

## Saving Public Defined Benefit Plans

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### Talking Points

*The funded status of public employee defined benefit (DB) retirement plans continues to garner great debate in the industry and press. DB plans are the primary vehicle for ensuring retirement income security for public workers, and Callan believes these plans are viable and necessary in this sector. In 2011, Callan published a report to initiate discussions around what went wrong in the past that left many of these plans woefully underfunded. We suggested ways to nurse them back to health by promoting DB plans and providing them with ongoing support. We revisit the topic in 2014, but now with a more urgent goal of saving public pensions amid persistent low funded levels and a burgeoning movement to disassemble them. The following talking points will help to move the discussion forward around the importance of DB plans. We expand on each point and support our assertions with research, data, and actuarial considerations.*

- 1 DB plans serve many purposes beyond providing constituents with retirement income.**
- 2 DB plans are proven to be extremely cost effective and reliable in delivering basic retirement income security—when the rules of DB finance are followed.**
- 3 Many public DB plans are underfunded today, but not because of paltry long-term returns. It is primarily because plan sponsors' contributions were neither sufficient nor consistent enough to properly fund the benefits promised.**
- 4 New benefits cannot be funded out of better-than-average investment returns simply because average returns is all one can expect over the life of the plan.**
- 5 DB plan funding surpluses and deficits occur as part of the normal cycle of investment market returns.**
- 6 Plans that implement an actuarially sound funding policy will achieve 100% funded status over the long run. Over the short term, the plan could veer off course because of market cycles.**
- 7 Healthy DB plans are underpinned by a sustainable benefit design, a strong governance process, and the sponsor's commitment to regularly fund the plan.**

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## 1. DB plans serve many purposes beyond providing constituents with retirement income.

- Large DB plans are critical to well-functioning capital markets. By their sheer size, they can drive markets, command economies of scale, and also advance social and shareholder rights agendas. Through private investments, they are able to seed new companies and technologies.
- When retirees spend pension payments they support state and local economies. These amounts may be critical to sustaining small and rural communities.
- For state systems that opted out of Social Security, the DB plan is the only means for guaranteed lifetime income.
- Americans appear to support the idea of guaranteed lifetime income that DB plans provide. The public rejected former President Bush's suggestion to convert Social Security to a defined contribution-like system.
- There are other risk considerations for ensuring adequate retirement security. For example, avoiding growing demands on government programs like food stamps, Medicaid, and other high-cost social services.
- DB plans help to attract and retain valuable workers to public service by guaranteeing adequate retirement income security. Contrary to the belief that younger workers want more mobile benefits, a 2012 survey by Towers Watson showed that a vast majority of employees under the age of 40 now view traditional DB plans as very important.<sup>1</sup>
- Since DB plan benefits max out at retirement age, they offer an incentive to retire, thereby refreshing the workforce and advancing the careers of younger workers.

## 2. DB plans are proven to be extremely cost effective and reliable in delivering basic retirement income security—when the rules of DB finance are followed.

- Most individuals are neither savvy investors nor disciplined savers. In particular, low-income earners are most at risk when it comes to saving and investing on their own in a defined contribution (DC) plan.<sup>2</sup>

### Actuary's Insight

Longevity and investment risk pose the largest threats to retirement income security.<sup>3</sup> DB plans are better able to manage both risks. DB plans have a large pool of participants that spread longevity risk, while individuals in a DC plan cannot guarantee that they will not outlive their savings.<sup>4</sup> Similarly, DB plans have more diversified portfolios, better access to professional investment management, and greater power to negotiate fees, mitigating investment risk.

DB plan sponsors guarantee the pension liability and thus keep a long-term investment horizon, even when a significant number of employees retire. Individuals have shorter investment horizons, and will often reduce the investment risk in their portfolio as retirement approaches.

