly benefit amount in the form of a COLA. When investment returns fall short of what was expected, they would either not get an increase, or have their COLA reduced for the year.

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<sup>6</sup> Brainard and Brown, "NASRA Public Fund Survey."





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Another strategy is to change the plan design to a more risk-shared DB, hybrid, cash balance, or choice plan (option of choosing between any of the previous examples). One of these newer designs is the side-by-side *hybrid* retirement plan—a combination of a 401k-style savings plan supplemented with a risk-reduced DB. This hybrid uses contributions from both members and employers, typically in a 50/50 cost-sharing split, with members paying into the savings plan portion and employers covering the DB portion. Another newer design in post-employment benefits is the *cash balance* plan, where accrued contributions belong to an individual’s own account, an employee is guaranteed a minimum return on their account, and their benefit in retirement is determined by the value of their account.

Lastly, no matter the funding policy or plan design, pension plan sponsors must pay their bills when they come due and not allow politics to insert themselves where they should not.<sup>7</sup> The long history of public defined benefit plans has seen quite a few poor funding decisions.

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<sup>7</sup> Leonard Gilroy and Zachary Christensen, “Seeking Pension Resiliency,” April 2020. <https://reason.org/commentary/seeking-pension-resiliency/>

### **Four Common Plan Design Errors**

*Struggling public pensions have at least one of these four past poor decisions that helped lead to their current debt burden.*

- Policymakers sometimes choose to set contribution rates in statute based on what they want to pay, as opposed to what the actuaries calculate is required to contribute each year to continue making pension funding progress.
- Some states (most notably, California near the turn of the century) have taken pension fund surpluses and, in the interest of raw politics, have used them to finance retroactive benefit increases to employees.
- Some states vest in the legislature the authority to statutorily grant “13th checks” and other supplemental benefit increases at their discretion, depending on fiscal conditions in the pension plan, which risks spending down investment gains as they materialize instead of banking them to create a cushion that will likely be needed down the road when the next downturn hits.
- In other states, policymakers have authority over the pension fund asset portfolio, allowing them to override the pension plan’s investor team’s investment strategies with political goals. This politicization aims to alter which companies or sectors plans invest in, or more commonly, divest from.

Source: Gilroy and Christensen, “Seeking Pension Resiliency.”

## PART 3

# RISK-SHARING PRINCIPLE #1: COST SHARING

A cost sharing policy distributes the cost of the pension plan, and any future increases or decreases to that cost, equally between employees and employers. The defining function of a cost-sharing policy is for both employers and employees to be paying into the employees' pension. Most public employees have long been required to contribute some percentage of their salary to their pension. Historically, however, this amount was set in statute at the time of plan origination, and any plan experience—investment performance, salary growth, mortality, and other assumptions differing from expectations—that added costs or unfunded liabilities became the responsibility of employers.

But since 2009 more than 35 states have increased employee contributions to make up for the massive investment losses from the Great Recession and decades of investment experience below expectations.<sup>8</sup> These adjustments to employee contributions usually entail difficult and politically charged legislative action. Equalizing employee and employer payments allows pension plans to avoid the lag from this cumbersome process and gives

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<sup>8</sup> Brainard and Brown, "NASRA Issue Brief," September 2019.

both groups equal skin in the game when it comes time to adjust assumptions, or when discussing benefit increases and/or reductions.



*Equalizing employee and employer payments allows pension plans to avoid the lag from this cumbersome process and gives both groups equal skin in the game when it comes time to adjust assumptions, or when discussing benefit increases and/or reductions.*



### 3.1

## 50/50 COST-SHARING PLANS

While nearly all public employees are required to contribute to their pension, many plans have fixed percentages that they require employees to pay, while others allow the employee contribution rate to be set by the legislature or retirement board. Some plans will say they cost-share, but only for the normal cost of the plan—meaning all risk of assumptions not meeting expectations goes on the employer, which is the taxpayer. The most equitable solution is for an employee’s entire contribution to be directly tied to the employer’s entire contribution. In layman’s terms, this means that as normal and unfunded liability costs go up for employers, they go up equally for employees. When costs go down for employers, costs go down equally for employees. This equal, shared contribution rate takes some of the burden off employers for future risk and puts more management of that risk into employees’ hands. If investment return assumptions are too high and the plan consistently fails to meet it, employees and employers will both be paying more.

