



AMERICAN ACADEMY *of* ACTUARIES

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RE: Projection of Cash Balance Benefits

Dear Ms. Judson and Mr. Neis:

The Pension Committee of the American Academy of Actuaries¹ wishes to call to your attention the need for guidance for projecting benefits under cash balance plans with variable interest credits.² As described in detail below, projection of cash balance benefits is required for several purposes, and the existing hybrid plan regulations do not provide the necessary guidance.³ We believe that providing clear and workable rules will encourage the sponsors of such plans to retain them and may lead to the creation of new cash balance plans, potentially affecting retirement benefits and providing access to lifetime income options for millions of Americans. Plan designs with variable interest credits have

¹ The American Academy of Actuaries is a 19,000-member professional association whose mission is to serve the public and the U.S. actuarial profession. For more than 50 years, the Academy has assisted public policymakers on all levels by providing leadership, objective expertise, and actuarial advice on risk and financial security issues. The Academy also sets qualification, practice, and professionalism standards for actuaries in the United States.

² For purposes of this letter, the term “cash balance plans” includes pension equity plans that explicitly credit interest after termination of employment.

³ Note that while this letter focuses on the assumed rate of future interest credits, guidance will also need to address the assumed interest rates used to convert projected accounts to annuities where the plan uses variable rates for that purpose.

become increasingly popular as many plan sponsors seek benefit designs that share risk—primarily investment risk—with participants.

Background

It is necessary to project variable rates into the future for cash balance plans for several purposes, including:

- §411(b) accrual rules;
- §415 benefit limits;
- §401(a)(4) nondiscrimination testing, §410(b) average benefit percentage test, and §401(a)(26) meaningful accrued benefits test;
- §412/§430 minimum funding rules and §404(o) deduction limits; and
- §436 benefit restrictions.

There is very little formal guidance on how these rates should be projected, and the formal guidance that does exist is not consistent:

- IRS regulations under §430 provide that each non-prescribed assumption must be reasonable and, in combination with other non-prescribed assumptions, represent the enrolled actuary's best estimate.
- With respect to application of the §411(b) accrual rules, Revenue Ruling 2008-7 takes a completely different approach, providing that the interest crediting rate for the current year for “lump sum-based” benefit formulas is one of the factors that is assumed to remain constant in determining the annual rate of accrual. No consideration is given to whether the rate that is assumed to remain constant is a reasonable long-term assumption.

We understand that for some other purposes the IRS has informally taken the position that the projection of benefits must use the Revenue Ruling 2008-7 method of treating variable rates as remaining constant at the most recent rate. The IRS has at times required this approach for purposes of determination letter request filings.

Additional Guidance Needed

Cash balance plans with variable interest credits cannot be sure they are operating in compliance with all legal requirements without guidance that provides a workable approach to projecting benefits.

The Revenue Ruling 2008-7 method causes illogical and volatile compliance testing results, which in turn causes problems for plan sponsors and plan participants. Projecting using the most recent rate without regard to whether the rate is a reasonable long-term assumption can cause results that distort the economic value of the benefits. Using low rates for projection potentially understates the value of benefits for §415 limit calculations and nondiscrimination, meaningful benefits, and accrual rule testing. High projection rates have the opposite effect. Volatility in the rate from period to period can dramatically affect the results of the compliance tests, even when the fundamental plan design and participant demographics have not changed. Similarly, such an approach applied to §415 can result in a windfall for some participants or a significant reduction in the maximum benefit for others (or for the same participant from period to period).

As an example of the problems caused by projecting using the most recent rate, consider the calculation of the \$415 limit for a cash balance plan that provides monthly interest credits based on the rate of return on plan's assets. Assume that a participant aged 45 terminates and elects an immediate benefit. If the most recent monthly interest crediting rate was 5%, the annualized rate would be nearly 80% (i.e., $1.05^{12} - 1$). Using this rate to project the account balance to age 65 for purposes of determining the plan's implicit early retirement factor would result in an interest discount factor for the 20 years (240 months) prior to age 65 of less than 0.00001 (i.e., $1 / 1.05^{240}$), which would produce a \$415 limit at age 45 of virtually zero. Contrast this result with the calculation after a more modest monthly interest crediting rate of 0.5%, which would result in an interest discount factor of 0.30210, and a \$415 lump sum limit somewhere around \$744,000 (in 2017).⁴

Obviously, the economic value of the benefit does not change significantly simply because of a one-month fluctuation in the interest crediting rate. Further, it would not be reasonable to expect the continuation of 5% interest credits each month indefinitely any more than it would be reasonable to expect indefinite interest credits of 0%—which would produce an even larger permissible lump sum. Although the results are unlikely to be this extreme for a plan that determines the interest credit rate on an annual basis, substantial year-over-year fluctuations in projected benefits are still very likely.

