Public Fund Survey

Summary of Findings for FY 2025

Key Takeaways:

1. **Funding levels reached their highest point since FY 09:** The aggregate funding level rose to 78.8 percent, and the median plan is 80.0 percent funded.
2. **Asset growth continues to outpace liability growth:** Median growth in actuarial assets has exceeded median liability growth every year since FY 17. In FY 25, median asset growth was approximately 6.0 percent, compared with liability growth of 3.8 percent. Median liability growth has been at or near 4.0 percent for eight years.
3. **Payroll growth slowed but remains robust:** Median payroll growth eased to 5.6 percent from nearly 7.0 percent. That remains above most plans' assumed rate of payroll growth of between two and four percent.
4. **Median employer contribution rates have leveled off:** After rising through most of the Survey's history, the median employer contribution rate for plans whose members participate in Social Security has held at roughly 15 percent of pay since FY 22.
5. **Investment returns are driving recent improvements in funding levels:** Median returns for every period from one to 30 years now meet or exceed the 7.0 percent median investment return assumption.

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About the Public Fund Survey

The Public Fund Survey is an online compendium of key characteristics and trends affecting the nation's largest public retirement systems. The Survey is prepared by the National Association of State Retirement Administrators.

First published in 2003 based on FY 02 findings that include comparatives from FY 01, this marks the 24th edition of the Public Fund Survey Summary of Findings. The Survey contains data on public retirement systems that provide pension and other benefits for 13.7 million active (working) members and 11.2 million annuitants (those receiving a regular benefit, including

retirees, disabilitants and surviving beneficiaries). At the end of fiscal year 2025, systems in the Survey held combined defined benefit plan assets of $5.56 trillion. The membership and assets of systems included in the Survey comprise nearly 90 percent of the entire state and local government defined benefit plan community. This report, focusing on FY 25, uses graphs and narrative to illustrate and describe changes in selected key elements of public retirement systems and the pension plans and funds they oversee.

Some of the information in this report is presented in the context of changes to median, or midpoint, data. Presenting changes based on a median, rather than aggregate (total) basis, reduces the effects of larger systems and plans and those with extreme or exceptional results, enabling readers to focus on the experience of a more typical system or plan instead of results that could be skewed by the experience of one or a few outliers.

Summary of Findings

Figure A plots the aggregate actuarial funding level and the combined actuarial values of assets and liabilities among plans in the Survey since its inception in FY 2001. The aggregate funding level in FY 25 was 78.8 percent, up from 77.1 percent in FY 24. The FY 25 increase in the aggregate funding level is attributable chiefly to strong investment returns in FY 25 and for the five years ended in FY 25. These returns are discussed below and shown in Figure O.

The aggregate actuarial value of assets grew in FY 25 by 6.1 percent, from $4.93 trillion to $5.23 trillion. The actuarial value of assets reflects the time periods most plans use to phase in investment gains and losses, a calculation also known as actuarial smoothing. Smoothing reduces year-to-year volatility in a pension plan's funding level and required cost.

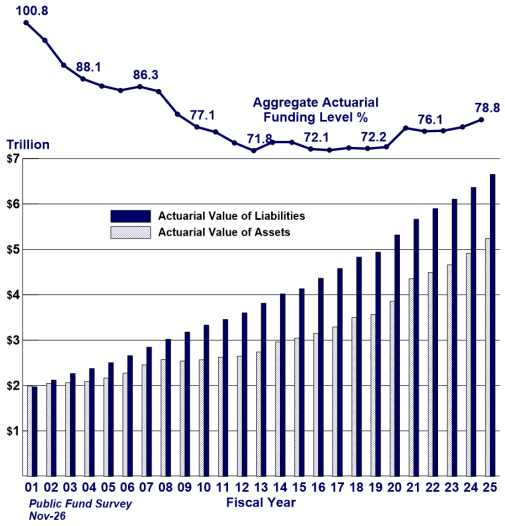
Smoothing periods for plans in the survey range from zero, meaning no smoothing, to 10 years. A few plans do not smooth their actuarial value of assets, instead reporting their funding condition using the market value of assets.

Combined actuarial liabilities of plans in the Survey grew by 4.6 percent, from $6.36 trillion to $6.65 trillion. Liabilities change as a result of four factors: a) because liabilities are a present value, they increase at a rate of interest equal to the prior year's discount rate; b) new benefit accruals resulting from active participants accruing an additional year of service credit; c) payment of benefits to retired participants (which reduces liabilities); and d) changes in actuarial assumptions and e) actuarial experience that differs from assumptions.

Since the market decline of 2008-09 and the Great Recession, every plan in the Public Fund Survey has reduced its most consequential actuarial assumption—the rate of assumed or expected investment return. Lower investment return assumptions have created a strong headwind to efforts by public retirement systems and their plan sponsors to improve funding levels. The pace of changes to the investment return assumption has slowed markedly in recent years, chiefly since 2021, when the rate of inflation rose sharply. Many plans also have adjusted other actuarial assumptions, including mortality assumptions to reflect expected longer lives. Like a lower investment return assumption, improved mortality assumptions result in a reduced plan funding level and higher cost, as plan participants are projected to live longer, thereby receiving benefits for a longer period of time.

See the NASRA issue brief on investment return assumptions.

