



NORTH CAROLINA
DEPARTMENT OF STATE TREASURER
RETIREMENT SYSTEMS DIVISION

JANET COWELL
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July 20, 2015

Honorable Harry Brown
N.C. Senate
300 N. Salisbury Street, Room 300-B
Raleigh, N.C. 27603-5925

Honorable Kathy Harrington
N.C. Senate
300 N. Salisbury Street, Room 300-C
Raleigh, NC 27603-5925

Honorable Brent Jackson
N.C. Senate
16 W. Jones Street, Room 2022
Raleigh, NC 27601-2808

RE: Section XXX.XX of Senate Budget

Dear Senators Brown, Harrington, and Jackson,

The Boards of Trustees of the state and local retirement systems have reviewed Section 30.29 of the 7th Edition of House Bill 97, "Current Operations Appropriations," the Senate version of the budget, which would mandate an interest rate assumption for funding purposes for the state retirement system. By vote of both Boards, the Trustees have instructed me to convey this letter to you highlighting their concerns about this legislation.

The interest rate assumption for funding purposes is one of more than two dozen assumptions that are used by the actuaries to arrive at the Annual Required Contribution (ARC) that the state must pay into the retirement system. Our actuaries have reviewed the Senate proposal and have cautioned us that this provision would not be advisable in its current form because it is not good practice to separate one assumption from among many and adjust it, or consider it by itself when funding determinations are made.

This letter will detail our primary concerns with this provision, which when summarized are:

- 1) Actuarial assumptions should not be mandated in statute
- 2) Actuarial assumptions should be adjusted as a result of a data-driven review
- 3) Actuarial assumptions should be consistent with one another
- 4) The provision requires the Boards to treat some of the state's retirement systems differently

Further, the Boards of Trustees are currently conducting a statutorily-required "experience review" and will receive recommendations from the consulting actuary this October on the topic. This proposal seems to mandate an outcome from what should be an objective and data-driven process.

CONCERN #1: Actuarial assumptions should not be mandated in statute

Incorporating basic actuarial valuation assumptions that are to be used in determining liabilities and costs into statute can lead to serious adverse repercussions. While this provision may seem to mandate only one assumption for one purpose only, it takes the state down the same bumpy regulatory road the U.S. Congress went with private sector (ERISA) retirement plans. Congress has mandated assumptions that have no bearing on reality, and employers are funding plans in accordance with statutory requirements rather than mathematical logic. As a result, the Pension Benefit Guaranty Corporation, the federal agency charged with oversight of these plans, says their liabilities are growing and contributions aren't sufficient to cover future costs. Further exacerbating this confusing situation, auditors mandate that appropriate assumptions be used in financial statements so there is a dissonance between funding and financial statement liabilities.

Another problem with locking assumptions to be used to determine funding costs into statute is that they may become subject to future legislative hurdles that make it difficult, or even impossible, to update them on a predictable and rational basis. Possible appropriate changes may become impossible to make as they may have an adverse impact on budgets of some component units of the state government. Compromise and delay will likely become the norm, rather than rational choice and decisive action.

Assumptions should be based on professional expertise and experience analysis that lead to the determination of appropriate assumptions consistent with the Actuarial Standards of Practice. If assumptions are mandated that are inappropriate because they are outdated or inconsistent with emerging experience, the actuary responsible for the annual valuation of the retirement system will have to indicate that the assumptions specified are not reasonable or appropriate. That may cause difficulties with creditors, investment banks, the Securities and Exchange Commission, and auditors.

It is likely that auditors will mandate that appropriate assumptions be used in developing financial statement disclosure information before they will sign off on an audit. Even now, in the ERISA plans this is becoming prevalent where the assumptions mandated by Congress for determining certain liabilities are considered inappropriate by both auditors and actuaries, so additional work is being performed to determine information that is acceptable to the auditors for disclosure purposes.

CONCERN #2: Actuarial assumptions should be adjusted as a result of a data-driven review

Rather than mandating specific assumptions in statutes, a better course of action is to require that appropriate experience analysis be conducted in reasonable timeframes to serve as a basis for a professional decision as to the appropriate assumption. This is the current policy that the state follows and is required under N.C.G.S. 135-6(n). This policy is also supported under the Government Finance Officers Association's best practices, "Sustainable Funding Practices of Defined Benefit Pension Plans," which reads:

"Actuarial assumptions should be carefully reviewed by retirement system staff, discussed with outside experts (including investment advisors), and explicitly approved by trustees. Assumptions that should be carefully reviewed include the long-term return on assets, salary growth, inflation, mortality tables, age eligibility, and any anticipated changes in the covered population of plan participants. Have an actuarial experience study performed at least once every five years, and update actuarial assumptions as needed."

