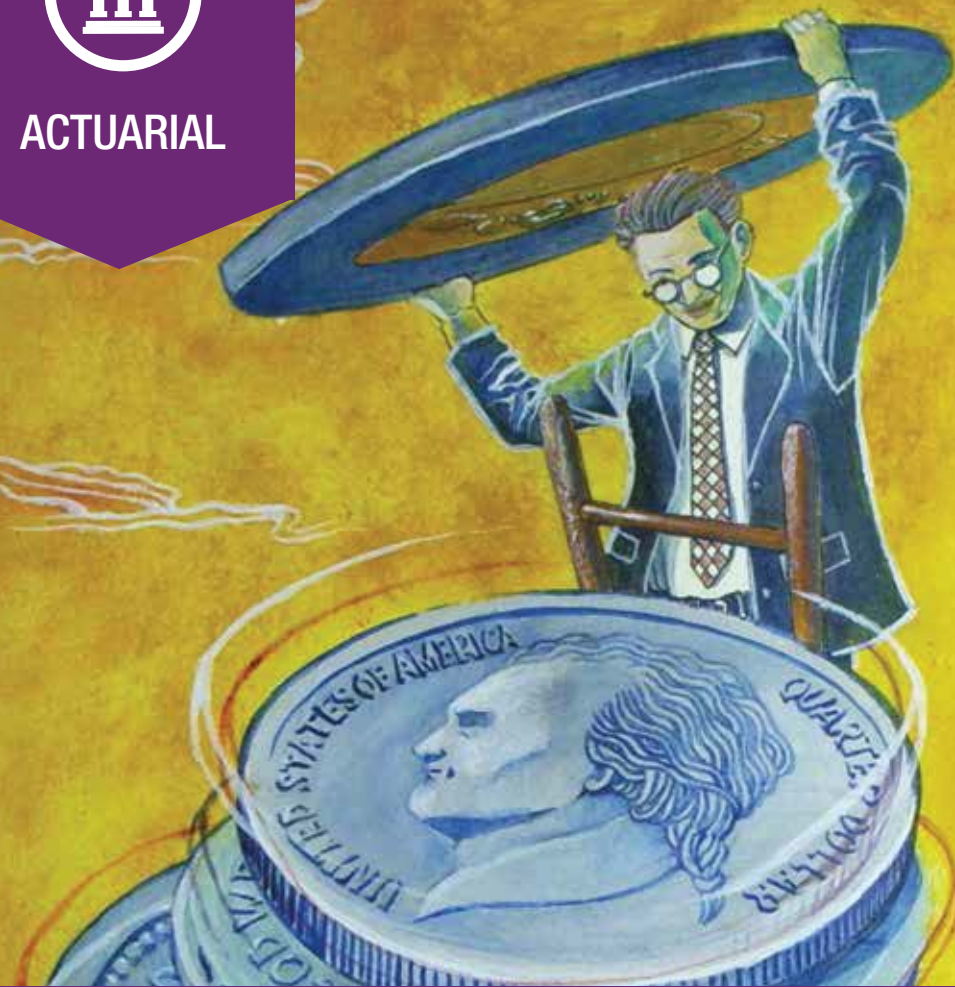




ACTUARIAL



# Maintaining DB Plan Viability via Cash Balance Plans

How a cash balance plan can mitigate the three adverse factors affecting DB plans — declining interest rates, volatile asset returns and liability/asset mismatches.

BY DOUGLAS S. LANE

**A**long with the changing pension plan landscape, there haven't been many good headlines in recent times for defined benefit plans. Large plans in particular have seen problems plaguing their viability for more than a decade.

Three factors have caused these plans to decline in number. Of those that remain, some have closed their doors to new entrants, frozen the plan, or amended their future accruals. The factors are:

- **Declining Interest Rates.** As interest rates decline, traditional pension liabilities increase (particularly on termination). The composite corporate bond rate 10 years ago was approximately 7%. Today it hovers around 4%.
- **Volatile Asset Returns.** While interest rates declined, the capital markets experienced highly erratic returns over the same 10-year period. Because of the funding rules, this has had a tendency to require higher contributions in years when the economy is bad and lower contributions when the economy is good.
- **Liability/Asset Mismatch.** Many plans may have overinvested in equities or ignored the warnings that their advisors issued regarding the temptation to chase after higher investment returns (taking on higher risk). For certain plans, this problem could include a mismatch where a portion of the plan's assets perhaps should have been, but were not, invested in products that move in the same direction as the plan's liabilities when interest rates change.

