American Academy of Actuaries

Issue Brief

The 80% Pension Funding Myth

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Key Points

- Using an 80% funded ratio as a benchmark for whether pension plans are healthy is inappropriate.
- No single level of funding defines a line between a "healthy" and an "unhealthy" pension plan.
- Pension plans are generally better evaluated on the strategy in place to attain a funded ratio of 100% within a reasonable period of time.
- The financial health of a pension plan depends on many factors in addition to funded status—including the size of any shortfall compared with the resources of the plan sponsor.
- Projections under a range of scenarios can be particularly useful in evaluating the plan's expected funding trajectory and assessing plan health.

American Academy of Actuaries

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1850 M Street NW, Suite 300
Washington, DC 20036
202-223-8196 | www.actuary.org

Craig Hanna, Director of Public Policy
Linda K. Stone, Senior Pension Fellow

Introduction

Financial entities, regulatory bodies, governments and media have all cited an 80% funded ratio[1] as a basis for whether a pension plan is "healthy" or "actuarially sound." The frequency and persistence of these citations potentially lends credibility to a myth that an 80% "standard" is appropriate. This issue brief debunks that myth and clarifies how a pension plan funded ratio relates to the general idea of soundness or health of a pension plan or system. While the funded ratio may be a useful measure, understanding the health or soundness of a pension plan cannot be reduced to a single measure or benchmark at a single point in time. Instead, actuaries evaluate pension plans based on the strategy in place to address all of their unfunded liabilities over an appropriate time frame.

Funded Ratio as a Concept

The funded ratio of a pension plan equals a value of plan assets divided by a measure of the pension obligation as of the same date. Actuaries use various methods to measure a pension obligation depending on the purpose of the measurement. For example, the measurement of the obligation used to determine a contribution strategy is often different from the measurement used for financial reporting or for estimating the cost of settling the obligation. Similarly, actuaries may use asset smoothing techniques that cause the measurement of the assets for determining contributions or pension expense to be different than (but related to) their market value. Consequently, the interpretation of a particular measure of funded ratio

1 Please see Appendix—Development and Sample Usage of the "80% Funding Myth."

depends on the purpose of that measurement. A detailed discussion of the various pension obligation measurement methods and the rationale for them is outside the scope of this brief.[2]

Possible Origins of the Myth

While it is unclear when widespread use began, an 80% benchmark has appeared in research reports, legislative initiatives, and in the media as a bright line between healthy or well-funded plans and unhealthy or underfunded plans. A 2007 Government Accountability Office (GAO) report[3] on state and local government pension plans portrayed 80% as a de facto benchmark for a healthy pension system, attributing that criteria to unidentified public sector experts and stakeholders. As illustrated by examples provided in the Appendix, subsequent uses of the 80% level often reference these experts to carry forward the myth.

For private sector pension plans, federal law uses an 80% funded ratio as a trigger point for certain changes. The Pension Protection Act of 2006 (PPA) limits benefit improvements, lump sum payments, and use of advance funding balances for private sector single-employer plans based on an 80% ratio of assets to the PPA funding target. Also under PPA, multiemployer plans use 80% as a level below which stricter funding rules become effective.

In the past, credit rating agencies have used various funded ratios, including 80%, as a general indicator of a public pension plan's financial health. S&P Global Ratings, for example, issued a report[4] in 2017 that identifies plans with a funded ratio below 80% to have "elevated unfunded obligations." S&P complements its use of the funded ratio with an assessment of both the assumptions used to value the liability and the funding strategy in place to manage the unfunded obligation. This type of additional analysis provides a more complete evaluation of a plan's health or soundness than the funded ratio alone.

2 For a more detailed discussion, See the Academy Pension Practice council's 2017 issue brief *Assessing Pension Plan Health: More Than One Right Number Tells the Whole Story*.
3 Please see Appendix for access to this report.
4 Please see Appendix for access to this report.