CONCERN #3: Actuarial assumptions should be consistent with one another

Actuarial standards of practice require that actuarial assumptions be consistent with one another. This mandate is harder to fulfill if one or more of the assumptions are prescribed by law. Changing one assumption in a vacuum — which this budget provision does— when applied to the overall valuation of the retirement system can yield a misleading result. For example, a change in the return assumption often suggests that a change in salary or inflation assumption is needed. As a consequence, results based on mandated interest rate assumptions could be viewed by auditors or other users of the system valuation reports to be inappropriate and meaningless.

CONCERN #4: The provision treats some of the state’s retirement systems differently

The Boards of Trustees of the state and local retirement systems provide governance oversight for 10 different retirement systems. The provision in question changes the assumption for only one of these retirement systems. The Boards make every effort to provide consistent administrative practices and actuarial assumptions for all of the systems, since the funds for all of the systems are pooled together.

This legislation addresses actuarial assumptions for the:
Teachers’ and State Employees’ Retirement System

In addition to TSERS, the Boards of Trustees administer:
Local Governmental Employees Retirement System
Firefighters’ & Rescue Squad Workers’ Pension Fund
Consolidated Judicial Retirement System
Legislative Retirement System
Disability Income Plan of North Carolina
Death Benefit Plan for State Employees
Death Benefit Plan for Local Employees
Contributory Death Benefit for Retirees
Separate Insurance Benefit Fund

Conclusion & Recommendation

Even given the aforementioned concerns, the Board does see one concept in the provision that would serve the mutual interests of all parties affected. The idea of providing a “glide path” if the interest rate assumption for funding purposes is changed by making an annual series of small changes in a predetermined direction. This would provide additional stability and predictability in budgeting, which is consistent with the state’s 74 years of promoting responsible funding policy.

The Board requests that the General Assembly allow the Boards to complete the current experience review and review the work of the consulting actuaries, instead of mandating one assumption in statute as is currently proposed by the Senate. The goal of this review is to set the assumption at a sustainable level in consideration of relevant economic and investment factors, other actuarial assumptions, funding policy, and intergenerational cost allocation.

If the current process set out in statute yields a recommendation that the interest rate assumption for funding purposes be lowered, then the Boards of Trustees, the Investment Advisory Committee, and Department of State Treasurer working in conjunction – over the next biennium – will develop a glide-path to achieve an interest rate assumption for funding purposes that will reduce the current risk of volatile year-over-year changes in legislative funding.

At the end of this biennium, the Treasurer will report to both Senate and House leadership, and any committees deemed appropriate, about the progress made toward reaching this goal. At such a time, the General Assembly may either approve of the progress made or direct additional measures as they see fit.

This approach allows the Boards of Trustees, the Investment Advisory Committee, and the Treasurer to maintain their autonomy in making this decision, to consider relevant economic and investment factors, and to work closely with the actuary to make adjustments to the discount rate in conjunction with other actuarial assumptions.

Thank you for your attention to this matter and please contact me or my staff if we may answer any questions.

Sincerely,



Steven C. Toole
Secretary to the Boards of Trustees

CC: *Conference Committee for House Bill 97*

SCT/sww



GFOA Best Practice

Sustainable Funding Practices of Defined Benefit Pension Plans

Background. The fundamental financial objective of a public employee defined benefit (DB) pension plan is to fund the long-term cost of benefits promised to the plan participants. It is widely acknowledged that the appropriate way to attain reasonable assurance that pension benefits will remain sustainable is for a government to accumulate resources for future benefit payments in a systematic and disciplined manner during the active service life of the benefitting employees.

Long-term funding is accomplished through contributions from the employer and employee, and from investment earnings, which typically provide the largest component of funding. Contributions are often expressed as a percentage of active member payroll, which should remain approximately level from one year to the next. Principles of accrual accounting require that the total cost of employee services be recognized in the period in which those services are rendered. A plan's funding policy codifies the pension system's commitment to fund benefit promises based on regular actuarial valuations. Creating a funding policy that embodies these accounting and funding principles is a prudent governance practice and helps achieve intergenerational equity among those who are called on to financially support the plan, thereby avoiding the transfer of costs to future generations.

