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Leveraging defined contribution plans to help overcome public pension shortfalls

Learn more about how public sector defined benefit plans have scaled back their benefits and how defined contribution plans may help with retirement readiness.

Key takeaways

- Since the global financial crisis, a large number of public sector defined benefit (DB) plans have scaled back retirement benefits, particularly for new hires.
- Despite these reductions, many employees are spending all or almost all of their income, leaving little room to save to help bridge these potential retirement income shortfalls from reduced pensions.
- This is further evidenced by the generally low numbers of employees making adequate contributions to supplemental defined contribution (DC) plans.
- Employers can help place employees on a more secure retirement path by evaluating retirement outcomes at the individual level, not just by their plans' funded ratio; taking a more holistic view of DB and DC benefits; and engaging with participants through financial education.

An evolving landscape of the benefit reduction among public sector defined benefit plans

While defined contribution (DC) plans have become by far the most widely utilized type of employer-sponsored benefit plan within the private sector, retirement benefits in the public sector continue to be typically associated with defined benefit (DB) plans. However, given the broad trend toward reduced DB benefits that has occurred over the past decade, public sector employers may want to reconsider the role supplemental DC plans can play to help employees reach safer levels of retirement funding.

DB plans are a critical piece of the retirement puzzle in the public sector, but the reality is that this landscape has been evolving. Employers and employees need to adjust with it. A crucial step in this process is to take a more holistic view of how DB and DC plans can work together to help increase the odds that employees are well positioned to achieve retirement success. This starts by evaluating retirement outcomes at the individual level, not just by the funded ratio of pension plan assets, which is often what the industry tracks.

Research overview

J.P. Morgan Asset Management has a well-established history of researching the spending and saving behaviors of corporate DC participants and quantifying how these behaviors interact with plan investments to strengthen retirement outcomes. This paper extends these research efforts into the public sector to help understand the broader impact of DB benefit reductions on retirement readiness and to develop practical solutions for any shortfalls that may exist. The resulting groundbreaking research[1] builds on our continued collaboration with the Employee Benefit Research Institute (EBRI), which has delivered two published papers focused on the private sector. It marks a joint effort between J.P. Morgan Asset Management and the Public Retirement Research Lab (PRRL), which was founded by EBRI and the National Association of Government Defined Contribution Administrators (NAGDCA) in 2020. The PRRL's mission is to build the most comprehensive database on public sector DC plans to help demystify how these programs are being used to help enhance people's retirement outcomes.

In this study, we examine two core questions:

1. *How do people with DB benefits spend and save?*
2. *Do people with reduced DB benefits modify their spending and saving behaviors?*

Our findings highlight three key factors challenging public sector employee retirement security, as well as three strategies to help address potential retirement income shortfalls.

Research methodology

Public DC data is incredibly difficult to aggregate and analyze. A single government can have multiple types of DC plans—for example, 457(b), 403(b), 401(a) and 401(k) plans—and may employ multiple recordkeepers. PRRL's data covers 2.3 million public sector DC participants, representing $113 billion in assets across nearly 200 plans in 2019. The saving characteristics of this population were mapped to actual spending behaviors using data on households who use Chase as their primary banking institution.[2]

The overlap between these two data sets after applying rigorous filters resulted in a robust sample set of approximately 37,000 households. We segmented these households into two groups:

- *Primary-DB employees,* who worked for an employer that offered primarily DB-focused retirement benefits
- *Primary-non-DB employees,* who worked for an employer that was not primarily DB-focused, either by emphasizing DC plans or by taking a hybrid DB/DC approach

Additionally, primary-DB employees were segmented by tenure to analyze the impact of pension reforms:

- *Lower tenure employees* were hired after the implementation of the latest tier of DB benefits created from pension reform by their respective employers.
- *Higher tenure employees* were hired before the latest reform took place.

Factor 1: Pension benefits have been notably reduced for many public sector defined benefit plans

Since the 2008 global financial crisis, the number of states and local municipalities that have implemented DB reforms has climbed significantly. In fact, 18 and 27 states, respectively, enacted major pension reforms in just 2010 and 2011.[3] Benefit adjustments have occurred across vesting age, final average salary period, cost of living adjustments, benefit multiplier and employee contribution.

