

Research Study  
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## THE STATE OF PUBLIC SECTOR DC PLANS: 2021

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### SUMMARY

In this brief, public-sector plan participants' savings behaviors are analyzed. Specifically, balances, contributions, and asset allocation by participants' age and tenure are studied. Some of the key findings include:

#### Account Balances

- Half of public plan participants in their 60s have account balances lower than \$40,000.
- The median account balance for public plan participants in their 40s is approximately \$18,000, whereas the mean account balance for the employees the same age is \$57,000.

#### Contributions

- The mean employee contribution for public plan participants in their 20s was roughly \$1,600 per year, or approximately \$130 per month.
- The mean employee contribution rate (employee contributions divided by salary) for participants in their 20s was 2.7 percent. This rate increases with age, reaching 9.5 percent for participants in their 60s.

#### Loan Usage

- The percentage of participants who take loans from their plans by age is hump shaped, going from 1.7 percent of participants in their 20s to a maximum of 9.6 percent of participants in their 40s, and decreasing to 5.2 percent of participants in their 60s.
- For participants in their 40s, the mean size of the outstanding loan was approximately \$9,500.

#### Asset Allocations

- Participants in their 20s have the largest allocations to target-date funds (approximately 50 percent).
- Allocations to bond funds and money market/stable-value funds increase with age, reaching 7 percent and 20 percent respectively for participants in their 60s.

## THE STATE OF PUBLIC SECTOR DC PLANS: 2021

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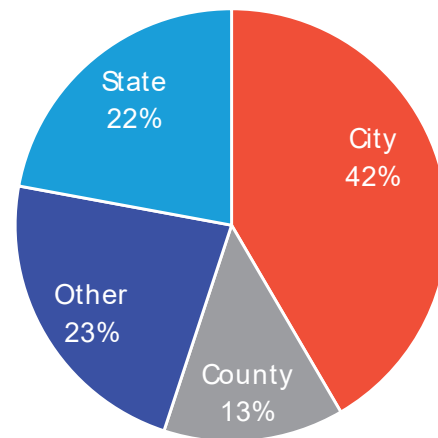
## INTRODUCTION

Employees working in the public sector face a complicated retirement landscape. Relative to their private-sector peers, public-sector employees are more likely to have a defined benefit (DB) pension plan, and their employer may even offer multiple defined contribution (DC) plans. Some public-sector governments offer DC plans in a “hybrid” structure, consisting of mandatory 401(a) plans and/or supplemental 457(b) plans. The Public Retirement Research Lab (PRRL) was created specifically to address the fragmented landscape and present reliable data on defined contribution retirement plans covering public-sector employees. The PRRL Database is the repository for the data collected by the PRRL.

This is the second edition of the State of Public-Sector DC Plans report based on the PRRL Database. The analysis reflects data for 267 plans across 457(b), 401(a), 401(k), and 403(b) DC plans; over 2.5 million state, county, city, and subdivision government employees; and \$170 billion in assets as of year-end 2021. This publication serves as an update to the previous edition of the State of Public-Sector DC Plans report, which utilized 2019 data. This report analyzes contributions, loan activity, asset allocation, and account balances as of year-end 2021.

The overall composition of participating plans is shown in Figure 1. While the number of governments participating in the dataset appears small when measured against the thousands of state and local government entities in the United States, 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 2,100 participating employers, even though they are counted as a single “plan.” The “other” category in Figure 1 refers to various public-sector employers that are not state, county, or city governments. These include, for example, school districts, water or power authorities, and public hospitals.

Figure 1  
PRRL Database Universe



The PRRL Database is an opt-in collaboration among public retirement plan sponsors. Plan sponsors receive complimentary benchmarking as a participation benefit. For more information on how to participate, please contact NAGDCA Executive Director Matt Petersen at [mpetersen@nagdca.org](mailto:mpetersen@nagdca.org).

## METHODOLOGY

To demonstrate the complexity of public DC plan system structures, this assessment of the PRRL Database consists of four distinct categories of DC plan use (account balances, contributions, loans, and asset allocation) filtered through the lens of two different types of data analysis.

One method of analysis, consistent with NAGDCA's past efforts through its Annual Benchmarking Survey, is a description of the four categories by plan type. While this method provides an incomplete picture of retirement readiness at the participant level, as it does not include participant use of multiple plan types, it remains an essential contribution to administrators' understanding of public DC plan use.

The second method of analysis combines all participant-level data across recordkeepers and plan types. This aggregation of total DC assets at the participant level is an important innovation, exclusive to the PRRL, that provides an unprecedented opportunity to understand public-sector employees' retirement readiness.

One important caveat to this edition of the State of Public-Sector DC Plans is that, although the number of plans and the composition of government types reported in Figure 1 are similar to those in the prior report, the specific participant population included in the PRRL Database has changed. Differences in average balances, contributions, and other metrics from this report to those previously reported are driven by changes in market conditions as well as changes in composition of participants in the database.