Figure A: Aggregate actuarial funding level and the combined actuarial values of assets and liabilities



FY 25 funding levels of the 129 plans in the Survey are depicted in Figure B. The size of each circle is roughly proportionate to the size of each plan's actuarial liabilities—larger bubbles reflect larger plans and smaller bubbles reflect smaller plans. The median funding level is 80.0 percent and the range is 32 percent to 108 percent. This chart illustrates the wide distribution of funding conditions among public pension plans, one outcome of the unique combination of the actuarial experience, assumptions, and methods of each plan in the Survey.

Figure B: Individual plan funding levels

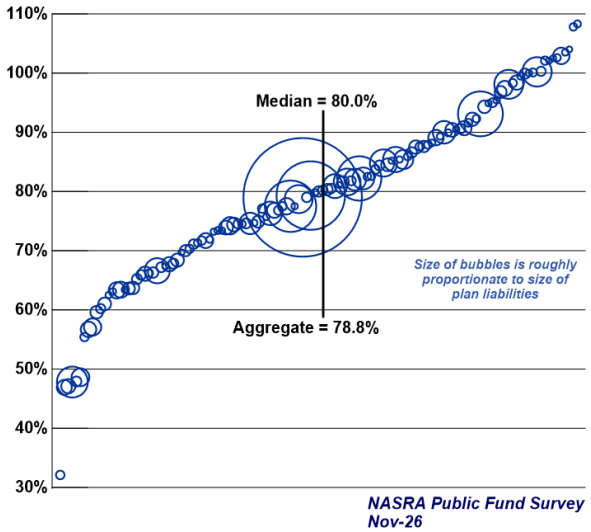


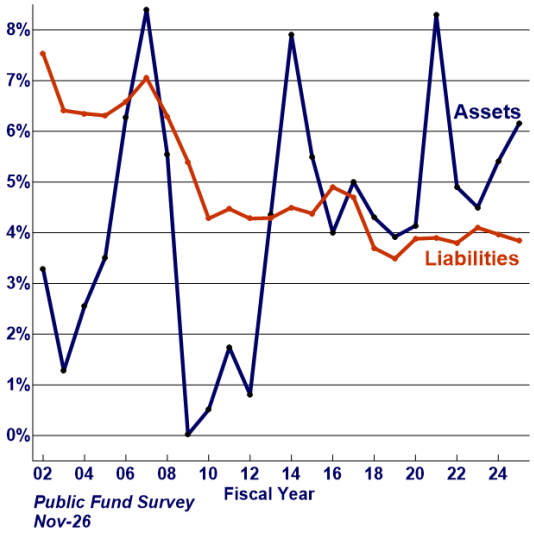
Figure C plots the median annual change since FY 02 among plans in the Survey in the actuarial value of assets and liabilities. For a pension plan's funding level to improve, its actuarial value of assets must grow faster than its liabilities. At a median rate of approximately 3.8 percent in FY 25, liability growth has remained at or near 4.0 percent for eight consecutive years, extending a secular trend of lower rates of liability growth that began following the Great Recession. Median growth in the actuarial value of assets, meanwhile, increased for the second consecutive year, to approximately 6.0 percent, and has exceeded the median rate of liability growth in every year since FY 17. Lower liability growth generally is due to factors that vary by plan, but typically include lower interest accruals due to the wave of reductions to assumed rates of investment

returns; actual inflation below expectations (which generally results, among other things, in slower salary growth); plan maturity (i.e., fewer active (working) participants relative to the number of annuitants); and the effects of many reforms (predominantly reductions) in pension benefits enacted in recent years. Rates of liability growth in previous years would have been even lower were many plans not also reducing their investment return assumption (see Figure P), and adjusting mortality assumptions to reflect longer lives, changes that increase a plan's liabilities.

As discussed previously, most plans smooth, or phase in, their investment gains and losses for the purpose of reducing volatility in the plan's funding level and required cost. Approximately two-thirds of plans in the survey smooth their investment gains and losses over five years; four-year smoothing is the second-most common period. The remaining plans phase in gains and losses over periods that range from zero (meaning no smoothing and using only the market value of assets), to 10 years.

Because five years is the predominant period used by plans to recognize investment gains and losses, combined with the significant effect that investment performance relative to a plan's investment return assumption has on the plan's funding level, a plan's five-year investment return (as shown in Figure O) can be instructive in discerning the effect of recent market performance on the funding level of individual plans (where relevant) and in the aggregate. For example, in the case of a theoretical plan with an investment return assumption of 7.0% and an actual annualized five-year investment return of 7.5%, assuming the plan achieved its other actuarial assumptions, that plan's funding level is likely to be higher because of its actual investment return outperforming its assumed investment return.

Figure C: Median change in the actuarial value of assets and liabilities



The Survey measures two types of plan members: actives and annuitants. Actives are those who currently are working and earning retirement service credits; nearly all actives also make contributions toward the cost of their pension benefit. Annuitants are those who receive a regular benefit from a public retirement system. Annuitants are predominantly retired members, as well as those who receive a disability benefit (disabilitants), and survivors (mostly surviving spouses) of deceased retired members.

For decades, the long-term trend for public pension plans has been marked by increasing maturity, resulting in a decline in the ratio of active members to annuitants, indicating an increasingly smaller number of active participants for every retiree. More recently, however, this long-term pattern has paused.

