

Public Pension Plan Investment Returns

For fiscal year ending June 30, 2011, state and local government retirement systems had a median investment return of 21.6 percent. With a slow economic recovery and ongoing global market volatility, it is important to keep in mind that a long-term focus is an overarching factor in public pension investment strategies and projections. This issue brief discusses how investment return assumptions are established and evaluated and compares these assumptions with public funds' actual investment experience.

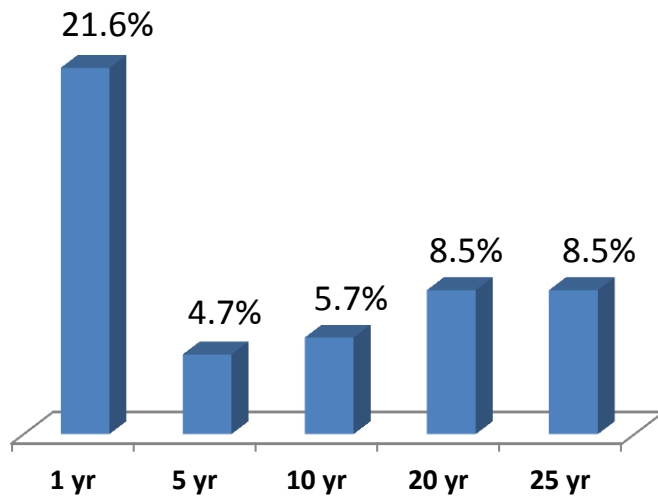
Actual Versus Assumed Returns

Policy discussions continue surrounding public pension fund investment return assumptions and whether they are unrealistically high given the reality of the post-Great Recession market. However, an investment return assumption that is set too low would result in overstating liabilities, which would overcharge current taxpayers, undercharge future taxpayers, and result in a poor allocation of resources.

Public retirement systems employ a process for setting and reviewing their actuarial assumptions, including the expected rate of investment return. Most systems review these assumptions regularly, pursuant to statute or system policy. The process for establishing and reviewing the investment return assumption involves consideration of various factors, including financial, economic, and market data. This process is also based on a very long-term view, typically 30 to 50 years.

Although public pension funds, along with most other investors, have experienced sub-par returns over the past decade, median public pension fund returns over longer periods exceed the assumed rates used by most plans. As shown in Figure 1, median annualized investment returns for the 20- and 25-year periods ended June 30, 2011, exceed the most-used investment return assumption of 8.0 percent. For example, for the 25-year period ended June 30, 2011, the median annualized return was 8.5 percent.

Figure 1: Median annualized investment returns for period ended 06/30/2011



Source: Callan Associates, Inc.

Market Volatility

Recent market volatility illustrates the importance of using a long-term perspective to establish the investment return projection. A primary objective for using a long-term approach is to promote stability and predictability of cost.

In contrast to 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 sharp volatility of plan costs, which often

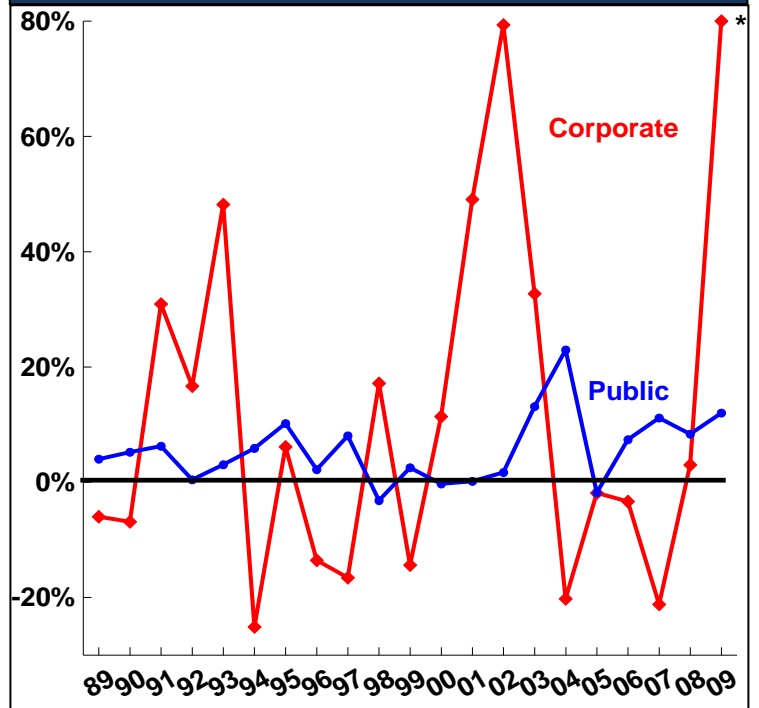
swing wildly from one year to the next as interest rates fluctuate. By focusing on the long-term, public plans' use of a stable, long-term rate enables these plans to weather volatility in investment markets, thereby reducing fluctuations in required contribution rates.

Why the Investment Return Assumption is Important

Public pension actuaries calculate a public pension plan's funding level and cost using assumptions about many future events affecting the pension plan, such as the age when participants will retire, their rate of salary growth, how long they will live after retirement, and how much the plan's investments will earn. Of all the assumptions used to estimate the cost of a public pension plan, none has a larger impact on the plan's costs than the investment return assumption. Over time, earnings from investments account for a majority of revenues for most public pension plans.