Accrual Rules

The accrual rules that apply to defined benefit plans were introduced as part of ERISA, and were designed to prevent sponsors from circumventing the ERISA vesting rules by providing substantially backloaded accruals. Defined contribution plans are not subject to the same rules. While cash balance plans are defined benefit plans, the benefits accrue more like defined contribution plans than traditional defined benefit plans. In spite of this, IRS guidance essentially treats variable interest cash balance plans as being inherently backloaded by requiring these plans to pass accrual rules assuming a future interest crediting rate that may not reasonably reflect the full economic value of the interest crediting basis.

Traditional defined benefit plan formulas are economically backloaded. That is because a given annuity payment beginning at normal retirement age has a larger actuarial value for an older participant than for a younger participant. However, by testing the value of the accrual at normal retirement age, and not the actuarial present value of the annuity, the tests accept the inherent economic backloading in these formulas. See the Appendix to this letter for additional information regarding the economic backloading of traditional defined benefit formulas compared with that of cash balance formulas.

Generally, cash balance plans do not have the same level of inherent economic backloading as traditional plans. A given dollar credit has the same present value regardless of the age of the participant. (A plan that provides constant dollar credits is in fact frontloaded.) Because the accrual rules are designed to prevent plans from providing benefits that are too backloaded, it would appear that cash balance plans should have an easier time passing these tests, by their very nature. However, the opposite is true for plans with variable interest credits, especially investment-based plans.

⁴ Assuming a plan annuity conversion rate of 5% and §417(e)(3) applicable interest rate of less than 5.5%.

IRC §411(b)(1) provides: "...social security benefits and all other relevant factors used to compute benefits shall be treated as remaining constant as of the current year for all years after the current year" for each of the three accrual rules (i.e., 3-percent method, 133-1/3 percent rule, and fractional rule). Treasury regulation §411(b)-1 contains similar language and further allows a plan to assume no changes in average compensation (limited to 10 years in the case of the 3-percent method and fractional rule). This neutralization of the potential impact of "other relevant factors" makes it easier for traditional defined benefit formulas to meet the backloading requirements and allows determining compliance with the 133-1/3 percent rule for such formulas by mere inspection of the pattern of benefit accrual rates.

As noted above, Revenue Ruling 2008-7 treats the most recent interest crediting rate as remaining constant for purposes of the test. This effectively penalizes variable interest rate plan designs, particularly those with investment-based rates, because the volatility in the rates from year to year leads to volatile test results even though the underlying plan design has not changed.

The factors cited (i.e., Social Security and compensation or average compensation) are all amounts that might otherwise reasonably be expected to increase steadily (although not uniformly) over time. Holding these factors constant explicitly excludes changes in the economic environment and an individual's pay level. When applying this concept to cash balance pay credits, one must consider what the "relevant factor" is that should be held constant. A single year's bond yield or return on a class of assets may bear little to no relationship to reasonable expectations for the future. As the cash balance interest credit will be applied over multiple years, we believe it is far more appropriate to identify the relevant factor as an expectation over a multiyear period, as discussed in greater detail below.

The hybrid plan regulations provide some relief by allowing the 133-1/3 percent accrual test to reflect a floor interest rate of zero, but this is not adequate for plans using an investment-based rate. Because investment-based rates are expected to be below zero occasionally, plans with investment-based interest credits effectively cannot design a plan anticipating any interest on pay credits, which means they cannot have any meaningful age- or service-weighting on their pay credits. This is especially limiting in cases of plans transitioning from traditional defined benefit formulas. In these cases, plan sponsors often want to provide higher pay credits to older and longer service participants in an effort to mimic traditional plan accruals to some extent to counter the effect of not having cash balance accruals in early years that would have long periods to earn interest credits.

There is no apparent policy reason that variable interest cash balance plan designs should be prevented from providing age-based increases in value comparable to what can be provided by other cash balance plans or by traditional designs. We are not aware of any sponsors of such plans in practice having structured benefits with the intention of circumventing the vesting rules.

Setting a Projection Rate

We believe that when setting a projection rate, the "relevant factors" treated as remaining constant should not be viewed so restrictively as to require holding a specific rate itself constant. Rather, the

“relevant factors” should be viewed more holistically to include a reasonable long-term expectation for a rate or the economic environment more broadly. It is critical that the projection rate:

- fairly **reflects long-term expectations** for interest credits on an economically sound basis; and
- **ensures stability** from year-to-year to avoid anomalous §415 limit calculations, and accrual rule and compliance testing results.

