



Pension Strategies Inc.

Annuity Survey - December 31, 2008

September 2009

Annuity Survey & PPFRC Guidance

Each year, the Pension Plan Financial Reporting Committee (PPFRC) of the Canadian Institute of Actuaries issues "Guidance for Assumptions for Hypothetical Wind-Up and Solvency Valuations". The most recent Guidance was issued on February 11, 2009 and is applicable for the period December 31, 2008 to December 30, 2009. This year, the Guidance also provides some guidance for the period from February to December 2008.

The Guidance provides a suggested "spread" to use relative to Long Term Government of Canada bond (GoC Bond) yields in order to estimate annuity purchase rates. This year's Guidance indicates that a spread of 1.10% is appropriate for bulk annuity purchases exceeding \$15 million, reducing to as low as 0.70% for bulk annuity purchases under \$15 million. With the GoC Bond yield at December 31, 2008 being 3.45%, the Guidance indicates an implicit yield for annuity purchase rates of 4.55% for bulk annuity purchases exceeding \$15 million decreasing to as low as 4.15% for smaller bulk annuity purchases.

Our understanding is that PPFRC determined the spread of 1.10% as a weighted average of spreads over GoC Bond yields that have actually occurred on bulk annuity purchases during the past calendar year. The actual spread for any annuity purchase may vary at any given point in time.

Pension Strategies Inc. has performed its own annuity survey at December 31, 2008. We believe the average spread in the Guidance of 1.10% **significantly understates** the actual spread in annuity purchase rates at December 31, 2008. This is particularly true for determining annuity purchase rates for plans with only a few members eligible for an annuity.

Our survey results indicate that an appropriate annuity purchase rate at December 31, 2008 would be 5.15%, or 1.70% over the GoC Bond yield.

Pension Strategies Inc. has decided to publish the results of our survey in case other actuaries dealing with the issue of setting assumptions, particularly for smaller pension plans, might find our research to be of interest to them.

Background

The applicable Standard of Practice (SOP) is found in Paragraph 3720.01 of the *Standards of Practice – Practice-Specific Standards for Pension Plans*. It requires the actuary to use a best-estimate assumption as of the cut-off date of single premium annuity rates. For hypothetical wind-up and solvency valuations, the wind-up date and settlement date and calculation date are coincident.

As such, regardless of the non-binding Guidance issued by PPFRC, the actuary is required to use the best-estimate assumption of annuity purchase rates on the valuation date. If market conditions are materially different than what the Guidance anticipates, in our view the actuary is obligated to use different assumptions than provided for in the Guidance.

As a result of our concern that market conditions were very volatile, Pension Strategies Inc. conducted its own annuity survey on December 31, 2008 by obtaining 408 bona fide annuity quotes on 60 different member scenarios for a range of immediate and deferred annuities. Our intent was to independently confirm the reasonableness of using the Guidance, particularly for annuity purchase rates for small pension plans. Instead we have found that market conditions on December 31, 2008 are very different from the average results indicated in the Guidance.

Background (Continued)

Our annuity survey was specifically performed on December 31, 2008 and we believe it is accurate for annuity purchases on that date. We determined the implicit yield on the annuity purchase rates and compared them to long term Government of Canada (GoC) bond yields (CANSIM Series V39062) on December 31, 2008 to determine the “spread.” At December 31, 2008, the applicable GoC bond yield was 3.45%. Our method effectively determines an applicable spread for December 31, 2008 and we do not purport it to be an appropriate spread for any other date.

The PPFRC survey looks at group annuity purchases made during the course of the calendar year (2008 for purposes of this year’s Guidance) and compares the implicit yield on the annuity purchases to the long term GoC bond yields on the

respective purchase dates to develop an “average” spread being observed during the course of the year. It then indicates that it would be appropriate for actuaries to use this spread in determining annuity purchase rates during a specific time period.

We suspect that the large deviations in bond market yields during December 2008 may have resulted in very different spreads being evident in the annuity markets on December 31, 2008 relative to the average spreads observed during the calendar year.

Anecdotally, we previously obtained an individual annuity purchase quote in July 2008 and it’s actual spread over GoC bonds matches the current Guidance. The anomaly we are concerned about is at December 31, 2008.

Survey Results

We arbitrarily established our “base case” as:

Gender: Male
 Age: 60
 Amount: \$3,000 per month
 Form: Lifetime with 5 year guarantee
 Start date: Immediate
 Indexing: None
 Commissions payable on annuity purchase price: None
 Mortality: UP94@2015

We obtained quotes from eight insurance companies for our base case annuity. The lowest price quote has an implicit yield of 5.40%. The highest price quote has an implicit yield of 4.50%. The average price of the quotes has an implicit yield of 5.00%. We believe settlement would typically be with the lowest cost provider (all are insurance carriers licensed to do business in Canada), thus the appropriate implicit yield is 5.40%, or 1.95% over the corresponding GoC Bond yield.