This issue brief was originally published in 2012. The Pension Practice Council (PPC) of 2012, which authored this issue brief, consisted of: John Moore, MAAA, FSA, FCA, EA—*Chairperson*; Eli Greenblum, MAAA, FSA, EA—*Vice Chairperson*; Noel Abkemeier, MAAA, FSA; Stephen Alpert, MAAA, FSA, FCA, MSPA, EA; Michael Bain, MAAA, ASA, EA; Janet Barr, MAAA, ASA, EA; William Hallmark, MAAA, ASA, EA; Kenneth Hohman, MAAA, FSA, FCA, EA; Evan Inglis, MAAA, FSA, EA; Ellen Kleinstuber, MAAA, FSA, EA; Eric Klieber, MAAA, FSA, EA; Nadine Orloff, MAAA, FSA, FCA, EA; Andrew Peterson, MAAA, FSA, EA; Jeffrey Petertil, MAAA, ASA, FCA; Michael Pollack, MAAA, FSA, EA; David Sandberg, MAAA, FSA, CERA; Tamara Shelton, MAAA, FSA, EA; John Steele, MAAA, FSA, EA; Thomas Terry, MAAA, FSA, EA; James Verlautz, MAAA, FSA, EA

The 2021 PPC, which updated this issue brief, includes Timothy Geddes, MAAA, FSA, FCA, EA—*Chairperson*; Sherry Chan, MAAA, FSA, FCA, EA—*Vice Chairperson*; Jason Russell, MAAA, FSA, EA—*Vice Chairperson*; Christian Benjaminson, MAAA, FSA, EA; Elena Black, MAAA, FSA, FCA, EA; Bruce Cadenhead, MAAA, FSA, FCA, EA; David Driscoll, MAA, FSA, FCA, EA; Eric Keener, MAAA, FSA, FCA, EA; Amy Kemp, MAAA, ASA, EA; Tonya Manning, MAAA, FSA, FCA, EA; Kathleen Riley, MAAA, FSA, FCA, EA; John Schubert, MAAA, ASA, FCA; Mark Shemtob, MAAA, FSA, FCA, EA; Todd Tauzer, MAAA, FSA, CERA, FCA; and Aaron Weindling, MAAA, FSA, FCA, EA.

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Pension Funding Basics

Actuarial funding methods generally are designed with a target of 100% funding—not 80%.[5] If the funded ratio is less than 100%, actuarially determined contributions are structured with the objective of attaining a funded ratio of 100% within a reasonable period of time.

Identifying specific levels of funding as "too low" as PPA does is useful for some purposes (e.g., implementing benefit restrictions), but it does not mean that achieving or maintaining a funded ratio at some particular level should be considered healthy or adequate. A plan with a funded ratio above 80% (or any specific level) might not be sustainable if, relative to the financial resources available to the sponsor, the obligation is large or the plan investments involve excessive risk. Sustainability is also threatened if the sponsor fails to make planned contributions.

Just as attaining more than an 80% funded ratio does not assure a plan is adequately funded, a plan with a funded ratio below 80% should not necessarily be characterized as unhealthy without further examination. A plan's funding strategy should have a built-in mechanism for achieving the target of at least 100% funding over a reasonable period of time. Provided the plan sponsor has the financial commitment and the means to make the necessary contributions, a particular funded ratio does not necessarily represent a significant problem.

It is important to understand that the funded ratio is a measure of a plan's status at one time. A plan that is responsibly funded can easily have its funded status vary significantly from one year to the next solely because of external events. Funded ratios should be examined over several years to determine trends and should be viewed in light of the economic situation at each time. High funded ratios are to be expected following periods of strong economic growth and investment returns such as the period leading up to the 2008-2009 financial crisis. Lower funded ratios are to be expected after years of poor investment returns such as the downturn that began in 2008. Furthermore, certain changes (like the adjustment of actuarial assumptions) may cause a funded ratio to decrease in the near term but may strengthen the funding of the plan over the long term. Generally, whether a particular shortfall affects the financial health of the plan depends on many other factors—including the size of the shortfall compared to the resources of the plan sponsor.