- The Callan DC Index™ reveals DB plans have outperformed DC plans by an annualized 78 basis points since 2006.<sup>5</sup> DB plans benefit from having more diversified and illiquid asset classes, such as private real estate, private equity, and hedge funds. DC participants have demonstrated behavior that has negatively impacted returns, like buying lower-returning strategies, investing in company stock rather than a diversified equity portfolio, and trying to time the market.
- Individual investors in the average DC plan tend to pay significantly higher annual fees than DB plans due to differences between retail and institutional pricing.
  - *A Pension Benefit Study estimated that annual expenses for individual investors are 89 bps compared to 47 bps paid by one public plan.<sup>6</sup>*
  - *As a result of lower fees and higher returns, for the same level of lifetime income, a DB plan costs 46 cents for every one dollar contributed to a DC plan.<sup>7</sup>*
- DC plans are now the primary retirement vehicle for much of the private sector. The most effective DC plans take on DB plan characteristics through automatic enrollment, appropriate default options (institutional-quality target date funds), and automatic contribution escalation features. Many employers do not adopt these features because of cost and competitive considerations. Consequently, the worker must manage income replacement at retirement, and may ultimately need to receive government support.
- Hybrid pension plans—which combine the features and characteristics of DB and DC plans—can meet the needs of all stakeholders through the sharing of longevity and investment risks by both employers and workers.

### Key Lessons from Today's Well-Funded Public Pension Plans

1. Employers made their full annual required contributions.
2. Employees paid their share of contributions.
3. Benefit improvements were properly funded when adopted, and cost-of-living adjustments were made responsibly.
4. Anti-spiking measures were adopted on final benefit calculations.
5. Employers used “reasonable” actuarial assumptions for the discount and inflation rates in determining fund valuations.

Source: National Institute on Retirement Security. “Lessons from Well-Funded Public Pensions: An Analysis of Six Plans that Weathered the Financial Storm.” 2011.

**3. Many public DB plans are underfunded today, but not because of paltry long-term returns. It is primarily because plan sponsors' contributions were neither sufficient nor consistent enough to properly fund the benefits promised.**

- The vast majority of public pension plans achieved their assumed annual investment returns. According to Callan's Public Fund Database, even the worst-performing funds (90th percentile) earned an annualized 9.17% over 30 years ended June 30, 2014 (**Exhibit 1**). However, returns over 10 and 20 years are considerably lower. Bond yields today (driving future bond returns) are at lows last seen in the 1950s and 1960s. Thus, excess returns cannot be counted on to reduce today's underfunding.

**Actuary's Insight**

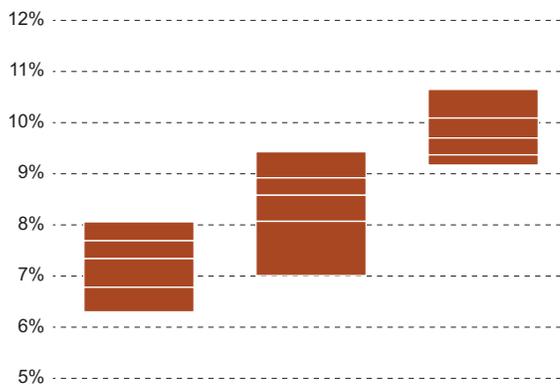
Annual contributions are always required to fund normal costs and to support the accrued liabilities when the plan is underfunded. Plan sponsors need to fund the actuarial recommended contribution each year, which fairly represents the required annual contribution. Regular contributions benefit from the compounding of investment returns.

- In the DB model, new benefits are paid for with new cash contributions each year. These contributions must be invested in a fund that is structured to produce the assumed investment return over time.
- Fully funding pension benefits over the period of employment ensures intergenerational equity, which aligns the costs of today's services with their beneficiaries.
- Trustees and stakeholders have two ways to reduce today's underfunding: decrease liabilities or increase assets through contributions. Most DB plans need a combination of both to regain their health.

**Exhibit 1**

**Callan Fund Sponsor Database Geometric Returns**

*Periods Ended June 30, 2014*



	<b>Last 10 Years</b>	<b>Last 20 Years</b>	<b>Last 30 Years</b>
10th Percentile	8.01	9.43	10.65
25th Percentile	7.64	8.92	10.09
<b>Median</b>	<b>7.29</b>	<b>8.58</b>	<b>9.70</b>
75th Percentile	6.73	8.07	9.37
90th Percentile	6.25	7.01	9.17

Member Count                      174                      98                      28

Source: Callan

#### 4. New benefits cannot be funded out of better-than-average investment returns simply because average returns is all one can expect over the life of the plan.

- In the long term, periods of outperformance are balanced by periods of underperformance, which eventually causes returns to revert to the long-term average.