Examples of good 50/50 cost-sharing design include:

- Arizona Public Safety Personnel Retirement System (PSPRS tier 3) and Arizona State Retirement System (ASRS);
- Colorado Public Employees' Retirement Association (PERA);
- Maine Public Employees' Retirement System;
- Michigan Public School Employees' Retirement System (MPSERS tier 2);
- Pennsylvania State Employees' (SERS) and Public School Employees' Retirement Systems (PSERS);
- South Dakota Retirement System (SDRS);
- Washington State Retirement System Plan 2s; and
- Wisconsin Retirement System (WRS).

## PART 4

# RISK-SHARING PRINCIPLE #2: AFFORDABLE BENEFIT DESIGN

There is no one-size-fits-all approach to affordable benefit design for public employees. The most popular pension benefit designs—defined benefit, defined contribution, cash balance, and hybrid—all have current examples of being affordable for taxpayers and employees.

### 4.1

## DEFINED BENEFIT PLAN DESIGN

Under a traditional defined benefit (DB) plan, an employee is promised a specific amount of monthly retirement income for their lifetime. This amount is based on a formula that includes the member's years of service, their age at retirement, their average salary during the last few working years of their career, and a multiplier. Most public sector DB plans generally range between a 2% to 3% multiplier. A sample calculation for a member who worked 25 years and had a \$60,000 average final salary would be:

$$2\% \times 25 \text{ years} \times \$60,000 = \$30,000 \text{ annual benefit}$$

Where DB plans get in trouble is adjusting parts of this formula for a benefit increase, adding other accessory benefits that balloon the cost of the plan for employers and employees, or capping the costs of these benefits. For example, if the plan decided to increase the member's multiplier to 2.5%, they would then receive a \$37,500 annual benefit each year in retirement. That additional \$7,500 each year must be paid for during the member's working career through additional contributions. For plans that do not have cost sharing, that means the employer is on the hook for that amount each year until the employee dies.

### **Case Study: South Dakota Retirement System (SDRS)**

South Dakota takes a different approach to risk sharing than most, and it has worked tremendously for the plan as it is one of only seven public pension plans at a 100% funded ratio or higher as of 2018.<sup>9</sup> While it has enacted a 50/50 cost-sharing split between employee and employer, SDRS also locks their contribution rates in statute at 6%.<sup>10</sup> Rather than allowing contribution rates to rise and fall with actuarial experience like most cost-sharing plans, SDRS instead adjusts the plan's benefit levels through manipulation of the COLA. This has the benefit of contribution rate stability for members and employers, as members will no longer worry about having more of their salary impacted by rising contribution rates, and employers will have much-desired budget stability during down periods and not be forced into the types of layoffs that have been seen in other states.<sup>11</sup>



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<sup>9</sup> "Public Plans Data," August 2020. <https://publicplansdata.org/>

<sup>10</sup> Fiddler, Schrader, and Wylie, "The South Dakota Retirement System Generational Benefit Structure."

<sup>11</sup> Ashley Herzog, "Report: Illinois Local Governments Face 'Service Insolvency' Over Pension Funding," May 2019. <https://www.heartland.org/news-opinion/news/report-illinois-local-governments-face-service-insolvency-over-pension-funding>

## Case Study: Canadian Pension Plan

The Canadian Pension Plan (CPP) was originally a pay-as-you-go-plan, meaning benefits for one generation were largely paid for by later generations.<sup>12</sup> The system's founders believed this made sense at the time due to low returns on investments and other demographic conditions. However, rapid increases in benefits, as well as an influx of disability claims in the 1970s, 1980s, and 1990s, resulted in significantly higher costs. The plan's finances crunched severely in the mid-1980s as asset values plummeted and contributions from taxpayers and employees began to increase quickly. According to the 2017-2018 annual report on Canada's Pension Plan:

