SOCIETY OF ACTUARIES

Article from:

The Actuary

October 1993 – Volume 27, No. 8

Pension plan wind-ups

Employee options can complicate investment policy decisions

by John Brophy

Pension legislation usually is drafted to protect pension plan members or to restrict tax deferral opportunities. Some pieces of legislation, however, provide plan members with additional benefits or options that, if exercised, can be detrimental to the pension plan. This calls for addressing some interesting asset/liability management issues to avoid unexpected results.

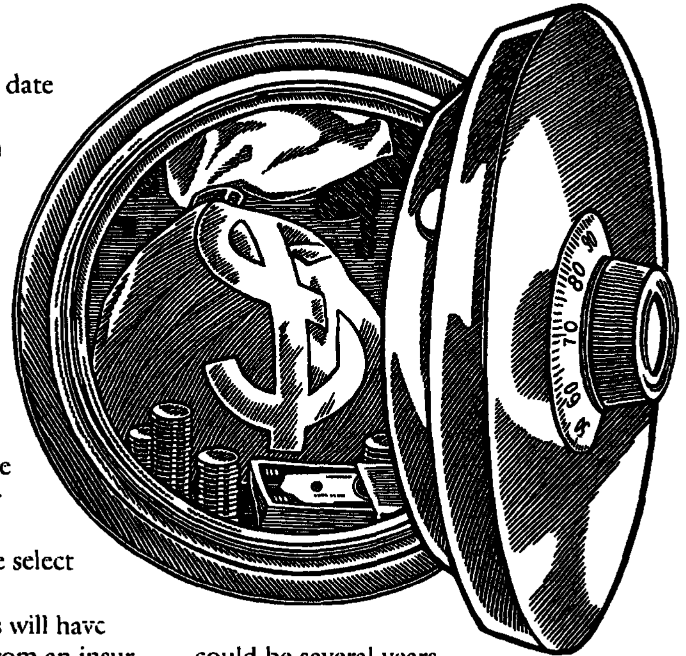
One of these issues is entitlements of plan members in a Canadian defined-benefit pension plan that is being wound up.

The actuary is responsible for making the plan sponsor... aware of the risks and sensitivities of the underlying liabilities.

When a pension plan is terminated, plan members have the choice of transferring the value of their deferred pension benefit to another registered vehicle or electing an immediate or deferred annuity. The Pension Benefits Acts and Regulations that govern pension plans registered in various provinces in Canada require the transfer value be calculated at the plan's wind-up date and then be brought forward with interest at the discount rate inherent in the commuted value calculation, from the wind-up date to the month of payout.

Valuing the liabilities

In determining how to manage the asset/liability position from the wind-up date to the actual date of the settlement (the date payments are made to plan members or annuities are purchased), the following two options lead to two distinct types of liabilities:



- Option 1 — Active members may select the transfer option and will be entitled to the commuted value determined using an interest rate basis that is appropriate for the wind-up date, brought forward with interest at the select period discount rate.
- Option 2 — Members will have their pensions purchased from an insurance company when approval is granted by the appropriate pension authority.

The liabilities under Option 1, namely the transfer value, act similarly to short-term investments, since the principal sum cannot change as a result of movements in interest rate levels. Thus, a minimum risk portfolio would be one investing the assets backing these liabilities in short-term securities or a money market fund. The downside to this investment strategy is that the return on short-term investments usually will be less than the return required to be credited to the commuted values.

The liabilities under Option 2 will vary depending on the level of long-term interest rates. These rates dictate the purchase price that will be quoted by insurance companies when the annuities are actually being purchased. Because of the long regulatory approval process, the annuity purchase could be several years after the wind-up date. A minimum risk portfolio for this liability would be one that is invested primarily in mid-term and long-term bonds. Because the portfolio must be liquidated at the purchase date, these bonds should be limited to highly marketable and liquid securities.

One of the problems facing the actuary and the plan sponsor is not knowing which members should have their liabilities determined under Option 1 and which under Option 2 (current retirees will always have Option 2) until members have been given their options and have elected either a transfer or annuity.

