Canadian Institute of Actuaries
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Educational Note Supplement

Assumptions for Hypothetical Wind-Up and Solvency Valuations with Effective Dates from December 31, 2011, to December 30, 2012

Document 212007

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Memorandum

To: All Pension Actuaries

From: Gavin Benjamin, Chair
Committee on Pension Plan Financial Reporting

Date: February 6, 2012

Subject: **Educational Note Supplement: Assumptions for Hypothetical Wind-Up and Solvency Valuations with Effective Dates from December 31, 2011, to December 30, 2012**

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Introduction

The purpose of this memorandum is to provide preliminary guidance from the Committee on Pension Plan Financial Reporting (PPFRC) for estimating the cost of purchasing group annuities for purposes of hypothetical wind-up and solvency valuations with effective dates of December 31, 2011, and later (but no later than December 30, 2012). Since this guidance may have an effect on valuations currently in preparation with an effective date of December 31, 2011, or later, the guidance is being released on an expedited basis in advance of formal approval by the Practice Council of a planned educational note.

An educational note was published in May 2011 on Assumptions for Hypothetical Wind-Up and Solvency Valuations with Effective Dates Between December 31, 2010, and December 30, 2011. Over the course of 2011, the PPFRC reviewed its guidance on the cost of purchasing group annuities on a quarterly basis. The most recent update to the guidance was contained in an educational note supplement issued in November 2011 and was effective as of September 30, 2011.

Methodology

This guidance is partially based on quotes provided by eight insurance companies on illustrative group annuity business using pricing conditions at December 31, 2011. These data were collected on the same basis as the illustrative quotes as of December 31, 2010 (as described in the May 2011 educational note), and the methodology used is consistent with the methodology adopted as of each quarter-end in 2011. The illustrative quote information was supplemented with data on the pricing of actual group annuity purchases during the fourth quarter of 2011 provided by certain actuarial consulting firms.

Analysis

The results of the illustrative non-indexed quotations at December 31, 2011, based on the UP94 generational mortality tables, are summarized below and compared to the previous illustrative quote information provided by the insurers as at September 30, 2011.

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AVERAGE OF THE THREE MOST COMPETITIVE QUOTES (USING UP94 GENERATIONAL MORTALITY TABLES)				
	Large Purchase		**Small Purchase**	
	30/09/2011	**31/12/2011**	**30/09/2011**	**31/12/2011**
Retirees				
• Discount rate	3.57%	3.28%	3.56%	3.36%
• Spread over CANSIM V39062	+ 0.89%	+ 0.87%	+ 0.88%	+ 0.95%
Deferred vesteds				
• Discount rate	3.59%	3.46%	3.52%	3.50%
• Spread over CANSIM V39062	+ 0.91%	+ 1.05%	+ 0.84%	+ 1.09%

The illustrative quotes suggest that an appropriate discount rate for estimating the cost of purchasing immediate non-indexed group annuities be determined as the unadjusted yield on Government of Canada (GoC) long-term bonds (CANSIM series V39062) increased arithmetically by approximately 90 basis points (bps), in conjunction with the UP94 mortality table with generational projection.

The actual group annuity purchase data obtained by the PPFRC for the fourth quarter of 2011 were also considered. In particular, the data on the actual purchases of non-indexed annuities during the month of December 2011 that were available to the PPFRC produced an average spread of approximately 90 bps above the prevailing unadjusted yield on GoC long-term bonds (CANSIM series V39062).

While the illustrative quotes do indicate differences in the pricing for immediate and deferred annuities, some of the insurers provide their quotes on the basis that the immediate and deferred annuities are comingled in the same purchase. As a result, and based on both the illustrative quotes and the actual group annuity data, the PPFRC has concluded that there is not sufficient evidence at this time to differentiate the guidance on pricing of group annuities for large and small annuity purchases, and immediate and deferred annuities.

Guidance for Non-Indexed Pensions

Based on the analysis described above, the PPFRC has concluded that, for valuations with effective dates on and after December 31, 2011, but no later than December 30, 2012, an appropriate discount rate for estimating the cost of purchasing a non-indexed group annuity would be determined as the unadjusted yield on GoC long-term bonds (CANSIM series V39062) increased arithmetically by 90 bps, in conjunction with the UP94 generational mortality tables. This guidance applies to both immediate and deferred pensions and also applies regardless of the overall size of a group annuity purchase.

Example

As at December 31, 2011, the unadjusted CANSIM V39062 rate was 2.41%. This rate would form the basis for developing an appropriate underlying discount rate for valuations of non-indexed group annuities with effective dates of December 31, 2011. Prior to rounding, an applicable underlying discount rate would then be determined as 2.41% + 0.90% = 3.31%.

Guidance for Indexed Pensions

As in prior years, data regarding the pricing of annuities indexed to the Consumer Price Index (CPI) are extremely limited. None of the data obtained regarding actual annuity purchases during the fourth quarter of 2011 pertains to indexed annuities. In most cases, the contributing insurers did provide illustrative quote data for the sample blocks on a CPI-indexed basis. It may be noted that the premiums for the illustrative quotes on this and prior occasions are substantially higher than the guidance provided by prior educational notes.

The PPFRC intends to conduct further research in 2012 regarding the pricing of indexed annuities. The analysis will include confirmation as to whether the insurers would be willing to actually transact on the basis reflected in the illustrative annuity quotes. This research may result in the revision of future guidance for estimating the cost of purchasing indexed annuities.

Accordingly, an acceptable proxy for estimating the cost of purchasing a group annuity where pensions are fully indexed to the rate of change in the CPI would be the unadjusted yield on GoC real return long-term bonds (CANSIM series V39057) in conjunction with the UP94 generational mortality tables. This guidance applies to both immediate and deferred pensions and also applies regardless of the overall size of a group annuity purchase.

In situations where pensions are partially indexed, indexed to a measure other than the CPI or contain a deferred component, the actuary would make appropriate provisions for such situations consistent with the guidance provided in the May 10, 2011, educational note and other relevant educational notes.

Additional Comments

The PPFRC is preparing its annual educational note on this topic reflecting the above analysis.

The PPFRC intends to continue monitoring group annuity pricing on a quarterly basis. Actuaries may use the spreads indicated above for valuations with effective dates on and after December 31, 2011, up to December 30, 2012, pending any further guidance or other evidence of change in annuity pricing.

The PPFRC has observed that the duration of obligations being purchased may have had a significant impact on annuity pricing during 2011. Furthermore, the PPFRC believes that the differential in the hypothetical annuity quotes between deferred vested and retired members may be related to differences in the duration of the obligations of each group. The PPFRC intends to review the effect of duration on the pricing of group annuities. This review may result in the refinement of future guidance to better reflect the effect of the duration of the obligations being valued.

It may be noted that the spreads for group annuity pricing have been volatile during the past three to four years. Actuaries may wish to be mindful of this volatility when communicating advice related to future hypothetical wind-up and solvency valuations.

The PPFRC would like to express its gratitude to BMO Assurance, The Co-operators, Desjardins Financial Security, Great-West Life, Industrial Alliance, Manulife, Standard Life and Sun Life Financial for providing the committee with the data required to issue this guidance.