Variation in Results

We obtained quotes on several other member scenarios, as follows:

Annuity size: We considered pricing variations on the size of the annuity. We looked at monthly payments of \$1,000 and \$5,000 (compared to \$3,000 in the base case). The implicit yields on annuities at \$5,000 per month were unchanged. The implicit yields on annuities of \$1,000 per month were 0.10% lower on average.

Male/Female: Surprisingly, implicit yields were lower for females relative to males. Typically for immediate annuities, the yields were approximately 0.10% less for females relative to males. The implicit yields on deferred annuities were typically 0.30% – 0.50% less for females than for males.

Age: Implicit yields decreased with increasing age. Implicit yields were approximately 0.05% higher for members age 55, and 0.05% lower for members age 65. We did not obtain quotes for individuals older than age 65.

Form of Pension: We obtained quotes for Lifetime G5, J&60% Survivor, J&100% survivor. In the joint and survivor quotes, the spouse was assumed to be the same age as the member. There was no material difference in implicit yields depending on the form of pension.

Indexing: We were unable to obtain quotes for indexing where the adjustments were referenced to changes in the Canadian Consumer Price Index. We did obtain quotes where the annuity is indexed at a specified rate of 2.0% per annum. The results were not uniform with the implicit yields on the quotes increasing or decreasing by 0.20% relative to what would be expected mathematically from a guaranteed 2.0% annual indexing adjustment.

Immediate or Deferral: We obtained quotes for immediate annuities, annuities deferred 3 years and annuities deferred 6 years (with 6 years being the maximum deferral period where quotes could be provided). Results were mixed, with most quotes being +/- 0.10% to +/-0.20% for a deferral of up to 6 years. The exception was for females age 55 where a 6 year deferral resulted in a reduction in implicit yield of 0.80%, with the average reduction being 0.40%.

Commissions: As previously noted, the commissions were deducted from the annuity purchase prices prior to solving for the implicit yield. If the commissions had not been deducted, the implicit yields would have reduced on average by 0.20%.

Mortality: We assumed UP94@2015 as the mortality basis prior to solving for the implicit yield. If we had assumed UP94@2020 as the mortality basis, the implicit yield would have reduced on average by 0.07%.

Conclusion

We wanted to select an implicit yield that would not need to vary based on gender, annuity amount, or age, even though our survey results indicate that results do vary by these parameters at December 31, 2008. As such, we believe that an assumed implicit yield of 5.15% would be reasonable for small pension plans with few annuities to purchase. Expressed in spread terms, this is 1.70% over the indicated GoC bond yield at December 31, 2008. If commissions are to be reflected in annuity purchase rates, rather than explicitly included in windup expenses, then a yield of 4.95% would be reasonable, or 1.50% over the indicated GoC Bond yield.

The magnitude of the spread over the GoC Bond yield at December 31, 2008 indicates that if a calculation is being made at a date other than December 31, 2008, it may be worthwhile to get an actual annuity quote to ascertain whether or not the "average spread" provided in the Guidance is appropriate for purposes of the valuation being performed, as the spread may vary substantially over even relatively short time periods.

Caveat

Pension Strategies Inc. has decided to share the results of our survey with other pension actuaries in case they find the material to be of interest when performing their own work on pension valuations. Further, we wished to raise awareness of the substantial difference in annuity purchase rates at December 31, 2008 relative to the recently issued Guidance.

This newsletter should not be viewed as professional "guidance" and the conclusions we have drawn and reported on are purely for discussion purposes.

We remind the reader of this newsletter that the selection of assumptions for an actuarial valuation is ultimately a decision to be made by the actuary performing the valuation.

About Pension Strategies Inc.

Pension Strategies Inc. is a full service actuarial consulting firm providing advice and services on a broad range of public and private sector retirement programs.

We have been in operation since December 2003. The firm was founded by Pat Johnston, FSA, FCIA, an actuary with over 28 years of experience in the actuarial field.

Services Provided

Pension Strategies Inc. provides a full range of actuarial and consulting services for corporate retirement programs, including:

- Design and Implementation
- Funding Strategies
- Plan Text and Amendment Drafting
- Actuarial valuations for funding, solvency, wind-up and accounting purposes
- Plan Administration
- Plan Governance
- Communication
- Post-retirement benefit design and valuations

We perform these services for the broad spectrum of retirement programs including registered pension plans, group RRSPs, supplemental executive retirement programs, DPSPs, EPSPs and non-registered savings arrangements.

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