Recommendation. GFOA recommends that state and local government officials ensure that the costs of the benefits promised in public employee DB plans are properly measured and reported, in accordance with generally accepted accounting principles (GAAP).¹ The GFOA believes sustainability requires that governments that sponsor or participate in a defined benefit pension plan contribute the full amount of their actuarially determined annual required contribution (ARC) each year. Failing to fund the ARC during recessionary periods impairs investment returns by depriving the fund of its opportunity to invest when stock prices are low. Long-term investment performance will suffer and ultimately require higher contributions.

In pursuing these standards and criteria, public officials and retirement system trustees should, at a minimum, adhere to the following best practices:

1. Adopt a funding policy targeting a 100 percent or more funded ratio (full funding). The funding policy should provide for a stable amortization period over time², with parameters provided for making changes that are based on specific circumstances. Establish a period for amortization of unfunded actuarial accrued liabilities that does not exceed the parameters established by GAAP³ and that is consistent with the funding policy of the plan.

2. Discuss the funding and amortization methods with your actuary, and select the one that most closely aligns with the funding policy. The actuarial funding method selected is a key component of the funding policy of the plan⁴. Some funding methods may result in more variations in the ARC (the portion of the present value of projected benefits that is attributable to the current period) than others. Governments should take measures to reduce the volatility in the ARC in order to create a more predictable operating budget and enhance their ability to meet funding obligations.
3. The funding policy should stipulate that employer and employee contributions are to be made at regular intervals, with the contribution amount determined by the results of a recent actuarial valuation of the system. To ensure that this objective can be achieved, the funding policy should be integrated with investment and asset allocation policies. Reductions or postponements in collecting the ARC would typically be inconsistent with the assumptions made in computing the ARC. When contributions fall below the ARC, the board of trustees should prepare a report that analyzes what effect the underfunding has on the system and distribute the report to all stakeholders.
4. Have an actuarial valuation prepared at least biennially by a qualified actuary in accordance with generally accepted actuarial principles applied in a manner consistent with GAAP. Each valuation should include a gain/loss analysis that identifies the magnitude of actuarial gains and losses, based on variations between actual and assumed experience for each major assumption. Have a comprehensive audit of the plan's actuarial valuations performed by an independent actuary at least once every five to eight years. The purpose of such a review is to provide an independent critique of the reasonableness of the actuarial methods and assumptions in use and the validity of the resulting actuarially computed contributions and liabilities.
5. Actuarial assumptions should be carefully reviewed by retirement system staff, discussed with outside experts (including investment advisors), and explicitly approved by trustees. Assumptions that should be carefully reviewed include the long-term return on assets, salary growth, inflation, mortality tables, age eligibility, and any anticipated changes in the covered population of plan participants. Have an actuarial experience study performed at least once every five years, and update actuarial assumptions as needed.
6. Prepare and widely distribute a comprehensive annual financial report (CAFR) covering retirement system activity, and distribute summary information to all plan participants. The CAFR should be prepared following the guidance provided by the GFOA for the preparation of a public employee retirement system CAFR.

GFOA recommends the following options to reduce ARC volatility:

1. *Smoothing returns on assets.* Smoothing investment returns over several years recognizes that the system's investment portfolio performance does fluctuate, and only by coincidence will it exactly equal the assumed actuarial rate of return for any given year. This approach reduces the volatility within the calculation of

the ARC. A smoothing period is used to balance the need for a longer-term investment horizon with the short-term market fluctuations in the value of plan assets. While the smoothing period is typically about five years, it can be longer, if controls are in place to assure that any variation between the market value and actuarial value of assets does not become too large. A common approach is to establish corridors around market value of assets to stipulate the maximum percentage by which the actuarially smoothed value will be allowed to deviate from the actual market value (pension funds commonly limit the actuarial value of assets to no less than 80 percent of market value and no more than 120 percent). Once a smoothing method is established, the retirement board should adhere to it and avoid making arbitrary changes to the methodology.