##### Actuary's Insight

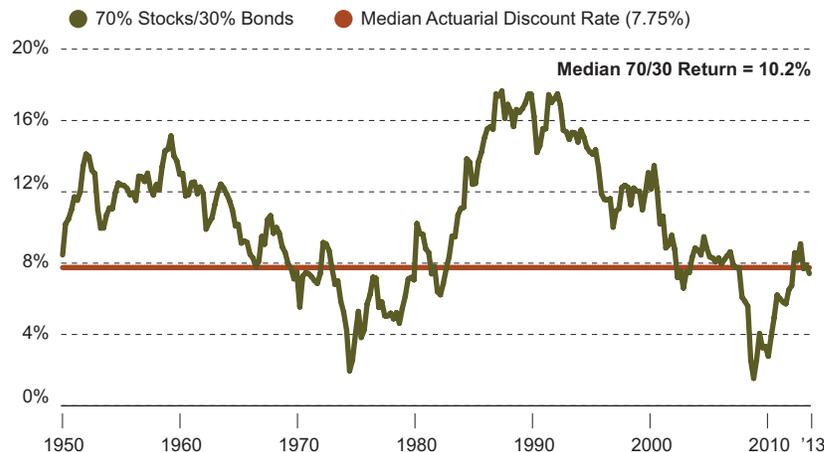
Assumed future investment returns are already included in actuarial funding calculations. The median actuarial discount rate in 2013 was 7.75%, slightly below the median rate of 8% used from 2001-2011.<sup>8</sup>

Future projections of investment return assumptions should only be based on each plan's capital market expectations for its adopted asset allocation strategy.

- The investment return assumption (or actuarial discount rate) is a projected long-term average or median of a wide range of very good, mediocre, and very bad investment returns, which can occur in any given year and over longer periods. **Exhibit 2** compares returns for a diversified portfolio of stocks (70% global equity) and bonds (30% U.S. fixed income)—typical of a public DB plan—to a long-term median actuarial discount rate of 7.75%. We note substantial long-term volatility; while the median 10-year geometric return over the entire period was 10.2%, more recent periods show underperformance.

##### Exhibit 2

##### Rolling 10-Year Nominal Returns for 70% Global Equity/30% U.S. Bond Portfolio



Note: The asset allocation in Exhibit 2 is 41% U.S. equity, 29% non-U.S. equity, and 30% U.S. fixed income from 1970 to 2013. Prior to 1970, it is 70% U.S. equity and 30% U.S. fixed income. The benchmark for U.S. equity is the Russell 3000 Index after 1979; before 1979 the benchmark is a blend of 90% Ibbotson S&P 500 and 10% Ibbotson Small Company. For non-U.S. equity, the benchmark is MSCI EAFE from 1970 to 1988, and MSCI ACWI ex-USA thereafter. For U.S. fixed income, the Barclays Aggregate is the benchmark for periods after 1976; prior to 1976, it is a blend of 70% Ibbotson Intermediate Government and 30% Long Term Corporates. Measured over rolling 10-year periods from first quarter 1950 to fourth quarter 2013.  
Source: Callan

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## 5. DB plan funding surpluses and deficits occur as part of the normal cycle of investment market returns.

- As Exhibit 2 reveals, funding higher benefits out of a surplus is an irrational practice, as surpluses are a temporary product of market cycles. A pension surplus from better-than-average investment returns will turn into a deficit when returns fall below average. There is no such thing as an enduring surplus, unless the plan has been systematically overfunded.
- There are such things as real deficits, and they are invariably much deeper and more persistent than any surplus when the benefits have been systematically underfunded.

## 6. Plans that implement an actuarially sound funding policy will achieve 100% funded status over the long run. Over the short term, the plan could veer off course because of market cycles.

- Far too many DB pension plans only approach 100% funding at market peaks. Sponsors need to have the discipline to allow for excess funding during good times without giving away surpluses to benefit increases.
- Surpluses will naturally become deficits at market bottoms. Funds need a positive surplus reserve in good times to prepare for bad times.
- The recommendations of the Blue Ribbon Panel on Public Pension Plan Funding (2014)<sup>9</sup> define three principles for an actuarially sound funding policy: adequacy, intergenerational equity, and cost stability/predictability. The task force concluded that adequacy (striving to fund 100% of the obligations over a broad range of future economic outcomes, both good and bad) and intergenerational equity should take precedent over the goal of cost stability and predictability, particularly when a significant portion of the investments are allocated to higher-risk and more volatile assets.

## 7. Healthy DB plans are underpinned by a sustainable benefit design, a strong governance process, and the sponsor's commitment to regularly fund the plan.

