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# The Right Target for Pension Funding

**By Doug Chandler**

Earlier this year, I published a research paper on provisions for adverse deviations (PfADs) in pension plan funding targets. I calculated the size of a loading that would be required to achieve a given level of confidence such that the assets and best-estimate future investment returns would be sufficient to meet plan obligations at the time of the next actuarial valuation three years later. This led to questions and discussions about the basic premise of going concern funding. Some regulators and plan members believe the only type of benefit security that matters is the ability to buy annuities to settle the vested benefit obligation. They are critical of attempts to fund pension plans on a going concern basis, anticipating future benefit obligations and future investment returns. For them, the key finding of my research is that going concern funding, even with a strong PfAD, does an uneven job of wind-up funding. A going concern funding target that includes a PfAd can do a good job of maintaining solvency in an equilibrium environment and for plans with significant element of future salary growth, but it does a poor job for other types of plans and in a rising interest rate environment.

## FUNDING FOR WIND-UP

Preoccupation with settlement cost takes us down the path to destruction of the defined benefit (DB) pension system:

1. A pension plan isn't merely a plan, it's a promise. The sponsor's obligation isn't merely to make contributions as they fall due: it's to ensure the benefit is paid.
2. The best way to defease this obligation is by buying annuities or, failing that, by investing in long-term bonds that match the timing of the benefits.
3. The best way to measure the sponsor's obligation is using bond yields to set the discount rate.
4. A shortfall in funding relative to the cost of settlement is a problem that needs to be recognized immediately in the value of a public company and addressed quickly in contributions. This viewpoint leads to wide year-to-year swings in pension expense and contributions. It punishes any plan sponsor that chooses to invest in anything other than long-term bonds.
5. Pensions are deferred wages, so any unfunded wind-up obligation should take precedence in bankruptcy similar to wages—ahead of other creditors. This punishes sponsors of DB pension plans with higher borrowing costs.

The peculiar thing about this point of view is that there is very little evidence that plan members actually want or need this kind of retirement income security:

- When left to their own devices in a defined contribution (DC) pension plan, they rarely park their entire account balance in a long bond portfolio, and they rarely purchase annuities when they retire.
- Members of DB pension plans face considerable uncertainty about the monthly pension they will ultimately receive. Their pension depends on future salary increases and whether or not their employment lasts until early retirement eligibility.
- Individuals face large gaps between their target living standard replacement ratio (LSRR) and the conventional gross replacement ratio targets used in the design of DB pension plans.
- Lifestyle costs in retirement depend on health, family situation, emerging technologies and a host of other factors that

cannot be foreseen. Disability and divorce are major financial risks, even after retirement.

- Retirees find they can adapt their routine monthly expenses to match their monthly income but struggle to deal with non-routine expenses.

In this context, uncertainties about investment returns do not seem particularly troubling—as long as they are understood in advance.

## FINDING A BALANCE

A pension contribution regime must balance competing objectives:

- Contributions that are too high will lead to excessive tax deferral and unmanageably large surplus. If the surplus cannot be refunded to the party that originally carried the burden of the contributions, it will lead to unintended benefits for future plan members.
- Contributions that are too low can lead to reductions in promised benefits following the bankruptcy of the plan sponsor and can even be the cause of bankruptcy. In a continuing pension plan, underfunding can undermine the confidence of plan members.
- Contributions that are too volatile or unpredictable can impair the plan sponsor's cash management and undermine the confidence of investors.

Pension costs are part of total compensation and total business operating costs. When contributions are used to define cost, the wrong level of contributions leads to intergenerational inequities. Most surviving DB pension plans cover workers in the public sector or rate-regulated industries, where the wrong price translates into inequities between generations of taxpayers or ratepayers.

Contributions calculated using best estimates of future expected returns are just as likely to produce shortfalls as surpluses. If the problems of overfunding are no greater than the problems of underfunding, then contributions on this basis might be the right balance. If shortfalls are of greater concern, then a margin of conservatism is justified. The types of investments with the highest expected returns and the lowest expected long-term pension costs are also the ones with the highest risks. All else being equal, these "return-seeking" assets (equities) will require larger margins of conservatism. In some pension deals, the aggressive use of return-seeking assets makes the contribution balance impossible: even modest margins of conservatism are likely to produce unmanageable surplus, without having much effect on the risk of serious underfunding. This may be acceptable to plan members, but it creates a "heads you win, tails I lose" situation for employers. Increasingly, shareholders are rejecting these kinds of pension deals.

Excluding return-seeking assets drastically increases the expected cost of retirement income. Investing 100 percent of a retirement fund in long-term bonds may sound like a good idea for a shareholder, but it's a poor way to save for retirement. Financial advisors would describe this approach as "reckless conservatism."