2. *Diversifying the investment portfolio to reduce volatility in investment returns.* Diversifying assets across and within asset classes is a fundamental risk management tool that also has the effect of reducing the fluctuations in ARC volatility. Although annual changes in the ARC are affected by numerous factors, the most significant is usually investment return. It is recommended that retirement systems periodically conduct asset-liability studies for use in reviewing their asset allocation policies. (See GFOA's Best Practice, *Asset Allocation Guidance for Defined Benefit Plans*, 2009).
3. *Managing investment returns long term.* Because the investment return assumption is an average longterm expected rate of return, excess earnings in any one year will likely be offset by lower-than-expected rates of return in a future year. Thus, any program that is derived from an excess-earnings concept is detrimental to the funded status of the plan.
4. *Managing growth in liabilities.* Managing growth in liabilities should also be done long term. All benefit increases for members and beneficiaries should be carefully considered and appropriately approved, and be consistent with all Internal Revenue Service requirements. Whether cost of living adjustments (COLAs), benefit formula enhancements, or post-retirement benefit increases, a clear strategy should be developed that integrates benefit enhancements with the funding policy of the plan. Further, all benefit enhancements and COLAs should be actuarially valued and presented to the Board of Trustees, plan sponsor and appropriate legislative body before they are adopted so the effect of the benefit enhancements on the fund's actuarial accrued liability, funded ratio, and contribution rates is fully understood. This step will help ensure that the goal of fully funding member benefits is achieved, and the financial condition of the retirement system remains sustainable. If a benefit enhancement is being considered, a source of funding should be identified that can support the enhancement over the long term.
5. *Maintaining vigilance against ethical violations and benefit calculation abuse.* While affecting only a small percentage of retirement systems, and often only in select instances in these systems, headlinegrabbing abuses of retirement benefit enhancements such as salary spiking can create negative public perceptions that are harmful to all retirement systems and can adversely affect the sustainability of the system. Policies to safeguard against these abuses or undesired outcomes should be considered.

References.

Financing Retirement System Benefits, Richard G. Roeder, GFOA, 1987.

Pension Accounting and Reporting, Second Edition, William R. Schwartz, GFOA, 1995.

Guidelines for the Preparation of a Public Employee Retirement System Comprehensive Annual Financial Report, Stephen Gauthier, GFOA, 1996.

An Elected Officials Guide to Public Retirement Plans, Cathie G. Eitelberg, GFOA, 1997.

A Guide for Selecting Pension Actuarial Consultants: Writing RFPs and Evaluating Proposals, Robert Pam, GFOA, 1999.

Public Pension Systems – Operational Risks of Defined Benefit and Related Plans and Controls Investment Policy Checklist for Pension Fund Assets, GFOA, May 2003.

GFOA Best Practice, Asset Allocation Guidance for Defined Benefit Plans, 2009.

NOTES:

¹ The Governmental Accounting Standards Board (GASB) currently sets GAAP for state and local governments.

² Public officials and retirement system trustees should exercise extreme caution when considering the use of “open amortization” since this method can delay full amortization indefinitely, and could even result in the amount to be amortized increasing rather than decreasing.

³ GASB standards set a maximum amortization period of no longer than 30 years.

⁴ The use of projected unit credit method (one of six actuarial cost allocation methods permitted by GAAP) typically would not be consistent with the goal of level funding.

Approved by the GFOA's Executive Board, October, 2009.

NASRA Issue Brief: Public Pension Plan Investment Return Assumptions



Updated May 2015

As of December 31, 2014, state and local government retirement systems held assets of \$3.78 trillion.¹ These assets are held in trust and invested to pre-fund the cost of pension benefits. The investment return on these assets matters, as investment earnings account for a majority of public pension financing. A shortfall in long-term expected investment earnings must be made up by higher contributions or reduced benefits.

Funding a pension benefit requires the use of projections, known as actuarial assumptions, about future events. Actuarial assumptions fall into one of two broad categories: demographic and economic. Demographic assumptions are those pertaining to a pension plan's membership, such as changes in the number of working and retired plan participants; when participants will retire, and how long they'll live after they retire. Economic assumptions pertain to such factors as the rate of wage growth and the future expected investment return on the fund's assets.