Typically, though certainly not always, these reductions have focused primarily on new hires. Many states consider future accruals of pension benefits for current workers to be contractual obligations that cannot be reduced. It is also simply more difficult politically to scale back already-promised benefits. While full reduction amounts differ depending on the state, according to an estimate by the National Association of State Retirement Administrators (NASRA),[4] the average decrease in DB benefits for newly hired workers was 7.5% relative to those hired before the pension reforms, with cutbacks as high as 20% in some cases.

The implementation of these types of reforms is an indication of the commitment many public sector employers have made to maintain viable DB programs. However, it also has resulted in a new retirement reality for many newer employees—one where future pension benefits may be notably scaled back.

Factor 2: Employee spending behaviors do not reflect pension benefit reductions

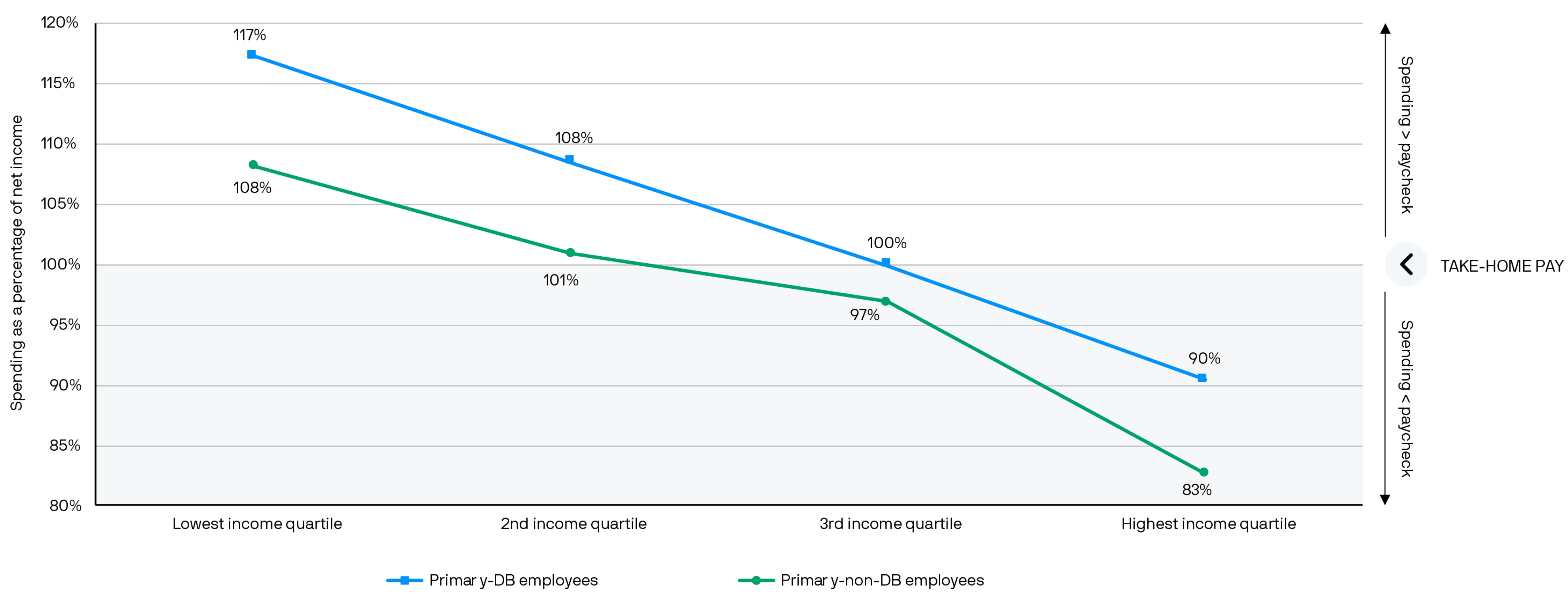
Unfortunately, our research suggests that many employees in our research population are spending at levels that do not allow for any real savings outside of their DB plan. **Exhibit 1** shows median spending-to-net-income ratios by income quartile,[5] segmented by primary-DB employees and primary-non-DB employees (see **Research methodology** for definitions of these segments). Except for the highest income households, people are spending all or more of their take-home pay at the median level.

Of note, primary-DB employees tend to spend at higher levels, with a range of 90% to 117% vs. a range of 83% to 108% for primary-non-DB employees. Perhaps they think their retirement saving is already taken care of by their employers and feel more comfortable spending to maximize their current lifestyle.