As shown in Figure D, FY 25 broke a two-year run, the only such years in the history of the Survey in which the median rate of increase in active participants outpaced the median rate of increase in annuitants. Even so, the gap between the two rates in FY 25 was narrower than in any year before FY 23, reflecting two continuing demographic trends:

1. Median growth in the number of annuitants continued its long-term slowdown, falling to approximately 1.6 percent, the lowest rate in the history of the Survey and below two percent for the third consecutive year. FY 25 is the tenth consecutive year in which median annuitant growth was below 3.5 percent.

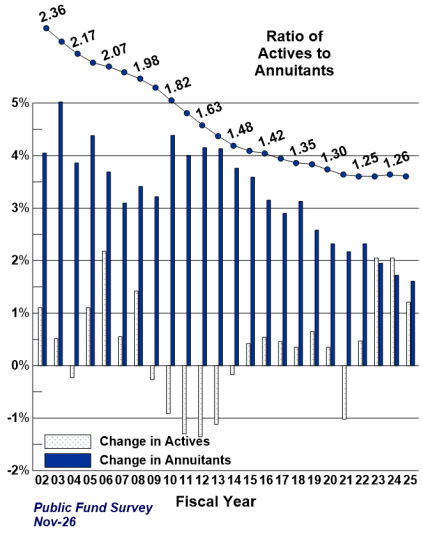
2. Median growth in the number of actives slowed to approximately 1.25 percent after exceeding two percent in each of the prior two years. Nevertheless, median growth in actives in FY 25 was higher than in any year from FY 07 through FY 22. This pattern is consistent with US Bureau of Labor Statistics data showing continued, though slower, growth in state and local employment as the hiring surge of 2023 and 2024 moderated.

Consequently, the overall active-to-annuitant ratio declined slightly in FY 25, from 1.26 to 1.25, after improving in FY 24 for the first time since the beginning of the measurement period. The ratio has held in a narrow range of 1.25 to 1.26 since FY 21, a marked departure from its steady decline over the preceding two decades.

A low or declining ratio of actives to annuitants is not necessarily problematic for a public pension plan. This is because the typical public pension funding model features accumulation, during plan participants' working years, of assets needed to fund their expected retirement benefits, in anticipation of higher rates of payout as members retire. Ideally, a plan will have accumulated the present value of all required assets to fund a retiree's benefit through the end of their expected life.

When combined with an unfunded liability, however, a low or declining ratio of actives to annuitants can contribute to financial distress for a pension plan sponsor. An unfunded liability represents a shortfall in accumulated assets and results in a cost of the plan above the normal cost (the cost of benefits earned each year); this additional cost is required to amortize or eliminate the unfunded liability over a period of years. (See more: Overview of Public Pension Plan Amortization Policies, NASRA, April 2022) A lower ratio of actives to annuitants results in applying costs to amortize a plan's unfunded liability over a relatively smaller payroll base, which increases the cost of the plan as a percentage of employee payroll. Thus, although a declining active-annuitant ratio does not, by itself, pose an actuarial or financial problem, when combined with a poorly-funded plan, a low or declining ratio of actives to annuitants can result in higher required pension costs.

Figure D: Median growth in active members and annuitants and aggregate active-to-annuitant ratio



On a market value basis, as of FY 25, plans in the Survey held a combined $5.6 trillion in assets, an increase of 8.4 percent from FY 24 and a new high for the Survey. Figure E, which plots the fiscal year-end value of assets for systems in the Survey, reflects the effects of market volatility in recent years. As the aggregate market value of funds in the Public Fund Survey has grown by roughly $2.4 trillion over the past decade, these same plans also have paid out approximately $3.1 trillion in benefits. Collectively, the portion of assets held by the systems in the Survey represents over 85 percent of the total FY 25 public pension assets identified by the U.S. Census Bureau. More recent data from the Federal Reserve indicates continued asset growth: aggregate state and local government defined benefit plan assets were an estimated $7.26 trillion as of June 30, 2026.

Figure E: Aggregate market value of assets

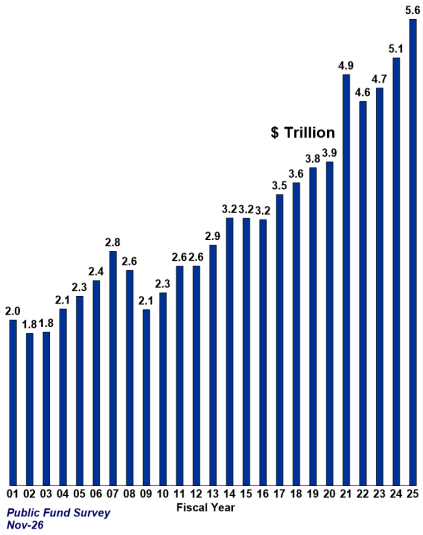


Figure F plots the combined revenues and expenditures of the systems in the Survey. The green line reflects investment gains and losses, which fluctuate in accordance with volatility in global financial markets. The blue bars indicate employee and employer contributions, and the red bars show benefit payments. Contributions and benefit payments grow at mostly steady and predictable rates, while growth or decline in investment earnings is much more volatile,

corresponding with volatility in global capital markets. Because most plans pay out more each year in benefits than they receive in contributions, contributions are used to pay current benefits (as shown in Figure I), while most investment earnings accrue to pension trust funds. Pension trust funds are established for the sole purpose of paying benefits and funding administrative costs. The benefits paid by public pension plans are paid from these trust funds, not from state and local government operating budgets or general funds.