## PARTICIPANT DEMOGRAPHICS AND ASSETS BY PLAN

Figures 2a and 2b show the representation of different plan types by both number of participants and plan assets, respectively.<sup>1</sup> The most common plan in the PRRL Database by both measures is the 457(b) plan. These plans are typically used in the public sector as voluntary supplemental savings vehicles in conjunction with a DB pension, though this is not always the case.

Conversely, 401(a) plans represent about one-fifth of the total participants in the PRRL Database and 15 percent of the total assets. Non-ER-ISA 401(k) plans also represent around 15 percent of the PRRL Database, and the measure is consistent across both participants and assets. Public-sector 401(k) plans are dissimilar from their private-sector counterparts in that they are legacy accounts; only those established prior to 1986 continue to operate.

Finally, a small number of 403(b) plans are represented in the PRRL Database dataset. These plans are often used by public educational institutions (higher education or K-12) and hospitals. A large percentage of public DC assets are held in 403(b) plans, offering a significant area for potential growth of the PRRL Database.

Figure 2a  
Participants by Plan Type

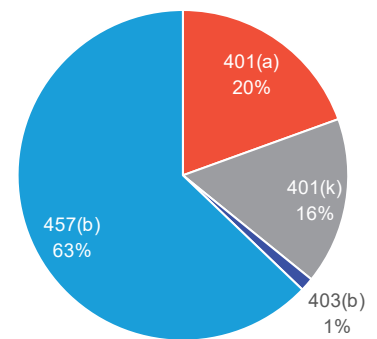
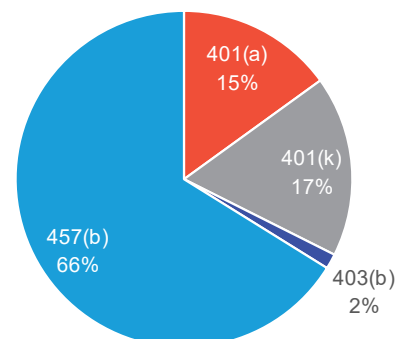


Figure 2b  
Assets by Plan Type



The age distribution of public-sector employees described in Figure 3 further illuminates the underlying characteristics of each plan type. A type of plan that is becoming increasingly common in newer pension tiers is 401(a) plans, which show a skewed distribution toward younger workers, as would be expected. Conversely, plan types more historically used in the public sector (e.g., 457(b), 403(b), and 401(k)) all skew in the opposite direction, with the most frequent use being among the 50s age cohort.

## TOTAL ASSETS

While knowledge of the use of different DC plan types in the public sector is critical to plan administrators, looking at each plan separately does not advance the understanding of retirement readiness for public-sector employees.

The mean and median account balances in Figure 4 are combined across all plan types and recordkeepers in the database. As is evident in the figure, there is a meaningful difference between the mean and median account balances for each age group. As would be expected, the mean and median account balances increase with age, with the mean account balances for individuals in their 40s and 50s being \$57,442 and \$99,388, respectively. However, these averages are heavily influenced by large account balances. The median values illustrate that half of PRRL participants in their 40s have at most \$18,012 saved, whereas half of individuals in their 50s have \$30,661 or less saved. Eighteen percent of participants have money in more than one plan (for an average of 1.2 plans per participant); breakdowns by plan type are depicted in Figure 5.<sup>2</sup> These combinations come in too many different varieties to list for the purposes of this assessment, but some participants in the database held assets in as many as seven different DC plans.