Related research suggests that these high levels of spending may continue into retirement as well. People with dedicated sources of income, such as pensions, tend to spend more than people who rely more on asset-based wealth, such as 401(k) balances, even when they have similar means in terms of their total retirement wealth.[6] This suggests greater confidence and comfort spending when individuals believe that they will receive reliable periodic income streams, vs. people who must actively draw down their assets to support their expenses.

Many employees are spending all or more of their income, with primary-DB employees spending more

EXHIBIT 1: MEDIAN SPENDING-TO-NET-INCOME RATIOS BY INCOME QUARTILE



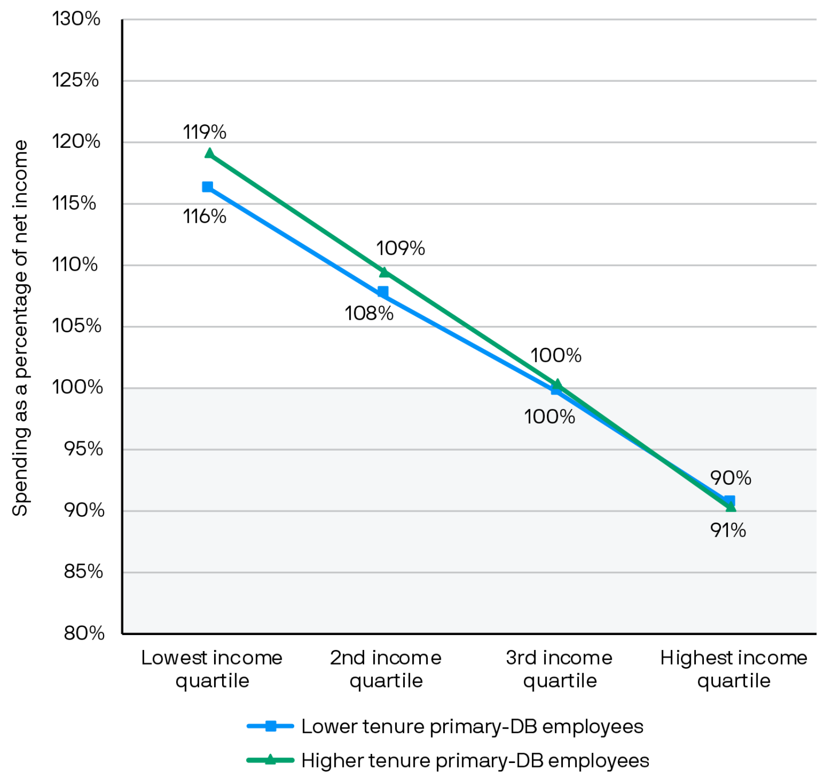
Source: "Spending and saving behavior of public-sector defined contribution plan participants," Public Retirement Research Lab and J.P. Morgan Asset Management.