Growth in levels of contributions and benefits is mostly stable and predictable over time. Investment earnings, which comprise nearly 60 percent of public pension revenues over the past 30 years, vacillate, often appreciably, depending on market performance (see Figure N).

Figure F: Combined revenues and expenditures

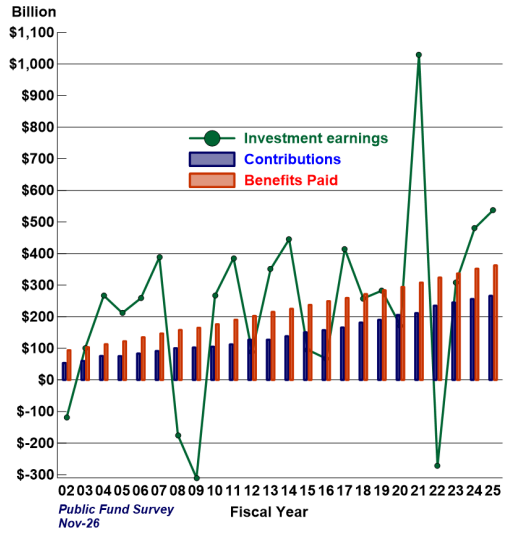


Figure G plots the median annual change in payroll from FY 02 to FY 25 among plans in the Survey for which this data is available. (The chart excludes plans in the Survey that are closed to new hires. Closed plans have no new, active members joining, and the number of annuitants grows each year as active members retire or terminate.)

As Figure G shows, median payroll growth moderated in FY 25 to approximately 5.6 percent, after reaching nearly seven percent in both FY 23 and FY 24. Even so, FY 25 median payroll growth was higher than in any year before FY 23. Prior to FY 23, trends in median payroll growth were characterized by three distinct time periods:

1. FY 02 to FY 08: payrolls grew at a fairly typical rate of roughly three to five percent;
2. FY 09 to FY 12: median payroll growth was either declining or negative;
3. FY 13 to FY 22: median payroll growth began to grow, slowly at first, until reaching a more typical level in FY 22.

Beginning in FY 23, accelerating growth in state and local employment and wage growth contributed to sharp increases in median payroll growth in FY 23 and FY 24, and to continued, if more moderate, growth in FY 25.

The payroll experience pattern of public pension plans following the Great Recession is corroborated by information provided by the U.S. Bureau of Labor Statistics, indicating that state and local employment levels and wage growth accelerated sharply beginning in 2022 before

moderating in 2025. Since FY 21 state and local governments have added nearly 1.8 million jobs. State and local employee wages have grown at an annualized rate at or above four percent since the second quarter of FY 22, and at or above five percent in some quarters.

Payroll growth affects a pension plan actuarially because the long-term funding of most pension plans is based partly on expected growth in a pension plan's payroll base. When a plan's payroll grows at a rate less than expected, the base that is used to amortize the plan's unfunded liability is smaller, meaning that, as a percentage of payroll, the cost of amortizing the unfunded liability is larger. This situation is analogous to a mortgage, in which the mortgage-holder anticipates a growing salary to make her or his monthly mortgage payment. When salary growth does not materialize as anticipated, the cost of the mortgage payment as a percentage of expected income is higher.

Many pension plans in recent years have reduced their payroll growth assumption to reflect changing economic realities and expectations. As a result, higher payroll growth experience and assumptions for future payroll growth are converging.

Figure G: Median growth in covered payroll

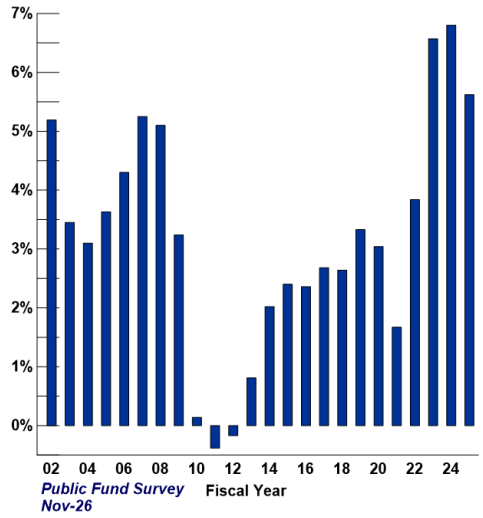


Figure H presents the distribution of change in payroll from FY 24 to FY 25, and the median payroll growth of 5.62 percent, for the 122 plans in the Survey that are open to new hires and that report this metric. The individual plan experience ranged from a decline of 1.0 percent to an increase of 18.4 percent, creating a wide range of outcomes between those two extremes. Despite recent growth, sluggish growth in previous years is still affecting many plans. Of the 122-plan Survey sample for which this comparison is possible, 55, or 45 percent, have a higher covered payroll in FY 25 than they would expect had they achieved three percent annual growth since FY 09. The remaining 67, or 55 percent, have a lower covered payroll in FY 25 than they would have had following three percent annual growth since FY 09.