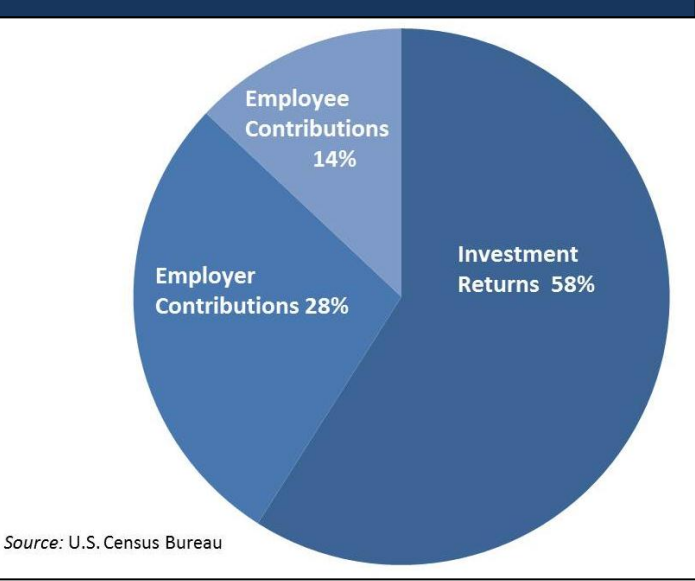
Figure 3 illustrates this important fact. Since 1982 (when the U.S. Census Bureau began reporting public pension fund revenue data), public pension funds have accrued an estimated \$4.2 trillion in revenue, of which \$2.4 trillion, or 58 percent, is estimated to have come from investment earnings. Employer (taxpayer) contributions account for \$1.2 trillion, or 28 percent, and employee contributions total \$578 billion, or 14 percent.

Figure 2: Comparison of change from prior year in corporate and public pension contributions, 1989 to 2009



Source: U.S. Dept of Labor, U.S. Census Bureau, Milliman *Estimate

Figure 3: Public Pensions Sources of Revenue, 1982-2009



received *after* the employee retires.

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. A public pension plan's actuary typically has considerable influence in setting the investment return assumption.

How the Investment Return Assumption is Developed

Public pension plans operate over long timeframes and manage assets for many participants whose involvement with the plan can last more than half of a century.

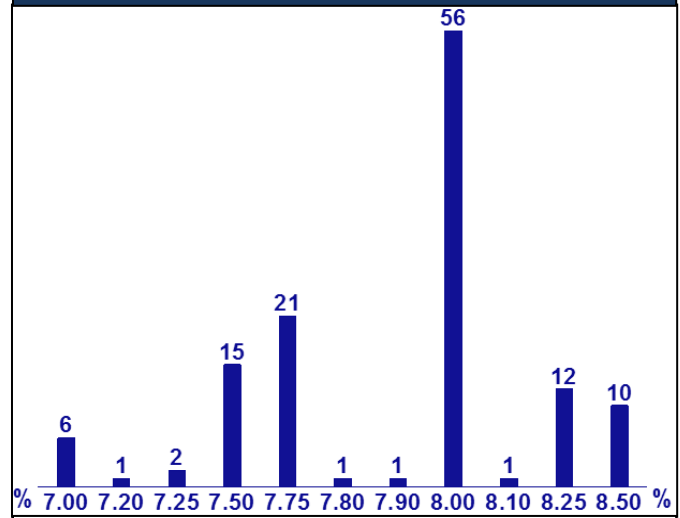
Consider the case of a newly-hired public school teacher who is 25 years old. If this pension plan participant elects to make a career out of teaching school, he or she may work for 35 years, to age 60, and live another 25 years, to age 85. This teacher's pension plan will receive contributions for the 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

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, and is considered to be the best predictor of future experience. Typically, pension plans select a rate for which there is a projected 50 percent chance of actual experience being above and below that figure. A return assumption below the expected range would increase the plan's funding requirements, which would increase costs for current taxpayers (and, in some cases, plan participants), and would benefit future taxpayers and participants. Alternatively, an assumption that is too high would reduce the plan's costs in the near-term, at the expense of future taxpayers and plan participants.

Among the 126 plans in the Public Fund Survey (see Figure 4), 19 plans have reduced their investment return assumption since fiscal year 2008. Since fiscal year 2001, 44 plans have reduced their assumption. Eight percent remains the predominant rate assumption, with all retirement systems in the Survey falling in the range from 7 to 8.5.

Figure 4: Distribution of investment return assumptions, FY 2010*



Source: Public Fund Survey *Two plans' changes effective FY 11

Conclusion

Empirical results show that since 1985, a period that has included three economic recessions and four years when median public pension fund investment returns were negative (including the 2008 decline), public pension funds have exceeded their assumed rates of investment return. As the standard disclaimer says, past performance is not an indicator of future results; however, considering that public funds operate over very long timeframes, actuarial assumptions should focus on long timeframes. Viewed in this context, compared to actual results, public pension plan investment return assumptions have proven to be conservative.

See Also:

Actuarial Standards of Practice No. 27, Actuarial Standards Board, http://www.actuarialstandardsboard.org/pdf/asops/asop027_109.pdf

The Liability Side of the Equation Revisited, Missouri SERS, September 2006, http://www.mosers.org/~media/Files/Adobe_PDF/About_MOSERS/Board-Newsletters/Operations-Outlook/operations_outlook_September06.ashx

The Public Fund Survey is sponsored by the National Association of State Retirement Administrators and the National Council on Teacher Retirement, <http://www.publicfundsurvey.org> (registration required)

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 October 17, 2011