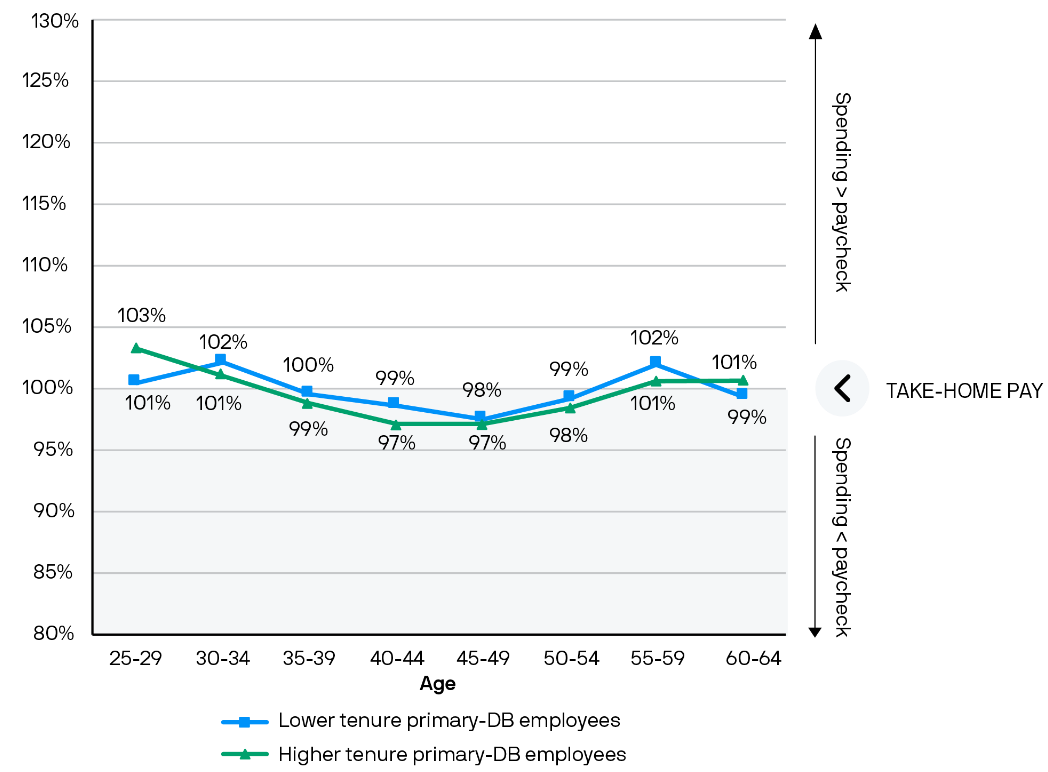
We also examined spending patterns by employee tenure of the primary-DB employees (see **Exhibit 2** for income and **Exhibit 3** for age; refer to **Research methodology** for segment definitions). Surprisingly, lower tenure and higher tenure employees spend at similar levels, even though lower tenure employees are likely to receive reduced, and in some cases significantly lower, pension benefits. This may indicate that lower tenured employees may not be aware of how much of their income their pensions will replace in retirement or even whether their specific DB benefits are adequate for achieving retirement success. That may be why they are comfortable spending at these higher levels.

Lower tenure primary-DB workers spend nearly the same as higher tenure workers, whose benefits tend to be more generous

EXHIBIT 2: MEDIAN SPENDING-TO-NET-INCOME RATIOS BY INCOME QUARTILE AND TENURE

EXHIBIT 3: MEDIAN SPENDING-TO-NET-INCOME RATIOS BY AGE AND TENURE





Source: "Spending and saving behavior of public-sector defined contribution plan participants," Public Retirement Research Lab and J.P. Morgan Asset Management.

From a retirement readiness perspective, these levels of spending are troubling. First, they inhibit employees' ability to save outside of what they are already saving into their employer-sponsored vehicles. Second, they set a higher expectation for what retirement success looks like, since it takes a higher amount of replacement income to fund a similar lifestyle. Employees planning to rely solely on their DB benefits, particularly those that have been reduced, without any kind of meaningful additional savings may be disappointed with their retirement outcomes. Moreover, employees may not even be aware that they need to save outside of their DB plan to prepare adequately for retirement, especially if nobody is helping them think about their pension benefits in the context of their own retirement funding success.

Factor 3: Employee saving outside of DB plans is generally low

Next, we wanted to measure whether primary-DB employees were actively saving in their supplemental DC plans to help bridge potential retirement income replacement shortfalls, especially for lower tenure employees.

Surprisingly, newer-hire primary-DB employees, the group that needs to save the most outside of their DB plan based on reduced benefits, were saving the least, as presented in **Exhibit 4**. Almost four out of 10 people were contributing 0%.