*In 1993, CPP projected that the pay-as-you-go rate would be 14.2% by 2030. Continuing to finance the CPP on a pay-as-you-go basis would have meant imposing a heavy financial burden on the future Canadian workforce. This was deemed unacceptable by the participating governments.*

In the late 1990s, reforms began to raise the funding level of the CPP. Changes included:

*...increasing the contribution rates over the short term; reducing the growth of benefits over the long term; and investing cash flows not needed to pay benefits in the financial markets through the new CPP Investment Board (CPPIB) in order to achieve higher rates of return. A further amendment was included to ensure that any increase in benefits or new benefits provided under the CPP would be fully funded.<sup>13</sup>*

If these minimum rates are ever higher than what is in statute, that statutory rate would automatically be increased through a three-year phase-in, and all cost of living adjustments would cease until that three-year phase-in is complete.

## 4.2

## HYBRID PLAN DESIGN

The DB/DC hybrid seeks to create a shared-risk alternative to the typical DB structure. Instead of a larger benefit being fully guaranteed by the employer based on a years-of-

<sup>12</sup> "Annual Report of the Canada Pension Plan for Fiscal Year 2017 to 2018," Government of Canada, May 2019. <https://www.Canada.Ca/En/Employment-Social-Development/Programs/Pensions/Reports/Annual-2018.Html#H2.2>

<sup>13</sup> Ibid.



service and final-average-salary formula, the hybrid aims to provide a reduced-risk guaranteed benefit alongside an employee-sponsored defined contribution (DC) account. Combining these two features helps manage the risk of growing pension costs for employers and keeps a career member's benefit at retirement roughly the same. For non-career employees, a hybrid is a far better choice than a straightforward DB plan, because hybrids allow the DC portion of the benefit to go with the employee when they change careers, while a DB member is only entitled to a refund of their contributions if they choose to change careers prior to vesting.



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### **Case Study: Federal Employees Retirement System (FERS)**

The FERS hybrid was created in the mid-1980s to solve two problems. First, Social Security was undergoing a major cash-flow crisis, and the creation of a new plan for federal employees that allowed them to participate in Social Security would partially alleviate that crisis. Second, the plan all federal employees were in at the time—the Civil Service Retirement System (CSRS)—was not sustainable and had never been fully funded by employer and employee contributions, as shown by the total unfunded liability sitting at \$968.1 billion in 2017.

Retirement income for new federal employees hired after 1986 would come from the three components of what many know as the three-legged stool of retirement security: Social Security, a defined benefit (DB) pension, and individual defined contribution (DC) retirement savings. A new, more affordable annuity was offered under FERS—one that was fully funded by the sum of employee and employer contributions and interest earned by the Treasury bonds—and the DC account became known as the Thrift Savings Plan. Both the

Social Security and Thrift Savings Plan dollars are able to follow the employee to a new career if they so choose.

### **Case Study: Utah Retirement System**

Utah had one of the best-funded pension systems in the country going into the 2008 market downturn. After the downturn, the state had lost about 22% of the value of its pension fund almost overnight. Former Utah State Senator Dan Liljenquist spoke with Reason in 2013, stating:

*It was the biggest loss we've ever sustained as a system. As we started looking at it, we realized that even though we were well-funded, that the 22 percent loss in value actually opened up a 30 percent gap in our pension funding ratio—our funding ratio dropped from about 100 percent in 2007 to a projected 70 percent by 2013—even though we had paid every penny that the actuary had asked us to over the previous several decades. So one market crash opened up a 30 percent gap in our pension funding ratio.<sup>14</sup>*

Following the 2009 recession, contribution rates for the Utah Retirement System (URS) were projected to spike and remain high for the next two decades. The Utah Legislature responded to these projected higher rates in 2010 by passing Senate Bill 63, which was sponsored by Dan Liljenquist. For all newly hired employees (post July 1, 2011), employer contributions were capped at 10% of pay, and all employees had the choice to opt into a hybrid plan or a DC plan. As of 2015, about 80% of all newly hired employees chose the hybrid over the DC.<sup>15</sup> One unique feature of this hybrid plan is that employees only contribute to the plan if the normal cost of the plan exceeds 10% (or 12% for public safety personnel). Thus, whenever required contributions exceed 10%/12%, that amount is fully borne by employees. When the cost of the hybrid is less than 10%/12%, the employees receive the difference into a supplemental account, such as a 457 individual retirement account.