For a projection rate to be appropriate, at the very least it should provide a reasonable estimate of the projected benefit at a future age attributable to the benefit being projected. The purpose of the projection is to measure the value of the benefit at different points in time. To base benefits or compliance testing on an assumed projection rate that is not reasonable is contrary to this purpose. It also seems appropriate for projections to be done consistently for all purposes. For all benefit calculation and compliance testing purposes that require a projected benefit value, a benefit should generally relate to a single projected benefit value.⁵

Stability in a projection rate from period to period is also important. Although changes in rates from period to period are expected, the rates are unpredictable, especially over the short term. Actual changes in interest crediting rates over a single period have very little bearing on the actual benefit at normal retirement age. Therefore, short-term fluctuations in rates should have no effect on the projection of normal retirement benefits for tests that assess the underlying benefit structure.

Even the average over a five-year period is treated as potentially unreasonable by the IRS for purposes of determining the post-plan termination interest crediting rate for investment-based cash balance plans. According to the preamble to the 2014 final hybrid regulations, “the trailing 5-year average of an investment-based rate of return may be unreasonably high or unreasonably low and, unlike the trailing 5-year average of an interest rate, will have little, if any, correlation to the actual future investment-based rate of return.” This potential for an unreasonable rate led the IRS to require substitution of the second segment bond rate in place of investment-based rates in determining the trailing five-year average interest crediting rate upon plan termination.

While changes in the economic environment over longer periods can necessitate a change in the projection rate used for testing purposes, stability and the ability to plan are important. It is critically important to plan sponsors to have enough lead time to adjust benefit designs, as appropriate, before being subject to a new projection rate.

Recommended Projection Rate

We believe the starting point for setting a projection rate should be a reasonable assumption or reasonable range of assumptions based on future expectations. Ideally, the assumed rate would be used for projecting interest credits, regardless of the actual rate in the year of the test.

⁵ Although it is beyond the scope of this letter, when a projected benefit or series of periodic benefits is to be discounted using a prescribed interest rate or rates (e.g., for §417(e) lump sum calculations), the implicit relationship between the projection rate and discount rate may result in a different projection rate being more appropriate for that purpose.

Alternatively, the IRS could provide safe harbor projection rates. For plans using investment-based rates, possible safe harbor rates would include the 6% maximum fixed rate deemed not to exceed a market rate of return in the hybrid regulations and the average over a reasonable period of third segment rates at the time the variable interest is adopted. The same safe harbor projection rates could be used for cash balance plans using yield-based interest crediting rates except that a safe harbor rate determined as the average over a reasonable period could be based on the actual yield-based rate used by the plan.

If the rules provide for setting the projection rate equal to a reasonable assumption or determining a safe harbor rate that is variable (e.g., average third segment rate), the plan's projection rate could be subject to periodic revision to reflect changes in the economic environment. For instance, the plan's projection rate could be subject to revision at the earlier of a change to the plan's interest or annuity adjustment basis or a fixed number of years (e.g., five).

The safe harbor rates could be proportionately reduced for plans using less than a maximum rate deemed not to exceed a market rate of return. For example, the safe harbor projection rate for a plan that determines interest credits using 50% of the rate of return of an S&P 500 index fund would be equal to 50% of the safe harbor rate. Similarly, the safe harbor projection rate for plans using a yield-based rate with less than the maximum margin would be reduced appropriately. One possibility would be to reduce the projection rate by the difference between the maximum margin and the actual margin. For example, a plan using 3-year Treasury Constant Maturities without a margin would use a projection rate equal to the safe harbor rate less 0.5% (i.e., the maximum margin of 0.5% less the actual margin of 0.0%).

The IRS could require plan sponsors to include a methodology for determining the projection rate in the plan document and require plan sponsors to provide the rationale for the reasonableness of the rate in determination letter filings or upon audit. Having the rate (or the basis) defined in the plan document would ensure benefits are definitely determinable.

The Pension Committee appreciates the opportunity to provide input to the Treasury and IRS on this important issue. We would be happy to discuss any of these items with you at your convenience. Please contact Monica Konaté, the Academy's pension policy analyst (202-223-8196, konate@actuary.org) if you have any questions or would like to discuss these items further.