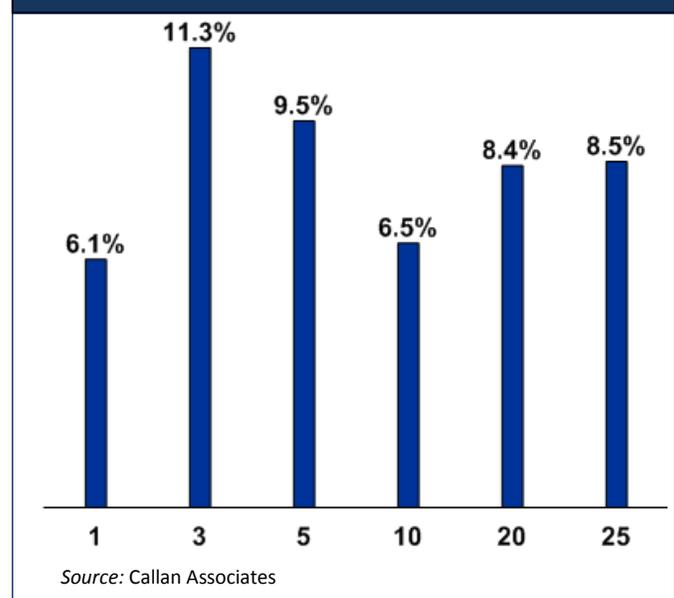
As with other actuarial assumptions, projecting public pension fund investment returns requires a focus on the long-term. This brief discusses how investment return assumptions are established and evaluated, and compares these assumptions with public funds' actual investment experience.

Some critics of current public pension investment return assumption levels say that current low interest rates and volatile investment markets require public pension funds to take on excessive investment risk to achieve their assumption. Because investment earnings account for a majority of revenue for a typical public pension fund, the accuracy of the assumption has a major effect on the plan's finances and actuarial funding level.

An investment return assumption that is set too low will overstate liabilities and costs, causing current taxpayers to be overcharged and future taxpayers to be undercharged. A rate set too high will understate liabilities, undercharging current taxpayers, at the expense of future taxpayers. An assumption that is significantly wrong in either direction will cause a misallocation of resources and unfairly distribute costs among generations of taxpayers.

Although public pension funds, like other investors, experienced sub-par returns in the wake of the 2008-09 decline in global equity values, median public pension fund returns over longer periods meet or exceed the assumed rates used by most plans. As shown in Figure 1, the median annualized investment return for the 3-, 5-, 20- and 25-year periods ended December 31, 2014, exceeds the average assumption of 7.68 percent (see Figure 5), while the 10-year return is below this level.

Figure 1: Median public pension annualized investment returns for period ended 12/31/2014



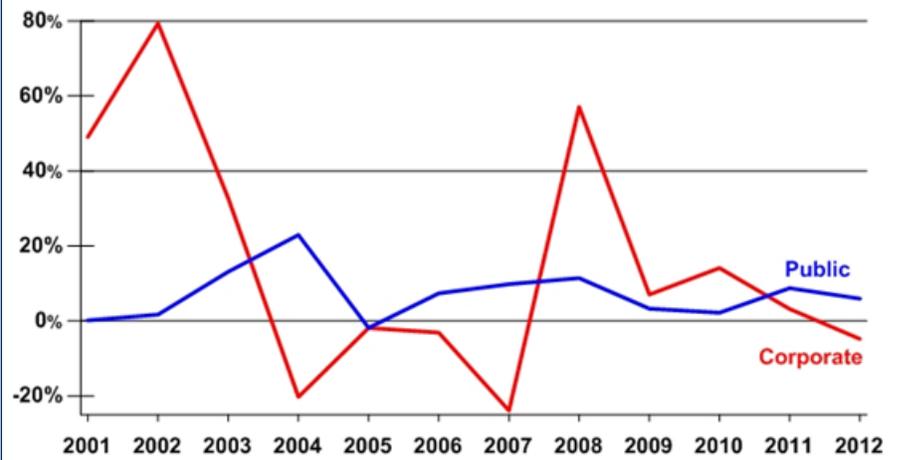
¹ Federal Reserve, *Flow of Funds Accounts of the United States: Flows and Outstandings, Fourth Quarter 2014*, Table L.118

Public retirement systems typically follow guidelines set forth by the Actuarial Standards Board to set and review their actuarial assumptions, including the expected rate of investment return. Most systems review their actuarial assumptions regularly, pursuant to state or local statute or system policy. Actuarial Standards of Practice No. 27 (Selection of Economic Assumptions for Measuring Pension Obligations) (ASOP 27) prescribes the considerations actuaries should make in setting an investment return assumption. As described in ASOP 27, the process for establishing and reviewing the investment return assumption involves consideration of various financial, economic, and market factors, and is based on a very long-term view, typically 30 to 50 years. A primary objective for using a long-term approach in setting public pensions' return assumption is to promote stability and predictability of cost to ensure intergenerational equity among taxpayers.