5 Only in unusual situations would a goal other than a 100% funded ratio be targeted. These might include nonqualified pension plans, legislated funding targets, or special concerns that a plan sponsor has with setting aside assets equal to the full value of the pension obligation. Social insurance programs, particularly pay-as-you-go programs like Social Security, also do not have a goal of 100% advance funding. Private-sector pension plan funding rules target 100% funding. For public-sector pension plans, see the Academy issue brief *Objectives and Principles for Funding Public-Sector Pension Plans*, which also recommends targeting a 100% funded ratio.

Projections of the funded ratio can be particularly useful in assessing the health of the plan. Using actuarial projections of benefit payments, expenses, and anticipated contributions together with a range of economic and investment return scenarios, the plan's expected funding trajectory can be evaluated. A plan that is expected to see a steady rise towards the 100% funded level, even if the current ratio is below 80%, would be healthier than a plan currently above the 80% level but that is projected to experience a stagnating or steadily declining funded ratio over time. If the contributions required to reach a 100% funded ratio appear to place too significant a burden on the sponsor, or if the investment returns needed to do so require an imprudent level of risk, the health or soundness of the pension plan could be in jeopardy.

Funded Ratio in Context

The funded ratio is most meaningful when viewed in the context of other relevant information. Other factors to be considered in assessing the fiscal soundness or health of a pension plan include:

- Sufficiency of funding or contribution policy
- Consistent adherence by the plan sponsor to the funding or contribution policy
- History of recent benefit provision changes
- Size of the pension obligation relative to the financial size of the plan sponsor, as measured by metrics such as revenue, assets, or payroll.
- Financial health of the plan sponsor, as measured by metrics such as level of debt, available fund balance, profit or budget surplus.
- Investment strategy, including the level of investment volatility risk and the possible effect on contribution levels.
- The degree of conservatism in significant actuarial assumptions used to value the pension obligation

The history and anticipated trajectory of the funded ratio and each of these factors should be examined over several years and in light of the economic environment.

Plan sponsors experience a variety of circumstances that could lead to funded levels that are less than 100% at any point in time. Volatile investment returns, changes in actuarial assumptions (including discount rates), insufficient contributions, and benefit increases are some of the most important factors that have led to pension plan underfunding. Possible consequences of becoming underfunded include the need for larger future contributions, less security for participant/member benefits, and the potential that the cost of current pension benefits may need to be paid by future generations (e.g., employees, shareholders or taxpayers). All of these risks will need to be managed through appropriate benefit, funding, and investment strategies.

Summary

A funded ratio of 80% should not be used as the primary criterion for identifying a plan as being either in good financial health or poor financial health. No single level of funding should be identified as a defining line between a healthy and an unhealthy pension plan. All plans should have a reasonable funding or contribution strategy to accumulate assets equal to 100% of a relevant pension obligation, unless reasons for a different target have been clearly identified and the consequences of that target are well understood.

Appendix—Development and Sample Usage of the ‘80% Funding Myth’

This appendix provides an overview of mentions of the 80% funding “myth,” including academic and general media reports. Note that this is only a sample and by no means an exhaustive list and is provided for illustrative purposes only.

References in academic and other research-based reports:

Stanford Institute for Economic Policy Research, “*More Pension Math: Funded Status, Benefits, and Spending Trends for California’s Largest Independent Public Employee Pension Systems*,” Feb. 21, 2012.

> “None of the systems is at or above 80% funded, which is the conventional minimum funded ratio.”
>
> “A plan is typically considered well-funded if its funded ratio is greater than 80%…”

Haas Institute Report, Tom Sgouros, “*Funding Public Pensions—Is full pension funding a misguided goal?*” February 2017.

> “Many experts and officials to whom we spoke consider a funded ratio of 80 percent to be sufficient for public plans for a couple of reasons.”

Governmental references

U.S. Government Accountability Office, “*State and Local Government Retiree Benefits—Current Status of Benefit Structures, Protections, and Fiscal Outlook for Funding Future Costs*,” September 2007.

> “A funded ratio of 80% or more is within the range that many public sector experts, union officials, and advocates view as a healthy pension system.”

Connecticut Commission on Fiscal Stability and Economic Growth, “*Final Report*,” March 2018.