Figure H: Distribution of growth in covered payroll

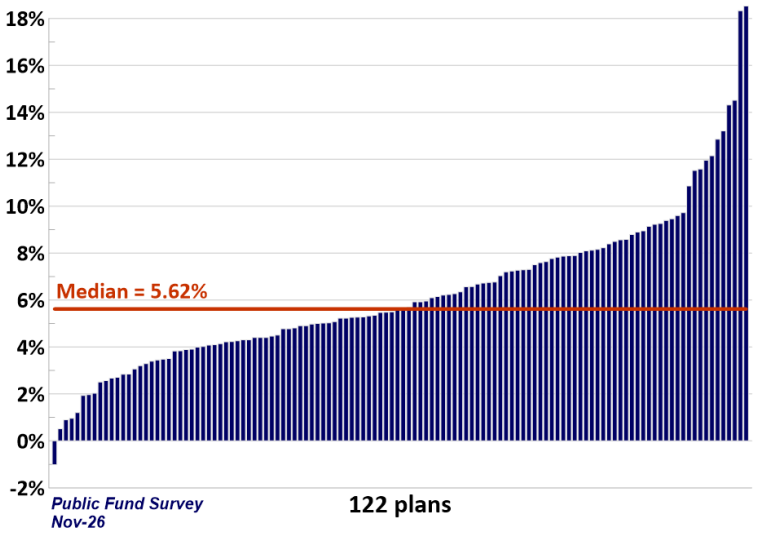


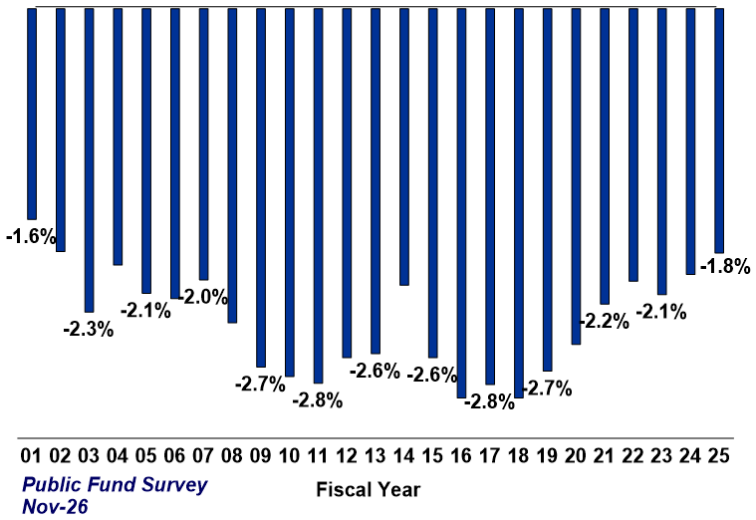
Figure I plots the median external cash flow as a percentage of assets since FY 01. External cash flow is the difference between a plan's revenue from contributions, and payouts for benefits and administrative expenses. External cash flow excludes investment gains and losses. Dividing a plan's cash flow into the market value of the system's assets produces the measure of cash flow as a percentage of assets. External cash flow typically declines as a plan matures: a growing number of annuitants, combined with slow or negative growth in active members increases benefit payments relative to contributions. Conversely, a growing asset base will offset the rate of negative cash flow. Contributions made below the actuarially recommended rate can also contribute to a plan's negative cash flow. All else equal, as a plan approaches full funding, it can expect its external cash flow to become more negative, as fewer contributions are needed to pay down its unfunded liabilities.

Nearly all plans in the survey have an external cash flow that is negative, meaning they pay out each year more in benefits and administrative expenses than they collect in contributions. Negative cash flow is not, by itself, an indication of financial or actuarial distress. Pension plans are designed to accumulate assets during participants' working years and pay them out as benefits as those participants retire. As a plan matures and its retiree population increases, benefit payments will naturally increase relative to contributions. When combined with a low funding level, a lower (more negative) cash flow may require the plan's assets to be managed more conservatively, with a larger allocation to more liquid assets to meet current benefit payment requirements. For example, in 2018, the Kentucky Public Pensions Authority reduced the investment return assumption of one of its plans—the Kentucky Employees' Retirement System—to 5.25 percent, because the plan's funding level (then below 20 percent) required the fund to maintain a relatively large portion of its assets in more liquid securities that do not generate a significant investment return.

The median external cash flow improved again in FY 25, to -1.82 percent from -1.98 percent in FY 24. FY 25 marks the second year since FY 04 in which median cash flow is above -2.0 percent following 19 years at or below that level. This is most likely a result of a) higher levels of pension contributions received by many plans, including excess contributions above actuarial requirements, and b) slower rates of growth in the number of annuitants (see Figure D), to whom

benefits are paid, in recent years. In FY 25, however, aggregate data suggest the improvement stems mainly from growth in the asset base rather than from stronger net cash flows; combined contributions were roughly flat while benefit payments continued to rise (See Figure F).

Figure I: Median net external cash flow



Figures J and K reflect changes in median employee and employer contribution rates. Figure J includes active members and employers for participants who also participate in Social Security; Figure K includes those participants and their employers who do not participate in Social Security. These contribution rates apply predominantly to general employees and public school teachers and do not reflect those for public safety workers and narrow employee groups, such as legislators, judges, etc.