- Characteristics of good governance include ensuring that recommended contributions are paid, ensuring trustees have sufficient training and information to analyze risk, and being deliberate when making plan changes.

### Actuary's Insight

Good returns only have an impact on the health of DB plans if all of the money to fund the promised benefits is invested to take advantage of the compounding of investment returns.

What is often overlooked is that the actuarial liability for benefits granted will compound just like investment returns. This compounding effect is magnified as the plan matures. Without contributions compounding at a similar rate alongside liabilities, deficits will accelerate.

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## Conclusions

- Trustees and stakeholders can correct the mistakes of the past by going back to the basics: Create discipline through good governance and always make the necessary contributions to fund reasonable benefits over time. Adherence to these principles and new contributions in a positive investment market cycle has improved funding for most public DB plans over the last three years.
- Investment returns should not be counted on to reduce today's underfunding over the long term. A combination of reducing the present value of the liabilities and increasing assets through contributions will be needed.
- Plans should adopt a reasonable investment return assumption for the future based on the long-term capital market expectations for their unique asset allocation strategy.
- The long-term management objective should be to make the return that is needed for adequate long-term benefit, contribution, and funding policy with the least risk of not making it. Funds that increase investment risk in an attempt to "play catch up" run a grave risk of failure.
- DB plans are both cost effective and efficient in producing the safety net for retirement income security. DC plans can also play an important role in achieving this goal, but they transfer all of the risks from employers to workers. Risk sharing avoids the potential long-term real and social costs of insufficient income replacement for retirees.
- Callan believes that DB plans in the public sector are viable and necessary. Government bodies can achieve almost any financial goal given a disciplined strategy and enough time, something that all public pension fund sponsors have. All sponsors need to do is simply follow the rules of DB finance!

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## Notes

- 1 Towers Watson 2012 Global Workforce Study, "Engagement at Risk: Driving Strong Performance in a Volatile Global Environment." <http://www.towerswatson.com/assets/pdf/2012-Towers-Watson-Global-Workforce-Study.pdf>
- 2 Barbara Burtica, Howard Iams, Karen Smith, and Eric Toder, "The Disappearing Defined Benefit Pension and Its Potential Impact on the Retirement Incomes of Baby Boomers." 2009.
- 3 Longevity risk describes the risk of outliving one's savings. Longevity risk is very high for an individual because we know that 50% of the population will live past life expectancy (i.e., 50% of all participants in DC plans will therefore need to over save). Investment risk describes the risk that the portfolio's investment returns do not meet the expected return targets.
- 4 DC participants do have the option to annuitize their savings, effectively transferring longevity and investment risk to an insurance company. The current environment of very low interest rates reveals that most do not select this option, as the annuity price is driven by the level of interest rates at the time of purchase (i.e., timing risk associated with the annuity purchase).
- 5 Callan's DC Index results, first quarter 2014. Available at <http://www.callan.com/research/dcindex/>
- 6 Pension Benefit Design Study. Teacher Retirement System of Texas. Gabriel, Roeder, Smith & Company (GRS). September 1, 2012. [http://www.trs.state.tx.us/about/documents/pension\\_study\\_benefit\\_design.pdf](http://www.trs.state.tx.us/about/documents/pension_study_benefit_design.pdf)
- 7 Ilana Boivie. Issue Brief, "Who Killed the Private Sector DB Plan?" National Institute on Retirement Security. March 2011.
- 8 NASRA Public Fund Survey. December 2013. <http://www.nasra.org/files/Issue%20Briefs/NASRAInvReturnAssumptBrief.pdf>
- 9 Report of the Blue Ribbon Panel on Public Pension Funding. An Independent Panel Commissioned by the Society of Actuaries. February 2014. <https://www.soa.org/brpreport364>

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## Authors



**Ronald D. Peyton** is Callan's Chairman and Chief Executive Officer. Ron provides firm-wide oversight by conferring with associates and clients to improve communications, process, and service quality. He is Chairman of Callan's Management Committee and the Emerging and Minority, Women, or Disabled-owned Managers Committee. He is Chairman of Callan's Board of Directors and a shareholder of the firm.

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Prior to joining Callan in 1974, in addition to other financial responsibilities, Ron worked with Marathon Oil Company's pension investments while serving as an officer in the U.S. Army Reserve. Ron earned an M.B.A. degree in Finance and a B.S. degree in Accounting at Indiana University.



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