## WHOSE MONEY IS IT?

This brings us to the nub of DB pension troubles. Accountants tend to think of pension funds as the property of shareholders, while lawyers tend to think of them as the property of plan members—at least when there is a surplus. The truth depends on the specifics of the plan and is often somewhere in the middle. The question of ownership might depend on whether there is a surplus or a deficit and may not be resolved until the plan is wound up or some other crisis strikes. Ownership is important, because it determines the loyalties of the plan's fiduciaries and influences their decisions around investment policy and the need for margins of conservatism.

Figure 1
Importance of a PfAD

## WHO NEEDS A PfAD?

The need for conservatism in the operation of a pension plan depends on the strength of the guarantee associated with the monthly pension a member expects.

In a pure DC pension plan, the projected monthly pension is nothing more than an aspiration. A well-defined PfAD doesn't make sense in the absence of a well-defined monthly pension. Similarly, once an annuity or deferred annuity has been purchased from an insurance company, the risk rests primarily with the insurance company's shareholders, so a PfAD held in the pension plan doesn't seem necessary.

PfADs are key to shared-risk pension plans, such as multiemployer plans, jointly sponsored plans and target benefit plans. Plan members and sponsors will see value in contributing a little more than the long-run expected cost to be confident that the target benefit will be attained. They might be prepared to contribute as much as the price of a guaranteed annuity, or even more, in the hope that one day the excess contributions will turn into benefit improvements. They might also be prepared to contribute a bit extra in response to a temporary shortfall that threatens benefits for the current generation of active plan members. However, deficits so great as to produce long-term contribution rates higher than any measure of what a new entrant ought to pay for the target benefit jeopardize the sustainability of the plan. The balance of benefit policy, funding policy and investment policy needs to offer good value to new entrants and reasonable security to pensioners. PfADs, investment risk and the prospect of future benefit adjustments are all pieces of the same puzzle.

Setting aside the desire to fund for plan wind-up and the complexities of risk sharing, going concern funding might still warrant a PfAD if one of the purposes of funding is to provide security for plan members and if reasonable surplus ownership arrangements are in place.

## HOW BIG SHOULD A PfAD BE?

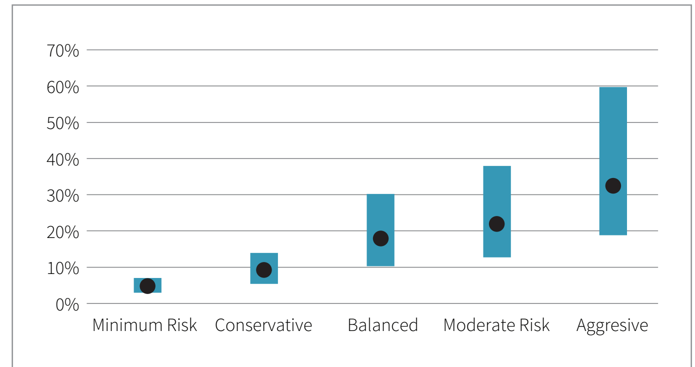
Figure 2 illustrates some of the results of my research. It attempts to answer the following question:

> *How much bigger than the best estimate does the funding target have to be in order to achieve a high probability that the assets will be at least as big as the liabilities after three years?*

The black dot indicates the PfAD required to achieve an 85 percent likelihood of full funding, while the bottom and top of each bar indicates the PfAD required to achieve a likelihood of 75 percent and 95 percent, respectively.

Not surprisingly, a "minimum risk" portfolio of bonds that matches the duration of the pension liabilities requires a relatively small PfAD, while an aggressive portfolio requires a much larger PfAD, especially if a high degree of confidence is required. Other factors, such as plan design, maturity of the membership group and specific asset class characteristics, matter too, but the overwhelming factor is the allocation to return-seeking assets.

Figure 2
Provisions for Adverse Deviation (PfAD) Required to Achieve Predetermined Confidence Levels




## CONTRIBUTION VOLATILITY

It is important to note that including a PfAD does not, by itself, alleviate the volatility of contributions. On the contrary, simply raising the funding target by a fixed percentage (or equivalently by a fixed reduction in the discount rate) magnifies contributions and correspondingly magnifies changes in contributions. To manage volatility, regulators and sponsors must adopt amortization or deferred recognition of gains and losses. A PfAD can make these strategies more palatable or can serve as a buffer or corridor. In a regime where the primary focus is on settlement cost or where contribution rates are particularly sticky, the PfAD question can be turned upside down. Instead of asking how big the PfAD needs to be on the going concern basis, actuaries can assess how likely it is that solvency contributions or fixed contributions will create surplus or deficiency problems in the absence of a plan wind-up. A pension funding target might be wrong for the circumstances, but then the question is "How wrong?" This is the first step toward a discussion of the right target. ■

Doug Chandler, FSA, FCIA, is Canadian retirement research actuary at the Society of Actuaries. He can be reached at *dchandler@soa.org*.