Approximately one-quarter of employees of state and local government do not participate in Social Security, including approximately 40 percent of all public school teachers and a majority to substantially all state and local government workers in seven states: Alaska, Colorado, Louisiana, Maine, Massachusetts, Nevada, and Ohio.

Nearly every state has made changes to its pension plan(s) design or financing arrangement, or both, since 2009; the most common change has been an increase in required employee contribution rates. This trend is reflected in Figures J and K. Following a lengthy period at 5.0 percent, Figure J shows the median employee contribution rate for employees participating in Social Security holding consistently since FY 22 at around 6.2 percent. Median contribution rates for non-Social Security-participating employees remained steady in FY 25 at 9.0 percent, the median rate since FY 20, following many years at 8.0 percent.

Contribution rates among employers whose employees are both in and out of Social Security have increased considerably since the inception of the Survey. This increase is due primarily to the increase in unfunded pension liabilities and, more recently, a trend among many employers to increase their effort to pay a greater share of the actuarially determined contribution. FY 02, the first year of the contribution rates measurement period, was at or near the all-time low point for employer contribution rates. These low rates were a result partly of strong investment earnings in the late 1990s, as aggregate unfunded liabilities for the public pension community were around zero and many public pension plans had an actuarial funding ratio above 100 percent.

Figure J: Median employee and employer contribution rates, Social Security-eligible

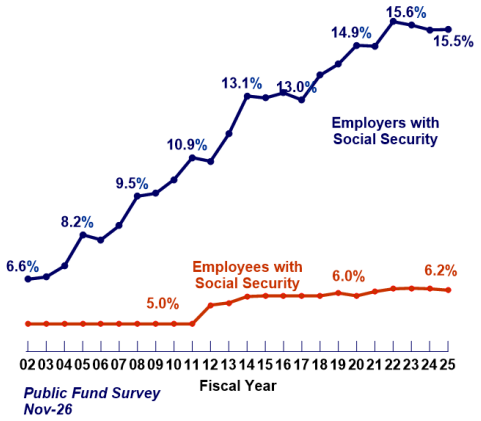


Figure K: Median employee and employer contribution rates, non-Social Security

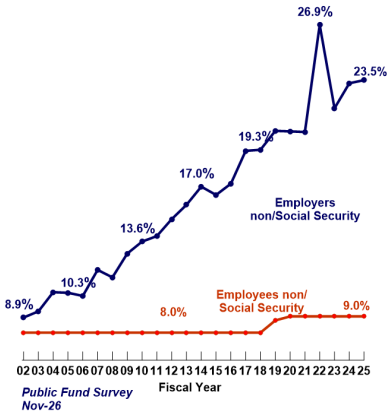


Figure L displays the range of employer contribution rates paid in FY 25 for plans whose members participate in Social Security. The lowest rate is 4.9 percent and the highest is 63.4 percent.

Figure M displays the range of employer contribution rates paid in FY 25 for plans whose members do not participate in Social Security. The lowest rate is 9.5 percent and the highest is 73.9 percent.

Figure L: Distribution of employee and employer contribution rates, Social Security-eligible

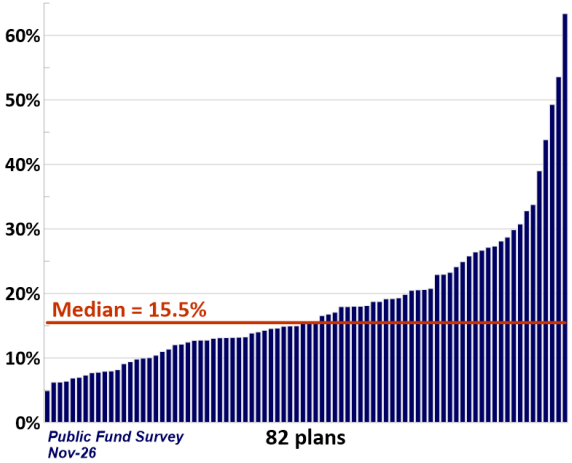


Figure M: Distribution of employee and employer contribution rates, non-Social Security

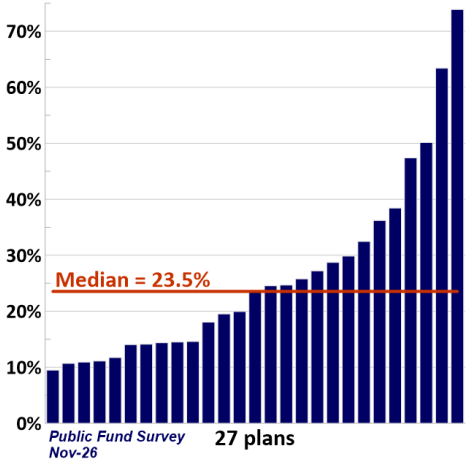
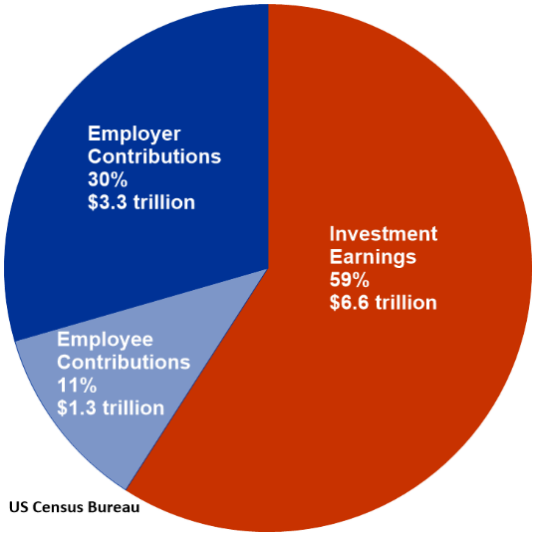