Any one of these factors alone might not necessarily cause the exodus we've seen from traditional pensions. But all three have combined to create a perfect storm for the near-demise of the classic defined benefit plan.

## FLEXIBILITY IN SAVING FOR RETIREMENT

It is not uncommon for small business owners to put their own capital and countless hours of effort into their business ventures early in their working years. This can lead to severely inadequate savings as they mature through their career. In these later years, small business owners may want to save larger amounts to make up for the lack of being able to do so early on.

Let's compare a DB to a DC plan with this factor in mind. The 2013 maximum dollar limit for an employer contribution in a defined contribution plan is \$51,000. With a catch-up deferral, this maximum is \$56,500. Let's assume a business owner starts saving \$56,500 at age 52 and continues to do so for 10 years. With an investment return of 5.5%, this would accumulate to \$727,000 after 10 years, assuming contributions are made at the end of the year.

In contrast, the 2013 defined benefit plan life annuity limit is \$205,000 per year. This is the maximum annual lifetime income a defined benefit plan can provide if the payments commence at age 62. You'll need 10 years of participation in a defined benefit plan to earn this maximum payout. You also need a consecutive 3-year average wage equal to at least \$205,000 to support this benefit.

How does this lifetime annuity compare to the accumulation in the 401(k) plan? Let's assume the business owner decides to adopt a defined benefit plan beginning at age 52. The present value of this annuity stream at 5.5% interest at age 62 is \$2,485,128. The 5.5% interest rate is used because it is the minimum rate allowed if a lump sum payout is made. This produces the contribution pattern in Table 1.

This is almost 3.5 times higher than the accumulation provided with just a 401(k) plan over the same period of time. Clearly there is a great potential economic

**Table 1: DB Plan**

Age	Contribution	With Interest to 62
52	\$145,487	\$248,512
53	\$153,489	\$248,512
54	\$161,931	\$248,512
55	\$170,837	\$248,512
56	\$180,233	\$248,512
57	\$190,146	\$248,512
58	\$200,604	\$248,512
59	\$211,637	\$248,512
60	\$223,277	\$248,512
61	\$235,557	\$248,512
62	Total = \$2,485,128	

benefit to a business owner if the maximum defined benefit accruals are affordable. Also, depending on the circumstances, it is possible that both plans can simultaneously reach the maximum amounts available for the owner. From the examples above, using 5.5% as the earnings assumption, this would allow the owner to accumulate \$3.2 million in just 10 years, which might almost be enough to retire.

Each situation is governed by the demographics of a particular company's workforce. A typical situation may have a business owner who is older and a workforce that has at least a portion of younger employees. The most cost-efficient result may be to provide a combination of DC and DB plans providing benefits for everyone. If the circumstances are right, sometimes business owners can maximize their benefits in each plan, as described above. The nondiscrimination rules would determine the minimum level of benefits that must be provided to the remaining employees.

## MITIGATING THE PROBLEMS

While there may be an economic benefit to a small business owner, can the problems mentioned earlier associated with defined benefit plans be mitigated? The answer is yes, and this is where the now-popular cash balance plan design becomes

---

# “Mitigating risk or focusing on an acceptable level of risk for a plan’s investments should replace the old concept of attempting to achieve an assumed rate of return.”

---

important along with a conservative investment portfolio. Let’s reexamine each of the problems discussed at the beginning of this article.

## **DECLINING INTEREST RATES**

Traditional defined benefit plans struggle with declining interest rates due to lump sum payouts or annuity purchases. A lower interest rate translates into a higher lump sum liability. That is generally not the case with a cash balance plan. A cash balance plan is a defined benefit plan that is designed by establishing a hypothetical account and by providing interest credits. If certain requirements are met, the account balance is equal to the lump sum liability, thus eliminating the fluctuation otherwise caused when outside rates change or when lump sum payouts occur.

What happens if the participant elects an annuity form of payment? In practice this problem rarely occurs because participants elect lump sum payments. For a larger company, the fact that annuities are available also means the financial accounting calculations must include values for these annuity options. The result is a fluctuating liability that appears on the financial statement, even if the plan is well funded. This

can be somewhat alleviated by the plan’s design regarding actuarial equivalence, its crediting rate, and by implementing an appropriate investment strategy.