As alluded to previously, one significant benefit to the employers in URS' new plan is that their rates will always remain relatively stable due to the 10% cap on contributions. This

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<sup>14</sup> Leonard Gilroy, "Closing the Gap: Designing and Implementing Pension Reform in Utah," September 2013. <https://reason.org/commentary/utah-pension-reform/>

<sup>15</sup> Jennifer Erin Brown and Matt Larrabee, "Decisions, Decisions: An Update on Retirement Plan Choices for Public Employees and Employers," August 2017. <https://www.nirsonline.org/reports/decisions-decisions-an-update-on-retirement-plan-choices-for-public-employees-and-employers/>

means any market downturns or other negative actuarial experience is on the employee's shoulders, which is a worthy trade-off due to the plan otherwise being non-contributory for employees.



*...one significant benefit to the employers in URS' new plan is that their rates will always remain relatively stable due to the 10% cap on contributions.*



### **Case Study: Oregon Public Service Retirement Plan**

The Oregon Retirement System has modified its pension benefit structure twice in the past 25 years. The latest change, which occurred in 2003, put all new hires into a DB/DC hybrid plan: the Oregon Public Service Retirement Plan (OPSRP). The DB portion of the hybrid is fully funded by employers, while the DC portion is funded by a 6% employee contribution rate. Historically, this 6% was “picked-up” by Oregon employers, making the entire hybrid plan employer-funded. This pick-up has recently begun to phase out<sup>16</sup> over the past year to reduce employer costs and foster cost-sharing principles.

The introduction of OPSRP increased the retirement age from 60 to 65 and dropped the benefit multiplier from 1.67% to 1.50%. OPSRP was designed to have the DB pension provide approximately 45% of a member's final average salary at retirement (for general service members with a 30-year career), and the DC portion—the Individual Account Program (IAP)—to provide an extra estimated 15%-20% of a member's final average salary.<sup>17</sup> Under this plan, both benefits together net a career employee with an income replacement ratio of roughly 60%-65%.

<sup>16</sup> Ken Rocco and Paul Siebert, “2019-2021 Budgeted PERS Contribution Rates for State Government,” August 2018. <https://www.oregonlegislature.gov/lfo/Documents/2018-3%20Budgeted%20PERS%20Contribution%20Rates.pdf>

<sup>17</sup> Kevin Olineck, “PERS By The Numbers,” December 2019. <https://www.oregon.gov/pers/Documents/General-Information/PERS-by-the-Numbers.pdf>

## 4.3

## CASH BALANCE PLAN DESIGN

A cash balance plan is a fusion of the individual accounts of DC plans and the lifetime benefits of DB plans. In a standard cash balance plan, the member receives their own individual retirement account like in a DC plan, which is then credited with an annual employer contribution and an annual interest credit.

Like a DB mechanism, this interest credit is guaranteed, usually at or just above the risk-free rate, and any plan investment experience below what is assumed is borne by the employer. When a member elects to retire, their annuity benefit will be based on their final account balance. Conversely, most cash balance plans allow the members the flexibility to simply take a lump sum of their account balance in lieu of receiving an annuity.



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Cash balance systems can offer several advantages for public employees. One is that they are portable, and therefore a better fit for younger employees who are more likely than the previous generation of workers to change jobs. Much like with a DC plan, cash balance members can take their account balance with them when they leave. Another pro is that the CB, much like a DB, offers a guaranteed return to plan members, taking much of the investment risk off their backs, yet still offering up-side protection during years of extraordinary investment performance.