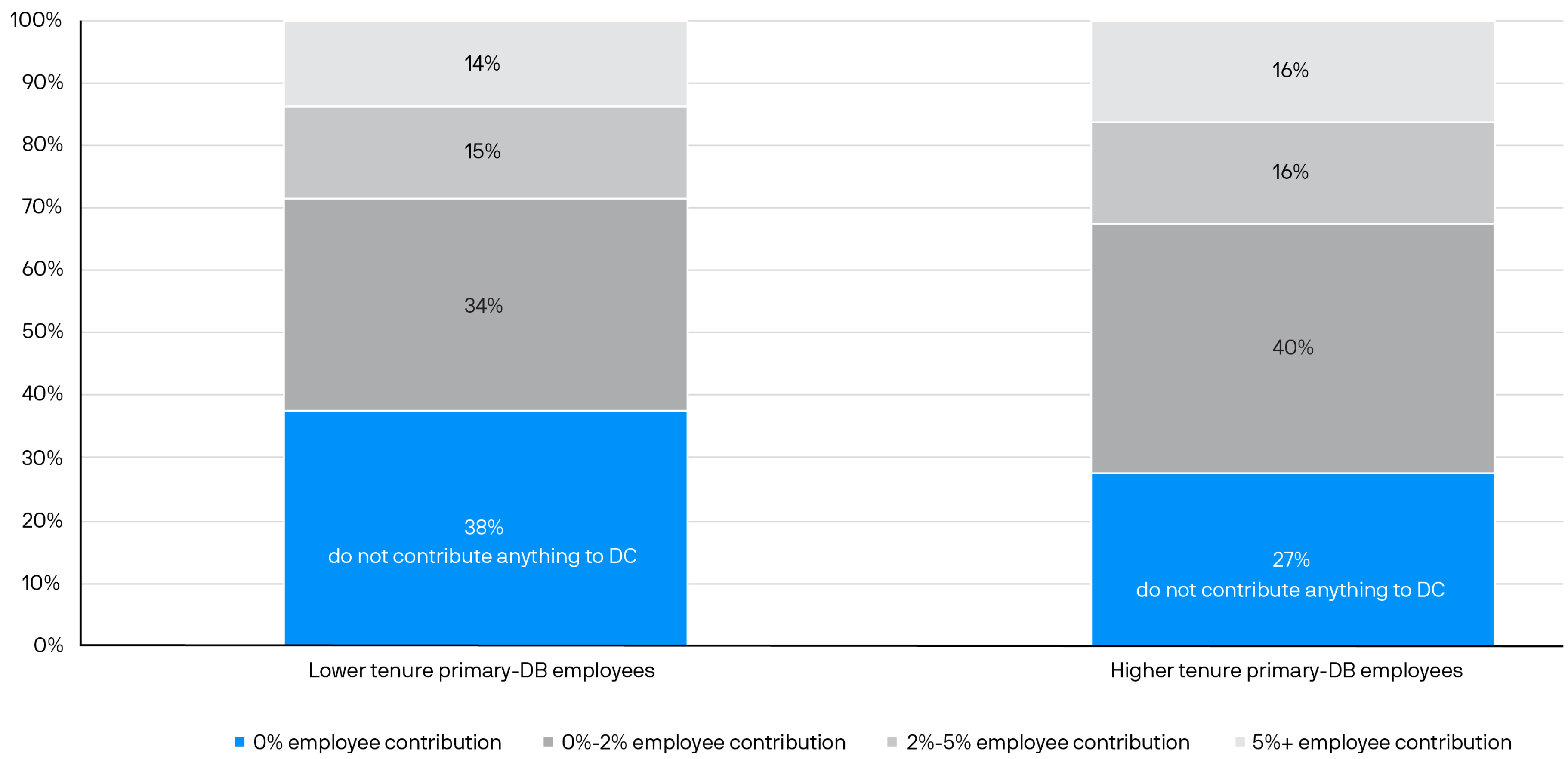
Higher tenure primary-DB employees demonstrated slightly more constructive saving behaviors, with about one-third currently not contributing anything, 40% making some sort of contribution up to 2% and another third saving above 2%.

It is important to note that these figures vastly underestimate the number of employees who have not and are not contributing anything to their DC plans, since the figures are based on individuals with existing DC balances. Estimates suggest that more than 50% of public sector employees eligible for a DC plan have never made a contribution.

The key takeaway is that many—and a steadily growing number of—employees are likely to fall short of achieving full retirement readiness unless they start to save more.

Lower tenure primary-DB employees, despite being the group most likely to experience reduced DB benefits, save less than their higher tenure colleagues

EXHIBIT 4: DISTRIBUTION OF EMPLOYEE CONTRIBUTIONS AS A PERCENTAGE OF INCOME FOR LOWER TENURE AND HIGHER TENURE PRIMARY-DB POPULATIONS



Source: "Spending and saving behavior of public-sector defined contribution plan participants," Public Retirement Research Lab and J.P. Morgan Asset Management.

Quantifying the potential shortfall

So, what do all of these numbers mean? To help demonstrate how scaled-back DB benefits might interact with current spending and saving behaviors, consider two hypothetical employee profiles. "John" represents someone retiring today with a generous pension package, and "Ashley" represents someone currently entering the public sector with reduced pension benefits. Both John and Ashley will spend 30 years as public sector employees, and both have the same job. What is different are their DB benefits: The employee entering the public sector today has pension benefits that are about one-third less than the employee retiring today.