Figure N presents the cumulative sources of revenue into public pension funds for the 30 years ended in 2025. Although investment earnings are the most volatile source of revenue, over time, these also are the largest source of revenue, consistently accounting over 30-year periods for around 60 percent of public pension fund revenue. This chart illustrates the vital role that investment earnings play in funding public pension benefits. The large portion of revenue from investment earnings also illustrates why even a relatively small change in a plan's investment return assumption can have a large effect on the plan's funding level and required cost.

Figure N: Public pension fund sources of revenue

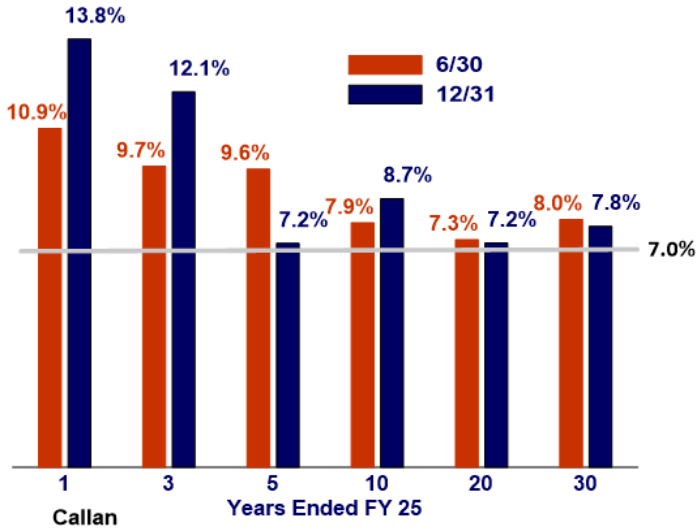


As shown in Figure O, according to investment consultant Callan, the median investment return for plans with a FY-end date of June 30, 2025 (the FY-end date used by approximately three-fourths of the funds in the survey), was 10.9 percent; the return for plans whose fiscal year-end is 12/31 (used by most other plans) was 13.8 percent. As discussed in the narrative accompanying Figure C, because most plans phase in, or smooth, their investment gains and losses over several years (five years for most plans), returns over periods of four or five years are more consequential to funding levels than the return of any single year. The median returns for five-year periods ended in FY 25, 9.6 percent for June 30 plans and 7.2 percent for December 31 plans, both exceed the median investment return assumption of 7.0 percent and are consistent with the improvement in public pension funding levels shown in Figure A.

Notably, median investment returns for every period shown in Figure O now meet or exceed the current median investment return assumption of 7.0 percent.

For plans that smooth gains and losses over five years, FY 25 was the final year in which the exceptional returns of FY 21 were recognized, and FY 26 will be the final year for recognizing the losses of FY 22.

Figure O: Median public pension fund investment returns



Of all actuarial assumptions, a change to a public pension plan's investment return assumption typically has the greatest effect on the plan's funding level and its projected long-term cost. This is because, over time, most of the revenue of a typical public pension fund is expected to come from investment earnings.

As shown in Figures P and Q, from the beginning of this survey (and for several years preceding), until FY 11, the median investment return assumption used by the 131 public pension plans in the Survey was 8.0 percent. Following the sharp decline in global capital markets in 2008-09 and the decline in interest rates and projected returns on major asset classes that followed the Great Financial Crisis, every plan in the Survey reduced its assumed investment return, many more than once. This trend resulted in a reduction to the median return assumption to 7.0 percent in FY 21, where it has remained since. Figure P compares the distribution of investment return assumptions for each fiscal year since the inception of the Survey; Figure Q illustrates the steady reduction in assumed rates of return, particularly since 2009, and their stabilization since FY 21.

Reducing a plan's investment return assumption increases its projected liabilities and the plan's cost. The extended period of reductions in the investment return assumption challenged the ability of pension plans to improve their funding level: even as benefit levels were reduced and contribution rates and actual contributions into pension funds increased, as shown in Figure A, above, funding levels for many plans struggled to improve, due partly to lower investment return assumptions.