Unlike public pension plans, corporate plans are required by federal regulations to make contributions on the basis of current interest rates. As Figure 2 shows, this method results in plan costs that are volatile and uncertain, often changing

dramatically from one year to the next. This volatility is due in part to fluctuations in interest rates and has been identified as a leading factor in the decision among corporations to abandon their pension plans. By focusing on the long-term and relying on a stable investment return assumption, public plans experience less volatility of costs.

Figure 2: Annual change in contributions from prior year, corporate vs. public pensions

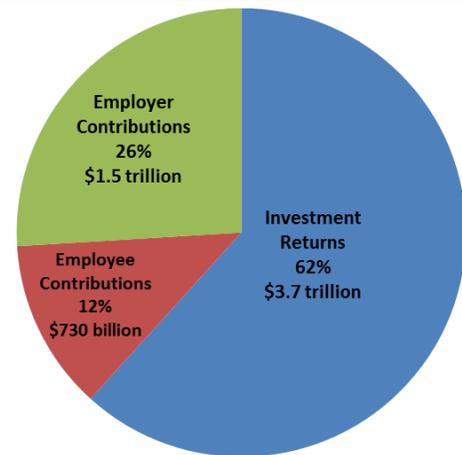


Source: Compiled by NASRA based on U.S. Department of Labor and U.S. Census Bureau data

As shown in Figure 3, since 1984, public pension funds have accrued an estimated \$5.9 trillion in revenue, of which \$3.7 trillion, or 62 percent, is estimated to have come from investment earnings. Employer contributions account for \$1.5 trillion, or 26 percent of the total, and employee contributions total \$730 billion, or 12 percent.²

Public retirement systems operate over long timeframes and manage assets for participants whose involvement with the plan can last more than half a century. Consider the case of a newly-hired public school teacher who is 25 years old. If this pension plan participant elects to make a career out of teaching school, he or she may work for 35 years, to age 60, and live another 25 years, to age 85. This teacher's pension plan will receive contributions for the first 35 years and then pay out benefits for another 25 years. During the entire 60-year period, the plan is investing assets on behalf of this participant. To emphasize the long-term nature of the investment return assumption, for a typical career employee, more than one-half of the investment income earned on assets accumulated to pay benefits is received *after* the employee retires.

Figure 3: Public Pension Sources of Revenue, 1984-2013



Source: Compiled by NASRA based on U.S. Census Bureau data

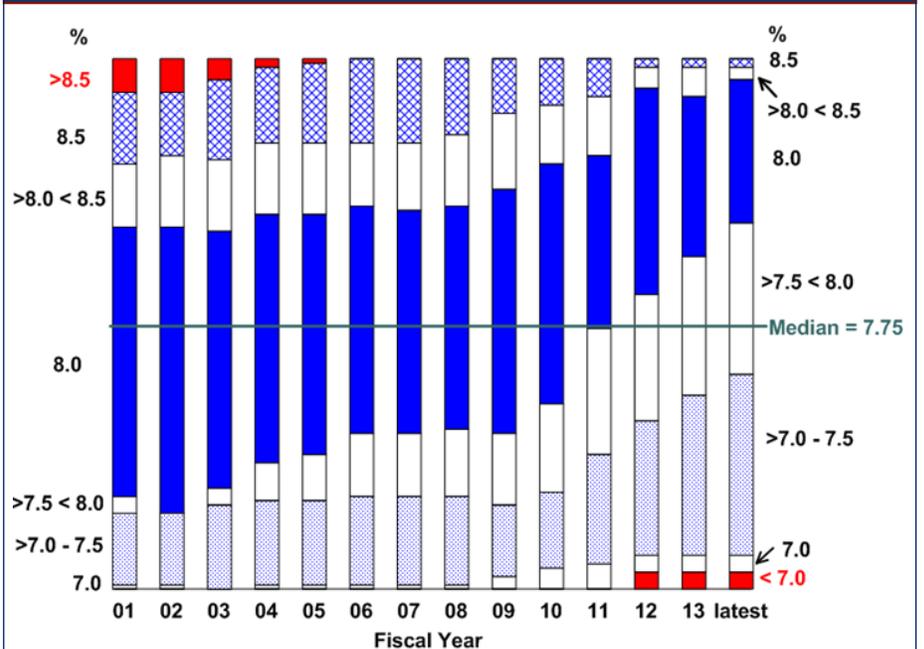
² US Census Bureau, Annual Survey of Public Pensions, State & Local Data

The investment return assumption is established through a process that considers factors such as economic and financial criteria; the plan’s liabilities; and the plan’s asset allocation, which reflects the plan’s capital market assumptions, risk tolerance, and projected cash flows.