Figure 3  
Participant Ages by Plan Type

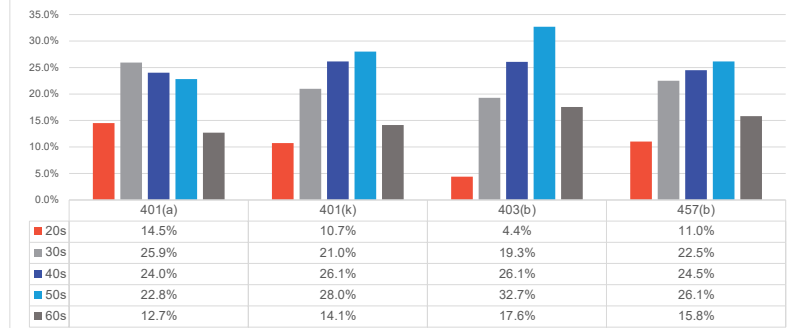


Figure 4  
Mean and Median Account Balance by Age for All Plan Types Combined

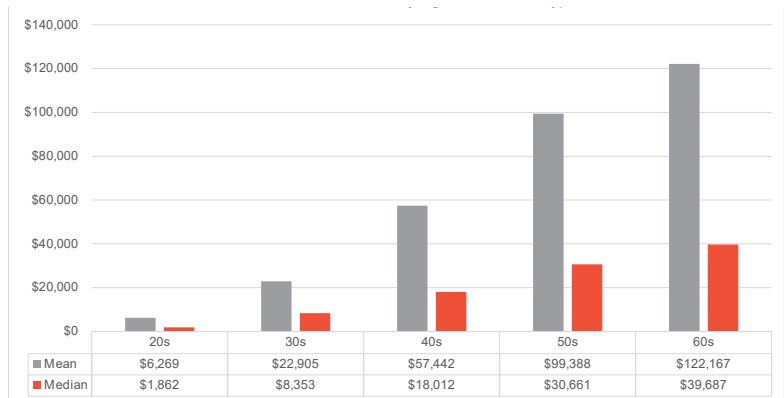
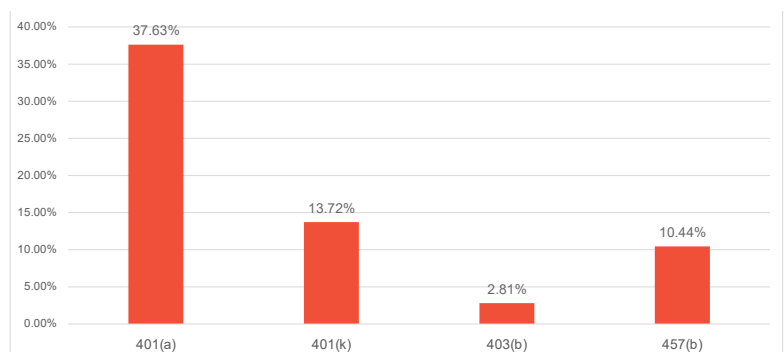


Figure 5  
Percentage of Participants with Multiple Plans by Primary Plan Type



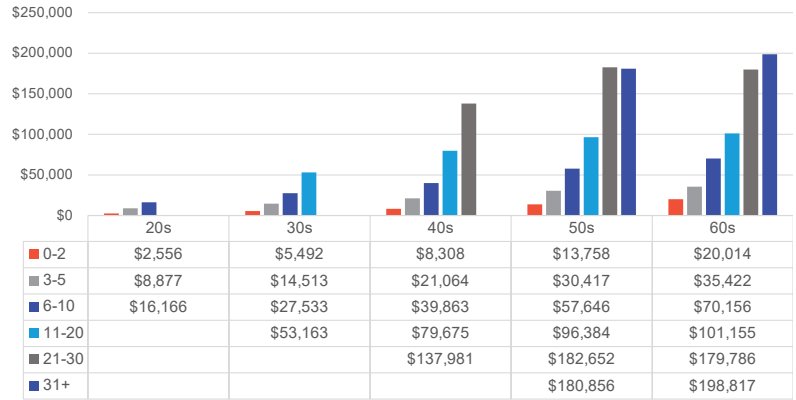
The findings are further broken down in Figure 6 to show average account balance by both age and tenure.<sup>3</sup> For this study, tenure is defined as the time an employee has spent in their current job. As would be expected, account balances increase with both age and tenure. For example, employees in their 40s with fewer than three years of tenure have a mean account balance of approximately \$8,300; employees of the same age with three to five years of service have an average balance of approximately \$21,000.

A potential shortcoming of these calculations is tracking an employee as they change jobs. For example, if a teacher leaves one district for another in the same state, but continues to participate in the state 457(b) plan, the PRRL Database would not show a break in tenure. However, as shown in previous PRRL research, public-sector workers tend to stay in their jobs longer than their private-sector counterparts, mitigating some of the potential shortcomings associated with tenure-based calculations.<sup>4</sup> The fact that balances increase uniformly with tenure further suggests that mid-career changes are less of a concern with respect to these calculations.

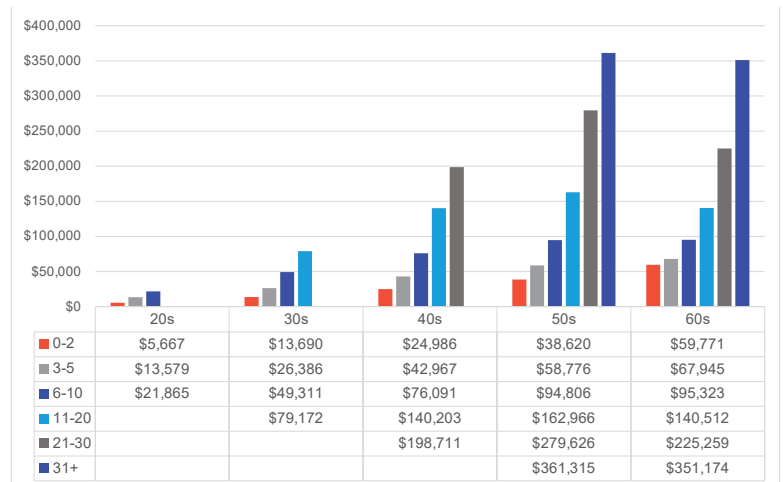
Ultimately, the ability to aggregate public-sector DC data enables the closest comparison with the private-sector data available to date (Figure 7). The accumulated DC savings for public employees in Figure 6 clearly lags the comparable data (from 2020) for private employees in Figure 7 in nearly every category of age and tenure. These results are expected for two distinct but related reasons: DB plans remain the primary retirement vehicle for most public-sector employees, and most public-sector employers do not provide matching contributions into their employees' DC accounts.