> “To reach an aspirational goal of 75% funding ratio, a pay down of $17.3 billion is required (pension experts would argue that a higher goal of 80% would be preferable).”

Select media references

Seattle Times, Daniel Gilbert, “Behind Seattle’s rising pension costs: Past mismanagement adds to taxpayers’ burden,” May 11, 2018.

> “As of February, the fund’s market value was about 71 percent of what it owes in future benefits, up from a low of 54 percent in 2009. (An 80 percent ratio is considered healthy by pension experts.)”

Chief Investment Officer, Randy Diamond, "A Large Equity Drawdown Would Cause Major Problems for CalPERS," February 12, 2019.

> "CalPERS currently has around a 71% funding ratio, below the 80% benchmark that healthy pension plans shoot for."

Northwest Indiana Times, Dan Carden, "Indiana grows public pension funds despite market volatility from COVID-19," September 23, 2020.

> "Prepaid pension programs generally are considered financially healthy when they are at or above 80% funded."

Credit Rating Agencies

The methodologies credit rating agencies use to assess public pension funding has evolved over time. Where past public communications have put a heavy emphasis on particular levels of the funded ratio metric, more recent publications point toward a broader, more nuanced approach to assessing the pension plan. Examples include:

S&P Global Ratings, "Quick Start Guide To S&P Global Ratings' Approach To U.S. State And Local Government Pensions," RatingsDirect, May 13, 2019.

> "In our view, plans that demonstrate strong funding discipline by targeting 100% funding on a prudent and consistent actuarial basis with conservative assumptions and methods are much more likely to manage pension and OPEB liabilities and related budgetary costs than plans that do not. These governments will use conservative discount rates and current mortality projections, while also adopting amortization schedules that effectively pay down unfunded liabilities and make progress toward full funding instead of deferring and compounding costs for the future."

Fitch Ratings, "U.S. Public Finance Tax-Supported Rating Criteria," Jan. 10, 2020.

> "As with debt, when evaluating an issuer's net pension liability, Fitch considers not only the current liability but also the expected trajectory. The analysis of pension obligations takes into account whether there has been stabilization or progress in the ratio of assets to liabilities over time and a commitment to contributing at actuarially calculated levels. The analysis also considers actuarial and other assumptions influencing the burden, including the investment return assumption used to calculate the present value of liabilities."

Commentary addressing the "80% Standard"

Governing, Girard Miller, "Pension Puffery—Here are12 half-truths that deserve to be debunked in 2012," Jan. 5, 2012.

> "Half-truth #4: 'Experts consider 80% to be a healthy funding level for a public pension fund.' This urban legend has now invaded the popular press, so it's about time somebody set the record straight. No panel of experts ever made such a pronouncement. No reputable and objective expert that I can find has ever been quoted as saying this. What we have here is a classic myth. People refer to one report or another to substantiate their claim that some presumed experts actually made this assertion (including a GAO report and a Pew Center report that both cite unidentified experts), but nobody actually names these alleged 'sources.' Like UFOs, these 'experts' are always unidentified. That's because they don't actually exist. They can't exist, because the pension math and 80 years of data from capital markets history just don't support these unsubstantiated claims."

CalSTRS staff report, Sept. 21, 2018

> "The idea that an 80 percent funded ratio is a 'healthy' level for a pension plan is frequently cited in media reports. It is unclear however when and where this idea or myth first started to appear. Further adding to the myth that it is acceptable to not fully fund pension benefits, the Haas Institute at UC Berkeley released, in February 2017, a policy brief which argues that it is possible to sustain a pension plan in perpetuity at a funding level below 100 percent and that there are advantages to doing so. As will be demonstrated in this item, there are drastic long-term financial consequences for not fully funding pension benefits over a reasonable time period."

Florida Politics, Kimberlie Prior, "Senate Bill 84 is fearmongering," March 18, 2021.

> "And while a pension fund can achieve 100% funded status, it is not the only, or even the most important measure of the plan's health. For this reason, it has been a standard actuarial practice to use the 80% funded benchmark as one important measure of the plan's financial health and an acceptable guideline. FRS is 82% funded."