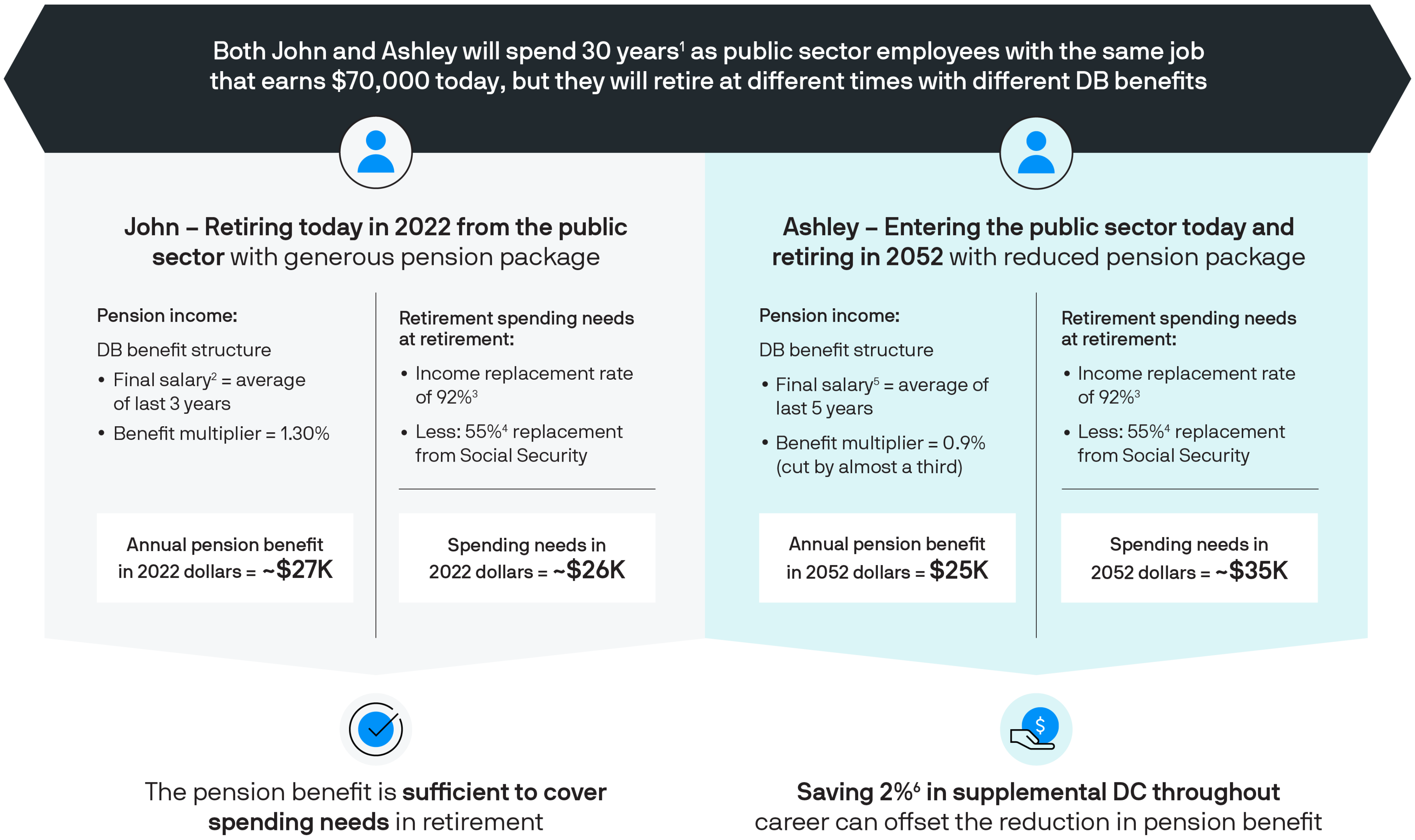
The outcome at retirement:

- John, the employee retiring today, will receive a pension benefit that is roughly equal to his income replacement needs net of what Social Security will cover.
- Ashley, the employee entering the public sector today, will receive a pension benefit that covers only about 70% of her income replacement needs net of what Social Security will cover.

The good news is that, in this example, Ashley can achieve retirement success by contributing 2% of her income a year to a supplemental DC plan to overcome the shortfall. With careful planning, reducing spending by 2% to save more is likely achievable (see **Exhibit 5**). In our previous joint research with EBRI,[7] we analyzed the spending patterns of individuals at similar income levels and noted how making small changes can help add up to higher retirement funding success over time, with one group saving 3% more by spending less.