Generally, this means that, of any investment return above what is guaranteed, some percentage of that will be granted to employee's accounts. These types of plans establish a no-worries fixed rate of return and the possibility of a dividend in good years. Lastly, unlike many DC plans, members do not have to manage their own investments, and they can instead enjoy the benefits that come with a large, professionally managed fund. In a CB

plan, the employee and employer contributions are co-mingled, and the state manages the investments in the plan just as it does in a traditional DB pension plan.

### **Case Study: Kentucky Retirement System (KRS)**

The Kentucky cash balance is the third tier under KRS, open to all public employees—except for teachers—hired in 2014 or later. Tier 3 requires both employee and employer contributions and guarantees a minimum level of annual growth. Tier 3 replaced one of the worst-funded DB plans in the country, but because the cash balance assets are pooled with the legacy tiers, it does not receive its own actuarial valuation. This makes it hard to see the necessary contributions and outlook for Tier 3 and its positive effect on the state's finances.

Functionally, Tier 3 grants an interest credit of 4% annually on both member and employer contributions. If investment returns exceed 4%, the member earns an increased benefit based on the five-year average geometric investment return. That benefit increase is 75% of the amount of returns over 4%.

### **Case Study: Nebraska Public Employees Retirement System (NPERS)**

Cash balance plans in Nebraska were introduced in 2003 for new state and county public employees. These were the first non-DC plans offered in the state since the mid-1960s. As with most CB plans, this plan is exceptionally well funded, with the state plan at 104%. Governments that offer CB plans don't have to worry about large funding shortfalls, because any impact of a bad year or two in market returns is softened by interest credits that tend to be lower than assumed rates of return in DB plans, not to mention the cushion provided by portions of returns that exceed the guaranteed rate. NPERS also offers an interest credit but takes a different approach than Kentucky. While there is a minimum interest credit of 5% in statute, the plan actually uses a rate based on the federal mid-term rate plus 1.5%.

## 4.4

## RETIREMENT PLAN DESIGN CHOICE

Plan choice is an important aspect of good pension design because not all members in the system are entering the workforce at the same time or have the goal of working in a job covered by that pension system for their entire career. A DB plan is structured to most benefit the long-term employee who will work and contribute for 30+ years in that plan. A DC plan will appeal to young new hires who might not want to work that long, those who want to start a new career and might already have a 401k from a private sector job, and management-level hires who are brought in from out of state and who don't intend to work for more than 10 to 15 years in a DB plan. Providing prospective employees with two or more options for a pension benefit—a traditional defined benefit, a defined contribution retirement plan, cash balance plan or a DB/DC hybrid—will be most advantageous for the most members, as well as the least risky for employers as fewer members choose the pure DB system.



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### Case Study: Arizona Public Safety Personnel Retirement System (PSPRS)

Arizona sought to fix its ailing public safety plan in 2016 by creating an entirely new plan design for its future members.<sup>18</sup> Employees hired after July 1, 2017 were given the option of entering a reduced-risk DB plan or a professionally managed DC plan. The risk-sharing features included a full 50/50 split on normal costs and any future debt costs, the

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<sup>18</sup> Anthony Randazzo et al, "Arizona's Public Safety Pension Reform Will Help Improve the Plan's Solvency," February 2016. <https://reason.org/commentary/arizonas-public-safety-pension-reform-will-help-improve-the-plans-solvency/>

limitation or elimination of paying out cost of living adjustments if the new DB tier falls below 90% funded (reducing the maximum pensionable salary allowable under the benefit calculation from \$265,000 to \$110,000), and capping any annual cost of living adjustment at no more than 2% of the members benefit.

PSPRS funding policy was changed to improve the plan's long-term outlook and reduce total costs to taxpayers. For the new tier, a new policy requires that any debt payments—also known as amortization payments—toward paying down unfunded liabilities be made within 10 years. Having a longer debt payment schedule keeps debt costs low in the short term, but typically adds enormous amounts of interest onto the debt, thereby increasing total costs in the long term.