As such, to clearly show the retirement readiness of public-sector employees, DB pension assumptions must be included. Further, public-sector employees from 14 states do not participate in Social Security, which must also be accounted for. Both items will be incorporated in future PRRL research to provide a comprehensive understanding of retirement readiness for the public employee.<sup>5</sup>

**Figure 6**  
Mean Account Balance by Age and Tenure



**Figure 7**  
Mean Account Balance by Age and Tenure - Private 401(k) Plans

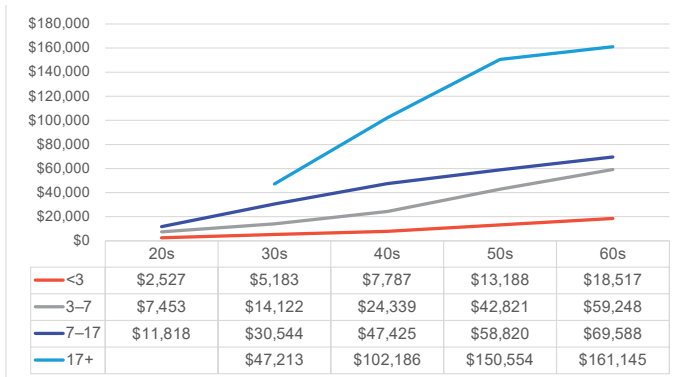


Source: Sarah Holden, Steven Bass, and Craig Copeland. "401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2020." EBRI Issue Brief, no. 576, and ICI Research Perspective, Vol 28, no. 11 (November 2022).

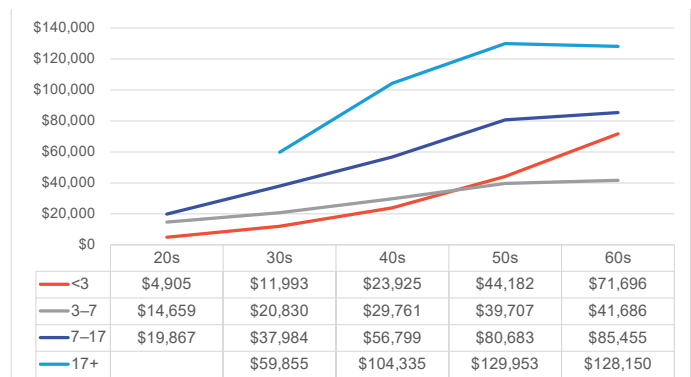
## ACCOUNT BALANCE BY PLAN TYPE

The data in Figures 8–11 show the average account balances for participants in each plan type by four groupings of tenure. To be consistent with the prior report, we use the same four groupings of 1) less than three years; 2) between three and seven years (inclusive); 3) greater than seven and less than or equal to 17 years; and 4) greater than 17 years. While each plan type has distinct characteristics, accumulated assets rise with age and tenure as expected. The average account balances for 403(b) plans appear to be meaningfully different from those of other plans, which could be the result of the limited sample size for these plans in the PRRL Database.

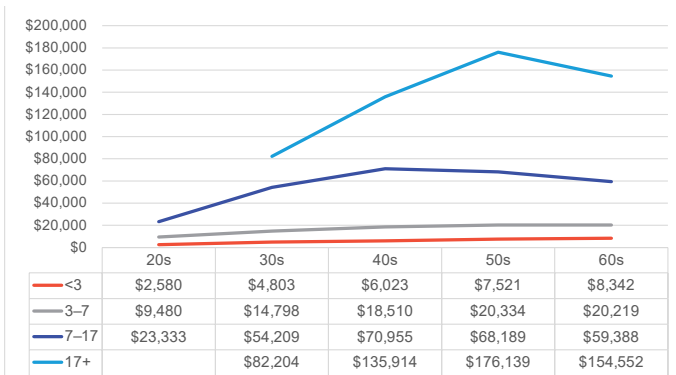
**Figure 8**  
Mean Account Balance by Age and Tenure - 457(b) Plans



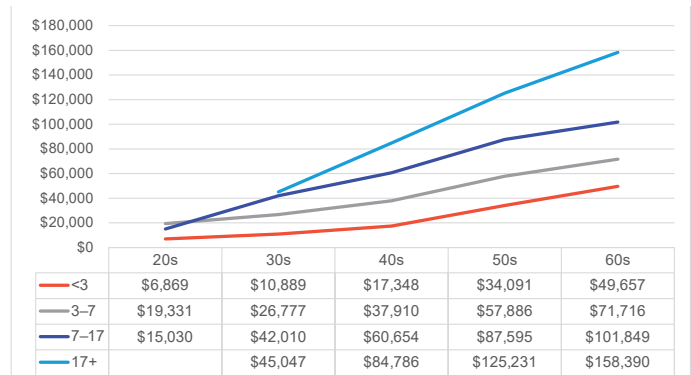
**Figure 9**  
Mean Account Balance by Age and Tenure - 401(k) Plans



