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Term Cost Vesting and the TEFRA Minimum

by Howard J. Small

The accelerated accrual and vesting requirements under the TEFRA top-heavy rules have added a new consideration to small plan pension funding—the cost of vesting. Traditionally, only the retirement benefit has been valued while the benefit contingent on vesting has been ignored; its justification has been that the present value of the accrued benefit, typically determined under the fractional rule, is less than the reserve or asset accumulation determined when a participant terminates. In a top-heavy plan, a participant's accrued benefit will be front-loaded, and the incurred liability at termination will frequently exceed the released reserve liability. If an employee hired at age 30 terminates employment at age 40, he will have accrued the 20% minimum benefit. Assuming the funding period runs from age 20 to age 65, the incurred liability, usually paid in a lump sum, is about twice the released retirement reserve. One remedy, a departure from current practice, might be to defer payment of all termination benefits to normal retirement.

Another possibility is to fund the TEFRA minimum by the accrued benefit cost method. This has the advantage of forcing an asset accumulation to equal the accrued benefit, but its drawback is that the whole plan must be funded in this manner or else IRS approval would be required to fund some participants' benefits under one cost method and others under another method. Also it's unclear how one would implement a dual funding approach.

Explicitly valuing the vesting benefit is another alternative but this, too, presents problems. The appropriate turnover table for a small group is not easily determinable. Small plan valuation programs frequently do not provide the facility to advance-fund an ancillary benefit. Also, many small plans are split-funded. Even if the valuation program has the provision to advance-fund vesting, the data base would require cash values at all issue ages and durations.

Term Cost Funding

An attractive alternative to advance-funding the vesting benefit is to use the term cost funding method. The idea, here, is that an annual "term insurance premium" is determined such that if the actual experience each year equals the expected experience, there will be no actuarial gain or loss attributable to terminations.

The actuarial gain is derived from two sources. If the actual release (AR) in liability exceeds the expected release (ER) in liability, there will be an actuarial gain. And, if the expected incurred (EI) liability resulting from individuals withdrawing with vested benefits is greater than the actual incurred (AI) liability from such withdrawals, there will be an actuarial gain. Notationally, this will be written

$$G = (AR - ER) + (EI - AI).$$

If we make a withdrawal assumption with respect to the forthcoming plan year and assume that the plan experience is consistent therewith, then (1) G, in the general equation above, equals 0 and (2) ER, AR, and AI, in the general equation are completely determined. This implies

$$EI = AI + ER - AR.$$

There are several advantages to the term cost method. One, the actuary has complete flexibility in determining the withdrawal assumption or load to the basic retirement benefit for the vesting provision. Two, the extra computer programming should be manageable even if added to an existing valuation program. Three, current year cash values are the only additional data needed. And, four, as a by-product of the term cost feature, the vesting cost can be illustrated separately from that of the basic retirement benefit. This last feature is useful because the financial impact of accelerated accrual and vesting requirements can be easily presented to a client.

Ed. Note: Mr. Small here gives an illustration, which shortage of space has prevented us from printing, in which the actuarial assumptions provide for no withdrawals and no pre-retirement mortality, and the data show a 100% vesting percentage and $q_x^w = 0.05$. He continues as follows:

One special case is of particular interest. If we let $q_x^w = 1.0$, the asset accumulation under the individual aggregate funding method is identical to the asset accumulation in a plan funded by the accrued benefit cost method. This result is consistent with the intuitively obvious cost method that has been suggested to fund the front loaded TEFRA minimum benefit accrual. (This the author demonstrates—Ed.)

If the basic funding method is individual aggregate and it has been decided to fund the TEFRA minimum by the accrued benefit cost method, a more succinct procedure is available. Consider the effect of letting $q_x^w = 1.0$ and advance-funding the vesting benefit. For any individual, the present value of liabilities will degenerate to the present value of accrued benefits and the temporary annuity becomes 1.0. The normal cost is the difference between the present value of accrued benefits and the allocated assets. Clearly, the normal cost plus the allocated assets will always equal the present value of accrued benefits. □

CANADIAN ACTUARIES MATCH INVESTING SKILLS

Seventy-five teams have put $15 on the line in "INVESTMENT GAME 83/84" run by the Younger Actuaries Committee of the Canadian Institute of Actuaries. At issue is which team can show the largest market value on April 30, 1984 arising from $250,000 assumed invested in up to eight securities chosen on June 30, 1983, with just two interim opportunities (October 1983 and January 1984) for trading.

Lists of eligible common stocks and bonds are furnished the contestants. Funds may also be placed in specified forms of residential and commercial mortgages, and in gold and silver. Short-term notes are available, and will be used for reinvestments.

Brendan M. McCormick, in charge of arrangements and portfolio records, has kindly promised this newsletter a report on the results. □

DEATHS

Kingsland Camp, F.S.A. 1926
Harold J. B. Cope, A.S.A. 1957
Douglas S. Craig, F.S.A. 1931
J. Ross Gray F.S.A. 1932
Donald C. Pailler, F.S.A. 1949