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Lastly, the reforms prohibited employers from taking any future contribution rate holidays when the plan experiences a funding surplus. This makes certain that employers always pay the full costs needed for benefits as they accumulate. Paying the full cost is discussed later in Part 6.

### **Case Study: Michigan Public School Employees Pension Plus II (MPSERS PPII)**

The year 2017 saw some major changes to MPSERS by auto-enrolling all new hires into a new DC plan, but also allowing employees to opt-in to a de-risked DB/DC hybrid plan instead if they chose. The DC plan starts out at a minimum 10% total contribution rate, with auto-escalators to 14% within four years. The hybrid plan had risk sharing built into it from the ground up. All normal costs and any potential debt payments in PPII have full cost sharing between employee and employer, the assumed rate of return is capped at a 6%, and any future debt must be amortized over a 10-year, level-dollar, layered basis.

Layered amortization comes into play when the plan experiences additional actuarial losses while paying off the current unfunded actuarial liability (UAL). In this case, the plan will not combine these new losses with the old UAL. Instead, it will create a separate 10-year closed amortization schedule for this new debt to be paid off, therefore not affecting its payment or schedule on the old debt. Level-dollar amortization means the plan expects to pay the same dollar amount each year of the schedule, rather than being tied to a salary growth assumption wherein plans pay less in the early years of the schedule due to assumed increases in plan payroll. Michigan passed a law to have MPSERS transition down to a 0% payroll growth assumption, getting the plan effectively to level dollar on its legacy debt as well.

Another unique feature in the PPII plan is the policy that, should the hybrid plan's funded ratio drop below 85% for two years in a row, the hybrid plan will be closed until that status improves, and all new hires will be put into the existing DC plan during that period. One last aspect of plan choice is that it benefits not just members, but the pension system as well through reduced actuarial liabilities when members choose to enter the DC plan.



## PART 5

# RISK-SHARING PRINCIPLE #3: FLEXIBLE COST OF LIVING ADJUSTMENTS

While a proven method for cost sharing, a 50/50 contribution policy is not the only way to promote shared responsibility. Some states have taken risk-sharing measures by adjusting employee benefits and cost of living payments. A cost of living adjustment (COLA) is a tool meant to help retirees make up for the effects of inflation on their pensions. Traditionally, some public pension plans use either an automatic COLA, meaning that each year a member is retired, they are granted a certain percentage increase to their annual pensions, typically anywhere from 0%-3%. Other public pension systems use ad-hoc COLAs, meaning retirees are granted an adjustment only when actual inflation reaches a certain threshold.

### **Case Study: South Dakota Retirement System (SDRS)**

SDRS's policy of adjusting the COLA, rather than allowing contribution rates to rise and fall with actuarial experience, greatly enhances contribution rate stability for members and employers. Members will no longer worry about having more of their salary impacted by rising contribution rates, and employers will have much-desired budget stability during

down periods and not be forced into the types of layoffs that have been seen in other states.<sup>19</sup>

The plan went a step further with benefit adjustments in 2017, which enrolled new hires into what SDRS called their “Generational” plan. This new plan mimics the defined benefit structure of its predecessor, but differs by eliminating the ability for members to be granted an early retirement subsidy and pushes the normal retirement age up to 67. In exchange, plan members are granted a higher benefit multiplier. These changes were enacted with the goal of producing a net savings to SDRS. Overall, the plan states that SDRS’ long-term desire for members is to provide a lifetime income replacement of at least 55% of the member’s final average salary, alongside some modest inflation protection through a cost of living adjustment.<sup>20</sup>

As mentioned previously, because the plan uses a fixed total contribution rate of 12%-6% (member) and 6% (employer), any future COLA payments must allow the plan to remain well-funded. SDRS manages this by setting lower maximums for its COLA payments when the plan drops below 100% funded.

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*If the plan is not forecasted to be at 100% funding, a lower maximum COLA will be enacted moving forward.*

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Further COLA changes were made in 2017 to safeguard SDRS’ goal of 100% funding.<sup>21</sup> The plan actuaries are now required to determine for each valuation if the plan’s funded status will remain at 100%, assuming future COLAs are equal to the amount given the prior year. If the plan is not forecasted to be at 100% funding, a lower maximum COLA will be enacted moving forward.