What if interest rates increase? When designing the plan to withstand declining interest rates, the possibility of increasing rates should not be overlooked. Again, the plan design considerations are largely dependent on the employer’s overall goals. Is this a social plan for the benefit of the employees, or is this an owner-tilted plan?

## **VOLATILE ASSET RETURNS**

The plan sponsor (the business owner) can certainly design the defined benefit plan’s investment portfolio based on conservative investments. Mitigating risk or focusing on an acceptable level of risk for a plan’s investments should replace the old concept of attempting to achieve an assumed rate of return. The steps taken to establish an investment portfolio for a 401(k) plan should not be the same steps taken to establish a portfolio for a defined benefit plan.

Instead, at least one additional important factor must be included: The employer is required to make extra contributions when investments

do not meet the expected return. Clearly this is not even a consideration when designing an investment lineup for a 401(k) profit sharing plan. One could argue that the reason the employer adopted a defined benefit plan was because they could afford the additional contributions. However, four problems can occur if volatile investment choices are made.

First, as participants terminate and make distribution elections, the plan cannot allow a lump sum payment if the plan’s funded status is too low. A predictable return on plan assets can help avoid this issue.

Second, good or great investment returns can limit and reduce the employer’s deductible contribution. If the plan was adopted because the employer wanted high contributions, a great investment return appears to be a contrary goal.

Third, a great investment return in a very small plan can result in excess plan assets — amounts that are difficult to recover because they exceed the maximum Section 415 limitation that applies to benefit payments. In rare cases, such excess becomes subject to a 50% excise tax and is also included as taxable for federal and state income tax purposes.

Lastly, as the plan matures, the impact of an investment loss is much



greater. For example, if the second year assumption is to provide a 5.5% return but the plan actually loses 19.5% instead, the actuarial loss is 25% (the difference between the assumed return and the actual return). This loss is amortized and added to the plan's required funding for the next seven years. From the chart described earlier, and assuming two owners (both age 52), this adds only about \$13,000 or so to the required funding. Contrast this to what happens after the ninth year of the plan. After nine years, such a loss would add about \$185,000 of minimum additional funding, but if both owners truly hope to retire after the 10th year, the cost is over \$1 million to fully fund their benefits.

Markets will continue to rise and fall. Employers and advisors must remember to adjust their thinking

regarding the plan's investments in a defined benefit plan. They must know what level of risk they are truly prepared to pay for, as opposed to taking as an acceptable loss. This should be carefully considered when determining the portion of the assets to be invested in equities, bonds, and other investments.

#### LIABILITY/ASSET MISMATCH

A traditional defined benefit plan has a much different approach for matching assets and liabilities, especially in larger plans. A seasoned investment advisor, working with information from the plan's actuary, can develop a strategy for this type of large plan investment planning. For a small plan, this is generally not needed or necessary as the employer is focused solely on maximization of the contribution.

With a small employer's cash balance plan, the lump sum liabilities are not fluctuating. Here, the investment strategy could be to reproduce a low-risk return that is no more than the interest credit defined by the terms of the plan. It may be a fair tradeoff to even underperform if the result is a fairly predictable return. Underperforming will increase future contributions, of course, but to mitigate large mismatches between assets and lump sum liabilities, it's the predictable return that helps keep the plan viable. **PC**



*Douglas S. Lane, FSA, EA, MSPA, MAAA, is the president of Kidder-Lane Actuarial Services LLC, which provides actuarial services for 270 plans.*

**DATAIR** introduces an exciting new software package for

## 401(k)/Cash Balance Combo Plans

The opportunity for DC Administrators to get into the hottest trend in the pension market.

**Increase the number of plans and grow your revenue.**

- Add Cash Balance Plans to your clients' existing DC Plans
- Triple your clients' tax deductions compared to a DC plan only
- No need to turn down business or outsource your work

**DATAIR will help you!**

- Free webinars and training
- Plan designs to pass compliance tests
- Live, expert support

Plus:  
5500s and  
Plan Documents

Call today for  
Special  
Introductory offer

If cross-testing works,  
DATAIR's 401(k)/Cash Balance Combo may work better!



(888) DATAIR-4 sales@datair.com www.datair.com