**Figure 10**  
Mean Account Balance by Age and Tenure - 401(a) Plans



**Figure 11**  
Mean Account Balance by Age and Tenure - 403(b) Plans



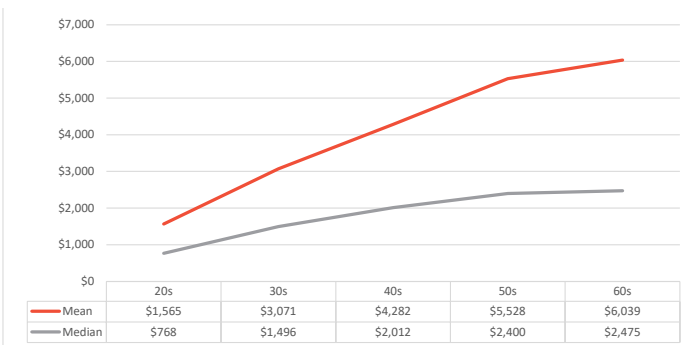
## CONTRIBUTIONS BY PLAN TYPE

Figures 12 and 13 show the dollar amounts contributed by employees to their plans by age. Again, these data are aggregated to show total contributions across all DC plans, per participant. As expected, contributions increase as employees approach retirement age. The data in Figure 13 represent a significantly smaller number of participants due to the scarcity of salary data shared between governments and their DC-plan recordkeepers. Some recordkeepers simply do not have salary information, making calculations of contribution rates impossible.<sup>6</sup>

Contribution amounts and rates detailed in Figures 14 and 15 include any employer contribution. Distinct to the public sector, employers may have either mandatory contributions, voluntary contributions, or both. In hybrid pension structures, a mandatory contribution is common, typically for an employee's 401(a) plan. Since employers often have mandatory contributions for the DB plan, voluntary employer contributions are far less common than in the private sector. When voluntary employer contributions are offered, often in the form of an employer match, they are typically for either 401(k) or 457(b) plans.

Figure 12

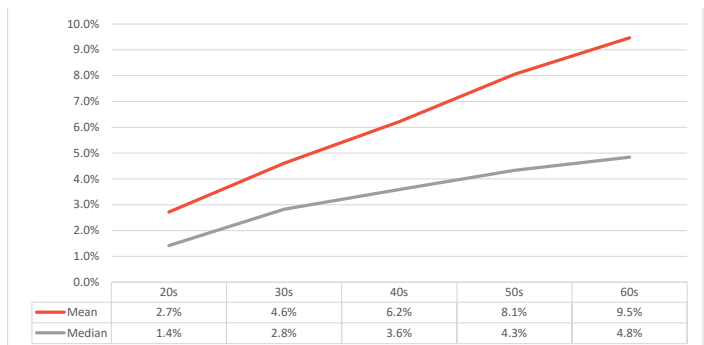
Mean and Median Employee Contributions by Age



Note: Excludes participants who did not make a contribution in 2021.

Figure 13

Mean and Median Employee Contributions by Age



Note: Excludes participants who did not make a contribution in 2021 and those with salaries <\$10,000.

Figure 14

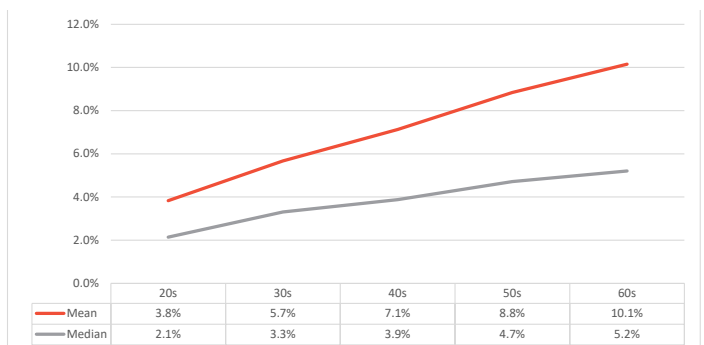
Mean and Median Total Contributions by Age



Note: Excludes participants who did not make a contribution in 2021.

Figure 15

Mean and Median Total Contribution Rate by Age



Note: Excludes participants who did not make a contribution in 2021 and those with salaries <\$10,000.



## LOAN USE

The use of loans in public DC plans is shown in Figures 16–18.<sup>7</sup> Offering loans is optional for plan sponsors, and many are cautious about allowing their participants early access to their retirement funds. However, many also recognize that unusual circumstances arise and so offer loans as a source of emergency funds.

The percentage of participants who have an outstanding loan balance associated with any of their plans is shown in Figure 16, which reveals a peak of nearly 10 percent for the 40s age cohort, decreasing thereafter.

The average amount of the outstanding loan balances is shown in Figure 17 and exhibits an increasing pattern up to traditional retirement age. The average loan amount as a percentage of account balance in Figure 18 is higher for younger participants (reflecting their lower account balances) but decreases as age increases.<sup>8</sup> Only 2 percent of the 20s age cohort have a loan, but for those who do, the balance equals nearly a quarter of their DC assets across all accounts on average. This pattern is consistent with the idea that participants may only choose to take out loans meeting a meaningful size threshold. If this size threshold does not vary much across age groups, the observed pattern in Figure 18 is what would be expected, again due to the lower account balances among younger participants.