Employees facing scaled-back DB benefits can help address potential replacement income shortfalls with supplemental DC plan contributions

EXHIBIT 5: HYPOTHETICAL COMPARISON OF AN EMPLOYEE RETIRING TODAY ("JOHN") AND A YOUNGER EMPLOYEE JUST ENTERING THE PUBLIC SECTOR ("ASHLEY")



Source: J.P. Morgan Asset Management. [1] Assumes a career employee for the state from age 35 to 65; [2] Starting salary of $52,000 and ending salary of $70,000, assuming annual salary growth of 1%. Salaries are in nominal terms; [3] Source: J.P. Morgan Asset Management analysis, 2021; [4] Assumes a single wage earner at age 65 and a spousal benefit at age 63; [5] Starting salary of $70,000 and ending salary of $93,000, assuming annual salary growth of 1%. Salaries are in nominal terms; [6] Modeling uses a blend of proprietary Long-Term Capital Market Assumptions (first 10 years) and equilibrium returns, and a 90% confidence level. Assumes portfolio allocation of 60% equity and 40% fixed income during working years and 40% equity and 60% fixed income during retirement years. Total spending needs in retirement are based on a 92% income replacement rate at retirement and the spending curve for partially and fully retired households with $250,000–$750,000 in wealth; see J.P. Morgan Asset Management, Retirement by the Numbers, 2021 for more detail.

To help illustrate what failing to take action to address a potential replacement income gap might mean, imagine being in a cafeteria where a cheeseburger costs $10 and you have $11. You can get lunch and also a cookie. If you only have $9, however, you cannot afford the cheeseburger at all. Having $1 too little hurts far more than the extra $1 helps. Consider this scenario on a far bigger scale in retirement.

Of course, the hypothetical example above is for illustrative purposes only. How much any individual may need to save in a DC plan can vary widely, depending on an array of factors, including specific DB benefits, costs of living, salaries, retirement age, tenure, Social Security participation and personal investment returns.

Exhibit 6 demonstrates how the potential size of DB benefit reforms can affect the projections of how much employees may need to contribute to DC savings in order to achieve retirement security. Using the earlier case study, adjusting the multiplier as well as the time frame used to calculate average salary will impact adequate DC saving projections, with an amplifying effect as benefits are reduced. Still, even in the most extreme examples presented below, adequate DC contribution requirements hover around 2% to 3% per year.

Even at the higher end of potential DB reductions, the projected DC contributions required to bridge the shortfall gap may be achievable with careful financial planning

EXHIBIT 6: HYPOTHETICAL COMPARISON OF MINIMUM TO SAVE TO DC BASED ON CHANGES TO MULTIPLIER AND TIME FRAME USED TO CALCULATE AVERAGE SALARY

Employee entering the public sector today and retiring in 30 years[1]:
amount of DC savings needed to offset the reduction in pension benefit

Final salary based on the last…

Benefit multiplier	3 years	5 years	7 years	10 years
1.30%	0.0%	0.1%	0.1%	0.1%
1.20%	0.3%	0.4%	0.4%	0.5%
1.10%	0.7%	0.8%	0.8%	0.9%
1.00%	1.2%	1.2%	1.3%	1.4%
0.90%	1.9%	2.0%	2.0%	2.2%
0.80%	2.9%	3.0%	3.1%	3.2%

Source: J.P. Morgan Asset Management. [1] Assumes a career employee for the state from age 35 to 65 with a starting salary of $70,000 and an ending salary of $93,000, assuming annual salary growth of 1%. Salaries are in nominal terms. Note: Modeling uses a blend of proprietary Long-Term Capital Market Assumptions (first 10 years) and equilibrium returns, and a 90% confidence level. Assumes portfolio allocation of 60% equity and 40% fixed income during working years and 40% equity and 60% fixed income during retirement years. Total spending needs in retirement are based on a 92% income replacement rate at retirement and the spending curve for partially and fully retired households with $250,000–$750,000 in wealth; see J.P. Morgan Asset Management, Retirement by the Numbers, 2021 for more detail.