We therefore have a group of members consisting of active and terminated vested members who have the option of selecting a commuted value, plus interest at the discount rate. These individuals may be as likely to select an annuity on either an immediate or deferred basis. This option may

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be exercised passively, since the deferred annuity option is typically the default option for members who do not return their election forms. The option can have significant value to the individual — at potential cost to the plan — if interest rates have declined materially from the discount rate basis used in determining commuted values at the wind-up date. In this scenario, the value of the deferred or immediate pension may exceed the original commuted value plus interest. The delay before regulatory approval can be significant, enhancing the value of the option.

This option is difficult to price, because it depends on the expected volatility of long-term interest rates over a time period that is not fixed, as well as the probability of the option being exercised. The liabilities mentioned should be kept in mind when reviewing the actuarial balance sheet of a pension plan after the wind-up date. For example, the plan sponsor may ask you to update the financial position of the plan following the wind-up to clarify any change in the surplus/deficit position.

This will involve estimating the market value of both the liabilities and assets. Therefore, retirees should be valued based on current estimates of annuity purchase rates. Active members should be valued using the original commuted value rolled forward with the select discount rate, with an additional allowance to reflect the value of their embedded options. A conservative approach to this calculation could be to hold the greater of the commuted value plus interest and the discounted value of the individual's deferred or immediate pension on a current interest rate basis. However, this would ignore the future time value of any option that is still outstanding.

Investment policy

When a decision is made to wind up a pension plan, the liabilities of the plan usually change dramatically. The investment policy should be reviewed to determine what, if any, asset mix adjustments should be made. For example, final average earnings plans will base benefits on current salaries, rather than projected salary levels, and so the inflation component of the liabilities has been eliminated.

Where the decision to wind up the pension plan is made some time before the actual wind-up date, the liabilities of the plan are sensitive to movement in long-term interest rates. In particular, they are sensitive to the level of interest rates that will be used to determine lump-sum entitlements at the wind-up date.

If the commuted values are based on the Canadian Institute of Actuaries' (CIA) transfer value basis, which lags the level of long-term interest rates by about two months, the real risk for members selecting Option 1 lies in the level of long-term interest rates that will be in effect about two months before the wind-up date.

Consideration should be given to determining a minimum risk portfolio that reflects the level of interest rates on the date the CIA rate basis takes effect. For example, for a December 31, 1993, wind-up, the transfer value basis may be determined by the level of interest rates at the end of October 1993.

After the wind-up date, assets should be managed taking into consideration the revision to the liabilities as a result of the wind-up. These liabilities are dictated by the options available and the plan's unique demographics and characteristics, and the investment strategy should be adopted accordingly.

If the plan sponsor decides not to adopt a minimum risk portfolio, certain questions should be answered:

• If the assets are mismatched, how will the potential gain or loss due to this mismatch affect the company's income statement and balance sheet?

• If the assets and liabilities are mismatched and a loss occurs, resulting in reduced surplus or increased deficit, how will this financial deterioration affect the various parties who may be disputing ownership of the surplus/responsibility for the deficit? Could the mismatch be considered an abrogation of fiduciary responsibilities?

• If the plan currently is in a deficit and is registered in Ontario, and Ontario's Pension Benefit Guarantee Fund (PBGF) is expected to make up any shortfall, how will the pension regulators view any unwarranted mismatch of assets and liabilities?

• Since the ownership of surplus may change when the plan changes from a going-concern basis to a wind-up basis, who should decide the fund's future investment policy?

Role of the actuary

The actuary is responsible for making the plan sponsor or pension committee aware of the risks and sensitivities of the underlying liabilities.

The actuary will need to determine in consultation with the plan sponsor how many individuals could elect Option 1 or Option 2. The actuary then can provide the plan sponsor/committee with an appropriate breakdown of liabilities to enhance the asset/liability management process.

In addition, if the investments are structured so the liabilities for those expected to select Option 1 are backed by short-term investments expected to yield less than the discount rate, then the actuary needs to determine whether an additional reserve needs to be held, or accounted for, to reflect this expected loss.

The actuary also can assist in minimizing the value of the option available to plan members by accelerating the time frame for getting election forms sent to the plan members and obtaining their election of the form of benefit payments.

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