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<sup>19</sup> Herzog, “Report: Illinois Local Governments Face ‘Service Insolvency’ Over Pension Funding.”

<sup>20</sup> “South Dakota Retirement System Generational Member: Class A Handbook,” South Dakota Retirement System, July 2019. <https://sdrs.sd.gov/docs/ClassAGenerationalMemberHandbook.pdf>

<sup>21</sup> Douglas Fiddler, “South Dakota Retirement System Actuarial Valuation,” June 2018. <https://sdrs.sd.gov/docs/2018SDRSValuationReport.pdf>

## Case Study: Wisconsin Retirement System (WRS)

Wisconsin is also one of the seven states with a funded ratio at or above 100%. The benefit structure is set up in a way that rewards short-term and long-term employees by offering two sets of annuities. The first, a formula-based defined benefit, and the second, a money purchase benefit that mimics a traditional defined contribution plan. WRS calculates the yearly annuity amount using both benefit structures, and provides the member with the greater dollar figure. Because of the accumulation structure of DB plans, the formula-based benefit favors longer-term employees, while the savings account aspect and the portability of the money purchase benefit fulfill the interests of shorter-term employees. A 2015 study from the Wisconsin Legislative Fiscal Bureau showed that about 74% of retirees received the formula-based pension benefit.<sup>22</sup> Another benefit to shorter-term employees is the ability to place their contributions into a higher-yield portfolio called the Variable fund, allowing these members the chance at greater returns but at a higher level of risk.

The adjustable benefit comes into play at WRS because the plan does not offer any sort of guaranteed cost of living adjustment. Instead, the system only allows additional payments to retirees when investment returns are above the minimum threshold of 5%, but it does reduce a retiree's benefit during periods of poor market performance.<sup>23</sup> This benefit reduction is applied only to any additional payments granted by WRS in previous years, and does not affect the retiree's base benefit.



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*...the system only allows additional payments to retirees when investment returns are above the minimum threshold of 5%, but it does reduce a retiree's benefit during periods of poor market performance.*

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<sup>22</sup> Rachel Janke, "Wisconsin Retirement System Informational Paper 82," January 2017. [http://docs.legis.wisconsin.gov/misc/lfb/informational\\_papers/january\\_2017/0082\\_wisconsin\\_retirement\\_system\\_informational\\_paper\\_82.pdf](http://docs.legis.wisconsin.gov/misc/lfb/informational_papers/january_2017/0082_wisconsin_retirement_system_informational_paper_82.pdf)

<sup>23</sup> "Annuity Payments and Adjustments," Wisconsin Department of Employee Trust Funds, 2020. <https://etf.wi.gov/retirement/planning-retirement/annuity-payments-and-adjustments>

## PART 6

# RISK-SHARING PRINCIPLE #4: PAY THE BILL, OR ELSE

All the previous principles mean nothing if plan sponsors do not pay their bill by meeting actuarially required contributions each year. This amount is based on numerous assumptions, so it is vital that plan sponsors maintain the discipline to always pay 100% of their determined costs. Just a few of these assumptions include:

- What the plan will earn on investments;
- How long members of the plan will live, and thus receive benefits;
- How to pay off unexpected pension debt;
- How much salaries will grow in the plan;
- How much inflation will change per year; and
- How membership will change in the plan, year to year.

Typically, a plan fails to pay 100% of its bill in a given year due to economic recessions and taking funding holidays to pay for other, more politically motivated programs.

State and local governments often do not have the necessary funds to pay into their pension systems when tax revenues decline.