Standards for setting an investment return assumption, established and maintained by professional actuaries, recommend that actuaries consider a range of specified factors, including current and projected interest rates and rates of inflation; historic and projected returns for individual asset classes; and historic returns of the fund itself. The investment return assumption reflects a value within the projected range.

As shown in Figure 4, many public pension plans have reduced their return assumption in recent years. Among the 126 plans measured in the Public Fund Survey, more than one-half have reduced their investment return assumption since fiscal year 2008. The average return assumption is 7.68 percent. Appendix A details the assumptions in use or adopted by the 126 plans in the Public Fund Survey.

Figure 4: Change in distribution of public pension investment return assumptions, FY 01 through May 2015



Source: Compiled by NASRA based on Public Fund Survey

Conclusion

Over the last 25 years, a period that has included three economic recessions and four years when median public pension fund investment returns were negative, public pension funds have exceeded their assumed rates of investment return. Changes in economic and financial conditions are causing many public plans to reconsider their investment return assumption. Such a consideration must include a range of financial and economic factors while remaining consistent with the long timeframe under which plans operate.

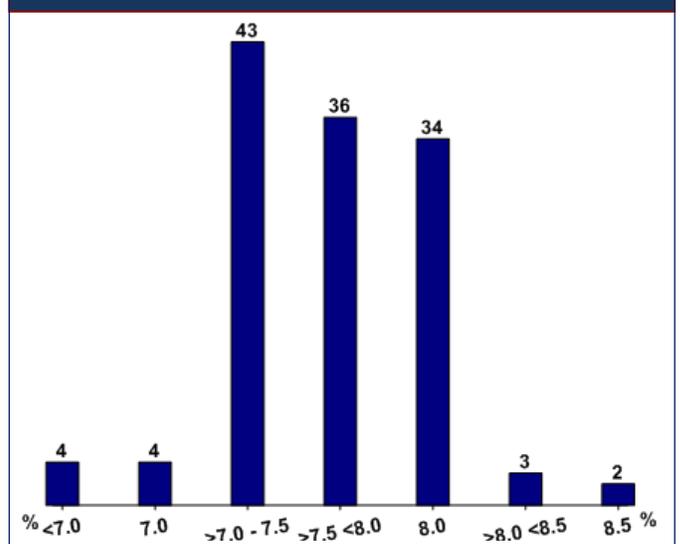
See Also:

- [Actuarial Standards of Practice No. 27](#), Actuarial Standards Board
- [The Liability Side of the Equation Revisited](#), Missouri SERS, September 2006
- The [Public Fund Survey](#) is sponsored by the National Association of State Retirement Administrators (registration required).

Contact:

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 Alex Brown, Research Manager, alex@nasra.org
[National Association of State Retirement Administrators](#)

Figure 5: Distribution of investment return assumptions



Source: Compiled by NASRA based on Public Fund Survey, May 2015

Appendix A: Investment Return Assumption by Plan

(Figures reflect the nominal assumption in use, or announced for use, as of May 2015)

Plan	Rate (%)
Alaska PERS	8.00
Alaska Teachers	8.00
Alabama ERS	8.00
Alabama Teachers	8.00
Arkansas PERS	7.75
Arkansas Teachers	8.00
Arizona Public Safety Personnel	7.85
Arizona SRS	8.00
Phoenix ERS	7.50
California PERF	7.50
California Teachers	7.50
Contra Costa County	7.25
LA County ERS	7.50
San Diego County	7.75
San Francisco City & County	7.50
Colorado Affiliated Local	7.50
Colorado Fire & Police Statewide	7.50
Colorado Municipal	7.50
Colorado School	7.50
Colorado State	7.50
Denver Employees	8.00
Denver Public Schools	7.50
Connecticut SERS	8.00
Connecticut Teachers	8.50
DC Police & Fire	6.50
DC Teachers	6.50
Delaware State Employees	7.20
Florida RS	7.65
Georgia ERS	7.50
Georgia Teachers	7.50
Hawaii ERS	7.75
Iowa PERS	7.50
Idaho PERS	7.00
Chicago Teachers	7.75
Illinois Municipal	7.50
Illinois SERS	7.25
Illinois Teachers	7.50
Illinois Universities	7.25
Indiana PERF	6.75
Indiana Teachers	6.75