Sincerely,

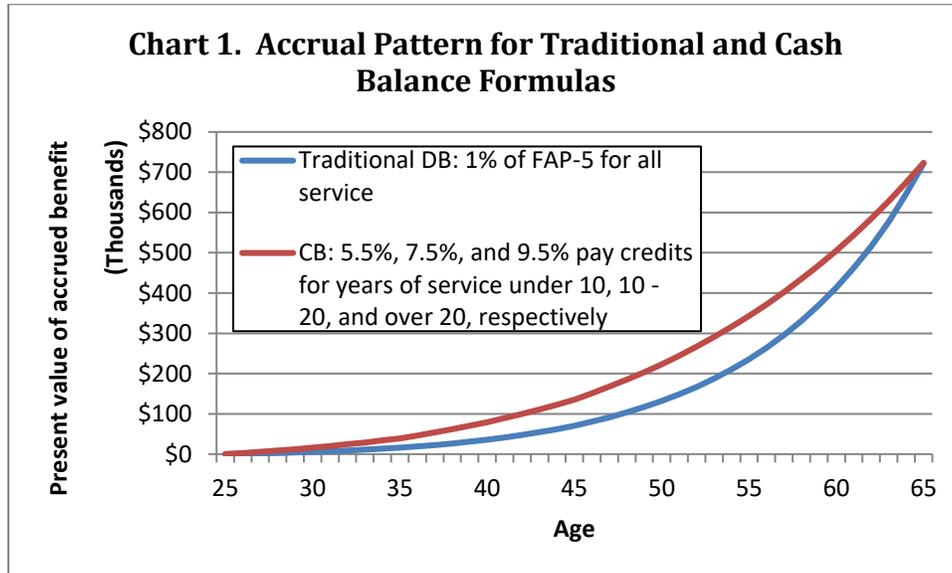
Ellen L. Kleinstuber, MAAA, FSA, FCA, FSPA, EA
Chairperson, Pension Committee
American Academy of Actuaries

Cc: Harlan Weller
David Ziegler

Appendix

Economic Backloading in Traditional Defined Benefit Plan Formulas Compared with Cash Balance Formulas

Chart 1 compares the accumulated accounts in a cash balance formula with the present value of the age 65 accrued benefits under a traditional defined benefit formula, where the two formulas were designed to produce the same benefits at age 65.⁶

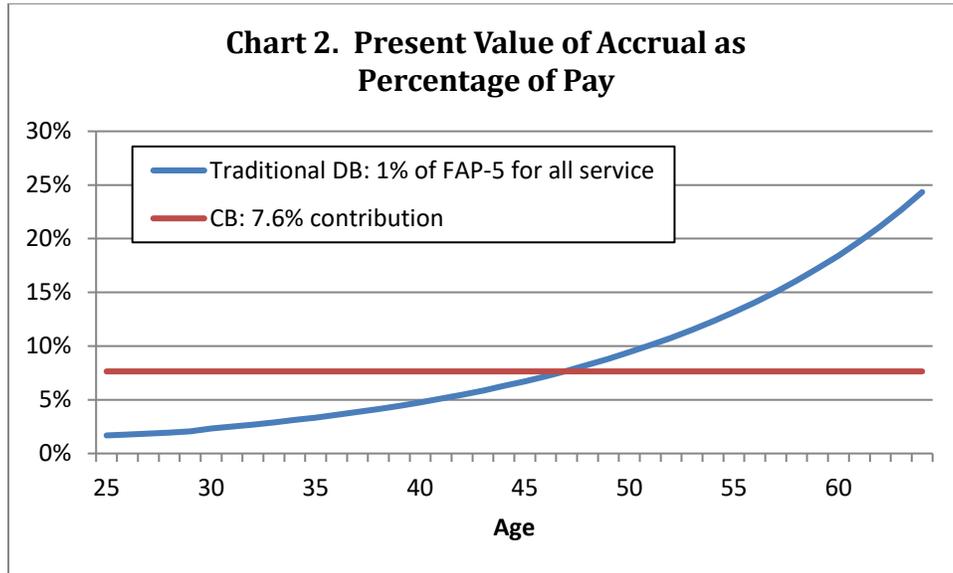


From Chart 1, it can be seen that the service-graded cash balance formula accumulates benefits much more evenly over the participant's career than the traditional defined benefit plan with a single accrual rate. Despite the cash balance plan formula being less economically backloaded, it is at risk of failing the accrual rule test while the traditional plan is not.

Chart 2 illustrates the much different benefit accrual pattern that results from a traditional defined benefit formula with a level accrual rate and a cash balance formula with a uniform pay credit rate. A cash balance plan with a pay credit of 7.6% is expected to result in the same age 65 benefit as a 1% final average pay defined benefit formula for a participant who works continuously from age 25 to age 65, assuming the same assumptions used in developing Chart 1, including 3% annual pay increases and an assumed interest crediting rate of 5% for the cash balance plan. The amounts on the chart represent the present values of the annual accruals under the two formulas at each age.

⁶ Based on \$50,000 starting pay at age 25 with 3% annual increases, 5% annual cash balance interest crediting rate, and 5% discount rate to determine present values of the traditional defined benefits.

Appendix
Economic Backloading in Traditional Defined Benefit Plan Formulas
Compared with Cash Balance Formulas



From Chart 2, it can be seen that a cash balance plan pay credit scale would have to be extremely steep to come close to providing the pattern of benefits in the final average pay defined benefit plan—from about 2% of pay at age 25 grading up to about 24% of pay at age 65.