Figure 16  
Percentage of Participants With a Loan Outstanding by Age

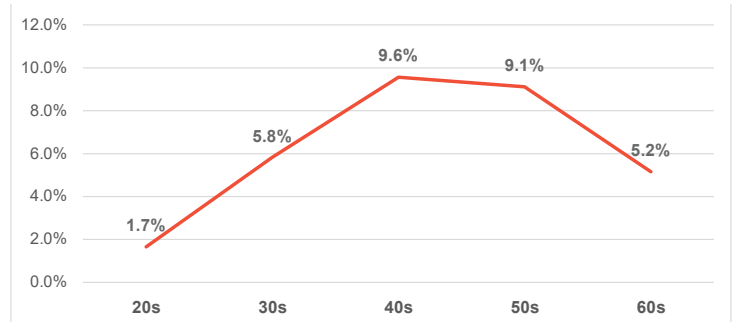
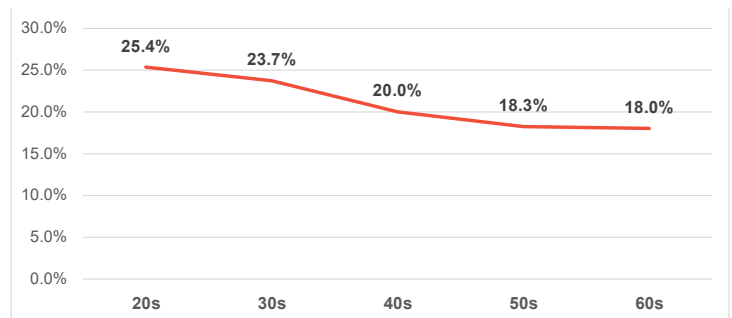


Figure 17  
Mean Outstanding Loan Amount by Age



Note: Excludes individuals with zero loans outstanding.

Figure 18  
Mean Loans as Percentage of Account Balance by Age



Note: Excludes individuals with zero loans outstanding.

## ASSET ALLOCATION

The PRRL Database categorizes each investment option into one of twenty-six separate categories. These granular categories include, for example, investment options focused on domestic, publicly traded small companies (e.g., “small caps”), or other investment options such as real estate investment trusts (“REITs”), or funds invested strictly in inflation-protected treasury bonds issued by the federal government.<sup>9</sup> The categories are aggregated into six core asset classes: equity, bond, money market or stable value, target-date funds, balanced funds (e.g., mutual funds with a fixed allocation to equities and bonds that does not change over time), and “other” investments, which refers to in-plan annuities, REITs, and investments that cannot be classified.

Figure 19 provides this aggregated view of public-sector DC data for those plans participating in the PRRL. The relatively large proportion of “other” plans does reflect a measure of investment data unavailability (as well as allocations to, for example, REITs) in the 2021 PRRL data. We hope to rectify this in future versions of the PRRL Database. For consistency with other reports, Figures 19–25 present asset-weighted mean allocations (i.e., assets allocated to a particular investment category divided by total assets); these calculations give greater weight to individuals with larger account balances.

Figure 19 also reveals allocations in line with behaviors demonstrated by private-sector plan participants shown in Figure 20. Equity assets increase until the 40s age cohort, at which time allocations to safer assets — such as bonds, money market accounts, and stable-value products — increase in cohorts approaching traditional retirement age. The use of target-date funds is concentrated in younger cohorts, not because the products are not used by older employees, but because younger cohorts have a higher concentration of new employees, for whom target-date funds are the default investment for many plans. Other products are used sparingly in the public sector, with company stock not being an option for PRRL participants.

The results in Figure 21, which are organized by tenure, provide similar insights, although equity allocations do not decrease in a similar manner for employees with longer tenure as they approach retirement age.