Kansas PERS	8.00
Kentucky County	7.75
Kentucky ERS	7.75
Kentucky Teachers	7.50
Louisiana SERS	7.75
Louisiana Teachers	7.75
Massachusetts SERS	7.75
Massachusetts Teachers	7.75
Maryland PERS ¹	7.65
Maryland Teachers ¹	7.65
Maine Local	7.13
Maine State and Teacher	7.13
Michigan Municipal	8.00
Michigan Public Schools	8.00
Michigan SERS	8.00
Duluth Teachers	8.00
Minnesota PERF	8.00
Minnesota State Employees	8.00
Minnesota Teachers ²	8.40
St. Paul Teachers	8.00
Missouri DOT and Highway Patrol	7.75
Missouri Local	7.25
Missouri PEERS	8.00
Missouri State Employees	8.00
Missouri Teachers	8.00
St. Louis School Employees	8.00
Mississippi PERS	8.00
Montana PERS	7.75
Montana Teachers	7.75
North Carolina Local Government	7.25
North Carolina Teachers and State Employees	7.25
North Dakota PERS	8.00
North Dakota Teachers	8.00
Nebraska Schools	8.00
New Hampshire Retirement System	7.75
New Jersey PERS	7.90
New Jersey Police & Fire	7.90
New Jersey Teachers	7.90
New Mexico PERF	7.75

New Mexico Teachers	7.75
Nevada Police Officer and Firefighter	8.00
Nevada Regular Employees	8.00
New York City ERS	7.00
New York City Teachers	8.00
New York State Teachers	8.00
NY State & Local ERS	7.50
NY State & Local Police & Fire	7.50
Ohio PERS	8.00
Ohio Police & Fire	8.25
Ohio School Employees	7.75
Ohio Teachers	7.75
Oklahoma PERS	7.50
Oklahoma Teachers	8.00
Oregon PERS	7.75
Pennsylvania School Employees	7.50
Pennsylvania State ERS	7.50
Rhode Island ERS	7.50
Rhode Island Municipal	7.50
South Carolina Police	7.50
South Carolina RS	7.50
South Dakota PERS ³	7.25
TN Political Subdivisions	7.50
TN State and Teachers	7.50

City of Austin ERS	7.75
Houston Firefighters	8.50
Texas County & District	8.00
Texas ERS	8.00
Texas LECOS	8.00
Texas Municipal	7.00
Texas Teachers	8.00
Utah Noncontributory	7.50
Fairfax County Schools	7.50
Virginia Retirement System	7.00
Vermont State Employees ⁴	8.10
Vermont Teachers ⁴	7.90
Washington LEOFF Plan 1 ⁵	7.90
Washington LEOFF Plan 2	7.90
Washington PERS 1 ⁵	7.90
Washington PERS 2/3 ⁵	7.90
Washington School Employees Plan 2/3 ⁵	7.90
Washington Teachers Plan 1 ⁵	7.90
Washington Teachers Plan 2/3 ⁵	7.90
Wisconsin Retirement System	7.20
West Virginia PERS	7.50
West Virginia Teachers	7.50
Wyoming Public Employees	7.75

1. The Maryland State Retirement Agency Board of Trustees began, with the actuarial valuation dated June 30, 2013, a phased reduction in the assumption used for its PERS and Teachers plans from 7.75 percent, by .05% each year until reaching 7.55.
2. The Minnesota Legislature is responsible for setting the investment return assumption for plans in the state. Legislation approved in 2015 established a rate of 8.0 percent for all plans except the TRA, which is using a select and ultimate rate pending completion of an actuarial experience study. For more information on select-and-ultimate rates, please see Actuarial Standards of Practice No. 27: http://www.actuarialstandardsboard.org/pdf/asops/asop027_145.pdf.
3. The SDRS set the rate at 7.25% through FY 2017, after which the rate will rise to 7.50% unless the SDRS board takes action otherwise.
4. The Vermont retirement systems adopted select-and-ultimate rates in 2011; the rates shown reflect the single rates most closely associated with the funding results for the respective plans, based on their projected cash flows.
5. For all Washington State plans except LEOFF Plan 2, the assumed rate of return will be reduced to 7.8% on July 1, 2015, and to 7.7% on July 1, 2017.