*For example, during the last recession (from 2008 to 2009), state tax income fell by 17% because of the slow down in economic activity. This reduced the money available in state budgets by billions of dollars. One of the common choices for states during and immediately after the recession was to reduce the amount of money paid into pension funds to balance state budgets. Depending on the situation, this may be a reasonable policy choice given various competing interests and need for trade-offs.<sup>24</sup>*

As for funding holidays, they typically happen when a plan has surplus assets—more assets than liabilities—and thus, on paper, exceeds a 100% funded status. When a legislator or employer sees that, they may feel that a year off from paying required contributions to fund other projects might not be a bad idea. And this might be true if investments were a guaranteed venture, but they are not. Because investments have volatility, and some years will be better than others, not paying the bill during good times means you will be paying even more during bad times.

## **Case Study: Washington State Public Employees and Teachers Plan 1s (PERS 1 and TRS 1)**

Washington State was an early adopter of pension reform, closing off its legacy plans (known as Plan 1s) in 1977 and putting all new hires into what are called Plan 2s. One major change accompanying the introduction of the Plan 2s removed fixed employee contribution rates from statute, allowing rates to be raised or lowered from year to year when plan experience didn't match expectations. While this removed some of the predictability of rates for employees and increased their exposure to investment risks, it has greatly enhanced new hires' plan solvency.

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<sup>24</sup> "Pension Basics: Paying the Pension Bill," August 2019. <https://equable.org/pension-basics-paying-the-pension-bill/>



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*Unfortunately, Washington State’s legacy plans have turned into a cautionary tale for improper cost sharing, but in this case, it was the employers—not the members—that failed to pay their fair share.*

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Unfortunately, Washington State’s legacy plans have turned into a cautionary tale for improper cost sharing, but in this case, it was the employers—not the members—that failed to pay their fair share. In the years following the 2000 recession the employers paid far less than was required, leading not only to insufficient contributions, but also to payments that fell well below the rates paid by employees. While PERS 1 employees were mandated to pay 6% into their plan, employers only paid between 1.77% to 2.44% from 2001-2005. TRS 1 employees also paid 6%, while TRS employers paid between 1.28% and 2.92%. This put PERS 1 and TRS 1 into massive debt, as they are by far the worst-funded plans in the state. PERS 1 is 60% funded with \$4.7 billion in unfunded liabilities, while TRS 1 is 63% funded with \$3.1 billion in unfunded liabilities.<sup>25</sup>

In sharp contrast are the funded levels of the reformed plans: Law Enforcement Officers and Firefighters Plan 2 (109%), Public Employees Plans 2/3 (91%), Teachers Plans 2/3 (90%), School Employees Plans 2/3 (89%), and Public Safety Employees Plan 2 (96%).

Because of the lack of discipline to follow the statutory 6% cost-sharing provisions that were enacted some four decades prior, all current PERS and TRS Plan 2 employers must pay a surcharge on their contributions to help pay down the PERS/TRS 1 unfunded liabilities. This means that employers of current public employees and teachers are on the hook for paying the debts of pensioners in a plan that has been closed for 43 years.

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<sup>25</sup> “2018 Actuarial Valuation Report,” Office of the State Actuary, September 2019. 27-28.  
<http://leg.wa.gov/osa/presentations/Documents/Valuations/18AVR/2018FinalAVR-FundedStatus.pdf>

## PART 7

# CONCLUSION

A few outlier public pension systems have been ahead of the curve and shared risks between employee and employer from the outset. Generally, however, these risks have either been ignored, or have fallen on the shoulders of employers and taxpayers for much of the history of DB plans in the public sector. Using the risk-sharing principles outlined in this paper will lead to greater funding prosperity, more accountability, and an easing of the burden that unfunded liabilities have on taxpayers.

# ABOUT THE AUTHOR

**Ryan Frost** is a policy analyst at Reason Foundation's Pension Integrity Project.

Prior to joining Reason, Frost spent seven years as the senior research and policy manager for the Washington State Police and Fire Plan (LEOFF 2), a plan that is nationally recognized for its exceptional funding level. Frost conducted multiple pension studies for the Washington State Legislature. He also drafted and testified on six pieces of adopted legislation affecting LEOFF 2 members, including a first-of-its-kind annuity-rollover provision for defined benefit plans.

Frost earned his B.A. in politics and government from Pacific Lutheran University.



