

Newsletter Express

Supplemental Pension Plans

5 June 2007

Instructions related to the interest rate assumptions to be used in determining the value of pension plan obligations

This issue of *Newsletter Express* provides **actuaries** with instructions for choosing the interest rate assumptions to be used in determining the value of pension plan obligations on the bases of solvency and funding. For the solvency approach, it is further to the *Educational Note* published in April 2007 by the Canadian Institute of Actuaries and entitled *Guidance for 2007 Assumptions for Hypothetical Wind-up and Solvency Valuations with Effective Dates between December 31, 2006 and December 30, 2007*, referred to below as “[Educational Note](#)”.

1. Valuation of liabilities on the basis of solvency as at 31 December 2006

Uninsured pensions in payment

To determine the value of uninsured pensions that are in payment on the valuation date, the Régie des rentes du Québec expects the actuarial valuation on the basis of solvency to respect the assumptions recommended in the *Educational Note*. For the different types of pensions, the following instructions should be taken into account in choosing interest rate assumptions.

Non-indexed pensions

According to the *Educational Note*, the maximum interest rate assumption for valuating the liabilities of a pension plan should vary according to the size of the liabilities to be insured. Thus:

- a maximum interest rate assumption varying between 4,15% and 4,60% would be acceptable for liabilities **less than** 15 million \$;
- a maximum interest rate assumption of 4,60% should be used for liabilities **equal to or greater than** 15 million \$.

In the opinion of the Régie, an appropriate application of the *Educational Note* would be to assume:

- a maximum interest rate of 4,15% for liabilities less than 1 million \$;
- a maximum interest rate of 4,18% for liabilities from 1 million \$ to 2 million \$;
- an increase of 0,03% for each additional million \$ of liabilities.

Pensions indexed according to the Consumer Price Index (CPI)

The *Educational Note* specifies that indexed pensions should be backed by assets whose yields are correlated with inflation. In this regard, the *Note* mentions that Government of Canada real return bonds are the most common example of such investments.

The Régie concludes that for the valuation of pensions indexed at 100% of the CPI, the interest rate assumption recommended by the CIA is the rate of return on Government of Canada real return bonds (CANSIM V39057 series). Thus, for 31 December 2006, a maximum interest rate assumption of 1,75% will have to be used.

Partially indexed pensions

Insurance companies generally back partially indexed pensions with real return bonds and other debt securities. The interest rate assumption for discounting this type of pension must therefore take into account the proportion of the pension that would be backed by real return bonds and the proportion that would be backed by nominal yield securities.

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In the case of partially indexed pensions in a plan whose liabilities are equal to or greater than 15 million \$, the interest rate assumption should be between 1,75% and 4,6%. For example, the interest rate assumption should be about 1,75% for a pension whose indexation formula is in the area of 100% of the CPI.

Annuities unavailable in the market because of a pension's nature

Amendments to section 237 of the *Supplemental Pension Plans Act* came into force on 13 December 2006. Upon plan termination, if for a pension in payment, no annuity is available in the market because of the pension's nature (e.g., a pension indexed according to an excess interest formula), the characteristics of the pension that make it unavailable in the annuity market can be replaced with others not having that effect. The annuity with those different characteristics must have the same value as the member's pension in payment.

In valuating pensions for which a directly corresponding annuity is not available, the actuary must apply the principles defined above to choose the interest rate assumption to be used and must **not** use the *Standard of Practice for Determining Pension Commuted Values* (in force since 1 February 2005).

Other pension benefits

For the valuation of pensions in payment insured prior to the valuation date and of benefits which, in the event of a plan's termination, would be settled by means of the transfer of a lump sum, the interest rate assumption to be used on the basis of solvency must be in conformity with the *Standard of Practice for Determining Pension Commuted Values* (in force since 1 February 2005).

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2. Valuation of liabilities on the basis of funding

The following table shows the interest rate assumptions used, on the basis of funding, for all the actuarial valuations as at 31 December 2005 and 1 January 2006 that were filed with the Régie.

Interest rate assumption ¹ (%)	Number of plans ²
Less than 5,25	12
5,25	5
5,50	13
5,75	11
6,00	37
6,25	20
6,50	67
6,75	21
7,00	32
7,25 and over	5
Total	223

It can be noted that an interest rate assumption that varies between 6% and 6,5% was used for more than half the plans. Moreover, for most of the plans whose interest rate assumption is 7% or more, an explicit assumption for administration costs was included in the determination of the current service contribution rather than in the determination of the interest rate assumption. Furthermore, no significant difference was observed in the assumptions, regardless of the type of plan (flat benefit, final average earnings, etc.).

In view of the downward trend in interest rate assumptions observed in the actuarial valuations of recent years, the Régie expects actuaries to use an interest rate assumption that is:

- less than 6,75%, where the rate is net of investment expenses and administration costs
- or
- less than 7%, where the determination of the current service contribution includes an assumption for all or part of such expenses and costs.

1. The rates are rounded to the nearest 0,25%.

2. Excluding designated plans within the meaning of section 8515 of the *Income Tax Regulations*.

3. Application of the instructions

These instructions will guide the Régie in judging the appropriateness of the interest rate assumptions used in the actuarial valuation reports that are submitted to it. The Régie will apply these criteria for the examination of every actuarial valuation whose valuation date is 31 December 2006. It will also apply them to every subsequent valuation by adapting them to the relevant guidance that may be published in future by the CIA.

If an actuarial valuation is not prepared in conformity with these instructions, the Régie may ask that assumptions be justified. In some cases, it may also require that a subsequent actuarial valuation be prepared at an earlier date than the date on which such report would normally be due.

Actuaries must be aware that the Régie expects to find, in every actuarial valuation report, a description of the methodology used to establish the interest rate assumptions for the various types of pensions.

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