Figure P: Historical distribution of investment return assumptions

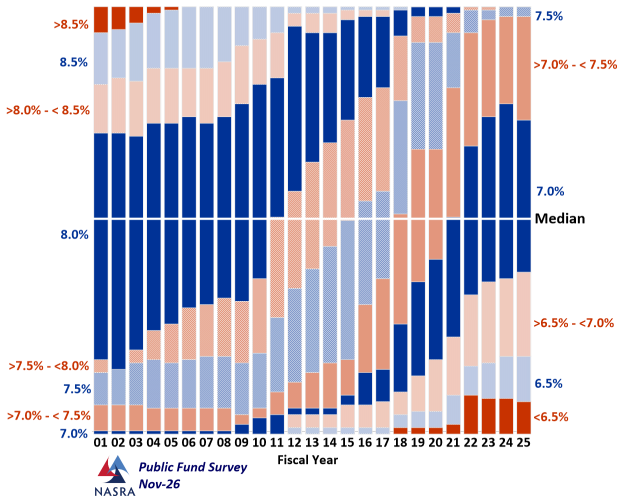


Figure Q reflects the investment return data shown in Figure P (above) after distilling the data into an average and median. Notably, the median return assumption has held steady for six years, from FY 21 to FY 26, likely a result primarily of the higher rate of inflation in the U.S. since 2021, which has coincided with, if not contributed to, higher interest rates and higher expected nominal returns for major asset classes. The average assumption, which reached a low of 6.9 percent in FY 24, has edged up slightly since, to 6.91 percent in FY 25, marking the first increase in the history of the Survey.

Figure Q: Median and average investment return assumption

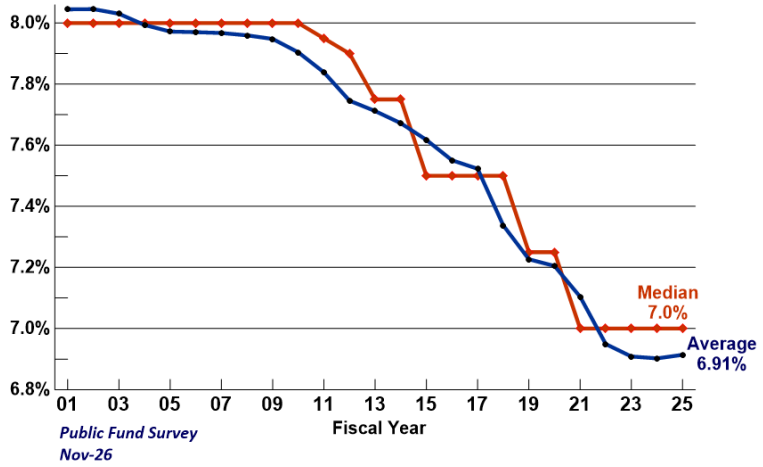


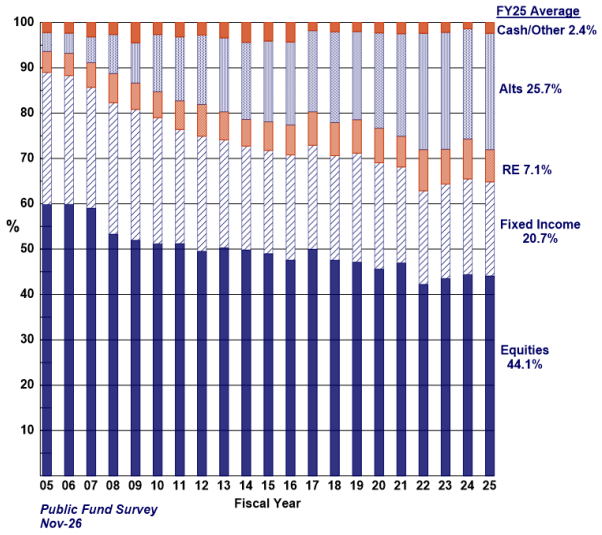
Figure R plots the average asset allocation of a representative sample of state pension funds since FY 05. The average allocation to public equities—traditionally the largest asset class among public pension funds—steadily declined since the drop in global capital markets in 2008-09. This secular decline in the allocation to public equities reached 42.2 percent in FY 22, its lowest point since the beginning of the measurement period, and has subsequently increased. This experience reflects a combination of shifting target allocations toward greater use of alternatives, and the sharp decline in equity markets in 2022. The average allocation to equities has grown since, to 44.4 percent in FY 24, reflecting strong returns since 2023, and was little changed in FY 25 at 44.1 percent.

As with public equities, the average allocation to fixed income also reached its lowest level in the history of the Survey in FY 22, reflecting both smaller target allocations to fixed income and declining bond market values. The allocation to fixed income has increased since, to 21.1 percent in FY 24 and edged down to 20.7 percent in FY 25. Allocations by public pension funds to public equities and bonds historically comprised the bulwark of public pension portfolios. This predominance has been reduced by steady growth in allocations to alternatives: the average allocation to alternatives (chiefly private equity and hedge funds) reached 25.7 percent in FY 25, the highest level in the measurement period and up from less than five percent in FY 05.

In recent years, a growing number of institutional investors, including public pension funds, have moved away from managing their portfolios via the use of discrete asset classes, in favor of portfolio management strategies based on levels of risk and other more holistic factors. One outcome of this trend is the presentation in public reporting of asset allocations that does not specify the fund’s actual or target allocation to traditional asset classes, such as public equities and fixed income.

This trend is exemplified by the recent decision by the board of the California Public Employees’ Retirement System (CalPERS) to move to a “total portfolio approach,” or TPA. TPA features the management of assets under a single objective, unlike the traditional strategic asset allocation approach, in which separate asset classes are siloed and managed separately.

Figure R: Average asset allocation



- Appendix A: Public Retirement System Assets and Membership (PDF)
  - Search tool: View and download Appendix A data
- Appendix B: Actuarial Funding Levels for FY 25 (PDF)
  - Search tool: View and download Appendix B data

See Also

- Public Plans Data
- NASRA Research Center

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