Figure 19  
Asset-Weighted Allocations by Age

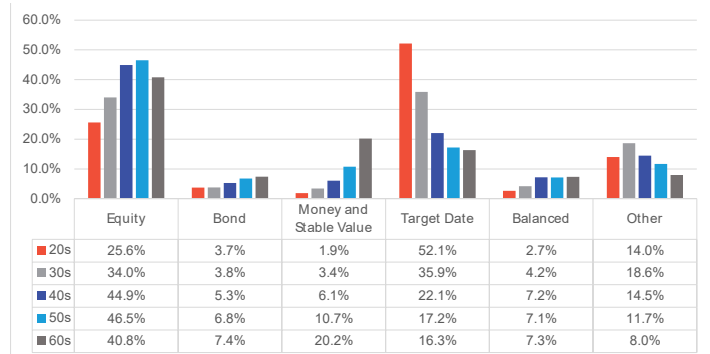
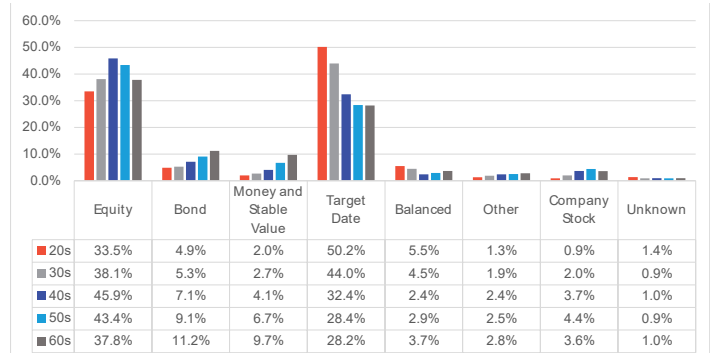
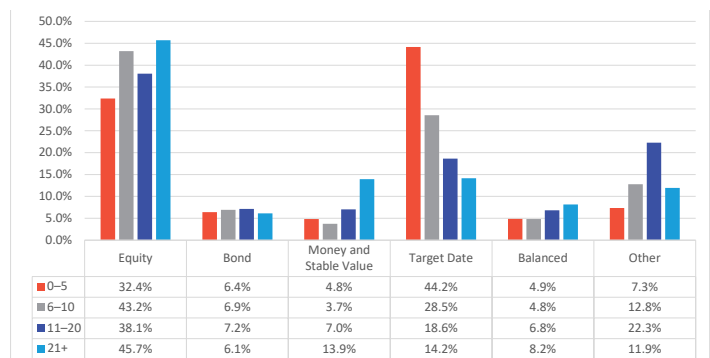


Figure 20  
Asset-Weighted Allocations by Age - Private 401(k) Plans



Source: Sarah Holden, Steven Bass, and Craig Copeland. “401(k) Plan Asset Allocation, Account Balances, and Loan Activity in 2020.” EBRI Issue Brief, no. 576, and ICI Research Perspective, Vol 28, no. 11 (November 2022).

Figure 21  
Asset-Weighted Allocations by Tenure



## ASSET ALLOCATION BY PLAN TYPE

The four major asset categories in the dataset (equities, bonds, money/stable value, and target-date funds) are broken out by plan type in Figures 22–25. Participants in 401(a) plans allocated significantly fewer assets to stocks and bonds than participants in other plan types and more to stable-value products and target-date funds overall. Much of this difference could potentially be explained by the nature of the different plan types. For example, many 401(a) plans are mandatory retirement vehicles with default investments of either stable-value products or target-date funds, and participants may be less likely to rebalance assets in these plans. This likely explains the higher use of these asset classes in such plans.

The declining pattern of equity allocations by age (across all plan types) follows typical asset allocation patterns where allocations become less risky (i.e., a lower percentage to equities) as individuals get closer to retirement.