Placing employees on a more secure retirement path with defined contribution plans

This research reinforces the increasing importance of DC in the public sector as employees adjust to changing DB benefits. In our view, the goal should be to strike the right balance to help employees access and integrate the benefits of both types of programs, as necessary, in order to be able to retire as safely and securely as possible.

Employers can start by:

- **Reframing measures of success:** Employers with DB plans often define funded status as the main measure of success. As benefits are reduced, however, it becomes increasingly important also to consider potential individual outcomes, to help employees identify possible shortfalls and strategies to address them.
- **Taking a holistic view of DB and DC benefits:** DB and DC plans are often viewed as separate entities, even within the same employer, but they can serve as strong complements to each other to help address potential DB shortfalls. DC plans are not perfect, but they have been shown to be both highly effective and resilient when used correctly, particularly with the advancements and proactive engagement programs that have continued to be introduced to help make saving in a plan as streamlined as possible.
- **Tapping into education:** Help employees understand their overall financial pictures and the trade-offs between spending and saving. Communicating target saving percentages can also be useful. Unlike DB plans, the choice to take advantage of a DC plan is largely up to the employee in many instances. The goal is to help them make better conscious choices and reduce the risk of taking no action simply because they do not know better.

The retirement partnership between public sector employers and employees remains powerful. However, it is evolving, and this requires an evolution in mindset as well. Considering and implementing strategies, even small changes, that may help employees start adapting today can help them be better positioned to achieve safer levels of retirement readiness tomorrow.

[1] Source: "Spending and saving behavior of public-sector defined contribution plan participants," Public Retirement Research Lab and J.P. Morgan Asset Management.

[2] JPMorgan Chase Bank, N.A. (Chase) serves nearly half of America's households with a broad range of financial services. In this analysis, the select Chase data sample represented approximately 22 million households in 2019. For more information, visit our website: https://www.chase.com/digital/resources/about-chase.

[3] Source: "Significant Reforms to State Retirement Systems," National Association of State Retirement Administrators, December 2018.

[4] Source: "Effects of Pension Plan Changes on Retirement Security," Center for State & Local Government Excellence and NASRA, April 2014.

[5] Source: "Spending and saving behavior of public-sector defined contribution plan participants," Public Retirement Research Lab and J.P. Morgan Asset Management. The specific household net income thresholds to determine the income quartiles are $35,549, $51,774 and $81,408.

[6] Source: Chase data, including select Chase credit and debit card, electronic payment, ATM withdrawal and check transactions in 2019. Information that would have allowed identification of specific customers was removed prior to the analysis. Asset estimates for de-identified and aggregated households supplied by IXI/Equifax, Inc. Total retirement wealth is the sum of investible wealth and the present value of observed retirement income sources, including Social Security (inflated), pensions and annuities (both not inflated) until age 90. Households with $500,000–$1 million in total retirement wealth spent differently based on how much of their wealth was from investible wealth vs. retirement income. Those with 60%–80% of their total retirement wealth coming from retirement income spent $36,000 per year at median vs. those with 20%–40% of their retirement wealth coming from retirement income, who spent $28,000 per year at median.

[7] "The 3% difference: What leads to higher retirement savings rates?" Employee Benefit Research Institute and J.P. Morgan Asset Management, June 2020.

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Disclosures:

This paper was informed by research from a previous publication that was a joint effort between the Public Retirement Research Lab (PRRL)—a collaborative partnership between the Employee Benefit Research Institute (EBRI) and the National Association of Government Defined Contribution Administrators (NAGDCA) to provide an enhanced understanding of the design and utilization of public sector defined contribution retirement plans—and J.P. Morgan Asset Management (JPMAM) to deliver data-driven research to further the retirement success of Americans, with a commitment to providing unique fact-based insights to policymakers, plan sponsors and plan providers to help build a stronger retirement system. This paper was produced by JPMAM alone and includes JPMAM's view only. PRRL was not involved in the writing of this paper.

The PRRL database is the first-ever repository of public sector defined contribution (DC) plan-and participant-level data. The year-end 2019 data contain nearly 200 457(b), 401(a), 403(b), 401(k) and other defined contribution plans; nearly 2.3 million state, county, city and subdivision government employees; and $113 billion in assets. It is important to note that many state plans serve as the primary DC vehicle for lower-level governments within their respective states. The state plans in the PRRL database represent as many as 1,800 participating employers, even though they are counted as a single plan. See PUBLIC RETIREMENT RESEARCH LAB - Home (prrl.org) for more information.

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