Figure 22

Asset-Weighted Allocations to Equity by Age and Plan Type

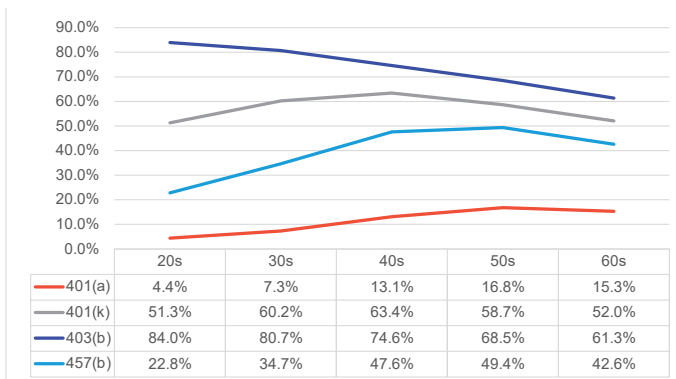


Figure 23

Asset-Weighted Allocations to Bonds by Age and Plan Type

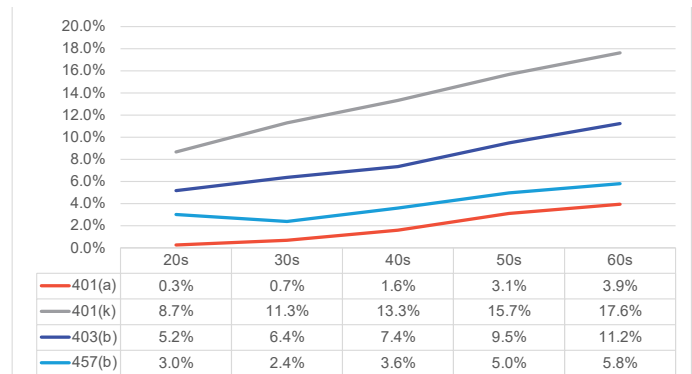


Figure 24

Asset-Weighted Allocations to Money and Stable Value by Age and Plan Type

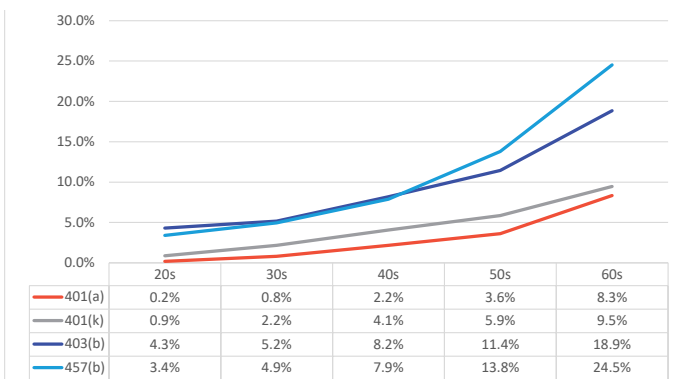
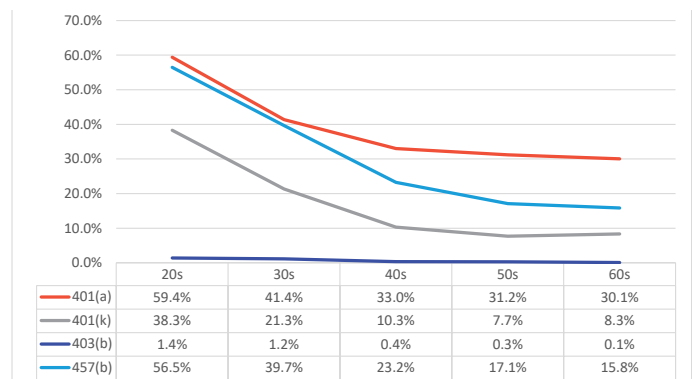


Figure 25

Asset-Weighted Allocations to Target-Date Funds by Age and Plan Type



## CONCLUSION

This edition of the State of Public-Sector DC Plans underscores some of the complications of retirement planning faced by public-sector workers, with nearly one in five workers participating in multiple DC plans. The research also reveals that half of participants approaching retirement age have account balances less than \$40,000 as of year-end 2021, and that loan usage peaks at age 40 with nearly 10 percent of the age cohort having a loan outstanding.

While public-sector workers are more likely to have a defined benefit pension plan relative to their private-sector peers, DB reform often involves reducing benefits to newly hired workers. As DC retirement plans play an increasingly larger role for individuals entering public-sector employment, understanding participant behavior in public-sector DC plans is critical to ensuring retirement security for participants.

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## ABOUT PRRL

The Public Retirement Research Lab is a retirement-industry-sponsored collaborative effort of the Employee Benefit Research Institute (EBRI) and the National Association of Government Defined Contribution Administrators (NAGDCA). The PRRL analyzes data from its Public Retirement Research Database, the first-ever database specific to public-sector defined contribution data, to produce unbiased, actionable research aimed at enhancing understanding of the design and utilization of public-sector defined contribution retirement plans to better inform public plan design, management, innovation, and legislation. To learn more, visit [www.prll.org](http://www.prll.org).

## Thanks to PRRL Partners

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## ENDNOTES

- 1 Figures 2a and 2b and other figures that break down statistics by plan type exclude a small number of plans and participants with public-sector employer-provided IRAs.
- 2 For the purpose of Figure 5, a participant's "primary" plan is defined as the plan in which they have the largest account balance.
- 3 Tenure information is not available for every participant. In this study, tenure data are available for 66 percent of participants.
- 4 See [https://www.prrl.org/uploads/1/4/0/1/140176219/pubtenure22\\_final.pdf](https://www.prrl.org/uploads/1/4/0/1/140176219/pubtenure22_final.pdf).
- 5 See, for example, Craig Copeland, Kelly Hahn, and Matt Petersen. "Spending and Saving Behavior of Public-Sector Defined Contribution Plan Participants." PRRL Research Study, no. 5, (September 2022), available at [https://www.prrl.org/uploads/1/4/0/1/140176219/05.rs\\_spending\\_sept2022.pdf](https://www.prrl.org/uploads/1/4/0/1/140176219/05.rs_spending_sept2022.pdf).
- 6 Salary information is available for 39 percent of participants in this study. Accordingly, Figures 13 and 15 are limited to this subsample of individuals.
- 7 In this study, loan information is available for approximately 73 percent of participants.
- 8 To clarify, the vertical axis of Figure 18 is defined as the outstanding loan balance (in dollars), divided by the total non-loan balance (in dollars) in the participant's account. Individuals without any outstanding loan balance are excluded from the calculation.
- 9 The twenty-six investment option categories are as follows: 1) balanced; 2) balanced and sector/specialty; 3) broad international equity; 4) brokerage windows; 5) cash equivalents; 6) core fixed income; 7) international developed markets equity; 8) international emerging markets equity; 9) global equity; 10) global tactical asset allocation; 11) global/international fixed income; 12) inflation-linked bonds; 13) large-cap domestic equity; 14) mid-cap domestic equity; 15) other; 16) real estate investment trusts (REITs); 17) risk-based funds; 18) sector/specialty equity; 19) short-term fixed income; 20) small-cap domestic equity; 21) small/mid (SMID)-cap domestic equity; 22) specialty/high-yield fixed income; 23) stable-value funds/fixed accounts; 24) customized target-date funds; 25) non-customized target-date funds; and 26) in-plan annuities. Investment options that cannot be classified are labeled as "other" for the purpose of the twenty-six categories. The "other" category listed in any calculation in this report reflects both investment options that cannot be classified as well as categories not specifically highlighted.